



Department of Transportation

Thomas Lynch, PE, PTOE, PTP, AICP, Director of Transportation

Madison Municipal Building
215 Martin Luther King Jr Blvd
Suite 109
P.O. Box 2986
Madison, Wisconsin 53701-2986
Phone: (608) 266-4761
Fax: (608) 267-1158

Date: 10/23/2019

To: Transportation Planning and Policy Board

Regarding: WisDOT Projects

County AB – Beltline Interchange

The Beltline County AB intersection, along with Millpond Road, has one of the highest crash injury severity rates within the City of Madison. Recent crash statistics from 2014 to 2018 continue to show this safety need:

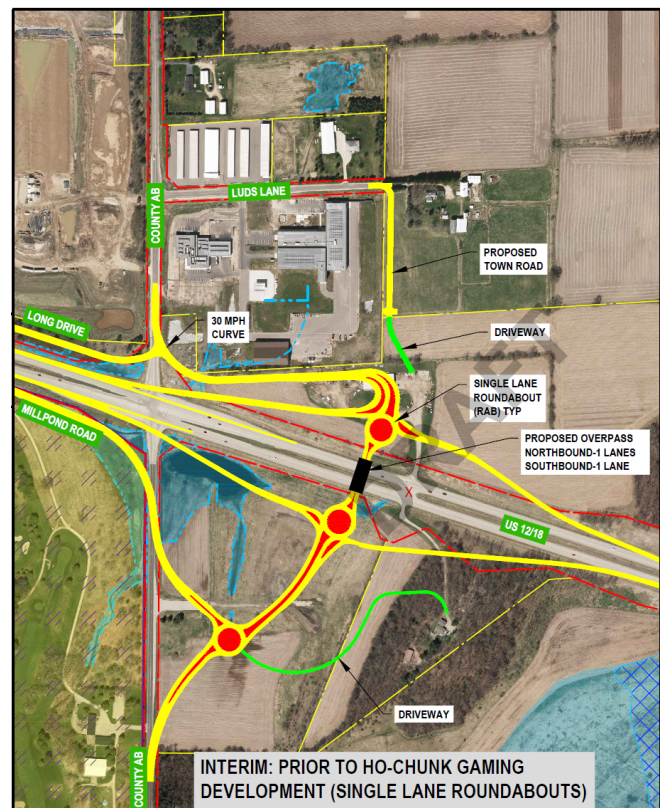
- Mill Pond – 55 crashes, of which 17 involved injuries and 1 fatality.
- County AB – 35 crashes, of which 19 involved injuries with 1 fatality.

WisDOT had considered installing an interim solution at Millpond Road and the Beltline, yet that would not have the capacity to handle traffic volumes associated with the development of the Ho-Chunk property. WisDOT is planning to direct programmed safety monies towards a long term solution to address deficiencies on the Beltline east of I-39. This includes constructing a diamond interchange at County AB, as well as frontage roads Millpond Road connecting to County AB. The total project costs range from \$30 to \$35 million. Madison has verbally committed to participate to construct the frontage roads (\$3-\$5 million) and submit a BUILD grant for the project. . Ho-Chunk believes they can commit funding, and Federal Highway Safety funds could contribute from \$10 to \$15 million. Even with these funding commitments, there remains a funding gap.

Madison DOT has recommended to support, participate in the intersection.

This intersection is one of Madison’s highest injury severity intersections (2nd in the 2018 rankings – 54 injuries and 1 fatality from 2013 to 2017).

- Because of the proximity to the I-39/Beltline system interchange, only a freeway solution would be consistent with the facility type and likely to achieve the safety benefits.
- Proactively addressing the existing and future safety need will ease the approval of development initiatives in the area.
- A County AB interchange is consistent with the long-term plan for Madison’s east side, and will complement development access needs.
- It precludes future development traffic safety concerns that could occur with development proposals from Copart and others.



Beltline Dynamic Part-time Shoulder Use

WisDOT, as part of the resurfacing of the Beltline, is proposing to restripe the Beltline and use the shoulders during rush hours for carrying traffic from Whitney Way to I-39 (9 miles). Opening and closing of shoulders to traffic would occur through dynamic message signage occurring about every half-mile. Many metropolitan areas in 17 states have implemented part-time shoulder use. Midwest metro areas having implemented part time shoulder use include Minneapolis, Chicago, Columbus Ohio, and others. Studies and modeling indicate substantial congestion benefits with little to no safety impacts, partially due to better traffic flow reliability. The shoulders are monitored while in use, and are closed when the shoulders are needed for emergency response. The adjacent graphic illustrates the concept.

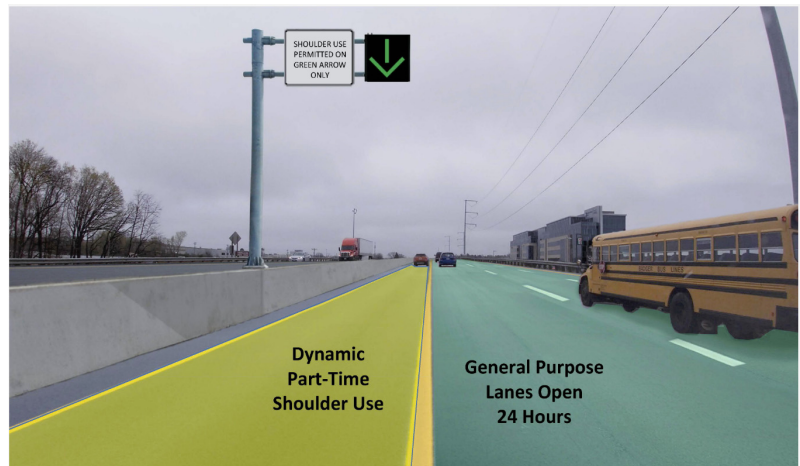


Image: I-35W in Minnesota

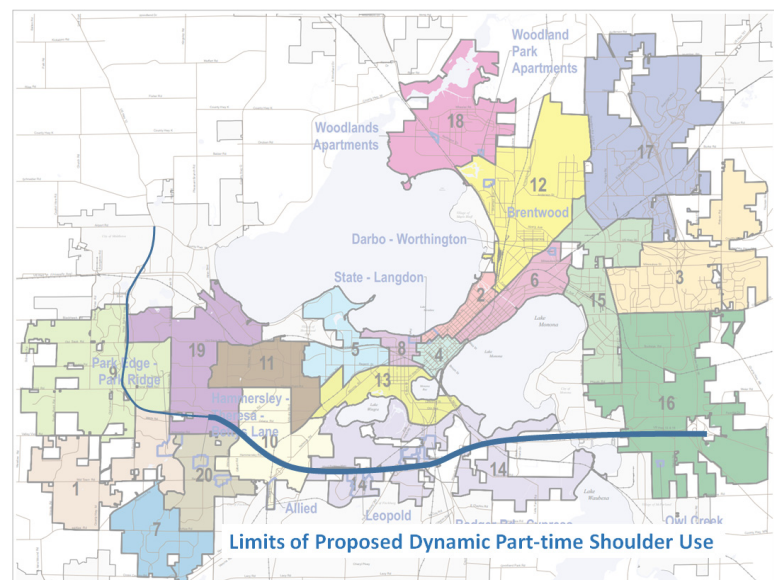
Disadvantages

- As with most roadway projects that increase motor vehicle capacity, this project could allow locational choices that can enable dispersed development and VMT.
- Emergency responders have expressed concern regarding the ability to access crash sites. Case studies do not confirm this concern if the shoulder lane is actively managed.

Considerations

Many Madison residents consider Beltline congestion a primary congestion concern. The Beltline is congested, and crashes are common (double the state average).

- While residents in central aldermanic districts may not frequently use the Beltline, it is a primary roadway for aldermanic districts 1, 9, 10, 14, 16, 19, and 20. Because these areas have higher concentrations of persons of color, Beltline travel may be more frequent/important to these



residents.

- The Beltline carries 130,000 vpd of east-west traffic. This is more than East Washington, Johnson St, and Gorham St combined. Without dynamic shoulder running modeling indicates East & West Washington, University Ave, Johnson/Gorham, and Speedway would eventually see 5 to 12 percent more traffic by 2050.
- Part-time shoulder use is more cost effective alternative than conventional expansion performed in Wausau, Fox Valley, and Milwaukee. WisDOT Southeast region has spent more than \$500 million to provide capacity for I-94, whereas use of the shoulders provides similar benefits for \$30-\$40 million, with no right of way impact.