SECTION 6
COMPONENTS

6.01 INTRODUCTION

Following the evaluation and elimination of Stand-Alone Strategies, the Beltline PEL Study team investigated different improvements at specific locations along the Beltline that, when combined, could address the study Goal and Objectives. Components, as referred to in this report, are individual improvements that generally have the capability to address some, but not all, root Beltline PEL Study Objectives. The Components considered were developed through a collaborative process among the Beltline PEL Study team, the study's TAC and PAC, focus groups, expert panels, and other stakeholders. The following types of Components were developed for the Beltline PEL Study:

- Mainline Components, including Weaving Section Improvements
- Interchange Components
- Local Road System Crossings and Connections Components
- Pedestrian and Bicycle Components
- Park-and-Ride Components
- Improved Transit Components

The Beltline PEL Study team worked with stakeholders to prioritize the Components for inclusion in Strategy Packages.

A. Background Analysis

This section of the report narrows the focus of the Components to those that previous reports and several memorandums showed as having the most potential as possible solutions to consider in the study's Strategy Packages. Components with the most potential are summarized in the following subsections and were vetted further to determine which should be included in one or more Strategy Packages and carried forward into future NEPA studies. This section builds on analysis completed in the following reports and memorandums:

- BIIM
- IIIM
- MIIRR
- *Madison Beltline HOV Demand Volumes Memorandum*
- *Crossings and Connections Options Technical Memorandum*
- *Bike and Pedestrian Options Technical Memorandum*
- *Transit and Managed Lanes Options Technical Memorandum*
- *Park and Ride Options Technical Memorandum*
- *Madison Beltline PEL: Accessibility Analysis for the Strategy Packages Technical Memorandum*

The BIIM and IIIM identified and initially analyzed Mainline and Interchange Components developed for the Beltline PEL Study. Additional analysis of the most promising Components was then documented in the MIIRR with recommendations for which Components to include in the Beltline PEL Study's Strategy Packages and carry forward into future NEPA studies. Subsection 6.02 summarizes the recommendations documented in the MIIRR for the Beltline mainline and interchanges.

The remaining memorandums document initial analysis completed for the other Components developed in the Beltline PEL Study. This report documents further evaluation of these Components and which Components are recommended to be included in the study's Strategy Packages.

B. Component Priorities Methodology

With the exceptions noted in Section 6.03, Components were prioritized based on the following analyses:

- Screening against the Beltline PEL Study Objectives
- Composite of feedback received from public involvement, EJ outreach, and the TAC and PAC
- Preliminary estimated social, cultural, and environmental impacts
- Potential accessibility benefits

The following paragraphs describe how the Components were prioritized.

1. Screening Against the Beltline PEL Study Objectives

Early in the Beltline PEL Study, the Components were screened against the seven root Beltline PEL Study Objectives. Objectives were considered for each Component by answering a set of questions related to the Beltline PEL Study Objectives for that Component. Questions included but were not limited to:

- Does the Component decrease bicycle crashes?
- Does the Component address the Beltline infrastructure condition and deficiencies?
- Does the Component have the potential to reduce motor vehicle trips?
- Does the Component connect economic centers?
- Is the Component compatible with local road function (for example, does the Component decrease Beltline diversion impacts to neighborhood streets)?

The questions were answered with a "Yes," "No," or "Somewhat." Section 6.02 describes the results of the evaluation of the Components against the Objectives screening criteria. Each answer had a corresponding number of points. "Yes" received 2 points; "Somewhat" 1 point; and "No" 0 points. At the end of the screening, each Component had a total number of points. The Components in each Component category were ranked from highest number of points to lowest number of points. Each Component was given a priority number based on its ranking within the category type. Priority one corresponded to the highest number of points or highest rank. Full evaluation matrices are provided in Appendix D.

2. Composite Feedback

Involvement from the TAC and PAC, public, and EJ communities and leaders resulted in another priority according to feedback received. The Beltline PEL Study team offered surveys after TAC and PAC Meeting No. 2, and PIM No. 1 that gave participants the opportunity to offer input on the Components. The Beltline PEL Study team and UW Survey Center conducted a survey using mailed questionnaires to neighborhoods with higher levels of low-income populations and

minority populations in fall 2021. In addition to the mailed survey, the Beltline PEL Study team conducted one-on-one interviews in spring and summer 2022 with several business owners and community leaders of EJ populations near the Beltline corridor. The EJ interviews provided the Beltline PEL Study team with the opportunity to confirm or expand on those themes noted in the UW Survey Center EJ Survey data. The *EJ Plan for the Madison Beltline PEL Study* and *WisDOT Madison Beltline PEL EJ Study Final Report* contain additional information regarding this EJ outreach. The outreach results are included in Appendix C.

The feedback from the EJ interviews and surveys was reviewed, quantitative data was gathered on which Components respondents would find most useful, and the responses were tallied. Depending on the type of survey question, each response was assigned a specific number of points. Once the responses were reviewed, a priority for each of the Components was determined. The priorities were averaged to create a composite feedback priority. These quantitative results allowed the Beltline PEL Study team to put the Components in order of priority based on feedback received.

3. Preliminary Estimated Social, Cultural, and Environmental Impacts

The Beltline PEL Study team assessed planning-level direct impacts, such as the need for new public ROW for transportation improvements. Potential impacts associated with the Mainline and Interchange Components are documented in supporting technical memorandums for this report including the *BIIM, IIIM, and MIIRR*.

For the Local Road System Crossings and Connections and Pedestrian and Bicycle Components, the Beltline PEL Study team reviewed potential impacts to wetlands, Section 4(f) protected property, residential and commercial buildings, potential ROW acquisition, and length of roadway, structure, retaining wall and path construction. This planning-level assessment determined whether impacts are anticipated to wetlands or Section 4(f) properties, but not the anticipated number of acres impacted. Similar to the feedback priority, each category of impact was assigned a specific number of points. Points were tallied for each Component and a priority based on impacts alone was determined.

When considering priority for Park-and-Ride and Transit Priority Components, preliminary impacts were not estimated. Impacts for the new park and rides were anticipated to be approximately the same at each location considered. The inclusion of transit priority in the Draft Strategy Packages was based primarily on BRT route crossings and frequency of local service routes crossing at Beltline interchanges in the Metro network redesign. Transit priority was also anticipated to involve minimal strip ROW or minimal impacts with improvements using the existing pavement to the extent possible to fit an additional transit-only lane through the interchange or queue-jump lane at signalized intersections.[1]

[1]At the time of this report, Wisconsin Statute s. 347.385 prohibits non-emergency vehicles from using transmitters for the purposes of altering the normal sequencing of the traffic signals. There are differing opinions on whether Transit Signal Priority (TSP) technically meets this definition. Additional coordination will be needed in future study phases regarding options for implementing TSP at Beltline interchanges.

4. Potential Accessibility Benefits

Beltline PEL Study Objectives 6, 7, 9 and 10 consider accessibility with improvements to connections for all travel modes, and enhancements and improvements to regional multimodal access including transit, walking, and biking. After discussion at the TAC and PAC No. 2 meeting, the Beltline PEL Study team added more detailed analysis and modeling to better quantify accessibility. In transportation and urban planning, accessibility focuses on the ease of reaching destinations by any mode and uses specific actions to improve access and reduce travel costs. Those actions might look like pedestrian and bicycle accommodations, transit service improvements, or motor vehicle capacity expansion.

The Beltline PEL Study team used the current TDM at the time of the analysis in fall 2023 (which used a 2016 base year) to estimate the changes in accessibility from Components, such as new grade-separated pedestrian and bicycle crossings of the Beltline or connections parallel to the Beltline. Specifically, measures such as the change in access to jobs per person within a reasonable amount of travel time by various travel modes were estimated for the Local Road System Crossings and Connections Components and Pedestrian and Bicycle Components using the TDM.

For Transit Priority Components, the Beltline PEL Study team used the TDM to assess the effectiveness of providing transit Priority at Beltline interchanges. The process was as follows:

1. Identify bus lines that pass through each of the interchanges considered.
2. Determine the number of buses using the interchange and the directions of movement.
3. Record passenger loads on those lines for different intersection approaches for AM and PM peak periods.
4. Sum passenger loads over the periods considered and by direction and use the sum for scoring the Components.
5. Specify the more important intersection approaches at key locations.
6. Assess how the transit priority locations compare to each other and prioritize them accordingly.

For park-and-Ride Components, the Beltline PEL Study team again used the TDM. The model determined if a park and ride lot was accessible by motor vehicle based on the time it took to reach it. Drive time limits were established based on internal zones (set to 15 minutes) and external zones (set to 25 minutes). Park-and-ride benefits were evaluated based on those who travel generally to and from the greater Madison area. Trip origins were from outside the Beltline (locations that must cross the Beltline to reach the Madison Isthmus and near east and west sides of the city of Madison) and destinations were inside the Beltline (locations generally including the Isthmus and near east and west sides of the city of Madison) during the AM peak hour. They were the reverse during the PM peak hour. The park and ride accessibility benefits modeling considered both connectivity and time saved.

Additional information on the accessibility analysis is included in the *Madison Beltline PEL: Accessibility Analysis for the Strategy Packages Technical Memorandum*.

6.02 COMPONENTS EVALUATION

This section summarizes Components considered and identifies the Components brought forward for further evaluation and potential inclusion in the Strategy Packages.

A. Mainline Components

1. Analysis Background

Several Beltline Mainline Components considered in the Beltline PEL Study sought to:

- Match Beltline capacity to meet projected demand.
- Make more efficient use of roadway facilities.
- Encourage higher person-per-vehicle ratios.

The Beltline PEL Study corridor is long and complex. To efficiently identify Mainline Components with potential, the corridor was divided at logical locations. The termini of some sections were selected based on interchange spacing and the opportunity for traffic flow to normalize. Other termini were selected at breakpoints using lower volume interchanges. The study sought to limit section lengths to no more than three or four interchanges and include interchanges that are interconnected operationally within the section. Limiting the sections to three or four interchanges reduces the number of combinations within each section and provides manageable limits for completing the analysis. Each section analysis overlaps at the section breaks, with the controlling section governing the evaluation results.

The section of the Beltline from I-39/90 to County N was not reviewed in detail by the Beltline PEL Study team as it was expected to be addressed as part of other ongoing WisDOT studies and projects. Construction of a diamond interchange at the intersection of US 12/18 and County AB was completed in 2023.

The seven mainline analysis sections are shown in Figure 6.02-1.

Figure 6.02-1 Beltline Mainline Sections

- Section 1 included upstream and downstream of the interchange at Parmenter Street.[2]
- Section 2 included upstream and downstream of the interchanges at Airport Road, US 14/University Avenue, and Greenway Boulevard[3].
- Section 3 included upstream and downstream of the interchanges at Old Sauk Road, Mineral Point Road, and Gammon Road.
- Section 4 included upstream and downstream of the interchanges at Whitney Way and Verona Road.
- Section 5 included upstream and downstream of the interchanges at Seminole Highway, Todd Drive, Fish Hatchery Road, Park Street.
- Section 6 included upstream and downstream of the interchanges at Rimrock Road, John Nolen Drive, and West Broadway.
- Section 7 included upstream and downstream of the interchanges at Monona Drive and Stoughton Road.

The Beltline PEL Study team evaluated the eastbound and westbound directions of the Beltline mainline independently. While operations of the freeway and local road system as a whole were ultimately impacted by both the eastbound and westbound mainline operations, the actual interaction occurred at the interchange ramp terminal intersections rather than on the mainline or ramps. Mainline operations were dictated by the sequence and spacing of entrance and exit ramps. Further, with the range of potential options available for each direction and section, it was optimal to analyze the directions independently and identify the Mainline Components that showed the most promise before combining them with each other.

Early in the Beltline PEL Study, six Beltline Mainline Components were evaluated including:

- Hard Shoulder Running
- Bus Shoulder Running
- Dedicated Bus Lane
- High Occupancy Vehicle (HOV) or High Occupancy Toll (HOT) Lane
- General Purpose (GP) Lanes
- Weaving Section Improvements

a. Hard Shoulder Running

Hard shoulder running refers to the practice of allowing vehicles to travel on the shoulder of a highway during periods of heavy traffic. In 2016, WisDOT paused work on the Beltline PEL Study to assess planning priorities statewide. During this time, pavement distress on the Beltline from I-39/90 to Todd Drive grew to a point where WisDOT began considering interim pavement rehabilitation measures. In 2017, the focus of the Beltline PEL Study scope was expanded to include analyzing short-term solutions to coincide with an upcoming programmed overlay project between Seminole Highway and I-39/90. WisDOT chose to move forward with a NEPA study, design, and construction of

[2]The Beltline mainline north of the Beltline PEL Study limits at US 14/University Avenue was included in the analysis because the nature of the improvements considered may result in the need to extend improvement Components further north due to geometric design considerations and/or operations.
[3]See footnote no. 2.

hard shoulder running on the Beltline from approximately the Whitney Way interchange to just west of I-39/90, referred to as the Beltline Flex Lane. The Beltline PEL Study resumed analysis of long-term Beltline solutions in 2021. The Beltline Flex Lane opened to traffic in July 2022.

The construction of the Beltline Flex Lane was incorporated into the Beltline PEL Study analysis as an existing condition. The MIIRR referred to a future no-build condition that included the existing Beltline Flex Lane from Whitney Way to west of I-39/90 as Component 0 under FEC conditions. MIIRR analysis also focused on potential Mainline Components that maintained the existing Beltline Flex Lane and extended the Beltline Flex Lane west and/or east of the existing limits. These Mainline Components are discussed in more detail later in this section.

b. Bus Shoulder Running and Dedicated Bus Lane

Bus shoulder running is the practice of allowing buses to travel on the shoulder of a highway. Dedicated bus lane refers to restricting use of one or more lanes to travel by buses (and, typically, emergency vehicles) only. Both were initially considered during the Beltline PEL Study. During the Beltline PEL Study, the city of Madison began investigating BRT in the city of Madison area as well as the redesign of the Metro network to better meet the needs of city of Madison area residents and businesses. After further study and design, the Metro network redesign was adopted by the city of Madison in June 2022 and went into effect in June 2023. At the same time, the city of Madison studied and designed the Madison East-West BRT and began construction in fall 2022. Service began on September 22, 2024. No transit routes were planned to travel along the Beltline under the Metro network redesign or BRT. Therefore, the Bus Shoulder Running and Bus Only Lanes on the Beltline Mainline Components were dismissed from further consideration in the Beltline PEL Study.

c. HOV Lane

An HOV lane restricts travel to HOV, typically carrying at least two people. The *Madison Beltline HOV Demand Volumes Memorandum* evaluated a condition that would convert the existing Beltline Flex Lane to HOV operation and add an HOV lane to the portion of the Beltline west of the existing Beltline Flex Lane. Traffic modeling indicated that conversion of the Beltline Flex Lane to an HOV lane would likely improve the travel time in the new HOV lane, but it was anticipated to have a negative effect on the travel time in the GP lanes. The memorandum also noted that HOV lanes were not attractive for short trips because several lane shifts would be required to enter and exit the lane, and the short usage and corresponding small reduction in travel time would likely not warrant a change of mode from SOV (driving alone) to HOV. More than 50 percent of the trips on the Beltline exit within four interchanges. Finally, since initial evaluation of HOV lanes, the Beltline Flex Lane was constructed and opened to GP traffic (excluding trucks). At the time of this report, there were no plans to change these operating conditions. For these reasons, HOV lanes on the Beltline were dismissed from further consideration in the Beltline PEL Study.

d. HOT Lane

A HOT lane is the practice of restricting use of a travel lane to HOV, typically carrying at least two people, while also charging a toll for some or all vehicles to use the lane, depending on the traffic conditions at the time. The *Transit and Managed Lanes Options Technical Memorandum* evaluated HOV and HOT treatments on the Beltline. For most applications, HOT lanes allow HOV traffic to travel in them without being tolled while SOV traffic must pay a toll to use the lane. In this way, HOT lane applications provide similar benefits to HOV lanes while carrying a higher total volume of traffic. The memorandum cited the American Association of State Highway and Transportation Officials (AASHTO) *Guide for Geometric Design of Transit Facilities on Highways and Streets*, among other references. The AASHTO guide noted that radial freeways that travel from outlying areas toward the Central Business District (CBD) tend to offer the best potential for HOV, whereas the Beltline is a circumferential freeway. Additionally, Wisconsin state statutes prohibit the use of tolling at the time of this report. Finally, since initial evaluation of HOT lanes, the Beltline Flex Lane was constructed and opened to GP traffic (excluding trucks). At the time of this report, there were no plans to change these operating conditions. For these reasons, HOT lanes on the Beltline were dismissed from further consideration in the Beltline PEL Study.

e. GP Lanes

GP lanes are open to vehicular traffic at all times of the day and are not available for bicycle or pedestrian use. The BIIM and MIIRR evaluated added GP lanes on the Beltline and determined a Mainline Component that added one GP lane to the Beltline showed promise for inclusion in the Strategy Packages. This Component is referred to as Mainline Component C–Plus One GP Lane in this report and is documented as part of the remaining Mainline Components later in this section.

f. Weaving Section Improvements

Weaving section improvements reduce the conflicts that occur on a freeway when traffic entering the facility must cross paths with traffic exiting the facility at a downstream interchange. The BIIM and MIIRR evaluated weaving improvements on the Beltline. The addition of mainline lanes alone was not able to improve operations to LOS D or better in some sections of the Beltline. There were some weaving sections that continued to break down. Weaving areas often occur when traffic entering the Beltline mixes or weaves with traffic wishing to exit the Beltline at a downstream off-ramp, often in a relatively short distance between on and off ramps.

In general, two types of weaving improvements were considered for the Beltline corridor. CD roads would move the weaving traffic off the mainline and onto a separate CD roadway. This would horizontally separate the through traffic from the weaving traffic entering and exiting the freeway and would eliminate potential speed differentials between the two traffic streams. CD roads typically increase the overall

width of the highway footprint. Figure 6.02-2 shows a CD road configuration in the city of Madison at the I-39/90/94 and US 151 system interchange.

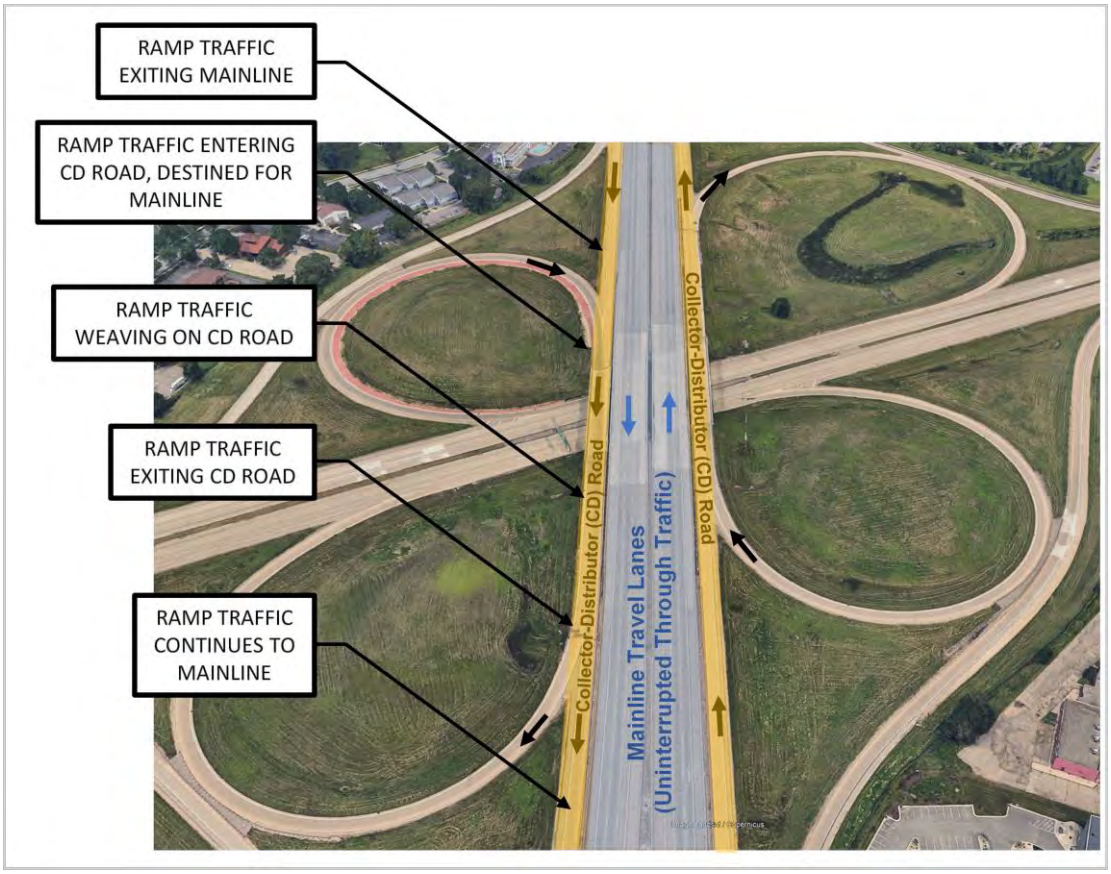


Image: Google Earth Pro

Figure 6.02-2 Example of CD Roadways

Basket-weaves were also considered and would separate the weaving traffic by crossing the entering traffic over or under the exiting traffic. This vertical separation of the traffic streams would require a structure and increase the overall width of the highway footprint. Figure 6.02-3 shows a basket-weave configuration on I-43 in the downtown city of Milwaukee, Wisconsin, just south of WIS 145/West Fond du Lac Avenue. This configuration also happens to include a grade-separated local road connection on West Winnebago Street that travels over the I-43 mainline and ramps with no access to the highway.

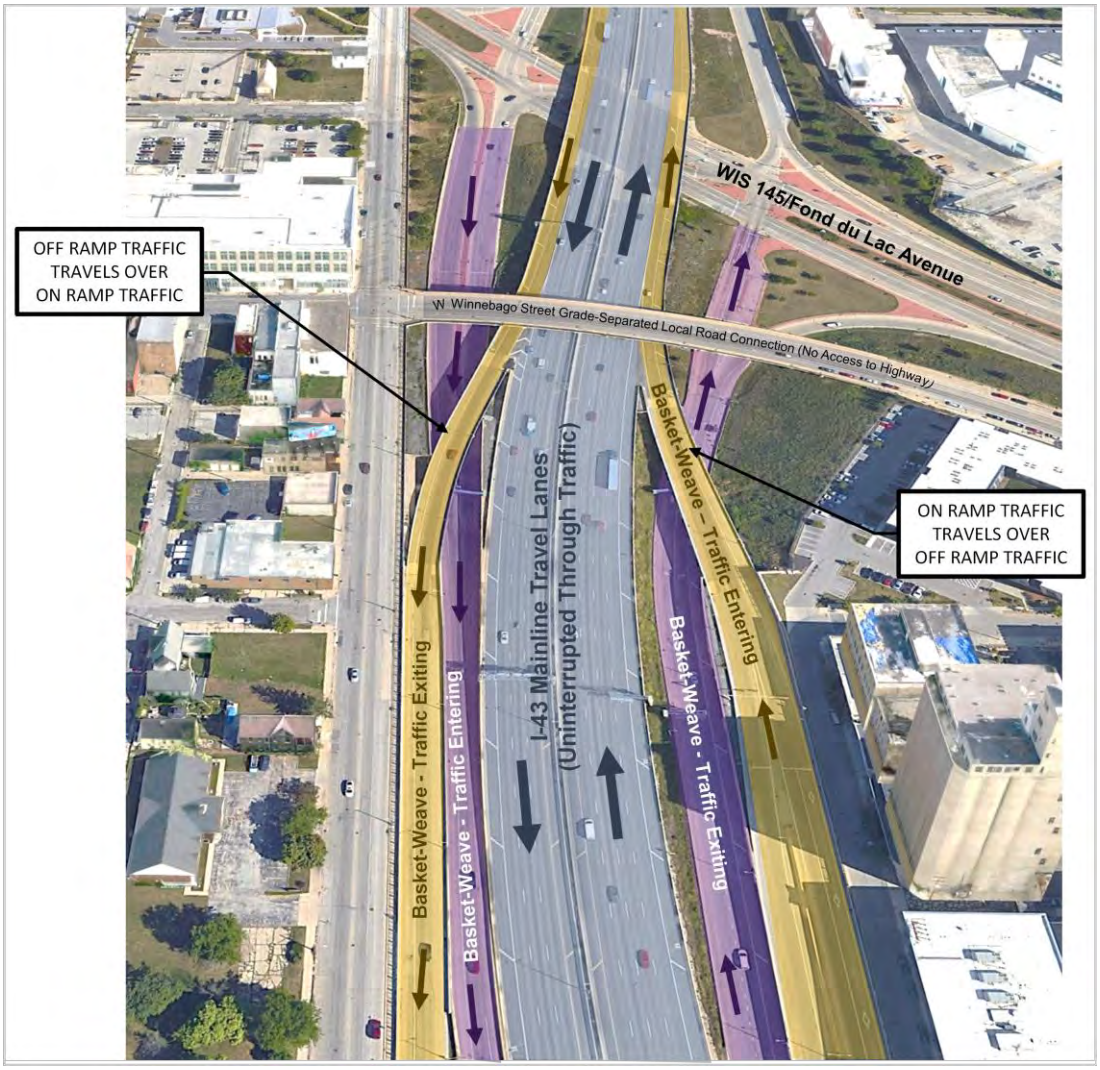


Image: Google Earth Pro

Figure 6.02-3 Example of Basket-Weaves

Weaving improvements when combined with Mainline Components partially or fully satisfied desirable traffic operation Objectives in the horizon year of 2050 throughout the corridor and could partially or fully satisfy some of the other Beltline PEL Study Objectives. As a result, several additional mainline suboptions were developed in the BIIM, and the MIIRR analysis narrowed the focus to those that showed the most promise. The weaving improvements brought forward in the MIIRR for inclusion in the Strategy Packages are documented as part of the remaining Mainline Components later in this section.

2. Evaluated Mainline Components

The remaining Mainline Components were considered for inclusion in the Strategy Packages. Because several Mainline Components and suboptions were originally named and considered in

the Beltline PEL Study, the remaining Mainline Components have been renamed for this report to avoid confusion that might occur from gaps created from eliminated Components:

- Mainline Component A–Preserve and Maintain
- Mainline Component B–Extend Flex Lane
- Mainline Component C–Plus One GP Lane
- Weaving Section Improvements

Conceptual layouts of the remaining Mainline Components are provided in Appendix E.

a. Mainline Component A–Preserve and Maintain (also referred to as No-Build, Future Existing plus Committed, and Component 0 in previous Beltline PEL Study documents)

As noted, the Beltline Flex Lane opened to traffic in July 2022 and the *MIIRR* completed further analysis of the Mainline Components, taking into consideration the existing Beltline Flex Lane in the Preserve and Maintain condition. Mainline Component A–Preserve and Maintain would maintain the existing Beltline Flex Lane from approximately Whitney Way to west of I-39/90 and make no other operational or capacity changes to the corridor. Figure 6.02-4 shows Mainline Component A.

Figure 6.02-4 Mainline Component A–Preserve and Maintain

The Beltline Flex Lane was the first Dynamic Part-Time Shoulder Use (DPTSU) system in Wisconsin. It typically operates during weekday mornings, evenings, and special events. Based on review of data in the first year of Beltline Flex Lane operation, comparisons made between July 2022 through June 2023 data and 2019[4] data were as follows:

- Beltline daily volumes were, on average, approximately 2 percent higher between July 2022 and June 2023 than 2019.

- The highest 15-minute traffic volumes during the PM peak for the eastbound direction of travel were up to 16 percent higher between July 2022 through June 2023 than 2019.

- The highest 15-minute traffic volumes during the AM peak for the westbound direction of travel were up to 9 percent higher between July 2022 and June 2023 than 2019. The westbound AM peak volumes also peaked approximately 1 hour later between July 2022 and June 2023 compared to 2019.

- In 2019, the average travel time on the Beltline between Verona Road and I-39/90 was approximately 23 minutes during the busiest times of day. With the Beltline Flex Lane in 2022 and 2023, these average travel times were reduced to approximately 13 minutes, a reduction of up to 45 percent, despite higher traffic volumes compared to the 2019 “before” condition.

- In 2019, it took 23 minutes (average) to 35 minutes (approximate maximum) to travel westbound between I-39/90 and Verona Road in the morning. In 2022 and 2023 with the Beltline Flex Lane in operation, the same westbound trip between I-39/90 and Verona Road took 13 minutes (average) to 16 minutes (approximate maximum). This reduced range in travel times from 12 minutes variance to 3 minutes variance demonstrates that the Beltline is more reliable with the Beltline Flex Lane, despite higher traffic volumes compared to the 2019 “before” condition.

The average number of crashes per year dropped from 591 between 2015 and 2019 to 446 between July 2022 and June 2023 with the Beltline Flex Lane in operation. Fatal and injury crashes per year remained approximately the same with an average 53 crashes per year between 2015 to 2019 and 52 crashes between July 2022 and June 2023.

While the Beltline Flex Lane generally improved operations and safety compared to 2019 conditions, Mainline Component A–Preserve and Maintain was not expected to satisfy desirable traffic operation Objectives in the horizon year of 2050 throughout the corridor. The Mainline Component A–Preserve and Maintain was carried forward

[4]2019 was used for comparison due to the unusual traffic characteristics that resulted from the COVID-19 pandemic beginning in spring 2020.

for consideration in the Strategy Packages and is anticipated to be included in future analysis as required by NEPA and as a basis for comparison.

b. Mainline Component B–Extend Flex Lane (also referred to as Hard Shoulder Running, DPTSU, and Component 0C in previous Beltline PEL Study documents)

Mainline Component B–Extend Flex Lane would extend the existing Beltline Flex Lane west of the existing limits near Whitney Way to near the Parmenter Street interchange. From an operations perspective in the westbound direction, additional capacity is needed to meet desirable LOS goals through only the Greenway Boulevard interchange. However, the close interchange spacing, horizontal curves, and vertical profile north of Greenway Boulevard made it challenging to drop an additional lane until the Parmenter Street interchange area.

Mainline Component B–Extend Flex Lane would also extend the east limits of the Beltline Flex Lane from the terminus between the Stoughton Road and I-39/90 interchanges farther east to eliminate potential bottlenecks predicted by future conditions traffic modeling between the two interchanges. The extension would result in the westbound Beltline Flex Lane beginning upstream of the I-39/90 interchange and the eastbound Beltline Flex Lane ending at or just downstream of the I-39/90 interchange. Figure 6.02-5 shows Mainline Component B–Extend Flex Lane.

Figure 6.02-5 Mainline Component B–Extend Flex Lane

In general, Mainline Component B–Extend Flex Lane was anticipated to partially satisfy desirable traffic operations Objectives in the horizon year of 2050 throughout the corridor, and partially or fully satisfy some of the other Beltline PEL Study Objectives. The Mainline Component B–Extend Flex Lane was carried forward for consideration in the Strategy Packages.

c. Mainline Component C–Plus One GP Lane (also referred to as +1 GP and Component 0A in previous Beltline PEL Study documents)

Mainline Component C–Plus One GP Lane would improve anticipated poor future mainline operations via capacity expansion by adding one travel lane in each direction of the Beltline between the Parmenter Street interchange to just west of the I-39/90 interchange, while maintaining the existing Beltline Flex Lane from Whitney Way on the west end and extending it to the I-39/90 interchange on the east end. In some areas, this may also include providing auxiliary lanes between the on-ramp and next downstream off-ramp. The need for and/or effectiveness of auxiliary lanes has not been fully evaluated, and will be influenced by if and where mainline capacity and/or weave improvements would be implemented. Auxiliary lanes will be further evaluated in future or subsequent NEPA studies. Figure 6.02-6 shows Mainline Component C–Plus One GP Lane.

Figure 6.02-6 Mainline Component C–Plus One GP Lane

In general, Mainline Component C–Plus One GP Lane was anticipated to partially satisfy desirable traffic operations Objectives in the horizon year of 2050 throughout the corridor and partially or fully satisfy some of the other Beltline PEL Study

Objectives. Mainline Component C–Plus One GP Lane was carried forward for consideration in the Strategy Packages.

d. Weaving Areas

Some weaving areas between closely spaced on-ramps and off-ramps warrant consideration of weaving improvements. In some cases, weaving improvements may be needed to achieve desirable operations even if an additional GP lane is added. Weaving improvements could consist of CD roads which separate the weaving movements from the mainline or basket-weaves in which a bridge would carry one traffic stream over the other, thereby eliminating the need for this crossing traffic to occupy the same space. The areas where weaving improvements were carried forward for consideration in the Strategy Packages included:

- Southbound (eastbound) between Old Sauk Road and Mineral Point Road
- Northbound (westbound) between Mineral Point Road and Old Sauk Road
- Eastbound between Whitney Way and US 18/151/Verona Road
- Westbound between US 18/151/Verona Road and Whitney Way
- Eastbound between Fish Hatchery Road and US 14/US 151/Park Street
- Westbound between US 14/US 151/Park Street and Fish Hatchery Road
- Eastbound between John Nolen Drive and West Broadway
- Westbound between West Broadway and John Nolen Drive
- Eastbound between Monona Drive and US 51/Stoughton Road
- Westbound between US 51/Stoughton Road and Monona Drive

B. Interchange Components

1. Analysis Background

The IIIM documented the preliminary investigation of Components at interchanges. The MIIRR narrowed the field of Components considered in the IIIM to those that showed the most promise while eliminating those with a higher anticipated magnitude of cost, higher anticipated impacts, and those expected to offer negligible benefits over the other Components considered. In developing the MIIRR, the Beltline PEL Study team reviewed whether notable changes had occurred since the IIIM analysis was conducted in 2016 and 2017, including reviewing more recent traffic data, where available, to determine if existing conditions had appreciably changed, and considering overall impacts and anticipated magnitude of costs of the concepts documented in the IIIM.

The investigation of Interchange Components included the ramp terminal intersections and the functional area of interchanges. The functional area of the interchange included the area near the interchange and its associated intersections that affect operations at the interchange. Several interchange locations included improvements to intersections adjacent to the Beltline ramp terminal intersections. These improvements typically provided benefit to the local system and enhanced mobility to and from the Beltline or along the arterials crossing the Beltline. Although the IIIM and MIIRR proposed improvements at intersections near the interchange ramp terminals,

these improvements were not guaranteed to be included as part of a future WisDOT construction project if the Component was recommended in the MIIRR for further investigation in a future NEPA study. Coordination with local municipalities was anticipated to be needed to incorporate these improvements in a future project.

Improvement types beyond the no-build condition generally included conventional expansion, reconfiguration of the interchange or intersection type, or reconfiguration of access for some movements. Factors considered at a planning level for the various Components included intersection motor vehicle LOS, pedestrian and bicycle accommodations, transit service, ramp terminal spacing to adjacent intersections, and potential impacts. Access, land use, anticipated development and growth, local road connectivity, bridge impacts, and impacts on intersection operations were also considered.

2. Evaluated Interchange Components

Table 6.02-1 summarizes the Interchange Components considered for the Strategy Packages from US 14/University Avenue to Stoughton Road as recommended in the *MIIRR*. Additional information about the full range of potential Components considered can be found in the *MIIRR*. Conceptual layouts of the Interchange Components are provided in Appendix E.

Beltline Interchange or Intersection (MIIRR Section No.)	Interchange Component
US 14/University Avenue (Section 3.05–2 initially considered)	1–No-Build
	2–Conventional Expansion with Roundabout
Greenway Boulevard (Section 3.06–2 initially considered)	1–No-Build
	2–Conventional Expansion
Old Sauk Road (Section 3.07–2 initially considered)	1–No-Build
	2–Conventional Expansion
Mineral Point Road (Section 3.08–3 initially considered)	1–No-Build
	2–Conversion to Shared Lanes
	3–Conventional Expansion
Gammon Road (Section 3.09–3 initially considered)	1–No-Build
	2–Conventional Expansion
	3–DDI
Whitney Way (Section 3.10–7 initially considered)	1–No-Build
	6A–Relocated Eastbound Beltline Exit Ramp Only
Verona Road (Section 3.11–8 initially considered)	1–No-Build
	3–Free Flow System Interchange for US 18/151 (Stage 3)
	6–Full DDI with Southern Crossover
	7–Partial DDI with Southern Crossover
	8–Modified Stage 3
Seminole Highway (Section 3.12–2 initially considered)	1–No-Build
	2–Conventional Expansion
Todd Drive (Section 3.13–2 initially considered)	1–No-Build
	2–Conventional Expansion
Fish Hatchery Road (Section 3.14–2 initially considered)	1–No-Build
	2–Conventional Expansion
Park Street (Section 3.15–2 initially considered)	1–No-Build
	2–Conventional Expansion
Rimrock Road (Section 3.16–2 initially considered)	1–No-Build
	2–Conventional Expansion
John Nolen Drive and Rimrock Road Intersection (Section 3.17–3 initially considered)	1–No-Build
	2–Conventional Expansion
	3–Quadrant Roadway
West Broadway (Section 3.18–2 initially considered)	1–No-Build
	2–Conventional Expansion
Monona Drive (Section 3.19–2 initially considered)	1–No-Build
	2–Conventional Expansion
US 51/Stoughton Road (Section 3.20–4 initially considered)	1–No-Build
	2–DDI
	3–DDI with Eastbound to Northbound and Southbound to Westbound Directional Ramps
	4–Relocated Stoughton Road Interchange

Table 6.02-1 Interchange Components to Consider for Strategy Packages: US 14/University Avenue to Stoughton Road

C. Local Road System Crossings and Connections Components

1. Analysis Background

One type of Component considered for inclusion in a long-term plan for the Beltline was parallel local road connections or grade-separated crossings of the Beltline. These Local Road System Crossings and Connections had potential to relieve congestion, improve multimodal travel options, and reduce the barrier effect of the Beltline corridor. The initial analysis of the Local Road System Connections and Crossings Components was documented in the *Crossings and Connections Options for Madison Beltline PEL Technical Memorandum*.

2. Evaluated Local Road System Crossings and Connections Components

Local road connections and grade-separated crossings of the Beltline considered by the Beltline PEL Study team are shown in Figure 6.02-7. Those shown with smaller arrows in light blue were evaluated and dismissed as part of a previous *Beltline Safety and Operations Study* completed by WisDOT or the supplemental technical memorandum *Crossings and Connections Options for Madison Beltline PEL* and are not being carried forward in the Beltline PEL Study for further investigation in a future NEPA study. It was assumed that all Local Road System Crossings and Connections Components carried forward would provide suitable bicycle, pedestrian, and transit accommodations. Conceptual layouts of the Local Road System Crossings and Connections Components are provided in Appendix E.

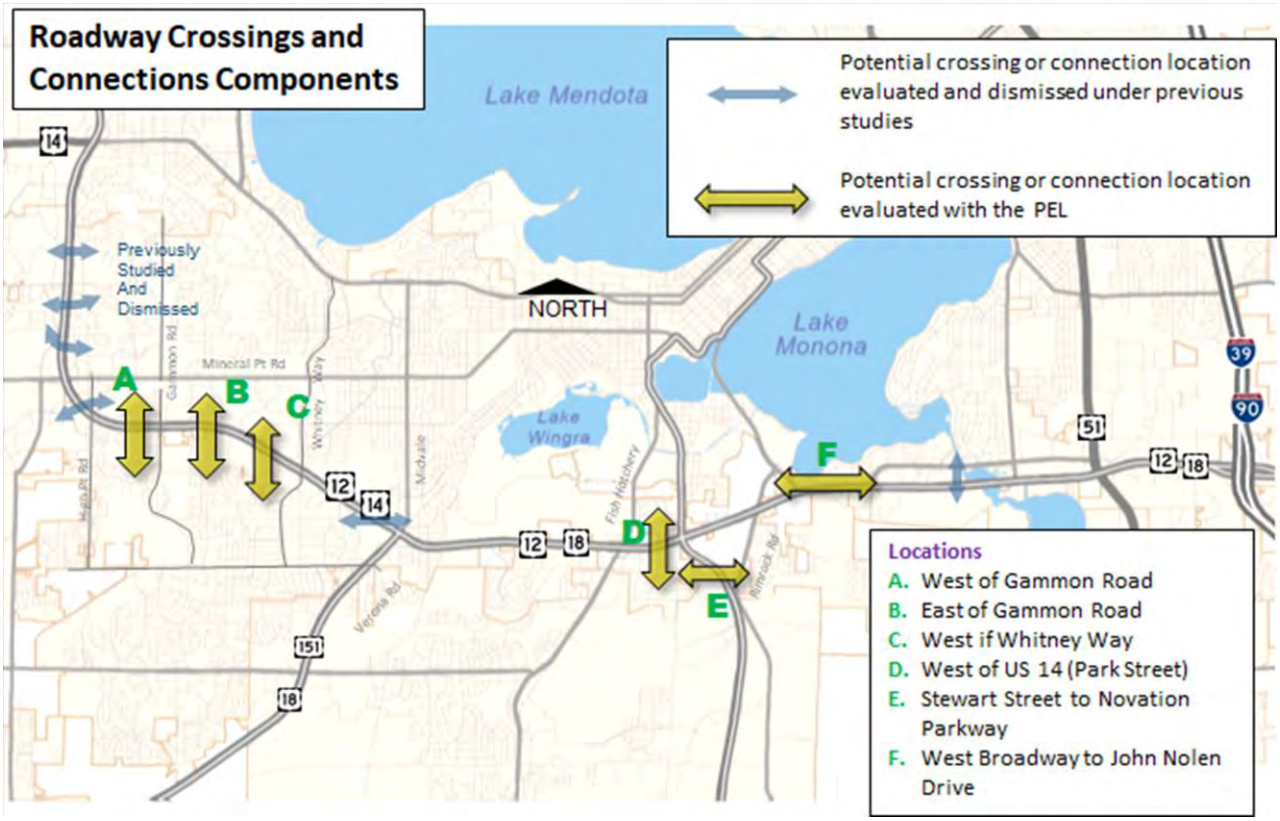


Figure 6.02-7 Local Road System Crossings and Connections Components Considered in the Beltline PEL Study

a. Local Road System Crossings and Connections Component A–West of Gammon Road Crossing

This grade separation west of Gammon Road would connect commercial areas south of the Beltline near Walmart to West Towne Mall north of the Beltline as shown in Figure 6.02-8.

Map Source: Google Maps, accessed March 23, 2021

Figure 6.02-8 Local Road System Crossings and Connections Component A–West of Gammon Road Crossing

This crossing would provide an alternative route to Gammon Road for people patronizing the commercial areas. It also would provide an alternate route for residents near the High Point Estates neighborhood to access West Towne Mall.

An analysis using the Dane County TDM indicated this crossing could attract approximately 7,100 vpd during the base year (2010) and approximately 5,700 vpd in 2050.[5] However, this crossing did not address Beltline mainline congestion, nor did it substantially reduce traffic volumes on the Beltline. The TDM forecasted changes between 2010 and 2050 Beltline traffic ranging from -0.5 percent to +1.7 percent when this crossing was added. It was also unlikely this crossing would have much effect on Beltline mainline crashes.

The crossing would provide a more direct route between residential and commercial areas and demand modeling indicated it would reduce Gammon Road traffic volumes by approximately 5,200 vpd north of the Gammon Road interchange and by approximately 5,400 vpd south of the interchange in 2010. These volumes represented between a 12 and 14 percent reduction in traffic traveling through the interchange. In 2050, demand modeling indicated traffic volumes north of the Gammon Road interchange would be reduced by approximately 4,800 vpd and approximately 6,200 vpd south of the interchange. These volumes represented between 11 and 15 percent reduction in traffic traveling through the interchange. The West of Gammon Road Crossing would also reduce volumes on High Point Road by approximately 1,800 vpd in 2050. However, the demand modeling indicated this crossing increased volumes on Schroeder Road by approximately 500 vpd and on Odana Road by approximately 1,300 vpd in 2050.

b. Component B–East of Gammon Road Crossing

Local Road System Crossings and Connections Component B, a grade separation east of Gammon Road, would connect commercial areas south of the Beltline near Woodman's Food Market to businesses near the Market Square Shopping Center north of the Beltline (see Figure 6.02-9).

[5]High Point Road becomes a more attractive north-south route in 2050 than in 2010 because the missing section between Mid Town Road and Raymond Road from 2010 is assumed to be constructed in 2050. The TDM predicted High Point Road would draw some Gammon Road trips in 2050 that would have been candidates to use the West of Gammon Road Crossing, decreasing the amount of use it is anticipated to receive in 2050 compared to 2010.

Map Source: Google Maps, accessed March 23, 2021

Figure 6.02-9 Local Road System Crossings and Connections Component B–East of Gammon Road Crossing

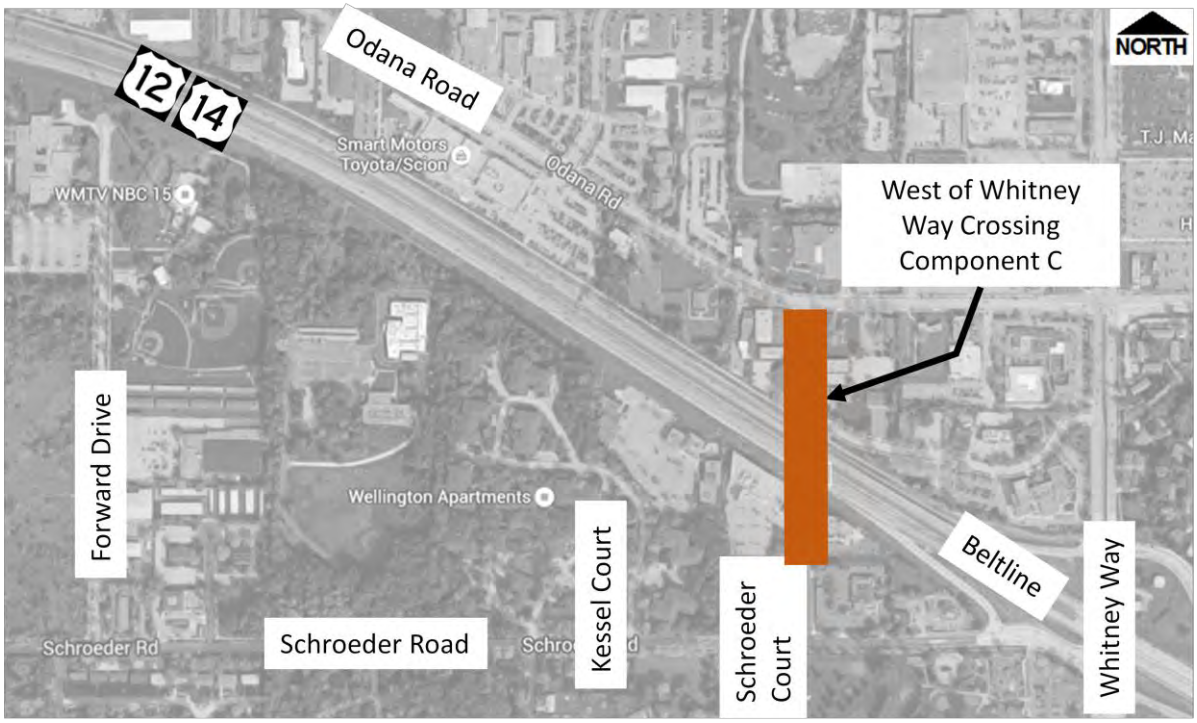
This crossing provides an alternative route to Gammon Road for people using motor vehicles to cross the Beltline. It does not add a new crossing for bicycles and pedestrians since an underpass currently exists, however, it maintains this connection. Demand modeling indicated this grade-separated Beltline crossing could attract approximately 9,400 vpd in 2010 and approximately 10,500 vpd in 2050. However, this connection did not address Beltline mainline congestion, nor did it substantially reduce traffic volumes on the Beltline. The TDM forecasted changes in 2010 and 2050 Beltline traffic ranging from +0.2 to +2.5 percent when this crossing was added. It was also unlikely this crossing would have much effect on Beltline crashes.

Local Road System Crossings and Connections Component B would provide a more direct route between commercial areas north and south of the Beltline. Demand modeling indicated this connection would reduce Gammon Road traffic volumes north of the Gammon Road interchange by approximately 5,300 vpd and by approximately 4,300 vpd south of the interchange in 2010. These volumes represented between 10 and 13 percent

reduction in traffic traveling through the interchange. In 2050, Gammon Road traffic volumes would be reduced by approximately 5,700 vpd north of the interchange and by approximately 4,900 vpd south of the interchange. These volumes represented between 11 and 13 percent reduction in traffic traveling through the interchange. However, demand modeling indicated the crossing increased traffic volumes on Odana Road. Existing traffic on Odana Road was approximately 14,000 vpd in 2010, and the TDM predicted traffic could increase by up to 18 percent on Odana Road with this crossing in 2050.

c. Component C–West of Whitney Way Crossing

Local Road System Crossings and Connections Component C, a Beltline grade separation west of Whitney Way, would connect residential areas south of the Beltline with commercial areas north of the Beltline (see Figure 6.02-10).



Map Source: Google Maps, accessed March 23, 2021

Figure 6.02-10 Local Road System Crossings and Connections Component C–West of Whitney Way Crossing

This crossing would provide an alternative route to Whitney Way for people patronizing these commercial establishments. Currently, it is difficult to walk or bicycle through the congested Whitney Way interchange. Demand modeling indicated that this grade separated Beltline crossing could attract approximately 11,600 vpd in 2010 and approximately 11,400 vpd in 2050[6]. However, this crossing did not address

[6] The TDM predicted lower volumes in 2050 due to wider traffic pattern changes resulting from increased volumes and predicted congestion on other streets in the area.

Beltline mainline congestion, nor did it substantially reduce traffic volumes on the Beltline. The TDM forecasted changes in 2010 and 2050 Beltline traffic ranging from -0.1 to +2.9 percent when this crossing was added. It was also unlikely this crossing would have much effect on Beltline crashes.

Local Road System Crossings and Connections Component C would provide a more direct route between commercial and residential areas. Demand modeling indicated this crossing could reduce Whitney Way traffic volumes north of the Whitney Way interchange by approximately 8,700 vpd and by approximately 400 vpd south of the interchange in 2010. These volumes represented 20 and 2 percent reductions in traffic traveling through the interchange, respectively. In 2050, traffic volumes north of the Whitney Way interchange could be reduced by approximately 7,000 vpd, or approximately 14 percent. However, modeling indicated traffic volumes south of the interchange would be essentially unchanged in 2050. This crossing would also reduce daily volumes through the Gammon Road interchange by approximately 1,300 vpd in 2050. It would increase volumes on portions of Schroeder Road by approximately 1,600 vpd and on portions of Odana Road by approximately 2,200 vpd in 2050. These volumes represented a 21 and 12 percent increase, respectively.

This Component is anticipated to impact primarily commercial property on either side of the Beltline. Preliminary profiles indicate a crossing at this location would require relatively steep street profiles of up to 6 percent. View of an existing overhead sign on the westbound Beltline approximately 400 feet west of this proposed overpass location may be obstructed by this Component.

d. Component D–West of Park Street Crossing

Local Road System Crossings and Connections Component D, a crossing west of Park Street, would connect portions of the Burr Oaks neighborhood near Badger Road with an isolated light industrial area that was primarily accessed through Greenway Cross and Fish Hatchery Road at the time of this report (see Figure 6.02-11).

Map Source: Google Maps, accessed March 23, 2021

Figure 6.02-11 Local Road System Crossings and Connections Component D–West of Park Street Crossing

This crossing would create a better connection to Syene Road, a north-south roadway in the city of Fitchburg that was within a planned growth area at the time of this report in an area that has seen urban development since the time of the initial Local Road System Crossings and Connections analysis. The crossing would provide better access to the proposed North-South BRT route for people originating from or destined to areas south of the Beltline. The crossing was previously proposed in the 2006 Madison Area Transportation Planning Board (MATPB) Transportation Improvement Program (TIP) for the Madison area as a pedestrian and bicycle overpass that would allow cyclists access to the city of Fitchburg and the village of Oregon without traveling on Fish Hatchery Road. It was removed from the MATPB TIP after the 2012 update.[7] In March 2024, the city of

[7]The name of the MATPB changed to Greater Madison MPO in 2020.

Madison received a federal grant under the federal Reconnecting Communities and Neighborhoods (RCN) program to explore this Component further.

This crossing could encourage commuters to park south of the Beltline and use this crossing to get to employment centers north of the Beltline. It provides an alternate route for regular Metro Routes B (future North-South BRT), G, H, 65, and 75 as well as supplemental routes 618, 637, and 641.

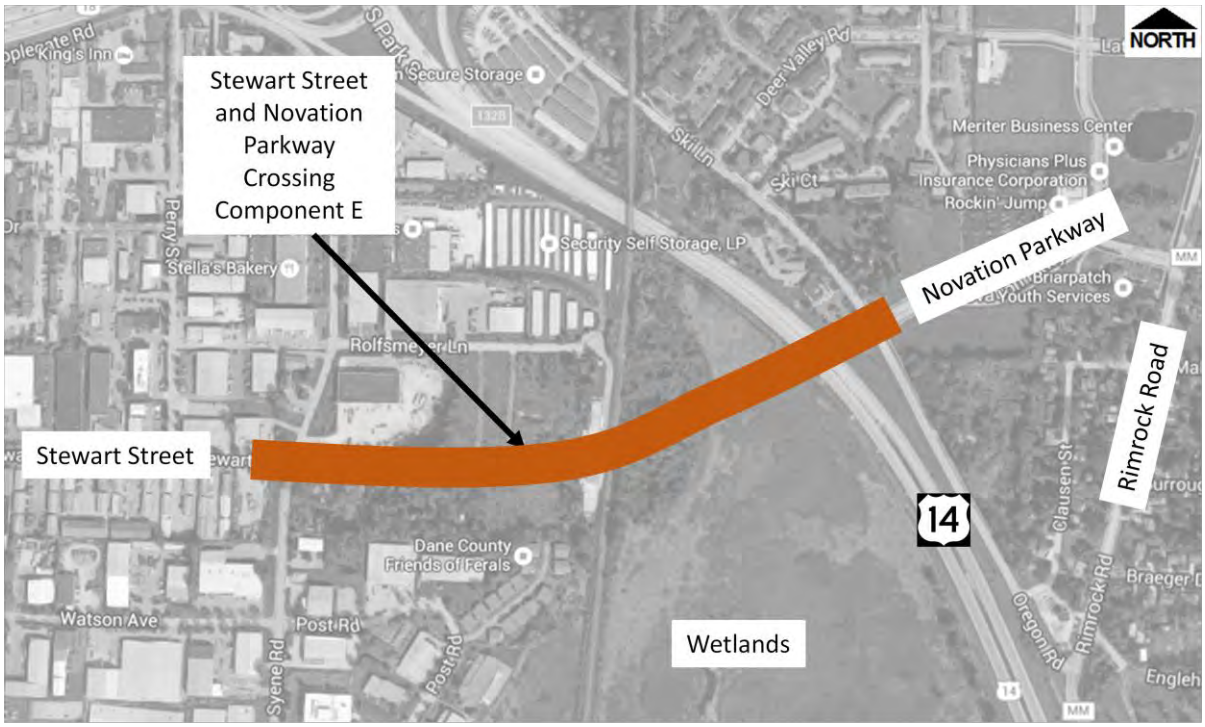
Demand modeling indicates a grade-separated crossing west of Park Street would attract 2,400 vpd in 2010 and 4,100 vpd in 2050. The TDM forecasts changes in 2010 and 2050 Beltline traffic ranging from -0.2 to +3.5 percent when this crossing is added. It is unlikely this crossing would have much effect on Beltline crashes.

This crossing could reduce volumes through the Park Street interchange by approximately 1,000 vpd in 2010 and 2,600 vpd in 2050. This represents approximately a 2 and 6 percent reduction. This crossing could increase volumes on Badger Road by approximately 1,900 vpd in 2050.

On the south side of the Beltline, this crossing could impact primarily commercial and light industrial land uses. On the north side, it would impact both light industrial and residential land uses. Preliminary profiles indicate a crossing at this location would require relatively steep street profiles of up to 7 percent. View of an existing lane-use control sign (LCS) for the westbound Beltline Flex Lane that is approximately 300 feet west of the proposed overpass may be obstructed by this Component.

e. Component E–Local Road Crossing of US 14 Near Stewart Street and Novation Parkway

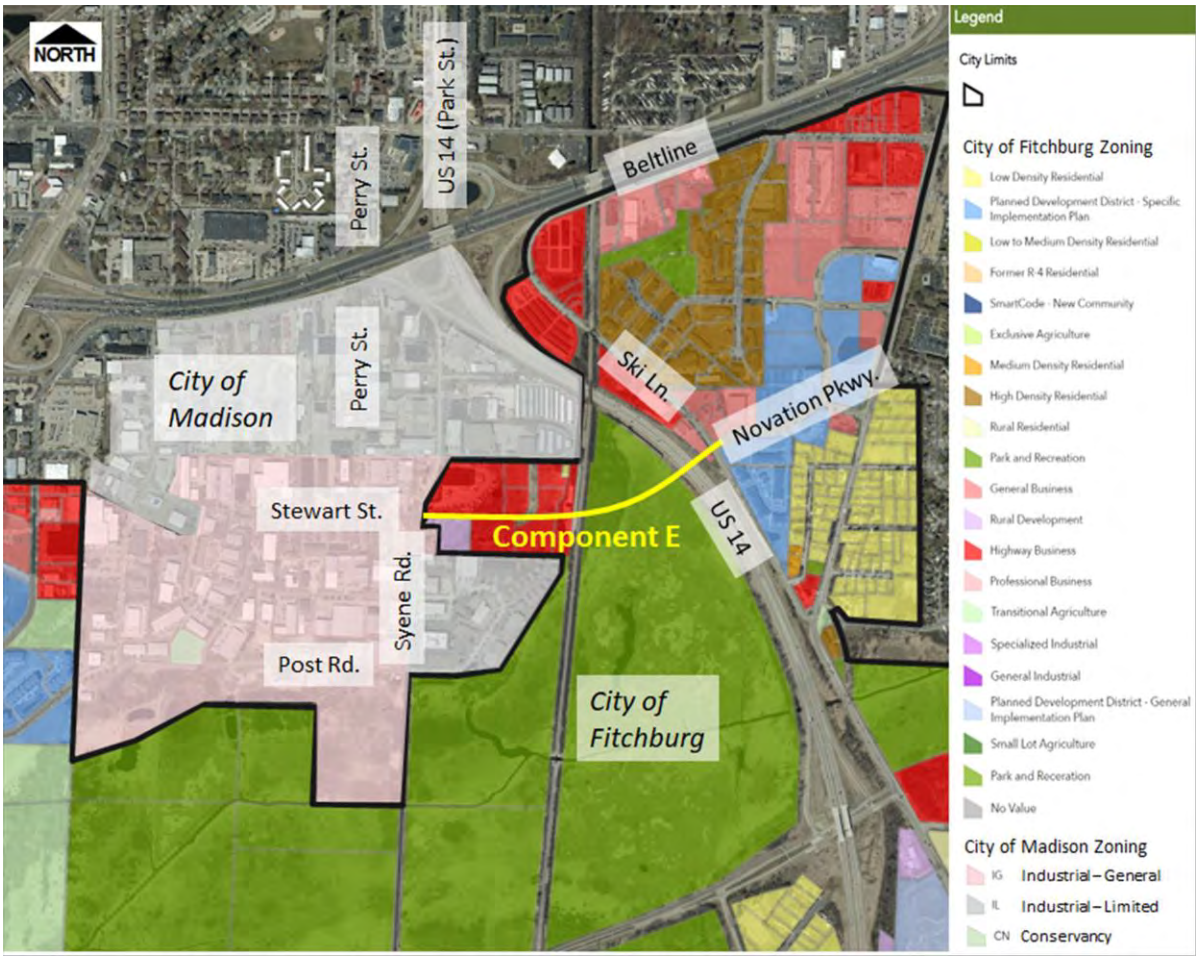
This grade separation would connect a relatively isolated light industrial area near Stewart Street to a mostly residential area near Novation Parkway that are severed by US 14 (see Figure 6.02-12).



Map Source: Google Maps, accessed March 23, 2021

Figure 6.02-12 Local Road System Crossings and Connections Component E–Crossing US 14 Near Stewart Street

Figure 6.02-13 shows this Crossing Component superimposed on the cities of Fitchburg and Madison zoning maps. Currently the Greenway Cross/Stewart Street area west of US 14 is mainly accessed through Fish Hatchery Road. The Novation Parkway area east of US 14 is mainly accessed through Rimrock Road. The Beltline must be used to travel from one area to the other. This crossing Component would provide a local street route.



Map Source:
https://fitchburgwi.maps.arcgis.com/apps/webappviewer/index.html?id=8853de122f734a16abde5973d58d2c6d, accessed April 3, 2024

Figure 6.02-13 Connection E Superimposed on the cities of Fitchburg and Madison Zoning Maps

The crossing would address a current gap in the bicycle route system. It could also improve Metro Routes G and H.

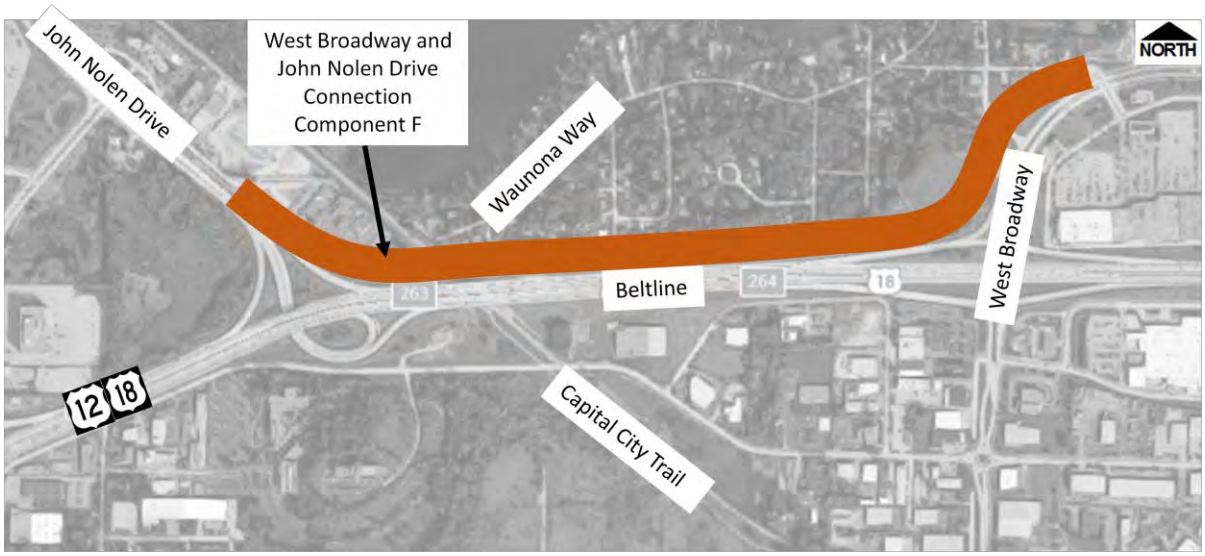
Demand modeling indicates the crossing would attract 4,000 vpd in 2010 and 4,100 vpd in 2050. The crossing could reduce volumes through the Fish Hatchery Road interchange by approximately 900 vpd in 2050. It would slightly decrease volumes on Greenway Cross by approximately 300 vpd in 2050 because of route choice in the congested 2050 roadway network. It would decrease traffic at the Rimrock Road interchange by 800 vpd in 2050, a 3 percent decrease. Currently the Rimrock Road interchange is one of the few underutilized interchanges on the Beltline.

This connection would likely impact wetland areas near US 14. Some impacts to light industrial and residential land uses are also possible. It would require relatively steep

street profiles of up to 6 percent. The view of an existing overhead sign structure that is approximately 700 feet north of the proposed Component location may be obstructed by this Component.

f. Component F–Local Road Connection between West Broadway and John Nolen Drive (North of the Beltline)

This Connection Component provides an alternative to the Beltline mainline for motor vehicle travel between John Nolen Drive and West Broadway. This connection is parallel to the existing pedestrian and bicycle connection provided between Waunona Way and the Capital City Trail, so it does not provide an improvement in pedestrian or bicycle mobility (see Figure 6.02-14).



Map Source: Google Maps, accessed March 23, 2021

Figure 6.02-14 Local Road System Crossings and Connections
Component F–West Broadway and John Nolen Drive Connection

Up to 45 percent of the westbound traffic entering the Beltline at West Broadway takes the first downstream exit at John Nolen Drive. This connection would reduce weaving volumes on the Beltline.

Demand modeling indicates this connection would attract 7,200 vpd in 2010 and 9,600 vpd in 2050. It also would remove 5,100 vpd from the Beltline in 2010 and 2,000 vpd in 2050. This represents a Beltline volume decrease of 4 and 1 percent, respectively. 2050 Beltline traffic volumes would still be greater than existing Beltline traffic volumes. The reason for more Beltline relief in 2010 than in 2050 appears to be because of the amount of traffic avoiding the Beltline in the two models. In 2010, the West Broadway to John Nolen Drive connection frees up some capacity on the Beltline. This capacity is then used by traffic that previously avoided the Beltline returning to the corridor. In 2050, the amount of traffic that "returned" when capacity was made available by the new connection

is higher, so the total Beltline reduction is lower. The West Broadway interchange would see reductions of 2,300 vpd in 2010 and 3,000 vpd in 2050. This represents from 10 to 20 percent reduction of traffic traveling through the interchange.

There are several challenges associated with this connection. The connection would need to cross both the Capital City Trail and a railroad directly adjacent to John Nolen Drive and may need to be grade-separated crossings. The connection would also access John Nolen Drive, probably at the current Rimrock Road intersection. The Rimrock Road intersection already experiences some operational challenges.

This connection could impact primarily residential land uses north of the Beltline. It may increase traffic on some local neighborhood streets, such as Waunona Way.

D. Pedestrian and Bicycle Components

1. Analysis Background

Figure 6.02-15 shows locations where pedestrians and bicyclists can cross the Beltline and the relative level of difficulty crossing at each location. The figure also shows the relative pedestrian and bicycle traffic at each location with the larger arrows representing higher volume. The dashed arrows show locations where potential Beltline PEL Study motor vehicle grade-separated crossings that would include pedestrian and bicycle accommodations were initially under consideration at the time of the data collection in 2012.

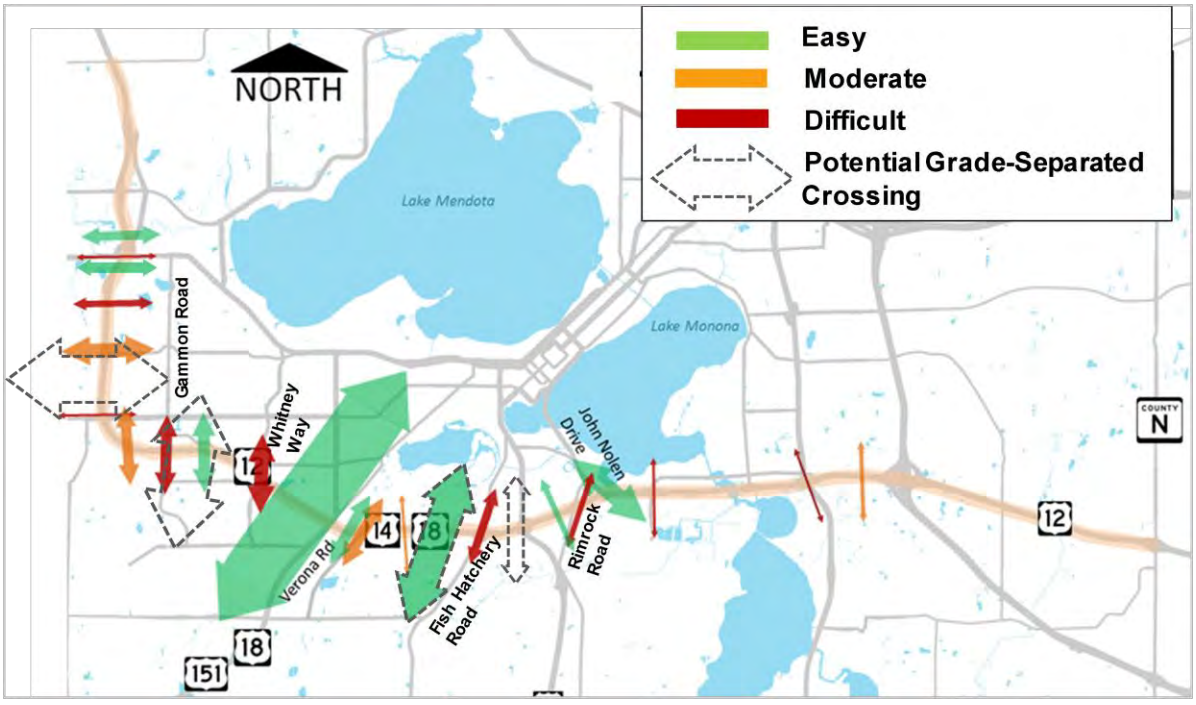


Figure 6.02-15 Use of Existing Pedestrian and Bicycle Beltline Crossings

The grade-separated bicycle path crossings of the Beltline are the Struck Street underpass east of Gammon Road, the Southwest Commuter Path near Verona Road, the Cannonball Path near Fish Hatchery Road, and the Capital City Path near John Nolen Drive. The more difficult crossings are through existing interchanges including Gammon Road, Whitney Way, Fish Hatchery Road, and Rimrock Road. As expected, data indicates that the grade-separated bicycle path crossing locations, where pedestrians and bicyclists are most comfortable, are used most often.

Pedestrian and Bicycle Components were developed and evaluated through focus group meetings with local pedestrian and bicycle advocates, results of a Survey Monkey survey sent to the TAC and PAC members, and Beltline PEL Study team discussions. During Component development, new grade-separated crossings of the Beltline, routes, or route extensions parallel to the Beltline were considered to extend and link existing pedestrian and bicycle facilities. In general, potential new grade-separated crossings would connect employment centers and businesses to neighborhoods and on a broader scale, provide opportunities to link existing and planned paths and, on-street bikeways on both sides of the Beltline. The initial analysis of the pedestrian and bicycle Connections and Crossings Components was documented in the *Bike and Pedestrian Options for Madison Beltline PEL Technical Memorandum*.

2. Evaluated Pedestrian and Bicycle Components

A total of 11 Pedestrian and Bicycle Components were originally considered. These Components are labeled Pedestrian and Bicycle Components A through K on the map in Figure 6.02-16. Two additional Pedestrian and Bicycle Components X and Y were added after feedback was received from TAC members at a meeting held in January 2022. Conceptual layouts of the Pedestrian and Bicycle Components are provided in Appendix E.

Each Roadway Crossings and Connections Component would also include pedestrian and bicycle accommodations, and they could replace the corresponding Pedestrian and Bicycle Component shown in Figure 6.02-16. If no roadway crossings or connections are constructed, the Pedestrian and Bicycle Components represent the locations where these accommodations are most warranted and/or useful.

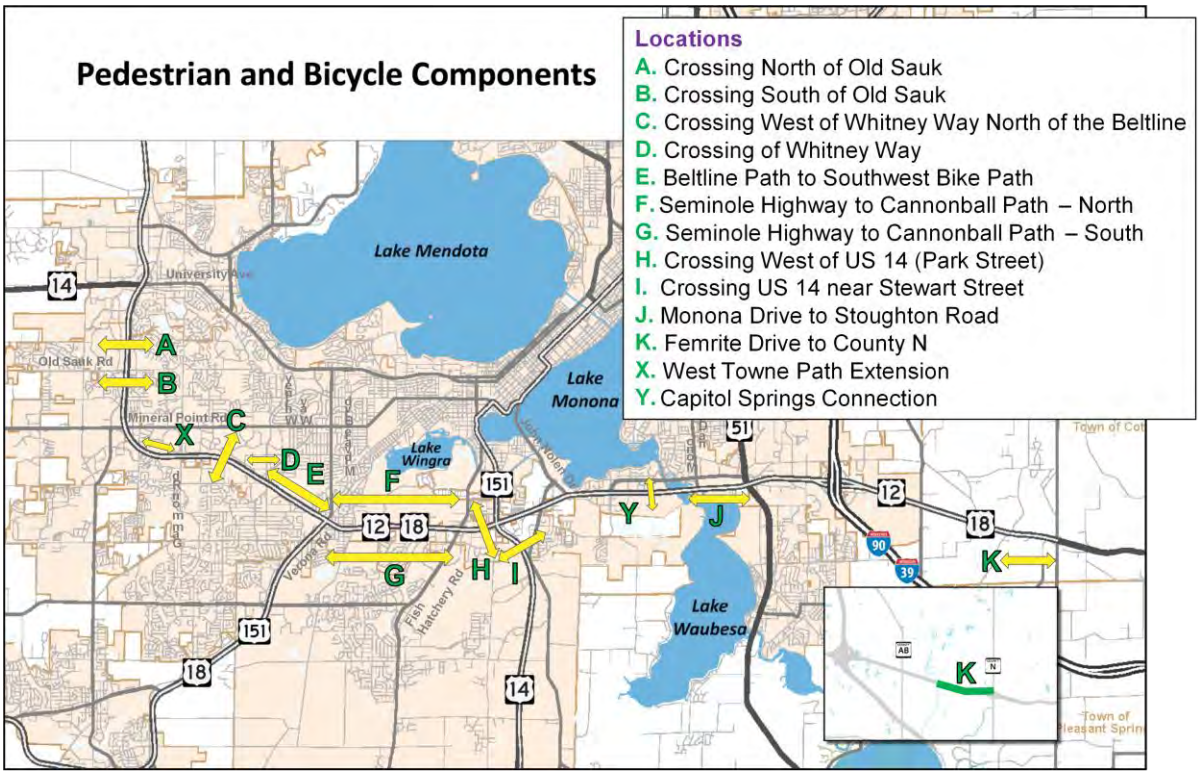


Figure 6.02-16 Pedestrian and Bicycle Components Considered in the Beltline PEL Study

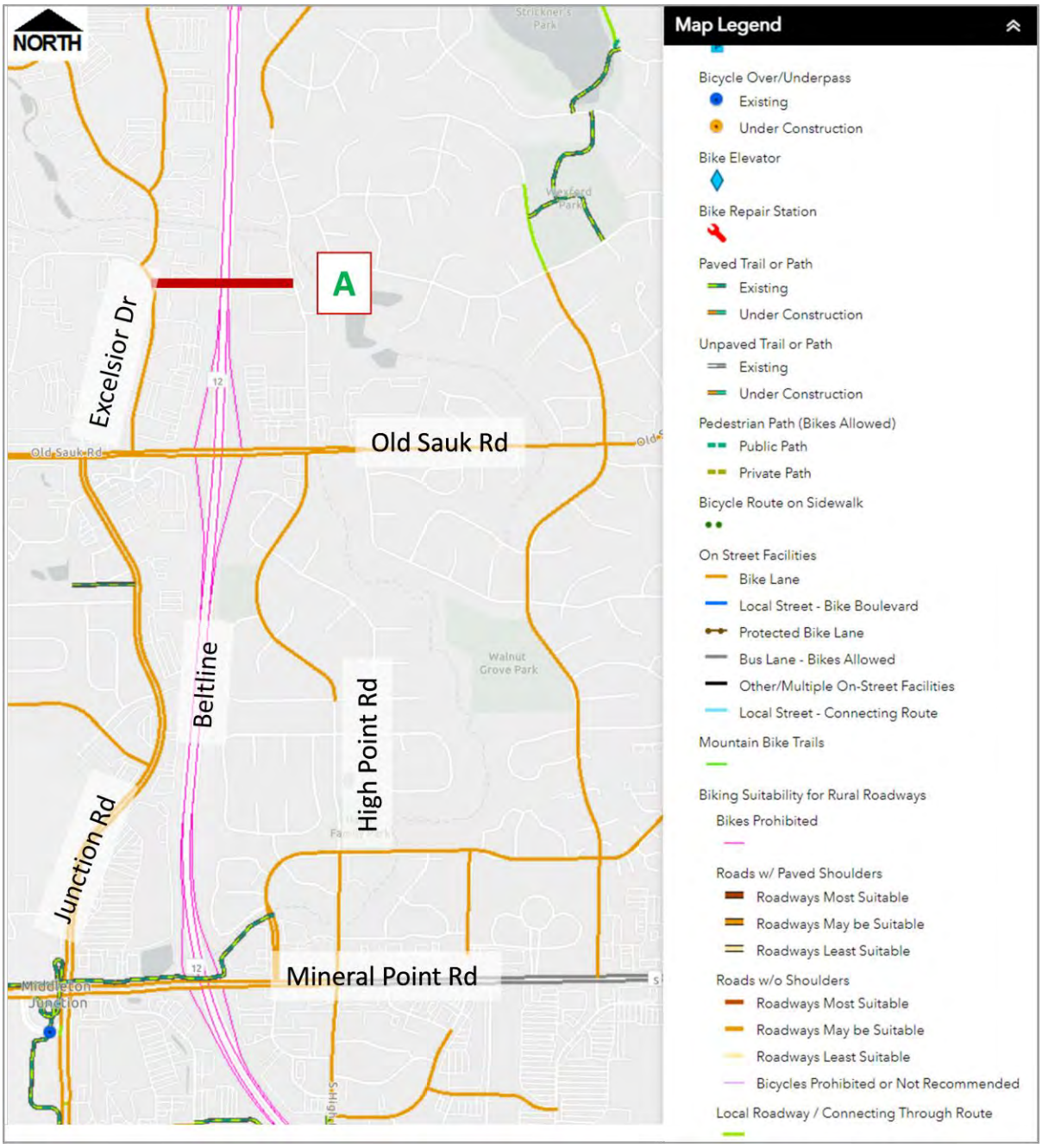
Data from the 2020 Edition of the Madison Neighborhood Indicators Project was reviewed near the Pedestrian and Bicycle Components under evaluation. It appeared that, in general, higher concentrations of minority populations, households in poverty, and populations with less access to automobiles were located near the crossing west of Whitney Way (Component C), crossing of Whitney Way north of the Beltline (Component D), connection from Whitney Way to the Southwest Commuter Path (Component E), and crossing west of Park Street (Component H) compared to the other Components. Household vehicle access can be important for those living in areas where the transit and bicycle networks are lacking and accommodations for pedestrians are limited. In the city of Madison, approximately 89 percent of households were reported to have one or more cars available. By improving access and connectivity to neighborhoods with low-income populations or minority populations near Gammon Road, Whitney Way, Verona Road, and Park Street, it appeared that Pedestrian and Bicycle Components C, D, E, and H may have greater benefits for EJ populations compared to the other Components.

a. Component A–Grade-Separated Crossing of the Beltline North of Old Sauk Road

This new connection would provide an alternative to crossing the Beltline through the Old Sauk Road or Greenway Boulevard interchanges. The crossing would provide a new connection between two secondary bikeway streets that run parallel to the Beltline on each side (Excelsior Drive on the west and High Point Road on the east). It would directly

connect the business park on the west side with the residential neighborhoods on the east. On a broader scale, this crossing would provide the opportunity to link existing and planned paths and on-street bikeways on both sides of the Beltline. In contrast with the Old Sauk Road interchange, this crossing would require less interaction with motor vehicle traffic and may be more direct for many biking and walking trips.

This multiuse path would require ROW acquisition and has potential wetland impacts, but it likely would not require residential or commercial relocations. Figure 6.02-17 shows Pedestrian and Bicycle Component A.



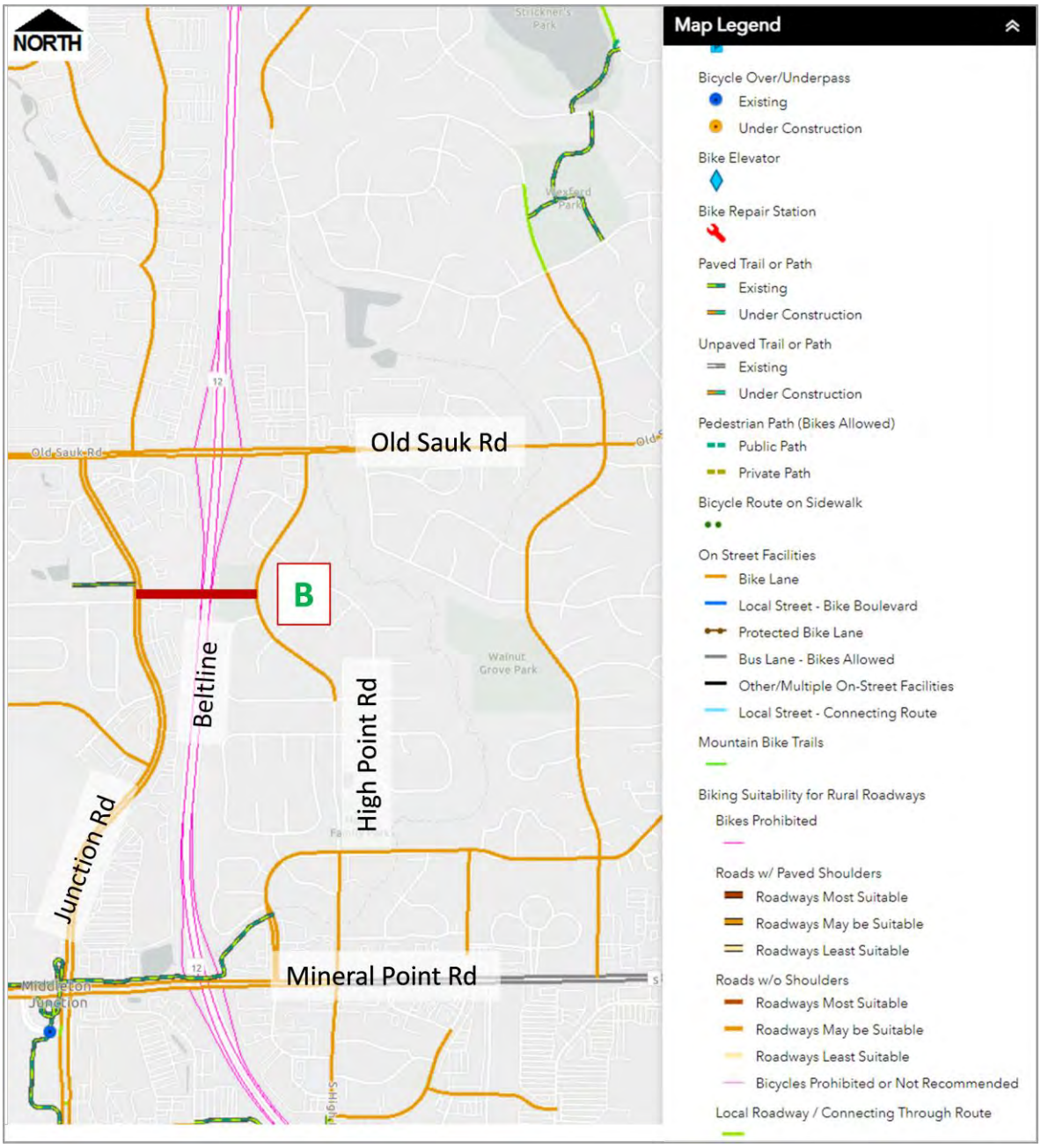
Source: Dane County Interactive Bike Map
https://cityofmadison.maps.arcgis.com/apps/webappviewer/index.html?id=5d9b5793e6404b8c89872c06bd5f26c2 (Accessed April 2023)

Figure 6.02-17 Pedestrian and Bicycle Component A–North of Old Sauk Road

b. Component B–Grade-Separated Crossing of the Beltline South of Old Sauk Road

This new connection would provide an alternative to crossing the Beltline through the Gammon Road or Old Sauk Road interchanges. The crossing would provide a new connection between a secondary bikeway street that runs parallel to the Beltline on the east side (High Point Road) and a planned north-south primary bikeway path, a planned north-south secondary bikeway street (Junction Road), and a planned east-west secondary bikeway path on the west side of the Beltline. This crossing would directly connect the employment center and neighborhood on the west side of the Beltline with a large residential neighborhood on the east side. On a broader scale, this crossing would provide the opportunity to link existing and planned paths and on-street bikeways on both sides of the Beltline.

This Component could impact the publicly owned Sauk Creek Park, a Section 4(f) property, and would require ROW acquisition, but likely would not require residential or commercial relocations. Figure 6.02-18 shows Pedestrian and Bicycle Component B.



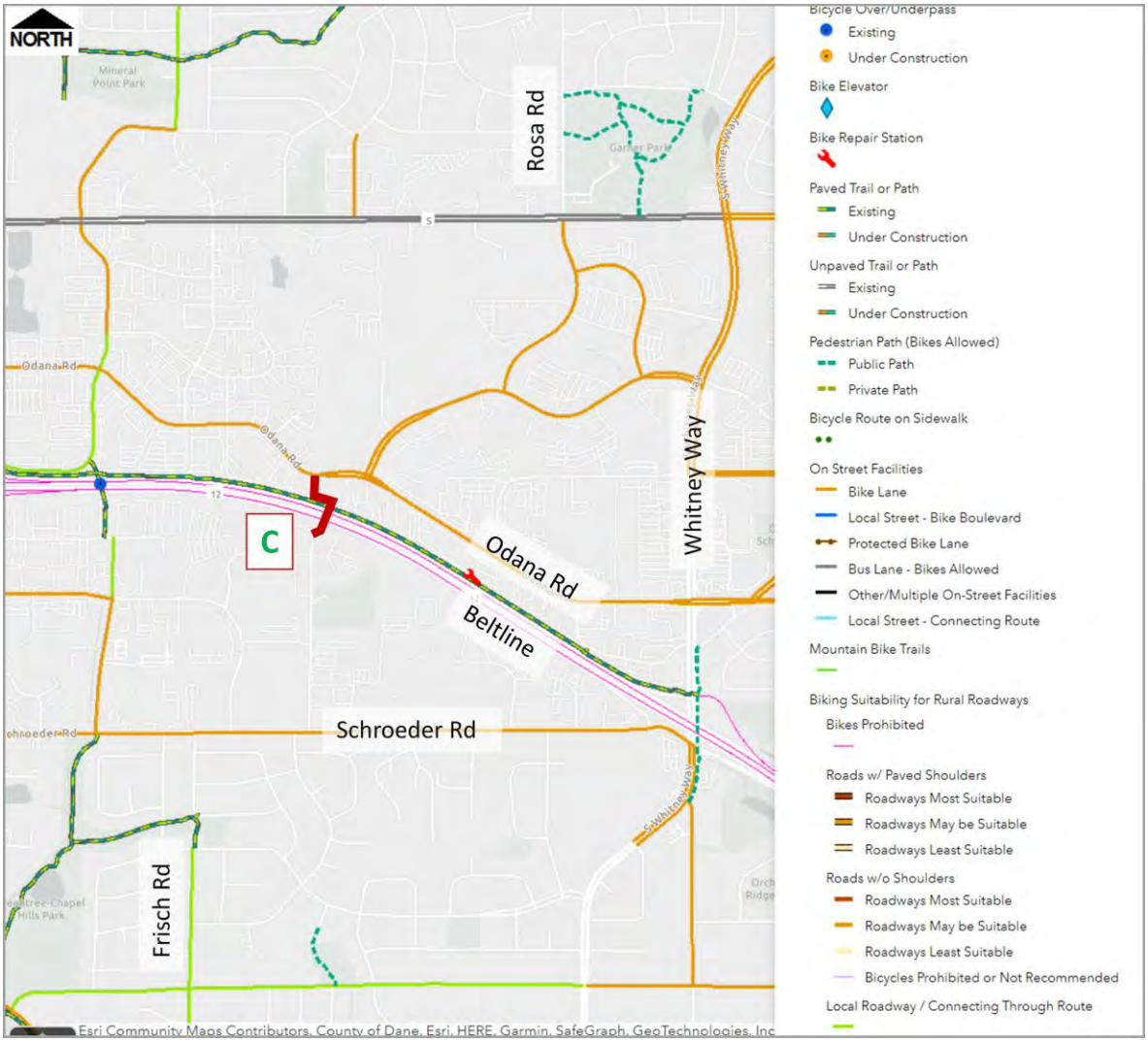
Source: Dane County Interactive Bike Map
https://cityofmadison.maps.arcgis.com/apps/webappviewer/index.html?id=5d9b5793e6404b8c89872c06bd5f26c2 (Accessed April 2023)

Figure 6.02-18 Pedestrian and Bicycle Component B–South of Old Sauk Road

c. Component C–Grade-Separated Crossing of the Beltline West of Whitney Way

A new crossing at this location would provide an alternative to crossing the Beltline at the Whitney Way interchange, a very challenging crossing for cyclists and pedestrians. This crossing would improve pedestrian and bicycle access for people in the surrounding

neighborhoods by providing a connection to the University Research Park to the north. Considering the larger citywide bikeway system, a new crossing at this location would connect secondary bikeways along Rosa Road to the north and Frisch Road to the south, potentially promoting this corridor to a primary bikeway. Figure 6.02-19 shows Pedestrian and Bicycle Component C.



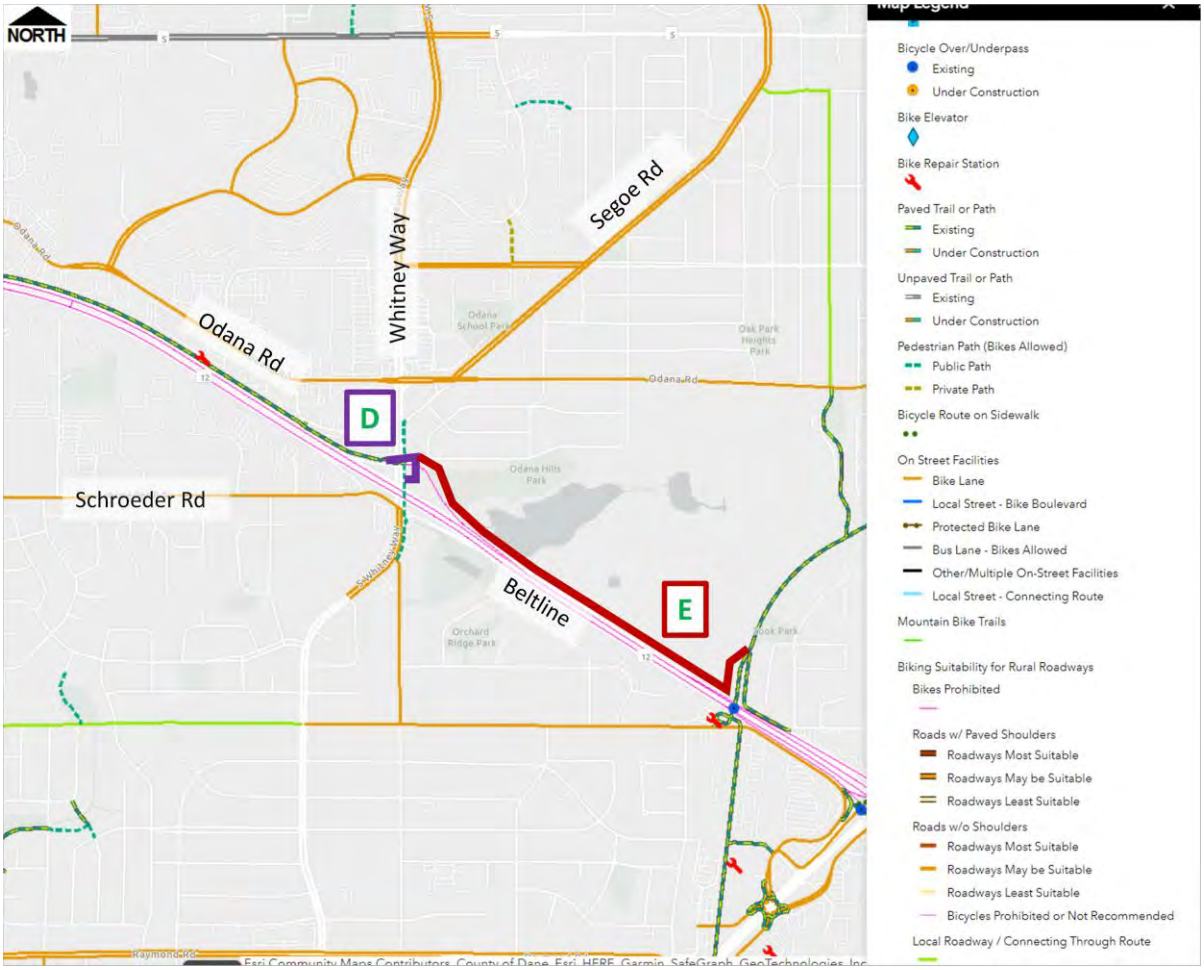
Source: Dane County Interactive Bike Map
https://cityofmadison.maps.arcgis.com/apps/webappviewer/index.html?id=5d9b5793e6404b8c89872c06bd5f26c2 (Accessed April 2023)

Figure 6.02-19 Pedestrian and Bicycle Component C–West of Whitney Way

Depending on the exact alignment, this Component could pass adjacent radio tower cables and through baseball fields owned by the Madison Metropolitan School District (MMSD). This Component would require ROW acquisition and possible building relocations.

d. Component D–Grade-Separated Crossing of Whitney Way North of the Beltline

This location would provide an alternative to crossing Whitney Way at-grade through the Beltline westbound ramp terminals intersection. The crossing would improve the connection between the Beltline path and bicycle accommodations on Odana Road and Segoe Road to the east. In addition, when combined with Component E, it has the potential to connect the Beltline Path on the west with the Southwest Commuter Path on the east. Figure 6.02-20 shows Pedestrian and Bicycle Components D and E.



Source: Dane County Interactive Bike Map
https://cityofmadison.maps.arcgis.com/apps/webappviewer/index.html?id=5d9b5793e6404b8c89872c06bd5f26c2 (Accessed April 2023)

Figure 6.02-20 Pedestrian and Bicycle Components D and E–Crossing of Whitney Way North of the Beltline and East-West Path Connection from Beltline Path to Southwest Commuter Path

This Component would mostly use existing ROW but could impact commercial parking in the northwest quadrant of the intersection.

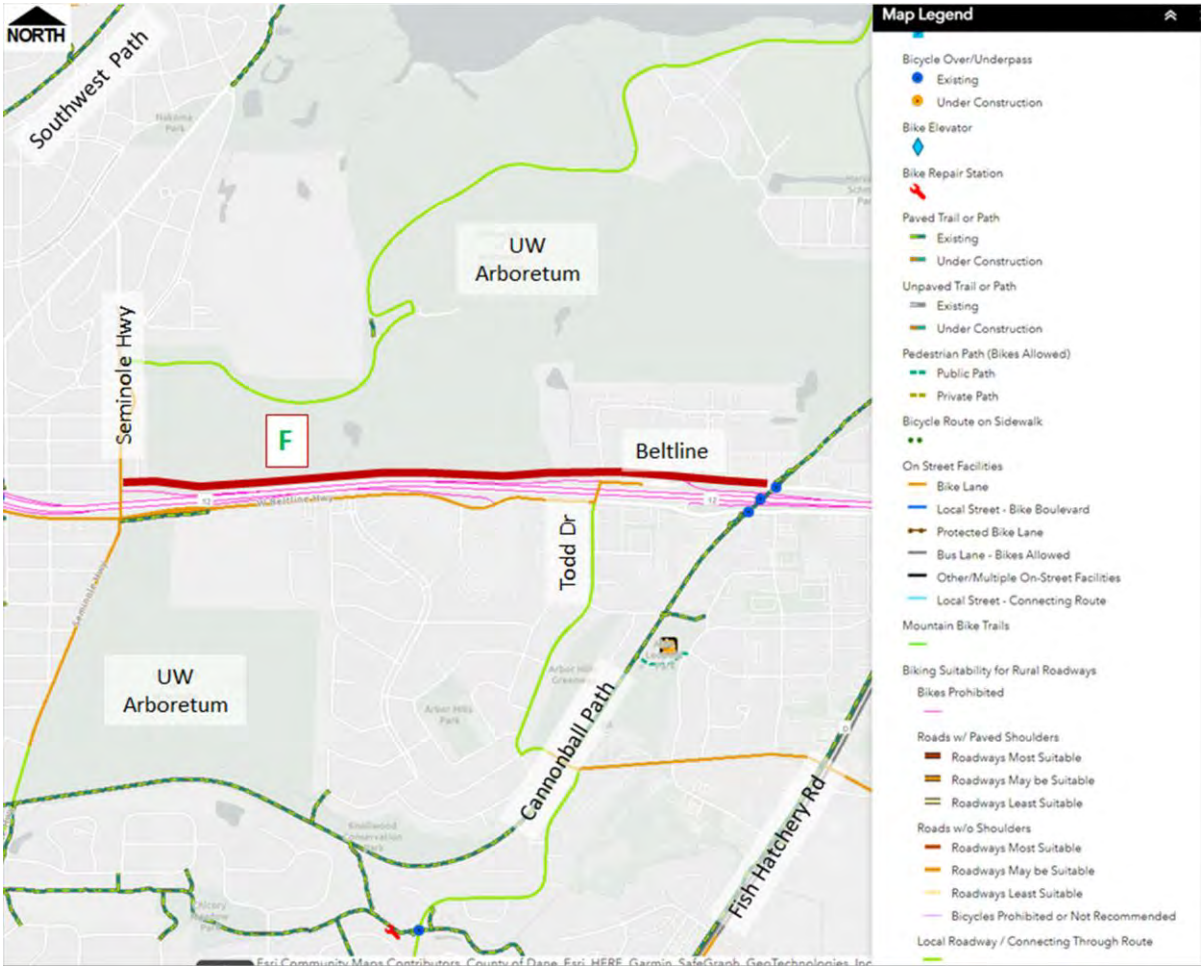
e. Component E–East-West Path Connection from the Beltline Path at Whitney Way to the Southwest Commuter Path West of Midvale Boulevard Near Hammersley Road (North Side)

A new path north of the Beltline and along the southern edge of the Odana Hills Golf Course would close a critical gap in the city of Madison's primary path system between the Southwest Commuter Path and the Beltline Path west of Whitney Way (Figure 6.02-20). Currently, the Beltline Path extends west of the Whitney Way interchange and becomes the West Towne Path that extends west of Gammon Road with a Gammon Road underpass. The West Towne Path is anticipated be extended farther west to High Point Road and to paths along Junction Road (see Pedestrian and Bicycle Component X). When these sections are completed, the addition of Component E would be a final piece of a more than 8-mile continuous path from southwest Madison to UW and downtown.

This Component would require ROW from the edge of the publicly owned Odana Hills Golf Course, a Section 4(f) property, in the same area as American Transmission Company easements. Boardwalks may be necessary for a portion of the path to minimize impacts on wetlands.

f. Component F–East-West Path Connection on the North Side of the Beltline from Seminole Highway to the Cannonball Path

This new connection provides a dedicated pedestrian and bicycle path that serves as an alternative to using the frontage road on the south side of the Beltline and reducing interactions with motor vehicles. The connection also provides an alternative to crossing the Beltline at Seminole Highway and facilitates crossing at Todd Drive. Connecting Seminole Highway to the Cannonball Path via a separated pathway would increase pedestrian and bicycle mobility along this portion of the Beltline, substantially improve access to the businesses located around the Todd Drive interchange, and potentially reduce the number of bicyclists using the frontage road on the south side of the Beltline. A path along the north side of the Beltline would present users with fewer driveway crossings and street intersections, decreasing interactions with motor vehicle traffic. Figure 6.02-21 shows Pedestrian and Bicycle Component F.



Source: Dane County Interactive Bike Map
https://cityofmadison.maps.arcgis.com/apps/webappviewer/index.html?id=5d9b5793e6404b8c89872c06bd5f26c2 (Accessed April 2023)

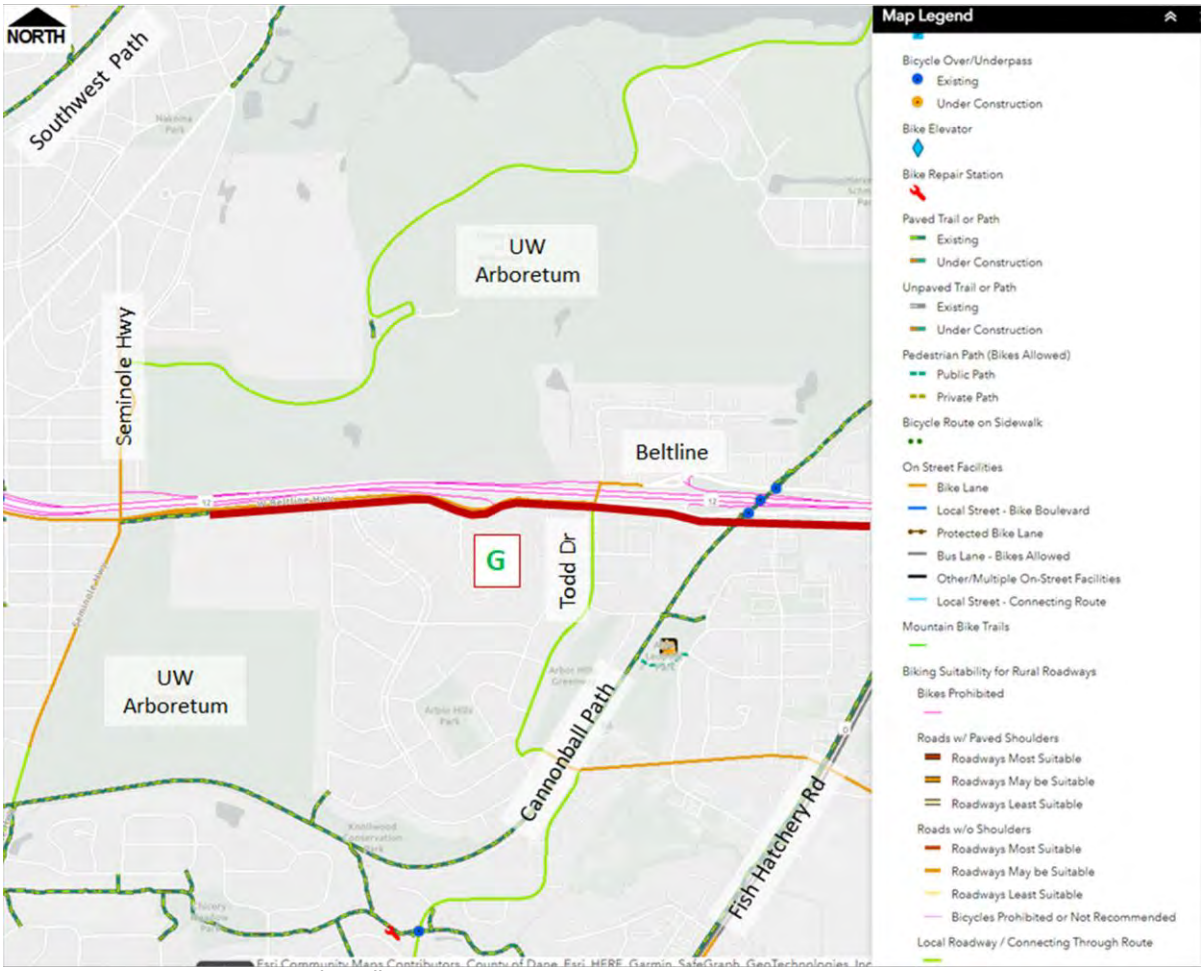
Figure 6.02-21 Pedestrian and Bicycle Component F–East-West Path Connection from Seminole Highway to Cannonball Path (North)

This Component could require ROW from the edge of the UW Arboretum, a Section 106 and Section 4(f) property.

g. Component G–East-West Path Connection on the South Side of the Beltline from Seminole Highway to the Cannonball Path.

This enhanced connection on the south side of the Beltline would link the Seminole Highway and Southwest Commuter Path area with the Cannonball Path. A new path, a separate two-way bicycle lane (also known as a cycletrack), buffered bicycle lanes, or a combination of the aforementioned facilities could serve as an alternative or replacement to the partial bicycle lanes that exist today along the frontage road on the south side of the Beltline. The proposed bikeway would run the length of the frontage road between Seminole Highway and Fish Hatchery Road and would potentially reduce

conflicts at the existing braided entrance and exit ramps to the Beltline near Todd Drive. However, there are substantially more driveway crossings and street intersections on the south side than there are on the north side of the Beltline. Therefore, this connection would result in more potential conflicts with motor vehicle traffic than Pedestrian and Bicycle Component F. Figure 6.02-22 shows Pedestrian and Bicycle Component G.



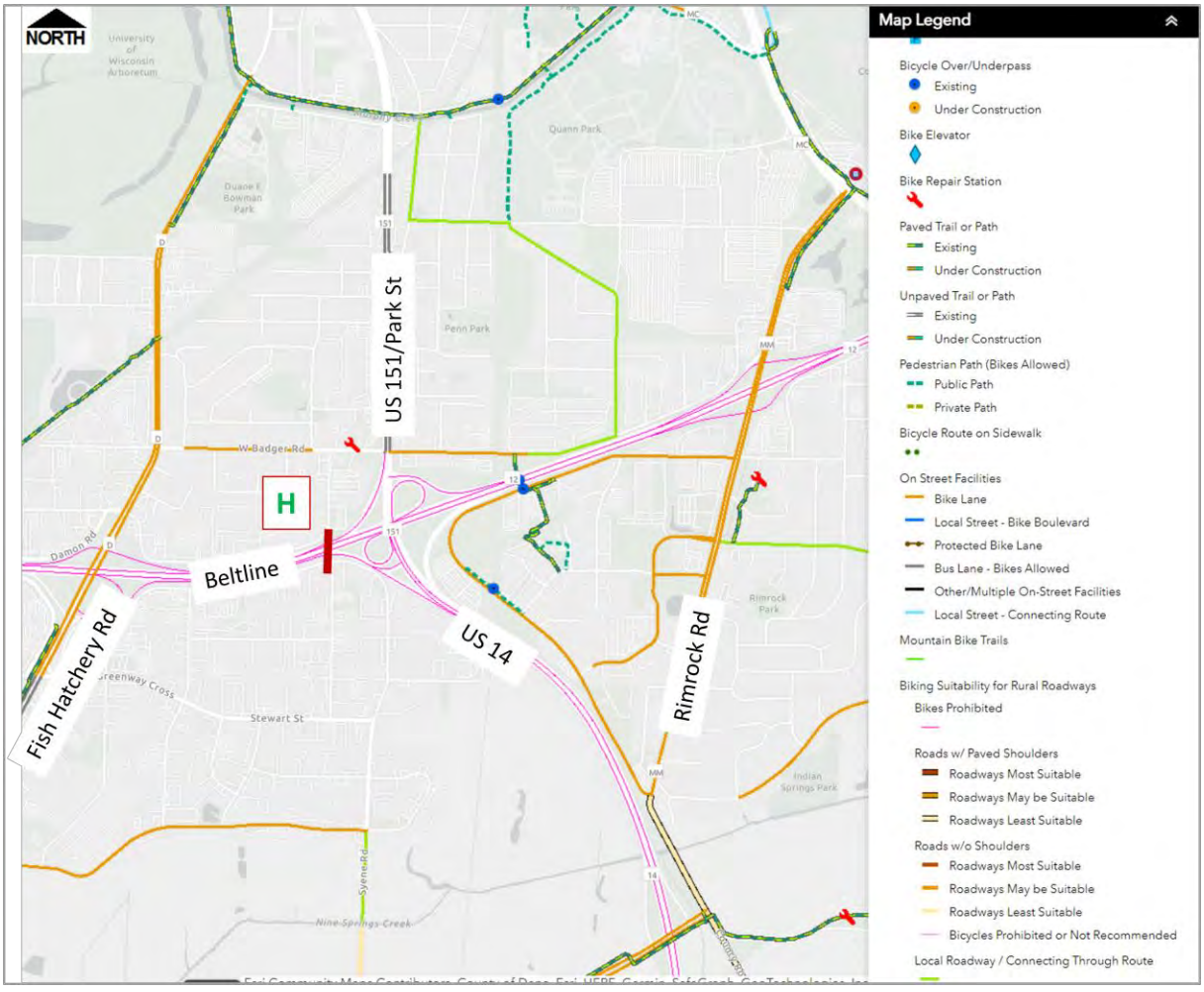
Source: Dane County Interactive Bike Map
https://cityofmadison.maps.arcgis.com/apps/webappviewer/index.html?id=5d9b5793e6404b8c89872c06bd5f26c2 (Accessed April 2023)

Figure 6.02-22 Pedestrian and Bicycle Component G–East-West Path Connection from Seminole Highway to Cannonball Path (South)

This Component could require ROW from the edge of the UW-Arboretum, a Section 106 and Section 4(f) property, and would also require ROW acquisition from commercial property frontage.

h. Component H–Grade-Separated Crossing of the Beltline West of Park Street

A new pedestrian and bicycle bridge over the Beltline west of Park Street would increase access to the South Madison Business Area, connecting employment centers and businesses south of the Beltline to the Burr Oaks neighborhood north of the Beltline. By providing better access and connectivity to neighborhoods with low-income and minority populations in the area, this crossing would have benefits to EJ populations. It would link these neighborhoods to the Greenway Cross employment center. On a broader scale, this crossing would provide access to a series of greenway spaces and ultimately to the Capital Springs State Recreation Area (CSSRA) and the Capital City Trail via a combination of off-street and on-street bikeway connections. Figure 6.02-23 shows Pedestrian and Bicycle Component H.



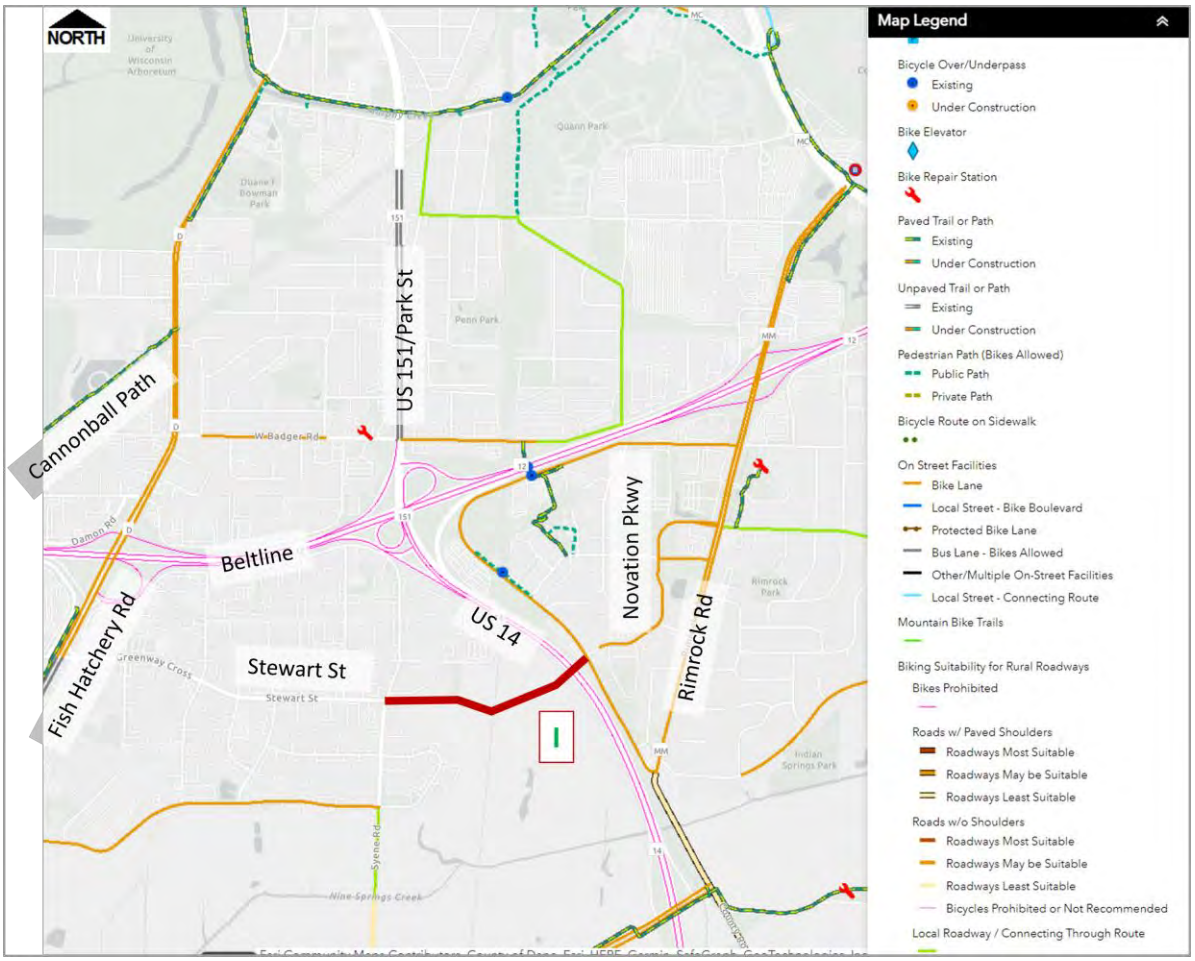
Source: Dane County Interactive Bike Map
https://cityofmadison.maps.arcgis.com/apps/webappviewer/index.html?id=5d9b5793e6404b8c89872c06bd5f26c2
(Accessed April 2023)

Figure 6.02-23 Pedestrian and Bicycle Component H–Crossing West of Park Street

This Component may require ROW acquisition from nearby commercial property.

i. Component I–Grade-Separated Crossing of US 14 South of the Beltline near Stewart Street.

This new connection between Stewart Street and Novation Parkway provides access between two relatively isolated areas bounded by US 14 and the Beltline. It would improve access to the businesses south of the Beltline, on Stewart Street/Greenway Cross, Post Road, and Novation Parkway, while connecting to the neighborhoods and employment areas east of US 14. Figure 6.02-24 shows Pedestrian and Bicycle Component I.



Source: Dane County Interactive Bike Map
https://cityofmadison.maps.arcgis.com/apps/webappviewer/index.html?id=5d9b5793e6404b8c89872c06bd5f26c2 (Accessed April 2023)

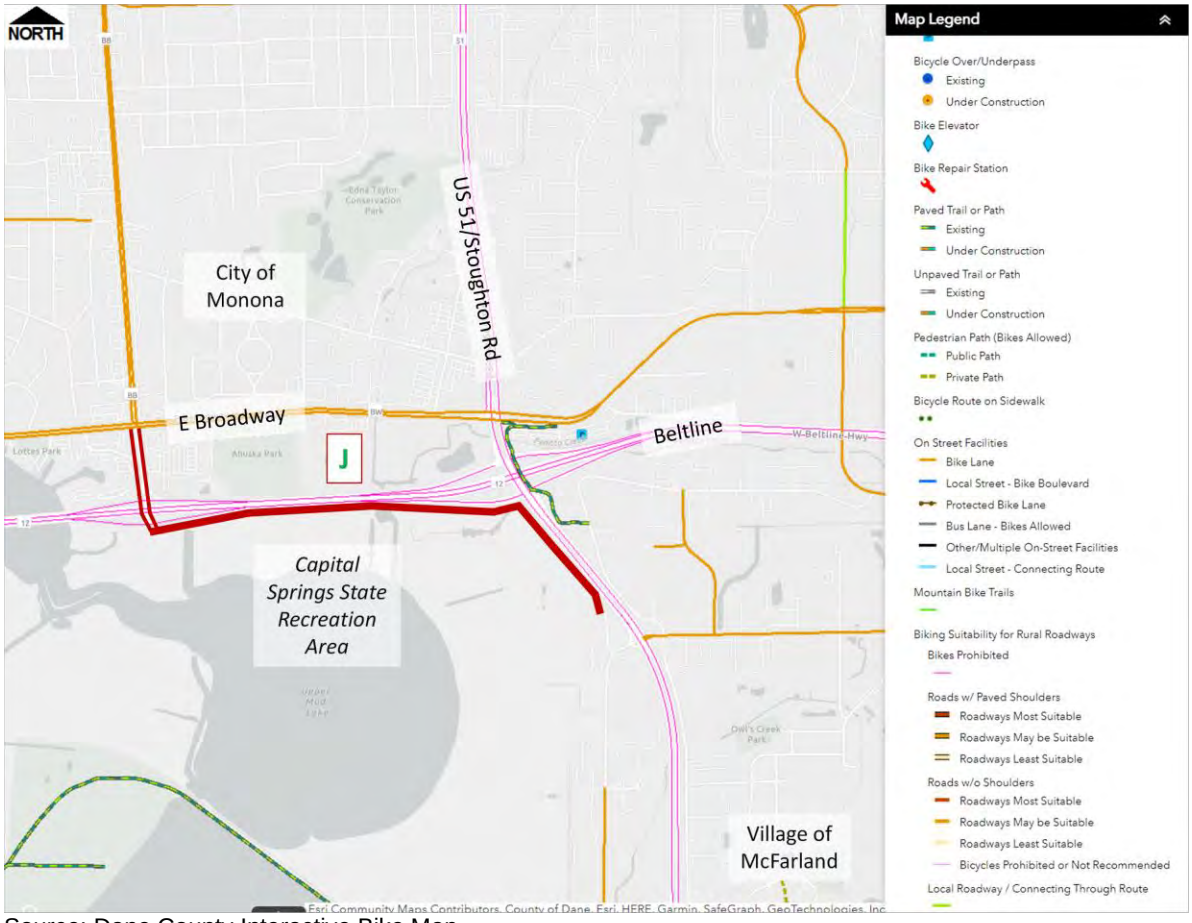
Figure 6.02-24 Pedestrian and Bicycle Component I–Crossing of US 14 South of the Beltline Near Stewart Street

This Component would likely impact wetlands and would require ROW acquisition from commercial parking lots.

j. Component J–East-West Path Connection from Monona Drive to Stoughton Road South of the Beltline (Terminal Drive).

Figure 6.02-25 shows this new connection along the south side of the Beltline. Potential future reconstruction and reconfiguration of the Stoughton Road interchange would improve pedestrian and bicycle access through the area, but the high traffic volumes may still result in a low comfort level for pedestrians and cyclists traveling through the interchange. A new path along the south side of the Beltline, connecting the lower-traffic Monona Drive with Terminal Drive would provide an alternative crossing that avoids the Stoughton Road interchange. It would also be more direct for people walking and biking between the city of Monona and village of McFarland.

This connection could impact the CSSRA, a Section 4(f) property, and result in wetland impacts.

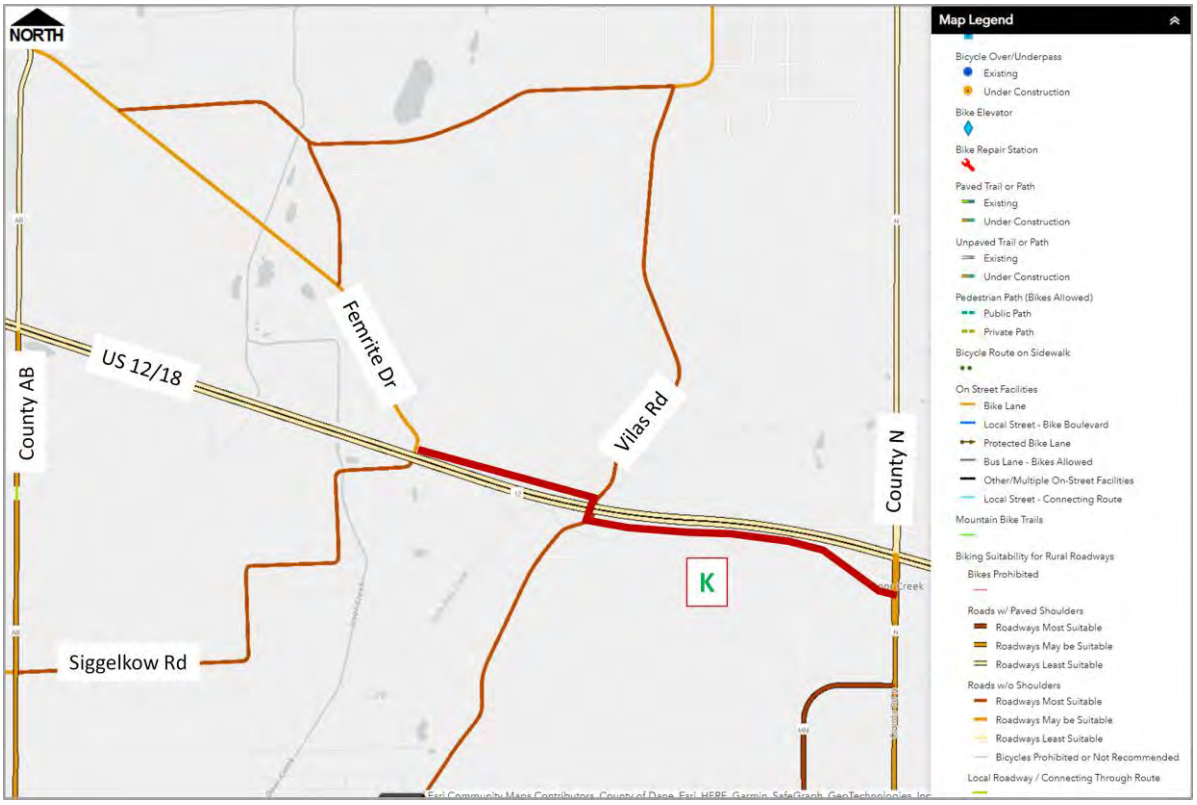


Source: Dane County Interactive Bike Map https://cityofmadison.maps.arcgis.com/apps/webappviewer/index.html?id=5d9b5793e6404b8c89872c06bd5f26c2 (Accessed April 2023)

Figure 6.02-25 Pedestrian and Bicycle Component J–Connection from Monona Drive to Stoughton Road

k. Component K–East-West Path on the North and South Side of US 12 from Femrite Drive to County N

A new path connection parallel to the Beltline at this location would improve access for people wishing to travel east to west from the city of Cottage Grove, village of Deerfield (Deerfield), and village of Cambridge. By connecting Femrite Drive to Vilas Road, County N, and Ofsthun Road just east of County N, this path would provide an alternative to people biking on the shoulders of US 12/18. In the long-term, US 12/18 is planned for freeway conversion. Freeway conversion would eliminate the ability to bicycle on the shoulders when implemented. Figure 6.02-26 shows Pedestrian and Bicycle Component K.



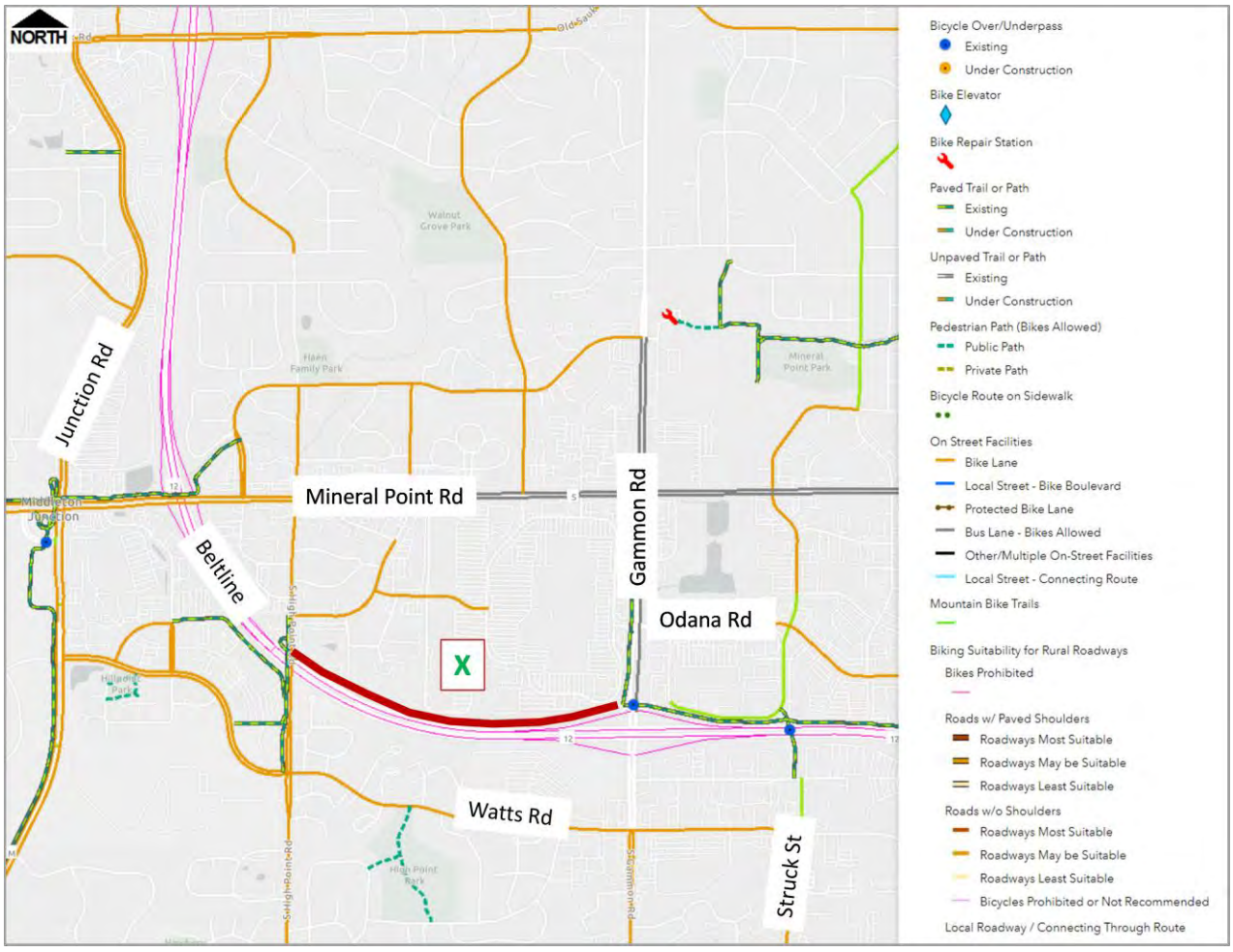
Source: Dane County Interactive Bike Map
https://cityofmadison.maps.arcgis.com/apps/webappviewer/index.html?id=5d9b5793e6404b8c89872c06bd5f26c2 (Accessed April 2023)

Figure 6.02-26 Pedestrian and Bicycle Component K–Connection from Femrite Drive to County N

This Component may require ROW acquisition from agricultural lands.

l. Component X–West Towne Path (High Point to Gammon Road)

A new path north of the Beltline between High Point Road and Gammon Road would close a critical gap in the city of Madison's primary path system between existing segments of the West Towne Path that eventually becomes the Beltline Path near the Whitney Way interchange. Currently, the West Towne Path extends west of High Point Road on the south side of the Beltline to County M/Junction Road where it connects to the Ice Age Junction Path. The West Towne Path also extends east of the Gammon Road underpass along the north side of Beltline, eventually becoming the Beltline Path near Whitney Way. The existing High Point Road connects these two portions of the path. When combined with Pedestrian and Bicycle Components D and E, the addition of Component X would be a final piece of a more than 8-mile continuous path from southwest Madison to UW and downtown. The city of Madison currently plans to construct the first portion of this path, beginning at High Point Road and continuing approximately 1,200 feet to the east. Figure 6.02-27 shows Pedestrian and Bicycle Component X.



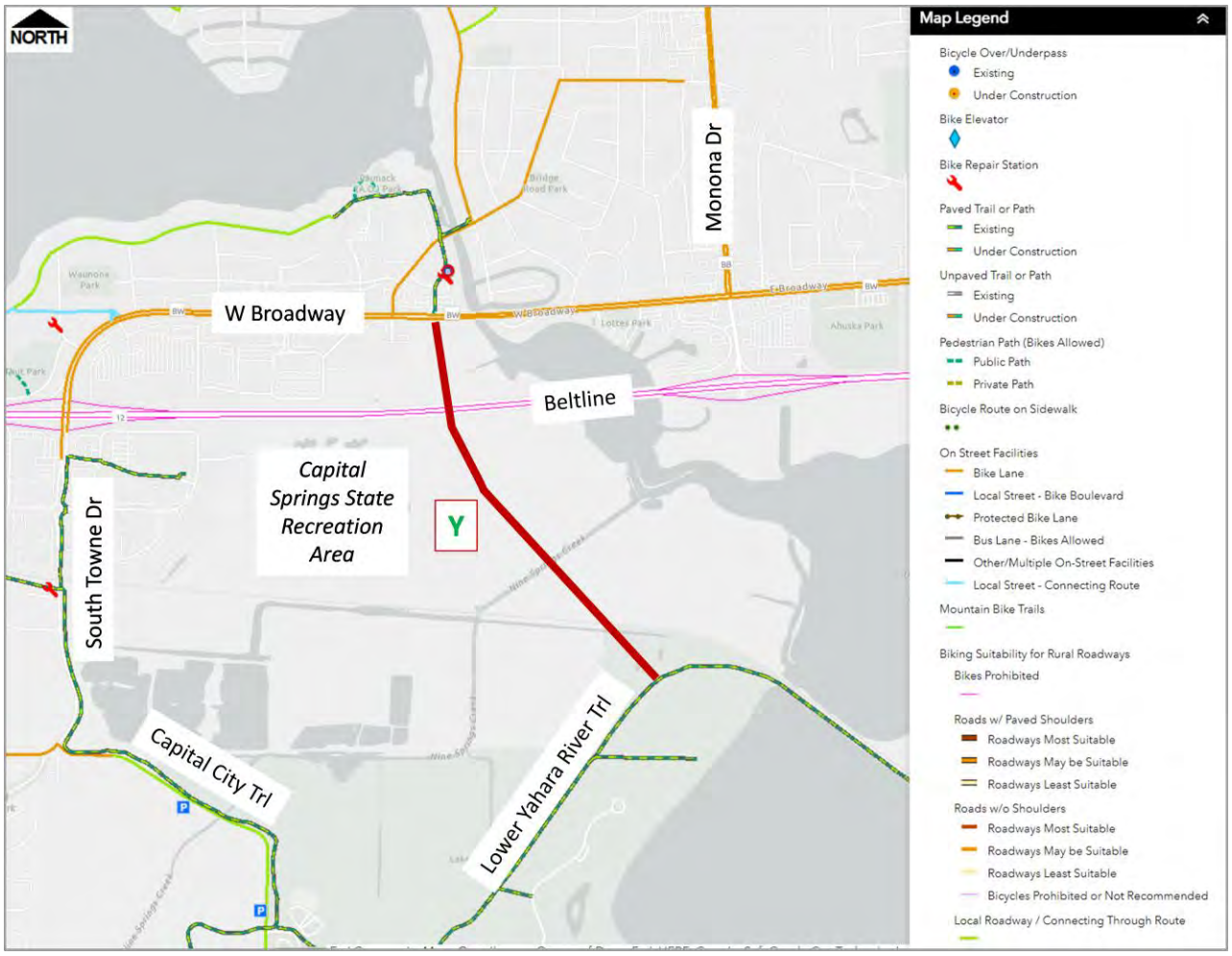
Source: Dane County Interactive Bike Map
https://cityofmadison.maps.arcgis.com/apps/webappviewer/index.html?id=5d9b5793e6404b8c89872c06bd5f26c2
(Accessed April 2023)

Figure 6.02-27 Pedestrian and Bicycle Component X–West Towne Path Connection

This Component would require ROW from nearby commercial properties.

m. Component Y–Connection through the CSSRA

This new path would connect existing bicycle facilities in the city of Monona to the Lower Yahara River Trail through the CSSRA, a Section 4(f) property. This path would provide a more direct connection from the south side of the Beltline to the city of Monona that would allow bicyclists to avoid the West Broadway interchange to the west or the US 51/Stoughton Road interchange to the east. Figure 6.02-28 shows Pedestrian and Bicycle Component Y.



Source: Dane County Interactive Bike Map
https://cityofmadison.maps.arcgis.com/apps/webappviewer/index.html?id=5d9b5793e6404b8c89872c06bd5f26c2
(Accessed April 2023)

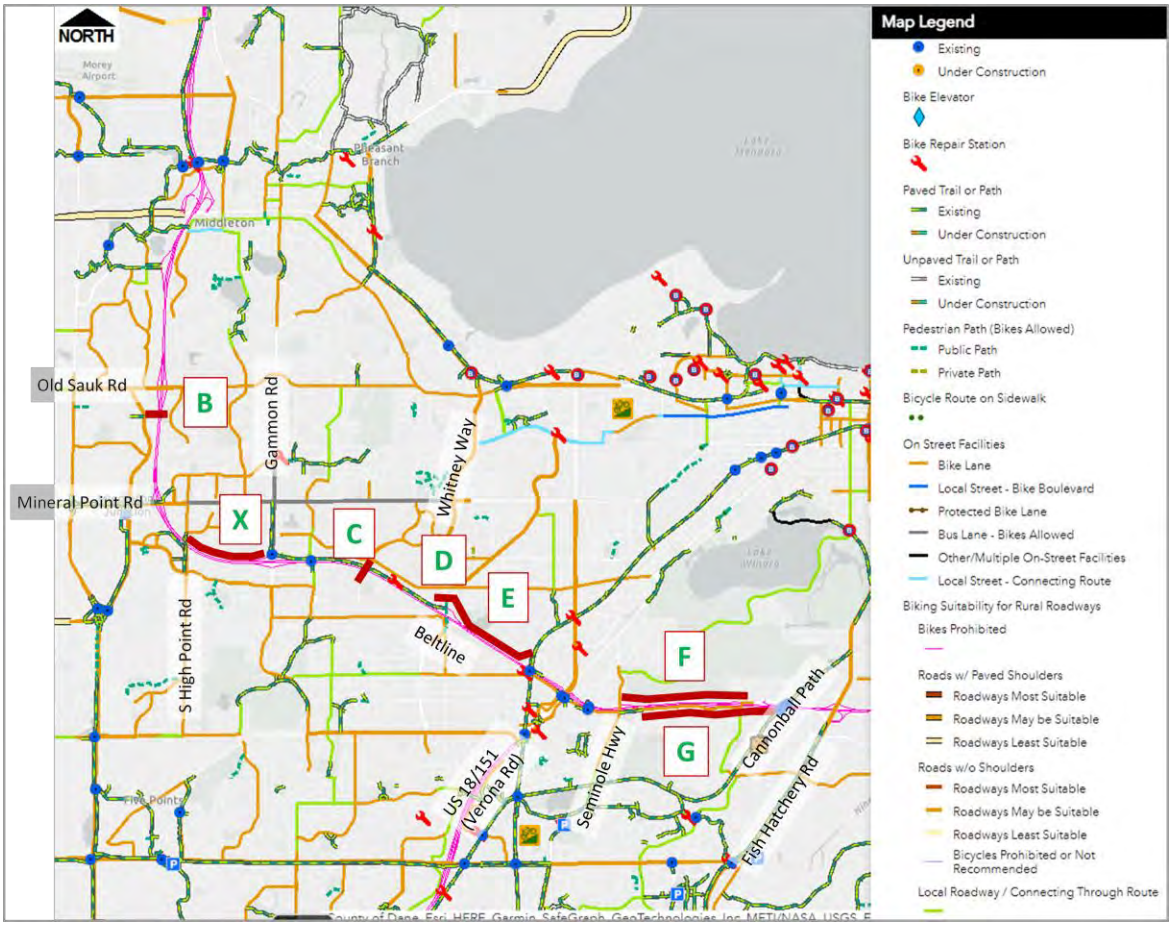
Figure 6.02-28 Pedestrian and Bicycle Component Y–Connection through CSSRA

This Component would require ROW from nearby commercial properties north of the Beltline and from the CSSRA, a Section 4(f) property south of the Beltline.

n. Potential Combined Components

Combined Components could provide a continuous connection from Junction Road to the Southwest Commuter Path along the Beltline. The West Towne Path currently runs from the Ice Age Junction Path on Junction Road to High Point Road where it crosses to the north side of the Beltline. The West Towne Path could continue east via Component X–West Towne Path Connection to connect with the existing segment of the West Towne Path that runs under Gammon Road via an underpass and continues east parallel to the Beltline, eventually becoming the Beltline Path just west of Whitney Way. From there, the existing Beltline Path continues to Whitney Way. Pedestrian and Bicycle

Component D–Crossing of Whitney Way would provide an alternative to crossing Whitney Way at-grade. Component E would continue the Beltline Path along the north side of the Beltline from Whitney Way to the Southwest Commuter Path. Other Components under consideration, including Components B, C, F and G, would be connections along or across the Beltline that would make other important connections to the existing pedestrian and bicycle network. Figure 6.02-29 shows potential combined Pedestrian and Bicycle Components.



Source: Dane County Interactive Bike Map
https://cityofmadison.maps.arcgis.com/apps/webappviewer/index.html?id=5d9b5793e6404b8c89872c06bd5f26c2 (Accessed April 2023)

Figure 6.02-29 Potential Combined Components

E. Park-and-Ride Components

1. Analysis Background

In June 2015, WisDOT completed the *SW Region Park and Ride System Study* that evaluated existing and new park and ride locations throughout the southwest region of Wisconsin. Within

the Madison metropolitan area, the *SW Region Park and Ride System Study* recommended building new park and ride lots at the following locations:

- US 151 at I-39/90/94 in the city of Madison
- Lacy Road and US 14 in the city of Fitchburg
- US 151 and Main Street in the city of Sun Prairie
- US 151 and County PD in the city of Fitchburg
- WIS 19 at I-39/90/94 in the village of Windsor
- WIS 73 at I-94 in the village of Deerfield (east of map limits in Figure 6.02-28)
- US 14 at County MM in the village of Oregon

The results of the study for Dane County are shown in Figure 6.02-30.

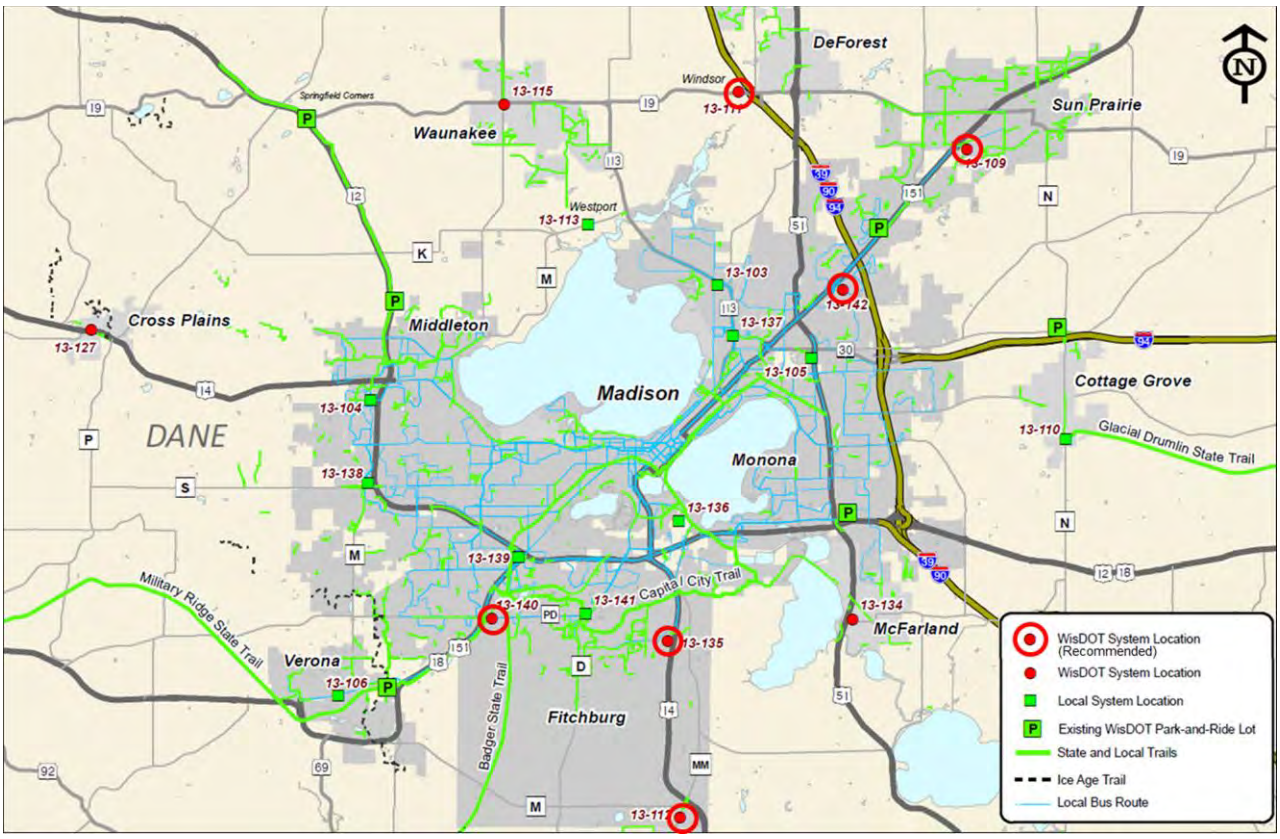


Figure 6.02-30 SW Region Park and Ride System Study Recommendations

The Beltline PEL Study further evaluated these and other locations that had the potential to capture traffic before it reaches the Beltline. The locations were developed through coordination with the Beltline PEL Study PAC, and TAC. Generally the locations are near Metro routes and/or major bicycle facilities with the goal of maximizing the opportunity for commuters to park outside the Beltline corridor and complete their trip via carpool, transit, biking, or walking. The initial analysis of the Park and Ride Components was documented in the *Park and Ride Options for*

Madison Beltline PEL Technical Memorandum. Figure 6.02-31 shows the park and ride locations considered in the Beltline PEL Study.

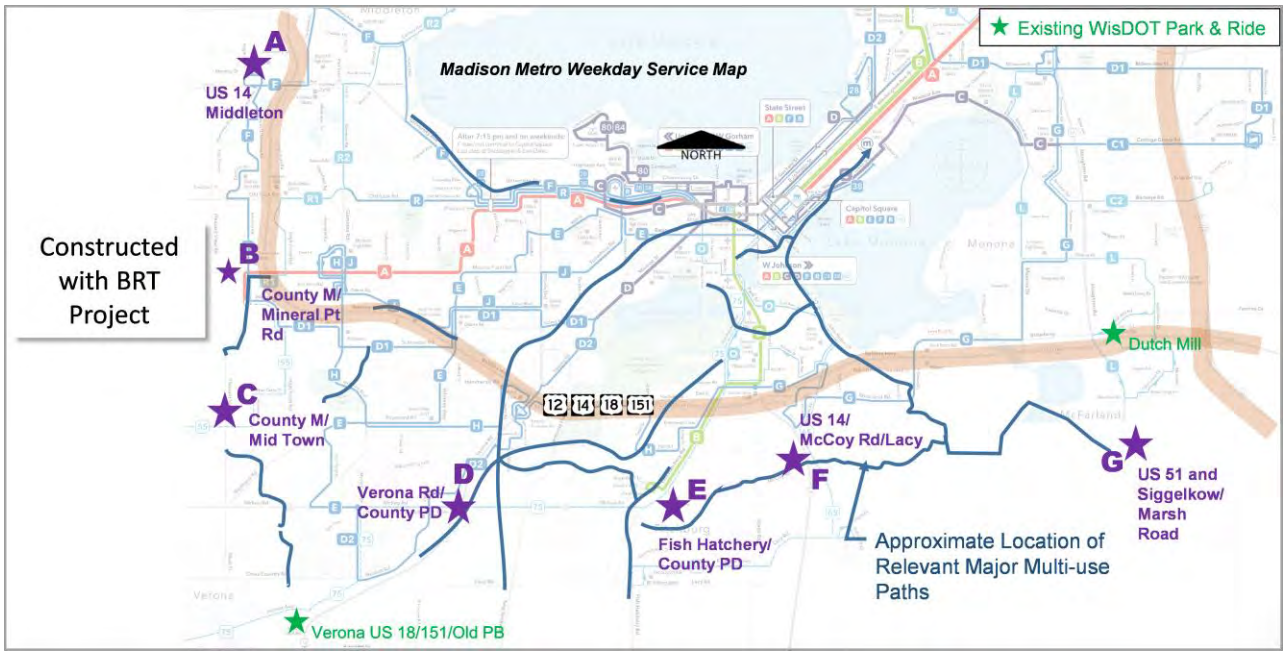


Image Source: https://www.cityofmadison.com/metro/documents/system-maps/systemmap.pdf accessed May 2024

Figure 6.02-31 Park and Ride Components

The Beltline PEL Study used bluetooth data collected in 2012 to understand how many potential travelers pass through the park and ride corridor and then use some portion of the Beltline to get to their employment or other destination. Figures 6.02-32 and -33 show the total number of vehicles using the major corridors that cross the Beltline and go to or from the central employment areas in the city of Madison during these peaks. The values are daily averages for the 6 to 9 A.M. and 3 to 6 P.M. peak periods. They also show the number of these vehicles that use the Beltline for a portion of these trips.

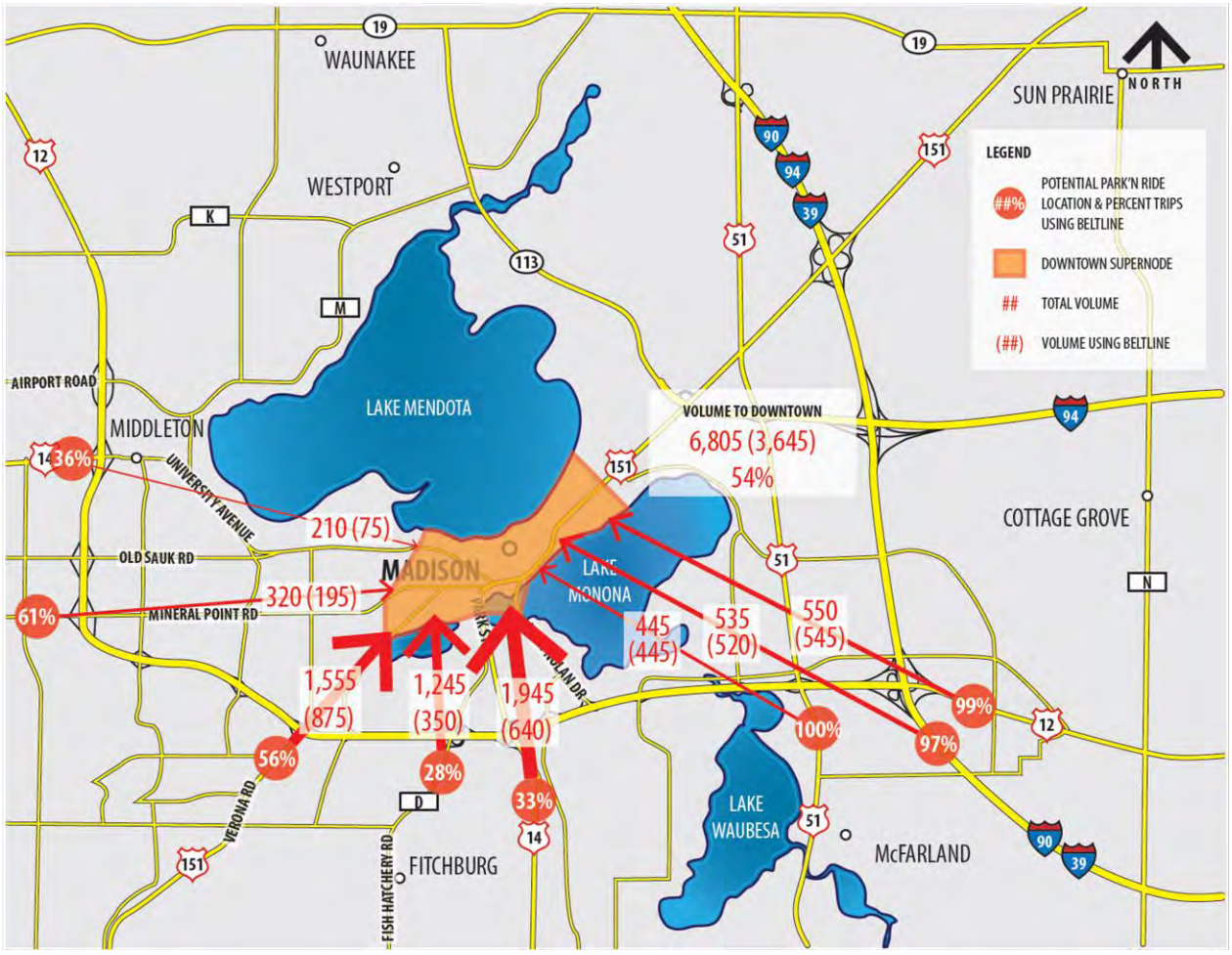


Figure 6.02-32 2012 AM Peak Period (6 to 9 A.M.) Traffic Traveling to Central Employment Centers

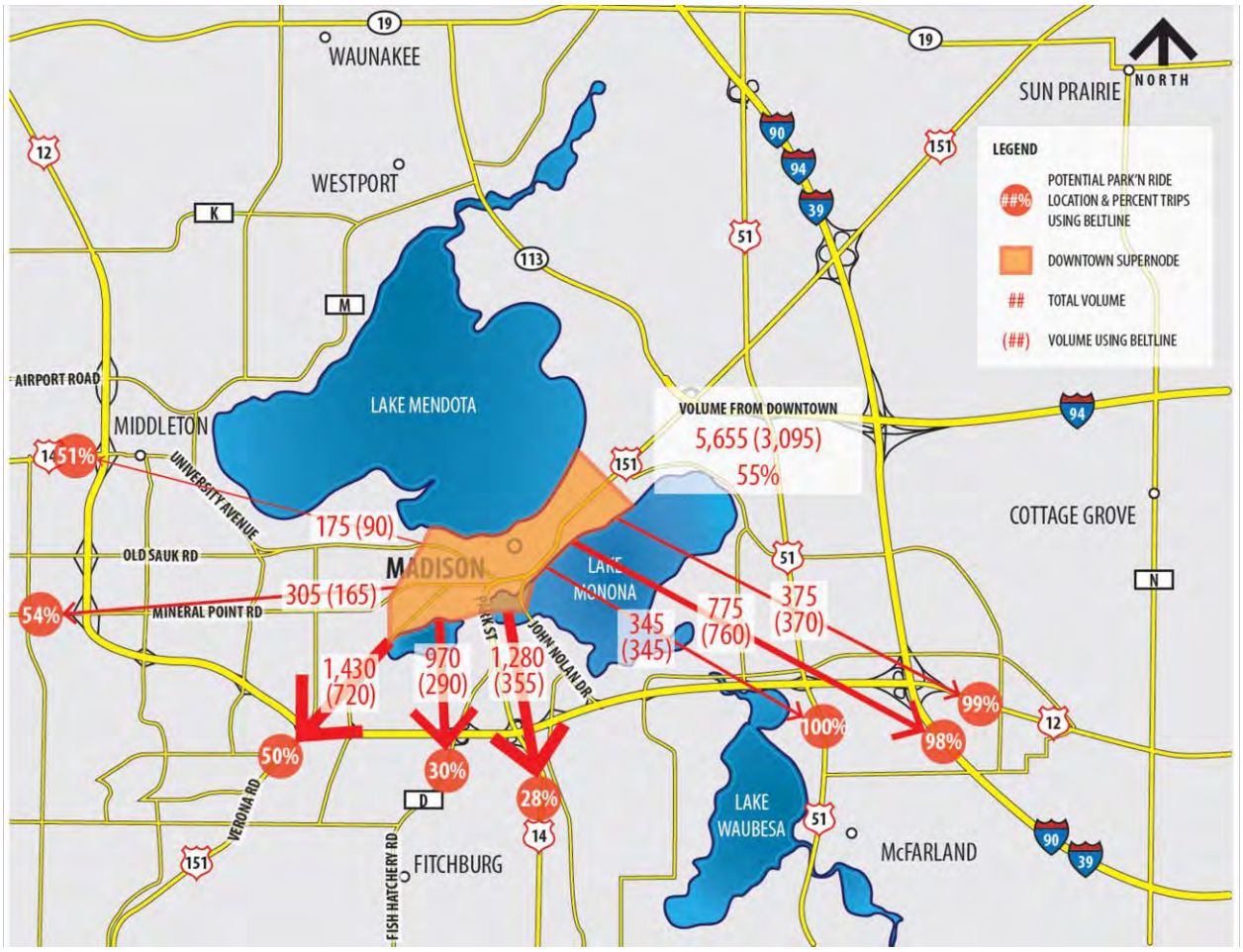


Figure 6.02-33 2012 PM Peak Period (3 to 6 P.M.) Traffic Traveling from Central Employment Centers

Employment centers in central Madison were evaluated because they were easiest to link trips and most likely to use transit. Park-and-ride lots could also be used for employment centers in the west Madison/city of Middleton area. This usage was not captured in the analysis, yet it was anticipated to be modest and similar to the central Madison destined trips.

To obtain potential traffic reductions on the Beltline, the following assumptions were applied:

- 50 percent of the volume during the peak 3-hour period travels during the peak hour (1 hour).
- 75 percent of those who could use the park and ride, do use the park and ride.
- 67 percent reduction of Beltline trips for those using the park and ride (for example, three cars enter the park and ride, collect passengers, and one car continues on to central Madison).[8]

[8]For example, if 345 trips using a corridor travel on the Beltline during the peak 3-hour period to get to a central employment area, the reduction of Beltline trips during the peak hour would be: 345 trips/peak 3 hours x 50% peak 3 hours/peak hour x 75% use park and ride x 67% carpool reduction = 87 vph reduction on Beltline

The second and third assumptions are likely optimistic based on current usage of available park and ride lots.

Even when these factors are applied, the traffic volume reductions on the Beltline are modest and not great enough to satisfy Beltline operational objectives. The park and ride locations do satisfy other Beltline PEL Study Objectives, including supporting infrastructure and other measures that encourage alternatives to SOV travel.

2. Evaluated Park-and-Ride Components

The following paragraphs describe the seven park and ride locations considered in the Beltline PEL Study.

a. Park and Ride Component A–Park-and-Ride near US 14 and the Beltline in Middleton

This potential park and ride would ideally be located on the US 14 corridor near the Beltline. Many streets in the area have bicycle lanes, but there is not a dedicated path network traveling to central employment centers.

This potential park and ride may increase the number of bicyclists crossing the Beltline through the University Avenue interchange. Bicycle travel on US 14 can be challenging although there is a bicycle or pedestrian crossing just south of US 14 on Terrace Avenue.

This park and ride would be near standard service Metro Route F that has buses arriving every 30 to 60 minutes and near coverage Route R2 that has buses arriving every 60 to 80 minutes. Up to a 6- to 8-minute walk (approximately 1,200 to 1,500 feet) would be required to access transit depending on the location of the park and ride. There would be potential for these transit routes to increase ridership from the park and ride.

While transit and bicycle routes toward central Madison are limited or less convenient, this park and ride would be near west side employment centers. Although vehicles could park in the lot and walk to jobs, this park and ride is not anticipated to remove trips from the Beltline.

During the 3-hour morning peak period, only an average of 75 vpd on US 14 were destined for central employment centers and use the Beltline. While playing an important role in reducing SOVs, this volume reduction would lead to very nominal traffic reductions on the Beltline during the peak hour, having almost no effect on Beltline operations.

Depending on the location of the park and ride, a parking lot footprint may impact commercial properties along US 14, stormwater management facilities, commercial properties in the Greenway Station area and/or open lands near the intersection of US 14 and Pleasant View Road. This location is primarily served by principal arterial streets and

is primarily accessed via Pleasant View Road and US 14. West of Pleasant View Road, US 14 is designated as "congested" by the Greater Madison MPO.[9]

b. Component B–Park and Ride near County M/Junction Road and County S/ Mineral Point Road in the city of Madison

The east-west BRT project constructed by the city of Madison included a park and ride in this location. BRT service began on September 22, 2024. The location is a new terminal for Metro including the start and end of BRT Route A. Other Metro routes near this location include standard Routes F and D1 with buses arriving every 30 to 60 minutes, coverage Route R1 with buses arriving every 60 to 80 minutes, and supplemental Route 621 that provides peak-hour service when MMSD schools are in session but is also open to the public. Sidewalk is generally provided along the streets surrounding this area. This park and ride may increase the number of bicyclists crossing the Beltline through the Mineral Point Road interchange. Off-street paved paths or bicycle lanes that connect to other on-street routes and ultimately off-street paths are available from this park and ride location. Mode transfer from car to bus, bicycle, or walking are possible with this Component.

During the 3-hour morning peak period, approximately 195 vehicles on Mineral Point Road were destined for central employment centers and used the Beltline. Assuming high participation rates, there would be a potential reduction of 50 to 100 vph during the peak hour. While playing an important role in reducing SOVs, this volume reduction would have a small impact on Beltline operations.

This location is directly served by principal arterials and is primarily accessed via County M and Mineral Point Road, both of which have recently had capacity expanded near this location. This location would likely attract up to 100 trips during the peak hour.

c. Component C–Park and Ride near County M/South Pleasant View Road and Mid Town Road in Madison

This potential park and ride would ideally be located near the County M/South Pleasant View Road intersection with Mid Town Road in the city of Madison. In 2019, County M/ South Pleasant View Road was expanded to a four- or six-lane section. A path and on-street bicycle accommodations were added on County M/South Pleasant View Road from Mid Town Road to Junction Road. This expansion also included an extension of the Ice Age Junction Path. A dedicated bus lane was added on portions of County M/South Pleasant View Road during the expansion project in anticipation of future transit routes serving the area. At the time of this report, this park and ride was near peak-only Route 55 with buses only arriving during peak hours, and supplemental routes 622 and 621 that provide peak-hour service when MMSD schools are in session but is also open to the public. This potential park and ride may increase the number of bicyclists crossing the Beltline through the Mineral Point Road interchange.

[9]Greater Madison MPO Connect Greater Madison 2050 Regional Transportation Plan, Appendix F: Congestion Management Process, Map F-b 2019 Roadway Congestion, https://www.greatermadisonmpo.org/planning/documents/Appendix-F-RTP-CMP.pdf, accessed May 1, 2024.

During the 3-hour morning peak period, approximately 195 vehicles on Mineral Point Road were destined for central employment centers and used the Beltline. Since this location is not on the Mineral Point Road or Verona Road corridors, more modest participation rates were used. Assuming more modest participation rates on Mineral Point Road of 50 percent and lower participation rates on Verona Road of 30 percent, there was a potential Beltline reduction of 100 to 150 vph during the peak hour. This reduction may not be fully achieved because of the few nearby transit routes with frequent service and good bicycle routing options.

While playing an important role in reducing SOVs, this volume reduction would have a small impact on Beltline safety and operations. A park and ride at this location may require a large footprint for the parking lot and new access near the intersection of County M and Mid Town Road. A larger footprint for the parking lot may impact agricultural land and open space. This location is primarily accessed via County M, a principal arterial, and Mid Town Road, a minor arterial, and could draw several hundred motor vehicle trips during the peak hours.

d. Component D–Park and Ride near Verona Road and County PD/McKee Road in Fitchburg

This park and ride would ideally be located near the Verona Road interchange with County PD/McKee Road in the city of Fitchburg. It was recommended in the *SW Region Park and Ride System Study*. Connections would be made from the new park and ride to existing pedestrian facilities, the Military Ridge State Trail, and the Cannonball Path. Sidewalk is generally provided along the streets surrounding this location. This potential park and ride may increase the number of bicyclists crossing the Beltline through the Seminole Highway and Verona Road interchanges as well as the Beltline Southwest Path crossing.

This Component would be near Metro standard Route D2 (buses every 60 to 80 minutes), peak-only Route 75 (buses only during peak hours), and supplemental Route 629 (additional peak-hour service when MMSD schools are in session and open to the public). There would be potential for these routes to increase ridership from the park and ride. Mode transfer from car to bus or bicycle is convenient with this Component. Walking is convenient yet there are few nearby employment centers.

During the 3-hour morning peak period, about 875 vehicles on Verona Road were destined for central employment centers and used the Beltline. Assuming high participation rates, there would be a potential reduction of 150 to 250 vph during the peak hour. While playing an important role in reducing SOVs, this volume reduction would have a small impact on Beltline operations. This location is directly served by principal arterial streets and could draw up to 150 motor vehicle trips during the peak hour. A park and ride at this location may require new access near the intersection of Verona Road and County PD. A parking lot may be difficult to site with adjacent developed lands. Impacts may include acquisition from commercial/industrial land uses and/or quarry lands. This location is primarily

accessed via County PD and US 18/151/Verona Road, both of which were recently improved to alleviate congestion.

e. Component E–Park and Ride near County D/Fish Hatchery Road in Fitchburg

This park and ride would ideally be located near the County D/Fish Hatchery Road intersection with McKee Road in the city of Fitchburg. With this park and ride, local connections would be made to connect the new park and ride to the existing pedestrian facilities and nearby Capital City Trail. Sidewalk is generally provided along the streets surrounding this park and ride. This park and ride may increase the number of bicyclists crossing the Beltline through the Fish Hatchery Road interchange. There is an off-street path along Fish Hatchery Road north of McKee Road. Off-street paved paths or bicycle lanes that connect to other routes will be available from this potential park and ride location.

The potential park and ride would be near transit Routes B and H. County D/Fish Hatchery Road is a planned corridor for a future BRT system. Mode transfer from car to bus or bicycle would be convenient with this Component. Walking would also be convenient at this location, and there would be employment centers along County PD within walking distance.

During the 3-hour morning peak period approximately 350 vehicles on Fish Hatchery Road were destined for central employment centers and used the Beltline. Assuming high participation rates, there would be a potential reduction of 50 to 150 vph during the peak hour. While playing an important role in reducing SOVs, this volume reduction would have a small effect on Beltline safety and operations.

A park and ride at this location may require a large footprint for the parking area and new access near the intersection of Fish Hatchery Road and County PD, which is mostly developed and/or has challenging topography. A parking lot footprint may impact the CSSRA and commercial land uses. This location would be primarily accessed via County PD and Fish Hatchery Road, which are principal arterial streets. Fish Hatchery Road is designated as “Severely to Extremely Congested” north of this location but not adjacent to it. [10] This location could draw up to 150 motor vehicle trips during the peak hour.

f. Component F–Park and Ride near US 14 and County MM/McCoy Road/ Lacy Road in Fitchburg

This potential park and ride would ideally be located near the US 14 interchange with County MM/McCoy Road in the city of Fitchburg. A park and ride near this location was also recommended by the *SW Region Park and Ride System Study*. Pedestrian facilities currently do not exist along County MM/McCoy Road or US 14, but the location is close to the CSSRA and associated Capital City Trail. Local trail connections would be made to

[10]Greater Madison MPO Connect Greater Madison 2050 Regional Transportation Plan, Appendix F: Congestion Management Process, Map F-b 2019 Roadway Congestion, https://www.greatermadisonmpo.org/planning/documents/Appendix-F-RTP-CMP.pdf, accessed May 1, 2024.

connect the new park and ride to the existing Capital City Trail. The trail at this location would not directly route to employment locations, so the local road system would likely be used. This potential park and ride may increase the number of bicyclists crossing the Beltline through the Rimrock Road interchange. Off-street paved paths, bicycle lanes, or paved shoulders could be constructed on Rimrock Road.

A park and ride at this location would be about 0.1 miles (3-minute walk) from a Route 65 transit stop at the intersection of Rimrock Road and Anderberg Drive. Route 65 is a peak-only route with buses arriving only during peak hours. Standard Route G also runs nearby with buses arriving every 30 to 60 minutes. The nearest transit stop for this route would be near the Rimrock Road and Anderberg Drive intersection approximately 0.5 miles away (9-minute walk). Supplemental Routes 611 and 617 also run near this location and have additional peak-hour service when MMSD schools are in session but are also open to the public. Any of these routes could be modified to serve park and ride patrons.

Mode transfer from car to bus or bicycle is possible with this Component. Mode transfer from car to walking could occur, but there are few nearby employment centers.

During the 3-hour morning peak period, about 640 vehicles on US 14 were destined for central employment centers and used the Beltline. Assuming high participation rates, there would be a potential reduction of up to 100 to 200 vph during the peak hour. While playing an important role in reducing SOVs, this volume reduction would have a small effect on Beltline safety and operations.

g. Component G–Park and Ride near US 51 and Marsh Road or Siggelkow Road in the Village of McFarland

This park and ride would ideally be located somewhere close to US 51, Siggelkow Road, and Marsh Road near the north limits of the village of McFarland. With this Component, local connections would be made from the new park and ride to the existing pedestrian facilities. Sidewalk would be generally provided along the streets surrounding these potential park and ride locations. Walking would be convenient at this location, but there would be few nearby employment centers. Bicycle lanes or paved shoulders that connect to other on-street routes and ultimately off-street paths would be available from this park and ride location. The Lower Yahara River Trail would connect this park and ride to the Capital City Trail.

This park and ride may increase the number of bicyclists crossing the Beltline through the Stoughton Road interchange. The nearest transit stop to this Component would be approximately 0.1 miles (3-minute walk) on Supplemental Route 612 that only runs additional peak-hour service when MMSD schools are in session but open to the public. When MMSD schools are not in session, this Component would be approximately 1.1 miles (24-minute walk) from a Standard Route L (buses every 30 to 60 minutes) transit stop at the intersection of Meinders Road and Crested Owl Lane. There would be potential for this park and ride to increase transit ridership. Mode transfer

from car to bus or bicycle is possible with this Component but more likely when MMSD schools are in session and during peak hours.

During the 3-hour morning peak period, about 445 vehicles on US 51 were destined for Isthmus employment centers and used the Beltline. Assuming high participation rates, there would be potential to reduce Beltline volumes by 50 to 150 vph during the peak hour. While playing an important role in reducing SOVs, this volume reduction would have a small effect on Beltline safety and operations.

This location would be primarily accessed via US 51, which is designated as "Congested" or "Very Congested" by the Greater Madison MPO.[11] As mentioned, this park and ride could draw up to 150 motor vehicle trips or more during the peak hour. Depending on the location of the park and ride, adjacent intersections may need improvement.

F. Transit Priority Components

1. Analysis Background

To improve transit on the Beltline, Transit Priority Components were considered. Transit Priority Components are measures that would improve transit travel times in the Madison metropolitan area. They are intended to incentivize travel by transit by reducing travel times and improving the reliability of transit service. For the Beltline corridor, this would be most effectively done by making it easier for buses to travel through interchanges, and this was what the Beltline PEL Study evaluated. Future study phases could evaluate other transit enhancements as well, such as bus pullouts. The initial analysis of the Transit Priority Components was documented in the *Transit and Managed Lanes Options for Beltline PEL Technical Memorandum*.

Transit Priority Components could be made as part of future Beltline projects in the following ways:

- Providing priority for buses approaching traffic signals, generally through extending the mainline green indication if it is already lit, or beginning the green indication early if a bus is approaching an intersection with the red indication lit. This is called TSP. Figure 6.02-34 is from *Transit Signal Priority (TSP): A Planning and Implementation Handbook, 2005,* and provides a simplified schematic of TSP.

[11]Greater Madison MPO Connect Greater Madison 2050 Regional Transportation Plan, Appendix F: Congestion Management Process, Map F-b 2019 Roadway Congestion, https://www.greatermadisonmpo.org/planning/documents/Appendix-F-RTP-CMP.pdf, accessed May 1, 2024.

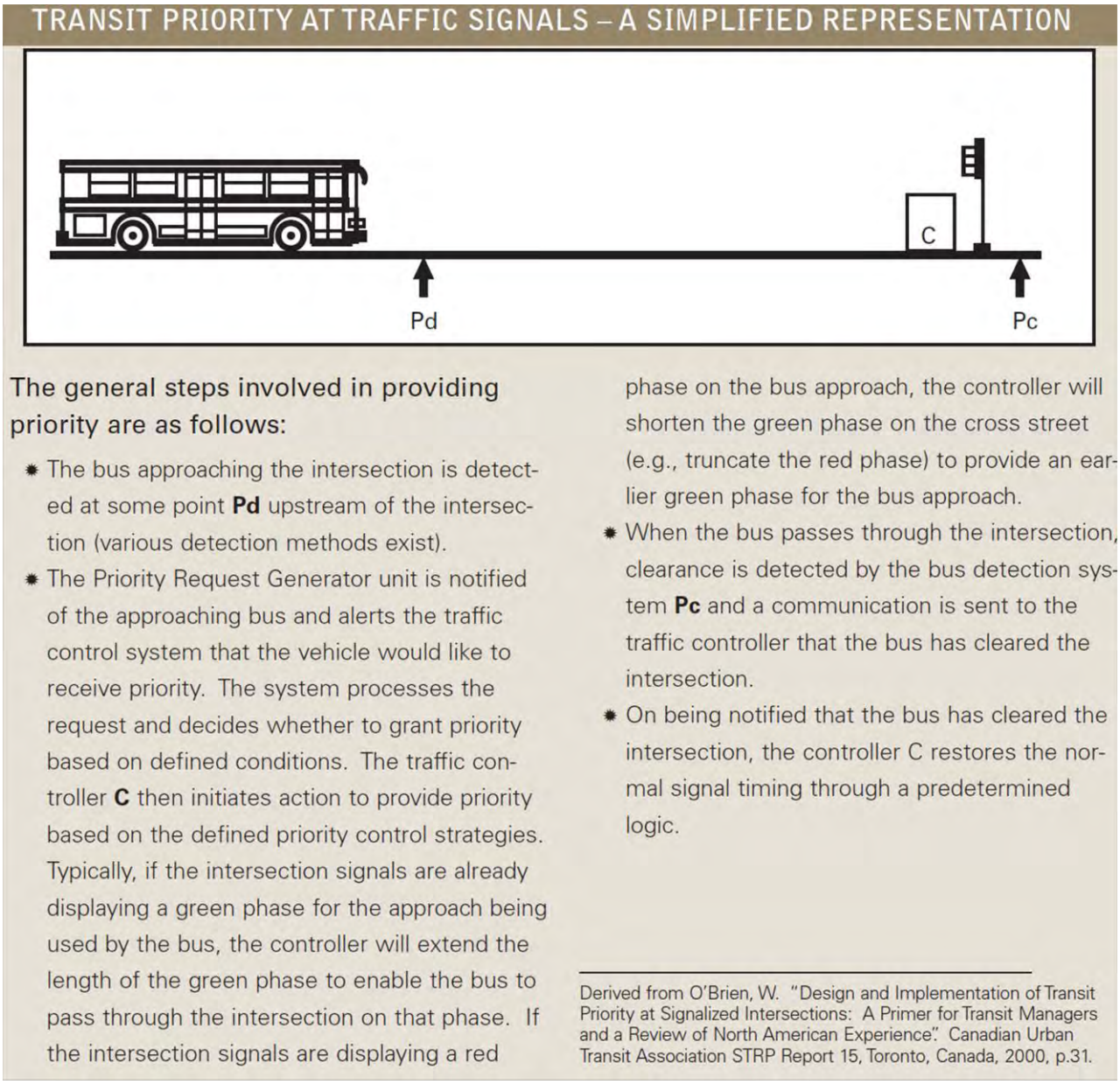


Figure 6.02-34 TSP Representation

- Providing bus-only or bus and right-turn only lanes along the crossing corridors and at signals near the Beltline. These can be on the right side or in the middle (median portion) of the arterial street. Because of the nature of the right-turning movements associated with an interchange, bus lanes on the right side would either compete with or share the space with vehicles turning right onto the ramp. Figure 6.02-35 shows a median-located bus lane from AASHTO's *Guide for Design of Transit Facilities on Highways and Streets, 2014.* Discussions with Metro and MATPB staff indicated a preference for bus lanes, where it is feasible to provide them.

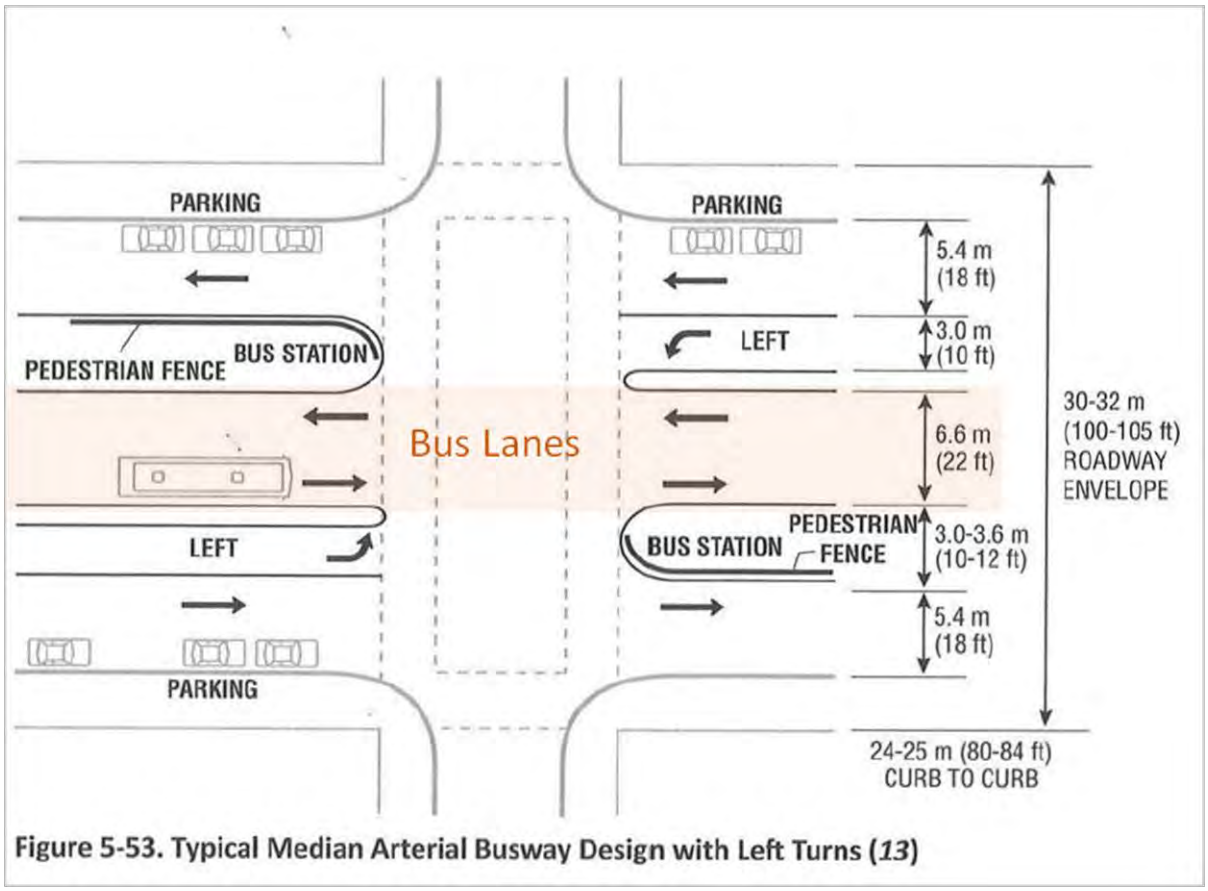


Figure 5-53. Typical Median Arterial Busway Design with Left Turns (*13*)

Source: *Guide for Geometric Design of Transit Facilities on Highways and Streets*, American Association of State Highway and Transportation Officials, July 2014

Figure 6.02-35 Median Bus Lane Representation

- Providing queue jump or bypass lanes at signals. A queue jump could be placed at the end of a bus lane and would allow buses to bypass or get ahead of motor vehicle queuing. Queue jump generally would provide the advantage when approached by transit on the red indication. A transit lane would be given an early green to allow the bus to proceed along the main arterial route ahead of general traffic. Figure 6.02-36 illustrates how a transit queue jump works. To implement queue jumps at Beltline interchanges, bus-only lanes would need to be developed approaching the interchange and then would be removed at the ramp terminal intersection. Again, vehicles turning right onto the on-ramps would pose a challenge to implementation.

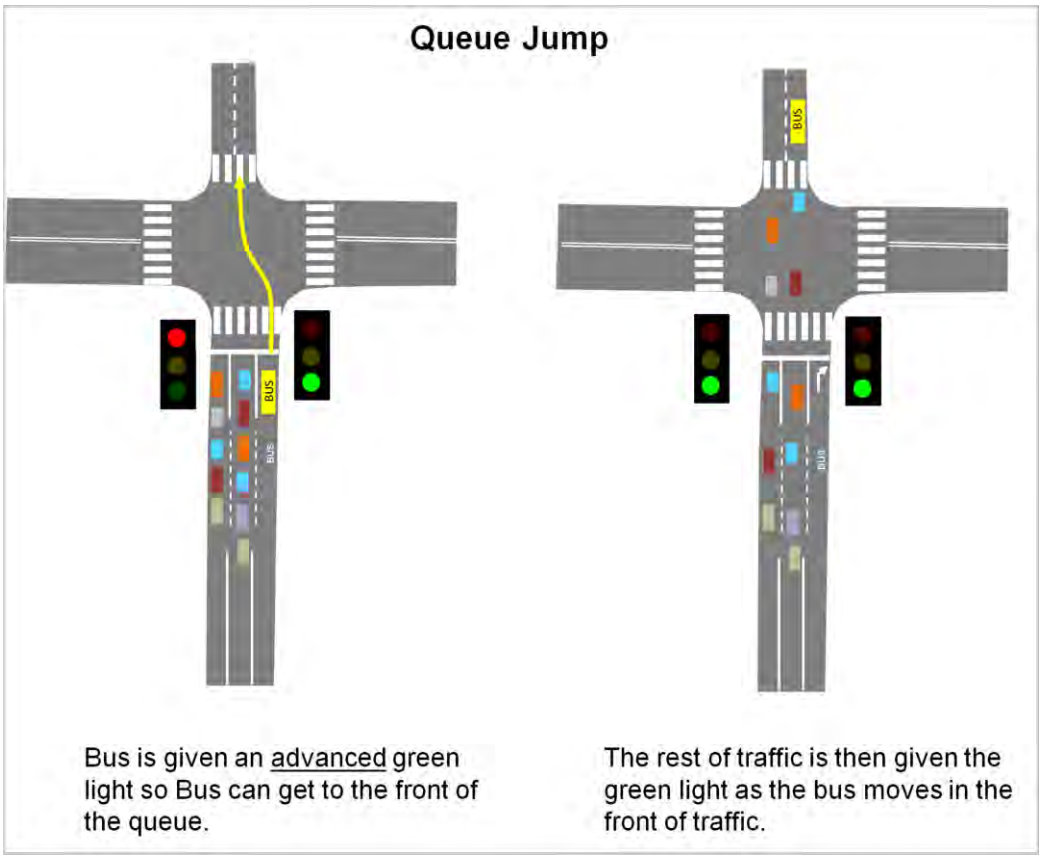


Figure 6.02-36 Queue Jump Representation

Depending on the type, transit priority treatments could diminish operations for other motor vehicles at the intersection. A queue jump would take a portion of a signal cycle away from vehicles and give it to transit. Transit signal priority would vary signal timing to move buses, sometimes at the expense of other movements experiencing congestion. AASHTO's *Guide for Geometric Design of Transit Facilities on Highways and Streets* provides a framework for justifying transit priority treatments which includes transportation system performance, quality of transit service and impacts including to competing traffic, and costs.

At the time of this report, Wisconsin Statute s. 347.385 prohibited non-emergency vehicles from using transmitters for the purposes of altering the normal sequencing of the traffic signals. There were differing opinions on whether TSP or queue jump technically meet this definition. Additional coordination would be needed in future study phases regarding options for implementing TSP at Beltline interchanges.

2. Dismissal of Transit Priority Components Previously Considered Before June 2023 Metro Network Redesign

During initial outreach before the *Transit and Managed Lanes Options for Beltline PEL Technical Memorandum* was finalized and the June 2023 Metro network redesign went into effect, each of the 16 interchanges from US 14 through US 51 had transit through or near the interchange and were shown and considered for transit priority in the Beltline PEL Study.

The *Transit and Managed Lanes Options for Beltline PEL Technical Memorandum* identified interchanges that could be appropriate for a queue jump and took into consideration the Metro network before the June 2023 Metro network redesign. This included the seven interchanges from and including Old Sauk Road to and including Park Street.

When Metro implemented the Metro network redesign in June 2023, the following interchanges no longer had transit traveling through the interchange, and therefore, these interchange locations were dismissed from further consideration in a future NEPA study:

- Greenway Boulevard
- Old Sauk Road
- Park Street
- John Nolen Drive
- Monona Drive

3. Evaluated Transit Priority Components

The red stars on Figure 6.02-37 show the locations of potential Beltline crossings where Transit Priority Components were considered. The blue dashed line indicates the east-west BRT route that the city of Madison completed in September 2024. The green dashed line indicates the planned north-south BRT route that Madison is planning and designing and anticipates having operational in 2028.

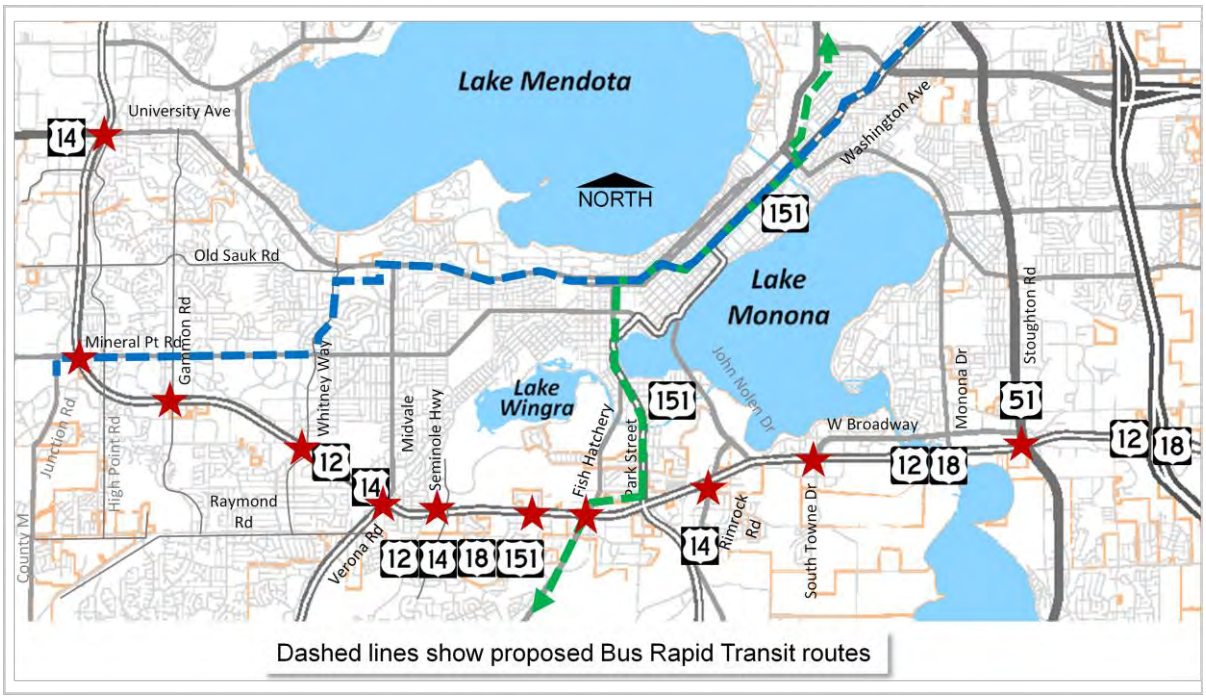


Figure 6.02-37 Transit Priority Components Considered

Figure 6.02-38 shows the weekday Metro crossings of the Beltline, at each location, based on the Metro network redesign implemented in June 2023 and the east-west BRT service opened in September 2024.

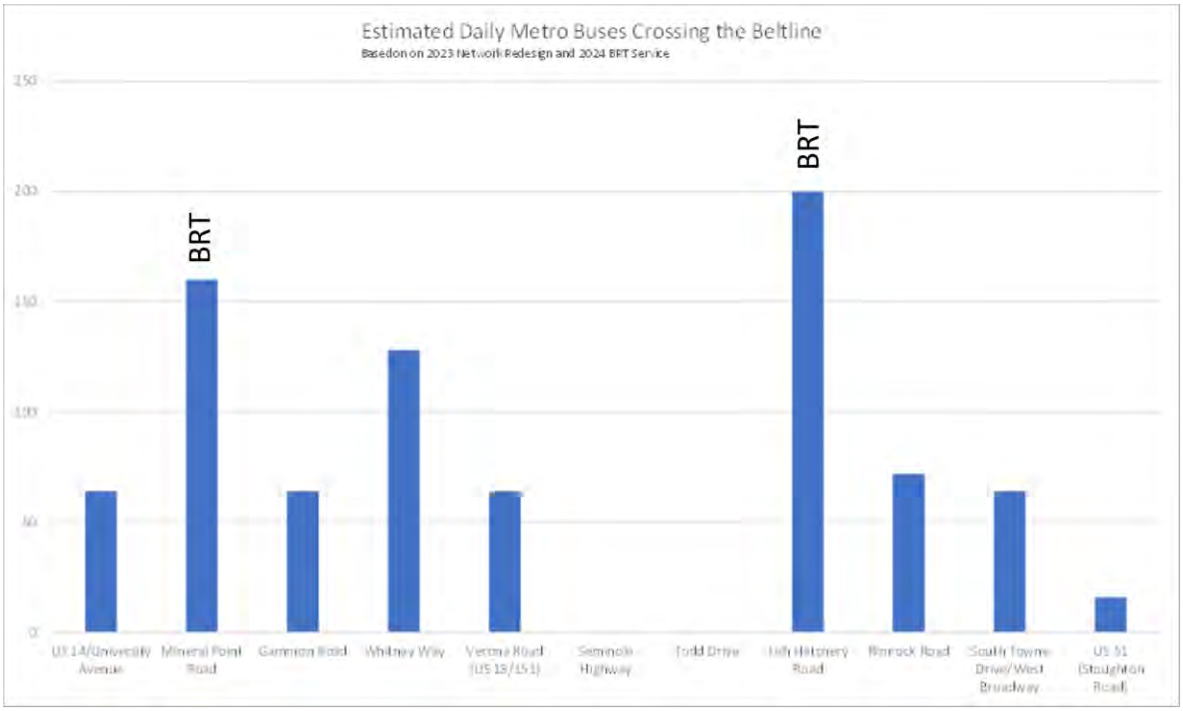


Figure 6.02-38 Weekday Metro Crossings of the Beltline

A key component of BRT is providing a time advantage over traditional transit. Transit priority treatments through congested interchanges would assist BRT in obtaining this time advantage. Conceptual layouts of the Transit Priority Components are provided in Appendix E.

The following paragraphs evaluate the remaining Transit Priority Components and the potential for transit priority treatments.

a. US 14/University Avenue Interchange

Metro Route F travels through the University Avenue interchange (an estimated 64 buses per day). Improved transit mobility could improve the reliability of this route. The city of Middleton has proposed a park and ride/mode transfer center in the southwest quadrant of the interchange that could benefit from reliable transit service through this interchange.

Transit priority is unlikely to affect traffic volumes through this interchange. The University Avenue interchange is not predicted to be capacity-constrained so transit priority treatment measures would have limited impact on the operations for other motor vehicles.

b. Mineral Point Road Interchange

Metro Routes A (BRT) and R1 travel through the Mineral Point Road interchange (an estimated 160 buses per day). Queue jump treatments may require a larger footprint at the intersections where it would be added. Near the Mineral Point Road interchange, this likely would include the southbound (eastbound) Beltline ramps and the northbound (westbound) Beltline ramps. Larger intersection footprints may impact:

- Restaurant land uses and a large electric transmission tower southwest of the interchange.
- Parking for retail land uses northeast of the interchange.

Transit priority is unlikely to affect traffic volumes through this interchange. The Mineral Point Road interchange is capacity-constrained today during the morning and afternoon peak hour today, and will remain so in the future if no changes are made. Implementing transit signal priority or queue jump treatments could diminish operations for other motor vehicles unless they are combined with other interchange capacity improvements.

d. Gammon Road Interchange

Metro Route H travels through the Gammon Road interchange (an estimated 64 buses per day). Improved transit mobility through the Gammon Road interchange could improve on-time service for this route. Transit priority treatments could also be considered at the Watts Road intersection just south of the Beltline.

Queue jump treatments may require a larger footprint at the intersections where they would be added. Near the Gammon Road interchange, this likely includes Watts Road (northbound and eastbound) and the westbound Beltline ramps (southbound). Larger intersection footprints may impact:

- Retail properties southeast and southwest of Watts Road.
- Site circulation at a regional shopping center northwest of the interchange.

Transit priority treatments are unlikely to affect traffic volumes through this interchange. The Gammon Road interchange is not capacity-constrained today. In the 2050 horizon year, the ramp terminals are expected to operate acceptably, although nearby adjacent intersections are expected to struggle to handle the forecasted traffic volumes if no improvements are made.

e. Whitney Way Interchange

Metro Routes D1 and E travel through the Whitney Way interchange (an estimated 128 buses per day). Increased transit mobility through the interchange could benefit these routes. Transit priority treatments could be considered at the Odana Road intersection just

north of the Beltline and also could be considered at the Schroeder Road intersection just south of the Beltline.

Queue jump treatments may require a larger footprint at the intersections where it would be added. Near the Whitney Way interchange this likely includes the Schroeder Road/eastbound Beltline on-ramp intersection (eastbound and northbound) and the westbound Beltline ramps intersection (southbound). Larger intersection footprints may impact:

- Parking for office and residential land uses southeast of the interchange.
- Parking for a golf course and entertainment land use southwest of the interchange.
- Parking for an exercise facility northwest of the interchange.

Transit priority treatments are unlikely to affect traffic volumes through this interchange. Whitney Way is capacity-constrained during the morning peak hour today, and will remain so in the future if no changes are made. Implementing transit signal priority or queue jump treatments could diminish operations for other motor vehicles unless they are combined with other interchange capacity improvements.

f. Verona Road Interchange

Metro route D2 travels through the Verona Road interchange (approximately 64 buses per day). Improved transit mobility through the Verona Road interchange could provide some time and reliability benefits to Metro Route D2. Transit priority could also be considered at the Nakoma Road intersection just north of the Beltline.

Queue jump treatments may require a larger footprint at the intersections where it would be added. They may be difficult to implement at the existing single-point interchange. Areas where it could be implemented include the signal at Atticus Way and the east Frontage Road (northbound and southbound, serving Route H in addition to D1); the right-in/right-out signal at Atticus Way (northbound); and Nakoma Road (northbound and southbound). Larger intersection footprints may have the following impacts:

- Parking for retail land uses east of the east Frontage Road.
- Residential land uses northeast of Nakoma Road.
- Residential land uses northwest of Nakoma Road.

g. Seminole Highway Interchange

Metro route H travels east-west through the south Seminole Highway ramps intersection (an estimated 64 buses per day) but does not cross the Beltline. Improved transit mobility through the Seminole Highway interchange is not anticipated to benefit Metro routes.

h. Todd Drive Interchange

Metro Route H travels from the West Beltline Frontage Road to Todd Drive and vice versa at the intersection on Todd Drive just south of the Beltline (an estimated 64 buses per day) and does not cross the Beltline. Improved transit mobility through the Todd Drive interchange is not anticipated to benefit Metro routes.

i. Fish Hatchery Road Interchange

Metro Routes B (planned BRT), H, and 75 travel through the interchange (an estimated 200 buses per day). Increased transit mobility through the Fish Hatchery Road interchange would benefit these routes and help provide a time advantage for the future BRT system. Transit priority treatments could also be considered at the Emil Street and Badger Road intersections just north of the Beltline, and the Greenway Cross intersection just south of the Beltline.

Queue jump treatments may require a larger footprint at the intersections where they are added. Near Fish Hatchery Road, this likely includes Greenway Cross (eastbound and northbound) and Emil Street (southbound). Larger intersection footprints may impact commercial and office properties southeast and southwest of Greenway Cross and a gas station northwest of Emil Street. With recent improvements, the Fish Hatchery Road interchange is not currently, nor anticipated to be, capacity-constrained in the future. Adjacent intersections, such as Greenway Cross, are congested and transit priority treatments could diminish operations for other motor vehicles unless they are combined with other intersection capacity improvements.

j. Rimrock Road Interchange

Metro Routes G and 65 currently travel through the Rimrock Road interchange (an estimated 72 buses per day), which is relatively uncongested. Improved transit mobility through the Rimrock Road interchange would provide some benefit to these two routes. Transit priority treatments could be considered along Rimrock Road and at the John Nolen Drive intersection north of the Beltline, which could benefit Metro Routes O and 65.

Queue jump treatments may require a larger footprint at the intersections where it would be added. Near the Rimrock Road interchange, this likely includes Badger Road (eastbound and northbound) and Rusk Avenue (eastbound and southbound). Larger intersection footprints may impact parking for a car dealership southeast of the interchange, parking for a car dealership southeast of Badger Road, and parking for a hotel northwest of Rusk Avenue. The Rimrock Road interchange is not currently, nor anticipated to be capacity-constrained in the future.

k. West Broadway Interchange

Route G currently travels through the interchange on West Broadway (an estimated 64 buses per day) and would benefit from transit priority. A queue jump treatment may require a larger footprint at the intersections where it would be added. Near the West Broadway interchange, this likely includes the eastbound and westbound Beltline ramp terminals. Larger intersection footprints may impact commercial and retail properties southwest and southeast of the interchange but should not have private property impacts on the north side of the interchange. The West Broadway interchange is not currently, nor anticipated to be, capacity-constrained in the future.

l. Stoughton Road Interchange

Metro Route L currently travels southbound only through the Stoughton Road interchange (16 buses per day). Improved mobility through the interchange could benefit Route L. Transit priority could also be considered at the adjacent Stoughton Road/Broadway intersection just north of the Beltline. Priority through this interchange may improve connections between Metro service and intercity bus service.

A queue jump treatment may require a larger footprint at the intersections where it would be added. Near the Stoughton Road interchange, this likely includes East Broadway (eastbound). Intersection expansion may impact a natural area or wetland and possibly a creek or stream southwest of East Broadway and a generally open area northeast of Broadway. The Stoughton Road interchange is capacity-constrained today during the morning peak hour, and is anticipated to be capacity-constrained during the morning and afternoon peak hours in the future. Implementing transit signal priority or a queue jump could diminish operations for other motor vehicles unless they are combined with other interchange capacity improvements.

6.03 COMPONENT PRIORITIES

Unless noted otherwise in this section, the Components were prioritized based on the following analyses:

- Screening against the Beltline PEL Study Objectives
- Composite of feedback received from public involvement, EJ outreach, and the TAC and PAC
- Preliminary estimated social, cultural, and environmental impacts
- Potential accessibility benefits

In general, each Component was prioritized based on the four criteria listed and the team then developed a composite ranking for them. The composite ranking was used to select the Components that comprise the Strategy Packages, discussed further in Section 7 of this report.

A. Mainline Component and Weave Improvement Section Priorities

The Mainline Components and weave section improvements were prioritized based on mobility level and desired operations but were also screened against the Beltline PEL Study Objectives and presented for public and stakeholder feedback similar to other Components. Unlike, the other Components that propose a new facility or new type of traffic control, the Mainline Components and weave section improvements proposed changes to existing facilities. All of the remaining Mainline Components not dismissed in Section 6.02 (Preserve and Maintain, Extend Flex Lane, and Plus One GP Lane) were anticipated to be brought forward for inclusion in the Strategy Packages. Future studies will require completion of detailed analysis, which would include preliminary estimated social, cultural, and environmental impacts and could include accessibility benefits. The Mainline Components and weave section improvements were prioritized as described in the following.

1. Mainline Components

The Mainline Component prioritization and resulting inclusion in each of the Strategy Packages depended on the mobility level and desired operations defined for a particular Strategy Package. The Strategy Packages ranged from a Package that was anticipated to provide the highest level of mobility with the fewest locations operating at LOS E or F in design year 2050 to a Package that would maintain the existing Beltline Flex Lane from approximately Whitney Way to west of I-39/90 and make no other operational or capacity changes to the corridor. The Mainline Components included in each of the Strategy Packages are documented in Section 7–Strategy Packages and NEPA.

2. Weave Section Improvements

The most critical weave section improvements were defined as those sections projected to operate at LOS F for at least 2 hours of the day or have a v/c ratio greater than 1.05. The v/c ratio measures the amount of traffic using the Beltline versus the volume the Beltline was designed to carry. The volume using the road approaches or exceeds the design volume when the v/c ratio is approaching or exceeding 1.00. A roadway is likely congested when the v/c ratio is approaching or exceeding 1.00. The most critical weave section improvements were needed on:

- Eastbound Beltline between John Nolen Drive and West Broadway
- Eastbound Beltline between Monona Drive to Stoughton Road
- Westbound Beltline between Stoughton Road and Monona Drive

Figure 6.03-1 shows the most critical weave section improvements.

Figure 6.03-1 Beltline Most Critical Weave Improvements

Moderately critical weave section improvements were defined as those sections projected to operate at LOS F for at least 1 hour or have a v/c ratio greater than 1.00. The moderately critical weave section improvements were needed on:

- Eastbound Beltline between Whitney Way and Verona Road
- Eastbound Beltline between Fish Hatchery Road and Park Street
- Westbound Beltline between West Broadway and John Nolen Drive
- Westbound Beltline between Mineral Point Road and Old Sauk Road

Figure 6.03-2 shows the moderately critical weave section improvements circled in green.

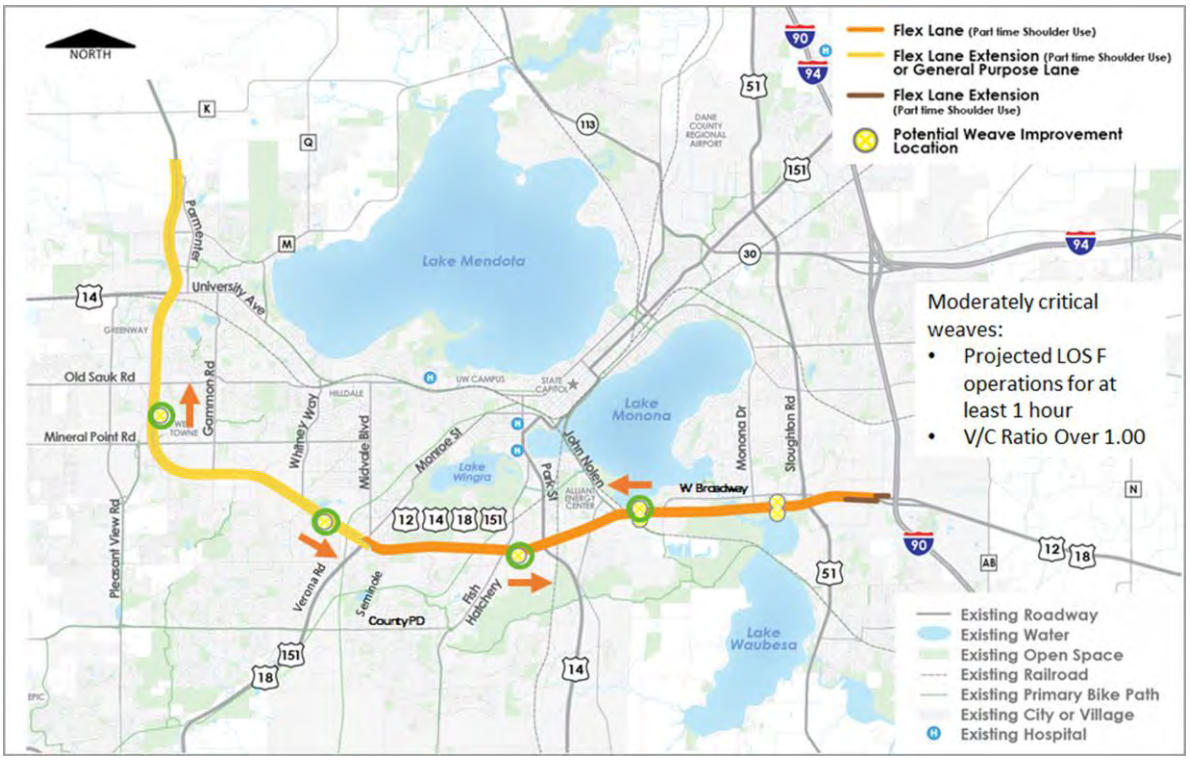


Figure 6.03-2 Beltline Moderately Critical Weave Improvements

The remaining weave section improvements where operational concerns were anticipated by 2050 on the Beltline were considered lower priority. The remaining weave section improvements were needed on:

- Eastbound Beltline between Old Sauk Road and Mineral Point Road
- Westbound Beltline between Park Street and Fish Hatchery Road
- Westbound Beltline between Verona Road and Whitney Way

Figure 6.03-3 shows the lower priority weave section improvements circled in green.

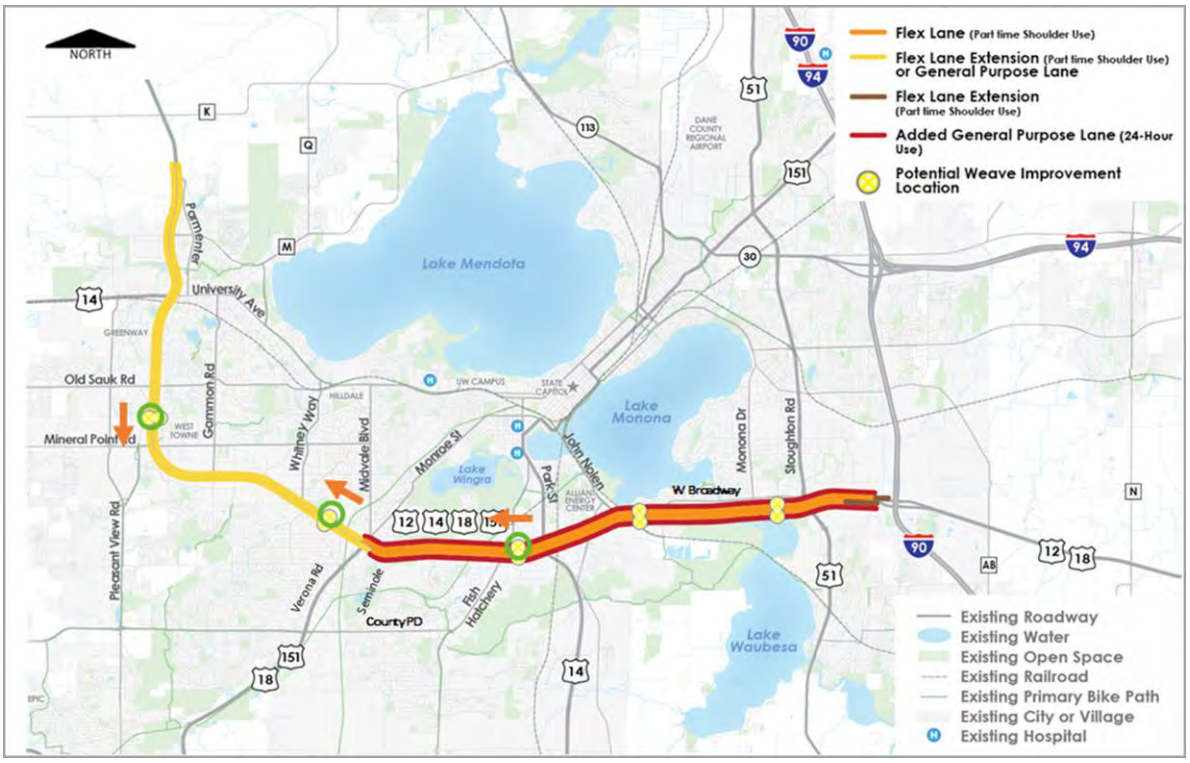


Figure 6.03-3 Beltline Lower Priority Weave Section Improvements

B. Interchange Priorities

Interchange priority was determined by reviewing interchange capacity based on LOS, if queuing reaches the Beltline mainline, and if queues along an arterial block adjacent ramp terminals. Similar to the Mainline Components, no new interchanges were proposed as part of the Beltline PEL Study and the existing facilities were analyzed. Future studies will require completion of detailed analysis, which would include consideration of how well the potential interchange improvements meet the project purpose and need, and estimation of preliminary social, cultural, and environmental impacts, and could include accessibility benefits. Existing and design year 2050 conditions were evaluated. The highest priority interchanges operate at LOS F in the existing condition and design year 2050, and experience queuing to the Beltline mainline in the existing condition and in traffic modeling for the design year for both interchanges. Mid-priority interchanges are anticipated to experience operational issues and possible queuing concerns before approximately 2040. Lower priority interchanges are not anticipated to experience poor operations and possible queuing concerns until approximately 2040 to 2050 or later. Additional details are documented in the MIIRR.

Highest priority interchanges were located at Verona Road and Stoughton Road as shown in Figure 6.03-4.

Figure 6.03-4 Beltline High Priority Interchanges

These two interchanges operate at LOS F in the existing condition and design year 2050. Queuing to the Beltline mainline was observed in the existing condition and in traffic modeling for the design year for both interchanges. Traffic growth at the Verona Road interchange outpaced previous forecasts primarily due to growth in the city of Verona and surrounding area, and, for some movements, had reached or exceeded the 2030 horizon year capacity of the improvements that were completed in 2016. The Stoughton Road interchange is being evaluated under a separate ongoing NEPA study at the time of this report.

Mid-priority interchanges were located at:

- Greenway Boulevard
- Mineral Point Road
- Whitney Way
- Seminole Highway
- Todd Drive
- Park Street

The mid-priority interchanges are indicated by a green square in Figure 6.03-5.

Figure 6.03-5 Beltline Mid-Priority Interchanges

Low priority interchanges were located at:

- University Avenue
- Old Sauk Road
- Gammon Road
- Fish Hatchery Road
- Rimrock Road
- West Broadway
- Monona Drive

The low priority interchanges are indicated by a green square in Figure 6.03-6.

Figure 6.03-6 Beltline Low-Priority Interchanges

C. Objectives Screening

The following paragraphs summarize the results of screening Components against the seven Beltline PEL Study Root Objectives, one of the criteria used to prioritize the Components for inclusion in the Strategy Packages. For each table shown, the columns list one of the Components. Each row lists one of the screening questions. Answers to the questions include Yes (“Y” and shaded green) if the Component satisfied or mostly satisfied the question, No (“N” and shaded red) if it did not or mostly did not satisfy the question, and Somewhat (“SW” and shaded yellow) if the Component partially satisfied the question or if the team suspected it did but the degree to which it did was unknown because of the relatively lower level of detail used in the Beltline PEL Study. The full screening matrices, including additional detail for each question, are included in Appendix D.

1. Mainline and Weave Components

Although all of the remaining Mainline Components not dismissed in Section 6.02 (Preserve and Maintain, Extend Flex Lane, and Plus One GP Lane) were moved forward for inclusion in the Strategy Packages, they were screened along with weave improvements to see how well each met the Beltline PEL Study Objectives. Table 6.03-1 shows the Mainline Components Screening Summary.

Table 6.03-1 Mainline and Weave Components Screening Summary

Component Screening	Beltline Capacity Improvement Component Screening (Screening terminology: No, Somewhat, Yes)				
		A	B	C	
		No Build/Preserve and Maintain	Extend Flex Lane	Add One Lane	Weaving Improvements
COMPONENT SCREENING SUMMARY					
1. Improve Safety for All Modes–This Component Addresses Only Motor Vehicles and Transit.					
C	Decrease motor vehicle crashes?	**N**	**SW**	**SW**	**SW**
2. Address Beltline Infrastructure condition and deficiencies					
D	Address Beltline pavements and bridges?	**Y**	**Y**	**Y**	**Y**
3. Improve System Mobility for All Modes–This Component Addresses Only Motor Vehicles and Transit.					
J	Improve transit routes?	**N**	**N**	**N**	**N**
K	Transit more competitive?	**N**	**N**	**N**	**N**
M	Address unstable traffic flow?	**N**	**SW**	**Y**	**Y**
N	Improve traffic operations?	**N**	**SW**	**Y**	**SW**
O	Provide alternate routes for local trips?	**N**	**N**	**N**	**N**
P	Reduce motor vehicle trips?	**N**	**N**	**N**	**N**
4. Limit Impacts to A Responsible Level of Social, Cultural, And Environmental Effects Note: See detailed screening sheets in Appendix D.					
5. Enhance efficient multimodal access to economic centers.					
R	Acknowledge local road capacity?	**N**	**SW**	**SW**	**SW**
6. Decrease Beltline diversion impacts to neighborhood streets					
U	Volumes compatible with local streets/land uses?	**N**	**SW**	**SW**	**SW**
7. Complement other major transportation initiatives and studies in the Madison area					
V	Consistent with other initiatives/plans?	**SW**	**SW**	**SW**	**SW**

Note: Some screening topics and questions are less relevant for Mainline Components and are not included on this summary page. See the detailed screening sheets in Appendix D for the full list of questions and answers.

2. Interchange Components

The Beltline PEL Study team did not screen the Interchange Components against the Beltline PEL Study Objectives. Specific interchange improvement types have been screened, but since the interchanges are existing transportation facilities future studies along the Beltline mainline will include consideration of improvements to each interchange location within the project limits.

3. Local Road System Crossings and Connections Components

Table 6.03-2 shows the Local Road System Crossings and Connections Components Screening Summary. A ranking for each Component based on this screening was presented and reviewed by the study's TAC and PAC and presented to the public at PIMs. The full screening matrix, including additional detail for each question, is included in Appendix D.

Table 6.03-2 Local Road System Crossings and Connections Components Screening Summary

Component Screening Local Road System Crossings and Connections (Screening Terminology: No, Somewhat, Yes)							
		A (Rank 4)	B (Rank 5)	C (Rank 1)	D (Rank 2)	E (Rank 3)	F (Rank 6)
		West of Gammon	East of Gammon	West of Whitney	West of Park Street	US 14 Near Stewart Street	West Broadway to John Nolen Drive
COMPONENT SCREENING SUMMARY[1]							
1. Improve Safety for all modes							
A	Decrease bicycle crashes?	**SW**	**N**	**Y**	**SW**	**N**	**N**
B	Decrease ped crashes?						
C	Decrease motor vehicle crashes?	**N**	**N**	**N**	**N**	**N**	**SW**
2. Address Beltline Infrastructure Condition and Deficiencies. Note: None of the connections directly address Beltline pavements, structures, or other substandard elements.							
3. Improve System Mobility (Congestion) for All Modes							
E	Better ped facilities?	**Y**	**SW**	**Y**	**Y**	**Y**	**SW**
F	Complete ped network?	**SW**	**N**	**Y**	**SW**	**SW**	**SW**
G	Better bicycle facilities?	**Y**	**Y**	**Y**	**Y**	**Y**	**N**
H	Complete bicycle network?	**SW**	**N**	**Y**	**Y**	**SW**	**N**
I	Provide bicycle mode transfers?	**N**	**SW**	**SW**	**SW**	**N**	**N**
J	Improve transit routing?	**SW**	**N**	**SW**	**SW**	**Y**	**N**
K	Increase transit competitiveness?	**N**	**N**	**Y**	**Y**	**SW**	**N**
L	Provide transit mode transfers?	**SW**	**N**	**SW**	**SW**	**SW**	**N**
M	Address unstable flow on Beltline?	**N**	**N**	**N**	**N**	**N**	**SW**
N	Address Beltline capacity issues?	**N**	**N**	**N**	**N**	**N**	**SW**
O	Provide alternate routes for local trips?	**SW**	**SW**	**SW**	**Y**	**Y**	**Y**
P	Reduce motor vehicle trips?	**N**	**N**	**N**	**N**	**N**	**N**
4. Limit Impacts to a Responsible Level of Social, Cultural, and Environmental Effects. Note: See the detailed sheets in Appendix D.							
5. Enhance Efficient Multimodal Access to Economic Centers.							
R	Acknowledge local street capacity?	**SW**	**SW**	**SW**	**SW**	**SW**	**N**
S	Connect economic centers?	**Y**	**Y**	**Y**	**SW**	**Y**	**SW**
T	Improve operations at Beltline interchanges?	**Y**	**Y**	**Y**	**SW**	**SW**	**SW**
6. Decrease Beltline Diversion Impacts to Neighborhood Streets. Note: See the detailed sheets in Appendix D.							
U	Traffic compatible with Local Road function?	**SW**	**Y**	**Y**	**SW**	**Y**	**N**
7. Complement Other Major Transportation Initiatives and Studies in the Madison Area.							
V	Is the Component consistent with local plans?	**SW**	**SW**	**SW**	**SW**	**SW**	**SW**

Note: Some screening topics and questions are less relevant for Connections and Grade Separated Crossings Components and are not included on this summary page. See the detailed screening sheets in Appendix D for the full list of questions and answers.

Based on the results of the screening matrix, the Components that satisfied the most Objectives were:

- Component C–Local Road Crossing of the Beltline West of Whitney Way.
- Component D–Local Road Crossing of the Beltline West of Park Street.
- Component E–Local Road Crossing of US 14 Near Stewart Street.

Components A and B remain viable but do not satisfy as many Beltline PEL Study Objectives. Component A–West of Gammon Road would have to join an internal and privately owned road network which may not make it feasible. Crossing B east of Gammon Road would compromise the existing bicycle/pedestrian crossing of the Beltline near Grand Canyon Road and has more limited value in improving Gammon Road interchange operations. Component F is determined to be lower priority based on the screening against the Beltline PEL Study Objectives.

4. Pedestrian and Bicycle Components

Tables 6.03-3 and 6.03-4 show the Pedestrian and Bike Components Screening Summary. A ranking for each Component based on this screening was presented and reviewed by the study's TAC and PAC and presented to the public at PIMs. The full screening matrix, with additional detail for each question, is included in Appendix D.

Table 6.03-3 Pedestrian and Bicycle Components Screening Summary–Components A through G

Components Screening	Bike and Pedestrian Component Screening (Screening terminology: No, Somewhat, Yes)	A (Rank 9)	B (Rank T 6)	C (Rank 1)	D (Rank T 6)	E (Rank T 2)	F (Rank T-10)	G (Rank T-10)
		North of Old Sauk	South of old Sauk	West of Whitney Way	Across Whitney Way	Beltline Path to SW Path	Sem Highway to Cannonball North	Sem Highway to Cannonball South
COMPONENT SCREENING SUMMARY[1]								
1. Improve Safety for all modes								
A	Decrease Bike Crashes?	**SW**	**SW**	**Y**	**Y**	**SW**	**SW**	**SW**
B	Decrease Ped Crashes							
C	Decrease motor vehicle crashes?	**N**	**N**	**N**	**N**	**N**	**N**	**N**
2. Address Beltline Infrastructure Condition and Deficiencies. Note: None of the Pedestrian/Bicycle Components directly address Beltline pavements, structures, or other substandard elements.								
3. Improve System Mobility (Congestion) for All Modes								
E	Provide Ped Facilities?	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
F	Complete Ped Network?	**Y**	**Y**	**Y**	**SW**	**SW**	**SW**	**Y**
G	Provide Bike Facilities?	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
H	Fill Bike Network Gaps?	**SW**	**Y**	**Y**	**Y**	**Y**	**Y**	**N**
I	Convenient Auto-Bike Mode Transfers?	**N**	**N**	**SW**	**SW**	**SW**	**N**	**N**
L	Convenient Transit-Bike Mode Transfers?	**SW**	**SW**	**SW**	**SW**	**Y**	**SW**	**SW**
M	Address unstable flow on Beltline?	**N**	**N**	**N**	**N**	**N**	**N**	**N**
P	Reduce Motor vehicle Trips?	**SW**	**SW**	**SW**	**SW**	**Y**	**SW**	**SW**
4. Limit Impacts to a Responsible Level of Social, Cultural, and Environmental Effects. Note: See detailed sheets in Appendix D.								
5. Enhance Efficient Multimodal Access to Economic Centers.								
R	Acknowledge local street capacity?	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
S	Connect economic centers?	**SW**	**SW**	**Y**	**SW**	**Y**	**SW**	**SW**
T	Improve operations at Beltline interchanges?	**N**	**N**	**SW**	**SW**	**N**	**N**	**SW**
6. Decrease Beltline Diversion Impacts to Neighborhood Streets. Note: Minimal impact is anticipated on Beltline diversion with the Pedestrian/Bicycle Components but all Pedestrian/Bicycle Components are anticipated to connect streets or paths classified as primary or secondary bikeways. See detailed sheets in Appendix D.								
7. Complement Other Major Transportation Initiatives and Studies in the Madison Area.								
V	Consistent with other initiatives/plans?	**Y**	**Y**	**Y**	**SW**	**Y**	**SW**	**Y**

Table 6.03-4 Pedestrian and Bicycle Components Screening Summary–Components H through Y

Components Screening	Bike and Pedestrian Component Screening (Screening terminology: No, Somewhat, Yes)					
	H	I	J	K	X	Y
	West of Park Street (Rank T 4)	Across US 14 (Rank T 6)	Monona Drive to Stoughton Road (Rank 12)	Femrite to County N (Rank 13)	West Towne Path (Rank T 2)	Cap Springs Rec Area (Rank T 4)
COMPONENT SCREENING SUMMARY[1]						
1. Improve Safety for all modes						
A Decrease Bike Crashes?	**SW**	**SW**	**SW**	**SW**	**SW**	**SW**
B Decrease Ped Crashes						
C Decrease motor vehicle crashes?	**N**	**N**	**N**	**SW**	**N**	**N**
2. Address Beltline Infrastructure Condition and Deficiencies. Note: None of the bicycle/pedestrian Components directly address Beltline pavements, structures, or other substandard elements.						
3. Improve System Mobility (Congestion) For All Modes						
E Provide Ped Facilities?	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
F Complete Ped Network?	**Y**	**Y**	**N**	**N**	**SW**	**N**
G Provide Bike Facilities?	**Y**	**Y**	**Y**	**Y**	**Y**	**Y**
H Fill Bike Network Gaps?	**Y**	**Y**	**SW**	**Y**	**Y**	**SW**
I Convenient Auto-Bike Mode Transfers?	**SW**	**N**	**N**	**N**	**N**	**N**
L Convenient Transit-Bike Mode Transfers?	**Y**	**Y**	**N**	**N**	**SW**	**N**
M Address unstable flow on Beltline?	**N**	**N**	**SW**	**N**	**N**	**N**
P Reduce Motor vehicle Trips?	**SW**	**SW**	**N**	**N**	**Y**	**SW**
4. Limit Impacts to a Responsible Level of Social, Cultural, And Environmental Effects. Note: See detailed sheets in Appendix D.						
5. Enhance Efficient Multimodal Access to Economic Centers.						
R Acknowledge local street capacity?	**SW**	**Y**	**SW**	**Y**	**Y**	**Y**
S Connect economic centers?	**Y**	**Y**	**Y**	**N**	**Y**	**N**
T Improve operations at Beltline interchanges?	**SW**	**Y**	**Y**	**N**	**N**	**N**
6. Decrease Beltline Diversion Impacts to Neighborhood Streets. Note: See detailed sheets in Appendix D.						
7. Complement other major transportation initiatives and studies in the Madison area.						
V Consistent with other initiatives/plans?	**Y**	**SW**	**Y**	**SW**	**Y**	**Y**

Note: Some screening topics and questions are less relevant for Bike and Pedestrian Components and are not included on this summary page. See the detailed screening sheets in Appendix D for the full list of questions and answers.

Pedestrian and Bicycle Components that satisfied the most Beltline PEL Study Objectives were:

- Component C–Grade-Separated Crossing of the Beltline West of Whitney Way.
- Component E–East-West Path Connection from the Beltline Path to Whitney Way.
- Component H–Grade-Separated Crossing of the Beltline West of Park Street.
- Component I–Grade-Separated Crossing of US 14 South of the Beltline.

Pedestrian and Bicycle Components that met the fewest Beltline PEL Study Objectives were:

- Component F–East-West Path Connection on the North Side of the Beltline from Seminole Highway to the Cannonball Path.
- Component J–East-West Path Connection from Monona Drive to Stoughton Road.
- Component K–East-West Path Connection from Femrite Drive to County N.
- Component Y–Path Connection Through the CSSRA.

5. Park and Ride Components

Table 6.03-5 shows the Park and Ride Components Screening Summary. Each column lists one of the Components. These rankings were presented and reviewed by the study's TAC and PAC and presented to the public at PIMs. The full screening matrix, including additional detail for each question, is included in Appendix D.

Table 6.03-5 Park and Ride Components Screening Summary

Components Screening Park and Ride Component Screening (Screening terminology: No, Somewhat, Yes)								
		A	B	C	D	E	F	G
Screening Question		US 14 in Middleton (Rank 6)	County M/ Mineral Point (Rank T 1)	County M/ Midtown (Rank 7)	Verona Road/ County PD (Rank T 1)	Fish Hatchery/ County PD (Rank T 1)	US 14/ McCoy Road (Rank 4)	US 51/ Siggelkow/Marsh (Rank 5)
COMPONENT SCREENING SUMMARY[1]								
1. Improve Safety for All Modes.								
Ped/Bike Note: Pedestrian, Bicycle, and Motor Vehicle safety would need to be addressed by other Components.								
2. Address Beltline Infrastructure Condition and Deficiencies. NOTE: None of the Components directly address Beltline pavements, structures, or other substandard elements.								
3. Improve System Mobility (Congestion) For All Modes.								
E	Does the Component provide corresponding pedestrian facilities?	SW	Y	SW	Y	Y	SW	Y
F	Complete ped network?	N	N	N	N	N	N	N
G	Does the Component provide connections to bicycle facilities?	SW	N	SW	SW	SW	SW	N
H	Complete bicycle network?	N	N	N	N	N	N	N
I	Does the Component provide the opportunity for convenient bicycle mode transfers?	SW	Y	Y	Y	Y	Y	Y
J	Does the Component increase or improve routes for transit service?	SW	Y	SW	SW	SW	SW	SW
K	Increase transit competitiveness?	N	N	N	N	N	N	N
L	Does the Component provide the opportunity for convenient transit mode transfers?	SW	Y	SW	Y	Y	SW	SW
M	Address unstable flow on Beltline?	N	N	N	N	N	N	N
N	Address Beltline capacity issues?	N	N	N	N	N	N	N
O	Does the Component provide more attractive/viable alternative routes to the Beltline for local trips?	N	N	SW	SW	SW	SW	SW
P	Will the strategy provide a reduction in motor vehicle trips?	SW	Y	SW	Y	Y	Y	Y
4. Limit Impacts to a Responsible Level of Social, Cultural, and Environmental Effects. Note: See the detailed sheets in Appendix D.								
5. Enhance efficient multimodal access to economic centers.								
R	Does the Component acknowledge capacity limitations in the connecting municipal arterial network (near the Beltline?)	SW	Y	SW	SW	SW	Y	SW
S	Does the Component have connections to economic centers for all modes?	SW	Y	SW	Y	Y	SW	SW
T	Can the Component improve operations at Beltline interchanges?	N	N	N	N	N	N	N
6. Decrease Beltline Diversion Impacts to Neighborhood Streets. Note: See the detailed sheets in Appendix D..								
U	Does the Component create traffic volumes on streets/roads that are compatible with their functional classification, adjacent land use, and available capacity?	Y	Y	Y	Y	Y	Y	Y
7. Complement Other Major Transportation Initiatives and Studies in the Madison Area.								
V	Is the Component consistent with other neighboring plans/initiatives/projects?	SW	Y	SW	SW	SW	SW	SW

Note: Some screening topics and questions are less relevant for Park and Ride Components and are not included on this summary page. See the detailed screening sheets in Appendix D for the full list of questions and answers.

The Park and Ride Components that satisfy the most Beltline PEL Study Objectives are:

- Component B–Park and Ride near County M and Mineral Point Road
- Component D–Park and Ride near Verona Road and County PD/McKee Road in Fitchburg
- Component E–Park and Ride near County D/Fish Hatchery Road and County PD/McKee Road in Fitchburg
- Component F–Park and Ride near US 14 and County MM/McCoy Road in Fitchburg

Note that Components D, E, and F are also recommended in the *SW Region Park and Ride System Study*.

6. Transit Priority Components

The Beltline PEL Study team interacted with staff from the Greater Madison MPO as well as Metro multiple times throughout the study process to understand agency priorities when considering transit priority treatments at all interchanges within the study limits. Table 6.03-6 lists the ranking in terms of importance to transit service before the Metro network redesign that began service in June 2023. However, it was noteworthy that some of the highest priority crossings before the Metro network redesign remained high-priority after the redesign was implemented in June 2023.

Crossing	Bus Crossings per day	Metro Ranking	Greater Madison MPO Ranking	Average Ranking	Priority Based on Average Ranking
University Avenue	0	**9***	**9**	9	10
Greenway Boulevard	22	**14**	**8**	11	13
Old Sauk Road	30	**8**	**8**	8	8
Mineral Point Road	36	**5**	**3**	4	4
Gammon Road	49	**4**	**5**	4.5	5
Whitney Way	233	**1**	**1**	1	1
Verona Road	66	**12**	**8**	10	12
Seminole Highway	46	**13**	**9**	11	13
Todd Drive	39	**7**	**9**	8	8
Fish Hatchery Road	95	**3**	**2**	2.5	2
Park Street	61	**2**	**4**	3	3
Rimrock Road	34	**6**	**9**	7.5	7
John Nolen Drive	12	**9**	**9**	9	10
Broadway	64	**9**	**5**	7	6
Monona Drive	0	**13**	**15**	14	15
Stoughton Road	0	**10**	**15**	12.5	14

Note: If pedestrian facilities and urban treatments were constructed on US 14/University Avenue west of the Beltline.

Table 6.03-6 Agency Prioritization of Beltline Interchange Transit Crossings (Pre-June 2023)

Table 6.03-7 shows the Transit Priority Components Screening Summary that considers the Metro network implemented in June 2023 following the Metro network redesign with 11 remaining locations. If there is not an existing route near or through an interchange at the Beltline, transit priority was no longer considered at those interchanges. Transit priority, therefore, was not considered at Greenway Boulevard, Old Sauk Road, Park Street, John Nolen Drive, or Monona Drive. The full screening matrix, including additional detail for each question, is included in Appendix D.

Table 6.03-7 Transit Priority Components Screening Summary

Components Screening	Transit Priority Component Screening (Screening Terminology: No, Somewhat, Yes)										
	A	C	D	E	F	G	H	I	J	K	L
Screening Question	University Avenue (Rank T 2)	Mineral Point Road (Rank T 2)	Gammon Road (Rank T 2)	Whitney Way (Rank T 7)	Verona Road (Rank T 7)	Seminole Highway (Rank T 9)	Todd Drive (Rank T 9)	Fish Hatchery Road (Rank 1)	Rimrock Road (Rank T 2)	West Broadway (Rank T 2)	Stoughton Road (Rank 9)
COMPONENT SCREENING SUMMARY[1]											
1. Improve Safety for All Modes Note: None of the Components Directly Address Safety**.**											
2. Address Beltline Infrastructure Condition and Deficiencies. Note: None of the Components directly address Beltline pavements, structures, or other substandard elements**.**											
3. Improve System Mobility (Congestion) for All Modes											
Pedestrian and Bicycles Note: None of the Components directly address pedestrian or bicycle conditions.											
J Improve transit routes? **K** Transit more competitive?	**Y**	**Y**	**Y**	**Y**	**Y**	**SW**	**SW**	**Y**	**Y**	**Y**	**Y**
Motor Vehicles Note: None of the Components directly address motor vehicle conditions.											
4. Limit Impacts to a Responsible Level of Social, Cultural, and Environmental Effects. Note: See detailed sheets in Appendix D.											
5. Enhance Efficient Multimodal Access to Economic Centers.											
R Acknowledge local road capacity?	**Y**	**N**	**Y**	**N**	**N**	**N**	**N**	**Y**	**Y**	**Y**	**N**
S Improve connections to economic centers?	**SW**	**Y**	**SW**	**SW**	**SW**	**SW**	**SW**	**Y**	**SW**	**SW**	**SW**
Interchange Operations Note: None of the Components directly improves overall interchange operations.											
6. Decrease Beltline Diversion Impacts to Neighborhood Streets. Note: None of the Components will have a substantial impact on traffic using other streets/roads**.** See detailed sheets in Appendix D.											
7. Complement Other Major Transportation Initiatives and Studies in the Madison Area.											
V Consistent with local plans?	**SW**	**Y**	**SW**	**SW**	**SW**	**SW**	**SW**	**Y**	**SW**	**SW**	**N**

Note: Some screening topics and questions are less relevant for Transit Priority Components and are not included on this summary page. See the detailed screening sheets in Appendix D for the full list of questions and answers.

Transit Priority Components that have higher priority based on the Beltline PEL Study Objectives are those that are anticipated to increase or improve routes for transit service the most while having the potential to provide measures that could make transit more competitive with the auto mode of travel. The Mineral Point Road and Fish Hatchery Road interchange are anticipated BRT route crossings. The higher priority Transit Priority Components are:

- Fish Hatchery Road interchange
- US 14/University Avenue interchange
- Mineral Point Road interchange
- Gammon Road interchange
- Rimrock Road interchange
- West Broadway interchange

Mid-Priority Transit Components meet fewer of the Beltline PEL Study Objectives than high-priority Components. These interchanges are anticipated to improve transit routes and could make transit more competitive but may provide a lower-quality connection to economic centers for all modes and include interchanges with existing and anticipated future capacity constraints where transit priority would worsen GP traffic conditions unless additional improvements were also included. The mid-priority Transit Priority Components include:

- Whitney Way interchange
- Verona Road interchange

Lower priority Transit Priority Components meet fewer of the Beltline PEL Study Objectives than the higher- and mid-priority interchanges. Lower-priority Transit Priority Components include:

- Seminole Highway interchange
- Todd Drive interchange
- Stoughton Road interchange

D. Composite Feedback

Feedback was received from the TAC and PAC, public, and EJ communities and leaders in person, via email, and via surveys. This resulted in another set of Component priorities based on the feedback received. The feedback was reviewed, quantitative data was gathered, and responses were tallied. Depending on the type of survey question, each response was assigned a specific number of points. Once the responses were reviewed, a priority for each of the Components was determined with Components that respondents ranked as highly useful, or somewhat useful, for example, given higher priority over those that were viewed as less useful. The priorities from multiple sources of feedback were averaged to create the composite feedback priority rankings. The composite feedback priorities were used to determine which Components were included in each Strategy Package.

The following paragraphs summarize the results of feedback received for each of the Components combined to create one composite feedback priority. This was another of the criteria used to prioritize the Components for inclusion in the Strategy Packages. A summary of the feedback received is included in Appendix C.

1. Mainline Components

All Mainline Components were proposed to be considered for inclusion in the Strategy Packages, but feedback was gathered throughout the various Beltline PEL Study outreach opportunities regardless. The composite feedback priority for Beltline mainline improvements was created for the Components considered for the mainline including: Preserve and Maintain, Extend Flex Lane from Verona Road to Parmenter Street and Add One Lane between Parmenter Street and just west of I-39/90. Each Component included keeping the existing Beltline Flex Lane between Verona Road and I-39/90.

Overall, feedback generally favored extending the Beltline Flex Lane on the west and east ends of the existing Beltline Flex Lane and it was ranked highest among the Mainline Components. The team received feedback that was both in favor of and not in favor of adding a GP lane to the Beltline. The Preserve and Maintain and Add 1 Lane Mainline Components tied for second overall in the numerical rankings.

2. Interchange Components

Beltline PEL Study outreach asked for opinions on priority for improvements to all interchanges within the study limits. The John Nolen Drive, Fish Hatchery Road, Park Street, and Whitney Way interchanges had the highest feedback priority. Stoughton Road, Seminole Highway, Gammon Road, Verona Road and Todd Drive followed with medium priority. The remaining interchanges had low priority with the majority being on the west end of the Beltline. Figure 6.03-7 shows the composite feedback for the Interchange Components.

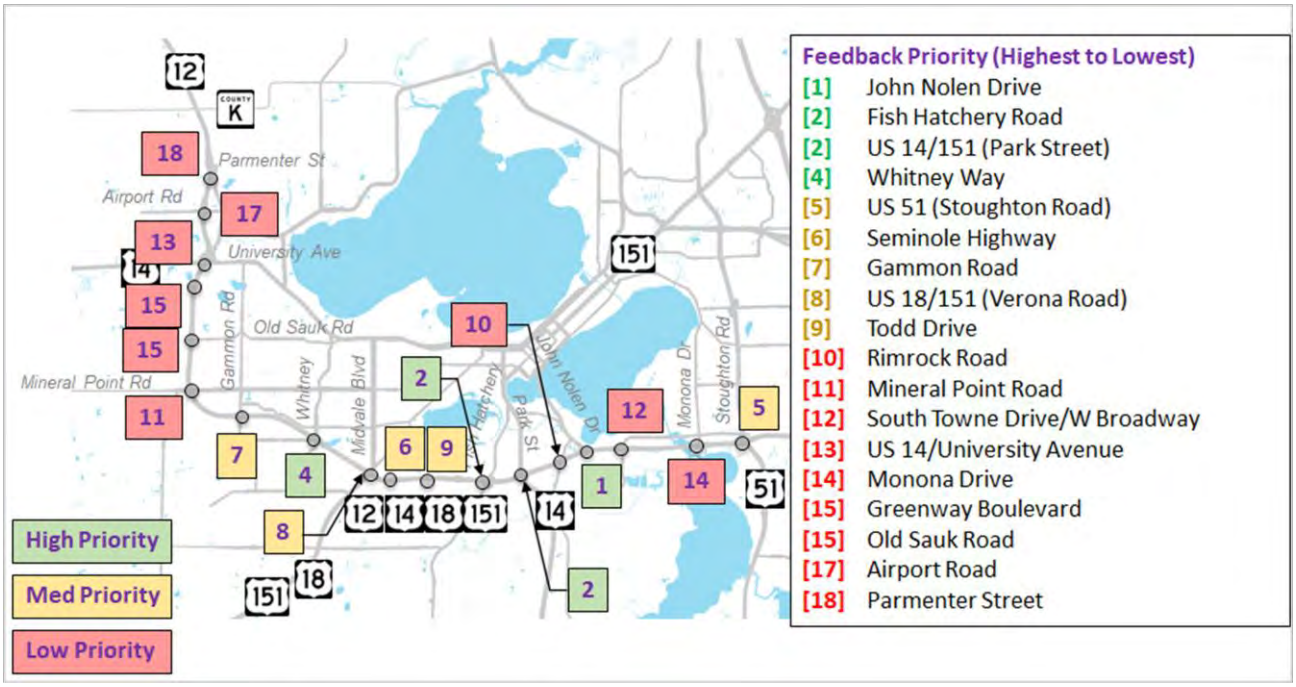


Figure 6.03-7 Composite Feedback for the Interchange Components

3. Local Road System Crossings and Connections Components

Based on the composite feedback, the Component D–Connection West of Park Street had the highest feedback priority followed by the Connection between West Broadway and Component F–John Nolen Drive. The crossing West of Whitney Way (Component C) and the crossing over US 14 between Stewart Street and Novation Parkway (Component E) followed with medium priority. Crossings near Gammon Road (Components A and B) were low priority. Figure 6.03-8 shows the composite feedback for the Local Road System Crossings and Connections Components.

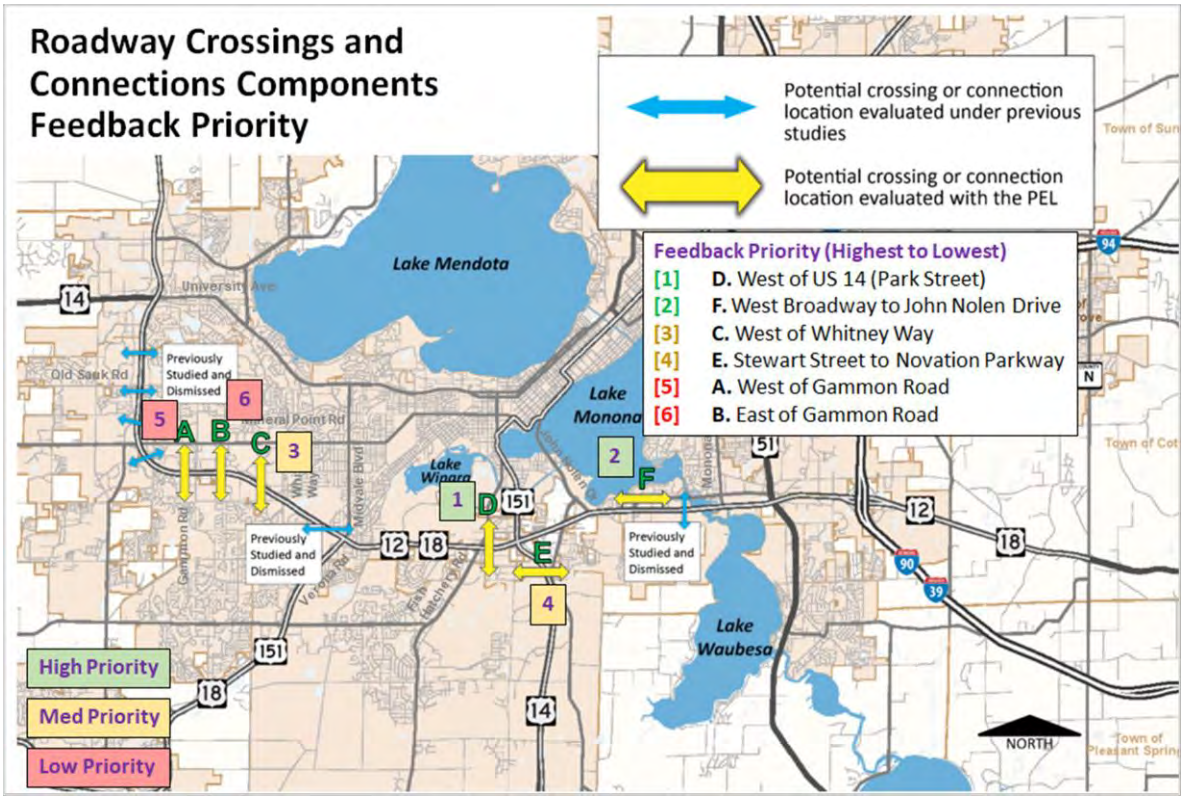


Figure 6.03-8 Composite Feedback for the Local Road System Crossings and Connections Components

4. Pedestrian and Bicycle Components

Early in the Beltline PEL Study, the Pedestrian and Bicycle survey of TAC and PAC members in 2015 showed that approximately 40 percent of the respondents were in favor of (ranked as "Very Useful") new grade-separated crossings of the Beltline at Old Sauk Road and Whitney Way. The survey showed higher favorability of approximately 40 to 70 percent for new routes parallel to the Beltline that connect Whitney Way to the Southwest Commuter Path along the north side of the Beltline, the Southwest Commuter Path to the Cannonball Path along the north side of the Beltline, and the Southwest Commuter Path to the Cannonball Path along the south side of the

Beltline. No TAC or PAC members found the more rural proposed connection of Femrite Drive to County N "Very Useful".

Additional outreach was conducted between 2021 and 2022 to obtain a more recent composite feedback priority. It is important to note that the extension of the Component X–West Towne Path and the Component Y–Connection through the CSSRA were added following the 2022 TAC and PAC meetings when they were noted as high priority for both the city of Madison and the Greater Madison MPO. Because this feedback came from staff representing the city of Madison and the greater metropolitan area, Components X and Y were considered high priority in the Beltline PEL Study. For the other Components, the connection between the Beltline Path at Whitney Way and the Component E–Southwest Bike Path at Verona Road, the crossing west of Park Street (Component H), and the crossing south of Old Sauk Road (Component B) had top composite feedback priority. The remaining Components followed with medium and low priority as shown in Figure 6.03-9.

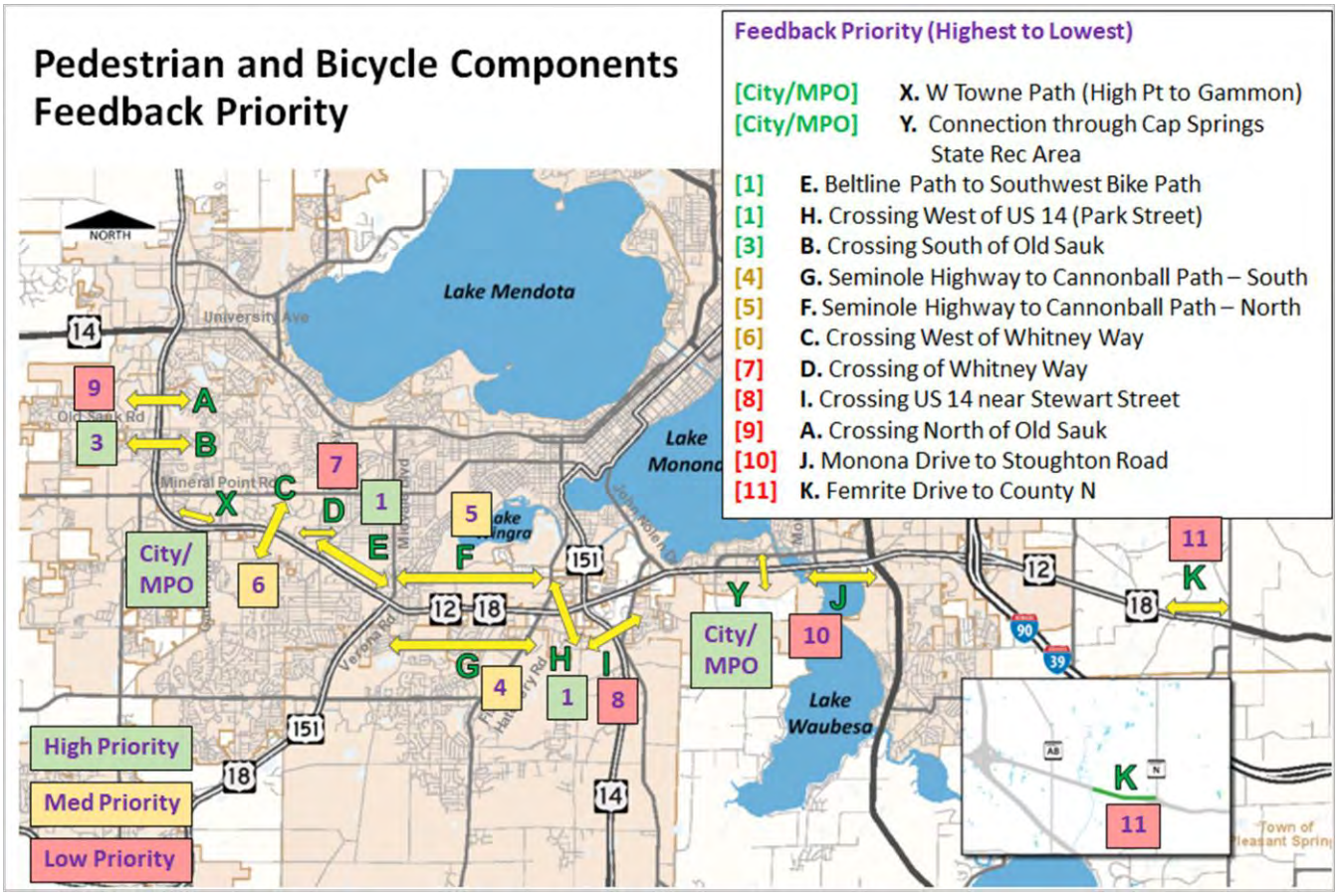


Figure 6.03-9 Composite Feedback for the Pedestrian and Bicycle Components

5. Park and Ride Components

For park and rides, locations at Component D–Verona Road and County PD and Component E–Fish Hatchery Road and County PD had the highest feedback priority. Note that the East-West BRT project constructed a new park and ride at the Component B–County M and Mineral Point Road location in 2024. Figure 6.03-10 shows the composite feedback for the Park and Ride Components.

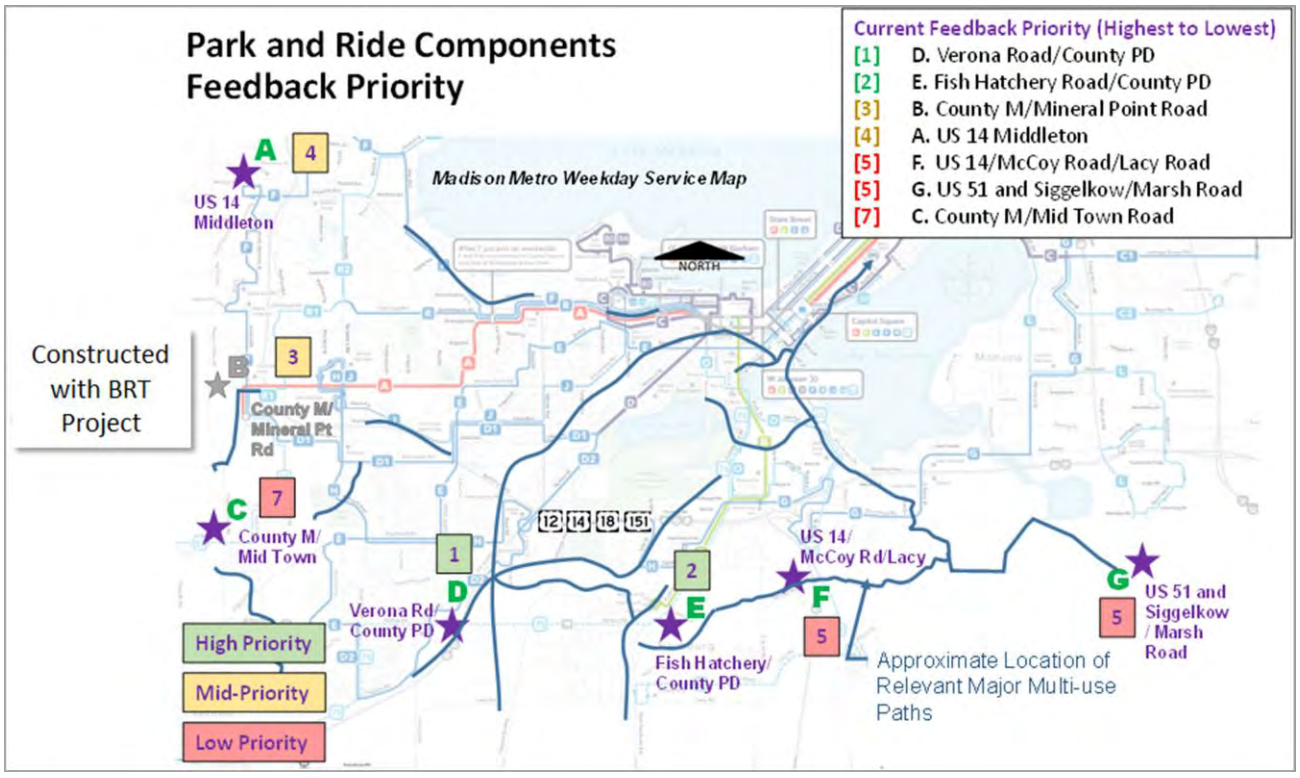


Figure 6.03-10 Composite Feedback for the Park and Ride Components

6. Transit Priority Components

For the interchanges included in the Beltline PEL Study for possible implementation of transit priority, a composite feedback priority was obtained. However, feedback was largely obtained before the June 2023 implementation of the Metro network redesign. The Mineral Point Road and Fish Hatchery Road locations where BRT crossings were anticipated had highest priority for potential transit priority improvements along with Whitney Way. The remaining interchanges followed with medium and low priority as shown in Figure 6.03-11. Priority results for the Old Sauk Road interchange are shown in the figure because it was included for feedback in the Beltline PEL Study outreach. However, the Metro network redesign implemented in June 2023 had no transit service through this interchange, so transit priority was no longer considered there.

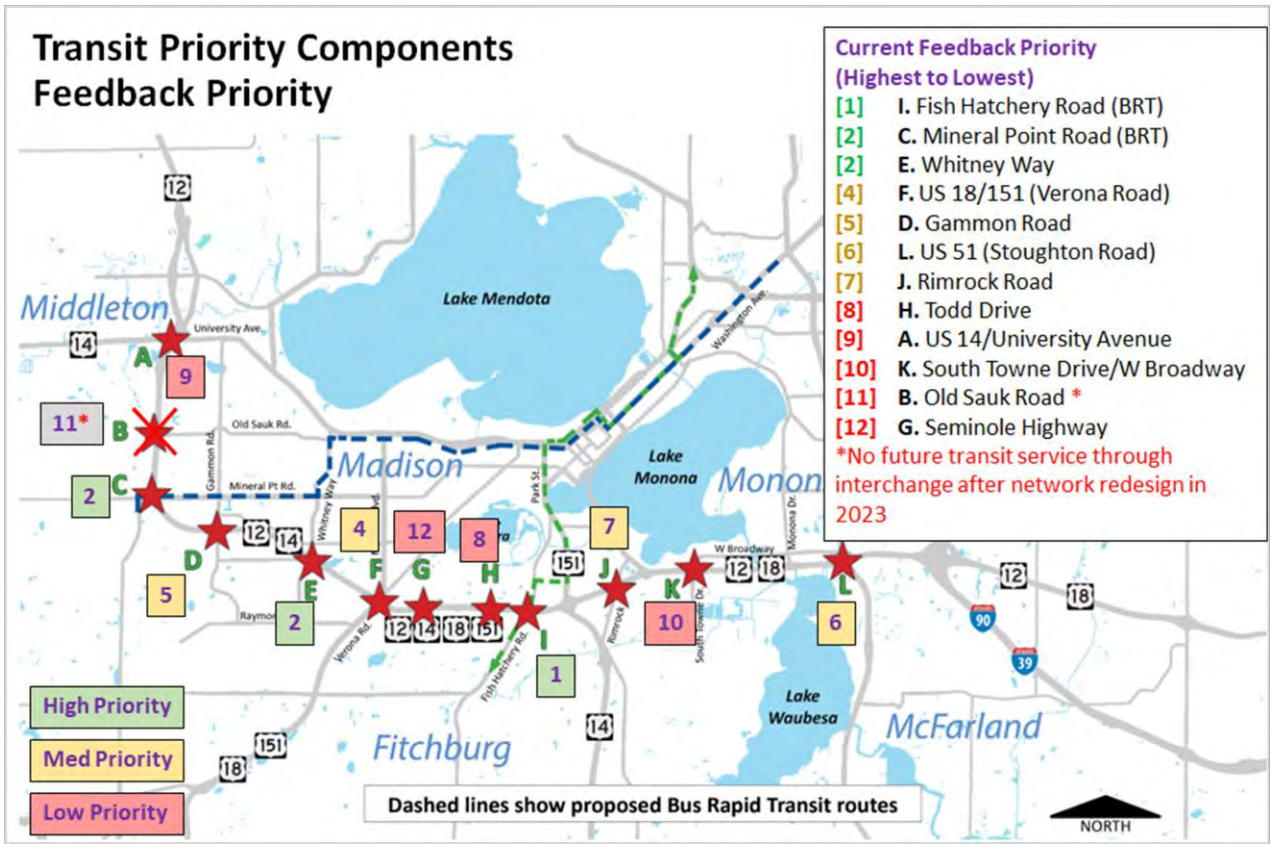


Figure 6.03-11 Composite Feedback for the Transit Priority Components

Although the Transit Priority Components were prioritized according to feedback, priority for where transit priority was included in the Strategy Packages was largely based on the Metro network redesign, including frequency of transit routes through the interchanges.

E. Impacts

1. Mainline Components

General impacts associated with the Mainline Components are documented in the supporting technical memorandums for this report including the BIIM, and MIIRR. The relative level of direct impacts associated with the Mainline Components is as follows:

- The Preserve and Maintain Component is anticipated to have the least amount of impacts compared to other build Components because it would only include activities to preserve and maintain the existing pavement and structures on the Beltline.
- The Extend Flex Lane Component would have lower impacts compared to the Add One Lane Component. Most of the proposed Beltline Flex Lane extension is anticipated to be added to the available median width and therefore may lead to fewer impacts.

- Direct impacts would occur with the Add One Lane Component. Impacts to the UW-Arboretum are possible, a Section 106, 4(f), and 6(f) property. Impacts to the CSSRA are likely.
- Direct impacts would occur with the Weave Improvements. Impacts to Capitol Springs Recreation Area are likely.

Table 6.03-8 summarizes some of the anticipated impacts associated with each of the Mainline Components. Each Component is listed across the top of the table with the types of impacts listed on the left. No priority for impacts is listed because all Mainline and Weave Improvement Components are being carried forward in future NEPA studies.

	Preserve and Maintain	**Extend Flex Lane**	**Add One GP Lane**	**Weaving Improvements**
Wetland Impacts	No	No	Likely	Likely
Residential Relocations	0	0	0 to 5	10 to 25 (Total All Components)
Commercial Relocations	0	0	0 to 5	10 to 15 (Total All Components)

Table 6.03-8 Preliminary Component Impact: Mainline and Weaving Improvements

2. Interchange Components

General impacts associated with the Interchange Components are documented in supporting technical memoranda for this report including the IIIM and MIIRR. The Beltline PEL Study team did not quantify direct interchange impacts. Future projects along the Beltline mainline will include consideration of improvements to the interchanges located within the project limits. Relatively speaking, direct impacts are anticipated to be lower for Conventional Improvements Components, and higher for Interchange Reconfiguration/System Ramps Components.

3. Local Road System Crossings and Connections Components

Table 6.03-9 summarizes the anticipated impacts associated with each of the Local Road System Crossings and Connections Components. Each Component is listed across the top of the table with the associated impacts priority listed directly below. Green shaded impacts priority cells are highest priority and typically mean fewer impacts in comparison to other Local Road Crossings and Connections Components. Yellow shading indicates a medium-priority Component with medium level of anticipated impact. Red shading indicates a low-priority Component with a large amount of anticipated impact. The types of impacts estimated are listed on the left.

	Component A	Component B	Component C	Component D	Component E	Component F
	West of Gammon Road	East of Gammon Road	West of Whitney Way	West of US 14 (Park Street)	Stewart Street to Novation Parkway	John Nolen Drive to West Broadway Local Connection
Impacts Priority	**2**	**1**	**4**	**6**	**5**	**3**
Wetland Impacts	No	No	No	No	Yes	No
Residential Relocations	0	0	0	2	2	1
Commercial Relocations	0	1	6	7	3	0
Anticipated ROW Acquisition	3.8	1.8	4.2	10.1	9.6	1.1
Construction (LF roadway)	1,740	1,830	2,900	1,930	4,350	2,725
Overpass (LF)	0	0	244	610	500	200
Underpass (LF)	185	175	0	0	0	0
Retaining Walls (LF)	1,030	750	1,160	2,540	1,900	1,523
Path (LF)	0	0	0	0	0	1,700

Table 6.03-9 Impacts Priority for the Local Road System Crossings and Connections Components

At this time, the Beltline PEL Study team reviewed potential impacts to wetlands, residential and commercial buildings, anticipated ROW acquisition, and length of roadway, structure, retaining wall and path construction. The preliminary estimate indicated that the crossings west and east of Gammon Road (Components A and B) could have the least amount of direct impact on the human and natural environment and, therefore, had the highest priority of the Local Road Crossings and Connections Components considered.

4. Pedestrian and Bicycle Components

Table 6.03-10 shows the preliminary impacts prioritization for the Pedestrian and Bicycle Components. Potential Section 4(f) property impacts are noted for the Pedestrian and Bicycle Components in addition to those impacts estimated for the Local Road System Crossings and Connections Components.

According to the planning-level assessment, those with lower impacts, and therefore, the higher priority include:

- Component B–Crossing South of Old Sauk
- Component D–Crossing West of Whitney Way
- Component H–Crossing West of Park Street
- Component X–West Towne Path Extension

Components that could have higher impacts and were therefore lower priority include:

- Component F–Seminole Highway to Cannonball Path North Connection
- Component G–Seminole Highway to Cannonball Path South Connection
- Component J–Monona Drive to Stoughton Road Connection

The Seminole Highway to Cannonball Paths North and South of the Beltline run adjacent to the UW-Arboretum, property that is a National Historic Landmark protected by Section 4(f) that requires feasible and prudent avoidance measures and planning to minimize the use of the property. The Monona Drive to Stoughton Road connection runs adjacent to the CSSRA that is also property protected by Section 4(f). There were also wetlands impacted by this particular Component.

Table 6.03-10 Impacts Priority for the Pedestrian and Bicycle Components

	Component A	Component B	Component C	Component D	Component E	Component F	Component G	Component H	Component I	Component J	Component K	Component X	Component Y
Description	Crossing North of Old Sauk	Crossing South of Old Sauk	Crossing West of Whitney Way	Crossing of Whitney Way	Beltline Path to SW Bike Path	Seminole Highway to Cannonball Path–North	Seminole Highway to Cannonball Path–South	Crossing West of US 14 (Park Street)	Crossing US 14 near Stewart Street	Monona Drive to Stoughton Road	Femrite Drive to County N	West Towne Path (High Point to Gammon)	Connection through CSSRA
Impacts Priority	**5**	**4**	**7**	**2**	**10**	**13**	**12**	**3**	**8**	**11**	**6**	**1**	**9**
Wetland Impacts?	Yes	No	No	No	Yes	No	No	No	Yes	Yes	Yes	No	Yes
Section 4(f) Impacts?	No	Yes	No	No	Yes	Yes	Yes	No	No	Yes	No	No	Yes
Residential Relocations	0	0	0	0	0	1	1	0	0	0	0	0	0
Commercial Relocations	0	0	6	0	0	2	8	3	0	0	1	0	0
ROW Acquisition	1.2	2.3	1.6	0.6	4.3	4.5	4.4	0.2	2.3	8.0	3.7	1.8	5.8
Overpass (LF)	0	0	0	0	0	0	0	1,050	1,050	0	0	0	0
Underpass (LF)	162	170	230	165	192	0	0	0	0	0	0	0	0
Retaining Walls (LF)	1,220	910	2,150	1,125	206	6,075	3,775	0	0	0	0	0	0
Path (LF)	1,325	1,125	1,880	1,350	5,655	7,640	6,345	200	4,350	7,600	8,000	3,820	6,655

5. Park and Ride Components

The Beltline PEL Study team did not perform detailed review of impacts for the Park and Ride Components. The specific locations of the potential park and rides will be determined in a future NEPA study. Planning-level impacts were assumed to be similar between the Components at this stage of analysis.

Direct impacts could include:

- Component A–Park and Ride near US 14 and the Beltline in Middleton: Depending on the location of the park and ride, it may impact commercial properties along US 14, stormwater management facilities, commercial properties in the Greenway Station area and/or open lands near the intersection of US 14 and Pleasant View Road.
- Component B–Park and Ride near County M/Junction Road and County S/Mineral Point Road in Madison: This park and ride was constructed in 2024 as part of the city of Madison's East-West BRT project.
- Component C–Park and Ride near County M/South Pleasant View Road and Mid Town Road in Madison: This park and ride may impact agricultural land and open space.
- Component D–Park and Ride near Verona Road and County PD/McKee Road in Fitchburg: Impacts may include acquisition from commercial/industrial land uses and/or quarry lands. This location is primarily accessed via County PD and US 18/151/Verona Road both of which were recently improved to alleviate congestion.
- Component E–Park and Ride near County D/Fish Hatchery Road in Fitchburg: This park and ride may impact the CSSRA and commercial land uses.
- Component F–Park and Ride near US 14 and County MM/McCoy Road/Lacy Road in Fitchburg: This park and ride could potentially be located in currently undeveloped land.
- Component G–Park and Ride near US 51 and Marsh Road or Siggelkow Road in the village of McFarland: This park and ride could impact residential and/or commercial land uses.

6. Transit Priority Components

The Beltline PEL Study team did not perform a planning-level review of impacts for the Transit Priority Components. Planning impacts were assumed to be similar between the Components at this stage of analysis, and would be incorporated with other proposed interchange improvements.

F. Accessibility

The following paragraphs summarize the accessibility analysis conducted for the Components. Additional information on the accessibility analysis is included in the *Madison Beltline PEL: Accessibility Analysis for the Strategy Packages Technical Memorandum*.

1. Mainline Components

The Beltline PEL Study team did not perform a planning-level review of the accessibility benefits of the Mainline Components. Review of accessibility benefits of the Strategy Packages was completed and is summarized in Section 7 of this Beltline PEL Study Summary Report.

2. Interchange Components

The Beltline PEL Study team did not perform a planning-level review of the accessibility benefits of the Interchange Components. Review of accessibility benefits of the Strategy Packages was completed and is summarized in Section 7 of this Beltline PEL Study Summary Report.

3. Local Road System Crossings and Connections Components

Five of the six locations under consideration for Local Road System Crossings and Connections Components were included in the accessibility analysis. Component B–East of Gammon Road, was excluded because the accessibility results are anticipated to be the same as Component C–West of Whitney Way. While these were Local Road System Crossings and Connections Components, each Component would also include accommodations for bicycles and pedestrians. Therefore, accessibility for walk, bicycle, and auto modes were analyzed. Figure 6.03-12 shows the Components analyzed for accessibility benefits.

Figure 6.03-12 Local Road System Crossings and Connections Components Modeled to Assess Accessibility Benefits

Accessibility scores for the modes relevant to a roadway crossing (for example, walk, bicycle and auto) were obtained separately from the model for each of the Local Road Crossings and Connections Components. The Local Road Crossings and Connections Components were prioritized based on the accessibility score as shown in Figure 6.03-13.

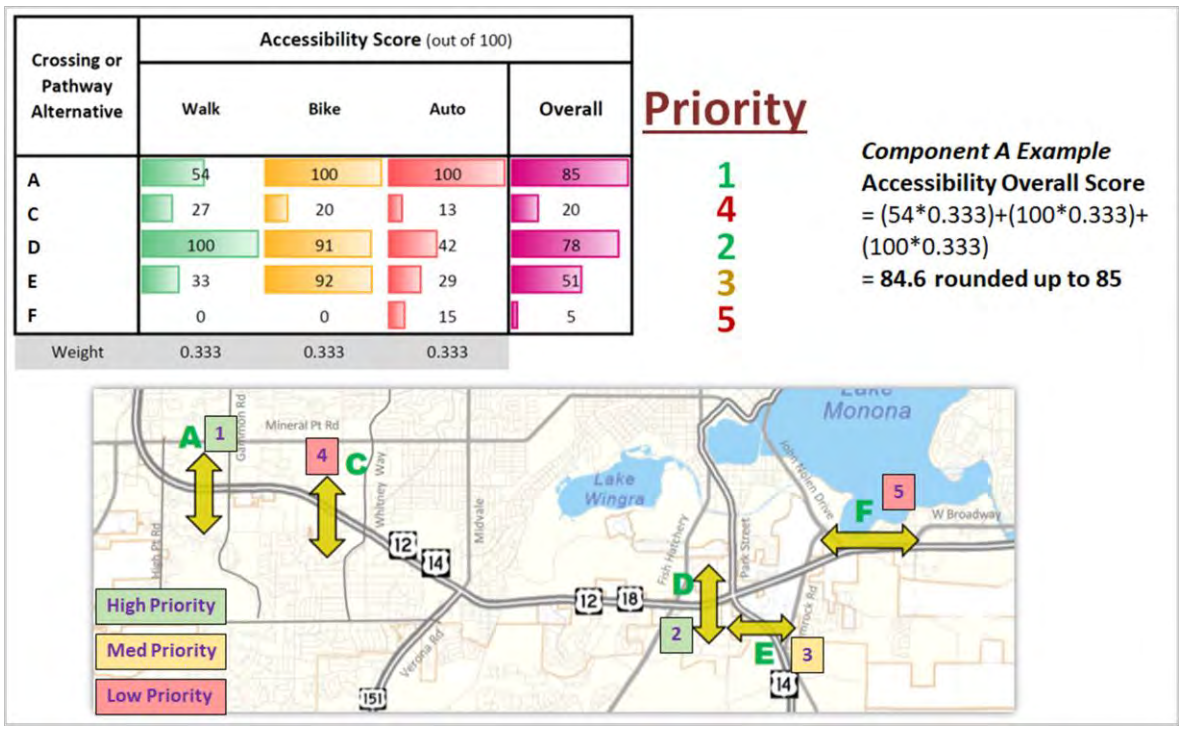


Figure 6.03-13 Local Road System Crossings and Connections Components Accessibility Benefits Results

For each mode, the Component with the best accessibility score received a score of 100. The scoring for the other Components within each mode were then scaled based on the Component with the best score (e.g. grading on a curve for a test). For example, Component A's 54/100 rating for the walk mode indicated that Component A was 54 percent as effective at improving accessibility as Component D that had a score of 100. An overall accessibility score was calculated for each Component by weighting each mode equally (0.333). From these scores, a Component priority for accessibility was determined. See Appendix I for more information.

For the Local Road Crossings and Connection Components shown in Figure 6.03-13, the Component A–Crossing of the Beltline West of Gammon Road had the highest accessibility priority, while the connection from Component F–West Broadway to John Nolen Drive had the lowest accessibility priority, likely because the Capital City Trail already makes a pedestrian and bicycle connection in this area and connectivity for autos is already provided via the Beltline.

4. Pedestrian and Bicycle Components

Figure 6.03-14 shows the Pedestrian and Bicycle Components analyzed for accessibility benefits. Components C and H were analyzed as roadway Components for walk, bicycle, and auto modes. Therefore, these Components were not modeled exclusively for the Pedestrian and Bicycle Component analysis. Crossing K east of the Beltline Interchange was not included in the analysis because it lies in a less developed, more rural area and is not expected to show a notable increase

in accessibility due to a lack of potential users. Crossings X and Y, the West Towne Path extension, and Connection through the CSSRA, respectively, were added to the accessibility analysis based on feedback received at the TAC and PAC meetings.

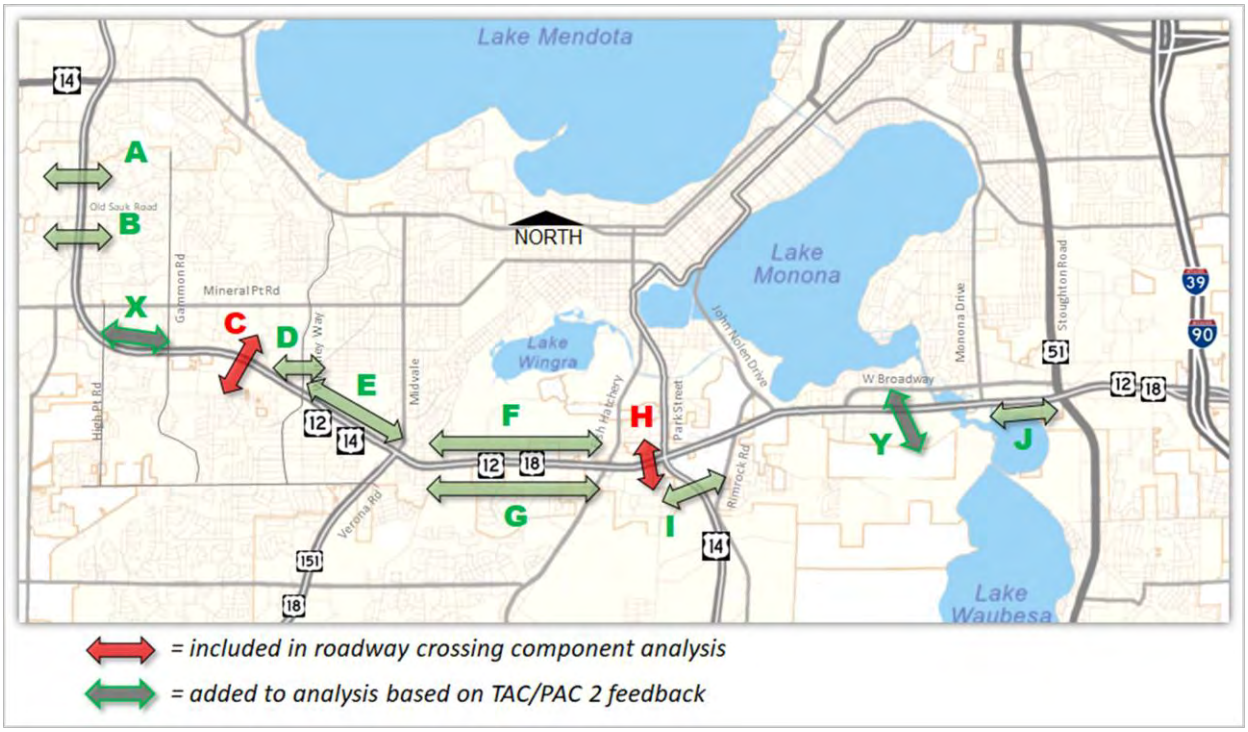


Figure 6.03-14 Pedestrian and Bicycle Components Modeled to Assess Accessibility Benefits

Figure 6.03-15 shows the results for the ten Pedestrian and Bicycle Components crossings that were analyzed. The biking mode accessibility scores and priority are shown in gold. Each Component was given an individual accessibility score for biking independent of the other Components listed.

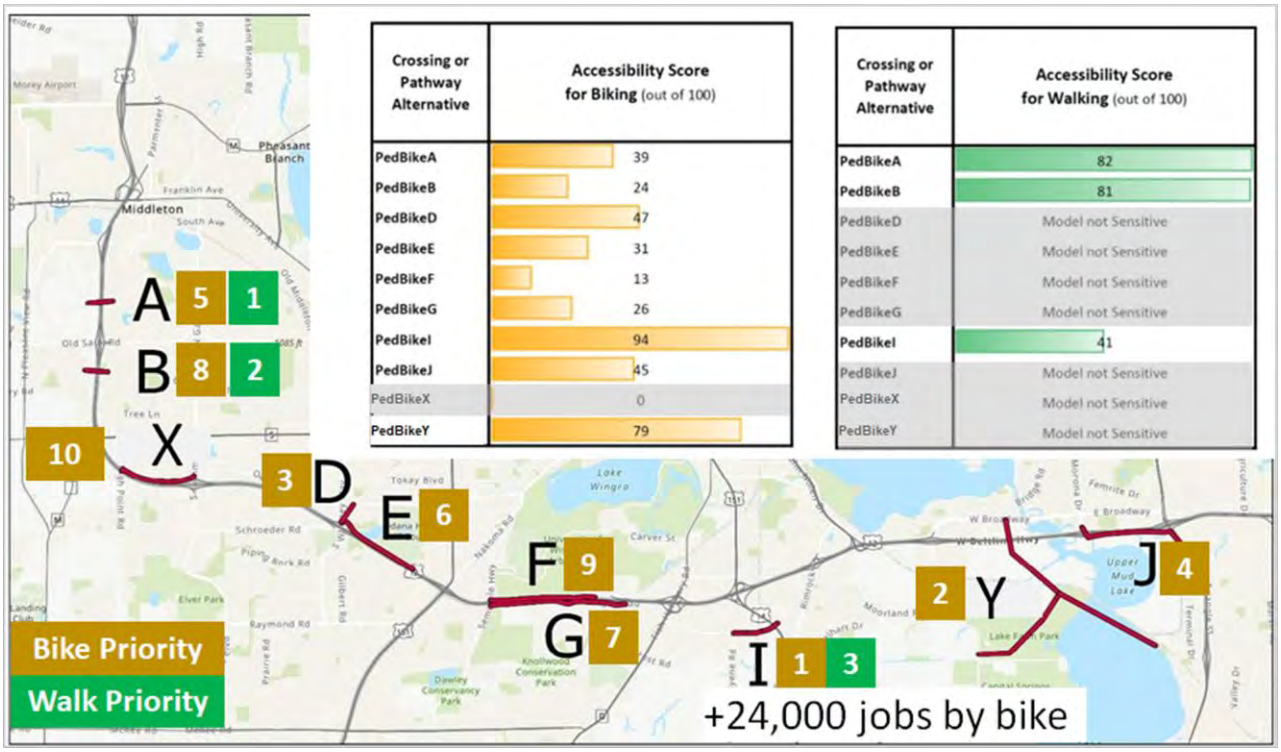


Figure 6.03-15 Pedestrian and Bicycle Accessibility Benefits Results

The biking accessibility scores indicated that Component I–Crossing of US 14 South of the Beltline, provided the largest benefit to accessibility for biking. The remaining Components followed in the order shown.

In the case of the walk mode accessibility analysis, the model was not as sensitive to geometric change, meaning minimal impact to accessibility was found for walking modes when the connections and crossings were evaluated; however, it is anticipated there would be recreational and comfort benefits associated with this mode. If the model did not sense a change in accessibility with the walk mode for a specific Component, a priority was not shown.

Of the Components with a walk mode accessibility score available, Components A and B, the crossings north and south of Old Sauk Road, provided the largest benefit to accessibility for walking, followed by Component I–Crossing of US 14 south of the Beltline. Overall, Component I–Crossing of US 14 South of the Beltline, was anticipated to have the highest individual mode increase in number of jobs accessible within a 20-minute reach at up to 24,000 more jobs being accessible by bicycle.

Component X did not see any benefit in accessibility for bicycles because the model included parallel routes north and south of this potential connection that either had a committed future

bicycle improvement or had a low Level of Traffic Stress (LTS[12]), therefore adequately serving as an alternate connection to Component X. To the north, Mineral Point Road had a committed bicycle improvement with LTS 1. To the south, Watts Road was an LTS 2 route. Almost all of the trips used these two routes in the model as the shortest path even though Component X was available. Therefore, no accessibility improvement was realized.

5. Park and Ride Components

Figure 6.03-16 shows the 11 Transit Priority Components analyzed for accessibility benefits and the corresponding results.

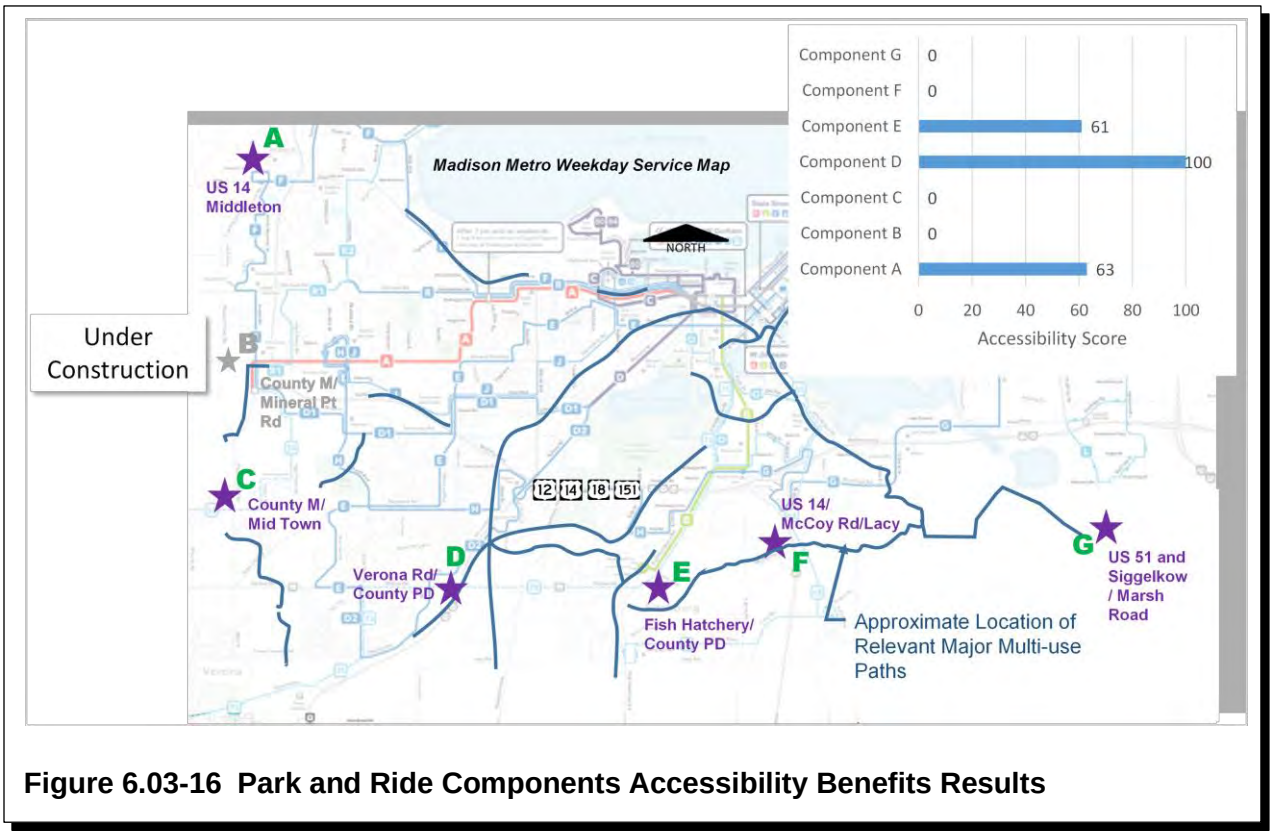


Figure 6.03-16 Park and Ride Components Accessibility Benefits Results

The park and ride locations were also analyzed for accessibility benefits based on building more than one park and ride lot at one time. Figure 6.03-17 shows the accessibility benefits for different scenarios of park and ride lots constructed at the same time.

[12]LTS is a scale used to classify bicycle facilities based on the presence and volume of motor vehicle traffic, the geometric features of the route, and other considerations. The scale ranges from LTS 1 (suitable for all ages and abilities) to LTS 4 (recommended only for the most confident cyclists).

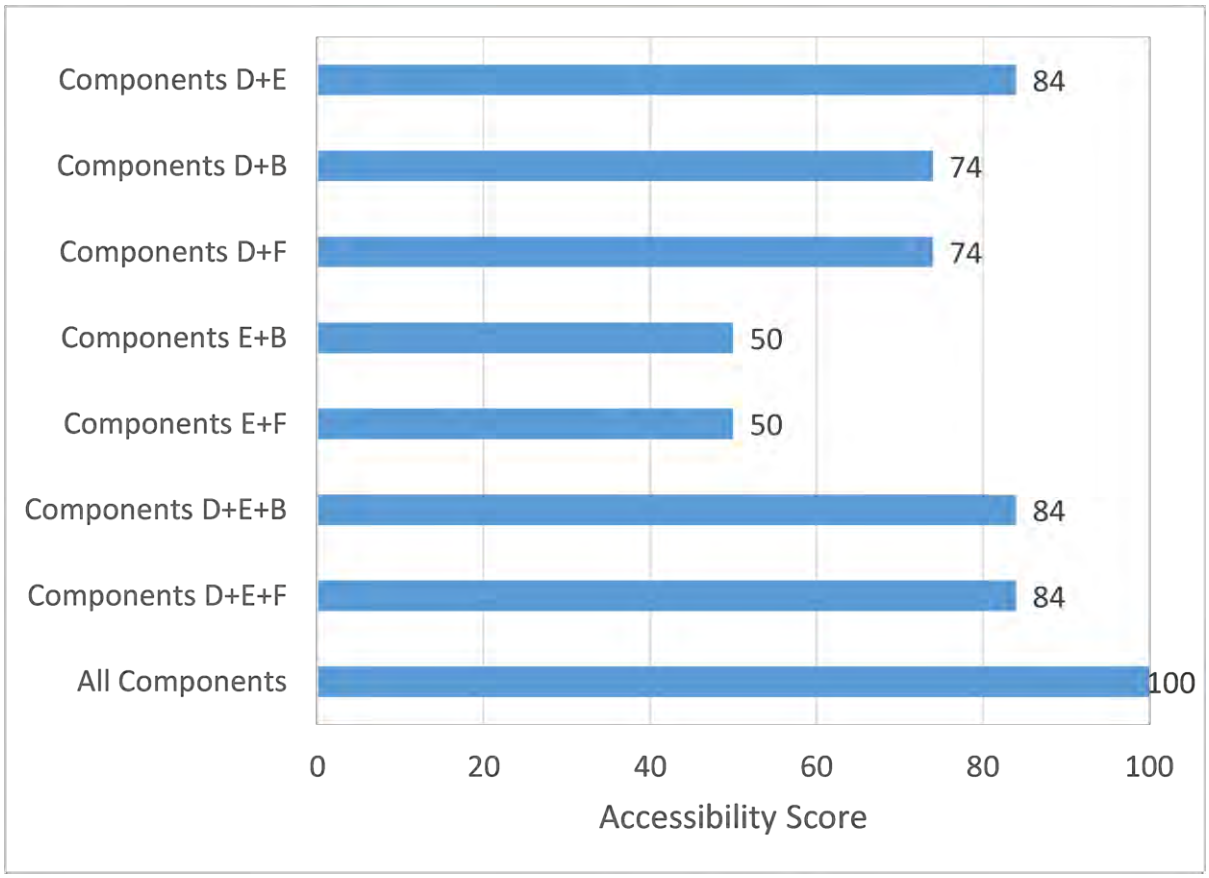


Figure 6.03-17 Park and Ride Components Combinations Accessibility Benefits Results

An accessibility priority was determined after considering the benefits from individual park and ride lots as well as different combinations of lot locations. Figure 6.03-18 shows the accessibility priority for Park and Ride Components.

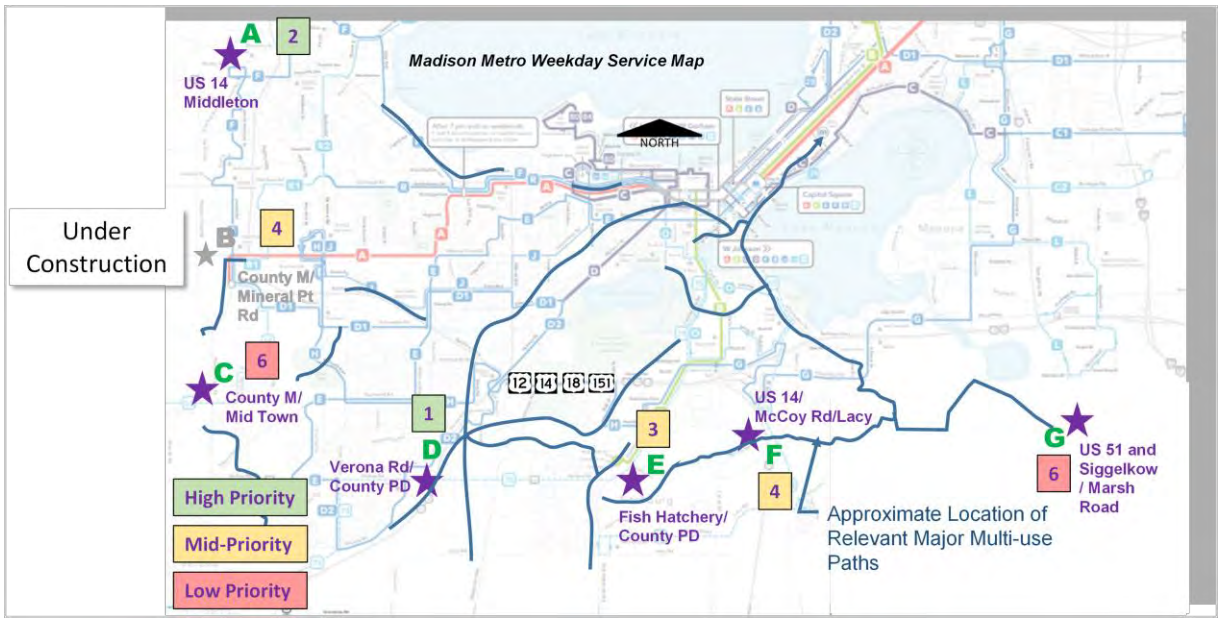


Figure 6.03-18 Park and Ride Components Accessibility Priority

The accessibility analysis resulted in highest priority for Components D and A or new park and ride lots near Verona Road and County PD and near US 14 in the city of Middleton.

6. Transit Priority Components

Figure 6.03-19 shows the 11 Transit Priority Components analyzed for accessibility benefits and the corresponding results and priority.

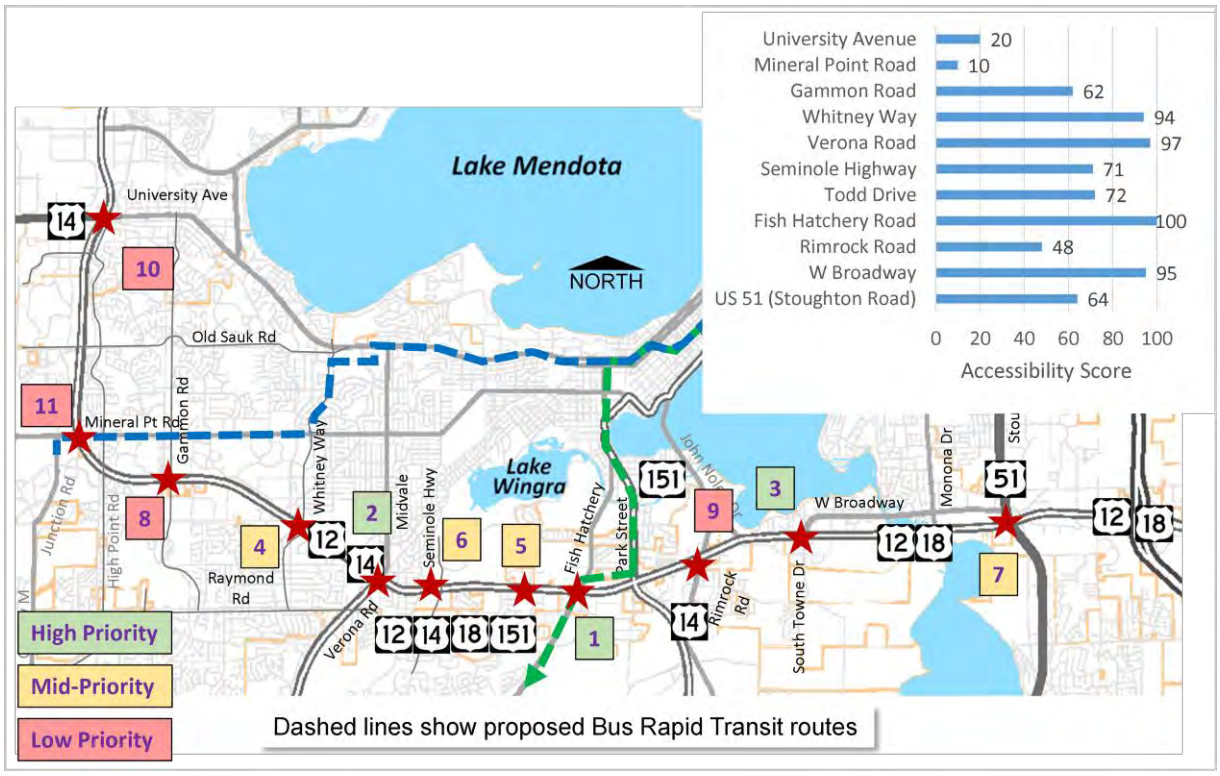


Figure 6.03-19 Transit Priority Components Modeled to Assess Accessibility Benefits

The accessibility scores indicated that transit priority at the Fish Hatchery Road, Verona Road, and West Broadway interchanges provided the largest benefit to accessibility. The remaining Components followed in the order shown.

6.04 SUMMARY

A. Mainline Components

Each of the following Mainline Components were retained for inclusion in the Strategy Packages:

- Component A–Preserve and Maintain
- Component B–Extend Flex Lane
- Component C–Plus One GP Lane
- Weaving Section Improvements
  - Southbound (eastbound) between Old Sauk Road and Mineral Point Road
  - Northbound (westbound) between Mineral Point Road and Old Sauk Road
  - Eastbound between Whitney Way and US 18/151/Verona Road
  - Westbound between US 18/151/Verona Road and Whitney Way
  - Eastbound between Fish Hatchery Road and US 14/US 151/Park Street
  - Westbound between US 14/US 151/Park Street and Fish Hatchery Road
  - Eastbound between John Nolen Drive and West Broadway
  - Westbound between West Broadway and John Nolen Drive

- Eastbound between Monona Drive and US 51/Stoughton Road
- Westbound between US 51/Stoughton Road and Monona Drive

B. Interchange Components

Table 6.04-1 shows the Interchange Components retained for inclusion in the Strategy Packages.

Beltline Interchange or Intersection (MIIRR Section No.)	Interchange Component
US 14/University Avenue (Section 3.05)	1–No-Build
	2–Conventional Expansion with Roundabout
Greenway Boulevard (Section 3.06)	1–No-Build
	2–Conventional Expansion
Old Sauk Road (Section 3.07)	1–No-Build
	2–Conventional Expansion
Mineral Point Road (Section 3.08)	1–No-Build
	2–Conversion to Shared Lanes
	3–Conventional Expansion
Gammon Road (Section 3.09)	1–No-Build
	2–Conventional Expansion
	3–DDI
Whitney Way (Section 3.10)	1–No-Build
	6A–Relocated Eastbound Beltline Exit Ramp Only
Verona Road (Section 3.11)	1–No-Build
	2–Conventional Expansion
	3–Free Flow System Interchange for US 18/151
Seminole Highway (Section 3.12)	1–No-Build
	2–Conventional Expansion
Todd Drive (Section 3.13)	1–No-Build
	2–Conventional Expansion
Fish Hatchery Road (Section 3.14)	1–No-Build
	2–Conventional Expansion
Park Street (Section 3.15)	1–No-Build
	2–Conventional Expansion
Rimrock Road (Section 3.16)	1–No-Build
	2–Conventional Expansion
John Nolen Drive and Rimrock Road Intersection (Section 3.17)	1–No-Build
	2–Conventional Expansion
	3–Quadrant Roadway
West Broadway (Section 3.18)	1–No-Build
	2–Conventional Expansion
Monona Drive (Section 3.19)	1–No-Build
	2–Conventional Expansion
US 51/Stoughton Road (Section 3.20)	1–No-Build
	2–DDI
	3–DDI with Eastbound to Northbound and Southbound to Westbound Directional Ramps
	4–Relocated Stoughton Road Interchange

Table 6.04-1 Interchange Components Retained for Inclusion in the Strategy Packages: US 14/University Avenue to Stoughton Road

C. Local Road System Crossings and Connection Components

Table 6.04-2 summarizes the priorities for each of the Local Road System Crossings and Connections Components. Priorities were based on the Beltline PEL Study Objectives screening, feedback, impacts, and accessibility analysis. Higher priority is highlighted green; medium priority is yellow; and lower priority is red.

	Component A	Component B	Component C	Component D	Component E	Component F
	West of Gammon Road	East of Gammon Road	West of Whitney Way	West of US 14 (Park Street)	Stewart Street to Novation Parkway	John Nolen Drive to West Broadway Local Connection
Objectives Screening Priority	4	5	1	2	3	6
Feedback Priority	5	6	3	1	4	2
Impact Priority	2	1	4	6	5	3
Accessibility Priority	1	Not reviewed	4	2	3	5

Table 6.04-2 Summary of Local Road System Crossings and Connections Components Priorities

Based on the results, the Beltline PEL Study team eliminated Component B, the roadway crossing east of Gammon Road, from inclusion and further consideration in the Strategy Packages and subsequently future NEPA study. Although it had the least amount of impacts of the Local Road Crossings and Connections Components, it did not meet as many of the Beltline PEL Study Objectives as other Components, it was not a popular crossing according to feedback, and it provided a similar crossing to Component C west of Whitney Way that had the highest priority and was more popular according to feedback[13].

Local Road System Crossings and Connections Components A, C, D, E, and F[14] were retained for inclusion in the Strategy Packages.

D. Pedestrian and Bicycle Components

Table 6.04-3 summarizes the priorities for each of the Pedestrian and Bicycle Components considered in the Beltline PEL Study.

[13]Following the initial prioritization of Local Road System Crossings and Connections Components, the Beltline PEL Study team received support for Component B from neighborhood representatives, and it was included in the Draft Strategy Packages. See Section 7 for additional discussion.
[14]Following the initial prioritization of Local Road System Crossings and Connections Components the Beltline PEL Study team received concerns regarding Component F from a local municipal representative, and it was not included in the Draft Strategy Packages. See Section 7 for additional discussion.

Table 6.04-3 Summary of Pedestrian and Bicycle Components Analysis

	Component A	Component B	Component C	Component D	Component E	Component F	Component G	Component H	Component I	Component J	Component K	Component X	Component Y
	Crossing North of Old Sauk	Crossing South of Old Sauk	Crossing West of Whitney Way	Crossing of Whitney Way	Beltline Path to SW Bike Path	Seminole Highway to Cannonball Path–North	Seminole Highway to Cannonball Path–South	Crossing West of US 14 (Park Street)	Crossing US 14 near Stewart Street	Monona Drive to Stoughton Road	Femrite Drive to County N	West Towne Path (High Point to Gammon Road)	Connection through Cap Springs State Rec Area
Objectives Screening Priority	9	6	1	6	2	10	10	4	6	12	13	2	4
Feedback Priority	9	3	6	7	1	5	4	1	8	10	11	City/MPO	City/MPO
Impact Priority	5	4	7	2	10	13	12	3	8	11	6	1	9
Accessibility Priority (Bike)	5	8	Not reviewed	3	6	9	7	Not reviewed	1	4	Not reviewed	10	2
Accessibility Priority (Walk)	1	2	Not reviewed	Minimum change	Minimum change	Minimum change	Minimum change	Not reviewed	3	Minimum change	Not reviewed	Minimum change	Minimum change

The Beltline PEL Study team eliminated Component K from Femrite Drive to County N from inclusion and further consideration in the Strategy Packages and subsequently future NEPA study. This Component did not meet the Beltline PEL Study Objectives as well as other Components, had the lowest amount of support during outreach activities, and other Components had fewer impacts. The remaining Components listed in Table 6.04-3 were retained for inclusion in the Strategy Packages.

E. Park and Ride Components

Table 6.04-4 summarizes the priorities for each of the Park and Ride Components considered in the Beltline PEL Study.

	Component A	Component B	Component C	Component D	Component E	Component F	Component G
	US 14 Middleton	County M/ Mineral Point Road	County M/ Mid Town	Verona Road/ County PD	Fish Hatchery Road/ County PD	US 14/ McCoy Road/ Lacy Road	US 51 and Siggelkow/ Marsh Road
Objectives Screening Priority	6	3	7	1	1	3	5
Feedback Priority	4	3	7	1	2	5	5
Impact Priority	Not reviewed						
Accessibility Priority	2	4	6	1	3	4	6

Table 6.04-4 Summary of Park and Ride Components Analysis

The Beltline PEL Study team eliminated Components C and G, the park and rides located at County M and Mid Town Road and US 51 and Siggelkow/Marsh Road from inclusion in the Strategy Packages and subsequently future NEPA study. These Components did not meet the Beltline PEL Study Objectives as well as other proposed park and ride locations and had the least support during outreach activities. The remaining park and ride locations listed in Table 6.04-4 were retained for inclusion in the Strategy Packages. At the time of this report, construction of Park and Ride Component B was completed in September 2024 as part of the city of Madison East-West BRT project.

F. Transit Priority Components

Table 6.04-5 summarizes the priorities for each of the Transit Priority Components considered in the Beltline PEL Study.

Table 6.04-5 Summary of Transit Priority Components Analysis

	Component A	Component C	Component D	Component E	Component F	Component G	Component H	Component I	Component J	Component K	Component L
	US 14/ University Avenue	Mineral Point Road (BRT)	Gammon Road	Whitney Way	US 18/151 (Verona Road)	Seminole Highway	Todd Drive	Fish Hatchery Road (BRT)	Rimrock Road	South Towne Drive/West Broadway	US 51 (Stoughton Road)
Objectives Screening Priority	5	1	5	10	5	5	5	1	5	10	3
Feedback Priority	9	2	5	2	4	12	8	1	7	10	6
Impact Priority	Not reviewed										
Accessibility Priority	10	11	8	4	2	6	5	1	9	3	7

The Beltline PEL Study team eliminated Components G and H from inclusion in the Strategy Packages and subsequently future NEPA study. These Components did not meet the Beltline PEL Study Objectives as well as other Components, had lower support during outreach activities, and based on the Metro network redesign implemented in June 2023, buses traveled only parallel to the Beltline rather than through the interchanges. The remaining Transit Priority Components listed in Table 6.04-5 were retained for inclusion in the Strategy Packages. Transit priority at the Stoughton Road interchange will be investigated further in the ongoing NEPA study at this interchange.