

3.01 PROBLEM STATEMENT, GOAL, AND OBJECTIVES PROCESS

A. Description

In the Beltline PEL Study process, the Study Problem Statement, Goal, and Objectives form the foundation for the purpose and need for future studies or NEPA environmental documentation. 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. The development of these statements for the Beltline PEL Study included consideration of systems-level and corridor-wide transportation needs.

The following paragraphs provide the Problem Statement, Goal, and Objectives.

1. Beltline PEL Study Problem Statement

The Beltline links southwest Wisconsin to the NHS 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 grew to a level that, in November 2011, Wisconsin's Transportation Projects Commission authorized the study of long-term solutions for the Madison Beltline from US 14 in the city of Middleton to County N in the town of Cottage Grove. Solutions are needed to address the following Beltline issues:

- a. Roadway safety concerns.
- b. Increasing travel demand and congestion.
- 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 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. In 2024, yearly average traffic between Seminole Highway and Todd Drive was 145,000 vpd.

b. Objectives

The study investigates the ability of multiple Strategies or a Stand-Alone Strategy to satisfy the Beltline PEL Study 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. Freight²
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.

Because several of the Objectives overlap or have similarities that could lead to duplication in the screening process, the 12 Objectives were synthesized into the following seven root Objectives and desired outcomes:

1. Improve safety for all travel modes.
2. Address Beltline infrastructure condition and deficiencies.
3. Improve system mobility for all modes.
4. Limit adverse social, cultural, and environmental effects to the extent practicable.
5. Enhance efficient multimodal access to economic centers.
6. Decrease Beltline diversion impacts to neighborhood streets.
7. Complement other major transportation initiatives and studies in the Madison area.

²For the purposes of this Beltline PEL Study, improvements to operations for local and regional passenger vehicles are assumed to also benefit freight traffic to a similar degree.

This synthesis was presented to WisDOT and FHWA, TAC, PAC, and participating state and federal agencies for review and comment. Additional details on this coordination and outreach can be found in Appendix C.

B. Development of the Study Problem Statement, Goal, and Objectives

In 2013, the study team worked with local stakeholders, including the TAC and PAC, to develop the Study Problem Statement, Goal, and Objectives. The TAC and PAC provided the Beltline PEL Study team guidance and local input.

After the TAC and PAC review of the draft Study Problem Statement, Goal, and Objectives, these items were circulated for comment to all state and federal agencies and Native American Tribe contacts invited to participate in the Beltline PEL Study. Comments were addressed and the Study Problem Statement, Goal, and Objectives were refined.

To further broaden input, the draft document was presented to focus groups for transit, bicycles, and pedestrians, and representatives of groups that serve environmental justice (EJ) populations (minority or low-income populations). The review provided feedback regarding whether the Goal and Objectives were addressing the needs of the focus group participants. Table 3.01-1 lists the groups, meeting type, and dates of meetings associated with the development of the Problem Statement, Goal, and Objectives. Additional details are included in Appendix C.

Table 3.01-1 Meetings Associated with Development of the Problem Statement, Goal, and Objectives

Date	Group	Meeting Type	Representatives From
3/25/2013	WisDOT and FHWA	Kickoff Meeting	WisDOT and consultant team.
4/22/2013	WisDOT and FHWA	Monthly Progress Meeting	WisDOT and consultant team.
5/20/2013	WisDOT and FHWA	Monthly Progress Meeting	WisDOT and consultant team.
5/30/2013	Agency	Kickoff Agency Meeting	FHWA, WisDOT, SHPO, USEPA, USACE, DATCP, WDNR, and consultant team.
7/22/2013	WisDOT and FHWA	Monthly Progress Meeting	WisDOT, FHWA, WDNR, and consultant team.
7/22/2013	TAC	TAC Kickoff Meeting	WisDOT, FHWA, cities of Fitchburg and Verona, town of Westport, city of Madison Metro Transit (Metro), Madison, city of Monona, CARPC, city of Stoughton, and consultant team.
7/29/2013	PAC	PAC Kickoff Meeting	WisDOT, FHWA, Metropolitan Planning Organization (MPO), cities of Fitchburg and Stoughton, village of Waunakee, and consultant team.

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Date	Group	Meeting Type	Representatives From
8/19/2013	Focus Group	Bicycle and Pedestrian Meeting	WisDOT, cities of Madison and Monona, Wisconsin Bicycle Federation, MPO, cities of Middleton and Fitchburg, and consultant team.
8/26/2013	WisDOT and FHWA	Monthly Progress Meeting	WisDOT, FHWA, WDNR, Madison, Dane County, village of Cambridge, and consultant team.
9/16/2013	Focus Group	Bicycle and Pedestrian Meeting	WisDOT, cities of Madison and Monona, Wisconsin Bicycle Federation, MPO, cities of Middleton and Fitchburg, Dane County Parks, and consultant team.
9/19/2013	EJ	Meeting with Urban League of Greater Madison (Urban League)	WisDOT, Urban League, and consultant team.
9/23/2013	WisDOT and FHWA staff	Monthly Progress Meeting	WisDOT, FHWA, WDNR, Madison, Dane County, and consultant team.
9/24/2013	EJ	Meeting with Centro Hispano of Dane County	WisDOT, Centro Hispano , and consultant team.
9/30/2013	TAC	TAC Meeting—2	WisDOT, FHWA, WDNR, Madison, Dane County, city of Monona, village of Windsor, town of Dunn, MPO, cities of Stoughton, Fitchburg, and Middleton, village of Waunakee, and town of Westport, and consultant team.
10/2/2013	PAC	PAC Meeting—2	WisDOT, village of Windsor, city of Fitchburg, and consultant team.
10/28/2013	WisDOT and FHWA	Monthly Progress Meeting	WisDOT, FHWA, WDNR, Madison, Dane County, village of Cambridge, and consultant team.
10/30/2013	TAC	TAC Meeting—3	WisDOT, FHWA, town of Dunn, cities of Middleton, Fitchburg, Stoughton, and Monona, village of McFarland, Metro, village of Windsor, city of Madison, Dane County, and consultant team.
11/6/2013	Agency	Agency Meeting—2	FHWA, WisDOT, USEPA, WDNR, DATCP, USACE, SHPO, NPS, United States Department of Agriculture (USDA) National Resources Conservations Services (NRCS), and consultant team.
11/13/2013	PAC	PAC Meeting—3	WisDOT, FHWA, cities of Verona, Madison, Middleton, Stoughton, and Fitchburg, villages of McFarland and Waunakee, MPO, Dane County Highway Committee, and consultant team.
11/25/2013	WisDOT and FHWA	Monthly Progress Meeting	WisDOT, FHWA, WDNR, Madison, Dane County, and consultant team.
12/12/2013	PAC	PAC Meeting—4	WisDOT, FHWA, Dane County, village of McFarland, village of Windsor, cities of Verona, Fitchburg, and Madison, Downtown Madison, Inc., and consultant team.
12/23/2013	WisDOT	Progress Meeting	WisDOT and consultant team.
1/27/2014	WisDOT and FHWA	Progress Meeting	WisDOT, FHWA, Madison, and consultant team.

Date	Group	Meeting Type	Representatives From
2/24/2014	WisDOT and FHWA	Progress Meeting	WisDOT, FHWA, WDNR, Madison, Dane County, MPO, and consultant team.
4/3/2014	TAC	TAC Meeting—4	WisDOT, cities of Middleton, Verona, Madison, and Monona, CARPC, villages of McFarland, DeForest, and Windsor, FHWA, MPO, towns of Westport, and Dunn, Metro, and consultant team.
4/22/2014	PAC	PAC Meeting—5	WisDOT, villages of Waunakee, McFarland, and DeForest, town of Westport, Madison Chamber of Commerce, cities of Madison, Fitchburg, and Verona, Dane County, American Planning Association-Wisconsin Chapter (APA-WI), Downtown Madison, Inc., and consultant team.

3.02 STRATEGY PACKAGE DEVELOPMENT PROCESS

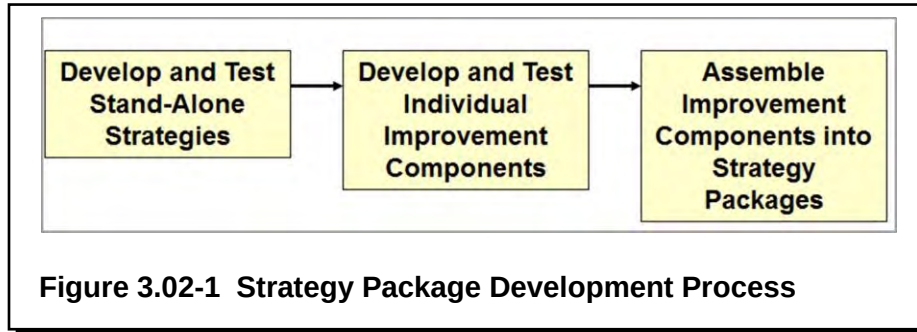
Within the Beltline PEL Study process, improvements or measures that had the potential to satisfy the Beltline PEL Study Goal and Objectives were termed “Components.” The term “Components” was used instead of “alternatives” to differentiate them from language used in NEPA documentation. It also alludes to the relatively high-level analysis that the Beltline PEL Study performed. Components were developed in consideration of both system-level and corridor-wide (Beltline) transportation needs.

Because the Beltline PEL Study Objectives addressed multiple modes and outcomes, multiple Components were assembled into Strategy Packages. The term Strategy Package refers to a potential long-term vision for the Beltline. Taken as a whole, each Package was intended to address the broad range of Study Objectives. The Strategy Packages developed in the Beltline PEL Study proposed different levels of improvement that ranged from a Strategy Package that keeps the Beltline as it is today with only essential improvements and maintenance to a Strategy Package that does everything needed to allow the Beltline to operate the best possible while offering the highest level of mobility and accessibility to all modes of travel. Each of the build Strategy Packages (those other than the Strategy Package that keeps the Beltline as it is today with only essential improvements and maintenance) builds on the previous build Strategy Package. One Strategy Package includes only the higher priority Components that were identified while the next Strategy Package includes the mid-priority Components as well as the high-priority Components. The next Strategy Package includes the mid-to-high priority Components while adding the remaining Components considered in the Beltline PEL Study that showed promise. The Strategy Package that has been recommended for more detailed analysis in a subsequent NEPA document or documents is summarized in Section 7—Strategy Packages and NEPA.

The Strategy Package development process is summarized in Figure 3.02-1 and consists of:

- Developing and testing Stand-Alone Strategies to see whether each would potentially satisfy the Beltline PEL Study Objectives, remove enough traffic from the Beltline to improve future mobility and safety, and minimize impacts on social, cultural, and environmental resources.
- Developing and testing improvement Components to see whether they had the ability to satisfy Beltline PEL Study Objectives.

- Assembling improvement Components determined to meet some portion of the Beltline PEL Study Goal and Objectives into Strategy Packages. These Strategy Packages, taken as a whole, had the potential to address all Beltline PEL Study Objectives.



The following paragraphs describe this process.

1. Develop and Test Stand-Alone Strategies

In 2014, the study team worked with local stakeholders in developing and reviewing Stand-Alone Strategies. The Stand-Alone Strategies were primarily off-alignment improvements focused on removing traffic from the Beltline and included new roadway corridors (such as a northern expressway/freeway loop known as the North Mendota Parkway), additional modes (such as enhanced bus and/or rail transit service) as well as alternative assumptions about future land uses and travel mode choices. The Beltline PEL Study examined nine Stand-Alone Strategies. One Stand-Alone Strategy evaluated improvements to the mainline Beltline while the other eight Stand-Alone Strategies were evaluated to see whether each would be viable (or useful for the traveling public), potentially satisfy Beltline PEL Study Objectives and remove enough traffic from the Beltline to be effective³, and minimize impacts to social, cultural, and environmental resources. The screening process and results of the Stand-Alone Strategy analysis are summarized in Section 5—Stand-Alone Strategy Screening.

2. Develop and Test Improvement Components

Following the evaluation and elimination of Stand-Alone Strategies, the study investigated different improvements at specific locations along the Beltline that, when combined, could address the study Goal and Objectives. The Beltline PEL Study called these improvements Components. The Components considered were developed through a collaborative process among the study team, the study's TAC and PAC, focus groups, expert panels, and other stakeholders. Specific Components generally have the capability to address some, but not all, Root Beltline PEL Study Objectives.

³Stand-Alone Strategies needed to reduce future traffic volumes to approximately existing volumes, which at the time of the analysis were 2012 conditions, to be considered viable and effective.

Individual Components considered in the Beltline PEL Study include:

- Mainline Improvement Components
- Interchange Components
- Local Road System Connections and Crossings Components
- Pedestrian and Bicycle Components
- Park and Ride Components
- Improved Transit Components

The study team worked with stakeholders to prioritize the Components for inclusion in Strategy Packages. This review included eliminating Components that consistently ranked low for a majority of the criteria considered, including screening against the Beltline PEL Study Objectives, feedback from agencies, local municipalities, and the public, preliminary estimated social, cultural, and environmental impacts, and potential accessibility benefits. The Components were reviewed and results are summarized in Section 6 of this report.

3. Assemble Improvement Components into Strategy Packages

As mentioned, the Beltline PEL Study Objectives address a variety of transportation modes. Because Stand-Alone Strategies could not address all Beltline PEL Study Objectives, the study team assembled various Components into Strategy Packages. This concept of assembling Components into Strategy Packages was presented to and refined by the TAC and PAC. These committees also performed an example exercise of assembling Strategy Packages for possible future evaluation. After evaluation of the Components was completed and Components were prioritized based on the criteria previously described, the study team developed four Strategy Packages. Section 7 of this report describes the following Packages:

- Strategy Package 1: Preserve and Maintain—This Strategy Package addresses existing transportation infrastructure needs and keeps the Beltline as it is today.
- Strategy Package 2: Higher Priority Components—This Strategy Package includes higher priority Components.
- Strategy Package 3: Mid-to-High Priority Components—This Strategy Package builds upon Strategy Package 2 and adds the mid-priority Components.
- Strategy Package 4: All Retained Components—This includes all Components from Strategy Package 3 and adds the lower-priority Components that still show promise but were not included in previous Strategy Packages.

The Packages propose different levels of improvement that range from a Strategy Package that keeps the Beltline as it is today with only essential improvements and maintenance to a Strategy Package that does everything needed to improve Beltline operations in critical areas, while offering the highest level of mobility and accessibility to all modes of travel.