

Non-motorized Transportation Plan



Grand Valley State University is a great campus for walking and bicycling. The campus is very compact so it makes it easy to get around. The campus also has an excellent bus system that currently supports a large population of students on campus. There is though considerable room for improvement in providing safe, convenient and attractive facilities for pedestrians and bicyclists. While there have been significant improvements to the physical environment in recent history, there are still many additional opportunities at hand. This document identifies near-term opportunities to improve the physical environment, guides long-term development and make recommendations on how to develop a network that supports non-motorized transportation.

This document addresses the following elements:

**Campus Circulation**  
Provide a range of bicycle and pedestrians facilities for all user types and reduce vehicular traffic on North and South Campus Drive.

**Neighborhood Connector Routes**  
Provide bicycle and pedestrian links to surrounding communities.

**Bike Parking**  
Provide a range of bicycle parking facilities, including covered bicycle parking and covered and secured bicycle parking.

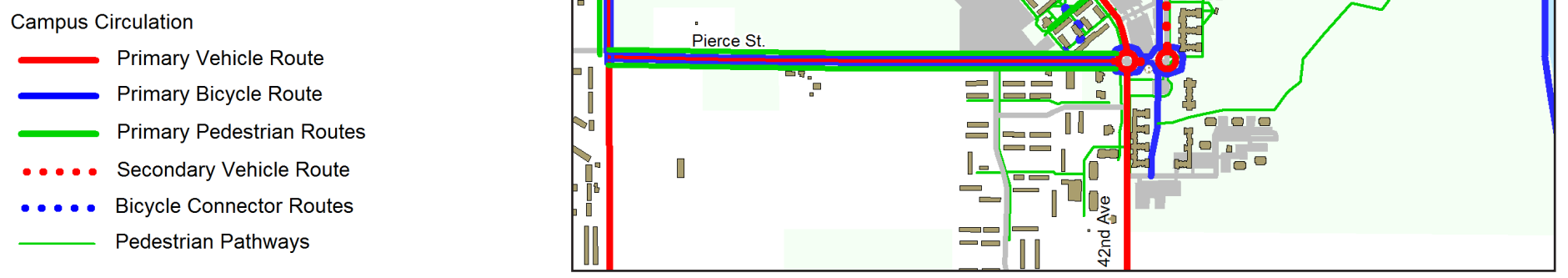
**Safety**  
Minimize conflicts between motor vehicles, bicycle and pedestrians and improve road crossings.

**Shared Spaces**  
Enhance the character of shared streets on campus to be more bicycle and pedestrian friendly with limited motor vehicle use.

Campus Circulation

The existing traffic circulation on campus causes a lot of conflicts between all modes of transportation. North and South Campus Drive carry some of the highest amount of pedestrian, bus and automobile traffic making this road difficult for all users.

- Recommendations**
- Make Laker Village Drive the primary vehicular route by removing parking lot entrances along North and South Campus Drive.
  - Implement roundabouts at major intersections on campus to help traffic flow, especially where there are significant left turning movements.
  - Evaluate rearranging the parking lot orientation so the isles are parallel to the flow of pedestrian traffic, so to minimize conflicts between pedestrians and motor vehicles.



Neighborhood Connections

Neighborhood Connectors are non-motorized routes that use low volume local roads and pathways to link key destinations. These routes are attractive to bicyclists and pedestrians who are willing to take a slightly longer route to avoid walking and bicycling along busy roads. The routes may not be obvious so they are demarcated with signage that lists destinations and distances along the route.



Bicycle and Pedestrian Guide Signs could be used to help guide students to a neighboring town and/or local residents to campus.



Bicycle Parking Guidelines

The lack of a secure parking space discourages many people from using their bikes for basic transportation. When sufficient bike parking is not provided, theft becomes a concern and it leads to bikes being locked up to sign post, benches and other street furniture. When bicycles are parked in these spaces, they often disrupt pedestrian flow because the bikes impede the walkway. Without the appropriate parking space bicycle get left out uncovered and over the winter months may become unserviceable by spring. Bicycles also get impounded by local enforcement when parked in these areas causing an even greater deterrent to bicycle use. Bicycle parking needs to be visible, accessible, plentiful and convenient. If any of these criteria are not met, there is a good chance bicyclist will not use the facilities and will park their bike wherever they feel it will be safest.

**Number of Parking Spaces**  
The following are guidelines of the number of bicycle parking spaces to be provided by a building use. Please note that a station is a faculty, student or staff work/learning area.

Academic Buildings.....	1 bicycle parking space per 8 stations
Arenas.....	1 bicycle parking space per 60 stations
Commons Buildings.....	1 bicycle parking space per 40 stations
Library.....	1 bicycle parking space per 8 stations
Museum.....	1 bicycle parking space per 10 stations
Office/Research.....	1 bicycle parking space per 10 stations
Performance Halls.....	1 bicycle parking space per 60 stations
Recreation Buildings.....	1 bicycle parking space per 9 stations
Residential Housing.....	1 bicycle parking space per 3 beds

**Uncovered Bicycle Racks**  
Uncovered bicycle racks are the primary bike parking approach for areas where people are expected to park their bikes for only a few hours.

**Design**  
Generally, bicycle racks of the inverted "U" design of a square tube or flat bar, or some design that is resistant to pipe cutters, are considered the best models. Alternative designs may be considered for special situations, although they should function similar to the inverted "U" design, providing at least two contact points for a bicycle and be a shape and size that would permit locking of a bicycle through the frame and one wheel with a standard U-Lock or cable.

**Location**  
Hoops should be placed on a hard surface with ample lighting and high visibility to discourage theft and vandalism. Racks should be placed to avoid conflicts with pedestrians, usually installed near the curb and away from building entrances and crosswalks.

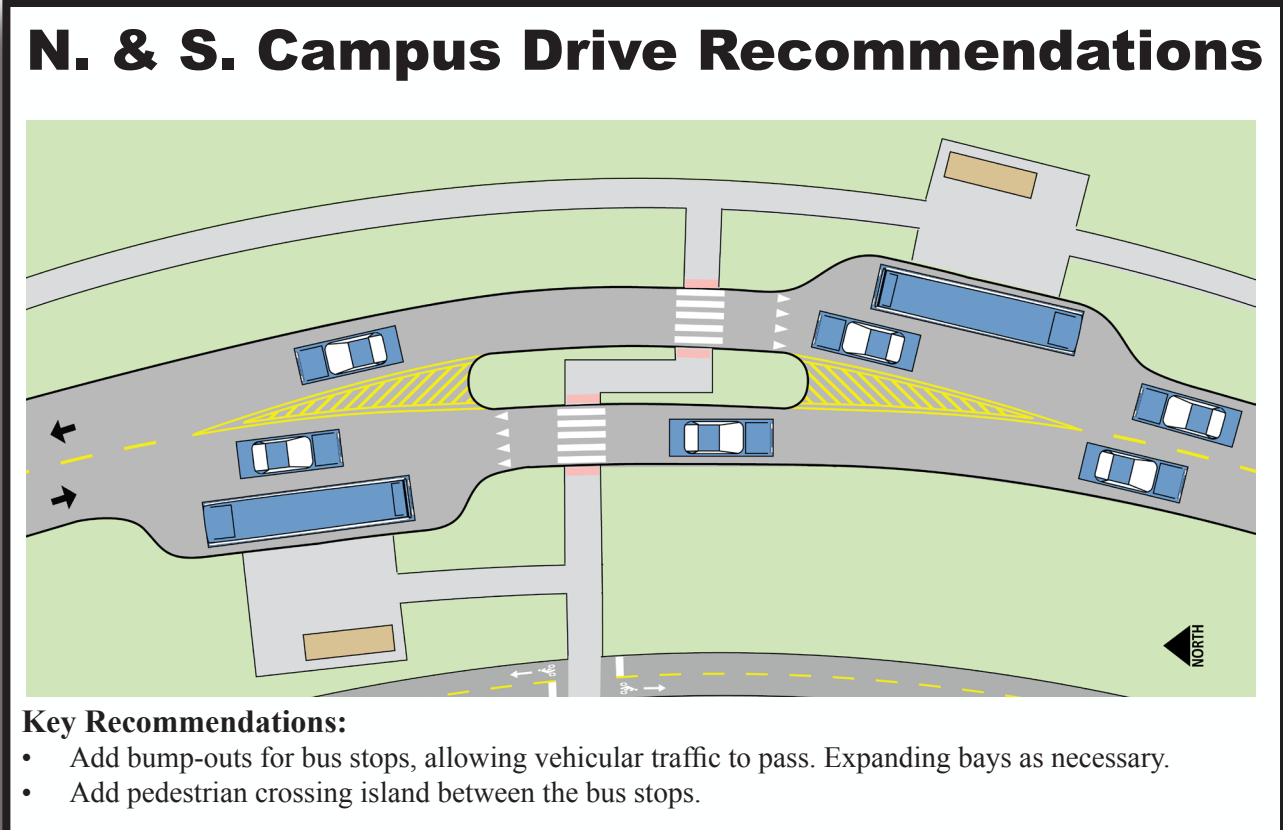
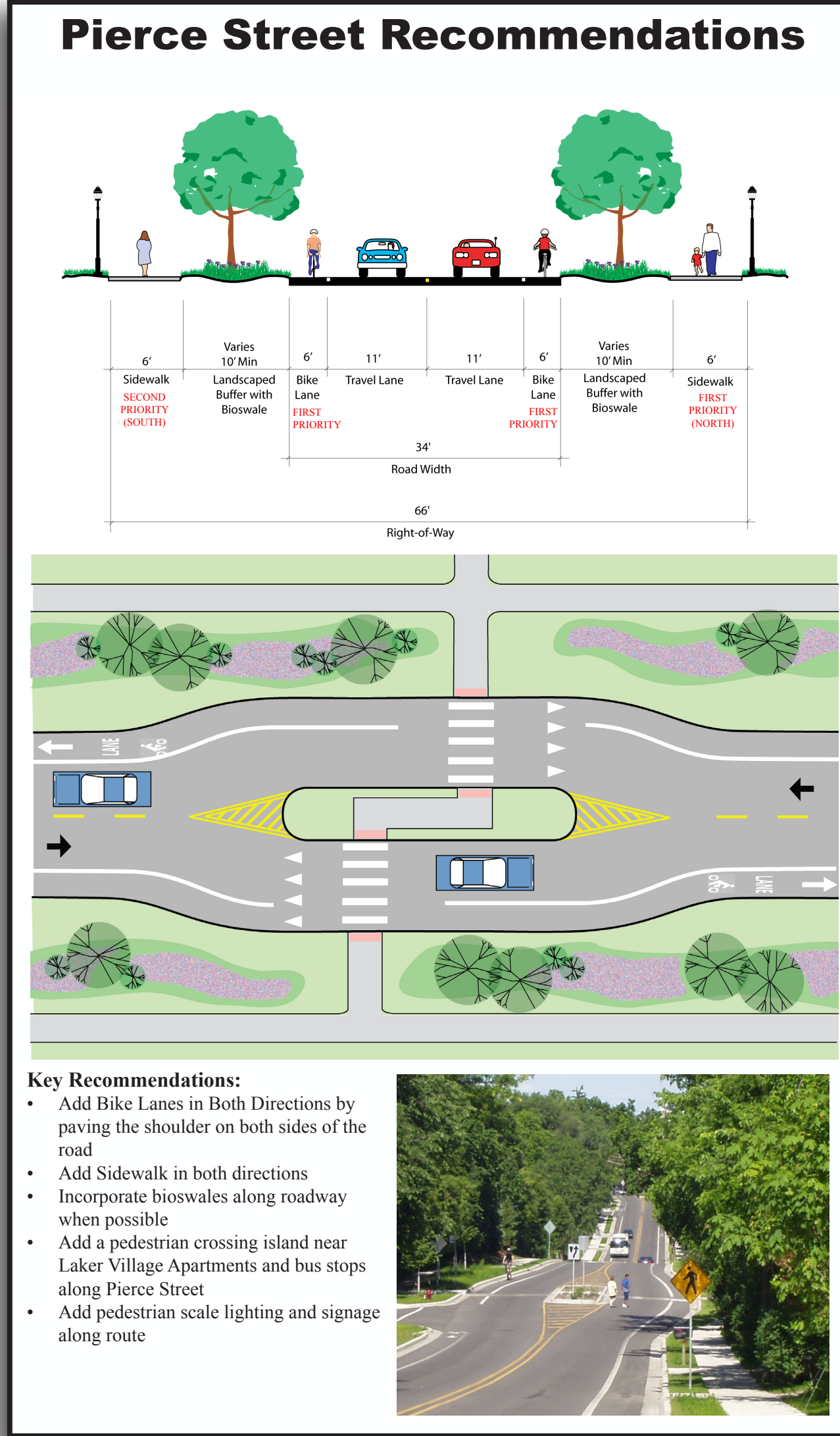
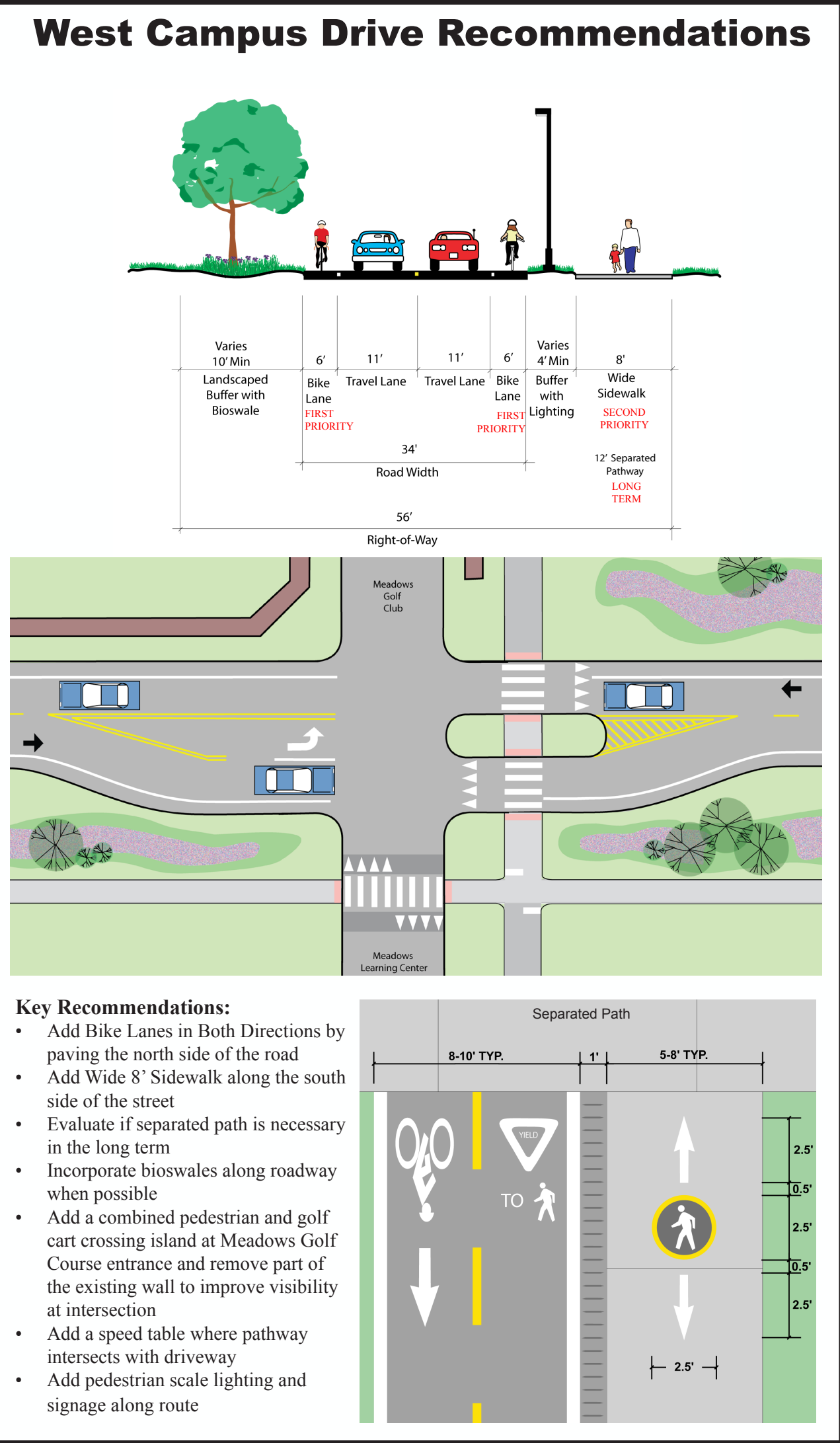
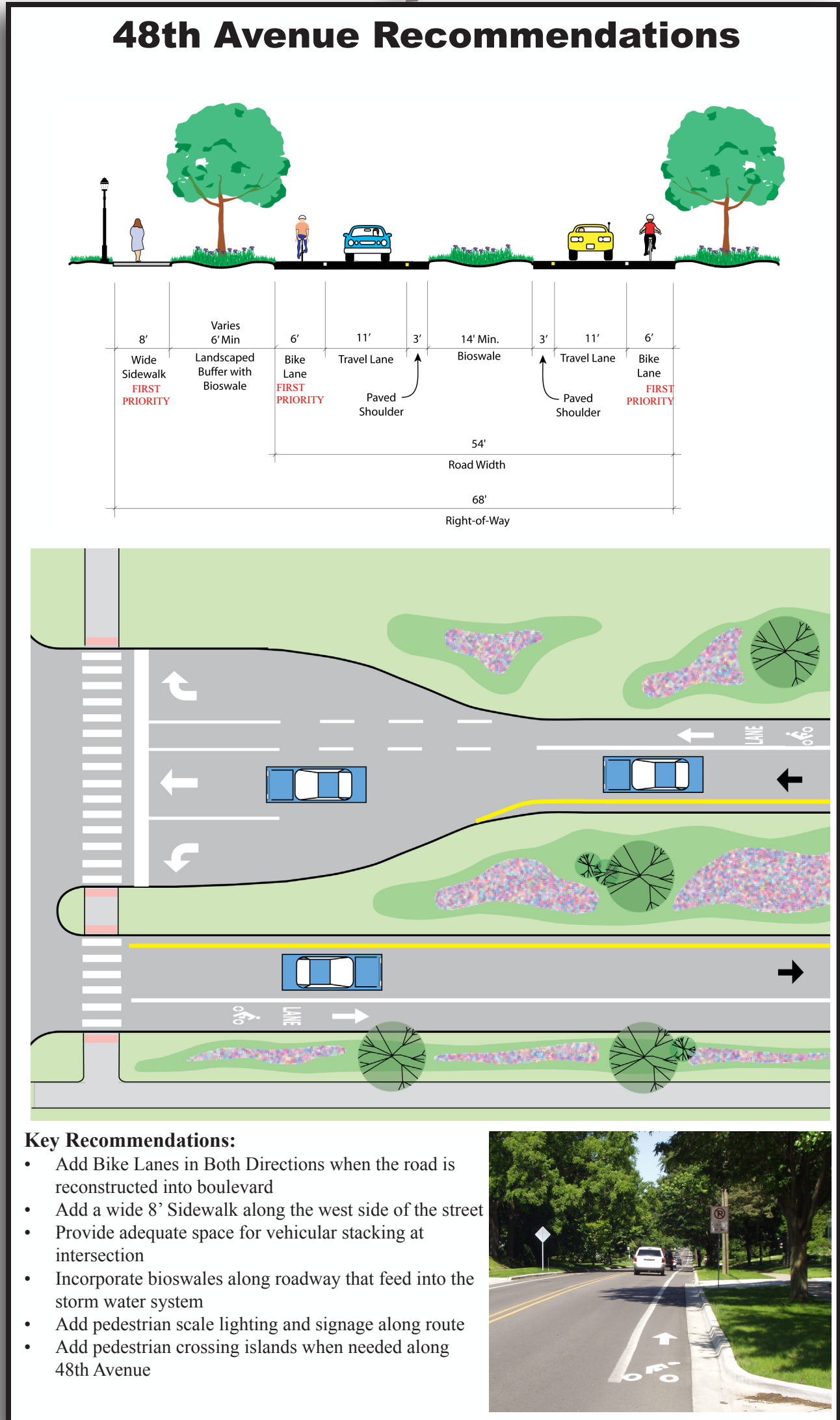
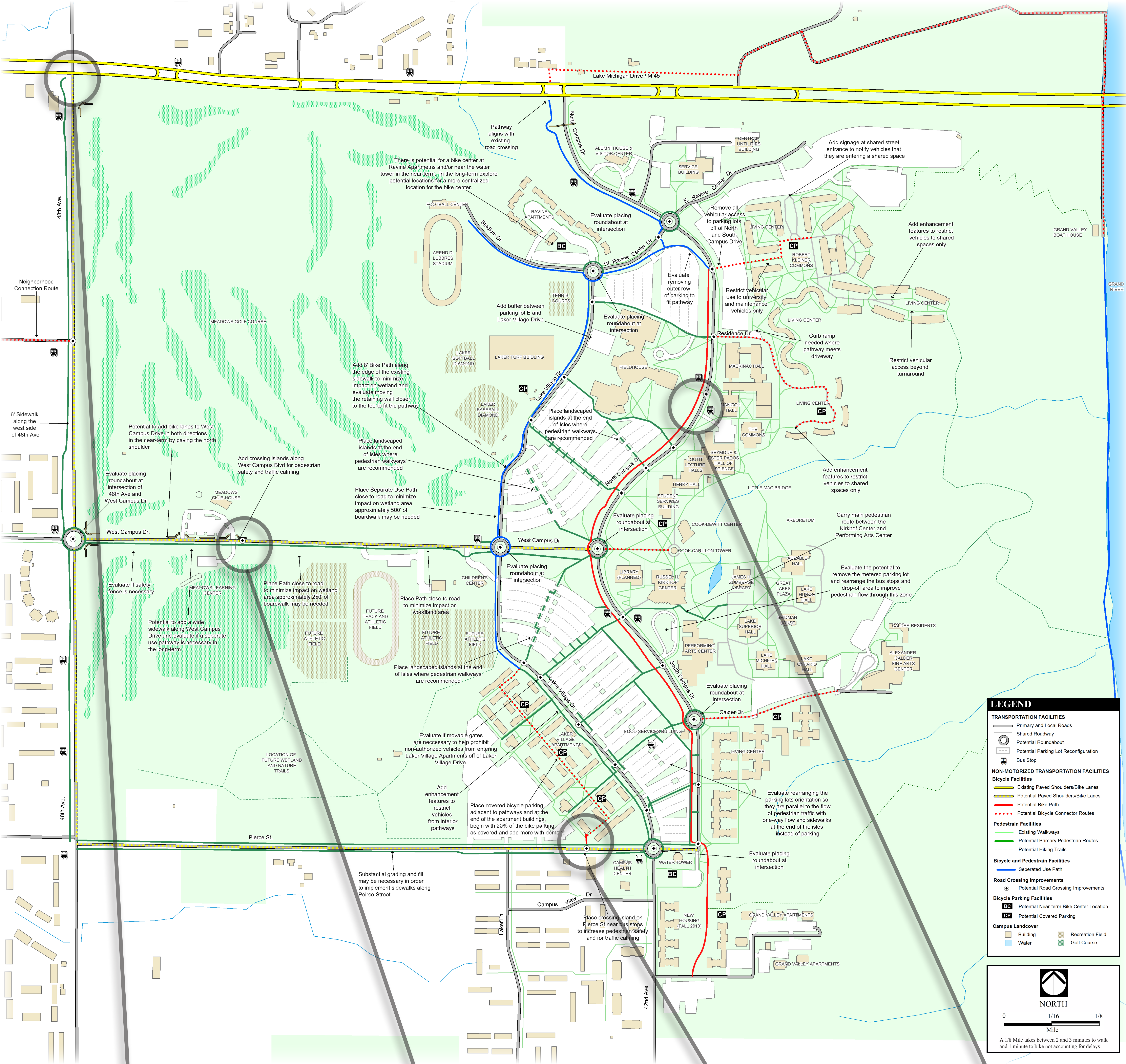
**Covered Bicycle Storage**  
Covered Bike Parking is desirable for both long-term and short-term bicycle storage. Basic bicycle racks should be placed under an overhang whenever possible, and specific covered bicycle parking should be created when needed. Covered Bicycle Parking should be available in areas where bikes are kept for an extended period of time, such as residential apartments or at large commercial centers where employees and customers will utilize the covered spaces.

**Design**  
The covering for bicycle parking will vary depending on the location. In addition to a roof, complete or partial side enclosures should be provided to minimize exposure to windblown rain and snow. The design of the racks is the same as for the basic uncovered bicycle hoops. When creating covered parking, there is also the opportunity to incorporate a green roof or solar panels into the rooftop to add to the functionality of the structure.

**Location**  
Covered Bike Parking should be incorporated whenever there is opportunity to do so. Long-term covered bike parking should be located within 400' of the building it is intended to serve. Centralized locations further than 400' are also acceptable. The long-term goal is to provide covering for up to 75% of the bike parking that serves residential halls based on demand.

**Bike Center**  
A Bike Center is an on campus bicycle repair and rental facilities. They are intended primarily to serve students, faculty, staff, departments, visitors and alumni. They should be centrally located and easily accessible by bicycle. They may even be part of an on-campus outdoor recreation and equipment rental facility.

- Services**
- bicycle repair shop
  - short and long term bicycle rental
  - short and long term bicycle storage
  - sell bicycle accessories
  - sell bicycles (new and used)
  - provide compressed air
- Programs**
- Refurbish abandoned and donated bicycles and loan/rent them out to faculty/staff, students, departments, visitors and alumni for long term and short term periods
  - Offer bicycle safety and maintenance workshops



Shared Space Enhancements

A shared space is a common space created to be shared by pedestrians, bicyclists and low-speed motor vehicles. A large amount of pedestrian traffic and narrow streets with strategically placed trees, planters and other obstacles help to slow motorists and make the street available for public use.

**Enhancement Features of Shared Spaces:**  
Living Center Apartments and Residence Drive (Combination of Shared and Restricted Spaces)

- Add signage at shared street entrances
- Detectable warning strips need to be incorporated every where a pedestrian is either entering or leaving a space shared with vehicles
- Add temporary furniture to narrow shared street in vehicular restricted areas (tables, benches)
- Add bump outs with trees to narrow shared street in vehicular restricted areas
- Add covered bicycle parking to narrow shared street in vehicular restricted areas
- Constrict access and sign pathways that are restricted to motor vehicles

**Laker Village Apartments (Restricted Space)**

- Add more prominent black and white regulatory signage at pathway entrances prohibiting vehicles
- Detectable warning strips need to be incorporated every where a pedestrian is either entering or leaving a space shared with vehicles
- Widen crosswalk pavement marking across Laker Village Drive to the width of the existing pathways
- Add temporary large planters at pathway entrances
- Add temporary furniture along pathways