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**INFORMATION AND SPECIAL INSTRUCTIONS:**

Replace chapters 1-7 with new chapters 1-10 in the November 2015 Edition of the Design Manual, Part 1A.

DM1A has been updated to include the changes to the Pre-TIP planning process as well as to include the PennDOT Connects policy.

Any comments or questions regarding the above revisions should be directed to the Highway Design and Technology Section, Highway Delivery Division, Bureau of Project Delivery.

**CANCEL AND DESTROY THE FOLLOWING:**

- Chapter 1
- Chapter 2
- Chapter 3
- Chapter 4
- Chapter 5
- Chapter 6
- Chapter 7

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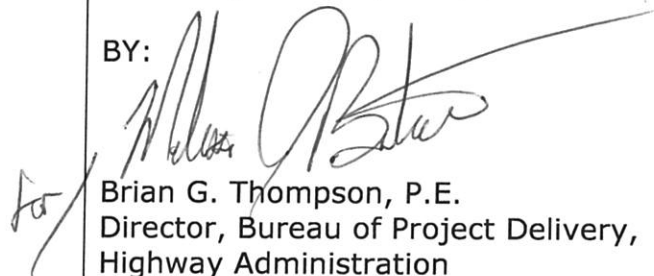
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# Publication 10A

## Design Manual Part 1A

### Pre-TIP and TIP Program Development Procedures

November 2015 Edition

**March 2018 Change No. 1**

# DESIGN MANUAL PART 1A PRE-TIP AND TIP PROGRAM DEVELOPMENT PROCEDURES

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# CHAPTER 1

## INTRODUCTION

### 1.0 PURPOSE AND OBJECTIVES

This manual provides an overview of the Pre-Transportation Improvement Program (TIP) and TIP Development Procedures that are required to support the Pennsylvania Department of Transportation's (PennDOT) Transportation Program Development and Project Delivery Process (herein referred to as the process) (**Figure 1.1**). This process considers all modes of transportation and the visions of local communities when addressing transportation needs in Pennsylvania. PennDOT developed this manual to serve as a guide for planners, environmental staff, engineers, administrators, and others, both inside and outside PennDOT. These are the people responsible for conceiving and advancing proposals in a Metropolitan Planning Organization (MPO)/Rural Planning Organization (RPO) Long-Range Transportation Plan (LRTP) and projects included in the region's TIP, the Statewide Transportation Improvement Program (STIP), and Twelve-Year Program (TYP).

*In this guidance, MPO/RPO refers to MPO/RPO staff unless otherwise noted.*

The procedures are structured to be flexible enough to meet local realities and needs and scalable to be used by any PennDOT District and any size MPO/RPO.

*PennDOT Connects is PennDOT's policy committed to collaborative planning in the transportation planning process. PennDOT Connects requires collaboration with MPO/RPO staff and local government planners/staff on all proposed projects during planning. Collaboration provides the opportunity for details unique to communities to be identified and discussed for each project in planning, prior to developing project scopes and cost estimates. Additional detail on PennDOT Connects is included throughout DM-1A.*



The procedures described in this manual are designed to guide all partners involved to collect, validate, share, and document the information necessary to advance a proposal or project to the LRTP and the TIP/STIP. To develop a “quality” project, collaboration between PennDOT, MPOs/RPOs, local government planners/staff, and local planning entities is essential to reflect regional transportation needs and community visions. Proposals must be evaluated from a 360° perspective – to better understand the context of the proposal and have a clearer understanding of the purpose and need. All efforts are to be geared to providing sufficient information to make decisions on planning and programming that result in a predictable and contextually appropriate program that has accurate estimates of budget, scope, and schedule; reflect local community needs; and implements a performance based planning and programming process. Information should be accurate, valid, and useful to advance the proposal or project to the LRTP and TIP/STIP. The collaborative planning process also adds transparency to the transportation planning process.

The goal of the pre-TIP program development phase of the process is to link local land use and context with the regional LRTPs and TIPs, using a coordinated, collaborative communications commitment from all partners. PennDOT, MPO/RPOs, local government planners/staff, and local planning entities must work together to identify transportation proposals that will improve or enhance the system and will be assets to communities. It is important for all involved to also have an understanding of the overall multimodal transportation needs at a regional and/or system level perspective. Regional LRTPs and TIPs are the result of active participation in the LRTP and TIP development process by PennDOT District staff and leadership, MPO/RPO staff and leadership, local government planners/staff, and local planning entities with the support of PennDOT Central Office and the Federal Highway Administration (FHWA).

The planning activities associated with an LRTP and TIP should take into account environmental considerations that will later be examined through the National Environmental Policy Act (NEPA) procedures (refer to *Publication 10B, Post-TIP NEPA Procedures* for details). The pre-TIP program development process can help ensure that planning activities will create appropriate and documented analysis, which can be utilized and incorporated into later environmental studies or reports.

All proposals being advanced for TIP/STIP inclusion must follow this process; however it is recommended that the process also be used for LRTP and TYP development especially for complex projects. There is flexibility built into the process so that different types of projects can follow slightly different paths to the same overall desired result - **a more predictable, fiscally-constrained transportation program that is deliverable and sustainable and that considers the context of the project area.** Familiarity with the procedures described herein will improve the coordination and advancement of proposals that link land use and transportation planning principles, and which tie the early planning phases to later NEPA considerations.

The Pre-TIP and TIP Project Delivery Procedures (Steps 1-4 of the Transportation Program Development and Project Delivery Process) will:

- Ensure that collaboration is occurring across all PennDOT, MPO/RPO, county, and local planning offices and programs (as applicable), to identify projects that will benefit both the transportation system and the communities in which they are located and serving. Issues to be considered must include asset management, system performance measures, bicycle and pedestrian needs, transit access, multi-modal needs, and stormwater management best practices.
- Establish a clear link from the existing/planned land use in local municipalities, counties, and regions to the transportation planning and programming processes which are affected by land use decisions, and which can affect future land use decisions.
- Create an environment where all involved understand how each part of the process affects another, where flexibility and scalability are accepted and encouraged, and where there is respect for all human and capital resources involved in building an appropriate and predictable program.
- Establish a clear understanding of the types of information to be collected, activities to be conducted, key collaboration points, timing, and documenting, so that the documentation meets the standards to be used in state (PA Act 120) and federal NEPA environmental study documentation, and to be a valuable resource as a project progresses through preliminary engineering, final design, and construction.

Guidance for those highway and bridge proposals and projects that are on municipal and county systems is available in Publication 740, *Local Project Delivery Manual*.

## 1.1 ORGANIZATION

**A. Design Manual Series of Documents.** This manual is Part 1A of a nine-volume series of documents that encompass PennDOT's Design Manual. The Design Manual (DM) series includes:

Publication 10	Part 1	<i>Transportation Program Development and Project Delivery Process</i>	Design Manual Part 1	(DM-1)
Publication 10A	Part 1A	<i>Pre-TIP and TIP Program Development Procedures</i>	Design Manual Part 1A	(DM-1A)
Publication 10B	Part 1B	<i>Post-TIP NEPA Procedures</i>	Design Manual Part 1B	(DM-1B)
Publication 10C	Part 1C	<i>Transportation Engineering Procedures</i>	Design Manual Part 1C	(DM-1C)
Publication 10X	Part 1X	<i>Appendices to Design Manuals 1, 1A, 1B, and 1C</i>	Design Manual Part 1X	(DM-1X)
Publication 13M	Part 2	<i>Highway Design</i>	Design Manual Part 2	(DM-2)
Publication 14M	Part 3	<i>Plans Presentation</i>	Design Manual Part 3	(DM-3)
Publication 15M	Part 4	<i>Structures</i>	Design Manual Part 4	(DM-4)
Publication 16	Part 5	<i>Utility Relocation</i>	Design Manual Part 5	(DM-5)



**B. Contents of Design Manual Part 1A.** Publication 10A, Design Manual Part 1A, *Pre-TIP and TIP Program Development Procedures*, contains ten chapters. Publication 10X, Design Manual Part 1X, *Appendices to Design Manuals 1, 1A, 1B, and 1C*, has several appendices relevant to Design Manual Part 1A. This section provides a brief summary of each.

Chapter 1, Introduction, describes the purpose of Design Manual Part 1A and summarizes the contents of the subsequent chapters and appendices. This chapter also outlines the proper procedures for implementing modifications and additions to this document.

Chapter 2, Transportation Program Development and Project Delivery Process, outlines the phases of the process (**Figure 1.1**) from the introduction of transportation problems into the process, to the inclusion of the proposals and projects on a TIP, and explains the goals and regulatory background driving the process. This chapter emphasizes the importance of planning in the Transportation Program Development and Project Delivery Process.

Chapter 3, Collaboration, discusses the importance and benefits of collaboration across all stakeholder levels of the transportation planning process. Collaboration should include input from local government planners/staff, county planning staff, MPO/RPO staff and District staff. This chapter outlines the required collaboration that must take place as part of a collaborative planning process.

Chapter 4, Problem Identification and Assessment, describes the first phase of the process where a transportation problem, need, or opportunity is first identified to an MPO/RPO by the public, local government planners/staff or by the MPO/RPO itself, or where PennDOT internally assesses asset management goals and priorities. A problem may be identified from a multitude of sources which are described in Chapter 4.

Chapter 5, Purpose and Need, explains the importance of identifying the purpose and need and how it should be determined collaboratively between PennDOT and the MPO/RPO, incorporating information provided through collaboration with county and local government planners/staff, as appropriate.

Chapter 6, Prioritization, explains how PennDOT and the MPOs/RPOs prioritize problems and determine the amount of study required for each proposal. This includes a preliminary discussion of contextual issues, including land use, and how these issues may/should influence potential problem solutions and project alternatives.

Chapter 7, Contextual Issues and Solutions/Alternatives, discusses how proposals are screened and how to evaluate and development of potential solutions (alternative). The MPO/RPO, PennDOT, and the local planning entity gather additional information for discussion related to the proposal and its engineering, contextual, environmental, and maintenance issues and work together to develop a thorough understanding of the proposal which is then documented. Potential solutions and possible multiple alternatives should be further evaluated and documented in the proposal screening form and for future use in the NEPA process. A local government collaboration meeting should take place between PennDOT, the MPO/RPO, and local government planners/staff to discuss the proposal and its context (timing of the meeting is flexible).

Chapter 8, Quality Control/Quality Assurance, explains how the collaborative planning includes checkpoints to ensure that collaboration is taking place and is beneficial to the planning process. Specifically this chapter reviews the Program Center staff's quality control responsibilities and the Central Office executive collaboration meetings.

Chapter 9, Programming/Project Addition to TIP/STIP, explains how projects are programmed by the MPO/RPO and included on the MPO/RPO's TIP and PennDOT's STIP. This chapter also discusses General and Procedural Guidance, Financial Guidance, and the requirements of the collaborative planning process that must be met before a project can be added to the TIP/STIP.

Chapter 10, Documentation, provides an overview of the documentation that is required as part of the collaborative planning process.

Design Manual Part 1X, Appendix A, List of Acronyms, defines the acronyms most commonly used in the Transportation Program Development and Project Delivery Process.

Design Manual Part 1X, Appendix B, Glossary, defines terminology commonly used in the Transportation Program Development and Project Delivery Process.

Online proposal screening forms, used for documenting the collaborative planning process can be accessed through the Proposal Screening system at: <http://www.dot.state.pa.us/Intranet/PennDOT/lpnforms.nsf>

Throughout DM1A, the following icons will appear to alert readers of key points/ideas in the Transportation Program Development Process.



**Collaboration** – Identifies appropriate times and/or topics for discussion between those involved in the process



**Legal** – Identifies laws and regulatory requirements that guide the Transportation Program Development Process



**Documentation** – Identifies how the collaboration process should be documented



**Roles and Responsibilities** – Identifies proposed roles and responsibilities for the Transportation Program Development Process; these are recommendations and can be adapted to best fit specific regions or projects



**What's In It For Me?** – Describes how the process specifically benefits those involved



**Examples/Scenarios** – Provides examples of how the process has benefitted projects or how the process could have benefitted projects if it had been followed; shares best practices that have been identified



**Community Focus** – Indicates looking at a project from multiple perspectives, with consideration of all transportation modes, mobility needs, land use, community goals, etc.

## **1.2 PROCEDURES FOR MODIFICATIONS OR ADDITIONS TO THIS DOCUMENT**

This document is published in digital form to facilitate future changes and additions. PennDOT recognizes that the regulations and policies affecting its program development and project delivery procedures are continuously changing and that this manual must be a dynamic document to remain current. Whenever modifications or additions are required to improve the present procedures, the following procedure shall be followed:

1. Bureau Directors and District Executives should submit suggestions in the form of revised pages in digital form to the Central Office Bureau of Project Delivery for evaluation and processing. The Bureau of Project Delivery is to evaluate and process the submittals, and coordinate with other Central Office Deputates and Bureaus as necessary concerning any changes and/or additions. The suggestions should include:
  - The title and page number of the existing procedures, if applicable.
  - The recommended revised page(s) and the Chapter into which it (they) should be incorporated.
  - The reasons for recommending modifications or additional procedures.
2. The Director, Bureau of Project Delivery, will review the recommended changes or additional procedures, and transmit copies to the various affected Bureau Directors for their comments.
3. The affected Bureau Directors shall provide their comments to the Director, Bureau of Project Delivery, who will take appropriate action.
4. The Director, Bureau of Project Delivery, will submit the final version of all changes to FHWA for approval prior to issuing the revised manual.
5. When modifications or additions are made to pages in this manual, a revision date will be indicated below the page number in the upper right-hand or upper left-hand corner, and the revision will be distributed to District Executives and Bureau Directors by the Bureau of Project Delivery by Transmittal Letter, and forwarded to Planning Partner Executive Directors by electronic correspondence methods by the PennDOT Center for Program Development and Management.

Transportation Program Development and Project Delivery Process



Figure 1.1

## CHAPTER 2

### TRANSPORTATION PROGRAM DEVELOPMENT AND PROJECT DELIVERY PROCESS

#### 2.0 INTRODUCTION

The process and procedures in this manual have evolved from previous PennDOT guidance related to the National Environmental Policy Act (NEPA) and better practices related to linking land use planning to the performance-based planning and programming for transportation improvements. The ultimate goal of this manual is to outline a process that leads to appropriate transportation solutions that consider the needs of all transportation modes, and the visions and values of local communities, as established in local and county land use planning documents. Planning provides an understanding of project setting, project needs, and priorities in order to be able to develop transportation projects that will benefit the communities in which they are located and serve. The underlying premise throughout this manual is the focus on collaboration with not only MPOs and RPOs, but also with county and local government planners/staff to achieve the ultimate goal of appropriate transportation solutions that consider local community perspectives while addressing transportation needs. Through collaborative planning, PennDOT achieves better projects for communities.

*Planning is the foundation  
for the transportation  
program development and  
project delivery process.*

Transportation is a factor in people's choices about where to live, where to work, and where to play, supporting and affecting the quality of life in every community. State DOTs are no longer just held accountable for the transportation system; they are also held accountable for how the system supports and improves quality of life for communities<sup>1</sup>. Through successful planning, PennDOT and its transportation partners can make decisions that will have positive impacts on the quality of life for Pennsylvania residents.

#### **What is Planning?**

Good planning is insightful, comprehensive, and strategic. Planners strive to truly understand problems, not just based on a single perspective. Effective planning requires correctly defining problems and asking critical questions. Key elements of effective planning include<sup>2</sup>:

- Planning should be integrated, so individual, short term decisions are consistent with broader, strategic goals.
- Analysis should be comprehensive, reflecting all significant perspectives, impacts and objectives.
- A broad range of options and impacts should be considered.
- Planners should be objective, fair and respectful.

As transportation professionals, local government planners/staff and other stakeholders are encouraged to engage in the planning process. Input from a variety of disciplines and perspectives are needed for meaningful and effective dialogue in the planning process.

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<sup>1</sup> National Cooperative Highway Research Program Report 798

<sup>2</sup> Booz Allen (2012), *Integrating Australia's Transport Systems: A Strategy for an Efficient Transport Future*, Infrastructure Partnership Australia. Ian M. Lockwood (2004), *Transportation Prescription For Healthy Cities*, Glatting Jackson Transportation Urban Design Studio, for presentation and Common Ground.

### **A. Using Planning to Link Transportation and Land Use**

Transportation and land use must be considered together for Pennsylvania municipalities to achieve quality of life objectives for their communities. Transportation systems serve communities in various ways: the regional transportation system provides the mobility to travel throughout the region quickly, whereas the local network provides travelers access to the places that they want to go—home, work, school, shopping, appointments, activities, etc. Pennsylvania municipalities should consider how their transportation system meets both the mobility and accessibility needs of the community, as well as, the county and the Commonwealth. Concurrently, municipal land use policies help shape and rearrange the origins and destinations of travel and can either support or hinder mobility and accessibility. Transportation systems operate most efficiently when they provide a connected network of transportation modes serving a mix of land uses in close proximity. This type of system provides the traveler with a host of options and makes it possible to make fewer, shorter trips and be less dependent on a personal automobile. A variety, or mix, of land uses, and an increase in land use densities, can lead to shorter trip distances, a better blend of jobs and housing within a community, and an increase in the use of alternative modes of transportation (walking, biking, transit) because different destinations are closer together. Also, by providing a range of transportation choices beyond the automobile, individuals who do not drive are provided with new travel opportunities, and congestion and pollution can be eased. By contrast, separating land use types and/or reducing densities can increase the dependency on motorized transportation, thereby increasing congestion and/or the demand for additional roadways.

Therefore, the design of Pennsylvania communities can either encourage or discourage the range of transportation options. Thoughtful and functional land use and transportation design (i.e., streetscapes, roadway design, traffic calming, and the connection of commercial and residential developments) can provide a safer environment for travel and encourage the development of healthy communities that appeal to all citizens including pedestrians, bicyclists, and transit riders. Roadway “Complete Streets” features to accommodate vehicles, pedestrians, bicyclists, the disabled, and transit such as travel lanes, sidewalks, bike lanes, wider shoulders, raised crosswalks and medians, audible traffic signals, bus pullouts, and improved access to bus stops should be considered and incorporated into projects where appropriate. The design of communities can also encourage the use of transit through compact, mixed-use development surrounding a transit station. Transit-oriented developments (TODs) may be appropriate for growing municipalities aiming to reduce the need for more highways in favor of broader transit use. Through careful planning, TODs can also be effective in connecting to existing and planned infrastructure, and linking different transportation modes to one another to form one complete system. In more rural municipalities, community design may include land use controls such as agricultural preservation to focus new development in targeted growth areas and lessen the demands on the overall transportation system.<sup>3</sup>

### **B. Two General Types of Planning**

In general, there are two types of planning.

- **Long-range/sub-area/program level planning:** planning that looks at long term investments/improvements in a given area or across a transportation system.
- **Planning at the project level:** planning which includes design and environmental evaluations, with considerations for construction and operations and maintenance (O&M).

**Table 2.1** provides examples (not an all-inclusive list) of both types of planning activities at the local, county, MPO/RPO, state, and national levels. As the table indicates there is overlap between planning activities and planning areas as well as overlap between long-range/sub-area/program level planning and project level planning. Planning and planning activities can be thought of as taking place along a spectrum that includes items that are both long range and short term with specific project planning elements.

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<sup>3</sup> PennDOT, 2009. Publication 688 – Integrating Transportation and Land Use in Comprehensive Plans – A Handbook for Pennsylvania Municipalities

<b>Table 2.1 Examples of Planning and Planning Products at the Local, County, MPO/RPO, State, and National Levels</b>		
	<b>Long-Range/Sub-Area/Program Planning</b>	<b>Project Planning</b>
<b>Local (Township, Borough, Municipal)</b>	<ul style="list-style-type: none"> <li>• Comprehensive Plan               <ul style="list-style-type: none"> <li>○ Zoning Ordinance</li> <li>○ Subdivision and Land Development Ordinance</li> <li>○ Official Map</li> </ul> </li> <li>• Stormwater Management Ordinance/Act 167 Plan</li> <li>• Act 537 Plan</li> <li>• Neighborhood Strategic Plan</li> <li>• Recreation and Greenways Related Plans</li> <li>• Transit Improvement District</li> <li>• Bicycle and Pedestrian Plan</li> <li>• Emergency Operations Plan</li> <li>• Redevelopment/“Brownfields” Plan</li> <li>• Historical District/Cultural Resources Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Collaborative Planning Process</li> <li>• PennDOT Scoping Field View</li> <li>• Site Development Plan</li> <li>• Traffic Impact Studies</li> <li>• Highway Occupancy Permit</li> </ul>
<b>County</b>	<ul style="list-style-type: none"> <li>• County Comprehensive Plan</li> <li>• Act 167 Plan (SWM)</li> <li>• Transit Improvement District</li> <li>• Greenways/Open Space/Preservation Related Plans</li> <li>• Bicycle and Pedestrian Plan</li> <li>• Emergency Management Plan</li> <li>• Historical/Cultural Resources Plan</li> <li>• Housing Affordability/Availability Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Collaborative Planning Process</li> <li>• PennDOT Scoping Field View</li> <li>• Site Development Plan</li> <li>• Traffic Impact Studies</li> <li>• Highway Occupancy Permit</li> <li>• Project Status Meetings</li> </ul>
<b>MPO/RPO</b>	<ul style="list-style-type: none"> <li>• Regional Long Range Transportation Plan</li> <li>• Transportation Improvement Program</li> <li>• Bicycle and Pedestrian Plan</li> <li>• Congestion Related Plans</li> <li>• Regional Transit and Freight Planning Activities</li> <li>• Intelligent Transportation Systems Planning</li> <li>• Multimodal Connections Study</li> <li>• Road Safety Audit</li> <li>• Corridor Planning Study</li> <li>• Travel Demand Models</li> <li>• Regional Air Quality Conformity</li> <li>• Performance-Based Planning and Programming</li> <li>• Asset Management Plan</li> <li>• Public Involvement</li> </ul>	<ul style="list-style-type: none"> <li>• Collaborative Planning Process</li> <li>• Project screening</li> <li>• PennDOT Scoping Field View</li> <li>• Site Development Plan</li> <li>• Project Status Meetings</li> <li>• Travel Demand Models</li> <li>• Project Air Quality Conformity</li> <li>• Public Involvement</li> <li>• Ride Sharing</li> </ul>
<b>State</b>	<ul style="list-style-type: none"> <li>• Statewide Long Range Transportation Plan</li> <li>• Comprehensive Freight Movement Plan</li> <li>• State Transportation Improvement Program</li> <li>• Twelve Year Program</li> <li>• Bicycle &amp; Pedestrian Plan</li> <li>• Performance-Based Planning and Programming</li> <li>• Asset Management Plan</li> </ul>	<ul style="list-style-type: none"> <li>• Collaborative Planning Process</li> <li>• PennDOT Scoping Field View</li> <li>• Highway Occupancy Permit</li> <li>• Project Status Meetings</li> <li>• Project Air Quality Conformity</li> <li>• Public Involvement</li> </ul>

Table 2.1 Examples of Planning and Planning Products at the Local, County, MPO/RPO, State, and National Levels		
<b>State (continued)</b>	<ul style="list-style-type: none"> <li>• Public Involvement</li> <li>• Inter-city Passenger and Freight Rail Plan</li> <li>• Public Participation Plan for Statewide Planning</li> <li>• ADA Transition Plan</li> <li>• Statewide Airport System Plan</li> <li>• Statewide Highway Safety Plan</li> <li>• Environmental Justice Plan</li> <li>• State Enforcement Plan</li> <li>• Land and Water Trail Network Strategic Plan</li> </ul>	
<b>National</b>	<ul style="list-style-type: none"> <li>• Planning and Environmental Linkages (PEL)</li> <li>• Federal Funding Authorization</li> <li>• National Performance Measures</li> </ul>	<ul style="list-style-type: none"> <li>• Planning and Environmental Linkages (PEL)</li> </ul>

Figure 2.1 illustrates how community conditions and transportation system performance influence community development and project development and delivery. Opportunities for collaboration and planning can unite aspects of community development with project development and delivery to identify projects that will lead to better communities and better transportation systems.

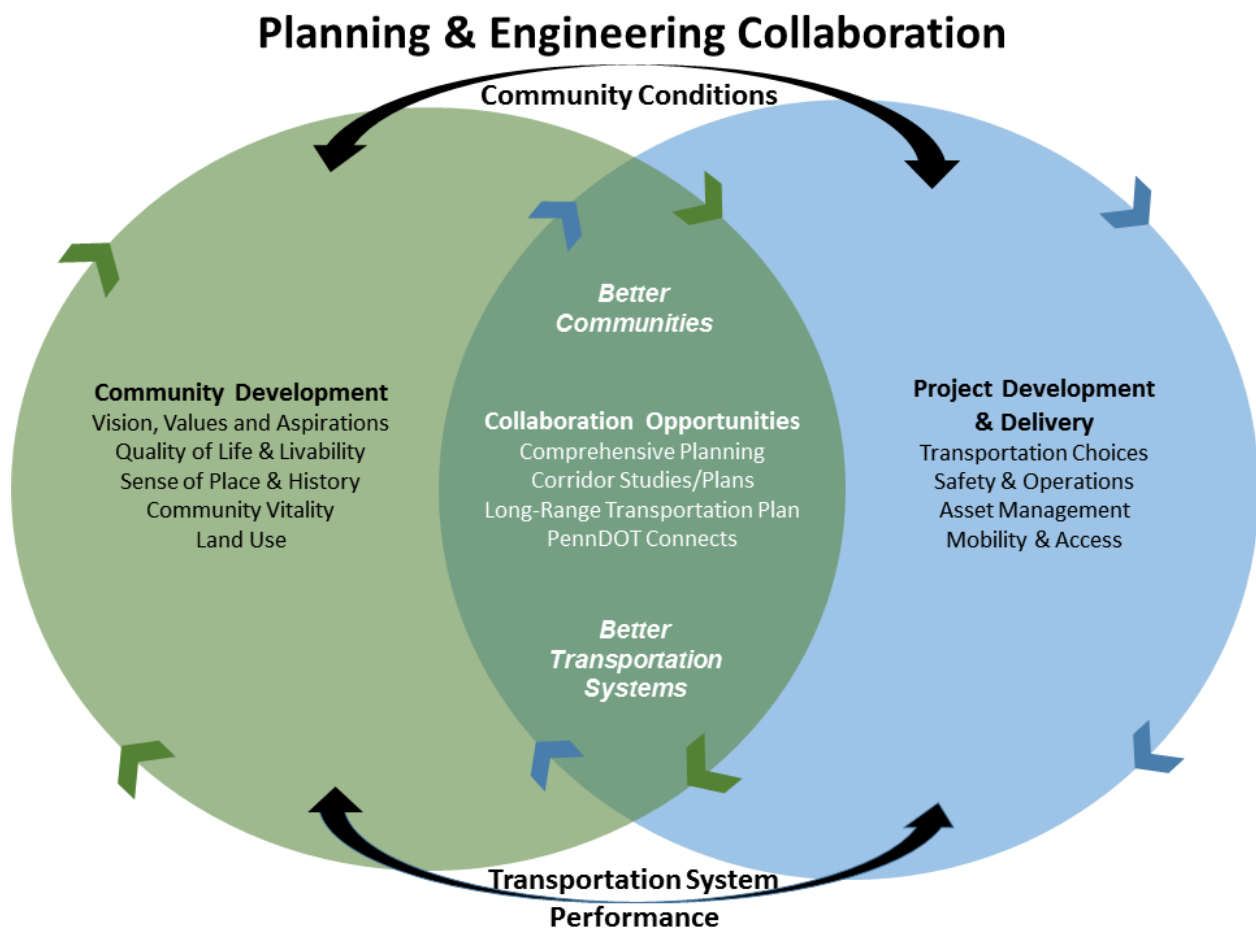


Figure 2.1. How Collaboration Can Influence Transportation Planning for Better Communities



### C. PennDOT Connects

PennDOT has placed a renewed emphasis on planning and collaboration under the *PennDOT Connects* policy, which was issued by Secretary Richards on December 19, 2016. This policy strengthens the commitment of PennDOT to collaborate with MPO/RPO staff and local government planners/staff during the planning process. The objective of this collaboration policy is to identify needs of communities and related contextual issues early in project planning through the collaborative planning process. The role of local government planners/staff in the process is to make PennDOT and the MPO/RPO aware of visions and aspirations for the community as well as identified local needs. PennDOT and the MPO/RPO will work with local government planners/staff to determine if community-related project features are justified to be incorporated as part of the transportation proposal. A local government collaboration meeting is required to be conducted prior to a project being added to the TIP and is one example of an opportunity to discuss specific topics, which include, but are not limited to:

- Safety issues/concerns
- Bicycle/pedestrian accommodations
- Transit/multimodal considerations
- Stormwater best management practices
- Presence of/impacts from (current/future) freight generating land uses
- Utility issues
- Transportation operations considerations
- Emergency services accommodations
- Planned development
- Long range transportation plans
- Regional planning studies, e.g. corridor studies, resource management studies, watershed studies, etc.
- Consistency with current community comprehensive or other plans
- Consistency with current and/or proposed zoning
- Other proposed transportation improvements
- Impacts on the natural, cultural, or social environment
- Right-of-way considerations
- Anticipated public opinion
- Community or cultural events in the candidate project area
- Maintenance agreement requirements



Collaboration provides the opportunity for details unique to communities to be identified and discussed for each project in planning, prior to developing project scopes and cost estimates. More transparency provides the opportunity for community input into project scopes earlier in the process, providing better understanding of local contextual issues, and avoiding delays later in project delivery. More transparency can also serve to provide better information to local governments allowing them to better plan other improvements in their communities. Providing more information for local governments can avoid conflicts with PennDOT transportation projects later in construction.

*This collaborative approach to planning makes the decision-making process for developing project scopes more transparent, allowing the opportunity for better planning at the local and regional levels.*

MPOs/RPOs and local governments must demonstrate the need to include community mobility and related objectives in project scopes. Ideally, decisions should be based, in-part, on comprehensive planning, corridor studies, resource management studies, multimodal studies or other related planning studies that demonstrate a need for community features. If no documented planning is available, community features must be well thought-out and consistent with the current and future land uses within the community.

It is not always possible to include all community features through PennDOT's transportation program. There is no mandate to formally reach consensus on all issues related to community collaboration. However, PennDOT will exercise due diligence to justify and document why decisions are made, either to include or not include recommended community features on projects. If the issues discussed during local government collaboration are not justified based on a lack of adequate planning documentation, unacceptable impacts to environmental resources,

excessive right-of-way impacts, lack of willingness to maintain by local government, or other issues related to impacts or excessive costs, this justification must be documented.

Cost will always be a factor in transportation planning, but it is not justification not to include elements in a project without some level of cost analysis compared to the potential community benefits. The *PennDOT Connects* process ensures consideration of costs and benefits of every unique addition to a project. Issues that could influence the ability to cost effectively address community needs include, but are not limited to, excessive utility relocations, excessive right-of-way requirements, excessive environmental impacts, excessive impacts to underground drainage facilities, excessive stormwater management requirements, and the need to construct or relocate retaining walls or other structures. There may be opportunities to share the cost between PennDOT and local entities in the form of a mutual beneficial partnership in order to accomplish the desired community improvements.

The *PennDOT Connects* process must be applied to projects on the current TIP and the development of future TIPs and is encouraged for projects in the PennDOT TYP and the MPO/RPO LRTPs. Local government collaboration meetings are required for all TIP projects that had no project phase included on a prior TIP, as well as for all other TIP projects that had not started preliminary engineering or started preliminary engineering after July 1, 2016. Local government collaboration meetings must occur before new projects are added to future TIPs, and are strongly encouraged for projects added during LRTP updates. If local government collaboration does not occur during the collaborative planning process prior to LRTP or TIP updates, the meeting must be conducted prior to adding a new project during the TIP update process.

Program Center Program Managers provide quality assurance throughout the planning and program development process, with a specific focus on MPO/RPO and local government collaboration to meet the objectives of *PennDOT Connects*.

Decisions reached on community features during planning must be communicated to the local government and collaboration with local government planners/staff must also occur during project delivery. At a minimum, MPO/RPO and local government planners/staff must be invited to participate in Environmental and Engineering Scoping Field Views; however, this alone does not satisfy the *PennDOT Connects* requirements. Additional information on Environmental and Engineering Scoping Fields Views is included in DM-1B.

In order to allow for Central Office executive-level management to collaborate with Districts on the implementation of *PennDOT Connects*, meetings are held with each District to discuss all new TIP projects that have proceeded with the *PennDOT Connects* collaborative planning process to share experiences and to learn from best practices.

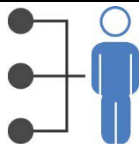
Additional detail regarding the implementation of *PennDOT Connects* and the collaborative planning process is incorporated throughout this guidance. Documentation of the collaborative planning process is explained in **Chapter 10**.

#### **D. Risk Identification**

Transportation projects come in a variety of sizes and use various financing and delivery methods. Work on such projects often involves the potential for schedule delays, budget overruns, and other unexpected problems or “risks” that affect project performance. Thus, risk management, in the context of the planning and design of a transportation project, is the process to better understand and to optimize project performance by anticipating and planning for potential problems or “risks” and potential improvements or “opportunities”. Details pertaining to PennDOT’s approach to Risk Management for Project Delivery is presented in DM1X Appendix AG.

#### **E. Seven Primary Planning Objectives**

PennDOT’s goal to improve the overall quality of projects delivered in terms of budget, scope, and schedule led to the establishment of seven primary objectives for the planning portion of the process. They are shown in **Table 2.2** with major roles for local planners/staff, the MPO/RPO, the PennDOT Engineering District, PennDOT Central Office, and FHWA indicated for each.



**Table 2.2 Seven Primary Planning Objectives and Major Roles**

**Promote early public participation and public involvement**

Provide opportunities for more participation by the stakeholders and public at earlier stages beginning with the development of the LRTP, and continuing through prioritization and project development.

- *Local planners/staff* communicate to the public the opportunity for participation in the transportation planning process.
- *MPO/RPO* staff provide for proactive and inclusive public and stakeholder involvement and promote opportunities for participation in the transportation planning process.
- *District Office* staff work with the MPO/RPO to coordinate public and agency involvement; help communicate the opportunity for participation to the public.
- *Central Office* staff stress public participation in the State Transportation Commission (STC) Public Comment Period and at STC hearings.
- *FHWA* staff ensures that MPO/RPOs have a Public Participation Plan in place and that proper public involvement strategies are used throughout planning and project development.
- *All involved* help educate the public on transportation planning and encourage public participation in the transportation planning process.

**Collect, analyze, and understand the transportation data in order to focus available funds and resources on the most appropriate transportation needs**

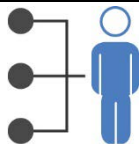
Collaborate on developing the right mix of multimodal transportation studies or projects to best address the regional and local transportation needs. Establish project purpose and need in planning; eliminate unnecessary projects and unrealistic alternatives in planning; solicit and develop a potential list of candidate projects to evaluate and screen against the identified needs.

- *Local planners/staff* identify and evaluate the transportation needs and priorities of their communities and integrate those needs into local/county plans and priorities and share those needs with the MPO/RPO staff and District staff during pre-TIP planning.
- *MPO/RPO* staff facilitate the collection of needs from all partners and ensure that legitimate purpose and need exist and that projects are consistent with regional long range transportation planning goals and objectives, regional context, policies, priorities, performance measures, performance targets, and investment strategies and that projects are consistent with others planned in the region.
- *District Office* staff are involved early in planning at the local, county and regional level. Using asset management principals and asset management inventories, the District Office staff analyzes the existing and forecasted needs of the state transportation system to identify and propose the appropriate mix of solutions to address the transportation deficiencies and shares that information with the MPO/RPO and local planners/staff.
- *Central Office* staff provide access and guidance related to new information, data sources, and statewide priorities and performance measures.
- *FHWA* staff provide support and assistance as needed to ensure that transportation data is used in decisionmaking for allocating federal funds and transportation performance management reporting requirements.
- *All involved* collaborate and share their expertise and information proactively.

**Develop better and more accurate project scopes**

Evaluate project alternatives, project design criteria, and conduct preliminary studies in planning; collect more project specific data during planning leading to a better understanding of potential project issues.

- *Local planners/staff* use their knowledge of the transportation facility and community to identify any engineering, environmental, land use, or community vision issues or risks associated with the proposal.



**Table 2.2 Seven Primary Planning Objectives and Major Roles**

- *MPO/RPO* staff use their knowledge of the transportation facility and region to identify any project alternatives, design criteria, or environmental concerns associated with the proposal; review existing studies, conduct a planning study, or develop screening activities associated with the collaborative planning process.
- *District Office* staff share design criteria and study issues with all partners; conduct screening activities in collaboration with the MPO/RPO and local planners/staff.
- *Central Office* staff proactively provide guidance on the requirements for information collected during planning to be used in the NEPA process; ensure that engineering, environmental, and public issues are being sufficiently discussed by the MPO/RPO and Districts in order to have the best possible understanding of potential project issues.
- *FHWA* staff provides financial and technical support and oversees project planning, programming, funding, and delivery.
- *All involved* collaborate and share their expertise and information proactively.

**Improve cost estimating for potential projects**

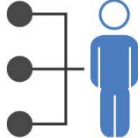
Undertake cursory risk identification and analysis in conjunction with engineering and environmental analysis prior to addition to the TIP/STIP; enable development of planning level cost estimates by PennDOT District cost estimating experts for review by the MPO/RPO Technical or Coordinating Committees before placing projects on the TIP; track cost estimate development and actual project costs compared to TIP/STIP estimates.

- *Local planners/staff* use their knowledge of the transportation facility and community to identify any risks that could impact the cost estimate.
- *MPO/RPO* staff share risk identification and cost estimation methodologies with municipal and county partners and work with PennDOT staff in a collaborative cost estimation process.
- *District Office* staff work collaboratively with MPO/RPO staff risk evaluation and on cost estimation and documentation at the LRTP stage and into the TIP/STIP development; document the difference in cost estimates and actual project costs to be able to improve cost estimates in the future.
- *Central Office* staff provide biennial financial guidance and provide assistance during DOT/MPO/RPO costs collaboration; provide instruction on the use of the cost estimating tool in the proposal screening system
- *FHWA* staff plays an advisory role in developing financial guidance and stewardship.
- *All involved* collaborate and share their expertise and information proactively.

**Increase accuracy in project scheduling and improve predictability for project delivery**

Develop a better understanding of project risks associated with engineering, environmental, and public issues early in project planning to facilitate development of realistic schedules which will lead to more timely delivery of projects.

- *Local planners/staff* use their knowledge of the transportation facility and community to identify any risks related to engineering, environmental or public issues associated with the proposal.
- *MPO/RPO* staff use their knowledge of the transportation facility and region to identify any risks related to engineering, environmental or public issues items associated with the proposal; ensure that the Public Participation Plan is being followed and that the public are informed as to how to participate in transportation planning; begin environmental inventory early in the planning process.
- *District Office* staff work collaboratively with MPO/RPO staff to identify environmental and engineering issues and to make sure those issues are sufficiently documented for use in the NEPA process.
- *Central Office* staff provide information that may affect schedules; ensure that engineering, environmental, and public issues are being sufficiently discussed by the MPO/RPO and Districts in order to identify potential schedule implications.
- *FHWA* staff oversee planning and provide financial and technical support for project delivery.

	<p><b>Table 2.2 Seven Primary Planning Objectives and Major Roles</b></p>
<ul style="list-style-type: none"> <li>• <i>All involved</i> collaborate and share their expertise and information proactively.</li> </ul>	
<p><b>Better reflect national, state, regional, and local goals in the project prioritization and selection process</b></p> <p>Provide for the integration of identified policies and goals into the project planning and programming process; develop consistent criteria for prioritizing and selecting potential projects based on asset management principles and a performance-based planning and programming approach.</p> <ul style="list-style-type: none"> <li>• <i>Local planners/staff</i> use their knowledge of municipal or county comprehensive plans to identify proposals that are consistent with identified policies and goals.</li> <li>• <i>MPO/RPO</i> staff ensure that the project prioritization is consistent with Federal, state and regional policies, plans, performance measures, and initiatives.</li> <li>• <i>District Office</i> staff work with the MPO/RPO to identify measures to prioritize and select projects which consider communities, the environment, land use, asset management principals, and transportation planning.</li> <li>• <i>Central Office</i> staff provide guidance and support the MPO/RPOs and Districts in identifying opportunities to prioritize and select projects which consider communities, the environment, land use, asset management, transportation performance measures, and transportation planning.</li> <li>• <i>FHWA</i> staff ensure that national performance measures and goals are considered in the project prioritization and selection process based on a consistent, statewide performance-based planning and programming process.</li> <li>• <i>All involved</i> collaborate and share their expertise and information proactively.</li> </ul>	
<p><b>Commence communication, coordination, and cooperation within and between PennDOT, the MPO/RPOs, local planners/staff, the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), other transportation planning entities, and the resource agencies in planning</b></p> <p>Engage in a more collaborative planning process with local planners/staff; work with tribal nations and the agencies earlier in the process.</p> <ul style="list-style-type: none"> <li>• <i>Local planners/staff</i> communicate their transportation needs and priorities along with their community needs/vision with the MPO/RPO and PennDOT early in the transportation planning process and participate in local government collaboration meetings as part of proposal development.</li> <li>• <i>MPO/RPO</i> staff develop and facilitate the regional transportation planning process and the transportation program (LRTP/TIP) development process; encourage participation from all parties. Facilitate PennDOT interaction with local planners/staff at local government collaboration meetings.</li> <li>• <i>District Office</i> staff act as a liaison with Federal agencies, resource agencies, other District offices, the MPO/RPO, local planners/staff, and other transportation planning agencies proactively and regularly.</li> <li>• <i>Central Office</i> staff act as a liaison with Federal and State agencies; monitor local government, County, MPO/RPO, District and Central Office involvement in local government collaboration meetings.</li> <li>• <i>FHWA</i> staff provide stewardship and oversight for the transportation planning process to PennDOT and MPO/RPOs and any other agencies that may be involved in the collaborative planning process.</li> <li>• <i>All involved</i> collaborate and share their expertise and information proactively.</li> </ul>	

## 2.1 HISTORY



The Transportation Program Development and Project Delivery Process includes planning, but also includes the design and NEPA processes. The NEPA process is a key component of the transportation process and begins in planning, but also carries over through the design and construction phases.

A national commitment to the environment was formalized through the passage of NEPA in 1969. NEPA established a national environmental policy and provided a framework for environmental decision-making by federal agencies. NEPA directs federal agencies, when authorizing, taking approval action, or issuing permits, to conduct environmental reviews to consider the potential impacts their proposed actions would have on the environment. NEPA also established the Council on Environmental Quality (CEQ), which is charged with the administration of NEPA. The NEPA process consists of a set of fundamental objectives that include interagency coordination and cooperation, and public participation in transportation project development. The CEQ promulgated the federal implementing regulations (40 CFR 1500 - 1508) for NEPA, which gave additional compliance details to all federal agencies. Each federal agency is authorized to implement its own regulations for NEPA. The FHWA/FTA implementing regulations can be found at 23 CFR 771.

Since the 1962 Federal-Aid Highway Act, federal authorizing legislation for expenditure of surface transportation funds has required metropolitan area long-range transportation plans and short-range transportation improvement programs to be developed through a continuing, cooperative, and comprehensive (3-C) planning process. Over successive authorization cycles, Congress has added and revised the substantive content expected from the 3-C planning processes.

Over the years, the PennDOT planning and NEPA processes were updated with additional requirements as the result of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, the Transportation Equity Act for the 21st Century (TEA-21) of 1998, SAFETEA-LU of 2005, MAP-21 of 2012, and the FAST Act of 2015.

SAFETEA-LU promoted more efficient and effective federal surface transportation programs by including provisions for improving and streamlining the environmental process during the planning and development of transportation projects. These provisions were intended to enhance the consideration of environmental issues and impacts within the transportation planning process and to encourage the use of products from the planning process in the NEPA process. Specifically, the transportation planning provisions (Section 6001) and NEPA provisions (Section 6002) emphasized improved connectivity between the planning and NEPA processes and early and increased coordination, communication, and collaboration with resource agencies and the public.

In Section 6001 of SAFETEA-LU, Transportation Planning (codified as 23 USC §§134 and 135), Congress revised the transportation planning laws to require increased consideration of the environment in both statewide and metropolitan long-range transportation planning. The key changes were (1) a requirement to consult with resource and land management agencies, and to consider, as part of that consultation, any available conservation plans, maps, or resource inventories, and (2) a requirement to consider types of potential environmental mitigation activities in state and metropolitan long-range plans. FHWA updated its Statewide Transportation Planning and Metropolitan Transportation Planning regulations accordingly at 23 CFR Parts 450 and 500 on February 14, 2007, and FTA concurrently published its final rulemaking on the update of its planning regulations at 49 CFR Part 613. In addition, the regulations at 23 CFR 450 included an Appendix A, which contained an updated version of the February 2005 guidance on the planning and NEPA linkage (refer to Planning and Environmental Linkages inset below). In early 2007, FHWA and FTA issued joint legal program guidance (Integration of Planning and NEPA Processes (Appendix A: Linking the Transportation Planning and NEPA Processes, February 2007) encouraging stronger linkages between the transportation planning and NEPA processes.

*According to 23 CFR § 450.306 (a), metropolitan planning organizations, in cooperation with the state DOT and public transportation operators, shall develop long-range transportation plans and TIPs through a performance-driven, outcome-based approach to planning.*

In Section 1310 of MAP-21, Integration of Planning and Environmental Review (codified as 23 USC § 168), Congress provided details on the adoption of planning products for use in NEPA proceedings. The Federal lead agency (usually FHWA) may choose to adopt portions of or the entire planning product. Planning decisions that may be adopted include (1) whether tolling, private financial assistance, or other special financial measures are necessary to implement the project; (2) a decision with respect to modal choice, including deciding to implement corridor or subarea study recommendations to advance different modal solutions as separate projects with independent utility; (3) a basic description of the environmental setting; (4) a decision with respect to methodologies for analysis; and (5) identification of programmatic level

*Planning products refers to a decision, analysis, study, or other documented information that is the result of an evaluation or decision-making process carried out by a MPO or state, as appropriate, during metropolitan or statewide transportation planning.*

mitigation for potential impacts. The types of planning analyses that can be adopted for use in NEPA proceedings include travel demands; regional development and growth; local land use, growth management and development; population and employment; natural and built environmental conditions; environmental resources and environmentally sensitive areas; potential environmental effects; and mitigation needs for a proposed action.

MAP-21 brought a new renewed focus and requirements for transportation performance management and a performance-based planning and programming process. Performance-based planning and programming refers to the application of performance management principals within the planning and programming processes of transportation agencies to achieve desired performance outcomes for the multimodal transportation system.

**Planning and Environment Linkages (PEL)** is an FHWA initiative to encourage and support the use of planning activities and studies in the NEPA and Preliminary Engineering of project delivery. It represents a collaborative and integrated approach to transportation decision-making that consider benefits and impacts of proposed transportation system improvements to the environment, community, and economy during the transportation planning process. PEL uses the information, analysis, or products developed during planning to inform the environmental review process, including NEPA.

PEL could be applied to undertake a multimodal, systems-level, corridor, or subarea planning study. The use of PEL is not required but is encouraged by FHWA. Potential benefits of the PEL process include: improved sharing of information, elimination of duplicative efforts in planning and NEPA processes, improved communication and stronger relationships, early consultation and collaboration among stakeholders to identify potential impacts, accelerated project delivery, better environmental outcomes, timely permit decisions, and mutually beneficial outcomes.

The FHWA and FTA planning regulations have included provisions on PEL practices and authorities since 2007. Congress enacted a new authority for PEL in 2012 in MAP-21 and amended it in 2015 through the FAST Act.

FHWA's Planning and Environment Linkages Questions and Answers can be found at <https://www.fhwa.dot.gov/hep/guidance/pel/pelfaq16nov.cfm>.

**Performance-based planning and programming** involves integrating performance management concepts into the existing federally required transportation planning programming processes. Performance-based planning and programming involves using data to support long-range and short-range investment decision making. General steps include:

- Vision and goals for the transportation system
- Selection of performance measures
- Use of data and analysis tools to identify trends and set targets. Identify strategies and analyze alternatives to inform development of investment priorities, which are then carried forward into shorter-term investment planning and programming

Performance-based planning and programming should involve a range of activities and products undertaken by a transportation agency, working together with other agencies, stakeholders, and the public. These activities include:

- LRTPs
- Federally-required plans and processes such as a Highway Safety Plan and Asset Management Plan
- Other (corridor, investment, and modal) plans
- TIP/STIP
- Transportation Performance Management Reporting

Additional information on performance-based planning and programming is available in FHWA's Performance-Based Planning and Programming Guidebook available at [http://www.fhwa.dot.gov/planning/performance\\_based\\_planning/pbpp\\_guidebook/](http://www.fhwa.dot.gov/planning/performance_based_planning/pbpp_guidebook/) and in FHWA's Model Long-Range Transportation Plans: A Guide for Incorporating Performance-Based Planning available at [http://www.fhwa.dot.gov/planning/performance\\_based\\_planning/mlrtp\\_guidebook/](http://www.fhwa.dot.gov/planning/performance_based_planning/mlrtp_guidebook/).

The FAST Act expanded the scope of the metropolitan planning process to consider:

- Improving transportation system resiliency and reliability;
- Reducing (or mitigating) the stormwater impacts of surface transportation; and
- Enhancing travel and tourism [23 USC §§134(h)(1)(I) & (J)].

Additionally the FAST Act made the following changes related to PEL:

- Added purpose and need and preliminary screening of alternatives and elimination of unreasonable alternatives to the list of planning decisions that can be used in the environmental review process.
- Eliminated the requirement for concurrence of other participating agencies with relevant expertise. Replaces it with concurrence of cooperating agencies with responsibility for permitting, review, or approval of the project.
- Eliminated the requirement for duplicative approval (by the State, all local and tribal governments, and MPO(s) where the project is located) by replacing it with “the planning product was developed through a planning process conducted pursuant to applicable Federal law”.

The FAST Act also is the first transportation bill to include Complete Streets. The FAST Act:

- Encourages states and metropolitan planning organizations to adopt road design standards that take into account pedestrians and other vulnerable road users, as well as motor vehicles, through all phases of planning, development, and operation.
- Requires state transportation departments to take into account access for all users and modes of transportation when designing and building National Highway System roadways – all designs and design alternatives need to take into account all potential users of the roadway.

## **2.2 STATUTORY AND REGULATORY CONSIDERATIONS**



The Process and the procedures discussed within Publication 10A, Design Manual Part 1A, *Pre-TIP and TIP Program Development Procedures* are in conformance with the following:

- FAST Act, 23 USC § 134 and 135
- FAST Act, 23 USC §168
- FHWA Statewide Transportation Planning and Metropolitan Transportation Planning regulations, 23 CFR Parts 450 and 500
- Appendix A to 23 CFR Part 450 – Linking the Transportation Planning Process and NEPA Processes May 2016 (23 CFR Part 450, Appendix A)
- Clean Air Act, 42 U.S.C. Parts 7401-7671
- US Environmental Protection Agency (EPA) Transportation Conformity Regulations, 40 CFR Part 93
- FHWA Environmental Impact and Related Procedures, 23 CFR Part 771
- CEQ Regulations for Implementing the Procedural Provisions of NEPA, 40 CFR 1500 - 1508

Other relevant state and federal laws and agency regulations on environmental procedures are incorporated herein by reference.



## 2.3 OVERVIEW OF THE TRANSPORTATION PROGRAM DEVELOPMENT AND PROJECT DELIVERY PROCESS AND THE COLLABORATIVE PLANNING PROCESS

The Transportation Program Development and Project Delivery Process (**Figure 1.1**) applies to all roadway and bridge improvement projects, from project planning and identification of needs through construction of the actual project. All proposals coming out of an LRTP and eventually being placed on the TIP and/or TYP must follow the overall process. In addition, all asset management and minor safety proposals being advanced by PennDOT for inclusion on a TIP must follow this process. The collaborative planning process (as outlined in the *PennDOT Connects* policy) is an ongoing process for problem assessment that feeds into the LRTP, TYP, and TIP/STIP processes. All of these processes are connected to the overall Transportation Program Development and Project Delivery Process. All projects being added to a TIP must have gone through the collaborative planning process; however it is encouraged that the collaborative planning process be started even earlier during the LRTP update process. The overall complexity of the problem and the level of available information will dictate the nuances of the Transportation Program Development and Project Delivery Process as explained in later chapters and within Publication 10B, Design Manual Part 1B, *Post-TIP NEPA Procedures*. While this process is structured, it is designed to be scalable to all staffing levels of PennDOT District and MPO/RPO staff, and flexible to encompass local needs, procedures, and policies.

PennDOT will identify asset management, minor safety, and technology projects and share listings and information with MPO/RPO staff and leadership in a way that is determined to be effective for each District-MPO/RPO partnership. The MPO/RPO will also identify transportation problems/issues from various sources (refer to **Chapter 4**) and bring those forward for discussion with PennDOT. The goal is that PennDOT and the MPO/RPO will together create prioritized listings supported by data and performance measures, and that the process of creating specific lists for an LRTP and then the TIP and TYP will be collaborative and cooperative and will consider the needs and priorities of the regional transportation system, as well as, the local planning needs. PennDOT can quickly identify, study, and then advance projects required to respond to results of natural or man-made disasters based on existing department policy when needed. See **Figure 2.2** for an overview of the Transportation Program Development and Project Delivery process flow. **Figure 2.3** provides an overview of the roles and responsibilities of different participants in the process. These roles and responsibilities are described in more detail in the subsequent chapters.

Based upon comprehensive data collection and analysis of the multimodal transportation system needs, the amount of collaboration and discussion on specific problems and issues will vary based on the possible solutions and the potential impacts to the surrounding community and natural and cultural resources. It is important that PennDOT and the MPOs/RPOs identify problem by problem, or project by project, how much collaboration and discussion is necessary to yield the desired result of identifying projects that will benefit both the transportation facility and its surrounding community.

Proposal screening information should be collected as proposals are evaluated and issues are identified (but prior to developing project solutions), if it will provide additional insight into proposal development and regional planning. It is a requirement that all projects being proposed for the TIP and TYP go through the *PennDOT Connects* collaborative planning process and be documented on a proposal screening form in the Proposal Screening System. All projects proposed for the TIP plus two additional years (the first six years of the LRTP) must go through this collaborative planning process and be documented. This allows for additional projects to be ready for addition to the TIP if funding changes. More complex (anticipated to be Environmental Assessment (EA) or Environmental Impact Statement (EIS) level projects) may benefit from conducting screening when these projects are beyond the first six years of the TYP/LRTP to start considering alternatives and mitigation earlier in the process. Collaboration and documentation with the MPO/RPO

### **Planning for Environmental Mitigation Early**

*Identification of problems, purpose and need, and potential environmental impacts early in the planning process will provide opportunities to plan for environmental mitigation early. For example, if multiple proposals are anticipated to impact wetlands and require mitigation, the MPO/RPO could identify funds for a wetland mitigation bank on their LRTP and be able to mitigate for multiple projects at once, which can result in cost savings.*

must be done in a way that is consistent with the goals of scalability and flexibility in day-to-day workings among those groups. PennDOT builds its planning process in collaboration with all interested parties, the MPO/RPO, local planners/staff, FHWA, and resource agencies, as appropriate given the scale and nature of the proposal. All proposals being considered for inclusion on the LRTP and TYP should begin the collaborative planning process to

document initial information on project location, potential risks, purpose and need, and early collaboration that may take place (this is not a requirement to complete the collaborative planning process or the proposal screening form at this point in the process).

The goal is delivery of projects that benefit the statewide and regional transportation system, the local communities and that are more aligned with local land use, and regional, state and national priorities. The process will result in earlier identification of the relationship of proposals to PennDOT's asset management principles, Governor's directives, and national policies, laws, and performance measures. Those state and national policies and approaches are aligned with the intended goal - delivery of the right projects in the right places at the right times and harnessing the right resources (people, information, and expertise). Further guidance for the MPO/RPO community, which includes PennDOT, is found in *Developing Regional Long Range Plans*, prepared by the Center for Program Development and Management.

### **Agency Involvement in Planning**

The Agency Coordination Meeting (ACM) is available for use by the MPO/RPOs in order to involve the resource agencies in the transportation planning process. Opportunities for involving the agencies include participating in the development of LRTPs, reviewing LRTPs and the TIP selection process, review of the results of planning or feasibility studies, identification of potential risks, and discussing potential mitigation opportunities associated with long-range transportation improvements as required by legislation. Early and active participation with the ACM or ACM agencies is encouraged.

In response to these presentations, the agencies are expected to offer guidance and insight related to resources of concern, potential environmental mitigation activities and potential areas to carry out these activities, and potential permitting issues along with any other relevant information that could affect the long term implementation of the overall transportation plan.

It is recommended that for the ACM, MPO/RPOs and Districts present the TIP plus four additional years of proposed projects. These proposed projects must have started the collaborative planning process and have documented the location, purpose and need, and run the environmental queries that are included in the proposal screening form. All other proposed projects on the LRTP should, at a minimum, be reviewed in PennDOT One Map to identify potential environmental resource impacts.

Additional information on ACM is included in *Appendix E of Design Manual DM1X (Appendices to Design Manuals 1, 1A, 1B, and 1C)*.

The collaborative planning process was developed to thoroughly address all regulatory requirements and PennDOT initiatives to ensure quality transportation projects that balance the needs of the overall statewide transportation system within the context of the local community and the region. With additional attention given to the identification of potential project risks, environmental impacts, public controversies, resource agency coordination, or other issues before a proposal is programmed as a project on the TIP/STIP and TYP, a more clear project scope will be known, and realistic schedules and cost estimates can be developed. Alternatives developed will be consistent with national, state, and regional transportation planning principles and with local land use before they are programmed, will include consideration of context sensitive solutions, and be better defined as they enter the TIP/STIP, thus streamlining project delivery post-TIP/STIP.

*The collaborative planning process assists PennDOT in meeting the objective of PennDOT Connects, which is to identify needs of communities and related contextual issues early in the project planning process.*

The Transportation Program Development and Project Delivery Process consists of six phases:

1. Problem Assessment
2. Proposal Identification
3. Proposal Evaluation
4. Project Addition to TIP/STIP
5. PE/NEPA Decision
6. Final Design and Construction

The subsequent chapters discuss the Pre-TIP and TIP Project Delivery Procedures, which are phases 1 through 4 of the Transportation Program Development and Project Delivery Process. Publication 10B, Design Manual Part 1B, *Post-TIP NEPA Procedures*, and Publication 10C, Design Manual Part 1C, *Transportation Engineering Procedures*, detail both Phases 5 and 6, the Preliminary Engineering/NEPA Decision and Final Design/Construction phases of the process.

The first phase, Problem Assessment, includes the review of transportation problems identified for consideration and the determination of the initial purpose and need. Refer to **Chapters 4 and 5** for details. **Chapter 4**, Problem Identification and Assessment, describes how a transportation problem, need, or opportunity is first identified to an MPO/RPO by the public, local government planners/staff or by the MPO/RPO itself, or where PennDOT internally assesses asset management goals and priorities. A problem may be identified from a multitude of sources, which are described in **Chapter 4**. **Chapter 5**, Purpose and Need, explains the importance of identifying the purpose and need and how it should be determined collaboratively between PennDOT and the MPO/RPO, incorporating information provided through collaboration with county and local government planners/staff, as appropriate.

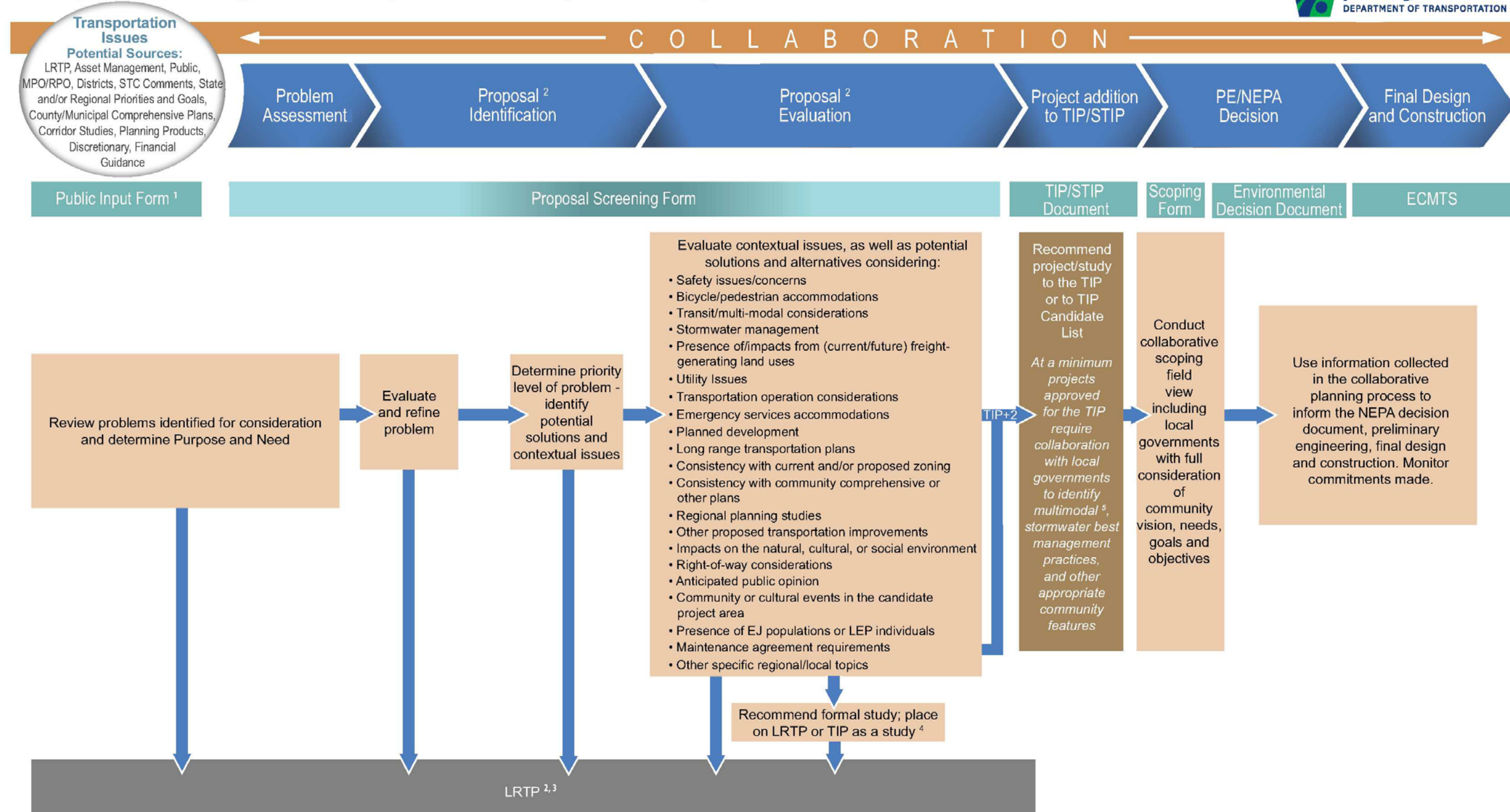
The second phase, Proposal Identification, includes evaluating and refining the transportation problem as well as determining the priority level of the problem and identifying potential solutions and contextual issues. Refer to **Chapters 6 and 7** for details. **Chapter 6**, Prioritization, focuses on the second phase of the process. PennDOT and the MPOs/RPOs prioritize problems and determine the amount of study required for each proposal. This includes a preliminary discussion of contextual issues, including land use, and how these issues may/should influence potential problem solutions and project alternatives. **Chapter 7**, Contextual Issues and Solutions/Alternatives, discusses how proposals are screened and how to evaluate and develop potential solutions (alternatives).

The third phase, Proposal Evaluation, includes evaluating contextual issues and potential solutions and alternatives to address the transportation problem. Refer to **Chapter 7**, Contextual Issues and Solutions/Alternatives, for detail. The MPO/RPO, PennDOT, and the local planning entity gather additional information for discussion related to the proposal and its engineering, contextual, and environmental issues and work together to develop a thorough understanding of the proposal, which is then documented. Potential solutions and possible multiple alternatives should be further evaluated and documented in the proposal screening form and for future use in the NEPA process. A local government collaboration meeting should take place between PennDOT, the MPO/RPO, and local government planners/staff to discuss the proposal and its context (timing of the meeting is flexible).

The fourth phase, Project Addition to the TIP/STIP, includes recommending a project/study to the TIP or TIP candidate list. Refer to **Chapter 9** for details. **Chapter 9**, Programming/Project Addition to TIP/STIP, explains how projects are programmed by the MPO/RPO and included on the MPO/RPO's TIP and PennDOT's STIP. This chapter also discusses General and Procedural Guidance, Financial Guidance, and the requirements of the collaborative planning process that must be met before a project can be added to the TIP/STIP.

The chapters in this manual have been organized to discuss the concepts of the process, rather than specifically focusing on particular phases of the process. This is because there may be scenarios or specific proposals where the amount of information already known or required for a proposal will vary, and there are activities that occur throughout the process at various points. For example, there may be times when it makes sense to have a local government collaboration meeting early in the collaborative planning process or later in the collaborative planning process. The process and procedures described in this manual are designed to be flexible and adaptable based on the specific proposal and through agreement between the District, MPO/RPO, and Central Office Program Center.

## Transportation Program Development and Project Delivery Process



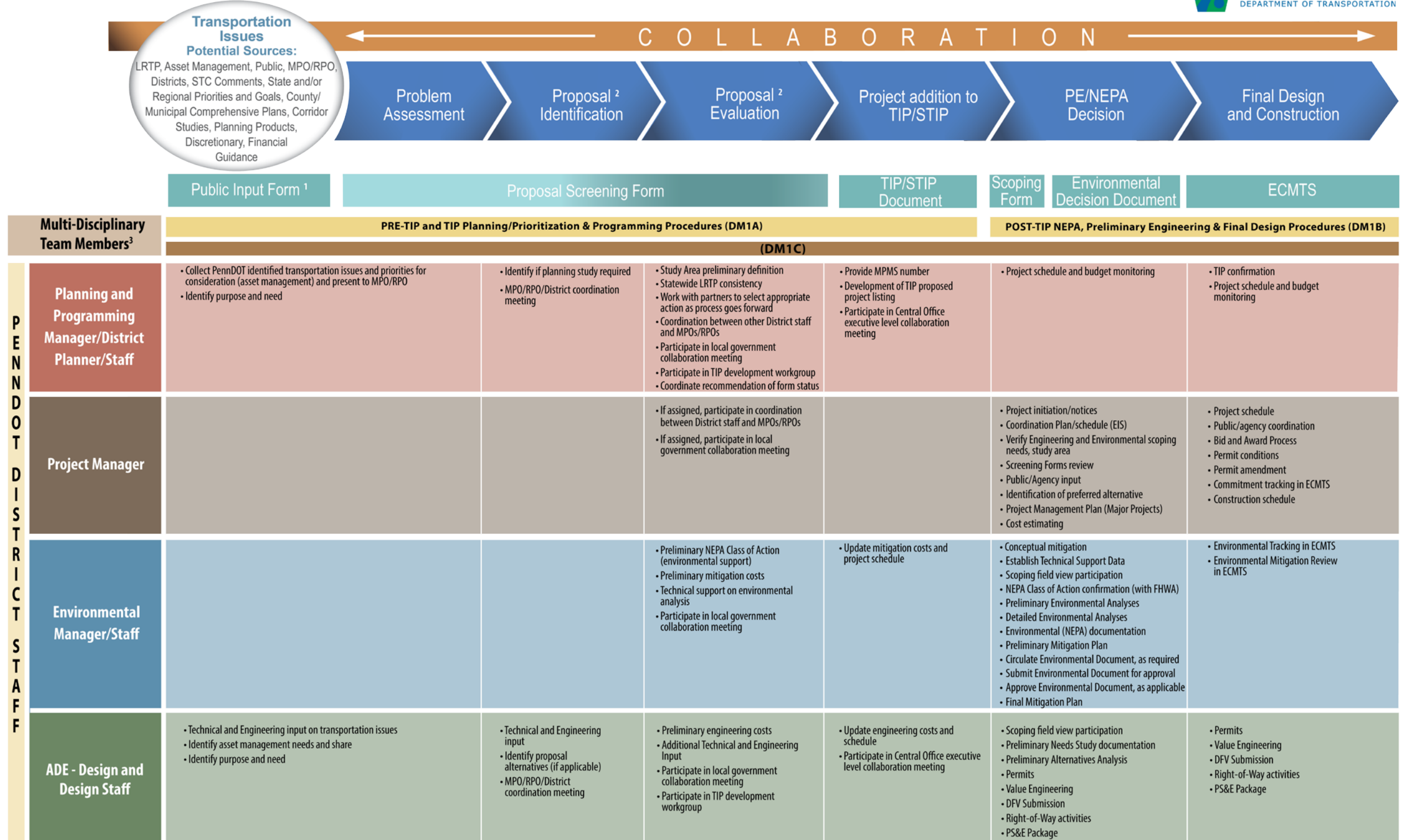
**Footnotes:**

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.

October 3, 2017

Figure 2.2

## Transportation Program Development and Project Delivery Process Responsibilities



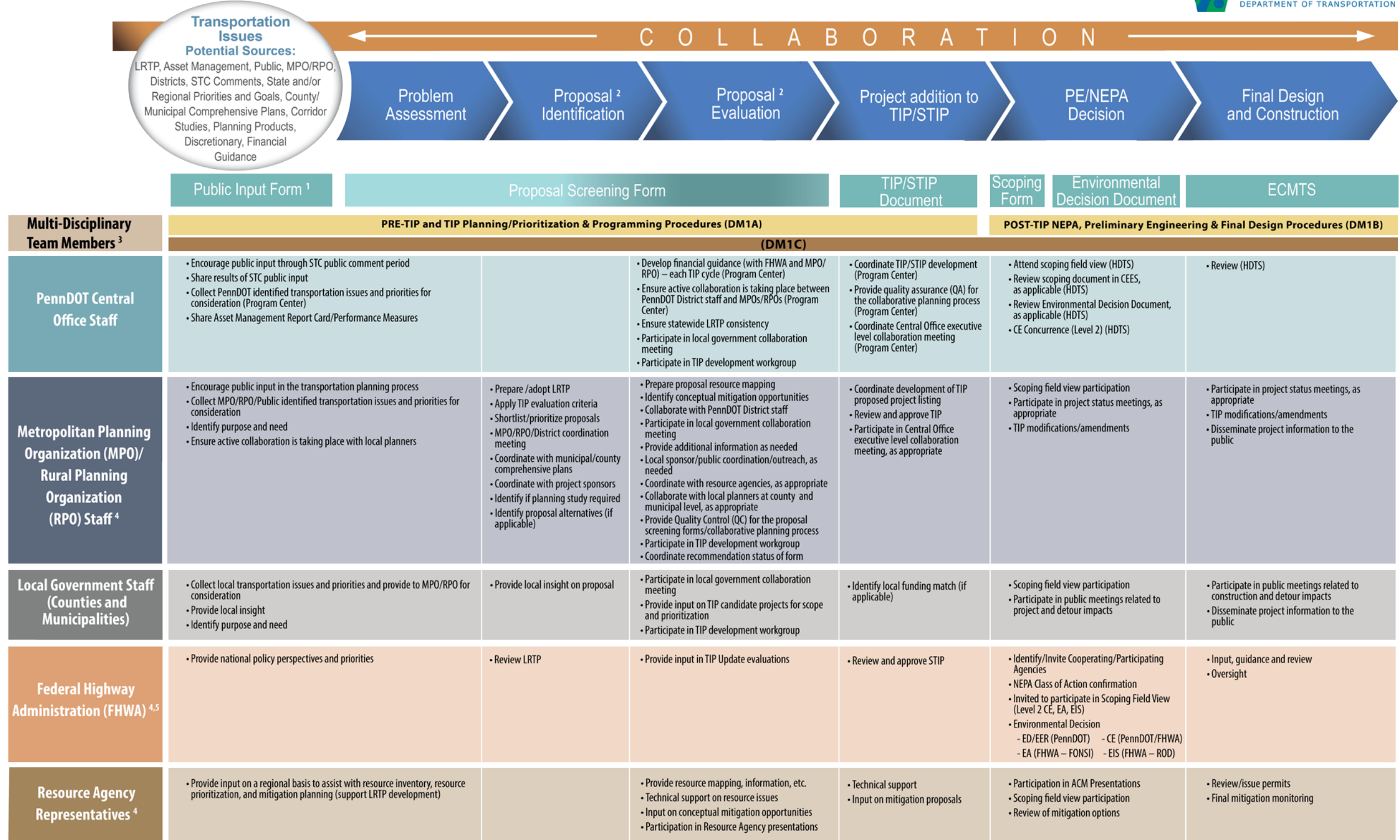
Notes: <sup>1</sup> Not required for all proposals.  
<sup>2</sup> PennDOT and the MPO/RPO may jointly decide to dismiss a proposal at any time if they proposal is determined to be a routine maintenance project.  
<sup>3</sup> Note the Team Member responsibilities designate the traditional lead role for each activity; other team members/disciplines may be involved as necessary with each activity.

November 21, 2017

Figure 2.3



## Transportation Program Development and Project Delivery Process Responsibilities



Notes: 1 Not required for all proposals.  
2 PennDOT and the MPO/RPO may jointly decide to dismiss a proposal at any time if they proposal is determined to be a routine maintenance project.  
3 Note the Team Member responsibilities designate the traditional lead role for each activity; other team members/disciplines may be involved as necessary with each activity.

4 Activities listed for outside agencies are only those that are directly a part of PennDOT's Transportation Program Development and Project Delivery Process; internal agency activities (i.e. permit approvals, tracking, etc.) are not included.  
5 May also be Federal Transit Administration (FTA), Federal Aviation Administration (FAA), or Federal Railroad Administration (FRA)

November 21, 2017

Figure 2.3  
(continued)



## CHAPTER 3 COLLABORATION



### 3.0 THE IMPORTANCE OF COLLABORATION

A collaborative transportation planning process provides the opportunity for PennDOT to be a stronger partner with MPO/RPOs and local governments regarding planning priorities, potential future studies, and decisions. A more informed process allows for better planning across all levels and enables local governments to identify and plan for local priorities and MPO/RPOs to plan for regional priorities.

Having an open dialogue with MPO/RPOs and local governments (including counties, as appropriate) before a project reaches the design phase will help to identify issues, concerns, and risks related to a project early, provide time to plan for and address issues, and allow for the design to begin with these issues/concerns in mind and known upfront rather than the design being reworked later in the process. Early local input allows possible project elements to be considered during project planning. Otherwise, these elements may not be identified until later which could result in project delays and higher project costs than anticipated. Providing more information for local governments early will also help to avoid conflicts between local infrastructure initiatives and PennDOT construction projects. For example, PennDOT repaves a road only to find out that the local municipality has plans to add new sewer lines within the roadway the following year. If PennDOT was aware of this and could wait to repave the road following the addition of the sewer lines, it would be a benefit to both PennDOT and the local community, as well as prevent the need for a newly paved road to be dug up and repaved. Similarly, if PennDOT finds out the municipality or utility plans to install new sewer during the design process, this can result in project delays, reprogramming of funds (which can affect other planned projects and commitments), unanticipated and increased coordination and design time, and increased costs.



Local government planners/staff provide a unique perspective on transportation problems within their area, and their input is valuable. It is important to ensure that transportation is integrated with the surrounding land use and the environment. The collaborative planning process provides the opportunity to create better communities that appeal to the wants and needs of the varied population including environmental justice populations and the traveling public. The process allows for the incorporation of local goals, such as, improving access and quality of life, into the transportation planning process. The process also can support the future needs of an area. For example, there may not currently be the need to include a bike lane, but by including wider shoulders on a replacement bridge it will not preclude the option of adding bike lanes in the future. Local government planners/staff also provide important perspectives on the consideration of bicycle, pedestrian, and other multimodal needs, stormwater best management practices, and other local planning considerations. Understanding the needs and goals of local communities early in the transportation planning process opens the door to discussions between PennDOT, the MPO/RPO,

and local government planners/staff about whether it is possible to incorporate the local needs and goals into the proposal and the future project. Local goals and needs are more likely to be able to be included in a project if they are understood prior to the project starting design. Not all projects will be able to accommodate every idea brought forward, but the collaborative planning process will ensure that the ideas are evaluated and considered. Although the collaborative planning process requires time, the value that results from this process outweighs the added time and effort required.

**Combining Local Perspectives with Data**

*The combination of local perspectives with transportation data helps to better identify transportation problems. For example, local government planners/staff may know that many crashes are occurring at a specific location, but they may not know the reason why the crashes are occurring. Crashes could be the result of low surface friction coefficients when the pavement is wet, but the local government planners/staff might not have the crash data to analyze the potential causes of the crashes.*

Collaboration should take place throughout the collaborative transportation planning process, including project delivery, and continue through construction of a project. This chapter summarizes the collaboration process and provides best practices for implementation during the collaborative planning process and beyond.

**Table 3.1** describes some of the benefits that will come from participation in the collaborative planning process.



**Table 3.1 Benefits of Participation in the Collaborative Planning Process**

**Local Planners/Staff**

- Establish relationships with MPO/RPO, PennDOT Districts, and the public
- Comprehend the requirements of a data-driven, performance based transportation planning and programming process
- Understand the statewide and regional needs of the multimodal transportation system
- Provide input on problems in the planning process (prior to developing solutions)
- Ensure that community context and visions are considered in the planning process
- Collaboration during the LRTP process provides the opportunity for local governments to identify and implement land use controls to enhance or possibly avoid future transportation projects
- Collaboration early in planning provides the opportunity to identify and apply for other funding opportunities, such as Transportation Alternatives Set-Aside, Multimodal Funds, Recreation Trails, and Pennsylvania Infrastructure Bank

**MPO/RPO**

- Build relationships with PennDOT Districts, PennDOT Central Office, local planners, FHWA, resource agencies, and the public
- Provides a framework and guidance for the refinement of the detailed regional TIP development process and procedures
- Collect, analyze, and disseminate transportation data in order to identify the needs of the overall multimodal transportation system, including the local roadways and bridges on the federal-aid system
- Incorporate public input on transportation problems early in the planning process
- Ensure that contextual project information is included in the process
- Make informed program and project decisions for both transportation and the environment through the early identification of alternatives that avoid and minimize impacts and fit better into their surroundings
- Consolidate data early and identify potential issues associated with a problem/proposal
- Identify proposals that should be bundled together for design and/or construction, resulting in cost and time savings
- Help manage the scope of both a program and individual proposals at an early stage. A clear big picture assessment assists in prioritizing proposals and ensuring realistic schedules and costs are identified, which in turn facilitates the allocation of available funds and the management of public and government expectations
- Coordinate and identify issues early which allows for improved planning and design of projects in order to reduce unforeseen cost increases as the project advances toward construction
- Add transparency to the transportation planning process

**PennDOT District Office**

- Build relationships with MPO/RPO, local government planners/staff, PennDOT Central Office, FHWA, resource agencies, and the public
- Collect, analyze, and disseminate transportation data in order to identify the needs of the overall multimodal transportation system
- Gain local input on transportation problems early in the planning process
- Ensure that contextual information is included in the process
- Better program and project decisions for both transportation and the environment through the early identification of alternatives that avoid and minimize impacts and fit better into their surroundings
- Consolidate data early and identify potential issues associated with a problem/proposal
- Identify proposals that should be bundled together for design and/or construction, resulting in cost and time savings





**Table 3.1 Benefits of Participation in the Collaborative Planning Process**

- Reduce time needed for preliminary engineering – well documented collaboration and background research in the planning process can result in less work in the preliminary engineering and NEPA phase
- Help manage the scope of both a program and individual proposals at an early stage. A clear big picture assessment assists in prioritizing proposals and ensuring realistic schedules and costs are identified, which in turn facilitates the allocation of available funds and the management of public and government expectations
- Coordinate and identify issues/risks early which allows for improved planning and design of projects in order to reduce unforeseen cost increases as the project advances toward construction
- Add transparency to the transportation planning process

**Central Office**

- Build relationships with MPO/RPO, PennDOT Districts, local planners/staff, FHWA, resource agencies, and the public
- Collect, analyze, and disseminate transportation data in order to identify the needs of the overall multimodal transportation system and develop PennDOT’s statewide asset management plan
- Identify and disseminate noteworthy practices across the state in order to assist Districts and the MPO/RPOs
- Better program and project decisions for both transportation and the environment through the early identification of alternatives that avoid and minimize impacts and fit better into their surroundings
- Early consolidation of data and identification of potential issues associated with a problem/proposal
- Reduction in time needed for preliminary engineering – well documented collaboration and background research in the planning process can result in less work in the preliminary engineering and NEPA phase
- Identify proposals that should be bundled together for design and/or construction, resulting in cost and time savings
- Help manage the scope of both a program and individual proposals at an early stage. A clear big picture assessment assists in prioritizing proposals and ensuring realistic schedules and costs are identified, which in turn facilitates the allocation of available funds and the management of public and government expectations
- Early coordination and identification of issues which allows for improved planning and design of projects which will reduce unforeseen cost increases as the project advances toward construction
- Provide quality assurance throughout the regional planning and program development processes to ensure effective collaboration occurs with MPO/RPO staff and local government planners/staff
- Add transparency to the transportation planning process

**3.1 IDENTIFYING PROBLEMS**

The identification of problems begins the Transportation Program Development and Project Delivery Process and is where collaboration has its start. Problem identification is discussed in more detail in **Chapter 4**. Problem identification involves PennDOT collaboration with MPO/RPOs and local governments (including counties, as appropriate) to understand community priorities, community planning, and transportation issues. It also includes PennDOT evaluating asset management goals, objectives, and performance measures to develop the components of a transportation program.

**A. Local Planning and Collaboration**

Effective municipal and/or county comprehensive planning proactively seeks participation from all citizens. Local planning commissions meet regularly to discuss issues. Often, the public does not see this as an opportunity to make a

*Individuals who speak up have been successful in advancing transportation improvement projects simply by identifying a problem they have seen, or experienced.*

difference, but citizens who speak up prove that while a single person may not be able to change the future of an area, a single idea can have great power. PennDOT should be involved in local planning efforts as appropriate and support municipalities by communicating PennDOT policies and priorities, transportation data, and project information in a way that helps municipal staff to plan. This can include technical assistance, or be as simple as continued sharing of information with municipalities to assist them in understanding the PennDOT data or the other planning and programming processes.

Planning for development and redevelopment for economic opportunities, new housing, and recreational and cultural plans happens at the local level. The Commonwealth of Pennsylvania has more than 2,500 municipalities, with as many as 2,500 different ideas of what local planning should be, within state regulation, law, and guidance. There are vast differences in approaches, but the same desired outcome - clearer local vision about future development and the transportation infrastructure and programs that will be consistent with and supportive of that vision. Pennsylvania's Municipalities Planning Code guides planning for counties and municipalities and its regulations apply to plans and zoning undertaken by municipal and county governments in Pennsylvania.

Municipal or regional comprehensive plans (where they exist) help in the development of county comprehensive plans (required by the Pennsylvania Municipalities Planning Code). Integration of county comprehensive plans and concepts into the regional LRTP and TIP is a way to link land use to the transportation planning process, and eventually the program development and project delivery processes. Efficient and effective integrated project delivery is the desired result. Each MPO/RPO has forged relationships with its municipal and county planning partners, and it is essential that PennDOT staff be involved so that effective collaborative planning is the result of consistent communication and cooperation from all parties.

**Pennsylvania Municipalities Planning Code (Act of 1968, P.L. 805, No. 247)** empowers counties and municipalities, individually or jointly, to plan their development and to govern the same by zoning, subdivision and land development ordinances and additional tools. The code can be accessed at <https://dced.pa.gov/download/pennsylvania-municipalities-planning-code-act-247-of-1968/>.

It is important that municipalities have a cooperative relationship with county planning offices, and that all efforts are built to align municipal and county visions with the regional, statewide, and national vision on transportation's role in the planning process. County planning offices should maintain good cooperative communications and relationships with MPO/RPO organizations and PennDOT Engineering District personnel. All parties should understand that any system that avoids duplication of effort and uses resources wisely at any level of the process benefits all partners. Earlier and more coordinated communication and cooperation will pay dividends in wise use of financial resources in the planning stages, and translates to more effective use of financial resources in project delivery. The early communication will also help to ensure that the goals and needs of the local community are considered during problem assessment.

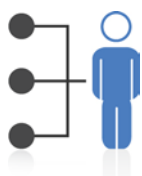
### **B. PennDOT Seeks Input on Transportation Issues/Priorities**

PennDOT collects information in a variety of ways at various levels, but information gathering begins with daily interaction by the public with the county maintenance districts. Specific customer care center opportunities are offered to the public to collect maintenance concerns. Engineering Districts work closely with their county maintenance managers, assistant managers, and roadway program coordinators to identify continuing ways to maintain and sustain the highways and bridges, and consider other motorized and non-motorized modes.

PennDOT also seeks public input through the State Transportation Commission (STC) Twelve Year Program (TYP) public outreach process which takes place every two years. The STC is focused on determining and evaluating the condition and performance of Pennsylvania's transportation system to assess the resources required to preserve, restore, extend and expand transportation facilities and services to serve Pennsylvania's communities and to support economic development. State law requires PennDOT prepare an update to Pennsylvania's TYP every two years and submit it to the STC. The Transportation Program must be multi-modal and fiscally constrained. Public input is sought on transportation goals and priorities and also on specific issues and project ideas. The information gathered during the public outreach process is shared with the MPO/RPOs for use in the development of their LRTPs and TIPs.

Public participation in the process, starting at the local government level, or at the regional planning level, must not be confused with "public involvement" conducted by a municipal, county, regional, or state agency. "Public

involvement" is an outreach term associated with specific requirements for NEPA processes. Public participation in this context refers to the public's ability to interact with its local and state transportation entities. The "Public Participation Plan" required of all MPOs and RPOs is a separate requirement that assures that interested parties have access to information associated with the planning processes.



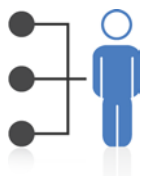
PennDOT's efforts are most effective when there is a clear liaison established between the local government planner/staff, MPO/RPO staff and PennDOT District Offices, and when all partners are engaged in regular and meaningful cooperative work plans and information sharing. PennDOT District Executives should designate a single point of contact, a District "liaison" for the coordination of information sharing and meetings. This can be a District planner or a member of the District Planning and Programming staff or other appropriate staff member. The PennDOT District Office or the MPO/RPO should schedule and facilitate meetings, and that responsibility should be determined by each district and MPO/RPO. In addition, local governments are encouraged to coordinate with PennDOT District staff and the MPO/RPO when updating municipal and county comprehensive plans or any other local activities that are related to land use and transportation decision-making, and to coordinate on the development of proposals that will best serve the communities in which they are located.

## 3.2 ASSESSING PROBLEMS

### A. Begin Collaboration on Identified Transportation Issues

The PennDOT District Office and the MPO/RPO must share the transportation issues brought to their attention with each other, and with the local and county staff that represent the location of the transportation issue. The way this information is initially shared can be through emails, phone calls, results from the STC public involvement, sharing of public input forms or Level 1 proposal screening forms, other information exchange channels or at a meeting. At a minimum, a local government collaboration meeting must occur prior to a proposal being included on the TIP. The primary purpose of this early coordination is to ensure that everyone involved is aware that a problem/issue has been identified and collectively can start to define the purpose and need, identify potential issues, and understand how the problem will affect the surrounding community and region. Local input defining the needs of a community relative to an identified problem is important to developing and evaluating solutions.

The Level 1 proposal screening form or a public input form are tools to enable advocates of an issue to better articulate the problem and any relevant information known at the time the form is submitted. The MPOs and RPOs have established their own processes for advancing the problems to be considered for the LRTPs, and they still have the responsibility for and authority for developing and approving the LRTP and the TIP, but they must incorporate the collaborative planning process into their transportation program development process.



Many MPO/RPO staff depend on municipal staff or officials and county staff to screen ideas from their own residents and to continue to forge its future land use and development through planning, zoning, and highway occupancy permitting. The MPO/RPO can adopt its own set of procedures, or screens, to accomplish its purpose, and PennDOT District staff should be proactively involved in those processes wherever possible.

It is prudent for PennDOT District staff to seek out information that will help formulate the PennDOT planning processes that identify appropriate budget, scope and schedule for asset management projects, safety projects, and related work. PennDOT District staff should dedicate time and attention to the processes employed by MPO/RPO partners, including providing as much data and information as possible as early as possible in the process. Collaboration and cooperation is necessary.

Municipalities should depend on their own zoning, land use and other comprehensive planning information and tools. They may choose to use county government planning offices for assistance, as well as the regional MPO/RPO organization.

There are acknowledged differences in the individual abilities and capabilities among municipalities, counties, MPO/RPOs, and PennDOT from one office or District to another, in terms of human, capital, and information resources available. That is why it is vital that all partners in a planning region work collaboratively and cooperatively, communicate regularly, and tailor the approach used to gather information in planning and

programming processes that makes sense based on those differences. It is important also to recognize that a single PennDOT District Office could be working differently with each MPO/RPO, and that a MPO/RPO may use different approaches when working with several Districts. The underlying philosophies and goals are the same, but the methods utilized by one MPO/RPO may require a different level of support from PennDOT, and likewise, PennDOT may be able to depend on different levels of support from those partners.



Once a region (PennDOT District, MPO/RPO, and PennDOT Program Center MPO/RPO Representative) has determined a preferred method for collaboration and information sharing, this method should be documented. This will ensure that there is an agreement between all parties as to how the collaborative planning process will work in that region. It will also serve to document the process in the case of staff changes. The documented process will serve as a guide or procedural framework, but will remain flexible and can be adapted as agreed upon by all parties and to adjust to meaningfully collaborate with local government planners/staff which will likely vary on each proposal. This documentation will also be available to other regions in order to share best practices and new ideas on improving the process.

There are many examples of collaboration already taking place in the transportation planning process at the PennDOT and MPO/RPO levels. This collaboration could be built upon to incorporate the local governments to take the collaboration process one step further. The box below highlights a few of these collaboration best practices.

#### **Example Collaboration Approaches**

*Example 1.* The district and MPO/RPO staff meets for a daylong work session to discuss all projects proposed for the TIP or LRTP. Environmental, land use, planning, and engineering staff participate in the meeting. Each project is discussed and potential issues/concerns are noted. Local government planners/staff are invited to participate in the meeting for specific projects related to their county and/or municipality.

*Example 2.* The MPO/RPO holds a workgroup with the district and identifies projects for consideration for the next TIP, the TYP or LRTP. New candidate projects (proposals) from counties, districts, and the public are discussed. Priorities are identified and it is determined which proposals will require further study. These workgroups discuss projects early, prior to financial guidance being issued, in order to start preliminary identifying projects to be included on the TIP or LRTP. Local government planners/staff are asked to provide input on proposals in their county/and or municipality.

*Example 3.* As the district is beginning to identify projects for the next TIP, district staff goes into the field to gather preliminary information on potential projects (example: top 10 bridges in each county). This preliminary information is then brought back to the district and a meeting is held in which programming, engineering, and environmental staff all review and discuss the projects and its potential risks to identify where the project should fall as a priority for the next TIP updates. The MPO/RPO staff and local government planners/staff participate in the meeting to provide their input on the potential projects and to aid in prioritizing the projects.

As information is gathered and collaboration takes place for a transportation issue, it may be determined that the transportation issue would benefit from further study through a transportation study or a transportation/land use study. A transportation study or transportation/land use study will allow for additional information to be gathered about what the cause of the issue may be and the types of solutions/alternatives that could address the issue. Through further study, it may even be determined that the solution is not a purely transportation solution, but is a mixture of land use, local controls, or other types of solutions. Studies can be funded through the TIP or from a variety of sources. Coordination should take place with the Program Center if there is a need to identify funding for transportation studies.

One of the seven goals of the planning portion of the project delivery process (as outlined in **Table 2.2**) is to improve communication, coordination, and cooperation within and among the state, regional, federal and other transportation planning entities. It is just as important that the municipal, multi-municipal, county, regional, state, and federal connection be maintained. The sharing of resources and information, and the validation of the accuracy and usefulness of those resources (including data, mapping, etc.) is a shared responsibility among municipalities, county and regional planning organizations, state and federal resource agencies, to develop future improvements to the transportation system.

**B. Establishing Purpose and Need**

A main goal of the collaborative planning process is to focus on what the true transportation problem(s) is and to establish the initial purpose and need, which can be refined as the process moves forward. The purpose and need should be developed collaboratively with input from all partners - PennDOT, the MPO/RPO, and local government planners/staff, and if necessary FHWA. Each can bring specific information and a unique perspective on what the transportation issue entails. Establishing purpose and need is discussed in detail in **Chapter 5**.

**C. Contextual Issues and Solutions/Alternatives**

PennDOT, MPO/RPOs, and local government planners/staff (including county staff, as appropriate) all ultimately have the same goals – better projects for better communities. What exactly this looks like varies by specific region and community – which is just one reason why early collaboration in the transportation planning process is important. Through the effective exchange of ideas with local government planners/staff early in the process, PennDOT is able to deliver projects that serve transportation needs but also complement existing and proposed land uses in the area. There are several key contextual issues that are important to be considered on every project, which are described in **Chapter 7**. These contextual issues should be reviewed and discussed by the PennDOT District and MPO/RPO staff along with input from local government planners/staff, as applicable. During the collaborative planning process, it may also be determined that there are specific regional/local topics that should be discussed for each proposal and these topics should be incorporated into the collaborative discussion.

Local government collaboration should include a discussion of alternatives and their contextual issues. Local insight should be used to better understand what alternatives would meet the project need and at the same time benefit the surrounding community.

The purpose of this collaboration is to:

- Build support/consensus that the initial identified purpose and need is appropriate
- Gather local knowledge on current and future development and land use and how it may impact the transportation issue
- Provide the local government staff the opportunity to identify new perspectives, or if anything was missed. Identifying these items early provides opportunities for them to be incorporated/considered now, rather than after projects have been programmed and design has begun
- Allow the local government staff to provide input on the alternatives being considered
- Add additional transparency to the transportation planning process

**3.3 REQUIRED COLLABORATION MEETINGS**

In addition to the general collaboration described above, there are three specific meetings that are required as part of the collaborative planning process. These include the local government collaboration meeting, the executive level collaboration meeting, and the scoping field view.

**A. Local Government Collaboration**

PennDOT District personnel must collaborate with their respective MPO/RPO staff and appropriate local government planners/staff on all new projects added to or recommended to the TIP and TYP. However, collaboration during the MPO/RPO LRTP process provides the opportunity for local governments to identify and implement land use controls to enhance or possibly avoid future transportation projects and is the ideal time for local government project collaboration to begin. These local government collaboration meetings are required for all projects that had no project phase included on a prior TIP. In addition, Districts are required to collaborate with their respective MPOs/RPOs and local government planners/staff for all other TIP projects that have not started

preliminary engineering or started preliminary engineering after July 1, 2016. These meetings may be incorporated into existing meetings/processes or may be held as stand-alone meetings.

The purpose of this collaboration is to:

- Build support/consensus that the initial identified purpose and need is appropriate
- Gather local knowledge on current and future development and land use and other contextual issues and how they may impact the transportation issue
- Provide the local government planners/staff the opportunity to identify if anything was missed. Identifying these items early provides opportunities for them to be considered now, rather than after projects have been programmed and design has begun.
- Add additional transparency to the transportation planning process

**Using the Meeting to Better Understand Roles**  
 The meetings, especially the first meetings held with each municipality, should also serve as an opportunity to inform local government planners/staff on the collaborative planning process and how it is changing the way that PennDOT is pursuing program and project development. Additionally, the meeting is an opportunity for the MPO/RPO to share their role in the transportation planning process and to make sure that the local government planners/staff are aware of future opportunities to stay involved in the transportation planning process for both the proposal being discussed and for long term planning such as TIP, TYP, and LRTP development.

In order to ensure that these meetings are beneficial to all involved it is important that all parties come to the meeting prepared to discuss the transportation proposal. Preliminary information related to contextual issues (refer to **Chapter 7**) should be compiled. These contextual issues can help guide the conversation at the collaboration meeting. Local government planners/staff should review their comprehensive plans, as well as any local or regional bicycle, pedestrian, transit or trail plans or any other local planning studies that may be relevant. Proposal screening forms should be preliminarily completed to identify potential land use and environmental considerations.

**Multiple Proposals with the Same Local Government**  
*If more than one proposal with the same local government planners/staff is being recommended to the TIP, TYP, or LRTP, local collaboration should take advantage of having PennDOT, MPO/RPO, and local government planners/staff together to discuss multiple proposals in order to maximize the benefits achieved in the time necessary for the meeting.*

**Local Government Collaboration Meeting Suggestions**  
 Prior to the meeting, information should be shared with local government planners/staff regarding the proposal location to be discussed (a map distributed prior to the meeting) as well as any additional information that may already be known about the proposal (a proposal screening form, if already partially completed, etc.). It is also beneficial to share photos of the proposal location or if the meeting facility has internet access to use PennDOT One Map or video log to be able to view the proposal location. If the proposal is likely to impact transit or is an area with transit use, transit agencies should be invited to participate in the local government collaboration meeting.

PennDOT Districts and MPO/RPOs should look for opportunities to incorporate the required collaboration/meetings into existing processes or meetings. Some MPO/RPOs have regularly scheduled meetings with counties and/or municipalities. Transportation proposals being considered for the TIP or LRTP could be added to the regular agenda to take advantage of having all of the required staff in the same location. Additionally, it may make sense to gather the MPO/RPO and District staff together on a designated date and then identify time slots that work with the schedules of county/local staff to come in and discuss specific proposals. There may also be benefits to scheduling these meetings to follow MPO/RPO Coordinating or Technical Committee meetings when the appropriate staff from PennDOT Districts, Central Office, and the MPO/RPO may already be gathered in the same location.

**Documentation of Procedural Framework for Local Government Collaboration Meetings**  
It is recommended that the District and MPO/RPO develop a strategy for how they will coordinate collaboration meetings. The Central Office Program Manager should also be engaged in this process. This procedural framework should be documented, so that it is clear as to what the appropriate and expected roles are for each organization. This may look different in each District/MPO/RPO relationship, and should remain flexible based on the needs of the local governments involved.



Additionally, a Project Initiation Form must be completed in the proposal screening system to document the collaborative planning process and local government collaboration meeting and all decisions made at the meeting. This form specifically focuses on pedestrians, bicyclists, public transit, transportation systems management and operations and intelligent transportation systems, freight/economic activity/manufacturing, stormwater, and public controversy. Additional information on the Project Initiation Form is included in **Chapter 10**.

If suggested community-related project features are justified, based in part on comprehensive planning or other related planning studies, the transportation needs identified during these local government collaboration meetings shall be incorporated into project scopes of work. The proposal screening form is the appropriate location to document the transportation needs identified and justified.

If the issues discussed during local government collaboration are not justified based a lack of adequate planning documentation, unacceptable impacts to environmental resources, excessive right-of way impacts, maintenance ownership difficulties or other issues related to impacts or excessive cost, an explanation must be included on the Project Initiation Form, and attached to the proposal screening form. All decision elements must be evaluated for all proposed options.

***What if a local government requests a sidewalk, but is not willing to take over ownership and maintenance?***

*PennDOT must have a signed maintenance agreement prior to including pedestrian facilities or special signals in a project. Without this signed maintenance agreement there is no deal.*

**What about costs?**

Cost will always be a factor in transportation planning, but it will no longer be a justification not to include necessary elements in a project without some level of analysis and explanation. The collaborative planning process will ensure consideration of the potential cost versus the potential benefit to be gained by the community is one item evaluated for every proposed feature recommended by local government planners/staff. Issues that could impact PennDOT’s ability to cost effectively address community needs include, but are not limited to, disproportionate utility relocations, disproportionate right-of-way requirements, disproportionate impacts to underground drainage facilities, disproportionate stormwater management requirements, and the need to construct or relocate retaining walls, or a combination of these. PennDOT staff will strive to plan projects that improve economic competitiveness, access to work, and overall quality of life. Discuss and document cost sharing arrangements as part of this collaborative process.

It will not be possible to address all community needs through PennDOT’s transportation program. There is no mandate to formally reach consensus on all issues related to community collaboration. However there is a mandate to practice due diligence, then justify and document why decisions are made, either to include or not include recommended community features on projects.

Identifying community needs early in the planning process will also allow for the potential identification of alternative funding sources, rather than funding solely through PennDOT’s TIP. Other funding sources may include, but are not limited to, Transportation Alternatives Set-Aside, PennDOT Multimodal Transportation Fund, Department of Community and Economic Development Multimodal Transportation Fund, and Department of Conservation and Natural Resources Community Conservation Partnerships Program grants.

Decisions reached on community features during planning must be communicated to the local government. As the District Office will manage the future project, the District is ultimately responsible for informing the local government of the final decision. The District Office and MPO/RPO staff may agree on an alternative approach for communicating decisions to local governments, so long as the final decision is clearly communicated.

Local government collaboration meetings must occur before new projects are added to the current TIP/STIP or future TIP/STIP. These collaboration meetings must become a routine element of the collaborative planning process. If local collaboration does not occur during the collaborative planning process, the meeting must be conducted prior to adding a new project during the TIP update process. The objective is to fully consider community features for future projects before projects are programmed on a TIP. Ideally, locally government collaboration should begin when projects are initially considered for LRTP updates.

#### **Transportation Alternatives (TA) Set Aside and Multimodal Transportation Fund Projects**

Local municipalities must collaborate with the District/MPO/RPO prior to submitting a TA Set Aside application in order to ensure that the District and MPO/RPO are fully aware of the application and are able to consider how the project would fit within the context of the community as well as how it may coordinate with other planned transportation projects. For example, if a municipality would like to extend a bike path, is there an opportunity to connect that bike path to one in the neighboring municipality. After an application is approved, collaboration should continue as the project is developed.

If the sponsor of the project is a non-municipal entity, collaboration must take place with the municipality/District/MPO/RPO both prior to the application and after the application is approved.

#### **B. Central Office Executive Level Collaboration Meeting**

To monitor the implementation of the collaborative planning process, share experiences, and learn from best practices, each Engineering District will present an overview of local government collaboration at a Central Office executive level collaboration meeting for all new TIP projects that have proceeded with the collaborative planning process after local government collaboration has been conducted. New TIP projects must be presented and reviewed by Executive Staff before TIP adoption. Projects added to the TIP as a modification or amendment will be handled on a case-by-case basis with a meeting or other documentation, as appropriate. The intent is not to slow project development. Central Office executive collaboration occurs prior to preliminary engineering phase because the discussions at the Central Office executive collaboration meeting may impact what the programmed project will possibly include. Completed Project Initiation Forms provide the documentation for these meetings.

Issues to be addressed in these meetings shall include:

- An overview of community collaboration outcomes with a summary of community features incorporated into each project
- Individuals in each District and planning region who participated in the collaboration process, as well as a summary of local government planners/staff who responded to requests for collaboration
- Examples of how local government input influenced the scope of projects
- Challenges experienced during the collaboration process
- Recommendations to improve future collaboration
- Any issues that cannot be resolved through collaboration among the District Office, MPO/RPO staff, and the Program Center Program Manager

Each PennDOT District Office is ultimately responsible for implementing the PennDOT Connects approach to collaborative planning and sharing their experiences with Executive Staff. The District is encouraged to invite MPO/RPO staff to participate in the Central Office executive level collaboration meetings. These meetings will be conducted as requested by the District Office (the timing/occurrence of these meetings may vary based on the District's program of projects), and chaired by the Secretary or the Secretary's designee.



### C. Scoping Field Views

Collaboration with local government planners/staff must also occur during project delivery. In addition to collaboration during the collaborative planning process prior to TIP approval, MPOs/RPOs and local government planners/staff must be invited to participate in Environmental and Engineering Scoping Field Views once a project moves into preliminary engineering. The transportation needs and local community features identified and accepted in planning must be reviewed and refined at the Scoping Field View.

Local community features identified and accepted in planning or early in preliminary engineering must be documented in a scoping document in the CEES. The removal of previously identified community features from the scope of work during the scoping process must be properly justified and documented as part of the scoping field view minutes and recorded on the “results” form of a scoping document. The district planner, or other designated individual in districts, will be responsible for ensuring that decisions related to the collaborative planning process are properly documented during project scoping. For additional information on Scoping Field Views refer to DM-1B and DM-1C.



## CHAPTER 4

### PROBLEM IDENTIFICATION AND ASSESSMENT

#### 4.0 IDENTIFYING PROBLEMS

The first phase in the Transportation Program Development and Project Delivery Process is Problem Assessment. Refer to **Figure 4.1**. The term is applied to the initial consideration of any transportation or transportation-related problem as part of a regional LRTP TIP, or TYP.

Before a problem can be assessed, it must first be identified. The majority of problems/issues are directly identified by PennDOT or the MPO/RPO through performance-based planning and programming, and asset management<sup>1</sup>. PennDOT and the MPO/RPO use transportation data to assess or analyze the needs of the entire transportation system from a statewide, a District, and an MPO/RPO perspective.

Additionally, any person can advocate that a problem exists. The individual MPO/RPO can set its own procedures for how transportation problems are brought to their attention, either directly to the MPO/RPO or through municipal or county planning agencies, municipal or county government boards, councils, and/or commissions. The MPO/RPO should communicate the process clearly to those who might become advocates for proposals, including in their Public Participation Plans (23 CFR 450.316).

Problems or extremely unrealistic solutions submitted as problems can be dismissed immediately as not appropriate to the process, frivolous, or outside the purview of capital infrastructure. (Examples: build a new high-speed rail line to transport milk from the farm to the dairy; build elevated bikeways along all interstates; hire more police for my township to stop speeders). However, most problems should be considered, to the depth proportional to the resources made available to the MPO/RPO and District for potential inclusion in an LRTP and TIP, either in the short-term or long-term as a future study or project. This applies to issues presented by PennDOT, the MPO/RPO, local government planners/staff or by others.

Sources of transportation issues that may be identified include, but are not limited to:

- Existing LRTP goals and project lists from previous or existing LRTPs
- A PennDOT plan for work that is based on asset management methodology such as maintaining maintenance cycles for pavements

#### What is Asset Management?

The goal of an asset management program is to minimize the life-cycle costs for managing and maintaining transportation assets, including roads, bridges, tunnels, and roadside features. As defined by the American Association of State Highway and Transportation Officials' (AASHTO) Subcommittee on Asset Management,

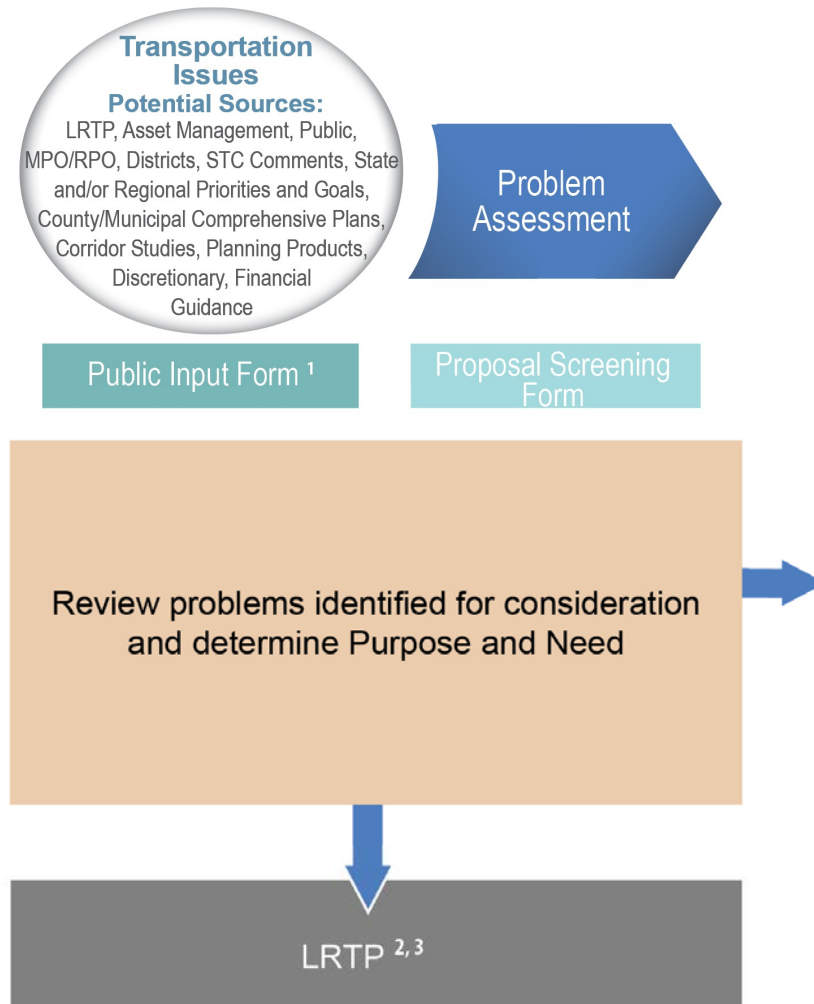
"Asset Management is a strategic and systematic process of operating, maintaining, upgrading, and expanding physical assets effectively through their life cycle. It focuses on business and engineering practices for resource allocation and utilization, with the objective of better decision-making based upon quality information and well defined objectives."

Through the use of management systems, engineering and economic analysis, and other tools, PennDOT and MPO/RPOs can more comprehensively view the big picture and evaluate collected data before making decisions as to how specific resources should be deployed. Asset management principles and techniques should be applied throughout the planning process, from initial goal setting and long-range planning to development of a TIP/STIP and then through to operations, preservation, and maintenance.

<sup>1</sup>The definition for asset management provided in the call out box is from FHWA's Asset Management website available at <https://www.fhwa.dot.gov/asset/hif10023.cfm>.

- A PennDOT plan for work that is based on performance measurement-based actions such as risk assessments, or roughness indices, the District’s Bridge Risk Assessment Tool for all state and local bridges, or other performance measures
- The MPO/RPO’s regional priorities and goals and assessment of needs including other performance-based, data-driven targets, road safety audits, transit planning, and freight plans
- The advancement of raw ideas that came from citizens to municipal councils, boards, or commissions
- Ideas provided by the public during the STC public comment periods
- Problems/proposals provided by the public during MPO TIP public comment periods
- A municipal comprehensive plan set of goals and/or objectives that include transportation elements
- A county comprehensive plan that prioritizes certain areas of development and/or redevelopment and the accompanying infrastructure support needed
- Input from a bus, rail, shared ride, intercity, or air transit provider
- Corridor studies and/or traffic impact studies conducted at the local or regional level
- A transportation related advocacy group's (bicycle, pedestrian, multimodal, transit, freight/truck, rail, aviation, port/waterways) input
- A private developer's anticipated plans
- Specialty funding program applications/other funding.

The problems entering the Transportation Program Development and Project Delivery Process include specifically-defined proposals that are addressed as part of PennDOT's continuing asset management focus and philosophy, and an investment strategy that is a cooperative and collaborative effort of the MPO/RPO and PennDOT with input from local government planners/staff. Citizens may also generate raw ideas and or newly identified issues. The list can include information from prior planning efforts, and should be tied to stated community goals, municipal and joint municipal comprehensive plan goals, MPO/RPO and statewide performance measures, and regional, state, and national goals.



**Figure 4.1**

<sup>1</sup>Not required for all proposals

<sup>2</sup>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

<sup>3</sup>Projects may also be deferred to the LRTP illustrative list

In short, issues can be identified by people who are engaged and paying attention to their surroundings, who communicate those issues to those who are responsible for the planning and programming that leads to the identification of potential solutions. Citizens living their lives in their communities recognize, or identify, problems associated with their transportation system. The key to defining transportation problems is to tie transportation data to perceived problems. Combining information about transportation issues with transportation data, allows for a comprehensive understanding of the issue. Examples of types of “raw” issues and transportation problems include:

- “Too many crashes”: A large number of crashes or severe crashes in an area
- “Too much gridlock”: Recurring congestion and event-related congestion
- “We need good jobs”: Lack of economic development opportunities
- “No other way to go”: Lack of transit service to a particular neighborhood or employment center, or inadequate allowances for bicycle-pedestrian traffic
- “Bridge is falling apart”: Bridge is in poor condition
- “Fix this road”: Pavement conditions have deteriorated to an unacceptable state
- “Repetitive flooding”: stormwater component or structure hydraulic design inadequate to handle flow under current conditions.

Transportation Data Sources include:

- Investment Plan
- Performance Measures
- Highway Performance Monitoring System (HPMS)
- Crash Data Access and Retrieval Tool (CDART)
- Bridge Management System (BMS)
- Roadway Management System (RMS)
- INRIX (Traffic)
- Freight Analysis Tool
- National Transit Database
- Regional/Local Transportation Inventory
- Traffic Counts
- Travel Demand Models
- Commodity Flow Tool
- Commodity Information Management System (CIMS)
- Congestion Management Processes
- Transportation/Corridor or Traffic Impact Studies

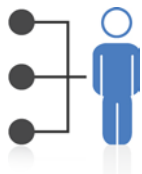
It is important to recognize that the assessment of problems and planning associated with those problems can occur first at the local level of government. Effective local municipal and county planning efforts harness this citizen "identification" of issues. It is effectively paired with the PennDOT, MPO/RPO, and municipal asset management and performance-based planning approaches to develop a TIP.

#### 4.1 PROBLEM ASSESSMENT



The PennDOT District Office and the MPO/RPO must share the transportation issues brought to their attention with each other, and with the local and county planners/staff that represent the location of the transportation issue. The way this information is initially shared can be through emails, phone calls, sharing of public input forms or Level 1 proposal screening forms, other information exchange channels or a meeting. At a minimum, a local government collaboration meeting must occur prior to a proposal being include on the TIP. The primary purpose of this early coordination is to ensure that everyone involved is aware that a problem/issue has been identified and collectively can start to define the purpose and need, potential issues, and how the problem will affect the surrounding community and region. Local input defining the needs of a community relative to an identified problem is important to developing and evaluating solutions.

*Details on the local government collaboration meeting which is required to occur during the collaborative planning process is included in **Chapter 3**.*

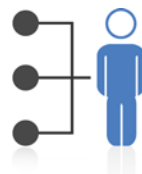


Many MPO/RPO staff depend on municipal staff or officials and county staff to screen ideas from their own residents and to continue to forge its land use and development future through planning, zoning, and highway occupancy permitting. The MPO/RPO can adopt its own set of procedures, or screening tools to accomplish its purpose. PennDOT District staff should be proactively involved in those processes wherever possible.

It is prudent for PennDOT District staff to seek out information that will help formulate the PennDOT planning processes that identify appropriate budget, scope and schedule for asset management projects, safety projects, and related work. PennDOT District staff should dedicate a meaningful amount of time and attention to the processes employed by MPO/RPO partners, including providing as much data and information as possible as early as possible in the process. Collaboration and cooperation is necessary.

Municipalities should depend on their own zoning, land use and other comprehensive planning information and tools. They may choose to use county government planning offices for assistance, as well as the regional MPO/RPO organization.

## 4.2 PROBLEM IDENTIFICATION AND ASSESSMENT ROLES



**Section 3.1: Identifying Problems of Chapter 3: Collaboration** discusses the collaboration that should occur to identify problems. There are many levels of involvement and responsibility in the process. Those roles are described below.

**The public** has a very local and sometimes neighborhood perspective, but can be aware of municipal, county, state and national goals. The public attends municipal, county, and MPO/RPO meetings and speak out about issues that concern them. Often, the public does not see this as an opportunity to make a difference, but citizens who speak up prove that while a single person may not be able to change the future of an area, a single idea can have great power.

**The municipality** has a decidedly local perspective, but should be aware of and consider county, regional, state, and national goals and issues. PennDOT and the MPO/RPOs should conduct outreach to municipalities on relevant performances measures, targets, and goals. The municipality may or may not do comprehensive planning, but should always consider the linkage between land use, community planning activities, and transportation planning and should seek public participation in the planning process. Planning for development and redevelopment for economic opportunities, new housing, and recreational and cultural plans happens at the local level. Pennsylvania's Municipalities Planning Code guides planning for counties and municipalities and its regulations apply to plans and zoning undertaken by municipal and county governments in Pennsylvania.

**The county** has a legal responsibility for countywide perspective and comprehensive planning, but should be aware of and consider local, regional, state, and national goals. County planning offices should maintain good cooperative communications and relationships with MPO/RPO organizations, and with PennDOT Engineering District personnel. Integration of county comprehensive plans and concepts into the regional LRTP and TIP is a way to link land use to the transportation planning process, and eventually the program development and project delivery processes.

**The MPO/RPO** has a regional transportation perspective and generates a LRTP that considers local, county, multi-regional, state, and national goals and issues. In Pennsylvania there are both single county MPOs and multi-county MPOs/RPOs. Professional planners at this level balance local needs with state and national priorities, and are the direct organizational link from county planning to state transportation planning. The majority of problems/issues are directly identified by PennDOT or the MPO/RPO through performance-based planning and programming, and asset management (a review of data and risk assessment are part of asset management). PennDOT and the MPO/RPO use transportation data to assess or analyze the needs of the entire transportation system from a statewide, a District, and an MPO/RPO perspective. Performance-based planning and programming heightens the role of data and focuses on performance outcomes. Making decisions to improve how the transportation system functions can help to minimize life-cycle costs of keeping the transportation system in good condition. Performance-based planning additionally encourages the use of strategies, projects and programs based on anticipated system wide impacts and support for goals. Performance-based planning and asset management provide clear documentation of why transportation

dollars were spent a certain way and what were the performance results, which gives the public a better understanding on how transportation dollars are being spent wisely to solve the most urgent problems.

**The PennDOT District Office** has a regional (multi-county, perhaps multi-MPO/RPO) perspective and has the lead role in advancing asset management projects for the existing system (highway, bridge and technology), capacity and safety issues. It maintains a working relationship with citizens, legislators, municipalities, counties, MPO/RPO agencies, economic development agencies, FHWA, and with PennDOT Central Office technical experts. PennDOT District staff must be as involved in local planning efforts as appropriate, and must support municipalities by communicating PennDOT policies and priorities, transportation data, and project information. This can include technical assistance, or be as simple as continued sharing of information with municipalities, counties and MPO/RPOs to assist them in understanding PennDOT data or the other planning and programming processes. PennDOT collects information in a variety of ways at a variety of levels, but information gathering begins with daily interaction by the public with the county maintenance districts. Specific customer care center opportunities are offered to the public to collect maintenance concerns. Engineering Districts work closely with their county maintenance managers, assistant managers, and roadway program coordinators to identify continuing ways to maintain and sustain the highways and bridges, and consider other motorized and non-motorized modes.

**The PennDOT Office of Planning (Center for Program Development and Management)** has a statewide perspective, providing guidance on funding matters and program development and management. The Office of Planning also works with other offices within PennDOT’s Central Office to gather and disseminate data related to bridges, pavement, safety, and many others. PennDOT develops and operates data systems and associated reporting that support data driven performance-based planning (particularly in the areas of asset management, operations, and safety). It must maintain alignment with state and national goals, and work cooperatively with the FHWA. It can also be a clearinghouse for support for planners/staff from municipalities, counties, the MPO/RPO, or District Offices. The PennDOT Office of Planning has a representative assigned to each MPO/RPO.

#### **STC TYP Public Outreach**

PennDOT also seeks public input through STC TYP public outreach process, which takes place every two years. The STC is focused on determining and evaluating the condition and performance of Pennsylvania’s transportation system to assess the resources required to preserve, restore, extend and expand transportation facilities and services to serve Pennsylvania’s communities and to support economic development. State law requires PennDOT to update the TYP every two years and submit it to the STC. Public input is sought on transportation goals and priorities and also on specific issues and project ideas. The information gathered during the public outreach process is shared with the MPOs/RPOs for use in the development of their LRTPs and TIPs.

The **FHWA** has a national perspective, providing stewardship, oversight, and guidance on program development and federal funding as well as sharing ideas for implementing national priorities and goals at the state, regional, and local level. FHWA has a planner assigned to each MPO/RPO to provide oversight and assistance. The role of FHWA is to oversee project planning and delivery, through financial support and technical assistance. The FHWA Pennsylvania Division is responsible to oversee that transportation planning follows a cooperative, continuous, and comprehensive framework. The FHWA works with PennDOT and the MPO/RPOs to review and approve transportation projects and plans.

### **4.3 PROBLEM IDENTIFICATION AND ASSESSMENT DOCUMENTATION**

As discussed at the beginning of the chapter, transportation problems/issues are brought forth for consideration from many sources. Some problems may be better defined than others. A citizen, municipality, county planning office, or any other public or private organization can advance transportation problem statements for consideration for the LRTP and TIP by using a Level 1 proposal screening form, a public input tool or other mechanism as designated by the MPO/RPO. It will be a decision of each MPO/RPO, in collaboration with other partners, including PennDOT, how those problems are received and handled, once submitted to the MPO/RPO. Details about this documentation are contained within **Chapter 10: Documentation**.



The Level 1 proposal screening form is a helpful tool to document problem ideas and the identified needs within a proposal area. The Level 1 proposal screening form includes a range of typical transportation problems, including

bridge, pavement, safety, and other modal needs. A Level 2 proposal screening form can then be generated from an approved Level 1 proposal screening form. Stakeholders in the collaborative planning process can document needs in the Level 1 proposal screening form, a public input form, or the Level 2 proposal screening form. At a minimum, proposal needs must be clearly documented in the Level 2 proposal screening form.

An MPO/RPO may have their own method of documenting problem ideas that are identified by the public or by local governments. One example of this is a public input tool.

#### 4.4 DECISION POINT

A decision must be made as to whether to advance the proposal further in the Transportation Program Development and Project Delivery Process. This decision must be made jointly between the PennDOT District Office and the MPO/RPO. The following options are available:

- Move forward and identify purpose and need (refer to **Chapter 5**)
  - The problem/proposal is being considered for advancement to the TIP
- Defer to the LRTP (to be reconsidered in the future) (refer to **Chapter 6**)
  - The problem/proposal is generally considered to be a long term priority

An LRTP is a comprehensive strategy for transportation and development at a regional/county level, developed and adopted by an MPO/RPO. Regional transportation planners, in cooperation with PennDOT, create their own regional LRTP. An LRTP covers a minimum of 20 years, but may extend beyond that time horizon at the discretion of PennDOT or the MPO/RPO, and is updated at least every four or five years depending on its attainment status under the Clean Air Act. It contains a system performance report along with a description of the performance measures and targets, and financial plan whose total costs may not exceed projected revenue in order to demonstrate how the adopted transportation plan can be implemented. For illustrative purposes, the LRTP can also include a supplementary list of proposals for funding if additional revenues become available, and a plan for economic development. It is from that supplementary list of proposals that programmable projects may be developed in the future. Refer to **Chapter 6** and PennDOT's *Developing Regional Long Range Plans* guidance document for more information about the LRTP process.

- Refer the problem/proposal to the proper entity or to an existing program area specialist
  - Request additional information/data to be able to determine whether to move the problem/proposal forward, defer to the LRTP, or dismiss
- Dismiss from the Transportation Program Development and Project Delivery Process. Reasons for dismissal may include the following:
  - Routine maintenance project
  - Unreasonable due to cost
  - Unreasonable due to engineering or environmental constraints
  - Upon further review a problem does not exist

This decision should be documented on the proposal screening form. Refer to **Chapter 10: Documentation** for additional detail.



## CHAPTER 5

### PURPOSE AND NEED

It is critical to understand what the actual transportation problem(s) is and to establish the purpose and need (this can be refined as the process moves forward). As part of problem assessment, initially develop the purpose and need. This chapter discusses purpose and need along with items to be considered as purpose and need is initially developed.

#### 5.0. ESTABLISHING PURPOSE AND NEED



Develop the purpose and need collaboratively among PennDOT, the MPO/RPO, and local government staff, and if necessary FHWA, as each may bring a unique perspective on what the transportation issue entails.

Purpose and need are used to identify what the potential solutions/alternatives are intended to accomplish. It explains to the public and decision makers that the expenditure of funds is necessary and worthwhile. Purpose and need drives the process for alternatives consideration, influences the environmental analysis, and ultimately the alternative selection. The initial purpose and need ideas can be submitted by the problem advocate and documented on a public input form or the Level 1 proposal screening form.

A sound need enhances the credibility of the project and promotes the acceptance of the improvements proposed during alternatives development. Definition of the project need dictates the criteria by which alternatives will be measured. Project needs are expressed as problem statements and not solutions. The needs are not presented as solutions to correct deficiencies, but rather present the deficiencies followed by a brief discussion of how it is known that the problems exist.

More information regarding purpose and need can be found in PennDOT Publication 319, *Needs Study Handbook*. An overview is provided here to help enable proposal sponsors to better understand important concepts regarding purpose and need.

#### A. Need

A need is a tangible, fact-based problem. A simpler proposal may have only one straight-forward need (e.g., address safety concerns (weight limit, emergency services access)) while more complex proposals may have several needs (e.g. address connectivity, safety, and congestion). In some cases, a more detailed needs study may be necessary to more thoroughly define a proposal's needs. The following are elements of a proposal's need:

- Establishes evidence of a current or future transportation problem or deficiency
- Is factual and quantifiable
- Justifies commitment of resources and impacts to the environment
- Identifies a problem that is fixable/solvable
- Establishes and justifies logical termini (23 CFR §771.111(f))
- Allows for the consideration of all modes

The following elements must be considered in the establishment of need(s):

1. Review available information - Regional, sub-area, and/or corridor planning studies can serve as the primary source for identifying a proposal's needs. Transportation data offers descriptions of observable problem areas such as capacity deficiency or access, safety, design, or linkage (modal and intermodal connection) issues. Use information and forecasts of vehicle miles of travel, travel demand, highway and travel

speeds, traffic diversion, time of day characteristics, and traffic crash rates to help identify needs. Consider asset management needs for preservation, rehabilitation, reconstruction, or routine maintenance and repair. More information may need to be gathered and analyzed. Cooperation among parties to avoid duplication of efforts is desired.

2. Determine the basis for action - One or more of the following items may serve as the basis for action (list not all inclusive):

- Structural Deficiencies - Is there a bridge weight restriction, pavement failure, etc.?
- Safety - Is the proposal necessary to correct an existing or potential safety hazard? Is the existing accident rate excessively high? Why?
- Poor Traffic Level-of-Service - Is the capacity of the present facility inadequate for the present traffic? Projected traffic? What capacity is needed? What is the Level-of-Service for existing and proposed facilities?
- Design Features - Are there deficiencies (e.g., substandard geometries, load limits on structures, inadequate cross-section, or high maintenance costs)? Is existing facility inadequate for current types of vehicles (i.e., large trucks or buses)?
- Preventative Maintenance - Is there maintenance work needed to prevent future issues?
- Inadequate Drainage Facilities - Does water pond or overtop the existing roadway?
- Stormwater – Are there issues with handling stormwater and flooding events? Does the municipality have planning in place to implement best management practices to address management of stormwater in a more sustainable manner?
- Flood mitigation – Are the facilities considered in areas where changes in the federal flood insurance program are creating changes in land use, property value, or creating the need for structural mitigation to maintain current uses?
- Bicycle Facilities – Have safety issues related to bicycle accommodations been identified through reportable crashes or local observations?
- Pedestrian Facilities – Has a lack of pedestrian accommodations associated with safety or accessibility issues been identified in any planning studies or observed locally and documented by officials?
- Access Management - Are there access issues in the area?
- System Linkage - Is the proposal a "connecting link"? How does it fit into the transportation system?
- Transportation Demand - Is there reserve capacity for increasing traffic volumes?
- Legislation - Is there a Federal, State, or local government mandate for the action?
- Social Demands or Economic Development - Employment, schools, land use plans, recreation, etc.
- What projected economic development/land use changes indicate the need to improve or add to the highway capacity? Are improvements in local access to accommodate new or expanding commercial and economic uses being advanced as part of a land development or revitalization proposal?

- Freight Mobility – Have access or mobility problems been identified by a municipality or through regional planning studies? Has this corridor been identified in PennDOT’s Statewide Freight Plan?
  - Modal Interrelationships - How will the proposed facility interface with and serve to complement airports, rail and port facilities, mass transit services, etc.?
  - National Defense/Security - Is the proposal needed to support national defense or national security goals/objectives?
  - Consistency with Statewide/Metropolitan Transportation Plans - Would the proposal support the objectives identified in the applicable statewide or metropolitan transportation plan?
  - Support for Land Use, Development or Growth Objectives - Would the proposed action be consistent with or support the local land use, economic development, and/or growth objectives for the area? (A full range of the considerations that should be included in identifying potential areas of need are included in Publication 319, *Needs Study Handbook*.)
3. Document the needs - For each need identified, it is important to document the evidence/facts/data that demonstrate that the need truly exists and is not merely a perception. Depending on the proposal's complexity, needs can be established and documented by:
- Indicating the specific need(s) on the Level 1 proposal screening form or public input form, if completed, and attaching appropriate supporting information
  - State the need(s) on the Level 2 proposal screening form and reference supporting information contained with the Level 1 proposal screening form or public input form
  - Performing a more detailed needs study analysis and attaching it to the Level 2 proposal screening form
4. Determine the level of detail necessary - Needs analysis may involve varying levels of data gathering, field reconnaissance, historical record checking, public coordination, use of statistical data, and report preparation. The focus of these activities and the level of detail they produce will vary depending on the type and size of the proposal, the needs service area, and the extent of information already available.
5. Utilize other staff, as needed - If additional analysis is necessary, the District/MPO/RPO will utilize additional staff to perform the analysis. It is necessary for the needs analysis to be a joint effort between the District and the MPO/RPO. Additional technical expertise from consultant staff or other sources should be utilized when appropriate.

**EXAMPLES OF NEED:**

- (1) There is existing congestion on the roadways serving the subject area that is projected to worsen in the future.
- (2) There are safety concerns because of deficiencies in the roadway network.
- (3) There is poor east-west mobility for truck access to redevelopment sites in the region.
- (4) There is no circumferential transit service.
- (5) There is poor east-west mobility from the region to the international airport.
- (6) The bridge is weight restricted and cannot accommodate emergency vehicles.
- (7) The pavement is damaged due to an increase in truck traffic.

**B. Purpose**

The purpose is what the proposal is intended to accomplish. A proposal's purpose is an overarching statement as to why the proposal is being pursued and the objectives that will be met to address the transportation deficiency. The level of specificity for defining purpose (not too specific/not too general) should be considered in relation to how that may impact the number and range of solutions/alternatives that will be developed. The purpose and need should not be defined so narrowly so as to artificially limit the range of alternatives considered, particularly for proposals that may be EIS or EA level projects. The following are elements of the proposal's purpose:

- Present goals to address the need
- Can be used to develop and evaluate most cost effective potential solutions
- Is achievable
- Is unbiased towards any specific alternative or solution
- Comprehensive enough to allow for a reasonable range of alternatives, and specific enough to limit the range of alternatives
- Allows for a range of alternatives that are in context with the setting

**EXAMPLE OF A PURPOSE (Based on the above example need statements):**

The purpose is to provide transportation mobility and safety improvements, relieve further congestion, and provide east/west access and mobility in the circumferential corridor south of the city.

Document the purpose - For each purpose identified, it is important to document the evidence/facts that demonstrate that the proposal's purpose is clearly defined. Depending on the proposal's complexity, purpose can be established and documented by:

- Indicating the specific purpose(s) on the Level 2 proposal screening form and attaching appropriate supporting information, referencing any applicable information within the Level 1 proposal screening form or public input form, if completed
- Performing a more detailed needs study analysis attaching it to the Level 2 proposal screening form
- Using information from reviews by the public and resource agencies on any problem that may require an EIS or EA)

If a proposal has more than one purpose, it may be helpful to distinguish between the primary and secondary purpose(s) of the proposal and other goals, objectives or desirable outcomes that may be accomplished as part of the proposal. A primary purpose is a “driver” of the proposal (i.e. it is a goal that reflects the fundamental reason why the project is being proposed). An alternative that does not achieve a primary purpose could be eliminated from further consideration under NEPA, Section 4(f), Section 404, and other regulatory alternative analysis. Although there may be other goals, objectives, or outcomes that are desirable, the core purpose of the proposal should be limited to those that directly support the project need. Other goals, objectives or desirable outcomes would not, by themselves, provide a basis for eliminating alternatives.

**EXAMPLE PURPOSE AND NEED FOR A PEDESTRIAN/BICYCLE IMPROVEMENT PROJECT  
(provided by Delaware Valley Regional Planning Commission MPO):**

**Need:** More than 16,000 people living within a 1-mile buffer of the proposed project area in Upper Merion Township’s King of Prussia lack adequate pedestrian facilities to access transit and other significant destinations. The Township’s *Feasibility Study for the Upper Merion Township-Wide Pedestrian and Bicycle Network Study* noted the area is underserved with pedestrian facilities and comprised of disconnected land use that limits passage choice for the people residents and visitors on the roadways and public transit serving the Township. Busy, high-volume roads that traverse the area are devoid of sidewalks forcing pedestrians to travel along the edge of the road. Visual evidence of a de facto ‘commuter path’ along Dekalb Pike is evidence of commuters traveling dangerously from the Bridgeport Train Station into Upper Merion along the side of road. Furthermore, people who are not walking and/or biking are most likely driving to and from their destinations thus adding to traffic congestion, pollution, or the need to expand roads. DVRPC’s Long Range Vision for Transit notes the King of Prussia area’s “accessibility by public transit is relatively poor.” This lack of transit access is particularly vexing for those working within King of Prussia. King of Prussia has one of the largest positive percentage daily daytime population changes due to commuting in the country (+131%) and an employment-residence ratio (E-R) of 3.2, i.e. the total number of workers working in King of Prussia relative to the total number of workers living in King of Prussia, making King of Prussia one of the nation’s largest net importers of labor (US Census Bureau, 2000; Journey to Work and Migration Statistics Branch, Population Division).

**Purpose:** The purpose of the proposal is to make the King of Prussia area in Upper Merion Township more walkable and bikeable to transit, especially to the Bridgeport Train Station, and Upper Merion Township employment and retail destinations. The objectives are to connect cut-off land uses, provide greater passage choice for the people who live, work, visit, and travel on the roadways and public transit, and improve air quality.

**Important Points to Remember -**

- Consistent with NEPA, the purpose and need statement must be a statement of a transportation problem, not a specific solution. However, the purpose and need statement must be specific enough to generate alternatives that can yield real solutions to the issue-at-hand.
- A purpose and need statement that yields only one alternative for more complex proposals may indicate a purpose and need that is too narrowly defined.
- The more detailed the purpose and need analysis in planning, the more likely it can be used verbatim in the NEPA process. If it is not detailed enough, not supported by factual data, or not documented adequately, analyses may need to be repeated. Analyses may need to be revisited as time passes to ensure that changes in the context or in planning predictions do not change the specific needs.

Purpose and need is required to be completed on the Level 2 proposal screening form and should be revised during project development. This information will be used more formally in the NEPA process, when the purpose and need statement(s) are required. This documentation as expressed on the forms serves as a starting point to identify solutions as well as a foundation for the NEPA analysis later, and is refined as the project becomes more defined.

**5.1. DOCUMENTATION**

Once the purpose and need has been determined, it and any other relevant discussions and data preliminary reviewed/collected must be ultimately documented in the Level 2 proposal screening form in the proposal screening system (refer to **Chapter 10** for additional information on the system). If a Level 1 proposal screening form was created in the proposal screening system, the basic information entered on that form can be transferred to the Level 2 proposal screening form. Basic information that was collected on a public input form should be entered into the Level 2 proposal screening form. The public input form should be attached to the Level 2 proposal screening form.



Documentation at this stage is important to create a record of any decisions made. Proposals that enter this process may not be advanced to TIP consideration for many years, so when the proposal is reviewed in the future the people involved from the PennDOT District, the MPO/RPO and local planning entities may have changed. Documentation allows for those decisions that were made to be reviewed and understood in the future and a determination to be made whether the proposal should be revisited. It is not necessary or expected that the entire Level 2 proposal screening form be completed at this point. Only initial information is required to document the purpose and need and basic proposal information such as location.

The sections of the Level 2 proposal screening form that must be completed following the identification of the purpose and need and to document the outcomes of problem assessment include:

- Proposal Creator Information
- Proposal Location
- Purpose/Need(s)
- Any other information that has been discovered through collaboration related to community transportation needs and contextual issues that may be considered as the proposal is further evaluated during the collaborative planning process.

## **5.2 DECISION POINT**

If during the process of establishing a purpose and need, it is determined by both PennDOT and the MPO/RPO that there is not an actual need, the proposal may be dismissed from the collaborative planning process. If a need for the proposal, has been established, the proposal should be moved forward to identify contextual issues and potential solutions (refer to **Chapter 6 and 7**).

## CHAPTER 6

### PRIORITIZATION

Prioritization refers to the screening process to determine the relative importance of a proposal based on multiple factors and using the importance to help identify where the proposal fits into the short term versus the long term (TIP or LRTP, respectively) planning processes. Prioritization may take place at different points throughout the Transportation Program Development and Project Delivery Process. It may be appropriate to prioritize a proposal at different times depending on need, timeliness, and fiscal constraints. For example, if the need for a project is urgent (based on a variety of reasons), the decision on proposal prioritization may be able to be made as soon as the needs are developed. If there are time constraints on a project (example, the bridge must be open for the local centennial celebration which will occur in two years), this also will factor into prioritization. Fiscal constraints may also play a role in prioritization – if all available funding is accounted for on the TIP, the project may be automatically deferred to the TYP or the LRTP for the time being and will be reconsidered if additional funding were to become available. Refer to the flowchart included as **Figure 2.2**, which illustrates the various steps in the Transportation Program Development and Project Delivery Process when prioritization may take place and the decision is made to defer to the LRTP or move forward for additional consideration/review.

#### 6.0 PRIORITIZATION OPTIONS

After a problem is assessed and the purpose and need is developed, a decision must be made as to whether to advance the proposal in the Transportation Program Development and Project Delivery Process. This decision must be made jointly between the PennDOT District Office and the MPO/RPO. The following prioritization options are available:

- Move forward for screening/alternatives analysis (refer to **Chapter 7**)
  - The problem/proposal is being considered for advancement to the TIP

The TIP refers to the Transportation Improvement Program which is the first four years of the LRTP. The TIP is updated every two years and may also be revised between updates. Projects on the TIP are usually high priorities for PennDOT and the MPO/RPO.

- Defer to the LRTP (to be reconsidered in the future)
  - The problem/proposal is generally considered to be a long-term priority
  - If deferred to the LRTP the proposal can reenter the collaborative planning process later without the need to start from the beginning. Good documentation of collaboration and decisions made will allow the proposal to reenter the process with a lesser need to repeat work.

An LRTP is a comprehensive strategy for transportation and development at a regional/county level, developed and adopted by an MPO/RPO. Regional transportation planners, in cooperation with PennDOT, create their own regional LRTP. An LRTP addresses no less than a 20 year planning horizon, but may extend beyond that time frame at the discretion of the MPO/RPO or PennDOT, and is updated at least every four or five years depending on its air quality (attainment or non-attainment) status under the Clean Air Act. It contains a system performance report along with a description of the performance measures and targets, and a financial plan whose total costs may not exceed projected revenue in order to demonstrate how the adopted transportation plan can be implemented. For illustrative purposes, the LRTP can also include a supplementary list of proposals for funding if additional revenues become available. It is from that supplementary list of proposals that programmable projects may be developed in the future. Refer to PennDOT's *Developing Regional Long Range Plans* guidance document for more information about the LRTP process.

- Refer the problem/proposal to the proper entity or to an existing program area specialist
  - Request additional information/data to be able to determine whether to move the problem/proposal forward, defer to the LRTP, or dismiss
  - Routine Maintenance project
- Dismiss from the Transportation Program Development and Project Delivery Process
  - Inconsistency with regional LRTP policies, goals, investment strategies, and performance measures

- Unreasonable due to cost
- Unreasonable due to engineering or environmental constraints
- TIP work group consensus
- Upon further review a problem does not exist

## 6.1 PRIORITIZATION FACTORS

PennDOT and the MPO/RPO staff must jointly determine the priority level of the problem and proposed solutions, and if not a short-term priority, defer to the LRTP or LRTP illustrative list to be revisited in the future. If the problem/solution is identified as a priority, proceed to screening/alternative analysis. There are multiple factors that may influence how projects are prioritized and if one project should be prioritized over another. Factors to be considered in prioritization may include:

- Asset conditions
  - Bridge Risk Assessment Tool
  - Roadway Management System
- Part of the National Highway System
- Part of the regionally important transportation components.
- State and regional performance measures
- Regional goals and policy statements
- Regional investment strategies
- Fiscal realities

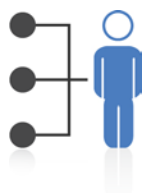
## 6.2 PRIORITIZING THROUGH COLLABORATION



The objective of prioritization is to collaboratively analyze and prioritize problems, which can include identifying contextual issues and potential solutions (refer to **Chapter 7**), and to document this information in the Level 2 proposal screening form. This gathering of information also aids in determining if the proposal should undergo further evaluation of preliminary alternatives, or should be deferred to the LRTP or LRTP candidate list.

How prioritization occurs may differ for each PennDOT/MPO/RPO relationship. Information obtained from coordination with local government planners/staff should also play a role in prioritizing projects. MPO/RPO and District staff must coordinate with local government planners/staff (counties and municipalities) to gather local input on the proposal that may help in determining the priority level of the problem, community features, contextual issues and potential solutions. Coordination with local governments must include consideration of bicycle, pedestrian, and other multimodal needs, stormwater best management practices, and other local planning considerations (these considerations are detailed in **Chapter 7**).

## 6.3 PRIORITIZATION ROLES



This process must be collaborative, and with that there are unique roles within the process that must be adhered to in order to ensure that information is being collected from multiple planning perspectives. A description of these roles and responsibilities is described below. These roles and responsibilities are flexible based on the specific working relationship between each PennDOT District, MPO/RPO, and local planning entity.



**MPO/RPO staff is responsible for:**

- Development and facilitation of pre-TIP planning process, collaboration activities, the TIP update process, and linking transportation investments to performance measures
- Providing support for information gathering activities and collaboration meetings with PennDOT staff and local government planners/staff
- Coordinating with local government planners/staff and PennDOT District staff for the preparation of the Level 2 proposal screening form
- Setting performance measures and performance targets and sharing the status of achievement with PennDOT
- Referencing local planning documents that may add value in defining problems and influencing solutions such as:
  - Regional bicycle connections study
  - Bicycle and pedestrian facility design guidelines
  - Congestion management process
  - Congested corridor improvement program
  - Regional safety and congestion study
  - Traffic safety report
  - Corridor redevelopment planning study
- Applying a regionally-appropriate set of evaluation criteria for ranking proposals, ensuring that prioritization is consistent with federal, state and regional policies, plans, and initiatives.
- Coordinating with the MPO/RPO staff to determine if proposals advance the performance targets of the region's LRTP and statewide targets
- Supplying mapping and data as appropriate, such as:
  - Travel demand modeling
  - Socioeconomic
  - Demographic and/or transportation data/forecasts
  - Aerial photography,
  - LRTP performances measures
  - Transit ridership
  - Park-n-ride utilization
  - Traffic congestion data
  - Land use data/mapping
  - Natural and cultural resources
- Coordinating and communicating the status of proposals with original advocates (deferred to LRTP/LRTP Candidate List, dismissed)
- Sharing clear expectations, and communication within PennDOT using the appropriate chain of command and communications on issues raised by an MPO/RPO technical or coordinating committee/board



**PennDOT District is responsible for:**

- Technical support to augment existing municipal, county, and MPO/RPO resources and expertise throughout the process
- Coordinating information gathering activities and collaboration meetings with MPO/RPO staff and local government planners/staff

- Providing asset management evaluation criteria, asset management analysis and asset management candidate project rankings
- Setting performance measures and performance targets and sharing the status of achievement with the MPO/RPO
- Coordinating with the MPO/RPO staff to determine if proposals advance the performance targets of the region's LRTP and statewide targets
- Coordinating with the MPO/RPO staff to prioritize proposals
- Coordinating with local government planners/staff and MPO/RPO staff for the preparation of the Level 2 proposal screening form
- Safety analysis of the proposal compared to the Strategic Highway Safety Plan

**PennDOT Office of Planning (Center for Program Development and Management) is responsible for:**

- QA/QC of the collaborative planning process and documentation
- Technical support and consultation with planning partners involved in prioritizing proposals
- Advice on screening and ranking criteria and applicability to state and national goals
- Setting performance measures and performance targets and sharing the status of achievement with the District and MPO/RPO

**County and Municipal Planners/Staff are responsible for:**

- Providing local context to aid PennDOT District staff and the MPO/RPO staff to have a clear understanding of the transportation problem
- Referencing local planning documents that may add value in defining problems and influencing solutions such as the following:
  - Comprehensive plan
  - District plans
  - Trail master plan
  - Pedestrian and bicycle plan
  - Watershed area wide plan
  - Neighborhood strategic plan
  - Redevelopment/brownfields plan
  - Greenways plan
  - Transit improvement district
- Participating in TIP work group meetings (county planners) and required local government collaboration meetings



## 6.4 DOCUMENTATION



The transition from prioritization to screening/alternatives evaluation involves taking a more in-depth look at the proposals and completing portions of the proposal screening form to document the decision made regarding prioritization and to capture information related to the contextual issues noted in **Chapter 7** and to conduct the environmental screening for each alternative being considered. It is also in this next phase that a local government collaboration meeting must occur (if it has not already taken place) between PennDOT, the MPO/RPO, and local government planners/staff to develop an understanding of the proposal and reach a conclusion on community features to incorporate into the

proposal.

Once a proposal is prioritized, the Level 2 proposal screening form should include:

- More detailed information on land use, community features, and contextual issues (refer to **Chapter 7**) provided in cooperative effort of PennDOT, MPO/RPO, and local government planners/staff
- Updated information on potential solutions or approaches (can be expanded on during screening/alternatives – refer to **Chapter 7**)
- Clear understanding of short range (TIP) and long range (LRTP) priorities and supporting documentation as to how a decision was reached – this will be useful if the proposal is revisited in the future.

The Level 2 proposal screening form will be used by the MPO/RPO, PennDOT, and other appropriate parties to collect more data, as needed, and as the basis for comparison of solutions/alternatives and among problems that are expected to be included in the TIP or LRTP. If a proposal is deferred to the LRTP or LRTP candidate list during prioritization, it can later reenter the collaborative planning process at this point instead of starting over. The information collected will act as the beginning point to confirm the need, reevaluate the priority of the proposal or identify additional potential solutions based on current factors such as context, land use, and changing needs. Refer to **Chapter 10** for additional information on documentation.

## 6.5 DECISION POINT

At the end of prioritization, a decision must be made as to whether to advance the proposal in the Transportation Program Development and Project Delivery Process. This decision must be made jointly between PennDOT and the MPO/RPO. The following options are available:

- Move forward to screening/alternatives evaluation (refer to **Chapter 7**)
  - The proposal is being considered for advancement to the TIP
- Defer to the LRTP or LRTP candidate list (to be reconsidered in the future)
  - The proposal is generally considered to be a long term priority
- Refer the problem/proposal to the proper entity or to an existing program area specialist
  - Request additional information/data to be able to determine whether to move the problem/proposal forward, defer to the LRTP, or dismiss
- Dismiss from the Transportation Program Development and Project Delivery Process
  - Unreasonable due to cost
  - Unreasonable due to engineering constraints

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## CHAPTER 7

### CONTEXTUAL ISSUES AND SOLUTIONS/ALTERNATIVES

#### 7.0 EVALUATION OF PROPOSALS

Once problems have been identified, development of a proposal's purpose and need has been initiated, and the proposal has been determined to be a candidate for the TIP or LRTP, it is time to take a hard look at the location in collaboration with its community to determine the local and regional context of the area and identify the range of possible solutions to consider that would be the most appropriate to meet the defined transportation needs. Not one proposal or location is the same as another. Each proposal must be evaluated in a unique manner.

*There are benefits to using the collaborative planning process for both TIP and LRTP development. When using the process for the development of the LRTP, it will be necessary to revisit the purpose and need, contextual issues, and alternatives as the proposal moves forward to be added to a TIP if considerable time has passed or if there are known changes to the proposal area.*

To conduct a thorough evaluation of proposals, collaboration between PennDOT, MPO/RPOs and local government planners/staff is essential. This collaboration results in the understanding of potential fatal flaws/risks such as environmental issues, right-of-way, constructability, or land use conflicts as well as contextual issues associated with the location and community. These contextual issues include:

- Safety issues/concerns
- Bicycle/pedestrian accommodations
- Transit/multi-modal considerations
- Stormwater management
- Presence of/impacts from (current/future) freight-generating land uses
- Utility issues
- Transportation operation considerations
- Emergency services accommodations
- Planned development
- Consistency with current and/or proposed zoning
- Consistency with community comprehensive or other plans
- Consistency with LRTP
- Regional planning studies
- Other proposed transportation/infrastructure improvements
- Impacts on the natural, cultural, or social environment
- Right-of-way considerations

- Anticipated public opinion
- Community or cultural events in the candidate project area
- Presence of Environmental Justice (EJ) populations or Limited English Proficiency (LEP) individuals
- Maintenance agreement requirements
- Other specific regional/local topics

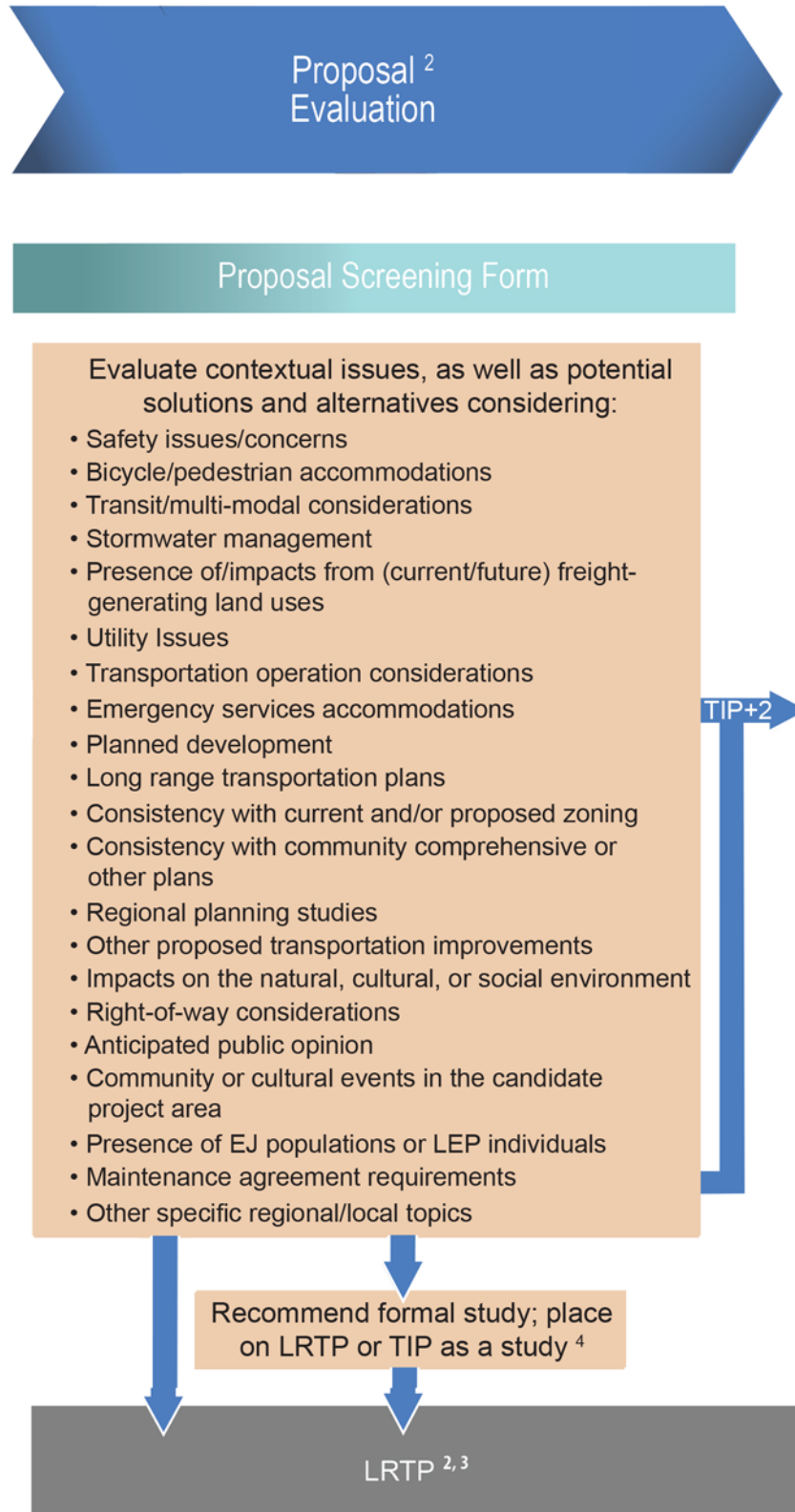
This information is needed to develop potential solutions and be able to begin dismissing solutions/alternatives that are not appropriate for a particular proposal in planning.

If additional information is required to make a decision on a proposal, it can be programmed on the TIP or LRTP as a transportation or corridor study. Once recommendations of that study are identified, they can then reenter the collaborative planning process at the appropriate phase of the process (based on the amount of collaboration/data collection that has taken place). Refer to **Figure 7.1**.

## 7.1 CONTEXTUAL ISSUES

The collaborative planning process consists of the specific topics, which include, but are not limited to the items below. These contextual/other issues should be reviewed and discussed by the PennDOT District and MPO/RPO staff along with input from local government staff, as applicable. These points will assist in identifying the scope of potential impacts associated with a proposal, possible solutions to be considered, and also to identify opportunities for the proposal to benefit the surrounding community. These collaboration points can also help to guide the discussion at the local government collaboration meetings and discussion related to these points must be documented on the Project Initiation Form and Level 2 proposal screening form in the proposal screening system. These contextual/other issues are identified during proposal identification and prioritization and will be further evaluated during screening/alternative evaluation. Not all contextual issues/considerations will be applicable to every proposal.








**Figure 7.1**

<sup>2</sup>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.

<sup>3</sup>Projects may also be deferred to the LRTP or illustrative list.

<sup>4</sup>Studies can also be funded through the Unified Planning Work Program (UPWP)

<b>1. Safety Issues/Concerns</b>	
<p><b>Are there safety issues/concerns in the project area?</b> Safety must be evaluated on every project. Even if the purpose of the project is not safety related, there may be safety considerations. PennDOT, the MPO/RPO, and local government planners/staff should discuss the project area and any associated safety considerations and if there is an opportunity to make safety improvements. An example is a proposal to repave a roadway; there may be the opportunity to improve safety through the use of high-friction surface treatments on curves that have a history of wet pavement crashes or providing advanced warning signs to alert the road users of the curve.</p>	
<b>2. Bicycle/Pedestrian Accommodations</b>	
<p><b>Is the transportation facility included in or related to bicycle and pedestrian facilities identified in a local plan or is the facility in a high density land use area that has pedestrian/bicycle traffic?</b> The number of bicyclists and pedestrians in Pennsylvania is growing. It is necessary that the needs of bicyclists and pedestrians be considered when evaluating transportation proposals. Municipal and County Comprehensive Plans and MPO/RPO regional bicycle/pedestrian plans (if they exist) should be reviewed to determine if routes are designated as part of existing or future bicycle or pedestrian facilities. Additionally routes should be reviewed to determine if they are part of a statewide (ex. PA BicyclePA Routes) or multi-state facility (ex. East Coast Greenway). A facility may not be identified as a bicycle or pedestrian route, but there may be evidence of its use as one. This could be indicated by observing users or there may be evidence of worn walking or bike paths. Surrounding land uses should also be looked at to determine if they are likely to generate bicycle and pedestrian traffic (ex. schools, parks, shopping facilities, trail access points).</p>	
<b>3. Transit/Multi-modal Considerations</b>	
<p><b>Is the transportation facility in close proximity to transit stops or multi-modal centers or is there the opportunity to create multi-modal connections?</b> The area surrounding the transportation facility should be reviewed to determine if it is on an existing transit route or is in close proximity to transit stops or multi-modal centers. If the answer is yes, it should be discussed if the transportation facility needs to serve as a connection to the stop and/or center. For example, there may be the need to consider wider shoulders or a sidewalk if people walk along the roadway to reach a transit stop. There may also be the need to make sure buses have enough clearance for making turns, etc. if the facility is part of a transit route. Online transit maps can serve as a quick way of determining existing transit routes. Transit operators in the project area should be contacted to verify if there are any transit related issues with the transportation facility and to determine if there is a need for a transit stop, multi-modal center, or park and ride lot in the vicinity.</p>	
<b>4. Stormwater Management</b>	
<p><b>Is stormwater an issue in the study area? Should stormwater management be considered as a part of the proposal? Could there be opportunities to incorporate best management practices into the proposal?</b> Stormwater best management practices aim to develop more sustainable communities and also help to reduce the amount of rainwater being diverted to combined sewers. Some commonly used best management practice features include rain gardens, planter boxes, bioswales, and reduction in impervious surfaces dependent on current PennDOT policies/standards.</p>	
<b>5. Presence of/Impacts from (Current/Future) Freight-Generating Land Uses</b>	
<p><b>Is the transportation facility in close proximity to freight generating land uses, such as agriculture, natural resources and mining, construction, warehousing, manufacturing, distribution centers, logistics, railyards, intermodal or transload freight facilities, and port, waterway, and harbor operations?</b> Surrounding land uses should be reviewed to determine if land uses such as agriculture, mining, construction, warehousing, manufacturing, logistics, and port, waterway, and harbor operations are in close proximity to the transportation facility. If these land uses are nearby there is likely to be increased truck traffic which should be considered in the design of the transportation facility, such as bridge design weights, climbing lanes, vertical clearance, turning radii, etc.</p>	



<b>6. Utility Issues</b>
<b>Are there utilities present in the project area that may impact the potential solutions?</b> Considering utility issues early is important. By identifying utilities early, it can be determined if these are constraints that need to be planned for in the project design and if utilities may impact the types of solutions/alternatives that can be considered. Identifying utilities and coordinating with local government staff regarding those utilities can also determine if there are plans for updating utilities in the future which can be important in the timing of construction so that utility and transportation work could be combined if possible.
<b>7. Transportation Operation Considerations</b>
<b>Are there Transportation Systems Management and Operations (TSMO) considerations that may address the project needs?</b> In simplest terms, TSMO is a way to increase reliability and mobility, and to anticipate and manage congestion by utilizing systems rather than only building out of congestion. The overall mission of TSMO is the movement of people and goods, from Point A to Point B, as efficiently, safely, and reliably as possible. This can be accomplished through a wide-range of strategies, such as traveler information, active traffic management, and freeway service patrols. Additional sources of information related to these needs are Congestion Management Processes, Regional Operations Plans, and Intelligent Transportation System Architectures.
<b>8. Emergency Services Accommodations</b>
<b>Does the project area need to be able to accommodate emergency services?</b> PennDOT, the MPO/RPO, and local government planners/staff should discuss and study, if necessary, if the project area is part of a route that must accommodate emergency services. Does the project area include the only access to a neighborhood that would be cut off from emergency services if they were limited from the route due to height, weight, or width restrictions? Is the project area part of a designated emergency route? Should emergency preemption be included on any traffic signals in the project area?
<b>9. Planned Development</b>
<b>Is there planned development (residential, commercial, or industrial) in the area?</b> PennDOT, the MPO/RPO, and local government planners/staff should discuss any planned development that they are aware of that could impact the area’s transportation needs. The type and scale of planned development should be considered in the project design. For example, based on the type of development there may be a need for bicycle and pedestrian facilities, wider lanes to accommodate truck traffic, access management for commercial areas, or school access for buses.
<b>10. Consistency with LRTP</b>
<b>Does the current LRTP indicate other proposals in the project area or anticipate a different future transportation use for the surrounding area? Is the project consistent with the vision, goals, and objectives identified in the LRTP?</b> Review the current LRTP to verify if there are other proposals in the project area or if other proposals in the area may shape the future transportation use in the area. For example, if the LRTP indicates that the surrounding roadways will provide access to a local trail, should the project area also include wider shoulders, sidewalks, and/or bike lanes to also accommodate trail traffic. Additionally the vision, goals and objectives of the LRTP should be reviewed to determine if the project can assist in meeting the noted goals and objectives.
<b>11. Consistency with Community Comprehensive, or Other Plans</b>
<b>Is the transportation proposal consistent with community comprehensive or other plans?</b> PennDOT, the MPO/RPO, and local government planners/staff should review community comprehensive plans and other plans to understand if the proposal will support, prevent, or be neutral to objectives/goals in a community comprehensive or other plan. For example, if the community comprehensive plan indicates that a bridge will in the future connect two hiking trails, but the transportation proposal is considering removing the bridge other solutions should be considered, such as rehabbing the bridge for use by bicycles/pedestrians only or replacing with a structure specifically for trail use. Removal of the bridge without consideration of the connection of the two hiking trails, could prevent the community from being able to connect the trails in the future or certainly increase the cost.

<b>12. Consistency with Current or Proposed Zoning</b>
<b>Is the transportation proposal consistent with current or proposed zoning?</b> PennDOT, the MPO/RPO, and local government planners/staff should review and discuss current and proposed zoning with the municipality(s) where the proposal is located, if applicable. The proposal should be reviewed for consistency with either the current or proposed zoning. If proposed zoning will change an area from residential to commercial or industrial zoning, the ability to support these new land uses should be considered in the project needs. Additionally, an area may currently be zoned as industrial, but the infrastructure has not yet been updated to handle the increased traffic movements required in an industrial area.
<b>13. Regional Planning Studies</b>
<b>Was a regional planning study conducted in the project area?</b> PennDOT, the MPO/RPO, and local government planners/staff should determine if the project area is included within a regional planning study and if the proposed project is consistent with the recommendations of the planning study or if there are recommendations from a study that should be considered being incorporated into the project. Regional planning study could mean corridor study, traffic impact study, road safety audit, transit oriented development study, or other such plans or studies.
<b>14. Other Proposed Transportation/Infrastructure Improvements</b>
<b>Are there other planned transportation/infrastructure projects in the area?</b> PennDOT, the MPO/RPO, and local government planners/staff should review existing LRTPs, TIPs and asset management plans to determine if there are other transportation projects planned in the area. The timing of projects should be discussed, especially for potential work zone and detour impacts, for projects within close proximity of other construction projects. It may be determined that it would be best to coordinate the construction of the two projects, or the opposite may be true and there is a need to make sure that project construction overlap is avoided. Potential reasons for both options include detour route and time and design impacts. Other projects planned in the area should also be reviewed to determine if they will impact traffic volume or types such that it should be considered in the planning of this project. Additionally other local infrastructure improvements such as a sewer/water project should be considered in the timing of construction.
<b>15. Impacts on the Natural, Cultural, or Social Environment</b>
<b>Is there potential for the transportation improvement to have an impact on the natural, cultural, or social environment?</b> This question can be partially answered by reviewing the results of the Environmental Screening in the proposal screening system. The screening is based on distance from the identified project area, so the results should be reviewed based on the type of proposal. For example, a proposal with no impacts outside of the ROW, will likely not have any environmental impacts, but could still score high in the Environmental Screening. In addition there may be known natural, cultural, and social resources that are not identified through the screening which require consideration. Stakeholders should review the Environmental Screening results and discuss any other known resources in the area to determine if the transportation improvement is likely to impact the natural, cultural, or social environment. The impacts of the proposal on air quality (regional or project level) and noise should also be considered.
<b>16. Right-of-Way Considerations</b>
<b>Will work take place outside of the existing ROW?</b> If work will take place inside of the existing ROW there will likely be no to minimal impacts to the environment. As work expands outside of the existing ROW, the impacts to natural and cultural resources and the community are likely to increase. Project stakeholders should evaluate the amount of work that will take place outside of the ROW and should consider impacts to the surrounding land uses. Discussion should also consider the magnitude of potential residential and business displacements or impacts to other property such as public parks or recreation areas.

<p><b>17. Anticipated Public Opinion</b></p>
<p><b>Is there potential for the proposal to generate substantial public controversy?</b> Discussion should take place to determine if there is likely to be substantial public controversy surrounding the project. Examples of reasons for public controversy include residential and commercial displacements, long detour routes, long construction times, and impacts to environmental or community resources. Identifying potential public controversy early allows for the identification of increased public involvement measures during project scoping. Comments received as part of the STC public outreach process or other public input provided to the municipalities should be reviewed to aid in understanding public opinion.</p>
<p><b>18. Community or Cultural Events in the Candidate Project Area</b></p>
<p><b>Are there important community or cultural events that should be considered in the timing of construction?</b> PennDOT, the MPO/RPO, and local government planners/staff should discuss any known community or cultural events that take place near the transportation facility. This is important to consider in the timing of construction. For example, construction should be avoided on roads that provide main access to local/county fairs during the week of the fair. Additionally it is important to understand if the community uses the transportation facility for community events such as a soap box derby, street fair, parade, bike race, which may affect the project design as well as the project schedule.</p>
<p><b>19. Presence of Environmental Justice (EJ) Populations or Limited English Proficiency (LEP) Individuals</b></p>
<p><b>Are Environmental Justice (EJ) populations or Limited-English Proficient (LEP) individuals present within the proposal study area or impacted by the proposal that may warrant special consideration for developing specific public involvement activities or outreach strategies that might need to be considered during the project delivery process?</b> EJ communities are those that include low income or minority populations. Additionally, evaluation of EJ communities may require consideration of geographically dispersed or transient persons, if circumstances warrant. LEP individuals are persons that do not speak English as their primary language and have limited ability, to read, speak, write, or understand English. Both populations must be considered when identifying appropriate public involvement strategies, as well as identifying potential impacts of a proposal. Whether the population exceeds the regional threshold may be an appropriate consideration for determining the intensity of the public involvement effort; however, thresholds should not be used to conclude that no effort is required. The MPO/RPO develops, approves, and submits EJ Benefits and Burdens analysis at the regional level for their TIP and LRTP. This report/analysis identifies EJ communities and the location of TIP projects. The MPO/RPO could relay this information to PennDOT project managers to help in determining the most appropriate public outreach efforts for a project. This handing off of EJ/LEP information from the MPO/RPO to PennDOT addresses how a project manager would know if a specific project is located within a known EJ community or if LEP issues need to be considered in developing the most appropriate public involvement/outreach activities. This information can also be utilized by the PennDOT environmental staff in completing the appropriate NEPA document.</p>
<p><b>20. Maintenance Agreement Requirements</b></p>
<p><b>Are there maintenance agreement requirements?</b> PennDOT, the MPO/RPO, and local government planners/staff should discuss whether there will likely be maintenance agreement requirements as part of the proposal. By discussing this early, it allows everyone to have an understanding of what is expected. For example, maintenance agreements may need to be agreed to for the removal of snow from sidewalks and bike lanes, for future painting of bike lanes, street lighting, traffic control devices, or for stormwater controls.</p>
<p><b>21. Other Specific Regional/Local Topics</b></p>
<p><b>Are there other specific regional/local topics that should be considered as part of the proposal?</b> There may be other topics of regional/local importance that are not covered by the other contextual issues but are considered to be worthy of discussion/collaboration. These items should be discussed and documented as appropriate.</p>

## 7.2 EVALUATE POTENTIAL SOLUTIONS/ALTERNATIVES

Potential solutions/alternatives should be conceptually identified, if they have not been already, and further evaluated, taking into consideration what has been learned about the context and what is appropriate for the specific location/community. The type of transportation issue will determine the range of potential solutions/alternatives – some issues may have multiple solutions/alternatives while other issues may have limited solutions/alternatives. *The replatformed proposal screening system will be able to accommodate multiple solutions/alternatives on a single form.*

Example: **The range of solutions for a bridge in poor condition might include:**

- Rehabilitation
- Replacement
- Replacement with widening to accommodate addition of sidewalk
- Replacement with widening to accommodate addition of sidewalk and bike lane
- Remove and not replace (after studying the amount of traffic – alternative routes are available and traffic does not support the need for a bridge at this location)



Based on the purpose and need, contextual issues, and the knowledge of the proposal area, solutions could be narrowed based on data. For example, if it is known that the bridge provides a connection for an existing trail located on both sides of a creek, it could be determined that the solution should consider a sidewalk or wider shoulders to make it safer for pedestrians to reach the trail on either side of the bridge.

## 7.3 CONSIDER A FULL RANGE OF SOLUTIONS/ALTERNATIVES

A full range of potential solutions should be considered to address the identified transportation needs. It is important to remember that not all alternatives must consist of traditional design and construction, nor should it necessarily be the goal to increase capacity. Depending on the needs to address and the particular location, there may be opportunities to consider other options that address the needs and also may minimize impacts to the surrounding environment and/or communities. For example, an Intersection Control Evaluation (ICE) should be done on a planning, conceptual level to apply contextual issues into developing potential alternatives to address intersection problems. (See box below.) Additionally, there may be land use, Transportation Systems Management and Operations, or Travel Demand Management alternatives that may provide a potential solution to the transportation issue.

**Intersection Control Evaluation**

Intersections play an essential role in the roadway network and offer connections to different routes and facilities while providing necessary access to adjacent residential, commercial, and industrial developments. Intersections are comparatively discrete, comprising a small portion of total road system mileage, but account for a high percentage of all crashes, especially severe crashes that produce injuries and fatalities. In Pennsylvania, crashes at intersections represent nearly 40 percent of all crashes and 25 percent of all fatal and major injury crashes.

In recent years, a number of new or innovative intersection designs have been introduced across the United States, with a record of enhancing safety and improving operations, along with varying degrees of other benefits. Through a re-imagining of the combination of geometric design and traffic control, planners, engineers, and designers are now able to better choreograph the movement of people and vehicles across and through intersections. Previously, the most common solution to intersection challenges involved all-way stop or conventional signalization scenarios, or an interchange. Proven options now include roundabouts, cross-over based designs, U-turn based designs, and others. Experience to date with these designs suggests a potential for greater safety and operational benefits could be realized at a system level with broader implementation.

The primary intent of any transportation project, whether new construction or retrofitting existing infrastructure, should be to promote a sustainable transportation system that safeguards the mobility and safety of all users. Perhaps the greatest opportunity for realizing this goal lies at at-grade intersections, where crossing traffic patterns potentially place users of various modes in conflict with each other and creates delay. Therefore, transportation practitioners should work to ensure the most prudent intersection control type is deployed at each intersection on Pennsylvania's public roadways. Though engineering judgement is often required in selecting the most 'appropriate' intersection design, a multitude of quantifiable factors can be evaluated to help facilitate an informed decision-making process. PennDOT has developed an Intersection Control Evaluation (ICE) policy to aid in this effort. To support this policy, PennDOT has created a framework for a range of activities to support objective evaluations of intersection control strategies. The framework is intended to guide users through sequential steps in conducting the evaluation and is not intended as a rigid process. Users are encouraged to consider the evaluation context of a given project and adapt the ICE framework accordingly. This could result in early, sketch level evaluations to support quick planning level decisions while the framework is set up to provide detailed and robust evaluation activities to address complex projects. ICE is intended to be flexible and adaptive by the user for a given project context. ICE activities could potentially be streamlined on some projects while other projects may require relatively more extensive analyses.

Depending on the needs, other "non-build" types of solutions/alternatives should be considered as solutions if they will address problems. These could include the following:

- Land use

There may be land use considerations that may be adequate to address the transportation problem. The role of transportation professionals is evolving and more frequently requires them to understand how transportation investments can be consistent with the principles and practices of land use planning and development. At a minimum, the coordination of land use and transportation requires that those concerned with the well-being of a community assess and evaluate how land use decisions affect the transportation system and can increase viable options for people to access opportunities, goods, and services. In turn, the transportation sector should be aware of the effects the existing and future transportation systems may have on land use development demand, choices, and patterns.

Coordinating land use and transportation planning and development is one facet of "smart growth". This coordination intends to preserve and even enhance valued natural and cultural resources and facilitate "healthy", sustainable communities and neighborhoods. This approach also tends to foster a balance of mixed uses (including housing, educational, employment, recreational, retail, and service opportunities) which recognize the importance of spatial or geographic proximity, lay out, and design of those uses. In addition, the consideration of long term and broader impacts of land use decisions on our natural and human-made environment, including transportation systems and facilities, is critical to these concepts, as well.

- Transportation Systems Management and Operations (TSMO)

TSMO is a way to identify and manage congestion by utilizing an operations approach as an alternative or complement to typical capacity adding projects. TSMO refers to a wide-range of multimodal strategies that can be used to optimize the reliability, efficiency, and safety of existing and planned transportation infrastructure. TSMO strategies encompass many activities, including:

- Intelligent Transportation Systems (ITS)
  - Traffic incident management
  - Traffic signal optimization and coordination
  - Integrated Corridor Management
  - Transit signal priority and bus rapid transit
  - Freight management
  - Work zone management
  - Planned special events management
  - Road weather management
  - Managed lanes and hard shoulder running
  - Ridesharing and demand management programs
  - Parking management
  - Traveler information systems
- Travel Demand Management (TDM) opportunities

Travel Demand Management (TDM) techniques should also be considered when evaluating alternatives. TDM programs and techniques focus on changing or reducing travel demand, particularly at peak commute hours, instead of increasing roadway supply. TDM includes using incentives (or disincentives) to influence travelers to use transportation systems in a way that contributes less to congestion. Travelers base their travel choices on their desire to save time and money, to reduce stress or to improve convenience. At least some of these motivations must be addressed to encourage a change in habits. Some examples of TDM programs include emphasizing coordination with local employers on measures such as car or vanpooling programs, bus pass subsidies, alternative work schedules, telecommuting options and parking management. Congestion pricing may also be an effective approach.

#### **7.4 CONSIDERATION AND PLANNING OF BICYCLE AND PEDESTRIAN FACILITIES**

Bicycle facilities are part of an interconnected multimodal transportation network that provides safe, convenient access to the goods and services within communities for users of all ages. Adding to or otherwise enhancing the bicycle facilities increases equitable access to jobs, schools, parks, health care, and other community facilities, especially for those citizens who rely on transit or do not own a motor vehicle. For proposals that are considering the incorporation of bicycle facilities there are different solutions/alternatives that should be considered/evaluated based on the area's context.

### **A. Types of Cyclists**

Research conducted at Portland State University has identified four general groups of attitudes towards bicycling. Very confident bicyclists who are comfortable operating in the roadway as a vehicle are classified as the “strong and fearless,” and are estimated to make up only 1-2% of the population. Bicyclists who are comfortable riding on some roadways, but prefer bicycle facilities separate from vehicular traffic (bike lanes or shared use path) are classified as “enthused and confident” and are estimated to make up approximately 5-10% of the population. Bicyclists who would like to ride more, but have safety concerns that are dissuading them are classified as “interested but concerned” and make up most of the population (50-60%). The remaining people are classified as “no way no how,” and have no interest in riding a bike for transportation.

This research acknowledges that bicycle riders experience varying degrees of stress when riding in streets with traffic. As traffic volume and speed increases, fewer cyclists will feel comfortable. Most current bike lanes in the United States tend to be on collector or minor arterial roadways, with the intent of paralleling major corridors. While the standard bike lane may be a safe treatment for these locations, it may not feel safe to all bicyclists or potential bicyclists depending on the context of a given street or road. While the standard bike lane was the primary on-street bicycle facility used in the United States for many years, there are other facility types that have proven to be successful internationally for many years and are gaining acceptance.

Bicycle facilities must be integrated into the larger bicycle network if they are to attract a wide array of bicyclists. For this reason, it is crucial that bicycle facility investments be considered from the point of view of the connectivity of the bicycle network as a whole. Two high quality bike facilities cannot be considered part of a network if they are separated from one another by even a few blocks of roadway that is perceived to be unsafe. While bicyclists are shown to tolerate some level of detour to remain on facilities that feel comfortable, if a comfortable route is not available, the “interested but concerned” bicyclist is likely to perceive barriers and impediments where gaps in the bicycle network exist. An analysis of an area’s network from this “perception of safety” perspective is a very powerful tool for planners because it can allow them to identify barrier areas and address them in a way that can “unlock” more of the existing network to “interested but concerned” bicyclists.

### **B. Designing Streets for Bicycling**

Fundamental bicycle-friendly design principles ensure safe, convenient, and comfortable conditions for walking and bicycling. Street design should aim to reduce speeds, provide separation between modes, and manage conflicts between street users.

Street design must also consider context. Designing bicycle facilities in industrial areas, for example, should build on these principles, while making special considerations for some unique challenges. Heavy vehicles pose the greatest risk to bicyclists due to drivers’ limited sight lines and the severity of a collision with vulnerable road users. Truck turning movements across bicycle facilities must be carefully managed, both through time separation (including bicycle signals) and increasing awareness and visibility for cyclists and drivers.

In order to identify needed improvements, the planning and pre-scoping processes for a project must include coordination with the local government (municipality or county) and with the MPO/RPO to review the local bicycle master plans or other planning documents that discuss the existing and planned nonmotorized network. This will allow the identification of the needs and the future vision for the local and regional bicycle network as well as result in the best project outcome. The Department’s Bicycle and Pedestrian Checklist provides guidance in developing the scope as well as the purpose and need for the project.

For additional information relative to bicycle facility planning, refer to the AASHTO Bicycle Guide and the Department’s “Bicycle and Pedestrian Checklist” found in Publication 10X, Design Manual, Part 1X, Appendices to Design Manuals 1, 1A, 1B, and 1C, Appendix S, Design Manual 2 and the other referenced documents.

PennDOT supports a variety of facility types based on individual project needs. The bicycle network throughout Pennsylvania can look very different depending on the context, user groups, and facility types. Different facility types can serve different purposes, or the design and dimensions can vary significantly based on the surrounding context. The type of facility can also greatly affect user’s sense of comfort and accessibility.

When selecting the most appropriate bicycle facility type the first controlling design feature to consider is if the bicycle facility is an on-road bicycle facility or an off-road bicycle facility on an independent alignment from the roadway. On-road bicycle facilities and off-road bicycle facilities involve some similar design considerations but generally utilize different safety applications and design guidance. For more information on specific design elements refer to Design Manual 2, Section 16.4 Design of Bicycle Facilities.

### C. On-Road Bicycle Facilities

On road bicycle facilities are bicycle routes that use part of the roadway either in a shared or dedicated space. Cyclists using on-road facilities are considered vehicles and shall obey all traffic rules. The design of on-road facilities should consider how motorists and cyclists may interact and reduce conflicts to the extent practicable. When considering the inclusion of an on-road bicycle facility, available space and the potential for additional space are to be considered. The following are a few strategies for finding extra space for on-road bicycle facilities:

- Install pavement markings and signage on existing paved shoulders
- Physically widen the roadway as necessary to include bicycle facilities
- Restripe the roadway to provide additional room (i.e. road diets).

PennDOT recognizes the following six types of on-road bicycle facilities, organized from most protected to least protected:

**Separated Bike Lanes** - these contain a physical form of vertical and horizontal separation for bicycle travel from both motor vehicle lanes and pedestrian facilities

**Conventional Bike Lanes** - involve a portion of a roadway which has been designated by striping, signing and pavement markings for the preferential or exclusive use of bicyclists

**Shoulder Bikeways** – rural roadway with low volumes but higher speed traffic and challenging horizontal or vertical curves are well served by including wider shoulders to accommodate bicyclists.

**Advisory Bike Lanes** - An advisory bike lane is a bike lane in which a motor vehicle may legally encroach into the bike lane. Therefore, the painted line between the advisory bike lane and the motor vehicle travel lane is dashed instead of solid.

**Bicycle Boulevards** - is a low-volume, low-speed street that emphasizes bicycle comfort and accessibility over vehicular speed and throughput. They typically are shared roads that incorporate aggressive traffic calming features that impact vehicular movement without impacting bicycle movement

**Shared Roads** - any roadway where a bicycle facility is not specifically designated but may be legally used by people on bicycles. Road markings, known as sharrows, are typically used to indicate a shared lane environment for bicycles and motor vehicles in urban settings and may be combined with widen shoulders

### D. Off-Road Bicycle Facilities

Off-road bicycle facilities are designed as either a shared-use path or a separated use path. Both types of facilities are designed for both transportation and recreation purposes and are used by pedestrians, bicyclists, skaters, equestrians, and other users. Some of the more common locations for these types of facilities is along:

- Typical roadway corridors
- Rivers or other bodies of water
- Utility rights of way
- Abandoned and active railroad rights of way
- School and college campuses
- Parks, open spaces, and greenway corridors
- Planned residential and commercial developments



These types of off-road bicycle facilities are typically used to close gaps in bicycle networks by providing a comfortable biking and walking facility independent of the roadway alignment and context. These types of facilities should be considered as a system of off-road transportation routes for people on bicycles along with other path users that extends and compliments the roadway network.

#### **E. Shared-Use Paths**

Shared-use paths are facilities in which pedestrians, bicyclists, skaters, skateboarders/long boarders, kick scooters, equestrians, and other users operate in a shared space separated from motor vehicle traffic. Shared-use paths are most commonly designed to allow two-way travel.

#### **F. Separated-Use Paths**

Separated-use paths are facilities in which pedestrians, bicyclists, skaters, skateboarders/long boarders, kick scooters, equestrians, and other users operate in a designated space separated from one another as well as motor vehicle traffic. The separated-use path may contain striping, signing, or other pavement markings to indicate the appropriate user's space. Separated-use paths are most commonly designed to allow two-way travel. This type of pathway configuration allows designers to dedicate space for particular path users, when appropriate.

#### **G. Pedestrian Facilities**

Pedestrians are a part of every roadway environment and attention must be paid to their presence in urban as well as suburban and rural areas. Pedestrian access, safety and needs must be given full consideration during the planning and design of all transportation projects. The District Traffic Engineer should be consulted to see if there is a history of pedestrian crashes within the project limits or if the route has been declared an unsafe walking route for school children under Pennsylvania Department of Transportation (PennDOT) regulations.

The Americans with Disabilities Act (ADA) of 1990 is a federal civil rights statute that prohibits discrimination against people with disabilities. ADA implementing regulations for Title II prohibit discrimination in the provision of services, programs, and activities by state and local governments. Designing and constructing pedestrian facilities in the public right-of-way that are not usable by people with disabilities may constitute discrimination. Section 504 of the Rehabilitation Act of 1973 (504) includes similar prohibitions in the conduct of federally-funded programs.

Title II, Subpart A, of the ADA covers State and local government services, including the design and construction of buildings and facilities and the operation of government programs. Rulemaking authority and enforcement are the responsibility of the Department of Justice. However, the United States Department of Transportation has been designated to implement compliance procedures relating to transportation, including those for highways, streets and traffic management. The Federal Highway Administration (FHWA) Office of Civil Rights oversees the US DOT mandate in these areas.

ADA accessibility provisions apply to the entire transportation project development process including planning, design, construction and maintenance activities.

There are a number of design facilities that should be considered in projects which will accommodate pedestrians. In special situations, some of these facilities can be used as countermeasures to reduce the potential for pedestrian accidents. These facilities include but are not limited to:

- Sidewalks
- Grade separations (overpasses and underpasses)
- Refuge islands
- Pedestrian barriers
- Installation of pedestrian signals and pedestrian push buttons
- Prohibition of pedestrians (on interstate highways, some intersections, or by statute or permit)
- Improvements or installation of lighting
- Installation of special signing and pavement markings
- Prohibition of vehicle parking

- Designation of one-way streets

## 7.5 ALTERNATIVES SCREENING

Alternatives that are screened in planning can be also be used in the NEPA process if they are properly considered and documented.

### A. Alternatives Screening for use in the NEPA Process

Alternatives are possible solutions for addressing a proposal's purpose and need. In planning, a multitude of alternatives can be considered for a proposal. The goal of alternatives screening in planning is to narrow the alternatives to be considered during the NEPA portion of the process.

While the NEPA classification is not made until preliminary engineering, it may be helpful to consider the anticipated classification in planning to better understand the anticipated range of alternatives that may need to be evaluated in preliminary engineering.

Typically, Categorical Exclusions (CE) problems, due to their non-complex nature, only document one alternative. In contrast, more complex problems, such as those determined to require an Environmental Impact Statement (EIS), must evaluate "a range of reasonable alternatives" including a reasonable range and reasonable number of alternatives carried through the NEPA process. Problems being addressed with an Environmental Assessment (EA) must have at least one alternative plus the no build alternative, but may include several build alternatives carried through the NEPA process. EA level problems should include an analysis of alternatives considered, but dismissed because they did not meet needs, had unreasonable impacts, had more impacts, or different impacts, and the decision was to select the preferred alternative. Alternatives must include land use and contextual considerations to ensure sustainability.

Proposed solutions must be documented on the Level 2 proposal screening form (refer to **Chapter 10** for additional information on documentation). The MPO/RPO staff and District staff have the responsibility for determining if adequate consideration has been given to proposal alternatives prior to TIP consideration. All alternatives screening should be completed in accordance with the guidance provided in this section.

Alternatives should be developed with the goal of addressing the proposal's purpose and need, as well as be able to stand alone (independent utility) with logical endpoints. For proposals that may have significant impacts and will likely be an EA or EIS project, it is important to evaluate the following when developing alternatives:

- All reasonable alternatives (considering all modes and considering connectivity alternatives),
- A reasonable number of alternatives,
- A reasonable range of alternatives, and
- Land use actions that could be an element of the solution, or potentially solve the problem.

Alternatives must include land use and contextual considerations to ensure sustainability.

Avoidance and minimization of environmental impacts (natural, cultural, and socioeconomic) is an integral part of the alternatives development process as it follows NEPA principles. Although not in great detail or level of analysis, NEPA, along with other procedural and substantive statutes regulating resources (Section 404 of Clean Water Act, DEP Chapter 105 permit, Section 106 of National Historic Preservation Act, Section 7 of Endangered Species Act, etc.), need to be considered early during alternatives screening. This preliminary consideration along with avoidance and minimization efforts, supports future permitting requirements to help expedite project delivery. It is expected at this stage that all readily available data sources will be utilized to gather as much environmental and contextual information as possible, to be used as a starting point during the traditional NEPA phase.

Documentation of the collaborative planning process and the data and contextual/environmental information collected can save time in later environmental screening and analysis as part of the NEPA process.

As a problem is being identified and a proposal initiated in planning, alternatives can be developed, then screened. These alternatives can include various modes of transportation, multiple corridors, as well as multiple alignments within a corridor, including connectivity opportunities to solve mobility needs. The decision to eliminate any screened alternatives prior to the project being programmed on the TIP must be fully documented and only be based on one of the two following reasons:

- The alternative does not meet the identified purpose and need of the proposal and/or
- Upon analysis, an alternative is not a reasonable alternative due to impacts and/or cost.

### B. Screening Alternatives Based on Purpose and Need

When the purpose and need has been well-defined for a proposal (see **Chapter 5**), the range of alternatives can be minimized. These alternatives are then carried forward for further examination in the NEPA process. Proper documentation of the purpose and need and alternatives screening, including proactive and appropriate public and resource agency involvement in accordance with an MPO/RPO Public Participation Plan, is important to ensure that the results of this screening can be relied upon and incorporated into the NEPA analysis. Impacts to all interested and protected (Title VI and Environmental Justice) parties need to be examined.

For additional information on purpose and need and alternatives, refer to:

- The *American Association of State Highway Transportation Officials (AASHTO) Practitioner's Handbook 07 (August 2007) Defining the Purpose and Need and Determining the Range of Alternatives for Transportation Projects*
- PennDOT Publication 319, *Needs Study Handbook*.

Not all alternatives will be able to meet an identified need(s) to the same degree. Some alternatives being considered may be able to meet a particular need better than other alternatives. The degree to which an alternative meets an identified need is part of the balancing of the overall decision-making process that occurs later in the Transportation Program Development and Project Delivery Process. Alternatives should not be eliminated in planning simply because they do not meet all needs to the same degree or because they appear too costly without fully exploring all funding sources.



(1) If the purpose of a proposal is to provide a transportation improvement in a general traffic corridor, then an alternative that does not serve that corridor would not meet the purpose and need and should not be considered.

(2) If the need is to reduce congestion and the problem is in a suburban area, but the population statistics do not meet the current accepted thresholds for rendering bus or transit services economical, then further consideration of these modes would not be necessary.

### C. Screening Alternatives Based on Impacts and/or Cost

In addition to screening alternatives that do not meet the purpose and need, it may be possible to narrow the range of alternatives by analyzing issues such as environmental impacts, continuity with contextual issues, and cost. Screening alternatives based on the magnitude of impacts and/or cost requires more detailed data-gathering and analysis, relying heavily on the strength of documentation to justify an alternative being removed from consideration. This documentation will be referenced and be the basis for the start of the NEPA alternatives analysis later in the Transportation Program Development and Project Delivery Process.



(1) If an alternative would require impacts to known habitat for a federally listed endangered species, this alternative may be eliminated from further consideration if an alternative with lesser or no impact to this resource is identifiable. It is important that this impact be fully documented with coordination information from the U.S. Fish and Wildlife Service (USFWS).

(2) If an alternative requires an additional structure (bridge) of an extended length to span a sensitive waterway or wetland compared to all other alternatives, and that additional structure is estimated to have an extraordinary cost (compared to the costs of the other alternatives), this alternative may be eliminated. The extra cost must be put in context of the total project costs. Does the extra structure double the project cost? Is the extra cost just an additional 5%?

## 7.6 DOCUMENTATION OF ALTERNATIVES SCREENING



It is critical to attach all applicable documentation to the proposal screening form if any planning studies/information collected is to be incorporated into the NEPA process/documentation. If an alternative is dismissed because it would not address the purpose and need, the documentation must show how that decision was reached. If an alternative is eliminated based on an environmental impact considered a particularly severe impact or combination of several severe impacts, documentation needs to establish the nature of that impact and explain that the alternative cannot be refined to avoid or reduce the impact. This documentation should include documentation of the analysis of any considered solutions and/or meeting minutes from local government, MPO/RPO and PennDOT collaboration meetings, and any public or agency input received.

Following screening/alternatives evaluation, the Level 2 proposal screening form should be completed. All relevant data and sections should be filled out based on input gathered throughout the collaborative planning process. The form should be completed, as appropriate, based on the type of proposal, range of solutions/alternatives, continuity with contextual issues, and the context of the proposal location. Refer to **Chapter 10** for additional information on documentation.

## 7.7 REDUCING THE NEED TO RECONSIDER PREVIOUSLY DISMISSED ALTERNATIVES IN NEPA

Alternatives screened out during the planning process will be less likely to require reconsideration later in the Transportation Program Development and Project Delivery Process if their reasons for elimination are fully documented in the proposal screening form. A description of how key federal and state regulatory and resource agencies were engaged in planning decisions that dismissed these alternatives should be included. This engagement may take place through resource agency coordination. To further ensure that these alternatives will not need to be reexamined in NEPA, keep the following in mind:

- The quality of information available in planning should be consistent with the level of data typically used to support an alternatives screening decision in NEPA (e.g., environmental, traffic, land use data). In some cases, there will be enough existing data to rely upon, but additional work may be needed to support the decision to dismiss an alternative based on impacts or cost.
- Alternatives should not be dismissed purely because they are less desirable than other alternatives. There are federal and state regulatory standards to alternative acceptability. Under NEPA, alternatives can only be eliminated if they are "unreasonable." If Section 404 of the Clean Water Act, Pa. Chapter 105 regulations, or Section 4(f) of the U.S. Department of Transportation Act applies, then alternatives can be eliminated only if they are "impracticable" or "not feasible and prudent", respectively. These standards need to be considered in planning if likely to be applicable to the problem, or previously screened alternatives may need to be reconsidered in NEPA.

Regulatory and resource agencies should provide agency input during the planning stage, especially if the alternatives being eliminated would have the potential to avoid or minimize impacts to regulated resources under their jurisdiction. For example, if an alternative will impact wetlands, and a wetland avoidance or minimization alternative is being dismissed, it is advisable to consult with the Pennsylvania Department of Environmental Protection (PADEP), the U.S. Army Corps of Engineers (USACE), and the U.S. Environmental Protection Agency (USEPA) before making that decision. Either the avoidance/minimization alternative must be shown to not satisfy the project needs, or the non-wetland impacts of the alternative being dismissed must be severe enough that the resource agencies governing wetlands will agree that this alternative would be impractical in Section 404 of the Clean Water Act terms; otherwise they may have difficulty in issuing a permit for the impacts to wetlands. If this would be determined to be the case later in the NEPA analysis, the previously dismissed alternative may need to be reevaluated. Alternatives can also be dismissed for not satisfying the project need.

## 7.8 LOCAL GOVERNMENT COLLABORATION ON ALTERNATIVES



Local government collaboration should include a discussion of alternatives and their contextual issues. Local insight should be used to better understand what alternatives would meet the project need and at the same time benefit the surrounding community. As outlined in **Chapter 3**, PennDOT District personnel must collaborate with their respective MPO/RPO staff and appropriate local government staff on all new projects added to or recommended to the TIP.

The purpose of this collaboration is to:

- Confirm that the identified purpose and need is appropriate
- Gather local knowledge on current and future development and land use and how it may impact the transportation issue
- Provide the local government staff the opportunity to identify new perspectives, or if anything was missed during planning. Identifying these items early provides opportunities for them to be incorporated/considered now, rather than after projects have been programmed and design has begun
- Allow the local government staff to provide input on the alternatives being considered
- Add additional transparency to the transportation planning process

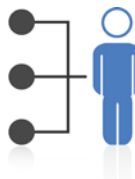
To ensure that these meetings are beneficial to all involved it is important that all parties come to the meeting prepared to discuss the transportation proposal. Preliminary information related to contextual issues, potential risks, and alternatives should be compiled. These contextual issues can help guide the conversation at the collaboration meeting. Local planners should review their comprehensive plans, as well as any local or regional bicycle, pedestrian, transit or trail plans or any other local planning studies that may be relevant. Proposal screening forms should be preliminarily completed to identify potential land use and environmental considerations and potential solutions/alternatives.

Details on the local government collaboration meeting, its requirements, and suggested best practices are included in **Chapter 3 Collaboration**.



Additionally, a Project Initiation Form must be completed in the proposal screening form to document the collaborative planning process and local government collaboration meeting and all decisions made at the meeting. Additional detail on the Project Initiation Form is included in **Chapter 10 Documentation**.

## 7.9 SCREENING/ALTERNATIVES ROLES



The key components of screening/alternatives evaluation include:

- Further evaluation of potential solutions and alternatives
- Further evaluation of contextual issues
- Completion of Level 2 proposal screening form
- Local government collaboration meeting and completion of Project Initiation Form

Specific roles related to these key components are outlined below.

**MPO/RPO staff is responsible for:**

- Coordinating with local government staff and PennDOT District staff on the evaluation of potential solutions and alternatives and the further evaluation of project risks and contextual issues
- Coordinating with local government staff and PennDOT District staff for the completion of the Level 2 proposal screening form
- Facilitating the TIP process which considers the screening form information on TIP candidates and summarizes/presents candidate screening
- Providing Quality Control (QC) for the forms and collaborative planning process
- Participating in required local government collaboration meeting
- Coordinating and communicating the status of proposals with original advocates

**PennDOT District is responsible for:**

- Providing technical support to augment existing municipal, county, and MPO/RPO resources and expertise throughout the process
- Coordinating with local government staff and MPO/RPO staff on the evaluation of potential solutions and alternatives and the further evaluation of contextual issues
- Ensuring scheduling of the local government collaboration meeting and coordinating with the MPO/RPO staff and local government staff to conduct a collaboration meeting for projects being advanced to the TIP
- Coordinating with local planners and MPO/RPO staff for the preparation of the Level 2 proposal screening form
  - Technical support on environmental analysis
  - Identification of anticipated NEPA Class of Action
  - Cost estimating
- Completing the Project Initiation Form following coordination with MPO/RPO and local government staff at the local government collaboration meeting
- Informing the local government staff on the final decision of community features to be incorporated into proposals

**PennDOT Office of Planning (Center for Program Development and Management) is responsible for:**

- Performing QA of the collaborative planning process and documentation, including local government collaboration meetings
- Providing technical support and consultation with the MPO/RPO staff and PennDOT District staff as appropriate/requested

**County and Municipal Planners are responsible for:**

- Providing local context to aid PennDOT District staff and the MPO/RPO staff to have a clear understanding of the transportation problem
- Participating in required local government collaboration meeting

**7.10 SCREENING/ALTERNATIVES DOCUMENTATION**

The sections of the Level 2 proposal screening form that must be completed as part of solutions/alternatives screening include (completion refers to completing as much information that is known at the time/is relevant to the type of proposal – it is not a requirement that all questions on the Level 2 proposal screening form are answered):

- Land Use Linkage to Transportation
  - This includes identification of the existing land use and future land use context, existing zoning, land use/economic development opportunities, references to the problem in existing planning documents, planned development, and other planned projects (some of these items are also covered in the contextual issues).
- Environmental
  - This includes running the environmental GIS query which produces a score based on the distance of specific environmental resources from the identified problem area. The proximity of environmental resources along with the range of alternatives contributes to the likelihood of those environmental resources being potentially impacted by a proposed project.
- Potential Approaches/Solutions
  - This includes identification of general types of potential approaches/solutions.
- Conceptual Engineering
  - This includes identifying proposed limits of work, proposed design criteria, proposed traffic control measures, and project risks.
- Contextual Issues
  - Refer to **Section 6.4** for details on the types of contextual issues to be discussed/documented during the collaborative planning process. *Contextual issues is not currently a specific section of the Level 2 proposal screening form, but some of the questions are incorporated into the proposal screening form. These specific questions will be incorporated into the proposal screening form as part of the replatforming.*

**7.11 DECISION POINT**

Following the evaluation of a proposal's contextual issues and alternatives, a decision must be made as to whether to advance the proposal to the TIP. This decision must be made jointly between PennDOT and the MPO/RPO. The following options are available:

- Recommend project to the TIP or TIP candidate list (refer to **Chapter 9**)
  - The proposal is being advanced for potential inclusion on the TIP (local government collaboration meeting must take place prior to addition to the TIP)
- Add project to the TIP (refer to **Chapter 9**)
  - The proposal is being added to the TIP (local government collaboration meeting must take place prior to addition to the TIP)
- Defer to the LRTP or LRTP illustrative list (to be reconsidered in the future)
  - The proposal is generally considered to be a long term priority
- Dismiss from the Transportation Program Development and Project Delivery Process
  - Unreasonable due to cost
  - Unreasonable due to engineering or environmental constraints
  - Inconsistency with regional goals and policy statements, regional investments strategies and fiscal realities, and/or regional performance measure targets

- Recommend a formal study
  - If at the end of the screening/alternatives evaluation the PennDOT staff and MPO/RPO staff feel that the proposal would benefit from additional evaluation to better understand the purpose and need, local considerations, contextual issues and potential solutions, the proposal should be recommended to become a formal study which will then be placed on the LRTP or TIP as a study. Studies can also be funded through the Unified Planning Work Program, Congestion Management Process, local study, transit study or other identified funding source.
  - The recommendation of that study can reenter the collaborative planning process once additional information has been gathered and documented in order to determine the appropriate project to be added to the TIP or LRTP.

This decision should be documented on the proposal screening form. Refer to **Chapter 10: Documentation** for additional detail.



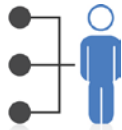
## CHAPTER 8

### QUALITY CONTROL/QUALITY ASSURANCE

Quality Control (QC)/Quality Assurance (QA) is a system for verifying and maintaining a desired level of quality through careful planning and use of proper checking against standards and verification of products. QC/QA is important for all disciplines and is a key component of the collaborative planning process. It is essential that the collaboration that takes place be meaningful; therefore, QC/QA has been built into the process to ensure the following:

- The appropriate staff from local governments, the MPO/RPO, and PennDOT are involved, as appropriate, through the collaborative planning process;
- Documentation completed as part of the collaborative planning process will be useful as projects advance to the design phase; and that
- The overall collaborative planning process is beneficial and creates partnerships between PennDOT, MPO/RPOs and local governments.

#### 8.0 QUALITY CONTROL/QUALITY ASSURANCE ROLES



Everyone participating in the collaborative planning process plays a role in making sure that the process is effective and beneficial to all involved. Anyone with ideas on how to improve the process is encouraged to share those ideas with the PennDOT District and Central Office staff, MPO/RPO staff, and local government planners/staff involved. However, there are certain roles which at designated times have specific QC and/or QA roles for the process. These are described below:

##### MPO/RPO

- Provides QC by ensuring that the proposal screening forms
  - Are completed prior to addition to the TIP
  - Include information that is accurate and will be able to be carried forward into the design phase
  - Capture any decisions made during the collaborative planning process

##### PennDOT District Office

- Provides QC by ensuring that the proposal screening forms
  - Are completed prior to addition to the TIP
  - Include information that is accurate and will be able to be carried forward into the design phase
  - Capture any decisions made during the collaborative planning process

##### PennDOT Central Office Program Center Program Managers

- Provides QA for the Project Initiation Form
  - Ensures that the form is completed as part of the proposal screening form and that the form reflects the discussion at the local government collaboration meeting
- QA for the local government collaboration meeting
  - Ensures that the local government collaboration meeting takes place, the appropriate staff is invited, and that the meetings are beneficial
  - Participates in local government collaboration meeting, as appropriate
- Provides quality assurance for the collaborative planning process
  - Ensures that the process is occurring at the local, MPO/RPO, and District levels
  - Looks for ways to improve the process and adapt the process, as necessary, based on past experiences/lessons learned
  - Identifies and shares examples of noteworthy collaboration practices

**FHWA**

- Ensures that the collaborative planning process is consistent with FHWA’s Planning and Environmental Linkages approach

**8.1 CENTRAL OFFICE EXECUTIVE LEVEL COLLABORATION MEETING**

The Central Office executive level collaboration meeting is designed to provide high level QA of the collaborative planning process. To monitor the implementation of the collaborative planning process, share experiences, and learn from best practices, each Engineering District will present an overview of local government collaboration at a Central Office executive level collaboration meeting for all new TIP projects, following the collaborative planning process (including local government collaboration). New TIP projects must be presented and reviewed by Executive Staff before TIP adoption. Projects added to the TIP as a modification or amendment will be handled on a case-by-case basis with a meeting or other documentation, as appropriate. The intent is not to slow project development. Central Office executive collaboration occurs prior to the preliminary engineering phase because the discussions at the executive collaboration meeting may impact what the programmed project will possibly include. Completed Project Initiation Forms provide the documentation for these meetings. Issues to be addressed in these meetings shall include:

- An overview of community collaboration outcomes with a summary of community features incorporated into each project
- Individuals in each District and MPO/RPO who participated in the collaboration process, as well as a summary of local government planners/staff who responded to requests for collaboration
- Examples of how local government input influenced the scope of projects
- Challenges experienced during the collaboration process
- Recommendations to improve future collaboration
- Any issues that cannot be resolved through collaboration among the District Office, MPO/RPO staff, and the Program Center Program Manager

Each PennDOT District Office is ultimately responsible for implementing the PennDOT Connects approach to collaborative planning and sharing their experiences with Executive Staff. The District is encouraged to invite MPO/RPO staff to participate in the Central Office executive level collaboration meetings. These meetings will be conducted as requested by the District Office, and chaired by the Secretary or the Secretary’s designee.

## CHAPTER 9

### PROGRAMMING/PROJECT ADDITION TO TIP/STIP

#### 9.0 ADDITION OF PROJECTS TO THE TIP/STIP

The MPO/RPOs are mandated by federal law and regulations to establish and carry out a cooperative, continuous, and comprehensive performance-based planning and programming process to meet various planning and programming responsibilities established by legislation. The purpose of the TIP/STIP process is to select transportation improvements with the greatest benefit to the Commonwealth and individual counties/regions. The TIP also gives all partners the flexibility to more effectively choose and approve the best mix of projects that meet their own varied multimodal transportation needs. Transportation system preservation and management continues to be the highest priority in Pennsylvania and the individual MPO/RPO programs should emphasize asset preservation and management. Additionally, the MPO/RPO programs should consider regional, state, and national performance measures as well as identified community needs.

The development of a regional TIP by an MPO/RPO is part of formal creation of a STIP. The official state programming document is the TYP. The development and update of this program is guided by Act 120 of 1970 (71 PS, §512) which established the STC and its related duties and responsibilities. The STC adopts the TYP. The STIP is actually the first four years of three, four-year segments (e.g., the TYP that covers 2019-2030 includes the STIP for 2019-2022). The STIP is the official federal programming document, which includes the MPO and RPO TIPs.



The MPOs develop and approve the TIPs. The Governor or his designee (currently the Secretary of the Pennsylvania Department of Transportation) must also approve the metropolitan TIPs and submit the entire STIP to the US Department of Transportation for approval.

The STIP also includes projects from the rural parts of the state. PennDOT and the RPOs are jointly developing and approving rural TIPs. Therefore, for transportation planning and programming purposes, RPOs are presently functioning as MPOs. The Governor or his designee also approves these rural TIPs, as well as the overall STIP.

The addition of projects to the TIP/STIP is the programming step in the collaborative planning process. Two key items must be completed prior to the addition of a project to the TIP. These include:

- Local government collaboration meeting documented using the Project Initiation Form. Local government collaboration meetings must occur before new projects are added to future TIPs. These collaboration meetings must become a routine element of the collaborative planning process. If local collaboration does not occur during the collaborative planning process, the meeting must be conducted prior to adding a new project during the TIP update process. Local government collaboration meetings are required for projects added to the TIP through modification or amendment. The objective is to fully consider community features for future projects before projects are programmed on a TIP (refer to **Chapter 3** for additional detail).
- Completed Level 2 proposal screening form in the proposal screening system and in a status of “On LRTP/TIP” (refer to **Chapter 10** for additional detail).



For the purpose of planning, a detailed listing of projects with completed proposal screening forms should be completed to cover the TIP (four years) plus two years outside that horizon, referred to as “TIP-plus 2”. The planning for the additional years allows for quick integration of projects that might be outside the expected funding level, but still important enough to be advanced quickly if planned projects are not programmed or bid or if additional funding would become available.

Each MPO/RPO and District likely have their own unique process and may have additional requirements for projects to be added to a TIP. This is acceptable as long as all minimum requirements of the collaborative planning process and the financial guidance are adhered to.



**Figure 9.1**

<sup>5</sup>Multimodal includes highway, public transit, aviation, rail, freight, and bicycle and pedestrian facilities.

## 9.1 TIP DEVELOPMENT GUIDANCE

PennDOT's Financial Guidance Work Group jointly develops and approves financial guidance for each TIP/STIP update cycle to set funding targets for each MPO/RPO, public transportation operator, and PennDOT. The guidance provides sufficient information for the affected partners and interested parties to begin to identify issues, negotiate, and reach consensus on their TIP.

The TIP shall include a project, or project phases, only if full funding can reasonably be anticipated to be available for the project within the time period contemplated for completion of the project. All TIP project cost estimate projections are based on the expected "year of expenditure (YOE)." Therefore, projects or phases of projects will be placed in the TIP appropriately by year, available funding, and within the bounds of the financial guidance.

PennDOT financial guidance provides the YOE growth rates and a methodology for determining an inflation rate so that TIPs are consistent.

The PennDOT General and Procedural Work Group provides additional guidance and direction for the TIP/STIP development process within the context of multiple inter-related, intergovernmental planning functions. Separate processes for the development, adoption, and administration of the STIP and the TYP have been coordinated and streamlined over the years. This guidance informs and directs a unified planning process covering both programs. General and Procedural Guidance describes the schedule, procedures and documentation necessary development of the TIP/STIP.

The Transportation Program development process is by its very nature fluid and subject to change. General and Procedural and Financial Guidance can change due to state or federal legislation, regulatory change or policy action. The PennDOT Investment Plan will continue to guide changes to the performance-based planning process.

The project delivery process outlined herein is designed to meet many of these requirements, but PennDOT also issues guidance for each TIP/STIP update cycle to help ensure that the full set of federal and state requirements are met. This manual provides a broad overview for a TIP/STIP development process to go along with financial and general and procedural guidance provided by PennDOT specific to a current TIP/STIP update cycle. An example TIP/STIP Development Timeline is included below as **Table 9.1**, which includes recommended timeframes for incorporating the collaborative planning process requirements.

Table 9.1 TIP Development Example Timeline		
Year 1	Winter	STC, PennDOT and MPO/RPOs conduct public outreach/public input to update the TYP, as well as, analyze and prepare results to be shared with the public.
		Districts, MPO/RPOs, and Program Center staff should discuss and agree on a collaboration approach for the TIP update process.
	Spring	Draft Financial Guidance is issued. Draft General and Procedural Guidance and Transportation Program Development Schedule issued. Discussion of Draft Financial Guidance/General and Procedural Guidance and the Investment Plan for the Program Update.
		Local government collaboration meetings should begin for any carryover projects from a previous TIP that have not previously occurred.
	Summer	PennDOT issues final guidance documents to MPO/RPOs for the development of the TIP/STIP. STC meets and is updated on development of the STIP.
		PennDOT Districts will provide updates of scopes, costs, and schedules for all carryover projects and candidate projects to MPO/RPOs.
		PennDOT District project priorities are shared with MPO/RPOs. PennDOT will provide the MPO/RPOs with a listing of the draft Interstate Management Program projects.
		Program Center provides the final “spike” decisions to MPO/RPOs and District Office(s).
		Local government collaboration meetings should take place as projects are identified as additions to the TIP.
	Fall	MPO/RPOs/PennDOT review highway, bridge and transit projects for possible inclusion in the TIP. TIP negotiations begin.
		MPO/RPO "Boards" meet to discuss schedule and guidance; set their TIP approval meeting dates for the spring of Year 2.
	By End of Year	MPO/RPOs develop draft TIPs (highways/bridges and transit) and submit that information to the Program Center, appropriate District Office(s) and FHWA/FTA. TIP negotiations continue. (MPMS attaching closed.)
Local government collaboration meetings should continue to take place as projects are added to the TIP.		
Executive level collaboration meetings should take place to discuss collaborative planning process and to identify any project scope changes that resulted from the collaborative planning process.		
Year 2	Winter	Program Center completes initial review of preliminary draft TIPs to ensure that PennDOT priorities are reflected, fiscal constraint and YOE are met, and all project phases are accounted for and programmed in the proper year.
		Interagency (FHWA, FTA, USEPA, PADEP & PennDOT) air quality consultation initiated. All air quality significant projects are shared with the Interagency Consultation Group (ICG) before

		conformity determination work begins by MPO/RPOs or PennDOT. TIP negotiations continue.
		Program Center conducts individual meetings with MPO/RPOs and District Offices to review all candidate projects, to agree on projects for inclusion in the Program, and to negotiate/resolve any remaining issues. PennDOT, via the Program Center, submits comments and proposed Program revisions back to the MPO/RPOs, and shares this information with the Districts and FHWA/FTA. PennDOT identifies any changes to air quality significant project lists that were developed earlier and shares this information through interagency consultation with the ICG.
		All negotiations are concluded. MPO/RPOs and PennDOT reach agreement on the respective portions of the Program.
		Interagency air quality consultations are concluded and conformity analyses are underway. EJ activities are also initiated.
	Spring	MPO/RPOs and PennDOT complete air quality conformity analyses.
	Summer	MPO/RPOs and PennDOT complete joint public comment periods on their TIP/STIP, including conformity determinations and environmental justice requirements. In addition, all relevant documents are placed on websites for public access.
		MPO/RPOs formally approve their individual TIPs and submit their portions of the Program to the Program Center.
		PennDOT includes each MPO/RPO TIP into the STIP without change. The STIP is the first four years of the updated TYP. STC approves the TYP.
		Governor/Secretary on behalf of the Commonwealth submits the STIP to FHWA/FTA for review and approval. FHWA coordinates with USEPA on the air quality conformity documents.
	Fall	PennDOT obtains joint approval from FHWA and FTA of the Program.



PennDOT and FHWA develop a completeness checklist at the beginning of the TIP/STIP update cycle to be sure that all the MPO/RPOs submit the necessary information for eventual approval of the TIP/STIP. (This checklist is not included in this manual as the requirements may change between STIP update cycles, due to adjustments in federal or state requirements and programs, goals, and performance measures. This checklist is a part of the general and procedural guidance, which is updated for each STIP update cycle.) These materials are mandated in order to satisfy federal and state planning and programming rules and regulations, and to provide written documentation that the MPO/RPO has an adopted prioritization process.

*Documentation of the local government collaboration process and completion of the proposal screening form are included in the completeness checklist.*

PennDOT assists MPO/RPOs in the identification of projects or project phases that are not fully funded in the four years of the TIP based on the timeframe needed to advance or complete the projects or project phases, and need to be carried over and shown in the last eight years of the TYP and the LRTP.

## 9.2 COORDINATION OBJECTIVES

The collaborative planning process is focused on enhancing community collaboration during the planning process in order to identify community needs and related contextual issues early, so that they may be considered in the development of the scope, schedule, and budget for each project. The importance of coordination activities and communication throughout the Transportation Program Development and Project Delivery Process cannot be overstated, but at this point in the process, with the end product of a cohesive STIP close, the following activities are vital:

- Adopt a final schedule for the update of the transportation program in conjunction with MPO/RPOs, incorporate a collaborative planning process, and communicate it clearly to all parties.

- Gain regional consensus of MPO/RPO TIPs that permits air quality conformity analysis, EJ analysis, and public comment in a timely manner.
- Adjust planning and programming process(es) as quickly as possible, by reacting to new state and federal initiatives and any other changing circumstances expeditiously.
- Develop the STIP and MPO/RPO TIPs among all partners and interested parties through a continuing and collaborative process, based upon mutual trust, open communication and cooperation leading toward consensus.
- Share business plans, project and program databases among all parties.
- Recognize the need for MPO/RPOs to reserve funds in a line item for advanced studies on the more environmentally complicated proposals before they are added to a TIP. Accordingly, budgets, scopes, and schedules must be appropriate for the area's economic, environmental, and social conditions, as well as identified contextual issues.
- Coordinate the transportation programming process with the providers of all modes of transportation.
- Manage the interstate system on a statewide basis, encouraging MPO/RPOs and the District Offices to identify and comment on the interstate problems through the development of the TIPs. PennDOT will manage the interstate system on a statewide basis.

### 9.3 PUBLIC PARTICIPATION OBJECTIVES

Public participation activities, as noted in **Chapter 2**, continue to be important, including the following objectives:

- Continue to conduct meaningful public outreach and involvement activities as documented in the MPO/RPOs' public participation plans.
- Meet all federal and state mandates, including Title VI and EJ requirements.
- Coordinate all public involvement activities among all affected partners and consolidate activities to avoid overlap and confusion.
- Make each draft TIP available for public comment before final adoption. Each TIP should show (refer to the general and procedural guidance for additional specifications):
  - General overview of the transportation planning and TIP development process
  - Highway and bridge programming project listing (public version with long narratives)
  - Public transportation programming project listing (public version with long narratives)
  - Public transportation financial capacity analysis (MPOs only)
  - Air quality conformity determination report in non-attainment and maintenance areas only
  - Draft TIP modification procedures
  - EJ Benefits and Burdens analysis (community profiles and methodology)
  - Public participation plan
  - TIP project prioritizing process
- Establish a formal public comment time period for the TIP (minimum 30 days)
- MPO/RPO conducts a public meeting or hearing to gather any comments/concerns on the TIP and related documents
- Provide easy and complete access to all public documents, including a summary of the TIP development process, as well as the draft and final TIP.

- TIPs, STIP and TYP project listings are readily available, taking particular advantage of electronic communications and access where possible.

#### 9.4 CENTRAL OFFICE EXECUTIVE LEVEL COLLABORATION MEETING



As outlined in **Section 8.1**, each Engineering District will present an overview of local government collaboration at a Central Office executive level collaboration meeting for all new TIP projects following the collaborative planning process (including local government collaboration). This is needed to monitor the implementation of the collaborative planning process, share experiences, and learn from best practices. New TIP projects must be presented and reviewed by executive staff before proceeding through preliminary engineering. Projects added to the TIP as a modification or amendment will be handled on a case-by-case basis with a meeting or other documentation, as appropriate. Completed Project Initiation Forms provide the documentation for these meetings. Issues to be addressed in these meetings shall include:

- An overview of community collaboration outcomes with a summary of community features incorporated into each project
- Individuals in each District and planning region who participated in the collaboration process, as well as a summary of local government staff who responded to requests for collaboration
- Examples of how local government input influenced the scope of projects
- Challenges experienced during the collaboration process
- Recommendations to improve future collaboration
- Any issues that cannot be resolved through collaboration among the District Office, MPO/RPO staff, and the Program Center Program Manager

Each PennDOT District Office is ultimately responsible for implementing the PennDOT Connects approach to collaborative planning and sharing their experiences with Executive Staff. The District is encouraged to invite MPO/RPO staff to participate in the Central Office executive level collaboration meetings. These meetings will be conducted as requested by the District Office, and chaired by the Secretary or the Secretary's designee. Additional detail is included in **Chapter 8**.

#### 9.5 ROLES



The key components of programming/project addition to the TIP/STIP include (note that some of these items may have been completed earlier, but must be completed by the time a project is added to the TIP):

- Completion of Level 2 proposal screening form (refer to **Chapter 10** for additional information on documentation)
- QA/QC of the Level 2 proposal screening form
- Local government collaboration meeting and completion of Project Initiation Form if not completed prior to this phase
- Addition of project to the TIP
- Executive level collaboration meeting



Specific roles related to these key components are outlined below.

**MPO/RPO staff is responsible for:**

- Coordinating with local government staff and PennDOT District staff for the completion of the Level 2 proposal screening form including the recommendation status of the form
- Providing QC for the forms and collaborative planning process
- Completing the Project Initiation Form following coordination with PennDOT District staff and local government staff at the local government collaboration meeting
- Participating in executive level management meetings, as applicable
- Compiling the draft TIP
- Seeking public input on the draft TIP
- Developing responses to draft TIP comments
- Formal presentation of the regional draft TIP for MPO board consideration
- Producing the final TIP

**PennDOT District is responsible for:**

- Providing technical support to augment existing municipal, county, and MPO/RPO resources and expertise throughout the process
- Coordinating with local planners and MPO/RPO staff for the preparation of the Level 2 proposal screening form
- Scheduling the local government collaboration meeting and coordinating with the MPO/RPO staff and local government staff to conduct a local government collaboration meeting for projects being advanced to the TIP
- Informing the local government staff on the final decision of community features to be incorporated into proposals
- Participating in the executive level management meetings
- Attending MPO/RPO public meetings on the Draft TIP, providing technical and project knowledge assistance at the meeting.
- Assisting in developing response to comments on the Draft TIP, where applicable.

**PennDOT Office of Planning (Center for Program Development and Management) is responsible for:**

- Providing technical support and consultation with the MPO/RPO staff and PennDOT District staff as appropriate/requested
- Developing financial guidance (with FHWA and MPO/RPO) for each new TIP cycle
- Developing General and Procedural guidance (with FHWA and MPO/RPO) for each new TIP cycle
- Participating in local government collaboration meetings, as appropriate

- Providing quality assurance for the collaborative planning process
- Coordinating the executive level management meetings
- Ensuring that collaboration documentation is completed prior to a project being added to the TIP

**County and Municipal Planners are responsible for:**

- Participating in required local government collaboration meeting
- Sharing opportunities with residents to review/comment on the draft TIP

## 9.6 PROGRAMMING OUTCOMES

The collaborative planning process results in an updated LRTP, TYP, and TIP/STIP that is predictable in budget, scope, and schedule, and that provides the Commonwealth with a program that is fiscally constrained by year, environmentally responsible, contextually appropriate, and sustainable by the community. The TIPs from across the state are combined to form the STIP.



Projects that are not included on the TIP but are candidate projects in the “TIP-plus 2” time frame form the basis of a "shortlist" of projects that could be advanced in a short period of time. During the next TIP update or LRTP update, the information collected through the collaborative process and captured in the proposal screening form can be revisited to determine if the priority level of the proposal has changed, if its purpose and need remain the same, if proposed solutions/alternatives remain valid, and if contextual issues have changed. This information can all be used as a starting point when it is time to update the TIP and/or LRTP.

The following items are the outcome of the collaborative planning process:

1. Updated TIP projects list
2. New illustrative list or list of candidate projects for the LRTP
3. Proposal screening form to feed into Environmental and Engineering Scoping in order to carry information collected into preliminary engineering
4. Project Initiation Form documenting the collaboration that has taken place and the decisions made in the collaborative planning process, specifically at the local government collaboration meeting
5. Engineering and environmental data that will be used by project designers

Collaboration with local government staff must also occur during project delivery. In addition to collaboration during the collaborative planning process prior to TIP approval, local government staff must be invited to participate in Environmental and Engineering Scoping Field Views once a project moves into preliminary engineering. The transportation needs and local community features including, but not limited to, bicycle and pedestrian accommodations, transit access, and stormwater management must be reviewed and refined at the Scoping Field View.



Local community features identified and accepted in planning or early in preliminary engineering must be documented in a scoping document in the Categorical Exclusion Expert System. The removal of previously identified, community-requested project features from the scope of work during the scoping process must be properly justified and documented as part of the scoping field view minutes and recorded on the "results" form of a scoping document. The district planner, or other designated individual in districts, will be responsible for ensuring that decisions related to PennDOT Connects are properly documented during project scoping.

For additional information on Scoping Field Views, refer to DM-1B and DM-1C.



## CHAPTER 10

### DOCUMENTATION



Documentation is key to ensuring that the discussions and decisions made as a part of the collaborative planning process are useful in the future. Without proper documentation, staffing changes at PennDOT, the MPO/RPO, FHWA, or local government level could result in the loss of proposal/project knowledge and information collected during the collaborative planning process. Proper documentation also carries that information forward into the NEPA process, without the need to be reworked. The documentation required during the collaborative planning is also noted in the appropriate corresponding chapter and is explained in more detail within this chapter.

#### 10.0 THE PROPOSAL SCREENING SYSTEM

*At the time of publication, the proposal screening system involves Level 1, Level 2, and Level 3 proposal screening forms in addition to the Project Initiation Form. The proposal screening system is in the process of being replatformed. The new platform will include a single, scalable proposal screening form with greater GIS functionality.*

The proposal screening system allows for online completion and collaboration on the proposal screening form and the Project Initiation Form. The proposal screening form should be completed collaboratively between PennDOT and the MPO/RPO including input provided by the local government planners/staff. The proposal screening forms include sections to record information related to:

- Land Use
- Community Issues and Opportunities
- Public and Agency Involvement
- Environmental
- Potential Approaches/Solutions
- Conceptual Engineering
- Cost/Funding Estimate for Screening

#### **PennDOT Connects Proposal Screening System**

The PennDOT Connects Proposal Screening System and instructions are available at the following location:

<http://www.dot.state.pa.us/Intranet/PennDOT/LPNForms.nsf>

Information and credentials to access the PennDOT Connects Proposal Screening System can be acquired by:

- Calling the PennDOT Connects Proposal Screening System help desk at (717) 525-5458.
- Emailing the PennDOT Statewide Programs resource account at [RA-PennDOT\\_LPN-NEPA@pa.gov](mailto:RA-PennDOT_LPN-NEPA@pa.gov)

**10.1 PROBLEM IDENTIFICATION/ASSESSMENT DOCUMENTATION**

A citizen, municipality, county planning office, or any other public or private organization can advance transportation problem statements for consideration for the LRTP and TIP by using a Level 1 proposal screening form, a public input tool or other mechanism as designated by an MPO/RPO. It will be a decision of each MPO/RPO, in collaboration with other partners, including PennDOT, how those problems are received and handled, once submitted to the MPO/RPO.

**STC TYP Public Outreach**

PennDOT also seeks public input through the STC TYP public outreach process which takes place every two years in conjunction with the TIP/STIP update process. State law requires PennDOT to update the TYP every two years and submit it to the STC. Public input is sought on transportation goals and priorities and also on specific issues and project ideas. The information gathered during the public outreach process is shared with the MPOs/RPOs for use in the development of their LRTPs and TIPs.

The Level 1 proposal screening form is a helpful tool to document problems and the identified needs within a proposal location area. The Level 1 proposal screening form includes a full range of typical transportation problems, including bridge, pavement, safety, and other modal needs. A Level 2 proposal screening form can then be generated from an approved Level 1 proposal screening form. Stakeholders in the collaborative planning process can document needs in the Level 1 proposal screening form, a public input form (see inset below), or the Level 2 proposal screening form. At a minimum, proposal needs must be clearly documented in the Level 2 proposal screening form.

An MPO/RPO may have their own method of documenting problems that are identified by the public or by local governments. One example of this is a public input tool.

**An MPO/RPO Public Input Tool**

The initial documentation of transportation issues being considered for advancement in the Transportation Program Development and Project Delivery Process may utilize a public input form. MPO/RPOs may choose to use a public input form as a tool to collect problems from the public and county/local agencies.

Information that may be included on a public input form includes:

- Transportation issue advocate contact information
- Transportation issue location
- Description of transportation issue/concern
- Description of land use/economic development/environmental concerns (if applicable)

Public input forms are submitted to an MPO/RPO as the keeper of information and a file of those forms should be made available for examination during normal business hours at each MPO/RPO office. Forms completed by individuals, municipalities, counties, organizations, and state agencies should be kept by the MPO/RPO for later updating and completion of proposal screening, as applicable. The information collected on the public input form is then incorporated into the Level 2 proposal screening form in the proposal screening system.

Example: The Southwestern Pennsylvania Commission (SPC) MPO has a public input form on its website which may be completed and submitted by members of the public at any time ([http://www.spcregion.org/trans\\_tip\\_projform.asp](http://www.spcregion.org/trans_tip_projform.asp)).



The Level 1 proposal screening form and public input form are tools to enable advocates of an issue to better articulate the need and any relevant information known at the time the form is submitted. The MPO/RPOs have established their own processes for advancing the problems to be considered for the LRTPs, and they still have the responsibility for and authority to create the LRTP and the TIP, but they must incorporate the collaborative planning process into their transportation program development process.

#### **Documenting Methods for Collaboration and Information Sharing**

Once a region (PennDOT District, MPO/RPO, and PennDOT Program Center Program Managers) has determined a preferred method for collaboration and information sharing, this method must be documented. This will ensure that there is an agreement between all parties as to how the collaborative planning process will work in that region. It will also serve to document the process in the case of staff changes. The documented process will serve as a guide, but will remain flexible and can be adapted as agreed upon by all parties and to adapt to the local government planners/staff which will likely vary on each proposal. This documentation will also be available to other regions in order to share best practices and new ideas on improving the process.

The transition from Problem Identification/Assessment activities to Prioritization involves the review of appropriate documentation from PennDOT and the MPO/RPO, as well as local government planners/staff and the public about problems submitted for consideration. PennDOT and the MPO/RPO then work collaboratively to further evaluate the problem. Required documentation at this point includes:

1. Completed public input form (optional) with the MPO/RPO  
or  
Level 1 proposal screening form that documents:
  - Transportation issue advocate
  - Transportation issue location
  - Description of transportation issue/concern/problem
2. Level 2 proposal screening form with the following sections completed (required):
  - Proposal Creator Information
  - Proposal Location
  - Purpose/Need(s) – may not be developed at this point
  - Any other information that has been discovered through collaboration related to community transportation needs and contextual issues that may be considered as the proposal is further evaluated during the collaborative planning process.

## **10.2 PURPOSE AND NEED DOCUMENTATION**

Once issues related to developing the purpose and need have been gathered and the preliminary purpose and need has been identified, it and any other relevant discussions and data preliminary reviewed/collected must be documented in the Level 2 proposal screening form in the proposal screening system. If a Level 1 proposal screening form was created in the proposal screening system, the basic information entered on that form can be transferred to the Level 2 proposal screening form. Basic information that was collected on a public input form should be entered into the Level 2 proposal screening form. The public input form should be attached to the Level 2 proposal screening form, to serve as documentation as to how the proposal first entered the process.

Documentation at this stage is important to create a record of any decisions made. Proposals that enter this process may not be advanced to TIP or even LRTP consideration for many years, so when the proposal is reviewed in the future staff from the PennDOT District, the MPO/RPO and local planning entities may have changed. Documentation allows for those decisions that were made to be reviewed and understood in the future and a determination to be made whether the proposal should be revisited. It is not necessary or expected that the entire Level 2 proposal screening form be completed at this time. Only initial information is required to document the purpose and need and basic proposal information.

Required documentation at this point includes:

- Level 2 proposal screening form with the following sections completed (required):
  - Initial development of Purpose/Need(s)
  - Any other information that has been discovered through collaboration related to community transportation needs and contextual issues that may be considered as the proposal is further evaluated during the collaborative planning process.

### 10.3 PRIORITIZATION/SCREENING DOCUMENTATION

The sections of the Level 2 proposal screening form that must be completed during prioritization include:

*Completion refers to providing as much information that is known at the time/is relevant to the type of proposal – it is not a requirement that all questions on the Level 2 proposal screening form are answered.*

- Land Use Linkage to Transportation
  - This includes identification of the existing land use and future land use context, existing zoning, land use/economic development opportunities, references to the problem in an existing planning document, planned development, and other planned projects (some of these items are also covered in the contextual issues).
  
- Environmental
  - This includes running the environmental GIS query which produces a score based on the distance of specific environmental resources from the identified problem area. The proximity of environmental resources along with the range of alternatives contributes to the likelihood of those environmental resources being potentially impacted by a proposed project. This will be further refined as the project area is studied in more detail.
  
- Potential Approaches/Solutions
  - This includes identification of general types of potential approaches/solutions.
  - A full range of options should be considered, including land use solutions and traffic management and operations solutions.
  - If there are strong reasons for dismissing certain approaches/solutions in planning, this reasoning should be documented for future reference.
  
- Conceptual Engineering
  - This includes identifying proposed limits of work, proposed design criteria, proposed traffic control measures, and project risks.
  
- Contextual Issues
  - Refer to **Chapter 7** for details on the types of contextual issues to be discussed/documentated during the collaborative planning process. *“Contextual issues” is not currently a specific section of the Level 2 proposal screening form, but some of the questions are incorporated throughout the proposal screening form. Specific questions that correspond to the contextual issues outlined in Chapter 7 will be incorporated into the proposal screening form as part of the replatforming.*

*The environmental GIS query uses secondary source data. There may be the need to interpret what impacts may actually be depending on the type of project. For example, if a project will only consist of repaving and there is a wetland identified 200 feet away from the right-of-way, it is unlikely that the wetland will be an issue on the project. Additionally, as secondary source is used to run the query, any additional information known on environmental resources should be added to the form.*

Following screening/alternatives evaluation, the Level 2 proposal screening form should be completed. All relevant data and sections should be filled out based on input gathered throughout the collaborative planning process. The form should be completed, as appropriate, based on the type of proposal, range of solutions/alternatives, continuity with contextual issues, and the context of the proposal location.

The Level 2 proposal screening form will be reviewed and used by PennDOT, the MPO/RPO, and other appropriate parties to collect additional data, as needed, and to document that the collaborative planning process has been completed for proposals being advanced to the TIP.

#### **Documentation of Alternatives Screening**

It is critical to attach all applicable documentation to the proposal screening form if any planning studies/information collected is to be incorporated into the NEPA process/documentation. If an alternative is dismissed because it would not address the purpose and need, the documentation must show how that decision was reached. If an alternative is eliminated based on an environmental impact considered a particularly severe impact or combination of several severe impacts, documentation needs to establish the nature of that impact and explain that the alternative cannot be refined to avoid or reduce the impact. This documentation should include documentation of the analysis of any considered solutions and/or meeting minutes, MPO/RPO and PennDOT collaboration meetings, and any public or agency input received.

### **10.4 LOCAL GOVERNMENT COLLABORATION DOCUMENTATION**

A Project Initiation Form must be completed in the proposal screening form system (available in the Level 2 proposal screening form) to document the collaborative planning process and local government collaboration meeting and all discussion/decisions made at the meeting. This form specifically focuses on pedestrians, bicyclists, public transit, transportation systems management and operations (TSMO) and intelligent transportation systems (ITS), freight/economic activity/manufacturing, stormwater best management practices, and public controversy. It also allows for documentation of other considerations.

The form is designed to be started by PennDOT and the MPO/RPO in advance of and in preparation for the local government collaboration meeting, and then used to help guide the conversation at the meeting. The form should be completed following the meeting to reflect discussions and decisions made. If suggested community-related project features are justified, based in-part on comprehensive planning or other related planning studies, the transportation needs identified during these local government collaboration meetings shall be incorporated into project scopes of work. The proposal screening form is the appropriate location to document the transportation needs identified and justified. Program Center Program Managers will provide quality assurance for the Project Initiation Form.

If the issues discussed during local government collaboration are not justified to be addressed based on a lack of adequate planning documentation, unacceptable impacts to environmental resources, excessive right-of way impacts, maintenance ownership difficulties or other issues related to impacts or excessive cost, reasoning must be included on the Project Initiation Form, and attached to the proposal screening form.

Decisions reached on community features during planning must be communicated to the local government. As the District Office will manage the future project, the District is ultimately responsible for informing the municipality of the determination as to whether to further consider the requested community feature during the design phase. The District Office and MPO/RPO staff may agree on an alternative approach for communicating decisions to local governments, so long as the final decision is clearly communicated.

### **10.5 PROGRAMMING DOCUMENTATION**

The Level 2 proposal screening form must be completed and in a system status of “On LRTP/TIP” at the time the project is added to the TIP.

For the purpose of planning, a detailed listing of projects with completed proposal screening forms should be completed to encompass the timeframe of the TIP (four years) plus two years outside that horizon, referred to as “TIP-plus 2”. The planning for the additional years allows for quick integration of projects that might be outside the expected funding level, but still important enough to be advanced quickly if planned projects are not programmed or bid or if additional funding would become available.

PennDOT and FHWA develop a completeness checklist at the beginning of the TIP/STIP update cycle to be sure that all the MPO/RPOs submit the necessary information for eventual approval of the TIP/STIP. (This checklist is not included in this manual as the requirements may change between STIP update cycles, due to adjustments in federal or state requirements and programs, goals, and performance measures. This checklist is a part of the General and Procedural Guidance which is updated for each STIP update cycle.) These materials are mandated in order to satisfy all federal and state planning and programming rules and regulations, and to provide written documentation that the MPO/RPO has an adopted prioritization process.

*Documentation of the local government collaboration process and completion of the proposal screening form are included in the completeness checklist.*

Those projects that are not included on the TIP, that are candidate projects in the “TIP-plus 2” timeframe, form the basis of a "shortlist" of projects that could be advanced in a short time frame. Projects that have gone through the collaborative planning process should document the data that was collected and the collaboration that has taken place as part of the process on the proposal screening form. During the next TIP update or LRTP update, that information can be revisited to determine if the priority level of the proposal has changed, if its purpose and need remain the same, if proposed solutions/alternatives remain valid, and if contextual issues have changed. This information can all be used as a starting point when it is time to update the TIP and/or LRTP.

**10.6 WHERE DOES THE INFORMATION ENTERED INTO THE PROPOSAL SCREENING SYSTEM GO?**

Once the proposal screening form has a status of “On LRTP/TIP” or “Recommended to LRTP/TIP” and has an Multi-modal Project Management System (MPMS) number assigned to it, the information on that form can then populate portions of the scoping document in PennDOT’s Categorical Exclusion Expert System (CEES). This is the transition of the information from planning to preliminary engineering/NEPA.

Local community features identified and accepted in planning or early in preliminary engineering must be documented in a scoping document in the CEES. The removal of previously identified community features from the scope of work during the scoping process must be properly justified and documented as part of the scoping field view minutes and recorded on the “results” form of a scoping document. The district planner, or other designated individual, will be responsible for ensuring that decisions related to the collaborative planning process are properly documented during project scoping.



For additional information on Scoping Field Views refer to DM-1B and DM-1C.