

Project Evaluation Process

Purpose

The use of a project evaluation process is intended to ensure consistency in the assessment and prioritization of candidate transportation projects intended to address transportation needs in Centre County. This process, including defined project ranking criteria, serves as a significant component in selecting candidate projects for the LRTP, and advancing those projects for funding on the CCMPO's Transportation Improvement Program (TIP).

LRTP 2030 – Developing a Process

When the LRTP 2030 was adopted in 2006, the CCMPO developed and utilized its first project evaluation process. This process included the following project ranking criteria:

1. Economic Vitality
2. Safety and Security
3. Accessibility and Mobility
4. Environment
5. Integration and Connectivity
6. System Management and Operation
7. Preservation of the Existing Transportation System
8. Air Quality
9. Centre County Community Planning Objectives
10. Municipal/Local Sponsor Priority

The first seven criteria were based on the planning factors in the federal transportation legislation in effect at that time, the Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU). Air quality was included as a criterion because Centre County was not in attainment status for ozone at that time. In an effort to better coordinate land use and transportation planning, a criterion focused on Centre County community planning objectives was also included. A criterion focused on municipal/local sponsor priority was also added, to award points to those projects that a local governing body or sponsor deemed to be top priorities.

The project ranking criteria and evaluation process were approved by the CCMPO in October 2004, with the understanding that the process may be revised following its initial use for ranking candidate projects. The CCMPO also formed an eight-member Project Ranking Committee to evaluate the projects. In January 2005, the CCMPO added a stipulation that projects fully or partially funded through the Construction phase on the adopted 2005-2008 Centre County TIP represented the MPO's highest priorities and would not be evaluated using the project ranking process.

After the initial utilization of project ranking criteria, an independent evaluation of the validity of the technical rankings was performed. The analysis documented the validity of the process and offered the following recommendations to improve the reliability and validity of the ranking process in the future:

1. Reevaluate the Centre County Community Planning Objectives criterion.
2. Add more project impact statements for Intelligent Transportation Systems and Transportation Enhancement project types.
3. Consider using less raters in the future. High inter-rater reliability shows that fewer raters should ensure the validity of the process.
4. Obtain input from the raters about what items were confusing or difficult for them, and any other suggestions they would have for improving the criteria used in the procedure.
5. A satisfactory inter-rater reliability (Analysis 1) is a strong indicator of the validity of this procedure, and this process should be continued in the future with the modifications identified and with additional input from the eight raters.

In response to several requests from organizations and municipalities to have candidate projects re-evaluated for higher priority in the project list, the CCMPO formed a Ranking Modification Subcommittee, comprised of five members of the Coordinating Committee, to review the requested changes and provide policy level recommendations about re-prioritizing projects.

The subcommittee recommendations were reviewed and approved by the CCMPO Coordinating Committee in May 2006. The recommended changes were incorporated into the final fiscally-constrained project lists for the LRTP 2030, which were approved by the CCMPO in May 2006. The LRTP 2030 was adopted in September 2006, and updated in 2007, 2008 and 2009.

LRTP 2040 – Improving the Process

Based on the experience and recommendations provided as part of the independent analysis completed for the LRTP 2030, the CCMPO refined the project evaluation process for use in the development of the LRTP 2040.

In early 2009, the CCMPO authorized formation of a new Project Ranking Committee (PRC) to identify potential goals and objectives for the LRTP 2040. The PRC relied primarily on the following three resources to help shape these goals and objectives:

1. Federal Planning Factors
2. Pennsylvania Mobility Plan (Long Range Transportation Plan) Goals
3. Existing CCMPO Project Ranking Criteria

From these sources, the PRC defined eight core goals and defining objectives for each goal that served as the framework of the LRTP 2040.

The eight identified goals and objectives were:

A. Economic Vitality

- Improves access and/or enhances freight movement to regional and national economic centers
- Encourages tourism
- Encourages infill development, the redevelopment of brownfield sites within reach of existing infrastructure and the overall revitalization of core communities

B. Safety and Security

- Reduces crash rates
- Reduces conflicts between motorized and non-motorized transportation modes
- Improves safety of intersections and roadway alignments
- Improves the security of the traveling public (Ex. Improves upon incident response, establishes detour/evacuation routes, implements security features on public transportation vehicles and facilities)

C. Environment and Air Quality Conformity

- Improves air quality
- Avoids impacts on endangered or threatened species, key natural habitats, agricultural lands and historic and cultural resources
- Avoids impacts upon water resources (Ex. water recharge areas and exceptional value/high quality streams)
- Promotes energy conservation

D. Preservation of the Existing Transportation System

- Prolongs useful life of the existing transportation system and infrastructure through reconstruction, rehabilitation and preventative maintenance
- Rehabilitates and modernizes public transportation facility/fleet
- Improves ride quality (Ex. reduces International Roughness Index)

E. Accessibility and Mobility Options for People and Freight

- Improves public transportation services: routes, ride share opportunities, vanpools and park and ride lots
- Improves pedestrian and bicycle facilities
- Improves access to airports, freight distribution facilities, or major commercial/industrial districts
- Implements Complete Streets principles

F. Integration and Connectivity of the Transportation System

- Eliminates/overcomes barriers (Ex. closures, detours & delays, weight restrictions) in key corridors
- Establishes/maintains intermodal connections
- Introduces new connections between existing travel patterns (Ex. street connectivity, linking bicycle/pedestrian routes, connections between transit routes and providers)
- Aligns residents with their destinations

G. Efficient System Management and Operation

- Reduces congestion, improves Levels of Service, reduces travel times
- Increases public transportation service frequency and capacity
- Improves system functionality (Ex. signal upgrades, ITS applications, access management)

H. Consistency with Planned Growth and Development Areas

- Is consistent with County, Regional and Municipal Comprehensive Plans and associated documents
- Improves/supports the existing transportation infrastructure in existing and planned growth areas
- Promotes Smart Growth Principles (Ex. Establishes walkable communities, fosters distinct communities and sense of place, supports integration of mixed land uses into communities)
- Avoids negative impacts on communities and the environment

The CCMPO reviewed the goals and objectives and suggested revisions. In April 2009, a survey of the CCMPO Coordinating Committee provided opinions about the overall importance of the goals and objectives. CCMPO members prioritized the goals by identifying:

- Three goals of highest priority
- Three goals of lowest priority
- Two goals of medium priority

The survey offered key insight into the priorities of CCMPO members for the future of Centre County's transportation network. Safety and Security was deemed to be the highest priority, while Economic Vitality was deemed to be of the lowest priority. The results of the survey, illustrated below in Table 32, indicated the percentage of those polled who felt that the identified goal was either of Highest, Medium or Lowest priority:

Table 32

Goal	Highest Priority %	Medium Priority %	Lowest Priority %
Safety & Security	73.6	21.1	5.3
Preservation of Existing System	73.6	5.3	21.1
Efficient System Management & Operation	57.9	15.8	26.3
Integration & Connectivity	31.6	36.8	31.6
Accessibility & Mobility Options	26.3	42.1	31.6
Consistency with Planned Growth & Development Areas	21.1	26.3	52.6
Environment & Air Quality	10.5	36.7	52.6
Economic Vitality	5.3	31.5	63.2

The CCMPO determined that the goals and objectives would serve as the project ranking criteria. Utilizing the survey results, the PRC refined the project ranking criteria and developed a new scoring system. This system was based on the Likert Scale, which measured the raters' feelings on how important a project was toward achieving each respective goal. This system utilized a 0-3 rating scale, outlined as follows in Table 33:

Table 33

Points	Measurement
3 points	Project is <u>very important</u> toward achieving this goal
2 points	Project is <u>important</u> toward achieving this goal
1 point	Project is <u>slightly important</u> toward achieving this goal
0 points	Project <u>not important</u> toward achieving this goal

The CCMPO also directed that the new project evaluation process use a weighting system for the goals and objectives. The weighting of the goals and objectives was based upon the results of the survey.

The goals and objectives were weighted as follows:

Table 34

Goal	Weighted Value
Safety & Security	100%
Preservation of Existing Transportation System	94%
Efficient System Management & Operations	86%
Integration & Connectivity	75%
Accessibility & Mobility Options	73%
Consistency with Planned Growth & Development Areas	63%
Environment & Air Quality	59%
Economic Vitality	53%

As a practical example, the table below reflects what happens to a score under the weighting system. In this case, if a project received a perfect score or a "3" rating under each goal, the unweighted score would be 24. After the weighting is applied, a maximum project score is 18.09.

Table 35

Goal	Sample Score	Weighted Value	Weighted Score
Safety & Security	3	100%	3
Preservation of Existing System	3	94%	2.82
Efficient System Management	3	86%	2.58
Integration & Connectivity	3	75%	2.25
Accessibility & Mobility	3	73%	2.19
Consistency with Planned Growth	3	63%	1.89
Environment & Air Quality	3	59%	1.77
Economic Vitality	3	53%	1.59
MAXIMUM SCORES	24		18.09

Project Ranking and Policy Level Adjustments

The CCMPO again utilized an eight-member PRC to evaluate the projects for the LRTP 2040. During discussions preceding the ranking process, the CCMPO determined that bridge projects would not be reviewed by the PRC, and that bridge priorities would be determined by the Bridge Risk Assessment Tool (BRAT) utilized by PennDOT.

As with the LRTP 2030, the CCMPO authorized the formation of a Policy Adjustment Subcommittee (former Ranking Modification Subcommittee) consisting of six members of the Coordinating Committee. The subcommittee reviewed the project lists and recommended adjustments to project priorities based on policy and project phasing; and in some cases recommended removing projects due to environmental impact and financial concerns.

The subcommittee recommendations were reviewed and approved by the CCMPO Coordinating Committee, and the changes incorporated into the final fiscally-constrained project lists for the LRTP 2040. The LRTP 2040 was approved by the CCMPO in September 2010, and updated in April/May 2006. The LRTP 2030 was adopted in September 2006, and amended in April 2014.

LRTP 2044 – Refining and Aligning Processes

For LRTP 2044, the CCMPO began the Plan development process by discussing the existing transportation system in Centre County, and noting changes in transportation needs since the adoption of LRTP 2040 in 2010. While Centre County has made progress under the Goals and Objectives established in the LRTP 2040, there remains room for improvement.

The CCMPO also considered factors at the state and federal levels influencing the new LRTP. At the state level, then Governor Tom Corbett and the state legislature was engaged in the development of a comprehensive transportation funding package to help close the gap between funding demands and available resources. The new Act 89 state transportation funding legislation was eventually approved in November 2013.

At the federal level, the new Moving Ahead for Progress in the 21st Century (MAP 21) was approved in 2012, but final rulemaking was not completed. The MAP 21 legislation was scheduled to expire in September 2014, and discussions for successor legislation were underway.

Because Centre County's transportation needs were expected to remain similar to those identified in prior Plans, and because of uncertainty in guidance coming from the state and federal levels, the CCMPO agreed to retain the LRTP 2040 goals and objectives and their respective weighting. The CCMPO also acknowledged that LRTP 2044 would need to be updated following the approval of final rulemaking for the MAP 21 legislation, and following the approval of new federal legislation that would succeed MAP-21.

The CCMPO approved other refinements to the project evaluation process for the LRTP 2044. One of the key changes was to add an additional member to the PRC to represent public transportation interests, bringing the membership to nine representatives:

- Two Technical Committee members representing the rural planning regions
- Two Technical Committee members representing the Centre and Nittany Valley Regions
- One Technical Committee member representing PennDOT District 2-0
- One Technical Committee member representing PennDOT Central Office
- One staff member from the Centre County Planning and Community Development Office
- One staff member from the Centre Regional Planning Agency
- **One staff member from the Centre Area Transportation Authority**

Expansion of the PRC allowed for a more comprehensive, multi-modal review of projects being scored.

A second change to the process involved revisions to the Project Request Form that was required for submission of new candidate projects. This change more closely aligned the CCMPO's request form with the Linking Planning and NEPA (LPN) process being used by PennDOT to screen candidate projects proposed for the LRTP and TIP. Additional discussion of this change is provided in the Project Need section of this chapter.

Congestion Mitigation and Air Quality (CMAQ) Prioritization Process

A third change involved development of a three step process to prioritize projects that are eligible for federal Congestion Mitigation and Air Quality (CMAQ) funding. Because Centre County was previously a non-attainment area for air quality, the CCMPO was eligible for CMAQ funding to help improve air quality through reduction of vehicle emissions.

To ensure that CMAQ funding was allocated to the most appropriate projects, the CCMPO approved the following steps to prioritize projects:

- 1) Staff extracts all CMAQ-eligible projects from the LRTP ranked lists
- 2) Staff takes the sub-list of CMAQ-eligible projects and re-ranks them according to the most relevant congestion and air quality criteria:
 - a. Environment and Air Quality Conformity
 - b. Efficient System Management and Operations
 - c. Accessibility and Mobility
- 3) A draft ranked list of CMAQ-eligible projects is shared with PennDOT, FHWA, and the CCMPO Coordinating Committee for policy adjustments. Under this step, each organization would have the following responsibilities:
 - a. PennDOT evaluates for project sequence and timing and makes recommendations
 - b. FHWA performs cost-benefit analysis on top projects
 - c. The Coordinating Committee adjusts list according to local needs and priorities

After this process was approved, Centre County moved into attainment status for air quality. As a result of this change, the CCMPO anticipates losing eligibility for CMAQ funding when new federal transportation legislation is approved. However, the process will be available for use in the future, if needed. It is important to note that at the time of LRTP adoption, there were proposed changes to the ozone standard that may impact Centre County's attainment standing.

Local Bridge Prioritization Process

The final change to the LRTP 2044 project evaluation process was an enhanced local bridge prioritization process. For LRTP 2040, the CCMPO relied upon PennDOT to provide state and local bridge priorities based on the Bridge Risk Assessment Tool (BRAT) analysis and periodic bridge inspections. While this process worked and provided high value, the assessments were based primarily in engineering/structural details and did not involve an evaluation of the community served by a bridge.

To address that concern, a process was developed to evaluate local bridges that utilized the BRAT rankings and the following Community Context criteria:

- 1) **Structural Deficiency (SD)** – If a bridge was listed as SD within the BRAT it was awarded 1 point. A non-SD bridge received 0 points.
- 2) **Community Context** – This criterion looked at who/what the bridge serves, focused on number of homes, businesses, community facilities. This criterion also considered if a bridge was located on a primary emergency access route. Depending on the level of importance to the community, a bridge could receive between 0 and 2 points, with 2 denoting that the bridge is a critical piece of the community's infrastructure.
- 3) **Average Daily Traffic (ADT)** – This criterion considered how many vehicles were traversing the bridge on a daily basis. A threshold of 100 ADT or greater received 2 points. Bridges carrying 25-99 ADT received 1 point and any bridge with less than 25 ADT received 0 points.
- 4) **Detour** – The final criterion was detour length, should the bridge be closed. 2 points were awarded to bridges where the detour exceeded 10 miles or in areas where there was no detour route available. Bridges with detours of 5-9 miles were awarded 1 point and bridges with a detour of less than 5 miles received 0 points.

The results of this prioritization process are documented in the Local Bridge project list in Chapter X.

Project Need

As with previous LRTPs, several techniques were used to determine transportation improvement needs within the County. Based on the identified needs, a list of candidate projects was developed. Sources of project needs included the following:

- Centre County LRTP 2040 (previous Plan)
- Municipal/organization input
- Public input

Centre County LRTP 2040 Project List

The Centre County LRTP 2040 provided a starting point for the list of candidate projects for the LRTP 2044. Projects in the LRTP 2040 that were not yet funded on the TIP would be reconsidered for the new LRTP 2044, unless otherwise recommended for removal by the host municipality.

Municipal/Organization Input

One of the issues identified during the LRTP 2030 and LRTP 2040 project evaluation processes was the need for better data on the respective candidate projects. The CCMPO indicated that more data was required from the entity requesting a project, which would reduce the amount of time that staff would devote to compiling data about the project prior to providing the candidate list to the PRC. In addition, the CCMPO identified an opportunity to align its process with PennDOT's LPN process.

Six guiding principles were followed to direct the development of each candidate project list:

1. Projects that are on the TIP will be included in the new LRTP and will not be ranked. If projects had advanced beyond the Preliminary Engineering phase on the TIP, these were the highest priority projects and should not be subject to the LRTP project ranking process.
2. Project ranking criteria were distributed to municipalities when projects were solicited.
3. A Project Request Form was required for each new project request.

In advance of the Project Solicitation Process, a new Project Request Form was developed. The form required detailed information related to the project scope, location mapping and descriptions of how the project related to the LRTP goals and objectives. For LRTP 2044, the request form was expanded to include the questions that make up PennDOT's LPN Level 1 form.

By aligning these two processes, there is a better understanding of the project, and its potential impacts on key resources and populations. While this step required additional work for project sponsors, the information better defined projects intended to address transportation issues.

4. Municipal support was required for projects requested by entities other than municipal governing bodies, with the exception of state bridge projects requested by PennDOT.

The requirement for municipal support was implemented after LRTP 2030 in response to the CCMPO's concern about a number of project requests from entities that did not have support from municipal governing bodies.

5. For multi-municipal projects, all affected municipalities were asked to review the project. If all affected municipalities supported the project, it was ranked. If support was not unanimous, a two-thirds majority vote of CCMPO members (of those present at the meeting where the projects were reviewed) was required to consider the project.
6. Large scale corridor projects (e.g. Atherton Street Improvements or Park Avenue Widening) could be considered as either one project or as a series of small scale projects. This policy was implemented to address concerns over funding availability for large scale improvements.

A defined set of steps for project solicitation was also utilized:

1. Provide each municipality a list of the projects on the current LRTP in its jurisdiction.
2. The municipality identifies which projects from the current list it wants considered.
3. The municipality identifies additional projects to be considered.
4. The municipality provides a ranked list of projects.

This detailed process for developing a candidate list was implemented by the CCMPO to ensure that candidate project requests were of the highest quality and provided the necessary data needed by the PRC to make informed decisions when ranking the candidate projects.

In response to the project solicitation process for the LRTP 2044, the CCMPO received 134 candidate project requests:

Table 36

Project Type	Number of Projects Requested
Highway & Intelligent Transportation Systems (ITS)	52
State Bridges	20
Local Bridges	25
Bicycle and Pedestrian	17
Transit	20
TOTAL PROJECTS REQUESTED	134

Project requests were received from several entities, including municipalities, CATA, PennDOT and the Pennsylvania State University.

The CCMPO routinely receives requests for transportation improvements that far exceed the amount of funding available to implement projects. With that understood, the Project Prioritization Process provides the MPO a tool by which to make strategic investments based upon how important a given project is toward achieving the MPO's goals.

It is important that the MPO stay current with federal and state requirements as part of the process. However, it is even more imperative that the MPO monitor the ever-evolving transportation needs of Centre County residents closely and refine the process to address those changes over time.