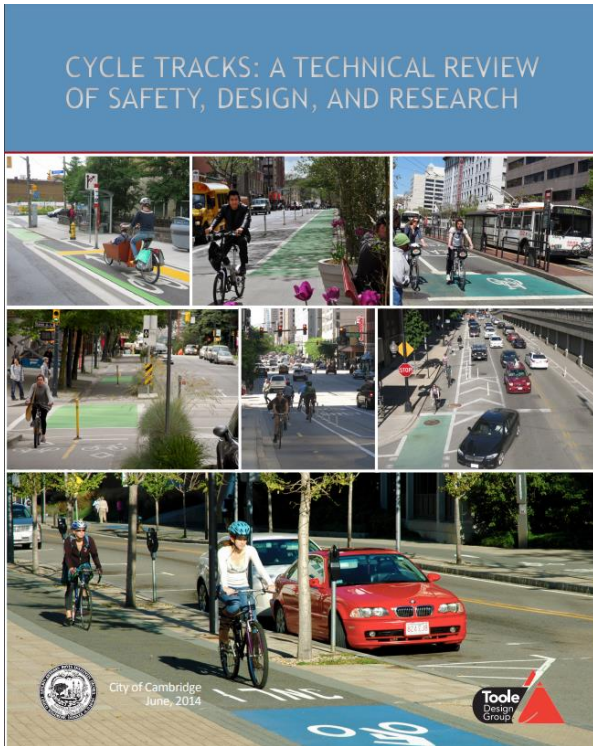


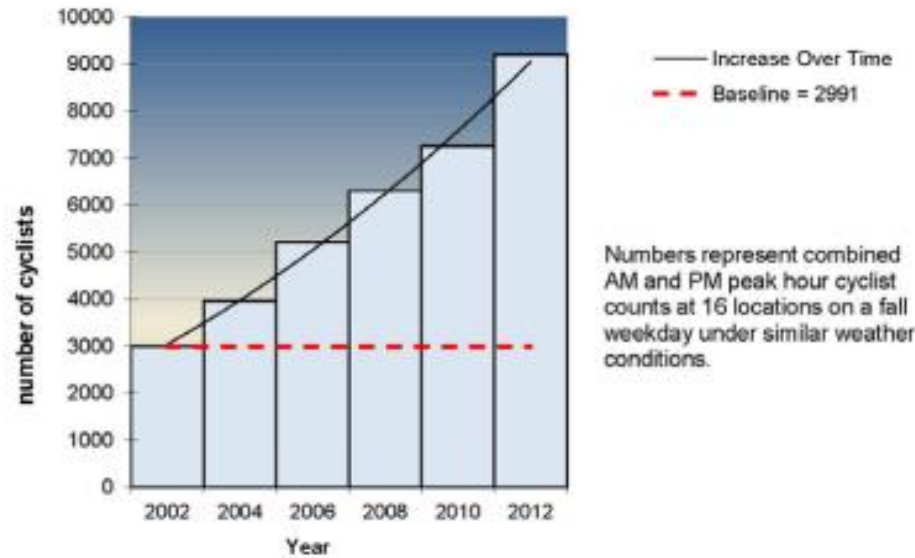
# Raised Cycle Track Examples



# Cycle Track Research & Studies

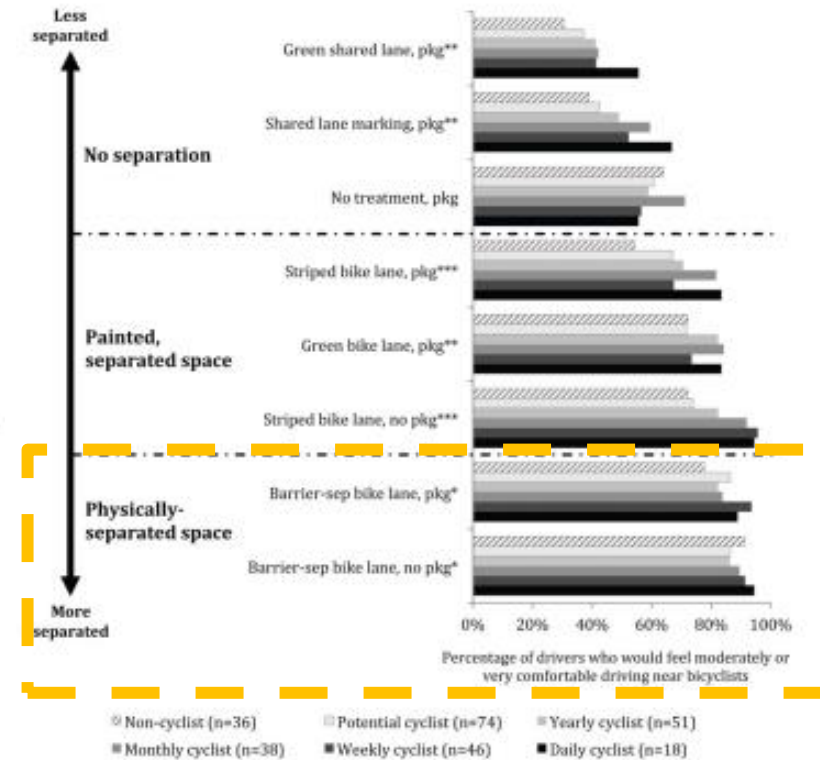


Cambridge Bicycle Counts 2002-2012 Combined AM/PM Peak Hour



Source: City of Cambridge, Bicycle Trends in Cambridge Report. (2013)

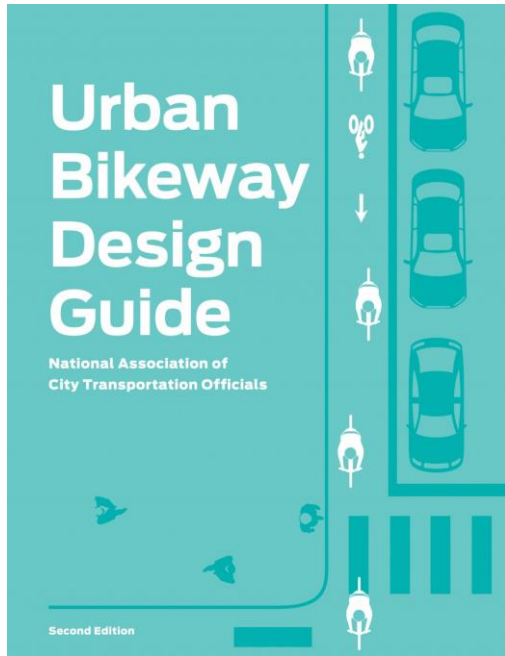
## Survey Respondents who Drive Feel More Comfortable with Greater Separation from Bicyclists



# Raised Cycle Track Design Guide



<https://nacto.org/>



## Design Guidance

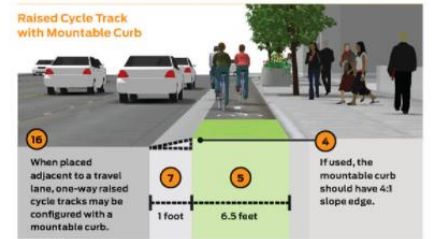
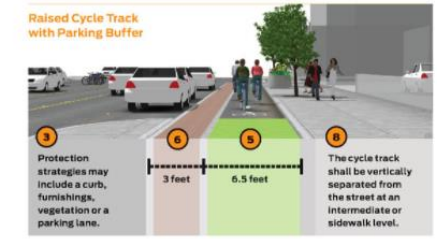
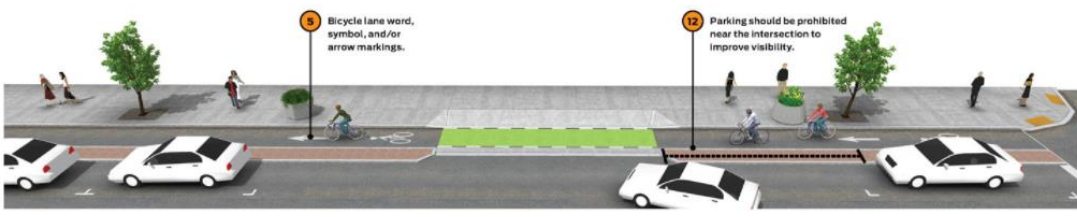
### Raised Cycle Tracks

#### Required Features

- 1 The cycle track shall be vertically separated from the street at an intermediate or sidewalk level.
- 2 Bicycle lane word, symbol, and/or arrow markings (MUTCD Figure 9C-3) shall be placed at the beginning of a cycle track and at periodic intervals along the facility based on engineering judgment.
- 3 A raised cycle track shall be protected from the adjacent motor vehicle travel lane. Protection strategies may include a raised or mountable curb, street furnishings, low vegetation or a parking lane.
- 4 If used, the mountable curb should have 4:1 slope edge without any seams or lips to interfere with bike tires to allow for safe entry and exit of the roadway. This curb should not be considered a rideable surface when determining cycle track width.<sup>38</sup>

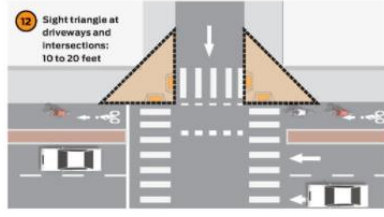
#### Recommended Features

- 5 Desirable one-way raised cycle track travel surface width is 6.5 feet to allow side-by-side riding or passing. Desired minimum width is 5 feet at intersections and pinch points. Additional width may be needed for protection from traffic or parking and/or shy distance to sidewalks or furnishings.<sup>37</sup>
- 6 When configured next to a parking lane, 3 feet is the minimum desired width for a parking buffer to allow for passenger loading and to prevent dooring collisions. The buffer can be at street level or at the level of the cycle track.<sup>38</sup>
- 7 When configured next to a motor vehicle travel lane, the desired minimum width of a mountable curb is 1 foot, depending on elevation. Raised curbs may require additional width for added shy distance from the curb edge. Raised curb buffer minimum width should be increased to 3 feet or greater when buffer space is used to locate lamp posts, bollards, street furniture, low vegetation, and/or trees.<sup>38</sup>
- 8 Vertical separation between the roadway and the cycle track should be between 1 and 6 inches. Higher separation values discourage illegal parking.
- 9 Vertical separation between the cycle track and the sidewalk should be between zero (flush with the sidewalk surface) and 5 inches. A separation of 3 inches or greater discourages conflicts with pedestrians.



- 10 If curb or median separated, careful consideration should be given to the curb design. Curbs of 6 inches can be hazards to bicyclists by interfering with the space needed for pedaling, but can be more effective deterrents to illegal parking or loading. Consider the use of alternative bicycle-friendly curb profiles where possible.<sup>38</sup>
- 11 Supplemental shy distance striping should be added at the entrance to curb protected cycle tracks to encourage bicyclists to keep their distance.
- 12 Driveways and minor street crossings are a unique challenge to cycle track design. A review of existing facilities and design practice has shown that the following guidance may improve safety at crossings of driveways and minor intersections:

- If the cycle track is parking protected, parking should be prohibited near the intersection to improve visibility. The desirable no-parking area is 30 feet from each side of the crossing.<sup>38</sup>
- For motor vehicles attempting to cross the cycle track from the side street or driveway, street and sidewalk furnishings and/or other features should accommodate a sight triangle of 20 feet to the cycle track from minor street crossings, and 10 feet from driveway crossings.
- Color, yield lines, and "Yield to Bikes" signage should be used to identify the conflict area and make it clear that the cycle track has priority over entering and exiting traffic.<sup>37</sup>
- Motor vehicle traffic crossing the cycle track should be constrained or channeled to make turns at sharp angles to reduce travel speed prior to the crossing.
- The crossing should be raised, in which the sidewalk and cycle track maintain their elevation through the

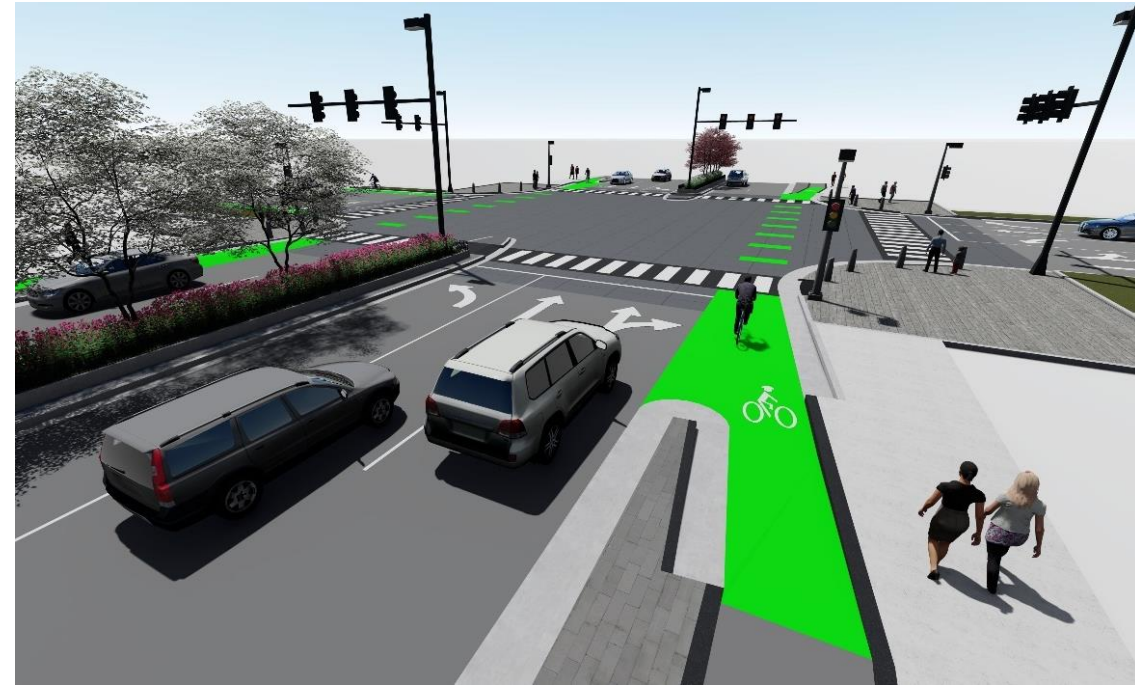
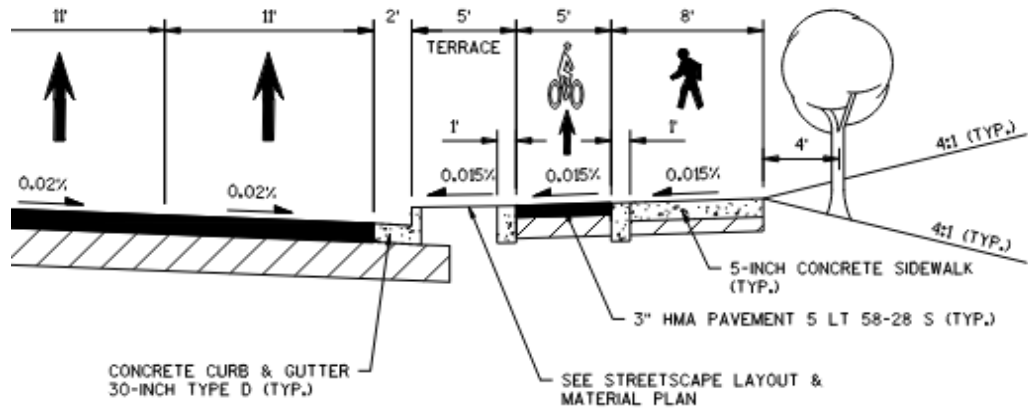


- If configured at a height flush with the sidewalk, color, pavement markings, textured surfaces, landscaping, or other furnishings should be used to discourage pedestrian use of the cycle zone.
- Drainage should slope to the street. Drainage grates should be in adjacent travel or parking lane.
- Two-stage turn boxes should be provided to assist in making turns from the cycle track facility.
- Contra-flow bike lanes may be raised in a cycle track configuration to offer further physical protection for contra-flow riders.
- Cycle tracks may be configured on the left side of a one-way street to avoid conflicts at transit stops.
- Color may be used to contrast with the adjacent pedestrian area or to increase the visibility of the cycle track in conflict areas.

#### Optional Features

- 15 Cycle tracks may be shifted more closely to the travel lanes on minor intersection approaches to put bicyclists clearly in the field of view of motorists.<sup>38</sup>
- 16 When placed adjacent to a travel lane, one-way raised cycle tracks may be configured

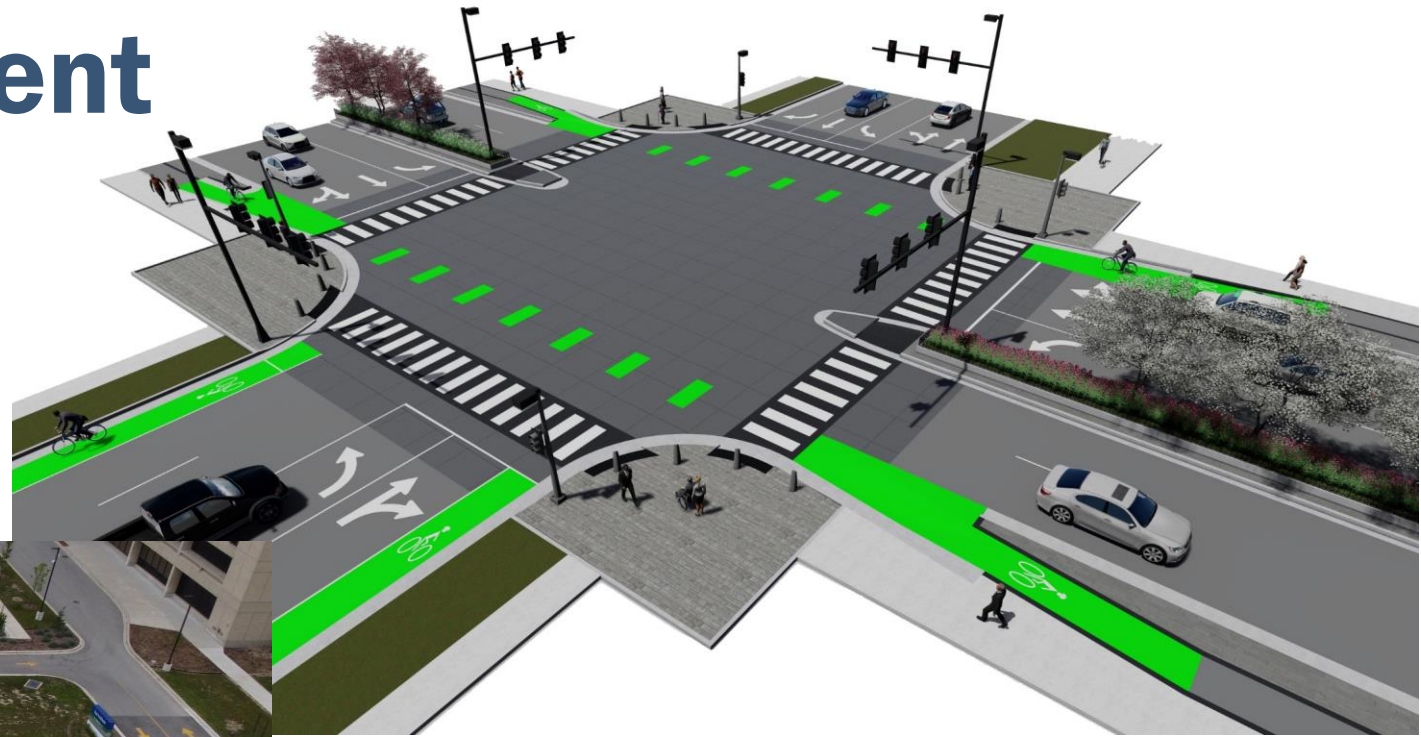
# Bike Lane Design & Materials



# Bike Lane Design & Materials

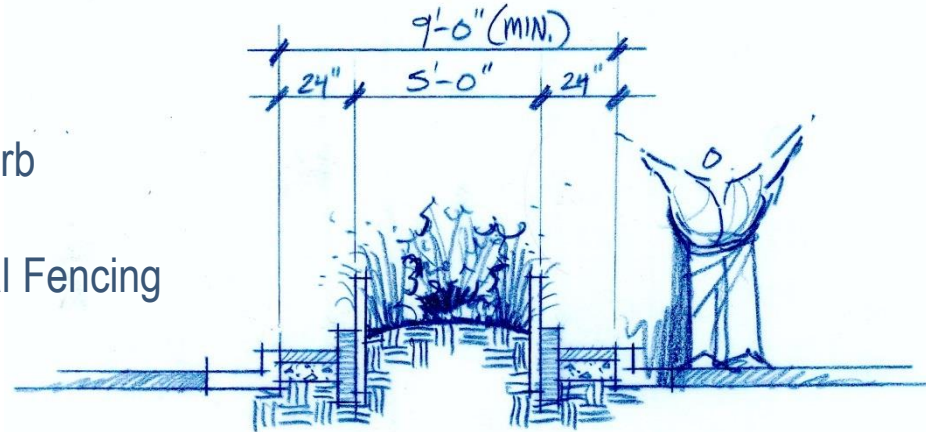


# Intersection Treatment



# Median Design

- Median Barrier
  - 6" HT. Roadway Curb
  - 6" HT. CIP CURB
  - 18" Decorative Metal Fencing



Typical Median Cross Section



# Pedestrian Amenities

- ADA accessible sidewalks
- Signalized pedestrian crossings
- Bus Shelters
- Benches, Trash & Recycling
- Improved Wayfinding
- Pedestrian Scale Lighting



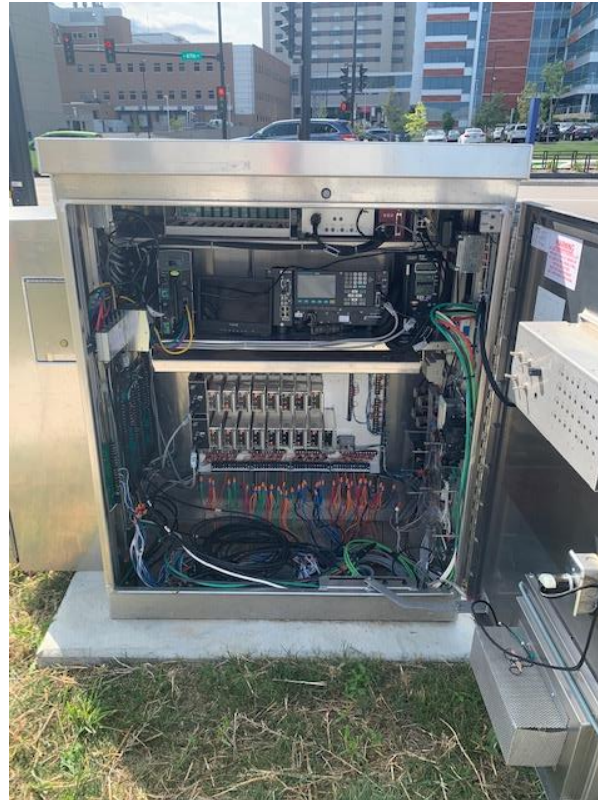


# New Neighborhood Connections



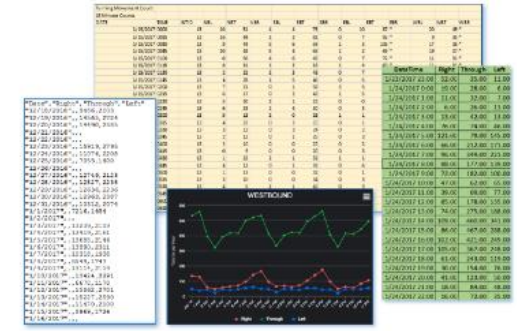
# Smart Traffic Signal System

- ITS integration with traffic signals - Advanced Traffic Management System (ATMS) using Siemens TACTICS
- >5,300' 48-CT Fiber Cable integrated with City signals and WisDOT Fiber
- Coordinated signals improve vehicular flow during peak periods - increasing reliability and safety
- Iteris Vantage Live continuous counting for vehicles, bikes and pedestrians
- Iteris Signal Performance Measures (SPM)



## Peak Hour Summary

A customized peak hour calculation and summary can be generated.



## Customizable Reports

Detailed reports can quickly be viewed and exported in various formats.



## Powerful Graphs and Analytics



# Construction Complete!



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## Wauwatosa 87th Street traffic project complete

By Brett Vickery | Published September 23 | News | FOX6 News Milwaukee



### 87th Street project complete in Tosa

In Wauwatosa, 87th Street is now officially a "complete street" – the roadway dedicated to all modes of transportation.

**WAUWATOSA, Wis.** - In Wauwatosa, 87th Street is now officially a "complete street" – the roadway dedicated to all modes of transportation.

The Milwaukee Regional Medical Center is home to doctors, nurses, students and patients, which means there is plenty of foot, bike and motor vehicle traffic on 87th Street.

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## Construction complete on 87th Street going through Milwaukee Regional Medical Center in Wauwatosa

By: [Amanda Becker](#) [Facebook](#) | [Twitter](#)

Posted: Sep 23, 2021 1:56 PM CDT | Updated: Sep 23, 2021 5:21 PM CDT

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**NOW:** Construction complete on 87th Street going through Milwaukee Regional Medical Center in Wauwatosa

## What's Next?



### PROGRAM OVERVIEW

The Ride Guide - Rethink Your Commute program will educate employees on transportation modes that can save money, reduce your stress, minimize traffic congestion, and lower your carbon footprint.



### PUBLIC TRANSIT

Learn about transit tips, passes, how to plan your trip to and from campus, and the Emergency Ride Home program.



### CARPOOL & RIDESHARE - NEW!

Learn how to find a commuter match, build a commuter calendar, use a cost calculator, qualify for Emergency Ride Home and more.

<https://mrmccampus.org/ride-guide>



### BIKE & WALK

Learn about the Love to Ride bike platform, how to create your profile, log miles, earn prizes, qualify for Emergency Ride Home and more.

<https://mrmccampus.org/mrmc-direct>



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310

# Thank you!



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