16 North Carroll Street, Suite 200
Madison, WI 53703
608.663.8080
www.tooledesign.com

Agenda

Date: August 2, 2017

To: Jason Gilman, Sara Olson

From: Kevin Luecke

Re: South Avenue Multimodal Assessment Steering Committee Meeting #4

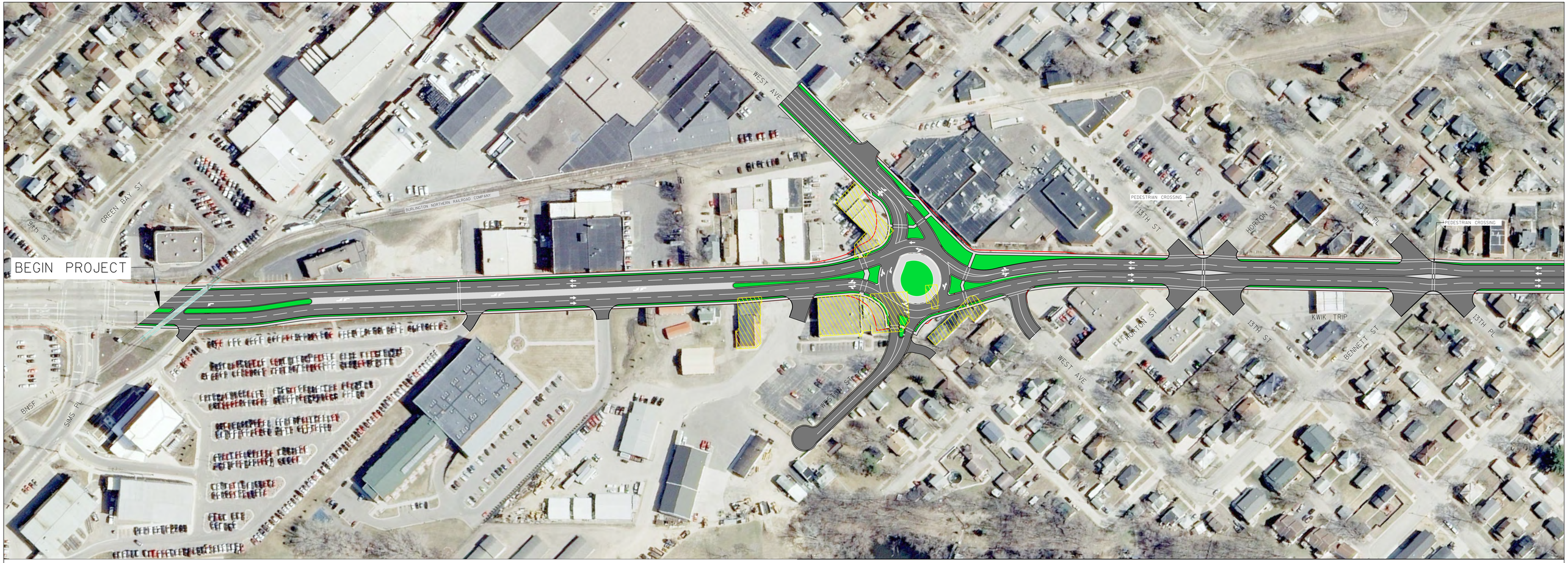
South Avenue Multimodal Assessment Steering Committee Meeting

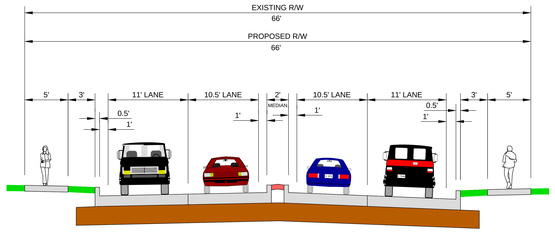
Friday, August 4, 2016

11:00am – 12:30pm

City Hall 3rd Floor Conference Room

1. Introductions.....5 min
2. Overview of WisDOT South Avenue Recommended Alternative .....35 min
3. Discussion of official Steering Committee response to Alternative.....15 min
4. Final Study Report Outline .....10 min
5. Other Study Recommendations .....20 min
   a. Benora Lee Court Extension
   b. Burlington Northern RR Trail
   c. Other Bicycle Accommodations
6. Other Discussion/Conclusion .....5 min





RECOMMENDED ALTERNATIVE - MINIMUM WIDTH WITH ROUNDABOUTS
JULY 2017

PRELIMINARY DRAWING

RECOMMENDED ALTERNATIVE
MINIMUM WIDTH WITH ROUNDABOUTS

US 14 IMPROVEMENTS
CITY OF LA CROSSE, SOUTH AVENUE
GREEN BAY STREET TO WARD AVENUE
LA CROSSE COUNTY
WISDOT PROJECT ID 1641-02-02

JULY 2017

KEY

- ROAD
- MEDIAN/TERRACE
- SIDEWALK
- BUILDING REMOVAL
- PROPOSED R/W

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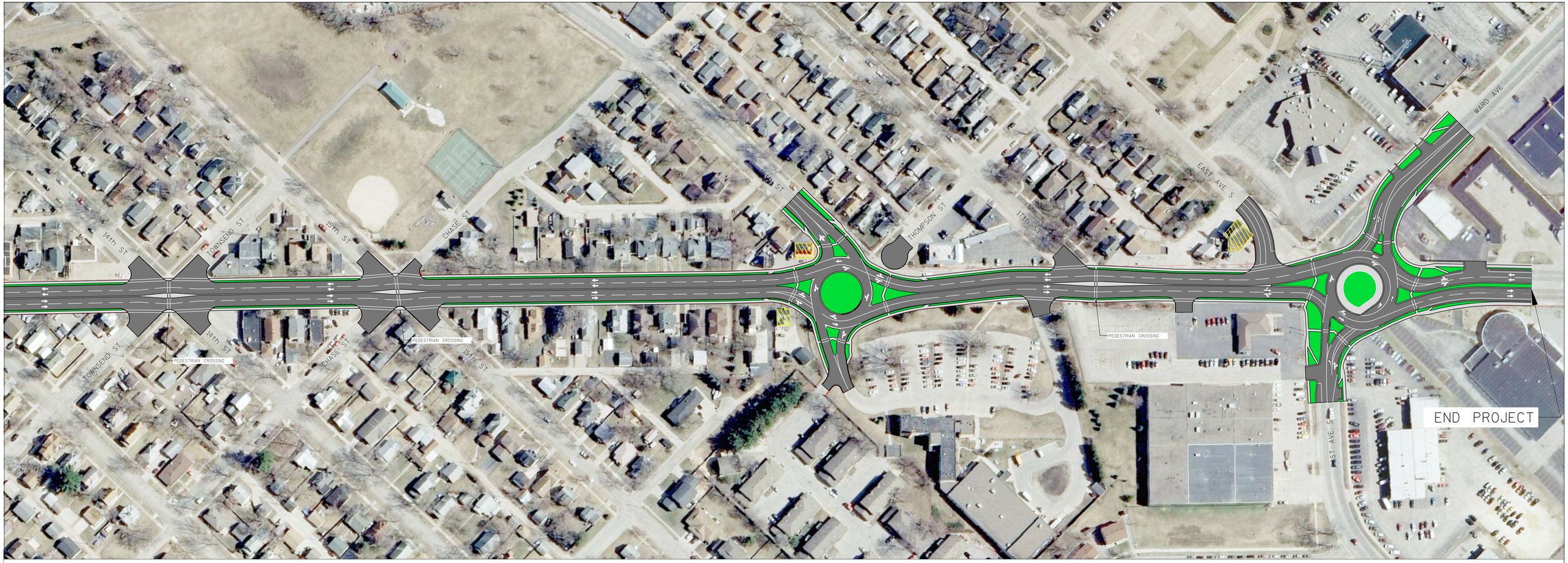

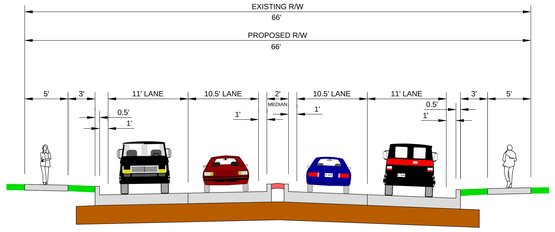

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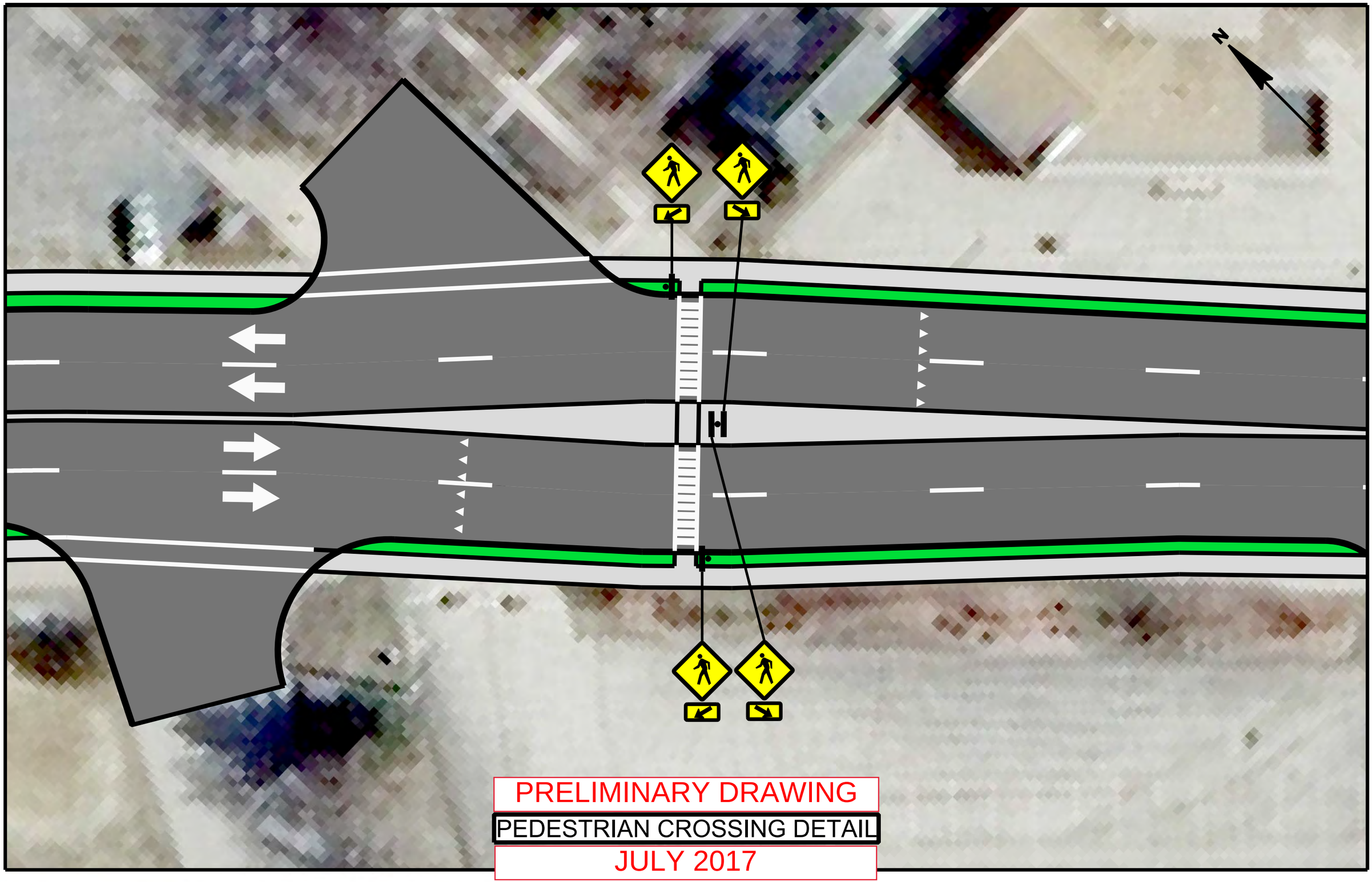

PRELIMINARY DRAWING

PEDESTRIAN CROSSING DETAIL

JULY 2017

16 North Carroll Street, Suite 200
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Memorandum

Date: June 27, 2017

To: Jason Gilman and City of La Crosse Staff

From: Kevin Luecke

Re: WisDOT South Avenue Designs and Recommendations

This memo provides recommendations related to the Wisconsin Department of Transportation's (WisDOT) plans to reconstruct South Avenue. The memo selects a design alternative developed by WisDOT, notes issues and concerns with aspects of the alternative, and provides recommendations for addressing the concerns. The recommendations are based on input from the public, City staff, and WisDOT comments on a previous version of this memorandum. The recommendations are focused on major design issues that are important to address early in the roadway design process; additional minor recommendations will be included in this project's final report.

South Avenue Design Alternatives

WisDOT and their project consultant have developed four primary alternative designs for South Avenue. The alternatives range from narrow to wide footprints, with and without roundabouts, and with and without bicycle accommodations. Details about each alternative are presented in a separate document available from WisDOT.

Alternative Selection

Of the alternatives developed by WisDOT, Alternative 1 is preferable due to the alternative's narrow footprint which minimizes impacts on surrounding properties. However, there are significant issues with the proposed design and the City may be better served by pushing for a reduction to three lanes. The remainder of this section highlights issues identified with Alternative 1.

Lack of Bicycle Facilities

Alternative 1 does not provide bicycle facilities, either on or adjacent to South Avenue. While bicycling on the sidewalk is allowed in this area of La Crosse, the proposed 5-foot wide sidewalk is not adequate for bicycling, and sidewalk bicycling is not a safe practice in environments with many street and driveway crossings.

Pedestrian Crossing Safety at Roundabouts

Roundabouts reduce traffic speeds and have fewer conflict points than standard intersections. Single lane roundabouts can improve safety for pedestrians and motorists, and current studies suggest that they are acceptable for many bicyclists. However, multilane roundabouts, as would be installed on South Avenue, present significant challenges for pedestrians to cross and for bicyclists to navigate. Multilane roundabouts introduce the risk of multiple threat collisions because pedestrians need to cross more than one lane in the same direction; they are also very challenging for people with vision or mobility impairments to navigate.

Motorist yielding to pedestrians tends to be poor at multilane roundabouts; combined with a steady flow of traffic, this can make crossing streets very difficult. A variety of studies have demonstrated that the design of roundabouts strongly impacts motorist yielding behavior; designs with tight curve radii and increased deflection improve yielding compliance versus designs with looser curve radii and decreased deflection.

General Crossing Safety

Long crossing distances present safety issues for pedestrians and bicyclists. Each lane of traffic that a pedestrian or bicyclist crosses is a potential conflict point. Whether crossing at a traffic signal or at an uncontrolled location, shorter crossings are better for pedestrian and bicyclist safety. Alternative 1 eliminates all controlled crossings of South Avenue within the study area.

At uncontrolled locations with more than one lane in the same direction, pedestrians and bicyclists are exposed to risk of multiple-threat crashes. This is when a car in one lane stops for a pedestrian, and the vehicle in the adjacent lane does not stop. This is a high-risk condition for pedestrians, particularly if vehicles stop close to the pedestrian, blocking the traffic in the adjacent lane from the pedestrian's view.

The Federal Highway Administration has developed guidelines for uncontrolled marked crosswalks based on safety research. The study found that pedestrian crash risk increases with the number of travel lanes the pedestrian must cross, with the volume of traffic, and with traffic speed. On multilane streets with traffic volumes of 15,000 or greater, substantial crossing improvements are necessary to provide safe pedestrian crossings.

Reduction in Vehicle Access

Alternative 1's provision of a continuous center median will eliminate motor vehicle access to properties and streets on the left side of the street from the vehicle. To access streets or properties on the left side of the street, motorists will need to either use the roundabout before their destination to access local streets, or will need to overshoot their destination, travel fully around the next roundabout, and return to their destination.

Additionally, residents living south of South Avenue must follow convoluted routes on neighborhood streets to access westbound South Avenue. This convoluted routing, or the need to backtrack on South Avenue will likely increase traffic on neighborhood streets, which may present safety issues. The access to the roundabout at West Avenue is via an alley (11th Place South) and access to the 16th Street roundabout is via a semi-private substandard street (Castle Place), neither of which are designed to carry additional traffic.

Emergency Vehicle Access

The proposed continuous center median between roundabouts in Alternative 1 will eliminate left-turn access and crossings at many points on South Avenue. While this may be desirable from a crash safety perspective, it will limit access by emergency responders and may lengthen emergency response times.

Increase in Motor Vehicle Speeds

Eliminating left turns on South Avenue using a continuous center median will likely result in increased motor vehicle speeds. This is due to traffic not be forced to slow or stop behind vehicles waiting to turn left and the loss of "side friction" between vehicles using the center lanes. Alternative 1 proposes narrowing the width of the travel lanes slightly from the existing conditions. Typically, narrowing travel lanes reduces motor vehicle speeds slightly. However, the increased speeds from addition of the continuous center median and the removal of traffic signals will likely more than offset the reduction from the narrowed lanes. Additionally, the roundabout design in Alternative 1 encourages high-speed exit from the roundabouts, which makes yielding to pedestrians less likely.

Design Recommendations

This section presents recommendations about roundabout design, street design, and pedestrian crossing to mitigate some of the concerns about Alternative 1's design.

Roundabout Design

Use a symmetric roundabout design to limit traffic speed entering and exiting the roundabout.

The roundabouts in Alternative 1 are designed to limit the speed of traffic entering each roundabout. However, the offset design allows drivers to accelerate out of the roundabout. This is problematic for pedestrians attempting to cross the exit leg of a roundabout, as faster traffic is unlikely to yield to pedestrians.[1] All roundabouts on South Avenue should use a symmetric design relative to South Avenue to limit both the entering and exiting speeds of motorists. A symmetric design will improve yielding behavior of motorists to pedestrians crossing the street. Symmetric roundabouts may also reduce some of the right-of-way impacts necessitated by the installation of roundabouts.

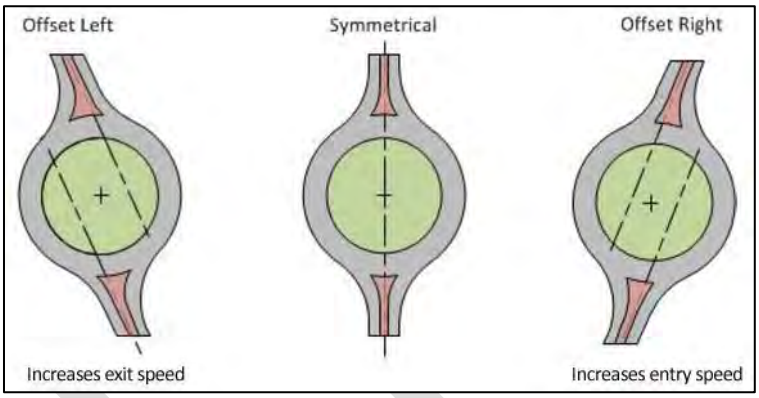

Figure 1: Alternative 1 utilizes "offset left" style roundabouts that decrease entry speed but allow for higher speed exit from the roundabouts. A symmetric design should be used to reduce both entry and exit speeds and improve yielding to pedestrians.

Consider Rectangular Rapid Flash Beacons (RRFBs) and raised crosswalks at all multilane legs of roundabouts.

Both RRFBs and raised crosswalks at multilane roundabouts have been shown to significantly decrease pedestrian delay and significantly improve motorist yielding to pedestrians at multilane roundabouts.[2] Raised crosswalks also decrease motor vehicle speeds, even when pedestrians are not present, which may address concerns about speed in the project corridor. Guidance from agencies including New York State DOT state that "raised crosswalks may be used at multilane roundabouts, regardless of the approach posted speed."[3]

Figure 2: This multilane roundabout provides RRFBs at the pedestrian crossings.

The Draft Proposed Rights-of-Way Guidelines *require* the signalization of multilane roundabout legs; it is anticipated that some level of signalization will be required when the Final Guidelines are adopted. WisDOT should consider the use of RRFBs or raised crosswalks on all legs of the proposed roundabouts.

[1] FHWA. Evaluation of Rectangular Rapid-Flashing Beacons (RRFB) at Multilane Roundabouts. Publication No. FHWA-SA-15-069. September 2015.
[2] Crossing Solutions at Roundabouts and Channelized Turn Lanes for Pedestrians with Vision Disabilities. NCHRP Report 674. National Cooperative Highway Research Program. 2011.
[3] NY State DOT. Raised Crosswalks. Engineering Instruction 13-018. https://www.dot.ny.gov/programs/completestreets/repository/ei_13-018_raised%20crosswalks.pdf

Provide shared-use paths around the perimeter of all roundabouts and bicycle slip lanes.

All roundabouts in the project should include a ten-foot-wide shared use path around the exterior of the roundabout and bicycle slip lanes to and from all streets to the path. The slip lanes and path should be provided regardless of the presence of on-street bicycle facilities. This complies with WisDOT's recommended roundabout design.

Use the roundabout at Ward Avenue as a gateway feature to the City.

The roundabout at Ward Avenue presents an opportunity to provide a gateway to the City and signal to motorists that they are entering a slower-speed environment than on Mormon Coulee Road. Landscaping, signs, or sculptures should be used to limit visibility across the roundabout, and should feature La Crosse branding or public art.

Neighborhood Access

Provide a roundabout at South Avenue and 14th Street South.

A fourth roundabout should be provided at the intersection of South Avenue and 14th Street South. This roundabout will be a significant access point for the neighborhood south of South Avenue, and will minimize the need for people to utilize the 11th Place alley to access westbound South Avenue. The additional roundabout will reduce vehicle miles traveled on South Avenue as it will reduce the need for people to drive the wrong direction on South Avenue and travel around a roundabout to travel in their desired direction. A fourth roundabout will also help limit motor vehicle speeds, as it breaks up the 3,000 foot distance between the roundabouts at West Avenue and 16th Street.

Provide a mountable curb on the center median to allow emergency vehicles to traverse the median as necessary.

The continuous center median should utilize a mountable curb that can be traversed by emergency. This design would allow emergency responders to directly access destinations on the opposite side of the street from their direction of travel.

Figure 3: This median uses a mountable curb that allows emergency vehicle access across the median.

Street Design

Use 10-foot wide inner lanes and 11-foot wide outer lanes (exclusive of gutter); use the space saved to widen the sidewalks to 5.5-feet wide on each side of the street.

Alternative 1's current design includes 10.5-foot inner and 11-foot outer travel lanes, exclusive of the gutter sections. The inner lanes can be narrowed slightly to provide additional width for the sidewalks along South Avenue. Providing 5.5-foot-wide sidewalks will better accommodate bicyclists who may use the sidewalks rather than riding in mixed traffic on the street. While not an official bicycle facility, the widened sidewalks recognize the reality that bicyclists will need to access destinations along South Avenue, but are unlikely to ride in the street. Current guidance from both AASHTO and FHWA allow for the use of lanes of the proposed widths.

Use a speed limit of 25 miles per hour and a design speed of no more than 30 miles per hour when designing the street.

The risk of pedestrian serious injury or fatality rises significantly as motor vehicle speeds increase above 20 miles per hour. Every effort should be made to reduce the travel speed on South Avenue in recognition of its status as an urban street with active pedestrian uses.

Figure 4: The risk of pedestrian serious injury or fatality in a crash with a motor vehicle increases dramatically between 20 and 40 miles per hour.

The speed limit on South Avenue should be set to 25 miles per hour. Additionally, when designing the street, the design speed used should ideally be 25 miles per hour. Using a design speed greater than the intended speed for the street will result in traffic speeds above the posted speed limit.

Pedestrian Crossings

Provide "State Law Yield to Pedestrians within Crosswalk" signs, and advanced yield lines at crossing locations with median crossing islands.

Alternative 1 provides for median crossing islands at 13th Street, 13th Place, 15th Street, and 17th Street (we recommend that a roundabout replace the median crossing island at 14th Street). Because multilane roundabouts are challenging for pedestrians to navigate, it is likely that these crossing locations will experience heavier pedestrian crossing volumes than they currently do.

These crossings should include high visibility crosswalks, advance yield lines, and signage to highlight the crossings and presence of pedestrians. The crosswalks should be at least ten feet wide for increased visibility and should be marked with a durable marking materials. All crosswalks should be checked at least twice a year to ensure that markings have not worn away and should be re-marked as necessary. "Yield to Pedestrian" signs should be cantilevered over the street to provide maximum visibility.

Provide Rectangular Rapid Flash Beacons (RRFBs) at 15th Street and 17th Street.

The City of La Crosse will be investing significant funds in Trane Park in 2019 to develop it as an all-abilities park. Activities at the park will be specifically targeted at youths who are on the autism spectrum or have other disabilities. A RRFB should be installed at 15th Street to allow easier crossing of South Avenue by pedestrians accessing Trane Park.

Riverfront, Inc. provides services for people with various disabilities, many of whom rely on transit to access the Riverfront facility near Castle Place. A RRFB should be installed at 17th Street to provide access to a relocated Municipal Transit stop on the far side of South Avenue from Riverside.

Figure 5: Crossings between roundabouts should include features to improve pedestrian safety and visibility similar to the crossing shown here.

The City of La Crosse will be completing an extension of the VIP trail connection to Maple Street this year. A RRFB should be provided at 13th Street to provide access to the new trail from areas north of South Avenue.

Compliance with the RRFBs should be regularly monitored and enforced. If motorists are not complying with the RRFBs, WisDOT should replace the RRFBs with Pedestrian Hybrid Beacons.

Additional Recommendations

Shift the crosswalk and median island at 17th Street from the east side of the street to the west side of the street.

Moving the crosswalk at 17th street to the west side of 17th Street will provide a marked crosswalk closer to Riverfront, Inc.'s facility, which serves many transit users who have disabilities. Shifting the crosswalk to this location may necessitate narrowing Riverfront's driveway. The current driveway is three lanes wide to accommodate left and right turning traffic as well as entering traffic; following reconstruction, exiting traffic will only be allowed to turn right, so a reduction to two lanes should be adequate.

Relocate the inbound MTU bus stop west of 16th Street to west of 17th Street.

Clients at Riverfront, Inc. currently have a difficult time crossing South Avenue to access the existing bus stop just east of 16th Street. Following reconstruction of the street and the addition of a pedestrian median island and RRFB at 17th Street, the bus stop should be relocated to just west of 17th Street. This location will allow crossing without having to negotiate the roundabout at 16th Street, and will be closer to across the street from the outbound bus stop.

Convert 11th Place between Weston Street and Maple Street from an alley to a street.

11th Place provides the only access from the neighborhood south of South Avenue to the roundabout at West Avenue, but is currently an alley marked for "No Through Traffic." The alley should be reconstructed as part of this project to a narrow local street. This reconstruction will necessitate acquiring one of the properties adjacent to 11th Place.

Consider maintaining the intersection of South Avenue, East Avenue, and Ward Avenue as a conventional intersection.

Trane and other companies that frequently utilize South Avenue to transport oversized loads have voiced concern over the installation of a roundabout at the intersection of South, East, and Ward Avenues. The intersection could be redesigned as a conventional intersection with left turn lanes and other geometric improvements rather than a roundabout. This could provide safety improvements over the existing intersection design, and alleviate concerns related to oversized loads negotiating a roundabout.

City of La Crosse, Wisconsin - South Avenue Multimodal Study

Bennora Lee Court Extension

Widened and improved Weston Street as part of WisDOT South Avenue project.

Reduce ROW to avoid structures

25
20
15
10
5
0

11th Place

Maple Street

Approximate 66' ROW

Bennora Lee Court

Transition from no on-street parking allowed (to the east) to on-street parking allowed (to the west)

Realigned VIP Trail

Existing VIP Trail

Approximate area of fill

Swift Creek

Legend

- Study Area
- Trails
- Contour - 5-ft
- Parks
- Waterbody

Feet

0 40 80 160

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City of La Crosse, Wisconsin - South Avenue Multimodal Study

Burlington Northern Railroad Trail

VIP Trail Extension to South Avenue
Planned Construction: 2017

VIP Trail Extension to Maple Street
Planned Construction: 2017

BN RR Trail Phase II
South Avenue to Weston Street

BN RR Trail Phase I
Weston Street to Ward Avenue

On-Street Trail Connection
VIP Trail to BN RR Trail Phase 1
Maple St. / West Ave. / Horton St. / 13th St. / Weston St.

Carroll Field
Jansky pl
Marco dr
High st
Mccumber st
Fanell dr
Miller st
Bundy st
Steele st
Westview pl
Wollen pl
Alexander st
La Plume Slough
Cook st
Green Island Park
Benora lee ct
7th Street Boat Landing
7th st s
Mississippi River
Running Slough
Bluff Slough
Hanifl rd
9th st s
10th st s
Sims pl
South ave
35
14
Redfield st
Green bay st
Hyde ave
Travis st
Barlow st
Weston st
Maple st
11th pl
West ave s
15th st s
19th st s
20th st s
21st st s
Horton st
Bennett st
Townsend st
Trane Park
16th st s
13th st s
Chase st
Riverside dr
13th pl s
14th st s
15th pl s
17th st s
East ave s
Thompson st
Kranc ave
173th ct
Castle pl
Huber ct
Gladys st
Ward ave
Mormon coulee rd

Legend

- Study Area
- Trails
- Railroad
- Parks
- Waterbody

Bicycle Facilities

- Bike Lane, Existing
- Bike Lane, Proposed
- Bike Route, Proposed
- Shared Lane Marking, Existing
- Shared Lane Marking, Proposed
- Shared Use Path, Proposed

Feet
0 250 500 1,000

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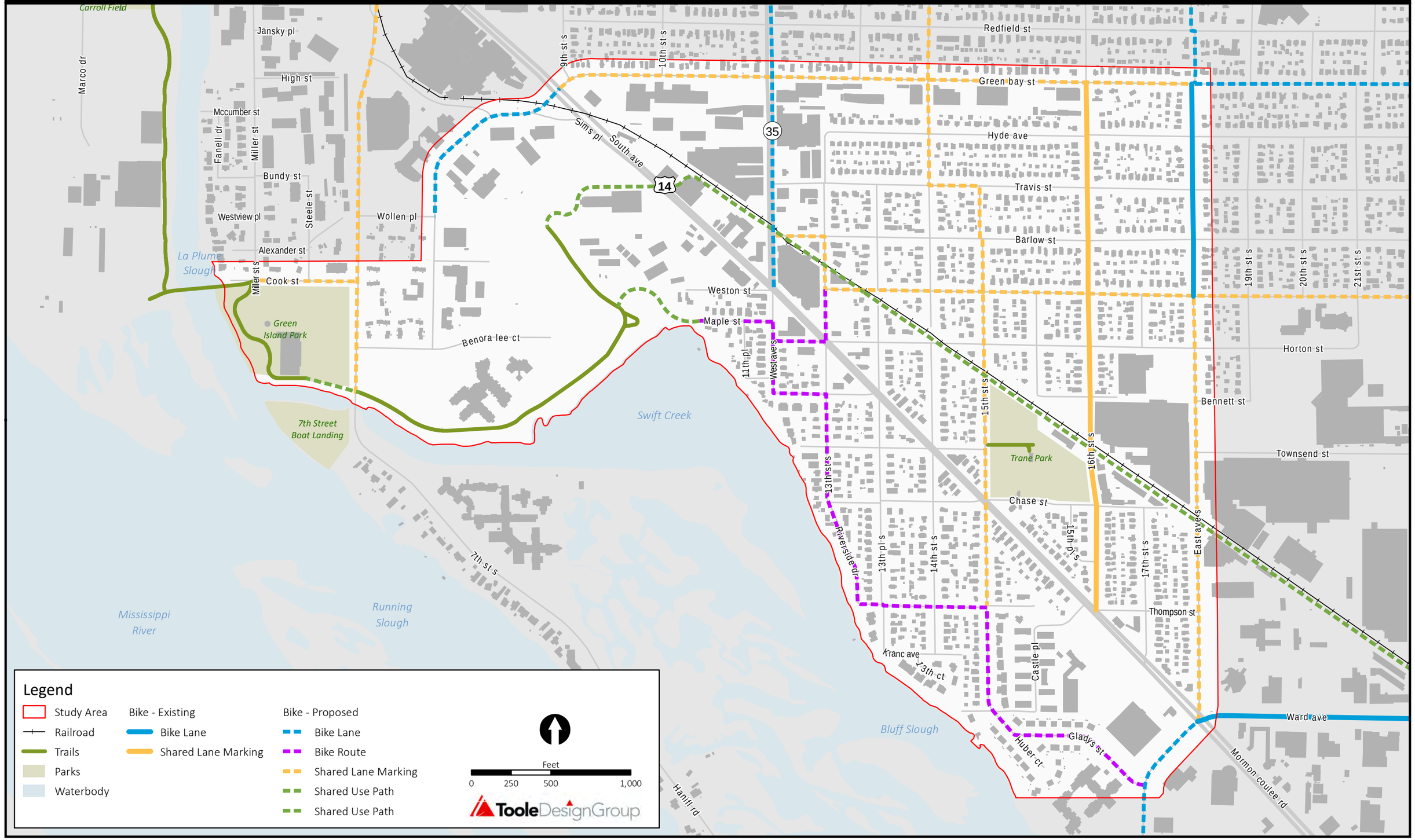
City of La Crosse, Wisconsin - South Avenue Multimodal Study

Bicycle Facilities



Legend

- Study Area
- Railroad
- Trails
- Parks
- Waterbody

Bike - Existing

- Bike Lane
- Shared Lane Marking

Bike - Proposed

- Bike Lane
- Bike Route
- Shared Lane Marking
- Shared Use Path
- Shared Use Path

Feet

0 250 500 1,000

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