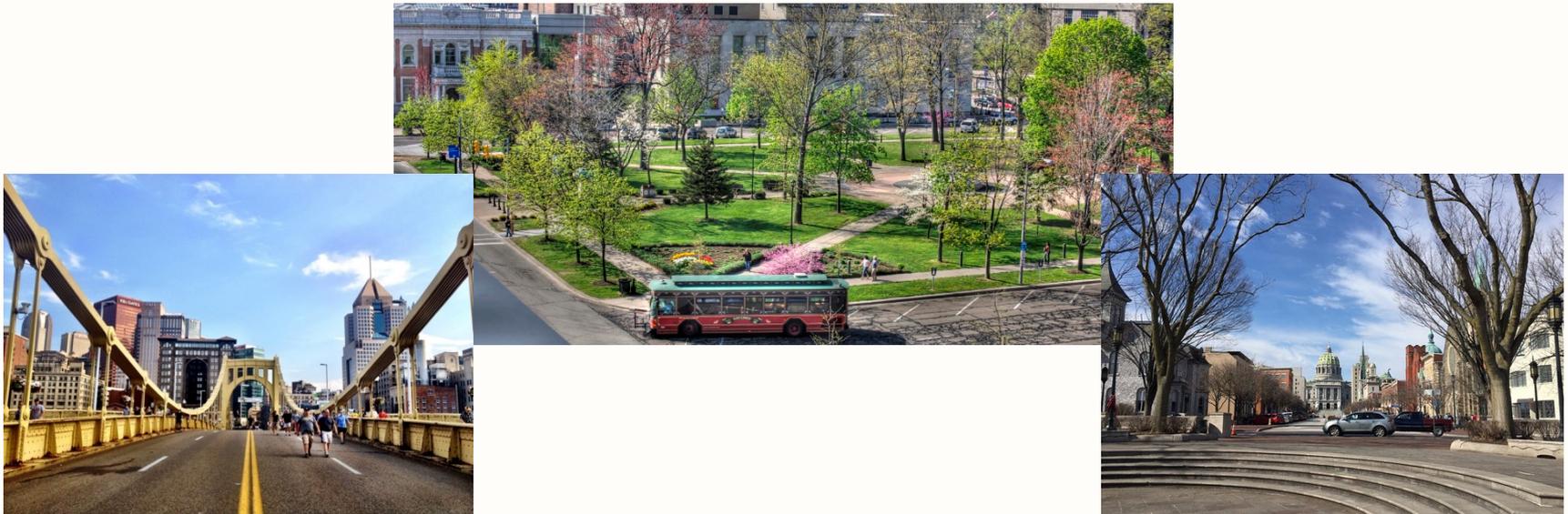


Planning & Engineering 360°



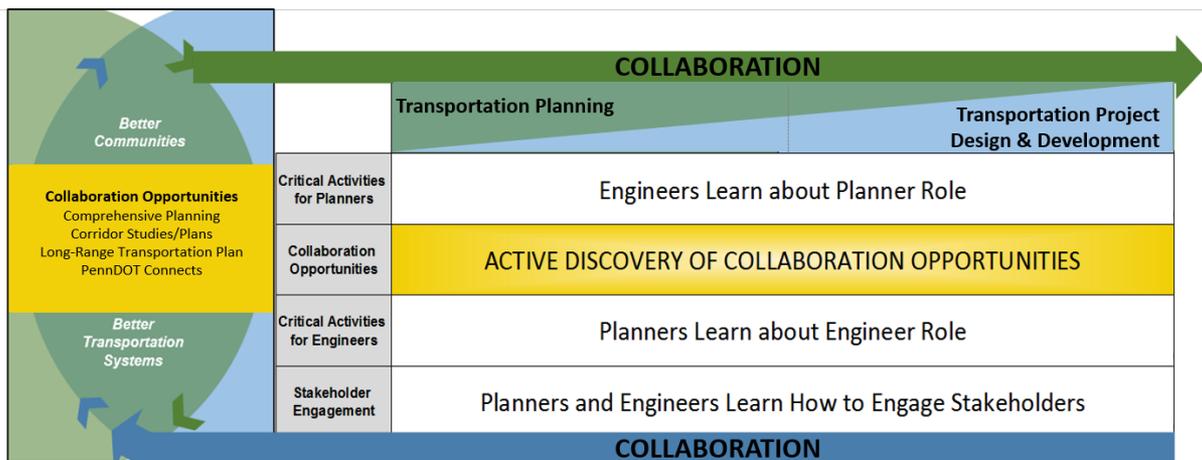
Planning & Engineering 360°

Module 2: Program Development

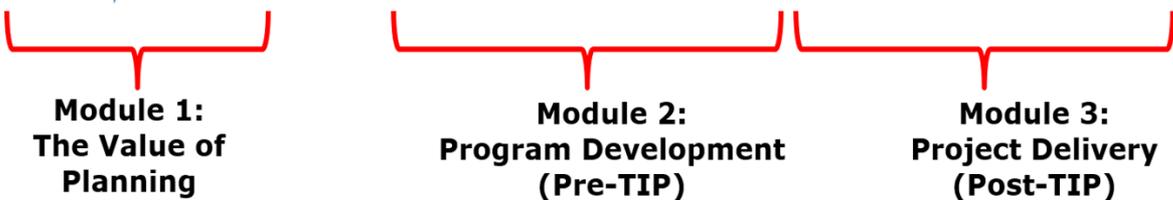


Introduction

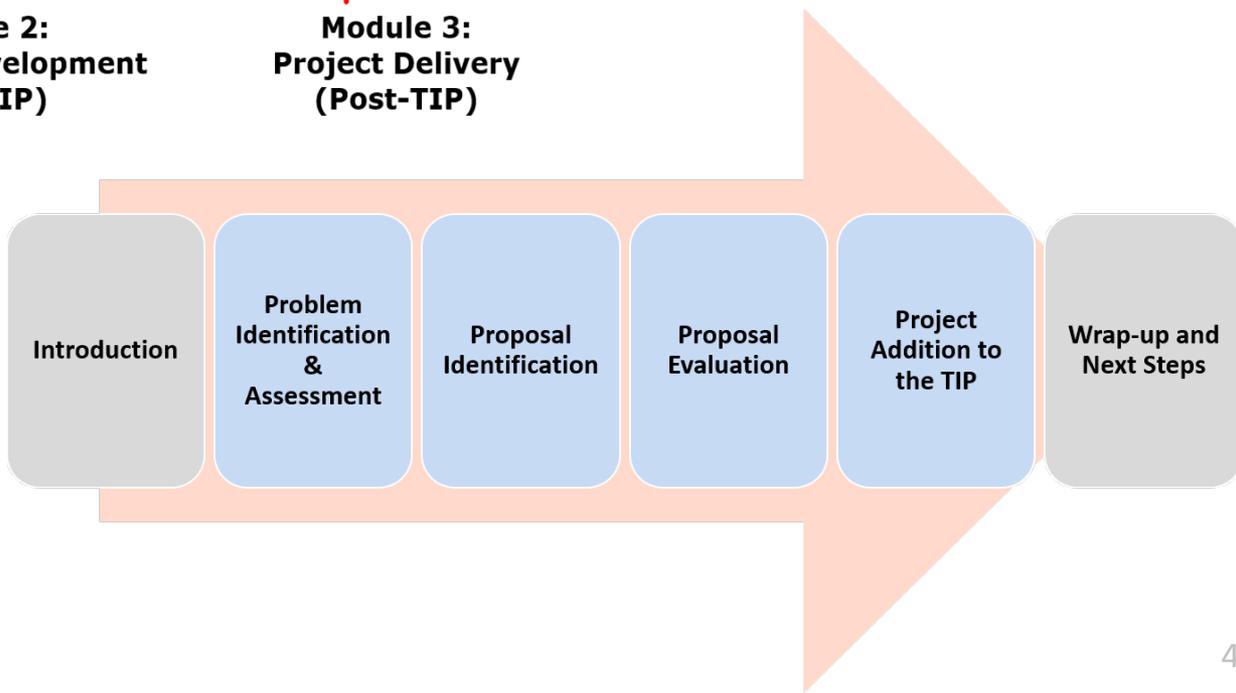
Overview of Module 2



P&E 360 Course Overview



Program Development for Module 2



Leadership Perspectives – Lessons Learned

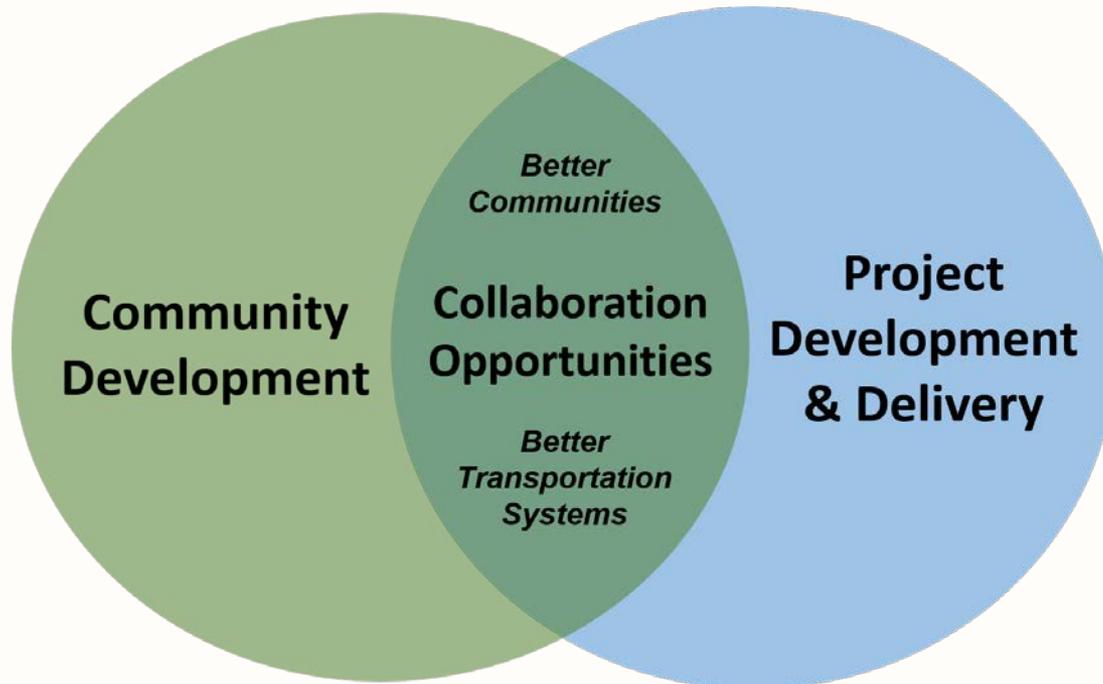


CLICK for LEO BAGLEY
VIDEO

Connecting the Pieces



Your table team will receive a puzzle. The pieces of the puzzle represent the various phases of pre-TIP transportation planning and the opportunities for collaboration that can be leveraged within each phase. Work together to put your team's puzzle together.



Challenges and Opportunities

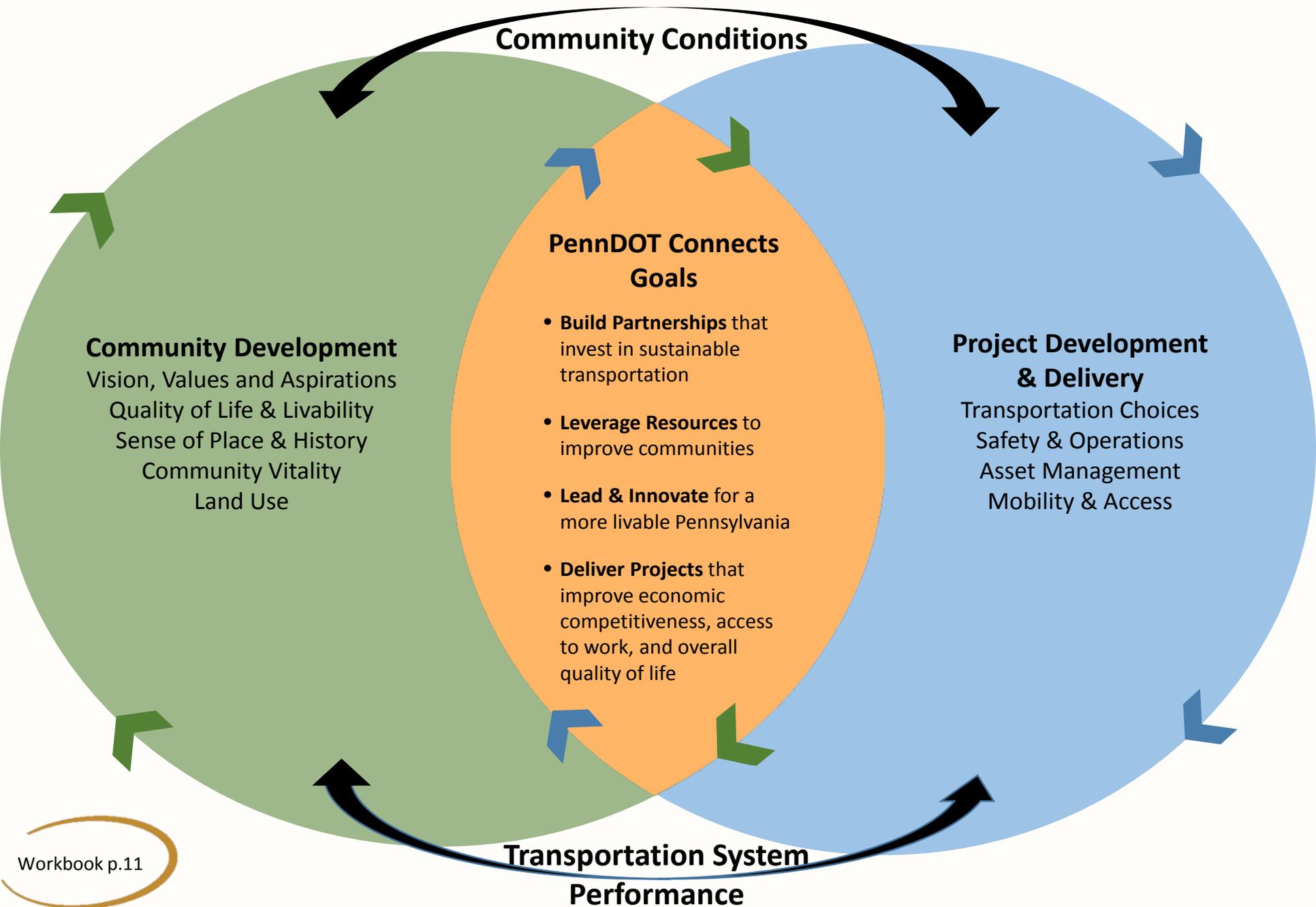


In your table teams, discuss the challenges and opportunities that you foresee with collaborative transportation planning and write them on your team's Challenges and Opportunities Form.

As we go through the session, as you think of new challenges and opportunities, please keep adding to your form. All forms will be collected at the end of the session.

The Importance of Collaboration in Program Development

Planning & Engineering Collaboration



Value Proposition

Scope

Relationships

Expectations

Schedule

Management

Education

Community

Budget

Performance

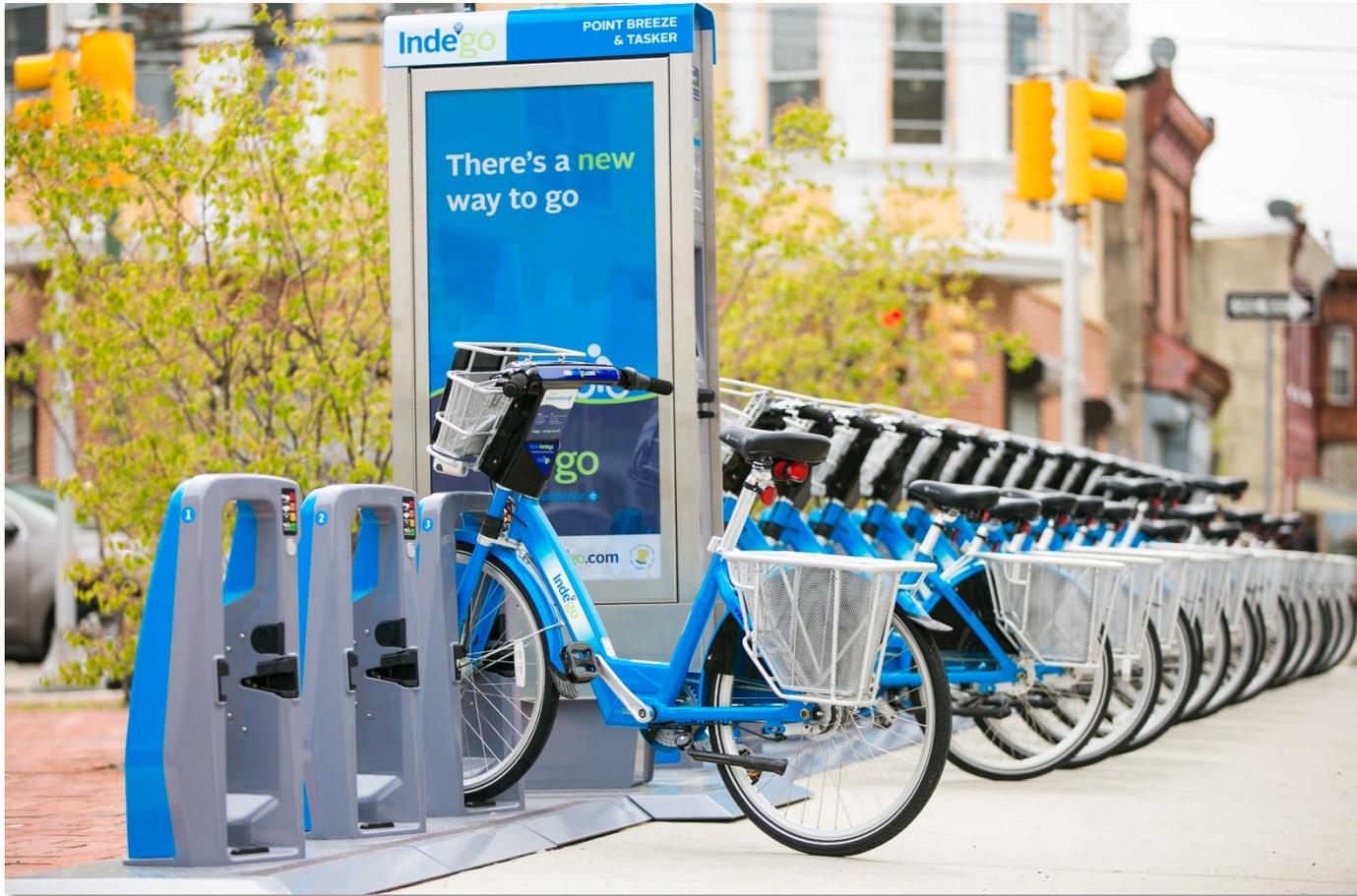
Scalable Approach

Traditional Project



Scalable Approach

TA Set Aside Project



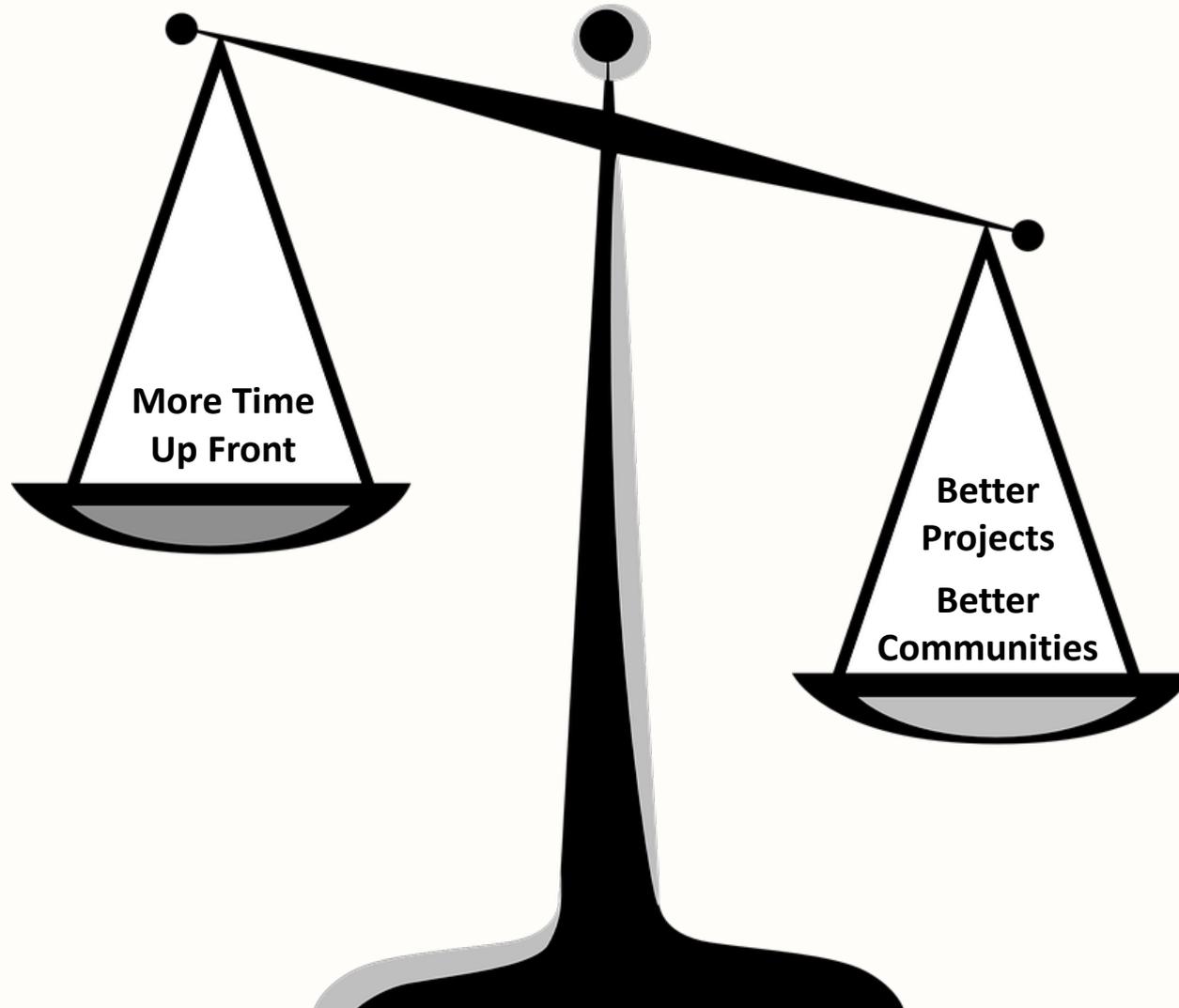
Scalable Approach

Complex Project



Rendering of Proposed CSVT Bridge over West Branch Susquehanna River

Early Investment...Long-Term Benefits



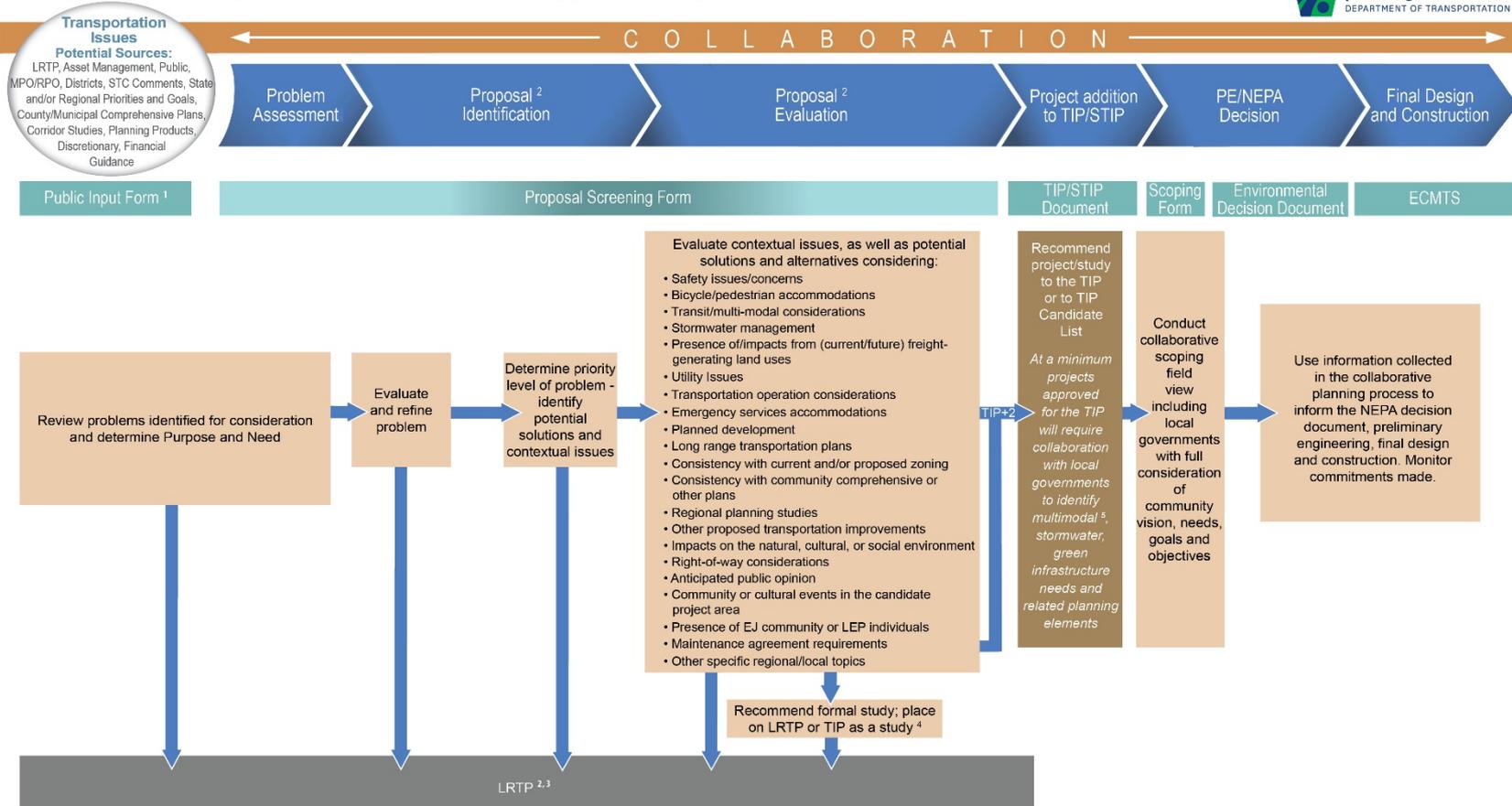
Early Investment...Long-Term Benefits

Example: Little Muncy Creek Bridge Project



Pre-TIP Collaboration Opportunities

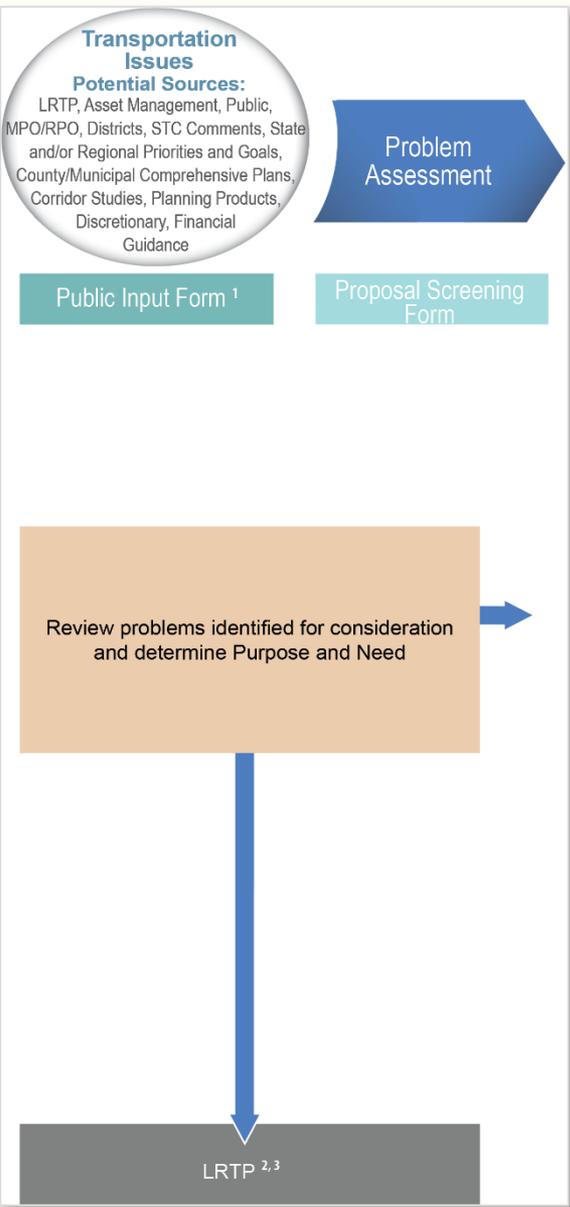
Transportation Program Development and Project Delivery Process



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 L RTP 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.

March 22, 2017



Problem Identification & Assessment

Sources of Transportation Problems

Transportation Issues

Potential Sources:

LRTP, Asset Management, Public,
MPO/RPO, Districts, **STC Comments**, State
and/or Regional Priorities and Goals,
County/Municipal **Comprehensive Plans**,
Corridor Studies, Planning Products,
Discretionary, Financial
Guidance

Plus:

**Economic
Development/
Housing Needs, etc.
PennDOT Connects
Collaboration**

Sources of Transportation Problems

Transportation Issues

Potential Sources:

L RTP, Asset Management, Public, MPO/RPO, Districts, **STC Comments**, State and/or Regional Priorities and Goals, County/M

Plus:

Economic Development/
Housing Needs, Etc.

DOT Connects
Laboration

STC Comments

Sources of Transportation Problems

Comprehensive Plans

Plus:

Economic
Development/
Housing Needs, Etc.
PennDOT Connects
Collaboration

MPO/RPO,
and/or Regional
County/Municipal **Comprehensive Plans**,
Corridor Studies, Planning Products,
Discretionary, Financial
Guidance

Elements of a Comprehensive Plan

Land Use (& Related)

- Existing development and conservation (open space lands)
- Future/planned development and conservation
- Natural resource protection
- Farmland preservation, historic resource preservation

Housing

- Condition of housing stock
- Affordable housing options
- Neighborhood character and amenities

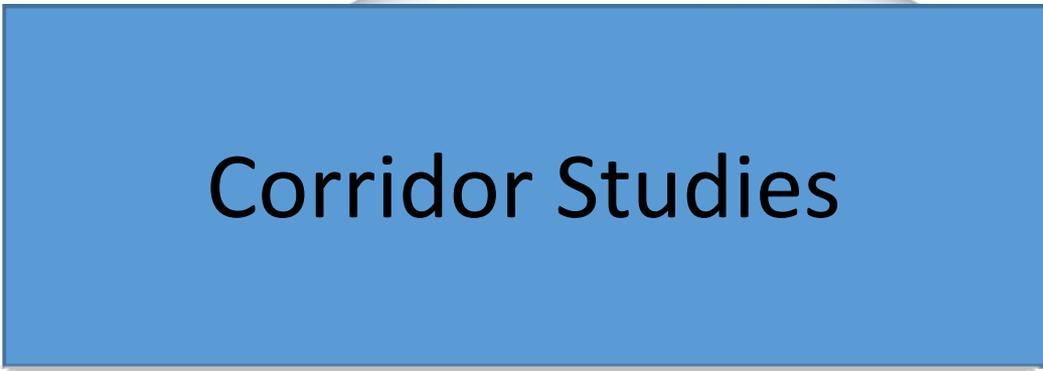
Economy

- Jobs (inbound and outbound commuters)
- Workforce education
- Goods movement

Facilities & Utilities

- Police, fire protection and emergency medical service
- Educational and medical facilities
- Parks and recreation
- Public water, public sewer

Sources of Transportation Problems



Corridor Studies

State
and Goals,
County/Local **Comprehensive Plans**,
Corridor Studies, Planning Products,
Discretionary, Financial
Guidance

Plus:

Economic
Development/
Housing Needs, Etc.
PennDOT Connects
Collaboration

Sources of Transportation Problems



Sources of Transportation Problems

Transportation Issues

Potential Sources:

L RTP, Asset Management, Public, MPO/RPO, Districts, **STC Comments**, State

PennDOT Connects
Collaboration

Plus:

Economic
Development/
Housing Needs, Etc.

PennDOT Connects
Collaboration

Foundational Information



- Location
- Problem Description
- Supporting Data (if available)
- PennDOT Connects System

Purpose & Need

Need

- Key problems to be addressed
 - Tangible & fact-based
 - Focused on transportation problems, not solutions

Purpose

- A broad statement of the overall intended objective to be achieved by a proposed transportation improvement.
 - Can also include secondary goals

When and Why to Develop

Early – During Planning

- Reason for dedicating public funds
- Foundation for alternatives development
- Local government collaboration
- Documented on PennDOT Connects screening form

NEPA – Ensure Solid Purpose and Need

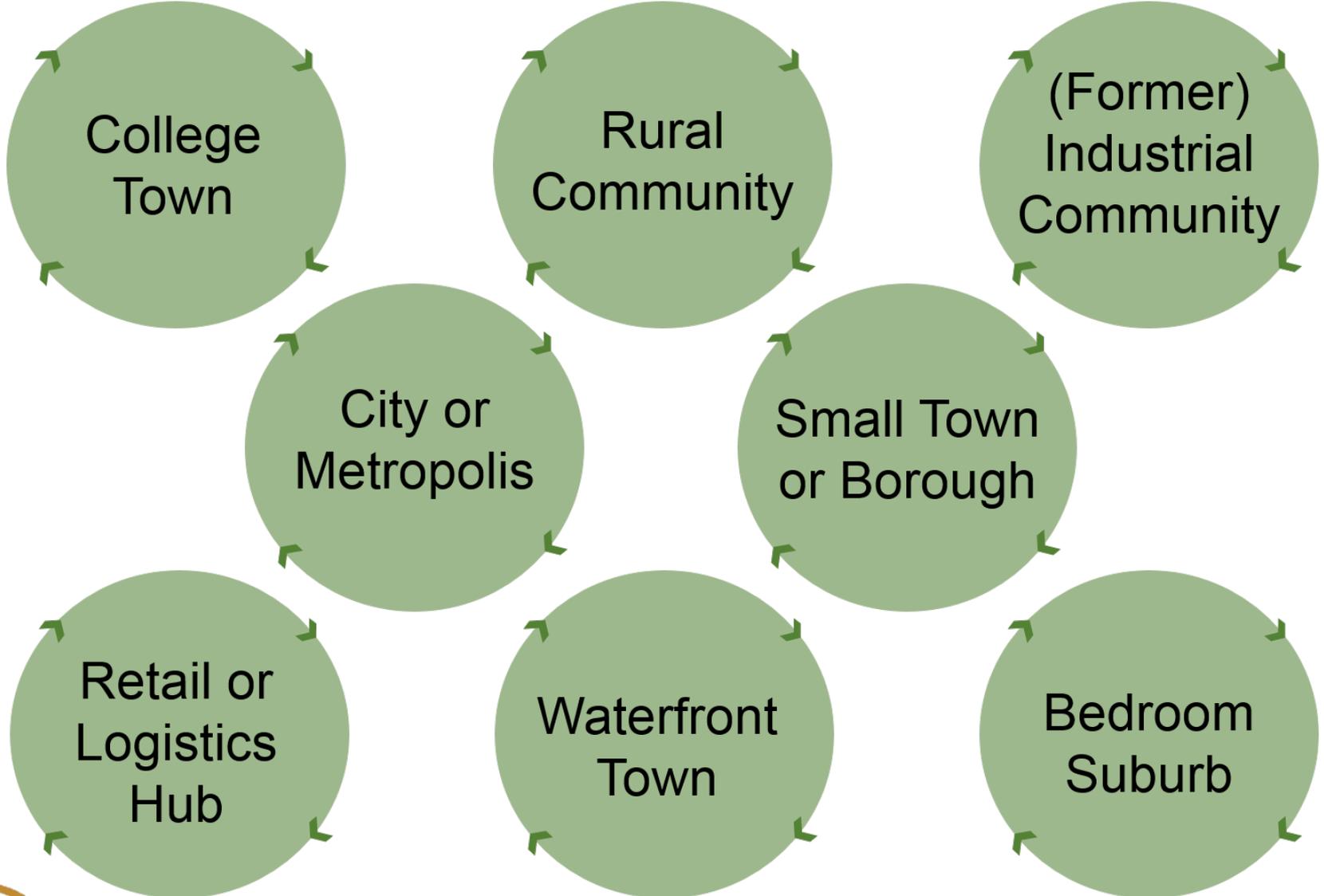
- Screening form → Scoping form
- May be refined
- Foundation of NEPA process
- Basis for alternatives development/screening
- Not too broad/not too narrow

Typical Categories of Needs

- Safety
- Congestion/Capacity
- Facility Deficiencies/Structure Conditions
- System Linkage/Connectivity/Modal Interrelationships
- Economic Development
- Legislative Intent

Revisit Your Community

Activity



Drafting the Purpose & Need Statement



Your table team will be assigned a transportation problem based on your community type. You will find your community's problem in **Appendix 2D**. Work together to write a draft Purpose & Need Statement based on the problem you have been assigned and what you know about your community.

Then, determine which sources would have helped to identify your community's problem.

Examples of Needs

- Safety
- Congestion/Capacity
- Facility Deficiencies/Structure Conditions
- System Linkage/Connectivity/Modal Interrelationships
- Economic Development
- Legislative Intent

Deficiencies

Original	Improved
<p>“The existing bridge needs to be replaced.”</p> <ul style="list-style-type: none"><li>• Why?<li>• What is wrong with the existing bridge? <p>Facts could have to support:</p> <ul style="list-style-type: none"><li>• Is it structurally deficient/functionally obsolete? (List specific deficiencies.)<li>• Is it a single lane? Does it include shoulders?<li>• Are there sight distance/approach issues?<li>• What is the traffic mix/volume?<li>• Is it weight restricted? EMS/bus issues?<li>• Where is the next crossing?	<p>“The one-lane bridge is SD and weight restricted, causing 10-mi detours for buses & EMS providers”</p> <p>Facts/Evidence:</p> <ul style="list-style-type: none"><li>• Fire trucks/buses cannot cross weight-restricted bridge<li>• Detour is 10 miles (explain hardship for EMS/buses)<li>• Substantial traffic crosses this bridge (give #s)

Economic Development

Original	Improved
<p>“A new roadway/interchange should be constructed to encourage economic development in <community>”</p> <ul style="list-style-type: none"><li>• Why?<li>• How was this conclusion reached? <p>Facts could have to support:</p> <ul style="list-style-type: none"><li>• What do the comprehensive plans say?<li>• Has development occurred/more planned?<li>• Is other infrastructure (sewer/water) in place?<li>• Does zoning support development?	<p>“Transportation infrastructure improvements are needed to support economic development in <community>”</p> <p>Facts:</p> <ul style="list-style-type: none"><li>• Zoning maps<li>• Plans/quotes from comprehensive plans<li>• Maps showing existing/in progress/planned development<li>• Information about supporting infrastructure

Final Purpose & Need Statement



In your table teams, use the information you just learned to refine your Purpose & Need Statement.



Proposal²
Identification

Proposal Screening Form

Evaluate
and refine
problem

Determine priority
level of problem -
identify
potential
solutions and
contextual issues

LRTP^{2,3}

Proposal Identification

Problem Evaluation and Refinement

- Conducted based on known information, purpose and need
- Gather additional information that may be useful
- Timing may depend on the specific problem and its context
- Consider whether the problem is a long-term or short-term priority



Conceptual Solution Identification



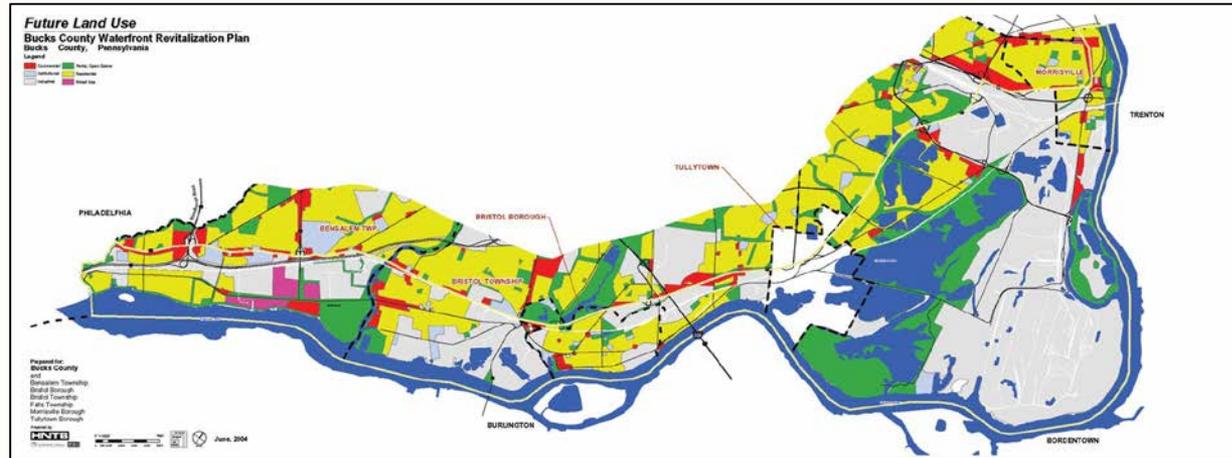
What additional information would be necessary or helpful?

As a large group, discuss what additional information may be necessary or helpful in order to identify potential conceptual solutions.

PennDOT Connects
provides an opportunity
to be innovative when
thinking about solutions

Land Use

Bucks County Future Land Use Plan

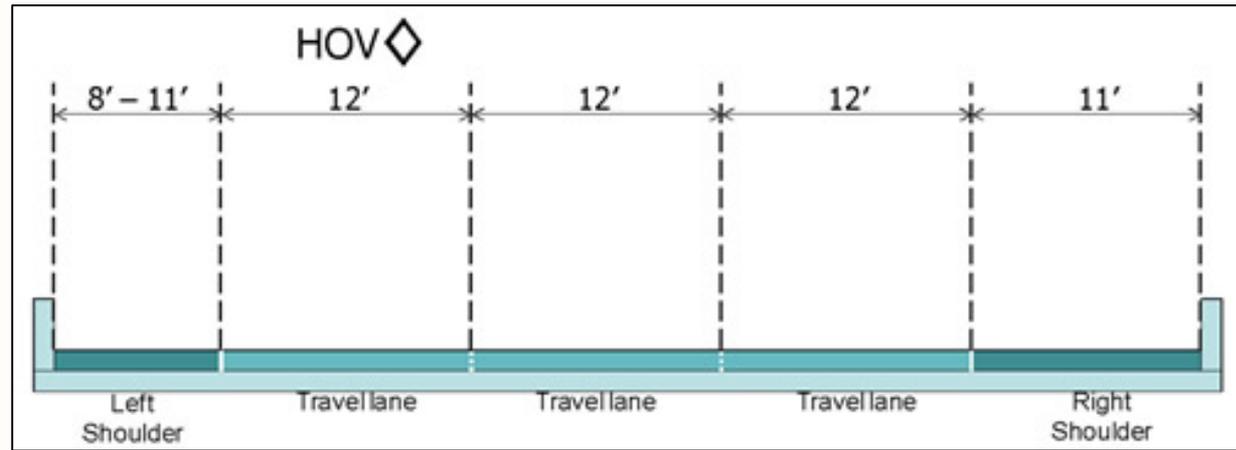


Bakery Square, Pittsburgh Mixed Use Development



Transportation Systems Management and Operations (TSMO)

HOV Hard Shoulder



Freight Management



Travel Demand Management (TDM)

Van Pool



Commuter
Services



Multimodal/Intermodal



Oakland Bicycle/Pedestrian Accommodations



Elizabethtown Amtrak Station



Lehigh Line
Bethlehem Norfolk
Southern Freight Rail

Solutions & Alternatives



Activity

In your table teams, brainstorm potential solutions/alternatives based on your Purpose & Need Statement.

Proposal²
Evaluation

Proposal Screening Form

Evaluate contextual issues, as well as potential solutions and alternatives considering:

- 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
- Long range transportation plans
- Consistency with current and/or proposed zoning
- Consistency with community comprehensive or other plans
- Regional planning studies
- 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
- Presence of EJ community or LEP individuals
- Maintenance agreement requirements
- Other specific regional/local topics

TIP+2

Recommend formal study; place on LRTP or TIP as a study⁴

LRTP^{2,3}

Proposal Evaluation

Contextual Issue Evaluation

Safety Issues/Concerns



Stormwater Management

Transportation Operation Considerations

Consistency with LRTP



Regional Planning studies

Right-of-Way Considerations



Presence of Environmental Justice (EJ) or Limited English Proficiency (LEP) Individuals

Bicycle/Pedestrian Accommodations

Presence of/Impacts from (Current/Future) Freight-Generating Land Uses

Emergency Services Accommodation



Consistency with Community Comprehensive or Other Plans

Other Proposed Transportation/Infrastructure Improvements

Anticipated Public Opinion

Maintenance Agreement Requirements



Transit/Multi-modal Considerations

Utility Issues



Planned Development

Consistency with Current or Proposed Zoning



Impacts on the Natural, Cultural or Social Environment

Community or Cultural Events in the Candidate Project Area

Other Specific Regional/Local Topics

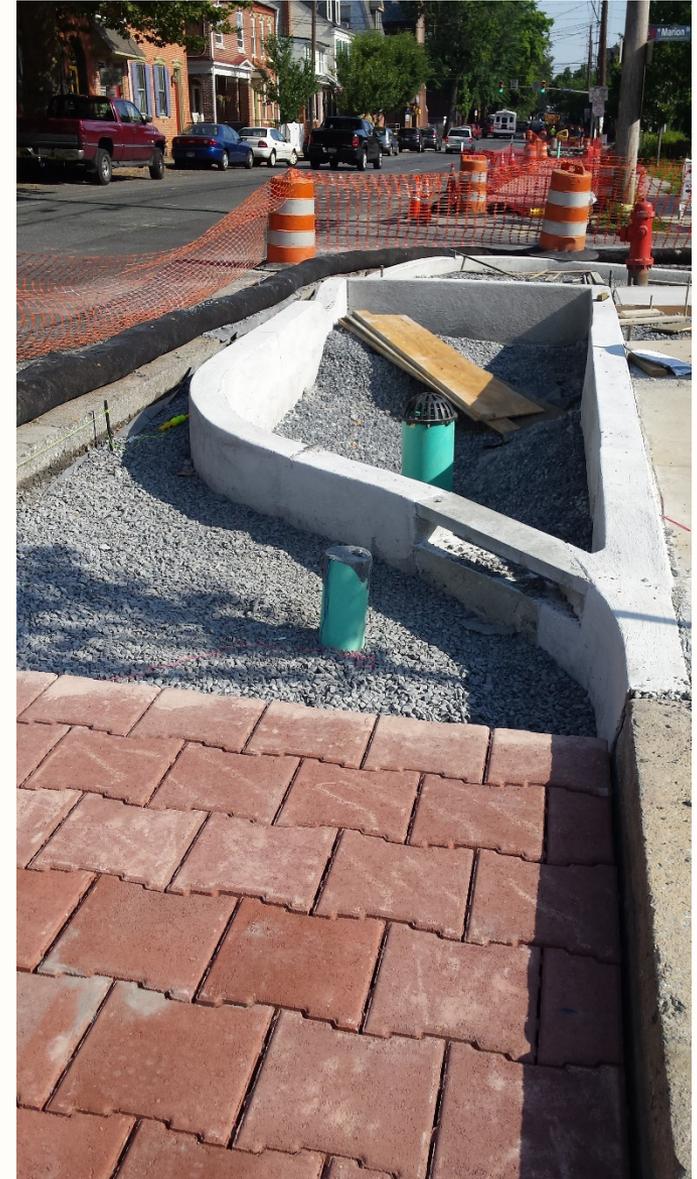
Transit/Multi-modal Considerations



Stormwater Management

Lancaster Mulberry Street Rain Garden Bump-out

Lemoyne Rain Garden



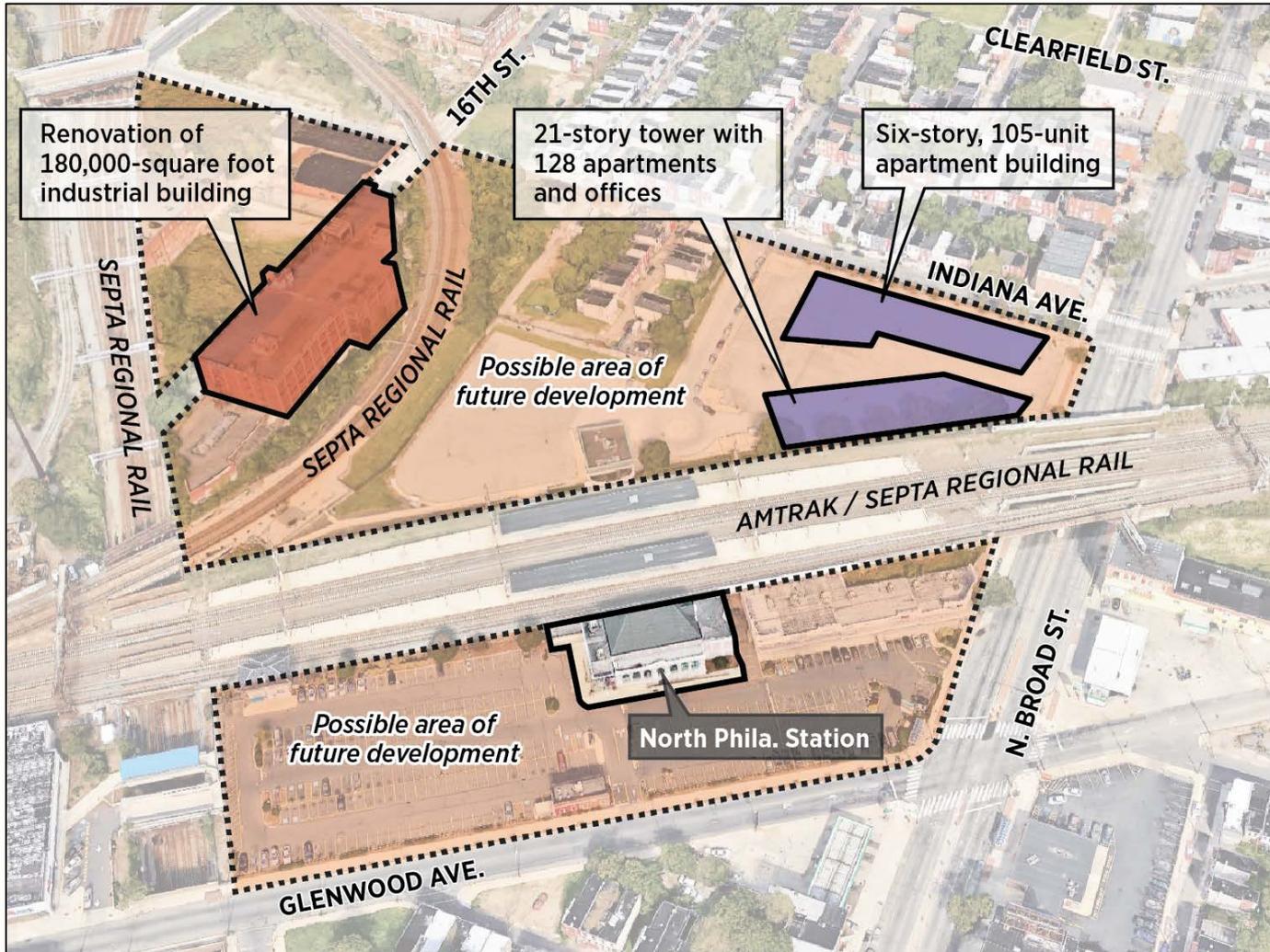
Planned Development

Blairsville

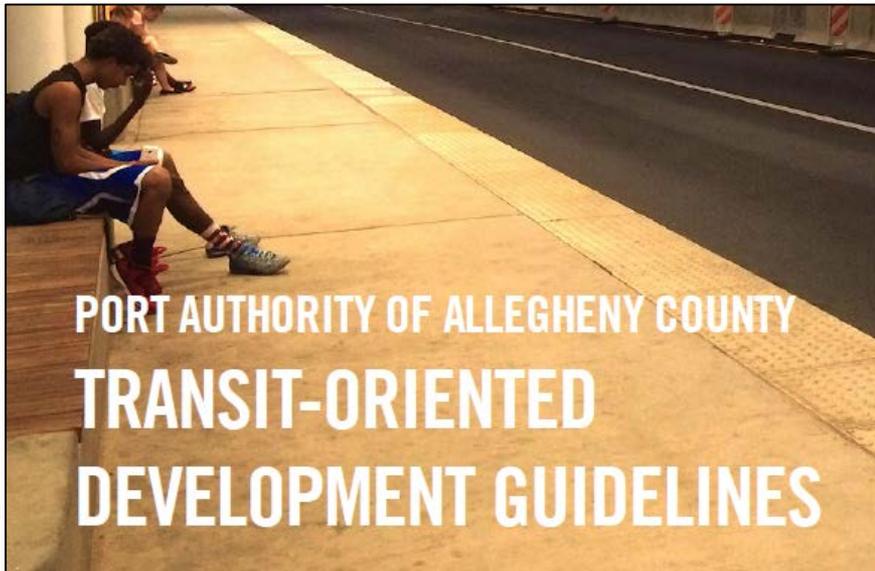
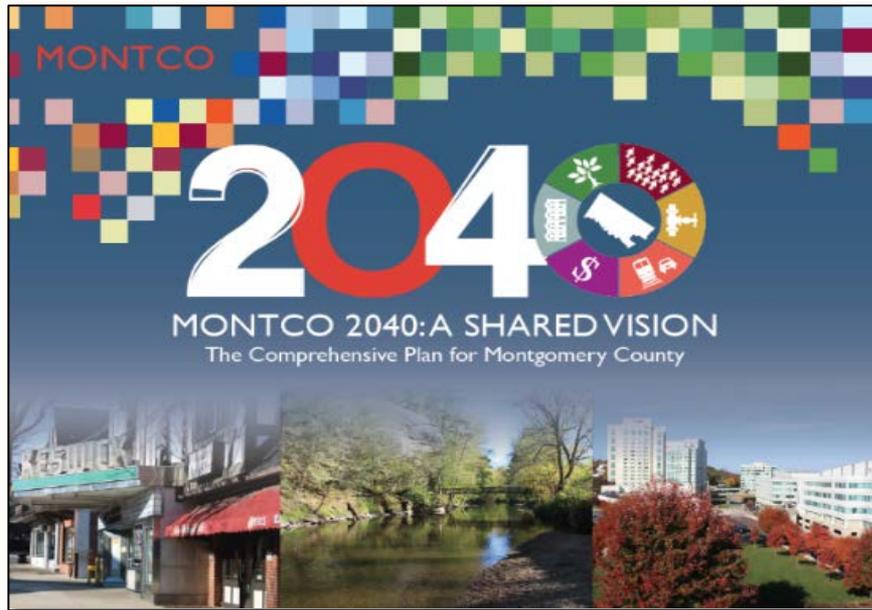


Planned Development

North Philadelphia Station



Community Comprehensive or Other Plans



Regional Planning Studies

MARCH 2017

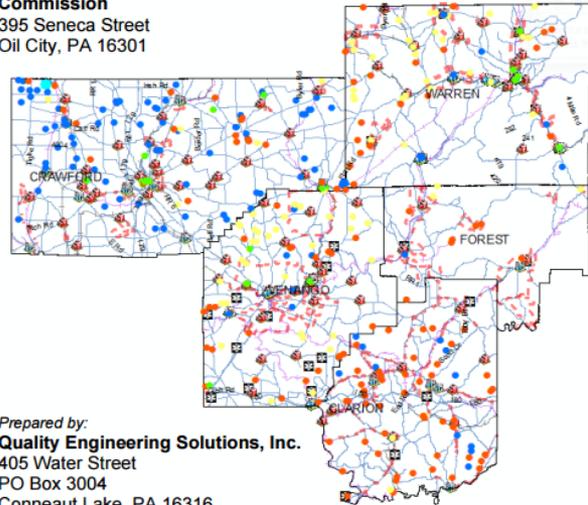
BUILDING ON OUR STRENGTHS

Evaluating Transit-Oriented Development (TOD) Opportunities in Greater Philadelphia



NORTHWEST RURAL PLANNING ORGANIZATION COUNTY AND MUNICIPAL REDUNDANT BRIDGE INVENTORY FINAL REPORT

Prepared for:
Northwest Pennsylvania Regional Planning & Development Commission
395 Seneca Street
Oil City, PA 16301



Prepared by:
Quality Engineering Solutions, Inc.
405 Water Street
PO Box 3004
Conneaut Lake, PA 16316

February 15, 2016

Quality Engineering Solutions

Engineering • Inspection

REGIONAL Bicycle Connections Study



FRISBURG • WILMELSTOWN BOROUGH • SOUTH LONDONDERRY TOWNSHIP • NORTH LONDONDERRY TOWNSHIP
DERRY TOWNSHIP • PALMYRA BOROUGH • SWATARA TOWNSHIP • PAFFANG BOROUGH

The project was made possible through the ITCA&C Regional Connections Program

alta
REGIONAL PLANNING
Kubra, Wang & Associates, Inc.

Impacts on Natural, Cultural or Social Environment

Wetlands

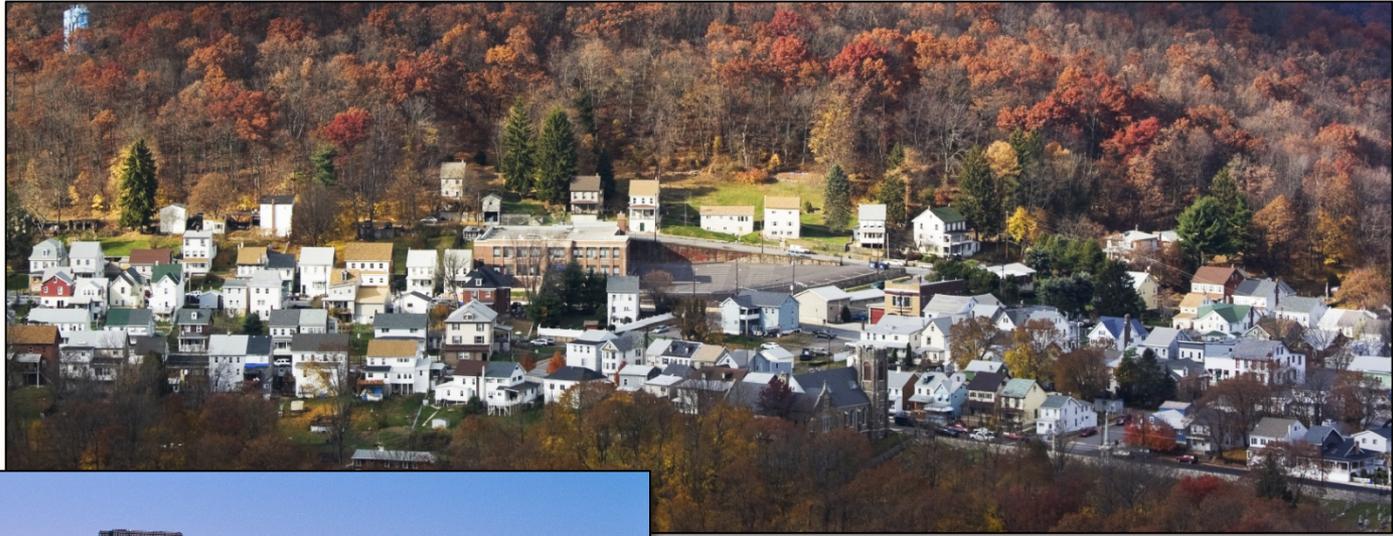


Agricultural Resources

Historic Resources



Environmental Justice



“Oh, By the Way...”



Each table team will receive some new, relevant information that your team has uncovered through the PennDOT Connects discussions with local government officials. As a team, consider this new information, and answer the following questions...

Who would you engage to discuss this new information?

Does this new information impact your Purpose & Need Statement?

YES NO

- If no, why not?
- If yes, how would the Purpose & Need Statement have to be revised to address the new information?

Does this new information impact your solutions/alternatives?

YES NO

- If no, why not?
- If yes, how would the solutions/alternatives have to be revised to address the new information?

Project addition
to TIP/STIP

TIP/STIP
Document

Recommend
project/study
to the TIP
or to TIP
Candidate
List

*At a minimum
projects
approved
for the TIP
will require
collaboration
with local
governments
to identify
multimodal ⁵,
stormwater,
green
infrastructure
needs and
related planning
elements*

Project Addition to the TIP

Proposal Prioritization

	L RTP	TIP
Duration	Minimum 20 years	4 year transportation program
Updates	Every 4-5 years	Every 2 years
Fiscal Constraint	Fiscally constrained, but can have an illustrative list of additional proposals	Fiscally constrained
Process Notes	<ul style="list-style-type: none"> • 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. • Should be process focused. 	<ul style="list-style-type: none"> • If assigned to a TIP, it is being identified as a “priority” project that should be funded in the next 4 years. • This may require that a project already identified for the TIP be deferred based on funding. • The MPO/RPO and PennDOT should work together to make this determination.

Requirements for Addition to TIP



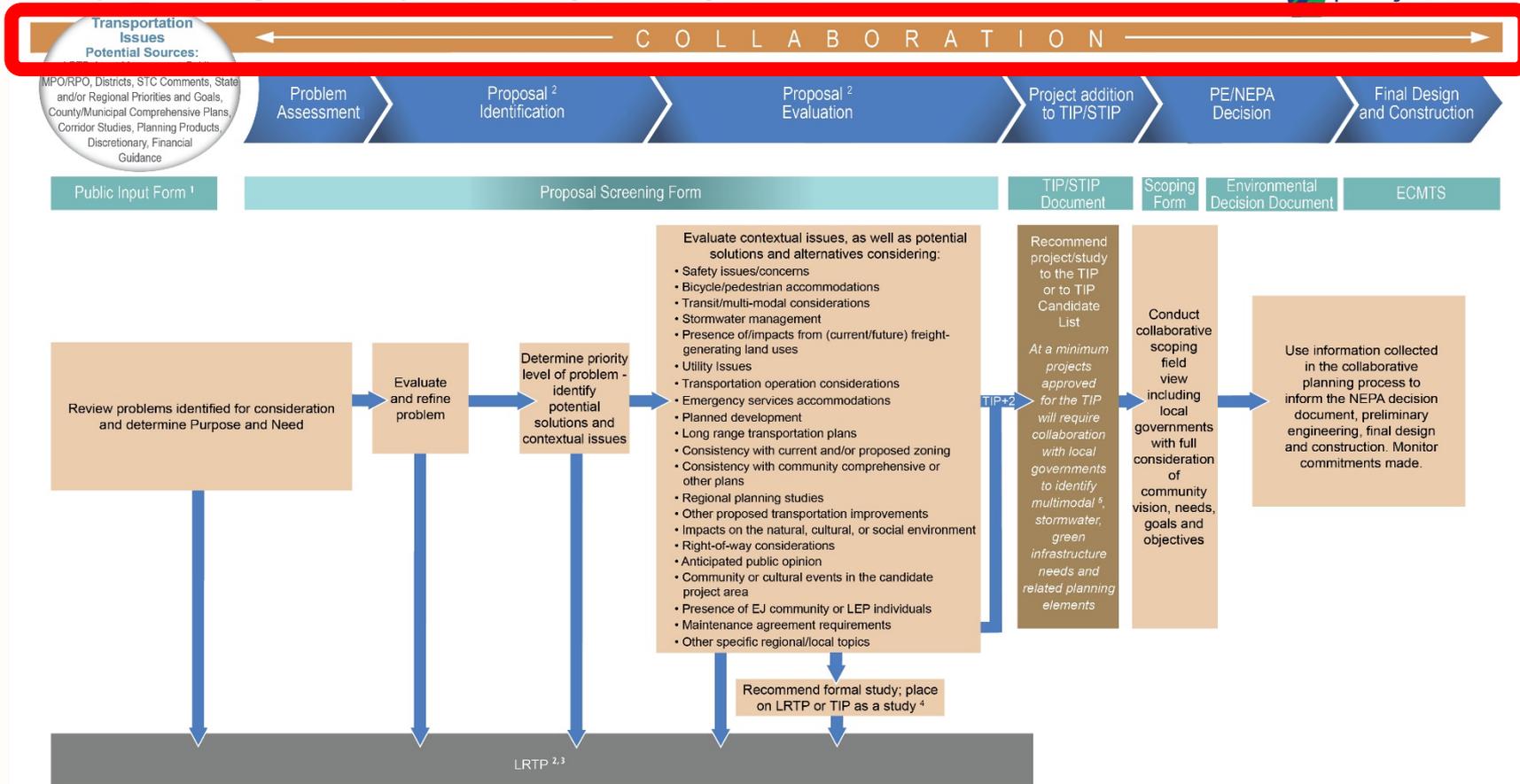
**Collaboration with
Local Governments**

**Central Office Executive
Collaboration Meeting**

**Project Initiation
Form**

Requirements for Addition to TIP

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.

March 22, 2017

2017/2019 TIP Update Lessons Learned

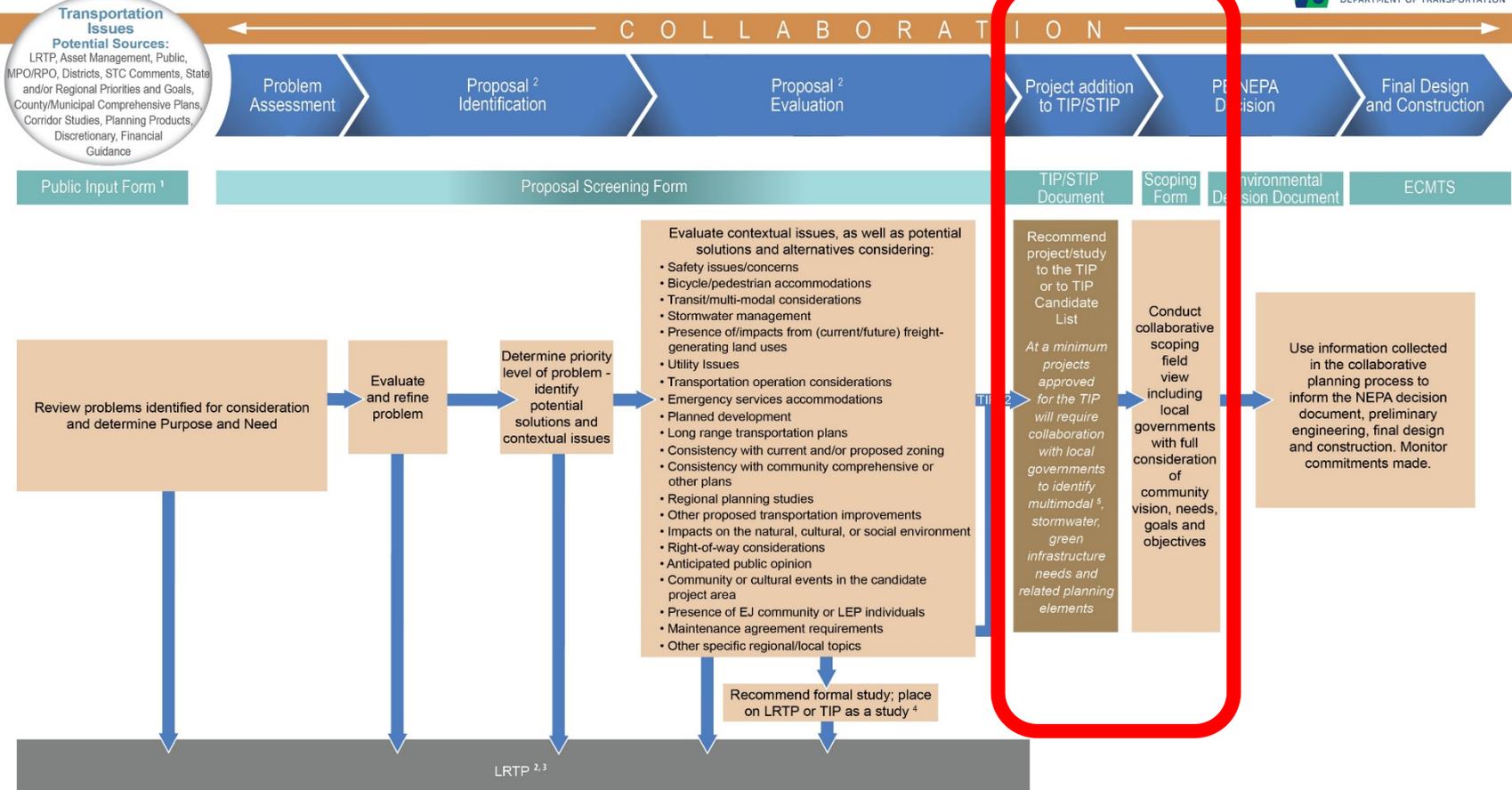


As a large group, discuss early experiences and lessons learned from 2017/2019 TIP update collaboration.

Wrap-up & Next Steps

Moving a Project Forward

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.

March 22, 2017

Moving a Project Forward

PennDOT Connects System

Categorical Exclusion Expert System

The screenshot shows the PennDOT Connects System homepage. The header includes the Pennsylvania logo and navigation links. The main content area features a section titled "Release 21 Implementation Notes January 11, 2017" with the sub-heading "Project Initiation Form". The text explains that the Project Initiation Form has been added to the system and provides instructions on how to access it. A sidebar on the left contains navigation options such as "My Screening Forms", "Activity", and "Maps".

A collage of images illustrating various environmental and cultural elements. The central text reads "Categorical Exclusion Expert System". The images include a Pennsylvania Department of Transportation logo, a red barn, a field with people, a turtle, a river with kayakers, a wooden bridge, a stone archway, and a small white building.

Scoping General Project Information

Scoping Package Number: 25336

Associated Screening LPNs: 6076

An LPN log-in is required to view screening data.

Attachments in LPN Screening

Scoping authors should evaluate LPN files for inclusion in the Project File.

None.

Moving a Project Forward

▼ SCREENING TYPE DETAILS

Screening Type [State Bridge](#)

State Route Data

State Route Number [0030](#)

Street Name [LINCOLN HW](#)

Bridge Data

Bridge ID [04003002102572](#)

Bridge Key [3471](#)

Location [INDEPENDENCE TWP](#)

Feature Intersected [BRANCH RACCOON CREEK](#)

Transit issue with following provider

Transit issue description

2.1.b Is this issue on the federal aid system? [Yes](#)

2.1.c Has municipality begun pre-work such as study or preliminary design? [Don't Know](#)

2.1.d Purpose and Need(s)

Purpose

[Provide a safe and reliable crossing on SR 30 \(Lincoln Highway\) over Branch of Raccoon Creek in Independence Township.](#)

Need(s)

[Bridge is structurally deficient and does not meet current design standards.](#)

Related Screening Forms

Project Details

Project Name: US 30 ov Branch of Raccoon Creek

Project Description

Include narrative to describe the general project scope of work.

Attach Location Map(s) and Design Plan (only overview and sheets showing limits of work).

Bridge replacement/restoration on SR 30, Lincoln Highway over Branch of Raccoon Creek in Independence Township, Beaver County.

Project Setting and Distinct Project Features

Provide narrative to adequately describe the project setting (terrain, locale, land use, presence of bicycle/pedestrian or other unique facilities, etc.). Any additional information not otherwise covered by this form that is necessary to clearly understand project circumstances should also be included in this section. Narrative should be appropriate for the complexity of the project and project circumstances with the length and content varying accordingly.

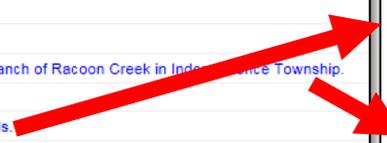
Why is the project needed (project needs)?

Provide project needs that are tangible and fact-based, framed in terms of problems and deficiencies, not solutions.

Bridge is structurally deficient and does not meet current design standards.

What is the project purpose?

Provide a safe and reliable crossing on SR 30 (Lincoln Highway) over Branch of Raccoon Creek in Independence Township.



What Can You Do Starting Now?



In your table teams, consider the Challenges/Opportunities Form that you have been filling in during the session. As a team, identify 2-3 strategies (i.e., things that you are going to do) based on this list.

Challenges and Opportunities Form

Team Name: _____

Challenges/Opportunities	Strategies

Planning & Engineering 360°

Module 2: Program Development

