

Wisconsin Department of Transportation



Beltline Goal, Objectives, and Screening

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Beltline Planning and Environment Linkages
Dane County



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SECTION 1
INTRODUCTION PLANNING AND ENVIRONMENT LINKAGES

1.0 INTRODUCTION–PLANNING AND ENVIRONMENT LINKAGES (PEL)

A. PEL

Multiple authorities allow for the use of planning information in the National Environmental Policy Act (NEPA) process. Legal authority for incorporating planning products in NEPA documents was provided in 23 United States Code (USC) Parts 134 and 135, 49 USC Parts 5303 to 5306, and NEPA-related regulations Title 40 of the Code of Federal Regulations (CFR) Part 1500 and 23 CFR 771.¹ This was further clarified in Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) legislation that was enacted in 2005. In 2012, Moving Ahead for Progress in the 21st Century Act (MAP-21) reinforced and expanded this authority with Sections 1310 and 1311. Regulations also strongly support integration of planning information into the NEPA process. In 2007, statewide and metropolitan planning regulations including 23 CFR Part 450, Sections 212 and 318 and associated Appendix A detailed the conditions required to use planning information in the environmental review process. The regulations allow corridor and subarea planning studies as part of the statewide and metropolitan transportation planning processes. The results of these transportation studies may be used as part of the overall project development process consistent with NEPA and associated implementing regulations. These studies may result in producing purpose and need, travel corridor and mode, preliminary screening of alternatives and elimination of unreasonable alternatives, description of the environmental setting, and preliminary identification of environmental impacts and environmental mitigation. Appendix A to these rules provides additional information on the linkages between transportation planning, project development, and NEPA.

Appendix A to 23 CFR 450 (February 2007) was drafted to provide clarifying information between the transportation planning processes and subsequent NEPA processes. The intent of the appendix was to “change the culture” wherein transportation planning and NEPA are functionally disconnected, resulting in duplication of efforts and delays in implementing transportation improvements. The appendix details how information, analysis, and products from transportation planning can be incorporated into and relied upon in NEPA documents under existing laws, regardless of when the Notice of Intent was published.

In 2011, PEL was integrated into the Federal Highway Administration’s (FHWA’s) Every Day Counts initiative. State highway departments were encouraged to use PEL as an effective way to integrate early planning into the highway project development process and reduce delays in meeting transportation needs. It is a collaborative and integrated approach to transportation decision-making that considers environmental, community, and economic goals early in the transportation planning process and uses the information, analysis, and products developed during planning to inform the environmental review process.² The process encourages the use and adoption of planning products into the NEPA.

Section 1310 of MAP 21 amended Chapter 1 of title 23, USC, to allow the adoption of planning products for use in NEPA proceedings. It is codified in 23 USC 168. The code was further modified in the Fixing

¹ References to 40 CFR 1500 include only those regulations in effect before September 14, 2020.

² <https://www.environment.fhwa.dot.gov/integ/index.asp>

America's Surface Transportation (FAST Act) Section 1305. The FAST Act clarifies or modifies some provisions of 23 USC 168, while maintaining the earlier authorities.

In 2016, the FHWA and Federal Transit Administration (FTA) issued the final rule that explicitly recognizes a variety of PEL methods that may be used to integrate planning with environmental reviews. The final rule includes minor revisions to Appendix A and retains the previous rule's description of nonbinding guidance in Appendix A that discusses the integration of planning and environmental reviews.

The 23 USC 168 provides one authority to allow the use of a planning product (in this case the Madison Beltline PEL Study) in a NEPA document. As mentioned, other authorities are contained in 23 CFR 450. According to 23 USC 168, a transportation study may be used in the NEPA process if the relevant agency determines that certain provisions have been met. Provisions for using a planning product in a NEPA document include the following:

1. The planning product is developed through a planning process conducted according to applicable federal law.
2. The planning product is developed by engaging in active consultation with appropriate federal and state resource agencies and Indian tribes.
3. The planning process includes broad multidisciplinary consideration of systems-level or corridor-wide transportation needs and potential effects including effects on the human and natural environment.
4. The planning process includes public notice that the planning products produced in the planning process may be adopted during a subsequent environmental review process in accordance with 23 USC 168.
5. During the environmental review process, the relevant agency makes the planning documents available for public review and comment by members of the general public and federal, state, local, and tribal governments that may have an interest in the proposed project; provides notice of the intention to adopt or incorporate the planning product by referencing the planning product; and considers any resulting comments.
6. There is no significant new information or new circumstance that has a reasonable likelihood of affecting the continued validity or appropriateness of the planning product.
7. The planning product has a rational basis and is based on reliable and reasonably current data and reasonable and scientifically acceptable methodologies.
8. The planning product is documented in sufficient detail to support the decision or the results of the analysis and to meet requirements for use of the information in the environmental review process.

9. The planning product is appropriate for adoption or incorporation by reference and use in the environmental review process for the project and is incorporated in accordance with and is sufficient to meet the requirements of NEPA.
10. The planning product is approved five years or less before its adoption or incorporation by reference.

B. Terminology and Level of Analysis

The 23 CFR 450.212 and 450.318 discuss transportation planning studies and project development and their incorporation into future NEPA studies. Subparagraph (a) provides five basic products that may result from a PEL study.

“. . . Specifically, these corridor or subarea studies may result in producing any of the following for a proposed transportation project:

- (1) Purpose and need or goal(s) and objective(s) statement(s);
- (2) General travel corridor and/or general mode(s) definition (e.g., highway, transit, or a highway/transit combination);
- (3) Preliminary screening of alternatives and elimination of unreasonable alternatives;
- (4) Basic description of the environmental setting; and/or
- (5) Preliminary identification of environmental impacts and environmental mitigation.”

For the purposes of the Madison Beltline PEL Study, the terms “problem statement, goal, and objectives” are used instead of “purpose and need” to differentiate this study from a NEPA study. Similarly, this Madison Beltline PEL Study uses the term “strategies” in place of the term “alternative,” again to differentiate it from a NEPA study.

Appendix A to 23 CFR 450 provides further information for the incorporation of planning products into a NEPA study and uses a question and answer format to convey information on the preparation of planning documents. Particularly applicable parts to this Madison Beltline PEL Study are as follows.

1. Regarding level of analysis—The answer to Question 2 states, “a planning level analysis does not need to rise to the level of detail required in the NEPA process. Rather, it needs to be accurate and up-to-date, and should adequately support recommended improvements in the statewide or metropolitan long-range transportation plan.”
2. Regarding ability to incorporate planning analysis in a future NEPA study—The answer to Question 6 states, “The FHWA and the FTA will give deference to decisions resulting from the transportation planning process if the FHWA and FTA determine that the planning process is consistent with the 3-C principles [e.g., comprehensive, cooperative, and continuous] and when the planning study process, alternatives considered, and resulting decisions have a rational basis that is thoroughly documented and vetted through the applicable public involvement processes.”

3. Regarding incorporation of the Beltline PEL problem statement, goal, and objectives into a future NEPA purpose and need–The answer to Question 8 states, “. . . (a) Goals and objectives from the transportation planning process may be part of the [future] project’s purpose and need statement; (b) A general travel corridor or general mode or modes (e.g., highway, transit, or a highway/transit combination) resulting from the planning analysis may be part of the [future] project’s purpose and need statement. . .”
4. Regarding the ability to eliminate alternatives with a PEL study–The answer to Question 11 states, “There are two ways in which the transportation planning process can begin limiting the alternative solutions to be evaluated during the NEPA process: (a) Shaping the purpose and need for the [future] project; or (b) evaluating alternatives during planning studies and eliminating some of the alternatives from detailed study in the NEPA process prior to its start. . .”

The answer to Question 12 further states, “Alternatives passed over during the transportation planning process because they are infeasible or do not meet the NEPA “purpose and need” can be omitted from the detailed analysis of alternatives in the NEPA document as long as the rationale for eliminating is explained in the NEPA document. Alternatives that remain “reasonable” after the planning-level analysis must be addressed in the EIS, even when they are not the preferred alternative.”

C. Madison Beltline PEL Study Process Outline

The overall process being used for the Beltline PEL is illustrated in Figure 1.0-1. The process begins with the collaborative development of the study’s problem statement, goal, and objectives. This provides the direction for the study and forms the baseline for Evaluation of Strategies (alternatives). Next, screening criteria are developed that are directly linked to the Beltline PEL objectives. These screening criteria are used to evaluate whether and to what extent each strategy meets the goal and objectives. Strategies are then developed that look at transportation needs at a system level, meaning they include consideration of roadways, transit, nonmotorized transportation, and intermodal connections. Because of the breadth of the Beltline PEL goal and objectives, strategies and strategy packages need to include many components to address objectives dealing with motor vehicle, transit, bicycle, and pedestrian travel.

Strategy packages that show promise in meeting the Beltline PEL goal and objectives, as defined by the screening criteria, will be moved forward and further investigated in a future NEPA study. Strategies that do not show promise or are unreasonable and not feasible will be dismissed from further consideration.³

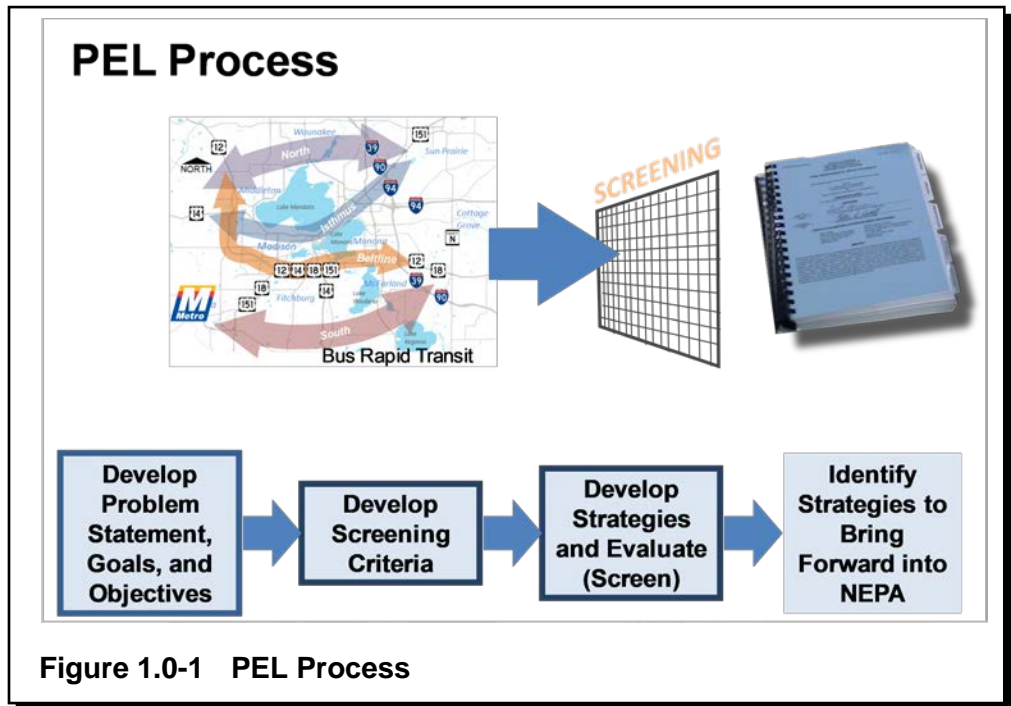


Figure 1.0-1 PEL Process

³Dismissed strategies could be further evaluated in another NEPA document. These documents would have different purpose and need statements and corridor objectives than the Madison Beltline PEL Study.

SECTION 2
PROBLEM STATEMENT, GOAL, AND OBJECTIVES PROCESS

2.01 PROBLEM STATEMENT, GOAL, AND OBJECTIVES PROCESS

A. Description

In the Beltline PEL process, the problem statement, goal, and objectives will form the foundation for the purpose and need in the subsequent NEPA environmental documentation process. The problem statement is a concise description of the issues that need to be addressed by the study. The problem statement reflects the identified needs. The goal and objectives address the issues in the problem statement. They often form the foundation of the purpose and need in a future NEPA document. The development of these statements included consideration of systems-level and corridor-wide transportation needs.

The project team created a draft problem statement, goal, and objectives. This outline was internally reviewed by the Wisconsin Department of Transportation (WisDOT). The Problem Statement, Goal, and Objective was presented to a Technical Advisory Committee (TAC) and Policy Advisory Committee (PAC). TAC was made up of staff members from affected communities as well as government organizations such as the Wisconsin Department of Natural Resources (WDNR). PAC was made up of elected officials and community representatives from potentially affected communities. Through a series of meetings over six months, these groups refined and added detail to the Beltline PEL problem statement, goal, and the objectives. The draft Beltline PEL problem statement, goal, and objectives was also circulated to state and federal agencies involved in the Beltline PEL Process.

To further broaden the input regarding the Beltline PEL problem statement, goal and objectives, the draft document was presented to focus groups for transit, bicycles, and pedestrians and representatives of groups that serve environmental justice (minority and low income) populations. The review provided feedback regarding whether the goal and objectives were addressing the needs of the focus group users. Table 2.01-1 lists the groups, meeting type, and dates of meetings.

Table 2.01-1 Meetings Associated with Development of the Problem Statement, Goal, and Objectives

Group	Meeting Type	Representatives From	Date
WisDOT and FHWA staff	Kickoff Meeting	WisDOT, Traffic Analysis & Design, Inc. (TADI), FHWA, Vandewalle & Associates, Inc. (Vandewalle), Cambridge Systematics (Cambridge), Leonard & Finco Public Relations, Inc. (L&F), city of Madison (Madison) (Planning, Traffic Engineering), Cotter Consulting, Inc. (Cotter), and Strand	3/25/2013
WisDOT and FHWA staff	Monthly Progress Meeting	WisDOT, TADI, FHWA, Vandewalle, Cambridge, L&F, Madison, Cotter, and Strand	4/22/2013
WisDOT and FHWA staff	Monthly Progress Meeting	WisDOT, TADI, FHWA, WDNR, Vandewalle, Cambridge, L&F, Madison, Cotter, and Strand	5/20/2013
Agency	Kickoff Agency Meeting	FHWA, WisDOT, Wisconsin Historical Society State Historical Preservation Officer (WHS-SHPO), L&F, United States Environmental Protection Agency (USEPA), United States Army Corps of Engineers (USACE), Cotter, Vandewalle, Department of Agriculture, Trade and Consumer Protection (DATCP), Strand, WDNR, and Cambridge	5/30/2013
WisDOT and FHWA staff	Monthly Progress Meeting	WisDOT, FHWA, Cambridge, Cotter, Strand, and WDNR	7/22/2013
TAC	TAC Kickoff Meeting	WisDOT, Strand, L&F, Cambridge, Vandewalle, Cotter, FHWA, city of Fitchburg (Fitchburg), city of Verona (Verona), town of Westport (Westport), Metro Transit of Madison (Metro), Madison, city of Monona (Monona), Capital Area Regional Planning Commission (CARPC), city of Stoughton (Stoughton)	7/22/2013
PAC	PAC Kickoff Meeting	WisDOT, Strand, Cambridge, Vandewalle, Cotter, FHWA, Metropolitan Planning Organization (MPO), Fitchburg, Stoughton, and village of Waunakee (Waunakee)	7/29/2013
Focus Group	Bike and Pedestrian Meeting	WisDOT, Strand, Monona, Madison, Wisconsin Bike Federation, MPO, city of Middleton (Middleton), Fitchburg, and Toole Design (Toole)	08/19/2013
WisDOT and FHWA staff	Monthly Progress Meeting	WisDOT, FHWA, WDNR, Madison, Dane County, Cambridge, Cotter, and Strand	8/26/2013
Focus Group	Bike and Pedestrian Meeting	WisDOT, Strand, Madison, Monona, Wisconsin Bike Federation, MPO, Middleton, Fitchburg, Dane County Park, and Toole	09/16/2013
Environmental Justice	Meeting with Urban League of Greater Madison (Urban League)	WisDOT, Strand, Urban League	09/19/2013
WisDOT and FHWA staff	Monthly Progress Meeting	WisDOT, FHWA, WDNR, Madison, Dane County, Cambridge, Cotter, Vandewalle, Strand, L&F	9/23/2013
Environmental Justice	Meeting with Centro Hispano	WisDOT, Strand, Centro Hispano of Dane County (Centro Hispano)	09/24/2013

TAC	TAC Meeting–2	WisDOT, Strand, L&F, Cambridge, Vandewalle, Cotter, FHWA, WDNR, Madison, Dane County, Monona, town of Windsor (Windsor), town of Dunn (Dunn), MPO, Stoughton, Fitchburg, Waunakee, Westport, and Middleton	9/30/2013
PAC	PAC Meeting–2	WisDOT, Strand, Cambridge, Vandewalle, Cotter, Windsor, and Fitchburg	10/2/2013
WisDOT and FHWA staff	Monthly Progress Meeting	WisDOT, FHWA, WDNR, Madison, Dane County, Cambridge, Cotter, Vandewalle, Strand, and L&F	10/28/2013
TAC	TAC Meeting–3	WisDOT, Strand, L&F, Cambridge, Vandewalle, Cotter, FHWA, Dunn, Middleton, Fitchburg, Stoughton, Monona, city of McFarland (McFarland), Metro, Windsor, Madison, and Dane County	10/30/2013
Agency	Agency Meeting–2	FHWA, WisDOT, USEPA, WDNR, DATCP, USACE, WHS-SHPO, National Park Service (NPS), United States Department of Agriculture (USDA)-National Resources Conservations Services (NRCS), Cambridge, and Strand	11/6/2013
PAC	PAC Meeting–3	WisDOT, Strand, Vandewalle, Cotter, FHWA, town of Verona (Verona), Madison, Middleton, McFarland, MPO, Waunakee, Stoughton, Dane County Highway Committee, and Fitchburg	11/13/2013
WisDOT and FHWA staff	Monthly Progress Meeting	WisDOT, FHWA, WDNR, Madison, Dane County, Cambridge, Cotter, Vandewalle, Strand, and L&F	11/25/2013
PAC	PAC Meeting–4	WisDOT, FHWA, Strand, Vandewalle, Cotter, Dane County, McFarland, Windsor, Verona, Fitchburg, Madison, and Downtown Madison, Inc.	12/12/2013
WisDOT staff	Progress Meeting	WisDOT, Strand	12/23/2013
WisDOT and FHWA staff	Progress Meeting	WisDOT, FHWA, Madison, Cambridge, Cotter, Vandewalle, Strand, L&F, MPO, and TADI	1/27/2014
WisDOT and FHWA staff	Progress Meeting	WisDOT, FHWA, WDNR, City of Madison, Dane County, Cambridge, Cotter, Vandewalle, Strand, L&F, MPO, and TADI.	2/24/2014
TAC	TAC Meeting–4	WisDOT, Strand, Vandewalle, Cambridge, L&F, Cotter, Middleton, Verona, CARPC, McFarland, FHWA, MPO, village of DeForest (DeForest), Windsor, Madison, Monona, Westport, Metro, and Dunn	4/3/2014
PAC	PAC Meeting–5	WisDOT, Strand, Vandewalle, Waunakee, McFarland, Westport, Madison Chamber of Commerce, Madison, Dane County, DeForest, Fitchburg, American Planning Association-Wisconsin Chapter (APA-WI), Verona, Downtown Madison, Inc., and Cotter	4/22/2014

B. Resulting Problem Statement, Goal, and Objectives

The following paragraphs represent the problem statement, goal, and objectives as of September 2014.

1. Beltline PEL Problem Statement

The Madison Beltline links southwest Wisconsin to the national highway system and provides an important connection among neighborhoods, businesses, communities, and regions. Initially constructed in the 1950s, it became the main east-west highway in the Madison area. Motorists use the Beltline to travel to work, school, shopping, and recreational destinations. Sections of the Beltline carry a yearly average of 127,000 vehicles per day (vpd).¹ Without the Beltline, a far more robust system of local streets and arterials would be needed to bear the burden of this traffic.

A 2008 Madison Beltline Needs Assessment Report documented a number of deficiencies associated with this freeway corridor. They have grown to a level that, in November 2011, Wisconsin's Transportation Projects Commission authorized the study of long-term solutions for the Madison Beltline from United States Highway (US) 14 in Middleton to County N in the village of Cottage Grove (Cottage Grove). Solutions are needed to address the following Beltline issues:

- a. Increasing travel demand and congestion.
- b. Roadway safety concerns.
- c. Limited or insufficient accommodations for alternate travel modes.

These issues lead to high crash rates, unreliable travel times, higher travel costs, and negative economic and environmental consequences for area residents, commuters, businesses, and freight movements.

2. Goal and Objectives

a. Goal

The goal is to improve multimodal travel and safety along and across the Madison Beltline corridor in a way that supports economic development, acknowledges community plans, contributes positively to the area's quality of life, and limits adverse environmental and social effects to the extent practicable.

¹2012 Beltline traffic count collected by WisDOT between Fish Hatchery Road and Park Street.

b. Objectives

The study will investigate the ability of multiple strategies and corridors to satisfy the Beltline PEL problem statement, goal, and objectives. Specific, measurable objectives for the Beltline include the following:

- (1) Improve safety for all travel modes.
- (2) Address Beltline infrastructure condition and deficiencies.
- (3) Address system mobility (congestion) for all travel modes.
 - (a) Pedestrian
 - (b) Bicycle
 - (c) Transit
 - (d) Local and regional passenger vehicles
 - (e) Freight
- (4) Limit adverse social, cultural, and environmental effects to the extent practicable.
- (5) Increase system travel time reliability for regional and local trips.
- (6) Improve connections across and adjacent to the Beltline for all travel modes.
- (7) Enhance efficient regional multimodal access to Madison metropolitan area economic centers.
- (8) Decrease Beltline traffic diversion impacts to neighborhood streets.
- (9) Enhance transit ridership and routing opportunities.
- (10) Improve pedestrian and bicycle accommodations.
- (11) Complement other major transportation initiatives and studies in the Madison area.
- (12) Support infrastructure and other measures that encourage alternatives to single-occupancy vehicle travel.

SECTION 3
STRATEGY DEVELOPMENT

3.01 STRATEGY DEVELOPMENT

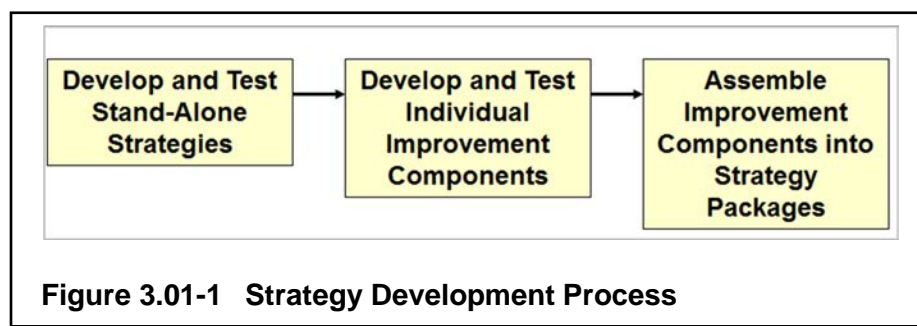
Within the Beltline PEL process, improvements or measures that have the potential to satisfy the Beltline PEL goal and objectives are termed “strategies.” The term “strategies” is used instead of “alternatives” to differentiate it from language used in the NEPA documentation. It also alludes to the relatively high-level analysis that the Beltline PEL will perform. Some location-specific improvements with discrete and quantifiable impacts will be included, but the Beltline PEL will evaluate its ability to satisfy somewhat general criteria. Strategies are developed in consideration of both system-level and corridor-wide (Beltline) transportation needs.

Because the Beltline PEL objectives address multiple modes and outcomes, many improvement components will be assembled into strategy packages. Taken as a whole, each package is intended to address all of the broad range of study objectives. Strategy packages that are reasonable and satisfy Beltline PEL objectives will be recommended for more detailed analysis in a subsequent NEPA document.

The strategy development process is summarized in Figure 3.01-1 and consists of:

1. Developing and testing Stand-Alone Strategies to see whether any have the ability to satisfy root Beltline PEL objectives.
2. Developing and testing individual improvement components to see whether they have the ability to satisfy specific Beltline PEL objectives.
3. Assembling individual improvement components determined to meet some portion of the Beltline PEL goal and objectives into strategy packages. These strategy packages, taken as a whole, have the potential to address all Beltline PEL objectives.

The following paragraphs describe this process.



1. Develop and Test Stand-Alone Strategies

Strategies with the potential to transport large numbers of people are evaluated to see whether they, as a stand-alone solution, are able to reduce Beltline traffic volumes to a point where root Beltline PEL objectives are satisfied or provide enough additional Beltline capacity to address root

Beltline PEL objectives. Examples of Stand-Alone Strategies include Bus Rapid Transit (BRT), rail, and bypass highway corridors. The iterative process for testing Stand-Alone Strategies is shown in Figure 3.01-2. The evaluation process starts with determining whether the strategy is viable. Metrics for viability include amount of traffic captured or amount of ridership obtained. For example, a BRT alternative that draws 10,000 riders per day is likely viable, whereas a BRT alternative that draws 1,000 riders per day may not be viable.

Second, the Stand-Alone Strategy is tested for its effectiveness in addressing root Beltline PEL objectives. For example, can the Stand-Alone Strategy remove enough traffic from the Beltline or increase Beltline capacity so that root Beltline PEL objectives are satisfied? Strategies that are not able to satisfy any Beltline PEL objectives are eliminated from detailed study. Those that partially satisfy them are considered as a component of a larger strategy package.

Third, impacts associated with the strategy are reviewed. Impacts can include those to the natural and built environments, as well as potential public and agency acceptance or opposition. Large impacts to possible strategies will be documented. If it remains unclear whether better options than a specific strategy exist or challenges within a certain strategy have the potential to be mitigated, the strategy can be brought forward as a major component of a strategy package. Alternatively, strategies with large impacts making them unreasonable¹ are eliminated from detailed study. Strategies with substantial opposition can also be dismissed.

¹Council on Environmental Quality (CEQ) 40 Questions states, “Section 1502.14 requires the EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is “reasonable” rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant.”

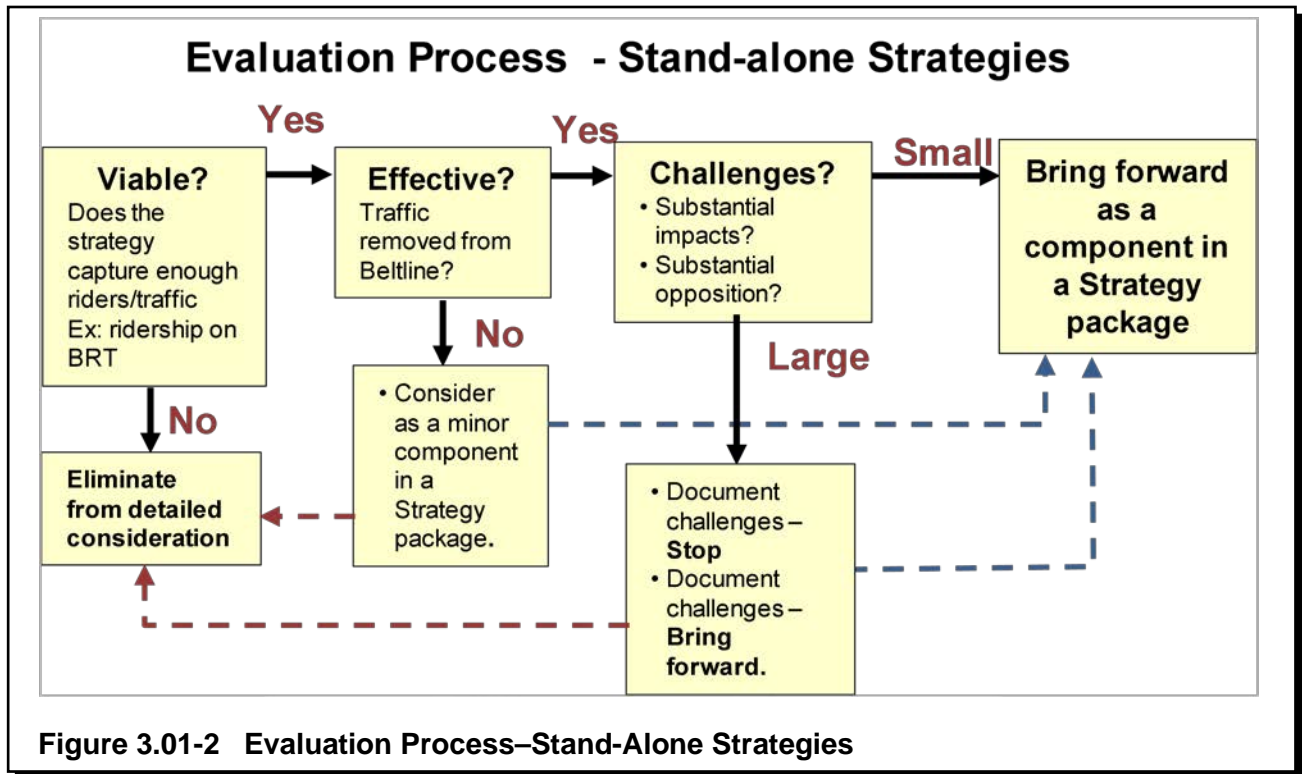


Figure 3.01-2 Evaluation Process—Stand-Alone Strategies

2. Develop and Test Individual Improvement Components

The second step develops and evaluates individual improvement components that, by themselves, cannot satisfy all the Beltline PEL objectives, but individually they have the ability to fully or partially satisfy some of the Beltline PEL objectives. Examples of improvement components include adding grade-separated crossings of the Beltline or extending bike accommodations on routes parallel to the Beltline. These improvement components, while not able to fully satisfy all Beltline PEL objectives, may be effective at addressing a specific objective and have individual merit. These improvement components are evaluated on their ability to meet specific Beltline PEL objectives.

3. Assemble Improvement Components into Strategy Packages

As mentioned, the Beltline PEL objectives address a variety of transportation modes. No one improvement concept is able to fully address all Beltline PEL objectives, so multiple improvement components are assembled into one, multifaceted strategy package. Typically, a strategy package will have a major people-moving measure with complementary improvements that address multimodal and connection objectives.

The project team developed categories of improvements that could be assembled to create strategy packages satisfying Beltline PEL objectives on both a system-level and corridor-wide level. The categories included motor vehicle improvements, bike and pedestrian improvements, local system improvements, transit improvements, and transportation demand management

improvements. Figure 3.01-3 illustrates the types of improvement components that could occur under each category. This concept of assembling components into strategy packages was presented to and refined by TAC and PAC. These committees also performed a test exercise assembling Strategy Packages for possible future evaluation.

Figure 3.01-3 Example Strategy Package Organization

Example Motor vehicle	Example Bike ped	Example Local system	Example Transit	Example TDM
<p>MV 1 BASE Reconstruction – no capacity increase This could reconstruct the Beltline with the existing capacity structure. Small modifications could be made at interchanges to improve safety/merging/diverging address deficiencies.</p>	<p>BP 1 BASE Standard Bike-Ped Accommodations This would provide pedestrian and bicycle accommodations with the proposed facility in accordance with Trans 75.</p>	<p>LS 1 BASE Under the Base Local System strategy, no additional connections across or perpendicular to the Beltline would be made.</p>	<p>T 1 BASE Transit This would maintain the current Madison metro and other transit activities as they currently operate.</p>	<p>TDM 1 BASE - Voluntary TDM This would create information and incentives for employers to encourage TDM measures, such as: • Ridesharing • Guaranteed Ride Home • Sponsored Bus Passes • Shifted work hours etc.</p>
<p>MV 2 Beltline capacity expansion This could add one, two, or more lanes of capacity to the Beltline in both directions accompanied by appropriate interchange improvements and auxiliary lanes.</p>	<p>BP 2 Parallel path (new align only) This could provide an adjacent path to new-alignment highway alternatives</p>	<p>LS 2 Parallel local system connections This could make local system connections that are parallel to the Beltline.</p>	<p>T 2 Bus Rapid Transit This could: • Implement the 2012 BRT report recommendations • Support the BRT system by providing modal transfer stations • Implement planned transit extensions</p>	<p>TDM 2 Government Policy TDM Local and state governments policies that require employers to enact TDM measures. Examples could include: • TDM for PUD approvals • Parking pricing policies • Transit sponsorship • Etc.</p>
<p>MV 3 Beltline congestion management pricing This could add lane(s) of capacity to the Beltline and implement some form of congestion pricing or lane management.</p>	<p>BP 3 New connections This could create new dedicated path links in areas where bicycle/pedestrian connectivity limited. Examples could include new paths and/or grade separations.</p>	<p>LS 3 Perpendicular local system connections This could make perpendicular local system connections across the Beltline.</p>	<p>T 3 Commuter Rail This could: • Implement the full system recommended under the Transport 2020 New Starts Application (2008) • Implement the feeder bus system recommended under the Transport 2020 study.</p>	<p>TDM 3 ???</p>
<p>MV 4 South Corridor This could add a new four lane expressway or freeway between Verona and I 39. The expressway option would have at-grade intersections and jug-handles. The freeway option would have interchanges.</p>	<p>BP 4 Intersection crossing treatments This could provide improved bicycle and pedestrian crossing of high traffic volume intersections adjacent to the Beltline. Examples could include special crossing treatments and/or grade separations.</p>	<p>LS 4 Interchange access modifications This could make interchange access modifications, including removing some interchange ramps or movements onto the Beltline.</p>	<p>T 4 Dedicated Beltline Transit Lane This could implement a dedicated transit lane (shoulder) on the Beltline with four on/line or off/line stops :</p>	
<p>MV 5 North Mendota Corridor This could a new four-lane expressway or freeway between US 12 and County MWIS 19. The expressway option would have with at-grade intersections and jug handles. The freeway option would have interchanges.</p>	<p>BP 5 ????</p>	<p>LS 5 High Capacity Isthmus This could provide a higher capacity/speed corridor from the west side to the east side that travels through the isthmus.</p>	<p>T 5 Transit Extensions This could implement the Express Bus recommendations in the MPO's 2013-2017 Transit Development Plan, which includes extensions to: o Oregon o McFarland/Stoughton o Cottage Grove o Sun Prairie o DeForest o Waunakee</p>	
<p>MV 6 ???</p>	<p>BP 6 ????</p>	<p>LS 6 ???</p>	<p>T 6 Modal centers (Park and Ride w/ Transit) This could provide modal transfer centers for a trip to be finished by transit or bike.</p>	
<p>MV 7 ???</p>			<p>T 7 ???</p>	

Note: Some transit strategies are beyond the jurisdiction of WisDOT/FHWA and would require cooperation with other federal and state agencies/funding sources for implementation.

Figure 3.01-4 illustrates how a strategy package could be assembled with a southern bypass corridor. This example strategy package includes:

- a. A roadway component–Southern bypass corridor.
- b. A bike-pedestrian component–Adjacent bike path and other improvements.
- c. A local system component–Extending County PD east to US 14.
- d. A transit component–A modal transit center at County AB and Siggelkow Road.
- e. A Transportation Demand Management (TDM) component–Voluntary shift staggering.

This example illustrates how strategy packages include many types and modes of improvements. Before this strategy package would be evaluated, a southern bypass would have to be shown effective in meeting root Beltline PEL objectives as a stand-alone solution.

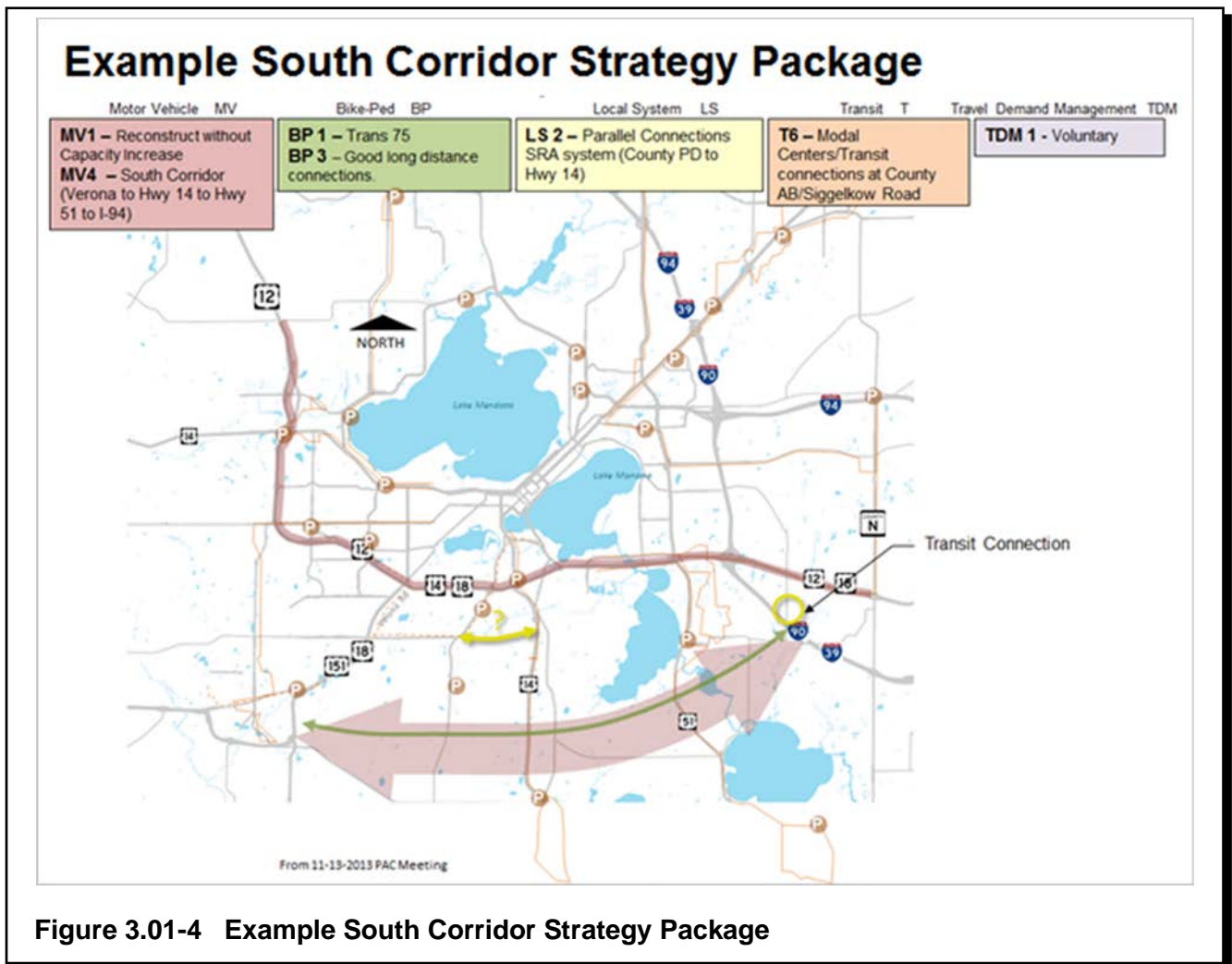


Figure 3.01-4 Example South Corridor Strategy Package

SECTION 4
STRATEGY SCREENING

4.01 STRATEGY SCREENING

There are 12 study objectives; however, many objectives overlap or have similarities that could lead to duplication in the screening process. To avoid duplicate questions, the 12 objectives were synthesized into the following seven root objectives and desired outcomes. This synthesis was presented to WisDOT and FHWA staff, TAC, PAC, and participating state and federal agencies for review and comment. Table 4.01-1 lists the root objectives and desired outcomes.

Root Objective	Desired Outcome
1. Improve safety for all modes	
Bicycles	Reduce bicycle and motor vehicle crashes (rates and severities).
Pedestrians	Reduce pedestrian and motor vehicle crashes (rates and severities).
Motor vehicle	Decrease crashes (rates and severities in areas of high crash frequency).
2. Address Beltline infrastructure condition and deficiencies.	Critical pavement and geometric deficiencies addressed.
3. Improve system mobility (congestion) for all modes	Mobility–The ability of the transportation system to facilitate the efficient and comfortable movement of people and goods (along and across).
Pedestrian	Comfortable and convenient access near, across, and along the Beltline Corridor.
Bicycle	Direct and comfortable routes across and along the Beltline Corridor.
	Provide convenient alternate mode choices and transfers (duplicate).
Transit	Enhance rider access to transit facilities and vehicles. Enhance transit routing opportunities.
Motor vehicles (including passenger and freight)	Provide better travel time reliability (reduce nonrecurring congestion).
	Decrease or reduce recurring congestion.
	Provide convenient alternate route choices.
	Reduce motor vehicle trips during peak periods.
4. Limit adverse social, cultural, and environmental effects to extent practicable.	Consideration of strategies that balance transportation need and protection of environmental and community resources.
5. Enhance efficient multimodal access to economic centers.	Ramp terminals and connecting roadways operate at satisfactory service levels.
	Convenient and comfortable access to economic centers for all travel modes.
6. Decrease Beltline diversion impacts to neighborhood streets	Diverted traffic uses roadways classified as collectors or above.
7. Complement other major transportation initiatives and studies in the Madison Area.	Concept complements other transportation initiatives.

Table 4.01-1 Root Objectives and Desired Outcomes

The Beltline PEL study will use a series of screening questions to determine whether a Stand-Alone Strategy or strategy package satisfies the root project objectives. Table 4.01-2 provides the screening questions as they are tied to the root objectives.

There are two sets of questions, one for the Stand-Alone Strategies and one for the strategy packages. The question set for the Stand-Alone Strategies is meant to determine whether and to what extent they are individually effective at addressing root Beltline PEL objectives. The question set for the strategy packages is more comprehensive and is meant to evaluate the effectiveness of the package at addressing each Beltline PEL objective. These screening questions were presented to and refined by the TAC and PAC committees. Table 4.01-2 lists the root objective, desired outcome, Stand-Alone Strategy screening question, and strategy package screening question. There are fewer Stand-Alone Strategy questions because there is a lower level of detail associated with the development of the Stand-Alone Strategy.

Table 4.01-2 Screening Questions

Root Objective	Desired Outcome (What Represents Success?)	Targets of the Stand-Alone Strategy Screening (Effectiveness)	Strategy Package Screening (Effectiveness)	Possible Metric and Analysis to Answer Screening Question
1. Improve Safety for All Modes				
▪ Bicycles	Reduce bicycle and motor vehicle crashes (rates and severities).	Evaluate as part of strategy packages when bike and pedestrian improvements are incorporated.	Does the strategy package provide the opportunity to decrease bicycle and motor vehicle crashes (or conflicts) near the alignment and Beltline Corridor?	Bicycle level of service (LOS) and/or safety review.
▪ Pedestrians	Reduce pedestrian and motor vehicle crashes (rates and severities).		Does the strategy package provide the opportunity to decrease pedestrian and motor vehicle crashes (or conflicts) near the alignment and Beltline Corridor?	Pedestrian LOS and/or safety review.
▪ Motor vehicle	Decrease crashes (rates and severities) (in areas of high crash frequency).	Does the Stand-Alone Strategy address safety deficiencies on the Beltline or have the potential to reduce congestion-related motor vehicle crashes on the Beltline?	Does the strategy package provide the opportunity to decrease motor vehicle crashes on the Beltline Corridor?	<ul style="list-style-type: none"> Ability to reduce congestion and related crashes. Highway Safety Manual (HSM) countermeasure values for individual geometric measures.
2. Address Beltline infrastructure condition and deficiencies.	Critical pavement and geometric deficiencies addressed.	Does the Stand-Alone Strategy preclude addressing Beltline infrastructure deficiencies?	Does the strategy package have the potential to address Beltline pavements, structures, and substandard elements?	Replacement of substandard pavements and structures.
3. Improve system mobility (congestion) for all modes	Mobility–The ability of the transportation system to facilitate the efficient and comfortable movement of people and goods. (along and across).			
▪ Pedestrian	Comfortable and convenient access near, across and along the Beltline Corridor.	Evaluate as part of strategy packages when bike and pedestrian improvements are incorporated.	Does the strategy package provide corresponding pedestrian facilities?	Route directness Pedestrian LOS.
▪			Does the strategy package provide the opportunity to complete the pedestrian network near and across the Beltline Corridor?	
▪ Bicycle	Direct and comfortable routes across, and along the Beltline Corridor.		Does the strategy package provide corresponding bicycle facilities?	Route directness between activity centers.
▪			Does the strategy package have the potential to address bike network gaps (deficiencies) along and across the Beltline?	Bicycle LOS.
▪	Provide convenient alternate mode choices and transfers (duplicate).		Does the strategy package provide the opportunity for convenient bicycle mode transfers?	Presence of modal stations.
▪ Transit	Enhance rider access to transit facilities and vehicles. Enhance transit routing opportunities.	Does the Stand-Alone Strategy preclude improvements to transit facilities and routing?	Does the strategy package increase or improve routes for transit service?	Address route discontinuities.
▪			Does the strategy package have the potential to provide measures that make transit more competitive with auto? (Transit Priority)	Presence and effectiveness of transit prioritizing measures.
▪			Does the strategy package provide the opportunity for convenient transit mode transfers?	Presence of mode transfer locations (transit and bike, automobile and bike, etc.).
▪ Motor vehicles (including passenger and freight)	Provide better travel time reliability (reduce nonrecurring congestion).	Does the Stand-Alone Strategy decrease Beltline traffic, or increase Beltline capacity, enough to address conditions that lead to unstable traffic flow on the Beltline?	Does the strategy package have the potential to address conditions that lead to unstable traffic flow on the Beltline Corridor?	Paramics–Motor vehicle LOS (unstable traffic flow occurs at LOS E and F).
	Decrease and reduce recurring congestion		Does the strategy package provide a substantial traffic volume reduction on the Beltline Corridor, a substantial Beltline capacity increase, or a combination of these?	Paramics–Motor vehicle LOS.
	Provide convenient alternate route choices		Does the strategy package provide more attractive or viable alternative routes to the Beltline for local trips?	Cube–Determine alternate route volumes.
	Reduce motor vehicle trips during peak periods.		Does the strategy package provide better opportunities for mode transfers? Will the strategy provide a reduction in motor vehicle trips?	Presence of locations to change modes (transit and bike, auto and bike, etc.). Convenience, amenities, and number of choices.
4. Limit adverse social, cultural, and environmental effects to extent practicable.	Consideration of strategies that balance transportation need and protection of environmental and community resources.	Evaluate as part of strategy packages when impacts are measured.	How well does the strategy package avoid effects to environmental and human resources?	Quantitative metrics <ul style="list-style-type: none"> Environment corridor severances Direct impacts
5. Enhance efficient multimodal access to economic centers.	Ramp terminals and connecting roadways operate at satisfactory service levels.	Evaluate as part of strategy packages when bike, pedestrian, and transit components are assembled.	Does the strategy package acknowledge capacity limitations in the connecting municipal arterial network (near the Beltline?)	Cube–Assignment of traffic to local system. Paramics–Intersection LOS and queuing of adjacent local system intersections.
	Convenient and comfortable access to economic centers for all travel modes.		Does the strategy package provide connections to economic centers for all modes?	Route directness between activity centers for bikes and pedestrians.
			Can the strategy package improve Beltline interchange operation?	Paramics–Motor vehicle LOS.
6. Decrease Beltline diversion impacts to neighborhood streets	Diverted traffic uses roadways classified as collectors or above.	Evaluate later in the study in a more detailed modeling stage.	Does the strategy package create traffic volumes on streets or roads that are compatible with their functional classification?	CUBE–Assignment of traffic to local streets.
7. Complement other major transportation initiatives and studies in the Madison area.	Concept complements other transportation initiatives.		Does the strategy package significantly contradict or impede implementation of a proposal by another project?	Coordination with other transportation initiatives.

**SECTION 5
POTENTIAL FUTURE ADOPTION**

5.01 POTENTIAL FUTURE ADOPTION INTO NEPA DOCUMENT

As mentioned in Section 1 of this report, 23 CFR 450.212(a) documents the ability to adopt a planning product into a NEPA document.

“(a) The results or decisions of these transportation planning studies may be used as part of the overall project development process consistent with the National Environmental Policy Act (NEPA) of 1969 (42 U.S.C. 4321 et seq.) and associated implementing regulations (23 CFR part 771 and 40 CFR parts 1500–1508). Specifically, these corridor or subarea studies may result in producing any of the following for a proposed transportation project:

- (1) Purpose and need or goals and objective statement(s);*
- (2) General travel corridor and/or general mode(s) definition (e.g., highway, transit, or a highway/transit combination);*
- (3) Preliminary screening of alternatives and elimination of unreasonable alternatives;*
- (4) Basic description of the environmental setting; and/or*
- (5) Preliminary identification of environmental impacts and environmental mitigation.”*

Additionally, MAP 21 instituted 23 USC 168(c)(1) and (2), future revised by the FAST Act, which similarly allows the adoption of planning decisions.

“(1) PLANNING DECISIONS.—The relevant agency in the environmental review process may adopt or incorporate by reference decisions from a planning product, including—

- (A) whether tolling, private financial assistance, or other special financial measures are necessary to implement the project;*
- (B) a decision with respect to general travel corridor or modal choice, including a decision to implement corridor or subarea study recommendations to advance different modal solutions as separate projects with independent utility;*
- (C) the purpose and the need for the proposed action;*
- (D) preliminary screening of alternatives and elimination of unreasonable alternatives;*
- (E) a basic description of the environmental setting;*
- (F) a decision with respect to methodologies for analysis; and*
- (G) an identification of programmatic level mitigation for potential impacts of a project, including a programmatic mitigation plan developed in accordance with section 169, that the relevant agency determines are more effectively addressed on a national or regional scale, including—*
 - (i) measures to avoid, minimize, and mitigate impacts at a national or regional scale of proposed transportation investments on environmental resources, including regional ecosystem and water resources; and*
 - (ii) potential mitigation activities, locations, and investments.*

(2) PLANNING ANALYSES.—The relevant agency in the environmental review process may adopt or incorporate by reference analyses from a planning product, including—

- (A) travel demands;*
- (B) regional development and growth;*

(C) local land use, growth management, and development;
(D) population and employment;
(E) natural and built environmental conditions;
(F) environmental resources and environmentally sensitive areas;
(G) potential environmental effects, including the identification of resources of concern and potential direct, indirect, and cumulative effects on those resources; and
(H) mitigation needs for a proposed project, or for programmatic level mitigation, for potential effects that the lead agency determines are most effectively addressed at a regional or national program level.”

These laws and regulations provide many opportunities for Beltline PEL planning products that could be used in future NEPA documents.

1. Portions or all of the Beltline PEL problem statement, goal, and objectives can form the basis for the purpose and need in a future NEPA document. The Beltline PEL problem statement, goal, and objectives were developed with extensive outreach to the community and agencies and well represent the transportation desires of these stakeholders.
2. Beltline PEL decisions regarding the general travel corridor or modes can be adopted within a future NEPA document. For example, the dismissal of Stand-Alone Strategies that do not meet the Beltline PEL objectives could be carried forward into a NEPA document. This allows that document to focus on corridors and modal combinations that have the most potential to satisfy the project purpose and need. The Beltline PEL provides a preliminary screening of alternatives and eliminates unreasonable alternatives.
3. Other documents created under the Madison Beltline PEL Study, such as the existing conditions report, can contribute to the description of the environmental setting (e.g., affected environment) in a future NEPA document.
4. The preliminary identification of potential environmental effects and potential mitigation measures can be identified and used as background for the Environmental Consequences of a future NEPA document.
5. Much of the analyses performed for the Beltline PEL in the evaluation of strategies can be adopted and used in further alternatives analysis during the NEPA phase. This includes 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; and potential environmental effects, including the identification of resources of concern.

With the complicated transportation challenges in the Madison metropolitan area and the growing demands placed on the Beltline, the PEL process develops and reviews solutions on a regional, modal, and corridor level. A wide range of alternatives is considered that provides a basis for future NEPA documentation.