

# Fish Hatchery Road Reconstruction Project

ID 19-3488



## Bicycle and Pedestrian Facilities Design Report

September 10, 2018

### EXECUTIVE SUMMARY

This report evaluates and recommends including upgrades to the bicycle and pedestrian facilities with the Fish Hatchery Road Reconstruction Project. The recommendation is based on several factors including: planning recommendations, public input, connectivity to local and regional facilities, regulatory restrictions on real estate acquisition, constructability and cost.

The 1.5-mile project (CTH PD (McKee Road) to Madison Beltline) will replace deteriorating pavement and retaining walls, and will include storm sewer, sanitary sewer and watermain repairs as needed. The project will also address congestion at intersections and safety issues. Upgrades to pedestrian, bus and bicycle accommodations, as well as streetscaping such as plantings, trees and other decorative elements, will be considered. Improvements will provide better connectivity with surrounding neighborhoods and support new economic development along the corridor. Construction is anticipated to begin in 2019.

### RECOMMENDATIONS

Construct a shared use path from on the west side of Fish Hatchery Road from High Ridge Trail to Post Road with the Fish Hatchery Road project. Include intersection upgrades throughout the project limits, including a bicycle and pedestrian focused crossing at Traceway Drive.

### CONCURRENCE WITH RECOMMENDATIONS

The City of Fitchburg and Dane County provided concurrence with the above recommendations at the \_\_\_\_\_ meeting on \_\_\_\_\_, 2018.

## INTRODUCTION AND BACKGROUND

Fish Hatchery Road is a major arterial and an important north/south corridor for Fitchburg locally and Dane County regionally. Land use immediately adjacent to the Fish Hatchery Road project includes commercial properties, multi-family residential properties and recreational properties. There are four to five areas of ongoing development planning, and other areas of potential re-development along the corridor. The surrounding land use includes residential and commercial properties.

## EXISTING CONDITIONS

There is a combination of existing facility types that provide accommodations for both bicycles and pedestrians on Fish Hatchery Road for the length of the project.

The bicycle accommodations consist of three distinct sections within the corridor:

- Section 1 (Begin Project at McKee Road/CTH PD to Cahill Main)  
East side: Shared use path and on-street bike lane  
West side: Shared use path and shared bus/bike/turn lane
- Section 2 (Cahill Main to High Ridge Trail)  
East side: On-street bike lane  
West side: Shared use path and shared bus/bike/turn lane
- Section 3 (High Ridge Trail to End Project at Beltline)  
East side: Shared bus/bike/turn lane  
West side: Shared bus/bike/turn lane

The pedestrian accommodations consist of three distinct sections within the corridor:

- Section 1 (Begin Project at McKee Road/CTH PD to Cahill Main)  
East side: Shared use path  
West side: Shared use path
- Section 2 (Cahill Main to High Ridge Trail)  
East side: Sidewalk  
West side: Shared use path
- Section 3 (High Ridge Trail to End Project at Beltline)  
East side: Sidewalk  
West side: Sidewalk

These sections are shown in **Attachment A: Existing Bike and Pedestrian Facilities**.

## PLANNING AND PUBLIC INPUT CONSIDERATIONS

### Planning Recommendations

Several planning documents were reviewed and are summarized in **Attachment B: Planning Document summary on Bicycle and Pedestrian Recommendations**.

Takeaways specific to Fish Hatchery Road include:

- Addressing pedestrian crossings occurring at the commercial plazas north of Post Road
- Intersection improvements including better pedestrian signal button placement and signing
- Providing connections between the Capital City Trail and the Nine Springs corridor

The City of Fitchburg Bicycle and Pedestrian Plan (2017 update) classifies Fish Hatchery Road as a Primary Bike Route. According to the plan, *“Primary Bicycle Routes are the most useful and important in the city, providing connectivity and access to important destinations and to other route types. These are routes that are already being used heavily for commuting, recreation, and transportation by bicycle, and include routes that have been identified by the community as places they would like to ride safely and comfortably.*

*Not surprisingly, these are also routes that have been identified by the community as raising the most concern for the safety of bicyclists, and the comfort of drivers who share the road with bicyclists. The emphasis along these routes will be to provide a consistent network of off-street facilities (shared-use paths and protected bike lanes) or enhanced on-street facilities (buffered bicycle lanes), with conventional bicycle lanes only used where it is not possible to accommodate protected or separated facilities.”*

It also classifies the Fish Hatchery Road/Post Road intersection and the Fish Hatchery Road/McKee Road intersection as Primary Intersections. According to the plan, *“a variety of treatments may be considered for Primary Intersections (depending on specific context), including forward stop bars, high visibility cross walks, leading pedestrian interval signal improvements, loop detectors, cross walk signals, curb extensions, and attention to curb ramps.”*

The Bicycle Transportation Plan for the Madison Metropolitan Area and Dane County (2015) includes a Bicycle Level of Service (BLOS) for Fish Hatchery Road. The BLOS methodology produces a level of service letter grade A through F, with A representing the “best” bicycling conditions and F representing “worst.” The Fish Hatchery Road Corridor is shown as having the following BLOS:

- ‘F’ from Beltline to Greenway Cross
- ‘E’ from Greenway Cross to Post Road
- ‘D’ from Post Road to McKee Road/PD

### Public Input

The first public meeting for the Fish Hatchery Road project was held on August 22, 2018. Comments on bicycle and pedestrian facilities are as follows:

- Look into a mid-block crossing for the apartments to get to BP/Kelley’s market. ✓
- Improve the pedestrian crossing at Post Road, many kids walk from Valley View Apartments to Leopold Elementary.
- Provide bicycle and pedestrian access under Fish Hatchery Road through the box culvert at Nine Springs Creek. ✓✓
- Please improve the pedestrian crossing at High Ridge Trail. ✓
- Consider a roundabout at McKee Road and Fish Hatchery Road intersection that would allow bikes to use the full lane.
- Improve pedestrian and bicycle infrastructure (striping, countdown timers, etc.) ✓✓✓✓✓
- Extend or add a multi-use path. ✓
- Add pedestrian crossings at all intersections.
- Review shared bicycle and bus lane, it is scary to use.
- The successful reconstruction of FH RD would upgrade the infrastructure, improve the aesthetics of the corridor, make the entire span more pedestrian and bicycle friendly, and will

be accomplished with as little inconvenience to those living and working and traveling on the corridor.

- I strongly recommend a multi-use path to be constructed on one side of Fish Hatchery. There is no way to construct a bike path on Fish Hatchery road itself that meets standards of safety for either adults or youth. The multi-use path also Meets the goal of connecting neighborhoods as well.

(✓ = number of additional times an item was mentioned)

### Local and Regional Facilities

Adjacent to the project area, there are a variety of shared use paths, sidewalks, and bike lanes as well as low volume residential streets that are suitable for on-street bike use without dedicated lanes.

The Capital City Trail overpass over Fish Hatchery Road is located just north of the southern limits of the project. The Capital City Trail extends through the Capital Springs State Recreation Area east of the project area and continues east where it connects to the Baxter Park Spur Trail, the Lower Yahara River Trail and roadways suitable for on-street bike use. The Capital City Trail extends west of the project area where it connects to the Cannonball Path, Southwest Path, Badger State Trail, the Military Ridge Trail, and roadways suitable for on-street bike use. The Military Ridge Trail connects to the Military Ridge State Trail, which extends to Dodgeville and has connections to other trails like the Ice Age Trail, and trail spurs to Blue Mound State Park and Governor Dodge State Park.

The Nine Springs Golf Course is within the project limits south of the Traceway Drive intersection. Although the current use of this property is a golf course, the City of Fitchburg is considering other recreational opportunities at this facility. There is also consideration of a community center utilizing the property.

### Regulatory Considerations

Wisconsin Act 59 established in 62.22 (1) (b) that “The governing body of any city may not use the power of condemnation for the purpose of establishing or extending a recreational trail; a bicycle way, as defined in s. 340.01 (5s); a bicycle lane, as defined in s. 340.01 (5e); or a pedestrian way, as defined in s. 346.02 (8) (a). This should be kept in mind as part of the real estate acquisition evaluation.

## **IMPROVEMENT EVALUATION**

### Existing Facilities Evaluation

The existing facility types provide bicycle accommodations for the length of the project, but the bicycle lane and shared bus/bike/turn lanes do not meet the City of Fitchburg Bicycle and Pedestrian Plan (2017 update) strongly recommended facilities of shared-use paths and protected bike lanes or buffered bicycle lanes. The public input is that these existing facilities don't feel safe.

The existing facility types provide pedestrian accommodations for the length of the project. The sidewalk and shared use path provide appropriate pedestrian accommodations, but both the planning documents and public input include intersection improvement recommendations.

## Bicycle Facility Upgrade Considerations

### Facility Type

Providing the most comprehensive bicycle facilities would include a shared use path and protected bike lanes. A protected bike lane would require a 5' - 6' width adjacent to the gutter and a physical barrier like planters, curb, or posts (minimum of 3' with shy distance) between the bike lane and vehicular lane. The next step down would be a buffered bike lane which would require a 5' – 6' bike lane adjacent to the gutter and 3' wide pavement markings to delineate the buffered area. Due to the existing right-of-way width, the width needed for travel and turn lanes, and the regulations excluding condemnation for these facilities, the most comprehensive facilities are not considered realistic to include in this project.

Providing a shared use path on one side of the road would meet some of the planning recommendations and was recommended in some of the public comments. The existing sidewalk/shared use path would remain on the other side of the roadway.

### Real Estate Acquisition

The amount of real estate acquisition needed for a shared use path varies from the east to west side of Fish Hatchery Road. The existing shared use paths are different lengths on each side. In addition, there are varying number of properties, possible developments that could provide the opportunity for dedication of additional right-of-way, and properties that the project will already be acquiring real estate from for retaining walls as shown in **Attachment C: Shared Use Path Parcel Overview**.

On the east side, the existing shared use path ends at Cahill Main. Acquisition on the east side would include:

- Cahill Main to Post Road: Acquisition from 3 properties which are the DNR owned Capital Springs State Recreation Area, Sun Valley Apartments and one area that has ongoing development planning
- Post Road to Greenway Cross: Acquisition from 11 properties, 1 of which has ongoing development planning

On the west side, the existing shared use path ends at High Ridge Trail. Acquisition on the west side would include:

- High Ridge Trail to Post Road: Acquisition from 7 properties which include Nine Springs Golf Course, 1 parcel with ongoing development planning, and 5 properties that the project will already be acquiring real estate from for retaining walls
- Post Road to Greenway Cross: Acquisition from 9 properties, 2 of which have ongoing development planning

The area south of Post Road has a greater opportunity for the addition of a shared use path with the Fish Hatchery Road project due to time needed for and cost of real estate acquisition.

A future shared use path extension north of Post Road to Greenway Cross could be addressed as properties re-develop and provide the opportunity for dedication of additional right-of-way. A long-term shared use path extension further north could include working with WisDOT on improvements to accommodate a shared use path on the Fish Hatchery Road bridge over the beltline and

working with the City of Madison/Dane County to construct a shared use path from Fish Hatchery Road from the bridge over the Beltline to the intersection with Cannonball Path.

### Connectivity to Other Facilities

Facilities immediately adjacent to and surrounding the project area are shown in **Attachment D: Bike and Pedestrian Connections**.

On the east side, a shared use path from Cahill Main to Post Road would provide a connection via Post Road bike lanes to the to the Capital Springs State Recreation Area on the south and the Vue Apartments and the commercial area between Post Road, Fish Hatchery Road, the Beltline, and Highway 14 to the north. For surrounding facilities, it would provide a connection to the Capital City Trail via Post Road bike lanes and on-street bicycling on Syene Road. To the south, there are some residential areas that are connected to the existing shared use path network. The Capital City Path continues to the east, where the area is more rural.

On the west side, a shared use path from High Ridge Trail to Post Road would provide a connection to Nine Springs Golf Course where recreational opportunities and a community center are being considered. It would also provide a connection via Post Road bike lanes to the residential areas on the north and south, to Leopold Elementary School, and further east to the Arbor Hills neighborhood. For surrounding facilities, it would provide a connection to the Cannonball Path via Post Road bike lanes. From this intersection, the Cannonball Path travels north over the beltline to Madison and southwest through Fitchburg. To the north the area is urban and there are commercial and residential areas. Further north is downtown Madison. To the southwest, the area is urban and there are residential areas that are connected to the existing shared use path network.

### Constructability

The box culvert at Nine Springs Creek would have to be widened for a shared use path on either the east or west sides of Fish Hatchery Road. The box culvert is in good condition structurally and was originally constructed anticipating that the third cell could be used for a pedestrian underpass in the future. Due to limited overhead clearance, an underpass is not feasible. Any connectivity between the east and west sides and connectivity of the Nine Springs corridor will have to be at the roadway grade. When this culvert is replaced in the future, an underpass could be included, although a 4' – 6' elevation increase of Fish Hatchery Road would be needed at the culvert location. An overpass could also be considered in the future.

The retaining wall adjacent to the Fitchburg Dental Clinic/LSM Chiropractic (west side) is already close to the building, which does not have a basement. If a shared use path is constructed on the west side, the width may have to be reduced in this area to mitigate impacts to the foundation of the building.

### Cost

A shared use path on the east side of Fish Hatchery Road would be 0.4 miles longer due to the existing shared use path length so the construction cost would be higher.

A shared use path on the west side of Fish Hatchery Road would be 0.4 miles shorter due to the existing shared use path length so the construction costs would be lower.

### Intersection improvements

Intersection improvements will include:

- Curb ramps that meet ADA requirements
- Pedestrian signals at signalized intersections
- Crosswalk improvements at some intersections

The possible development on both sides of the road at the Traceway Drive intersection is anticipated to warrant a signalized intersection. With the development and the future consideration of recreational and community center use of the Nine Springs Golf Course, this intersection should be evaluated for a more bicycle and pedestrian focused intersection to encourage movement between the surrounding land uses and other regional connections. This could include a wider right-of-way dedication from either or both potential developments at that intersection. This intersection improvement would also provide an at grade connection just north of the Nine Springs corridor.

The pedestrian crossings occurring at the commercial plazas north of Post Road will be evaluated. Possible solutions include a fence in the median or other landscaping elements to deter crossing at this location.

### Compatibility with Proposed Fish Hatchery Road Typical Section

The proposed typical section of Fish Hatchery Road will generally keep the same three lanes in each direction configuration. The shared bus/bike/turn lane is being evaluated and may stay as a shared bus/bike/turn lane or may be converted to a third vehicular lane. If converted, some minimal on-road bicycle accommodation could be provided, like a wide outer lane, but would have to be evaluated. In either case, on-street bicycle accommodations will not be ideal.

## **CONCLUSIONS**

Construct a shared use path from on the west side of Fish Hatchery Road from High Ridge Trail to Post Road with the Fish Hatchery Road project. Include intersection upgrades throughout the project limits, including a bicycle and pedestrian focused crossing at Traceway Drive.

Considerations for future improvements include requiring additional right-of-way for a shared use path as redevelopment occurs on Fish Hatchery Road from Post Road to Greenway Cross

## **ATTACHMENTS**

Attachment A: Existing Bike and Pedestrian Facilities

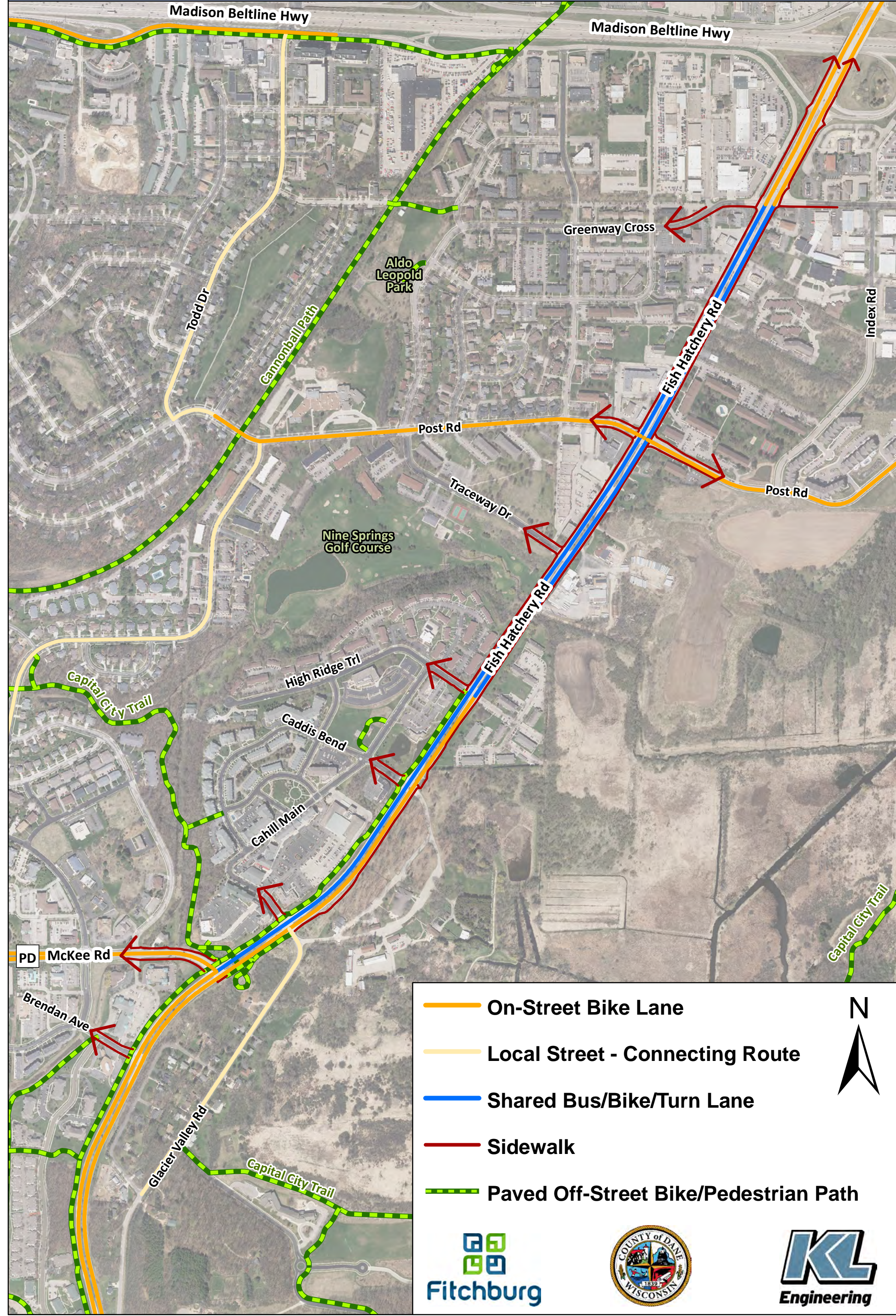
Attachment B: Planning Document Summary on Bicycle and Pedestrian Recommendations

Attachment C: Shared Use Path Parcel Overview

Attachment D: Bike and Pedestrian Connections

Additional supporting data available upon request includes the North Fish Hatchery Road Reconstruction Public Meeting #1 Notes and structure data for the box culvert over Nine Springs Creek.

# Attachment A - North Fish Hatchery Road Existing Bike and Pedestrian Facilities





## Planning Document Summary on Bicycle and Pedestrian Recommendations

### Fitchburg Bicycle and Pedestrian Plan (2008)

#### Bike and Ped Facility Guidelines

##### **Sidewalks - General (p. 7)**

###### Installation (p. 7)

- City staff shall continue to recommend that sidewalks be installed on both sides of the street, as an integral component of new developments along streets with urban cross-sections (p. 7)

###### Design (p. 8)

- Sidewalk design and construction shall continue to follow national guidelines published by the Transportation Research Board, the American Association of State Highway and Transportation Officials and the Institute for Transportation Engineers.
- Sidewalk design and construction should provide for pedestrian comfort and enjoyment by providing, where suitable, trees, planters, lighting, furniture and other pedestrian scale amenities.
- Sidewalk design and construction should utilize a zone system to provide pedestrian friendly sidewalks. The four distinct zones are the curb zone, the planter or furniture zone, the walking or pedestrian zone and the frontage zone.

##### **Streets - General (p. 8)**

- Where appropriate and possible, existing roads that were not designed for use by bicycles shall be improved to more safely accommodate bicycle traffic. Improvements may include bicycle-safe drainage grates, smooth pavement, adequate sight distance, and signal timing. In addition, more costly shoulder improvements shall be considered, when needed.

###### Design (p. 9)

- City staff shall consider implications for bicycle and pedestrian travel when they design street widths, corner radii, bus routes and bus stop locations.
- Arterial and collector streets shall, where possible, typically have on-road improvements that include bicycle lanes, wide outside lanes or shoulders, as well as urban interchanges, bicycle-safe railroad crossings, bicycle-actuated traffic signals and shoulders or bicycle lanes on bridges and underpasses.
- Where possible, barriers and hazards to bicycling shall be eliminated.
- Residential streets, because of their lower speeds and traffic volumes, shall only require improvements that include bicycle-safe drainage grates, proper sight distances at intersections and smooth pavement.

##### **Curb Ramp - General (p. 11)**

- City staff should provide curb ramps at intersections where they do not exist. (p. 11)

- When curb ramps are installed or reconstructed, City staff shall, whenever possible, design the street corner to be able to provide curb ramps that minimize the pedestrian crossing distance and permit all pedestrians to be able to negotiate the curb ramp perpendicular to its slope.
- City staff shall research a suitable methodology for evaluating accessibility of curb ramps, so curb ramps that are inadequate can be identified and replaced during street and/or sidewalk reconstruction.

#### **Curb Radius - General (p. 11)**

- City Staff shall increase emphasis on bicycle and pedestrian issues when designing curb radii for street corner designs. (p. 11)
- City staff shall recommend turn lanes and interchanges to be designed with right angle on-ramps and off-ramps, to accommodate safe bicycle and pedestrian safety. (p. 11)

#### **Traffic Calming - General (p. 11)**

- City staff shall consider such goals as slowing vehicular traffic, shortening pedestrian crossing distances, drawing attention to pedestrian crossings, and enhancing the visual environment. (p. 11)
- City staff shall evaluate the potential effectiveness and suitability of traffic calming methods, including enforcement and education, as well as methods of engineering to enhance bicycle and pedestrian travel. (p. 11)

#### Curb Bump Outs (p. 12)

- City staff shall consider installing curb bump outs (aka curb extensions) at crossings with high pedestrian volumes in order to enhance the pedestrian crossing through improved visibility reduced motor vehicle speeds and shortened crossing distances. (p. 12)
- City Engineering shall continue to design bump outs according to WisDOT and AASHTO guidelines. (p. 12)

#### Refuge Islands (p. 12)

- City staff shall consider where installing refuge islands will improve bicycle and pedestrian accessibility, convenience and safety. (p. 12)

#### **Crosswalk Marking - General (p. 12)**

##### Design (p. 12)

- City staff should work with the visually impaired community to improve crosswalk and intersection designs, including consideration of audible pedestrian signals to facilitate the ability to safely and conveniently cross streets. (p. 12)

##### Mid-Block Crosswalks (p. 13)

- City staff shall consider the advantages of installing mid-block crosswalks to
- improve bicycle and pedestrian accessibility and safety. (p. 13)

#### **Grade Separated Crossing – General (p. 13)**

- City staff shall consider grade-separated crossings in locations where there is a high volume of pedestrians and pedestrians are likely to perceive the additional effort required to use the overpass or underpass as beneficial. (p. 13)

- City staff shall continue to consult State and national guidelines for designing grade-separated crossings. (p. 13)

#### **Traffic and Crossing Signals – General (p. 14)**

- City staff should work with bicycle and pedestrian advocates to review bicycle and pedestrian concerns about signals and make recommendations for improving bicycle and pedestrian safety and convenience through adjustments to signal timing. (p. 14)
- City staff shall research bicycle detectors and pedestrian push button placement and make recommendations about modifying guidelines for detection and pedestrian push button systems that will improve bicycle and pedestrian accessibility. (p. 14)

#### **Transit Connection – General (p. 14)**

- City staff shall determine where sidewalks and bus pads are missing along bus routes and develop priorities for locating sidewalks and bus pads in these areas to improve pedestrian access to the transit system. (p. 14)
- City staff shall develop strategies for improving how bus pads and shelters are provided to improve accessibility to the transit system. (p. 14)

#### **Bike Recommendations**

##### **Fish Hatchery Road/CTH D (p.24-27)**

- An asymmetry of the bike lane designation north of McKee Road, along Fish Hatchery, could lead to confusion by both bicyclists and motorists.
- On the southbound side, the bike lane designation continues as far south as Cahill Main; however, on the northbound side, the bike lane designation does not begin until about High Ridge Trail - about ½-mile north of Cahill Main.
- It would be better to have them match up and even more preferable to have both sides extend to Lacy Road and further south, as future road improvements occur.
- Lane stripes should be modified to remain parallel to the centerline at intersections along Fish Hatchery Road, with dashed striping through the merge area of the intersection. In addition, “yield to bike” signs should be installed.

#### **Pedestrian Recommendations**

##### **Bowman Plaza and Fitchburg Ridge Plaza (p.53)**

- The two commercial plazas are near each other along Fish Hatchery Rd and Post Road. There have been at least two pedestrian crashes resulting from visits to the Plaza. According to police reports, while attempting to cross Fish Hatchery Rd at a non-intersection location near Bowman Plaza, pedestrians were struck while failing to yield to motor traffic. The crossing at Post Rd has crossing signals and a pedestrian crossing button, but Post Rd is about 500 feet south of the most direct crossing point for residents of Valley View Apartments at 2925 Fish Hatchery Rd. Without a perceived good reason, it is perhaps human nature to try to cross for convenience, even if it may be unsafe.
- A pedestrian crossing signal should be provided for Post Rd and a study should be conducted to determine the need for signaling Traceway at Fish Hatchery Rd. The crossing signal button at Post and Fish Hatchery should be moved, so that it is within reach of the walkway.

##### **Hatchery Hill Area (Cahill Main) (p. 54)**

- Intersections along Fish Hatchery Road should have warning signs informing drivers of a bike crossing.
- In addition, a study should investigate the feasibility of moving the path crossings away from the intersections, so that drivers are not attempting to turn onto Fish Hatchery Road, while at the same time crossing the path.
- The option of moving the path away from the intersection may not be recognized by AASHTO standards; however, it is an option that is recognized by the Wisconsin Bicycle Facility Design Handbook.
- If moving a path crossing is not practicable, other options to consider include providing a raised crosswalk, a flashing light and/or warning signs that indicate the need to watch for bikes and pedestrians on the shared-use path.

#### **Commercial Area along Greenway Cross and Fish Hatchery Road (p. 60)**

- This area has a number of commercial businesses including restaurants and banks. It is also just south of the Madison redevelopment area. Sidewalks are along all Fitchburg streets in the area, except for along Coho, north of Greenway Cross.
- Sidewalks are recommended along Coho, north of Greenway Cross, to connect to the Madison redevelopment area.

#### **Fish Hatchery at Greenway Cross Intersection (p. 61)**

- This is an important pedestrian crossing because of the commercial businesses in the area. At the southeast corner of the intersection, the pedestrian crossing button is located on the terrace, unreachable from the pavement.
- Also, a shrub is poorly suited to the limited clearance along the sidewalk and restricting the sightlines around the corner. Although it has been pruned in the past, it will continue to be a problem.
- The intersection of Fish Hatchery Road and Greenway Cross is within the jurisdiction of the City of Madison, Town of Madison, City of Fitchburg and Dane County. Therefore, Fitchburg should coordinate work with all of the jurisdictions to provide the recommended facility improvements.
- The crossing button should be moved, to allow pedestrians to activate it without leaving the walkway. Also, the shrub should be replaced with a smaller species.

# City of Fitchburg Bicycle and Pedestrian Plan (2017 update)

## Bike and Ped Facility Guidelines

### Bike Lanes - General (p. 44)

- Bicycle lanes may be located adjacent to curbs or on-street parking.
- Shared bicycle/parking lanes are discouraged
- In Fitchburg, a typical and recommended bicycle lane is 6 ft. wide, which includes a 2 ft. wide gutter pan.
- Where possible, bicycle lanes in Fitchburg are not adjacent to on-street parking. Where bicycle lanes are adjacent to on-street parking, bicycle lanes should be placed outside of the door zone to prevent the risk of dooring incidents.

### Buffered Bike Lanes - General (p. 44)

- Buffered bicycle lanes are conventional bicycle lanes that include an additional painted buffer space for increased separation between people bicycling and people driving.
- Buffers should be a minimum of 2 ft wide. Wider buffers with cross-hatching are recommended as space allows to further separate people bicycling from motor vehicle traffic, and to increase user comfort.
- If on-street parking is present and space allows, an additional painted buffer may be provided between the bicycle lane and on-street parking to reduce the risk of dooring incidents.

## Bike and Ped Facilities and Network Matrix (p. 46)

Pedestrian Network	Bicycle Network	Route Type	Shared Use Paths	Neighborhood Slow Street Traffic Calming	Bicycle Lanes	Buffered / Protected Bicycle Lanes / Cycletracks	Shared-Lane Markings	Paved Shoulders
	✓	Primary Bike Routes	S	C	R	S		R**
	✓	Neighborhood Bike Routes	C	S	C		R	
✓	✓	Scenic Recreational Trails	S					

S = Strongly Recommended	R = Recommended	C = Considered
* Not applicable to existing neighborhoods as identified in Figure 3.5 herein		
** Recommended only in rural areas of Fitchburg		

### Primary Bicycle Routes

Primary Bicycle Routes are the most useful and important in the city, providing connectivity and access to important destinations and to other route types. These are routes that are already being used heavily for commuting, recreation, and transportation by bicycle, and include routes that have been identified by the community as places they would like to ride safely and comfortably.

Not surprisingly, these are also routes that have been identified by the community as raising the most concern for the safety of bicyclists, and the comfort of drivers who share the road with bicyclists. The emphasis along these routes will be to provide a consistent network of off-street facilities (shared-use

paths and protected bike lanes) or enhanced on-street facilities (buffered bicycle lanes), with conventional bicycle lanes only used where it is not possible to accommodate protected or separated facilities. Primary Bicycle Routes overlap existing on- and off-street facilities, and integrate with the existing shared use trail and path network. These routes are intended to be of the highest priority for improvements, maintenance, and safety.

Where possible, upgrading paved shoulders to enhanced on-street facilities or shared-use paths is a long-term vision for these routes.

See Figure 3.2 for Primary Bicycle Routes, as shown within the Draft Bicycle Route Network.

### **Neighborhood Bicycle Routes**

Neighborhood Bicycle Routes will connect bicyclists within neighborhoods and also connect neighborhoods

to the Primary Bicycle Routes. These routes will provide closed loops for shorter recreational rides within neighborhoods at locations with lower motor-vehicle traffic volumes (daily traffic of 3,000 or less), and also provide connections to community destinations like parks and schools. The emphasis along these routes is to increase awareness for the presence of bicyclers and to provide a consistent network of on-street facilities (Neighborhood Slow Streets, bicycle lanes, sharrows), as well as to connect to existing off-street facilities (shared use paths and trails) throughout neighborhoods.

See Figure 3.3 for Neighborhood Bicycle Routes, as shown within the Draft Bicycle Route Network.

### **Scenic Recreational Trails**

Scenic Recreational Trails represent conceptual long-term vision for connecting the rural areas of Fitchburg through a network of scenic, off-road trails. These routes could potentially coincide with the long-term vision of the Comprehensive Parks, Open Space and Recreation Plan, and could potentially replace or compliment portions of the Primary Bicycle Routes in the future.

#### **Bike Route Network (maps, p. 49-51)**

- Fish Hatchery Road shown as 'Primary Bike Route'
- Fish Hatch/Post Road shown as 'Primary Intersection'
- Fish Hatch/McKee shown as 'Primary Intersection'
- Post Road shown as 'Primary Bike Route'
- Greenway Cross, Coho Street, Traceway Drive, High Ridge Trail shown as Neighborhood Bike Routes

#### **Network Recommendations for Bicycling (p. 48)**

- Mark bicycle lanes across right-turn lanes and through intersections by marking them with green paint where appropriate.
- Install chevrons and dashed lines across intersections where appropriate.
- Install signage at conflict points where appropriate to alert drivers of the presence of bicyclists.
- Establish guidelines for installing medians or raised crosswalks at trail crossings and intersections.

- Install bicycle signal detection including loop detectors or camera detection along bikeways when signals are installed or majorly updated.

#### Network Recommendations for Pedestrians (p. 53)

- A variety of treatments may be considered for Primary Intersections (depending on specific context), including forward stop bars, high visibility cross walks, leading pedestrian interval signal improvements, loop detectors, cross walk signals, curb extensions, and attention to curb ramps.
- Encourage street trees, vegetative buffers, and street furnishings to control stormwater and provide shade.
- Allow for facilities that enhance the pedestrian environment including pedestrian scaled lighting, public art, wayfinding, plantings, etc. especially in areas identified as Pedestrian Activity Areas
- Accommodate commercial activities that invite walking and add activity and interest to the area.
- Reduce unsafe crossing behavior by providing safe, marked opportunities for people walking or bicycling to cross the street at least every half-mile along minor arterials, and every quarter-mile in neighborhoods and adjacent to commercial or retail development, schools, parks, and along transit routes.
- Install ADA-compliant curb ramps at all marked and unmarked crosswalks.
- Establish guidelines for use of raised crosswalks and median refuge areas for crossing areas (See Infrastructure Toolkit in Appendix A)
- Increase installation of curb extensions where possible, including neighborhoods and where on-street parking is permitted.
- Design intersections with the minimum allowable turning radii to slow traffic speeds, to allow perpendicular curb ramps to be positioned parallel to crosswalks and perpendicular to curb, and to shorten overall crossing distance.
- Design channelized turn lanes and median refuges with attention to bicycling and walking movements.
- Avoid multiple turning lanes when possible.
- Implement advanced stop bars to deter motorists from encroaching into crosswalks when stopped.
- Continue updating pedestrian crossing signals to countdowns until all units have been converted.
- Test new user-activated technologies for traffic control including Rapid Rectangular Flashing Beacons (RRFB), Pedestrian Hybrid Beacon (PHB or HAWK), and others.
- Consider implementation of Leading Pedestrian Intervals.
- Ensure that clearance intervals are properly timed.

## North Fish Hatchery Road Opportunity Analysis & Concept Planning (2003/2004?)

### General Goals (p. 1-1)

- Provide for safe multimodal access.
- Enhance pedestrian use and safety.
- Create a visually appealing, inviting and sustainable image for the corridor.
- Unify, connect and integrate the neighborhoods with the business district.

### Transportation Opportunities (p. 2-2)

The following opportunities should be considered to improve north Fish Hatchery Road as a multimodal transportation corridor and as a pedestrian-friendly and walkable neighborhood business district.

4. The low density of development or undeveloped land surrounding many of the commercial areas provides opportunities for alternative streets to the rear of businesses along both sides of north Fish Hatchery Road. These streets or alleys would alleviate pressure on North Fish Hatchery, eliminate multiple access points, **provide an alternative north-south bicycle connection** and safe and convenient access to parking at the rear of businesses.
5. If the Bowman properties develop, incorporate linkages between this corridor and the regional trail and greenway system by providing connections to the Capital City Bicycle Trail and the Nine Springs E-Way. These linkages should add value to the Bowman properties as well.

### Opportunities Plan 'Map' (Map 2-1)

This map shows the following Bike/Ped 'opportunities' for the Fish Hatch Corridor:

- Safe and attractive crossings at intersections (Post Road and Fish Hatch)
- Connection with Capital City Bike Trail through the Nine Springs Golf Course and the Nine Springs E-Way.
- Extend off-street bike trail from Hatchery Hill to Greenway Cross

\*\*This plan is more geared toward economic development, design guidelines, aesthetics, etc. Transportation goals are included, but there is not much on specific bike/ped recommendations.\*\*



## City of Fitchburg Comprehensive Plan (2009)

The City of Fitchburg Comprehensive Plan was adopted in 2009, and has a number of amendments through 2015. The Transportation Element reviews the existing road networks and classifications, traffic counts, commute patterns, and specifies minimum right-of-way dimensions for roadways in Fitchburg.

### **Specific recommendations related to bicycle and pedestrian facilities include the following:**

- All new land divisions along streets with urban cross sections should provide sidewalk on both sides of the street. (City Ordinance 93-0-23)
- The City should continue to implement its sidewalk installation policy by completing the sidewalks along retail commercial and other major traffic generators
- Pedestrian ways of not less than ten feet in width may be required near the center and entirely across any block over nine hundred feet in length where deemed essential by the Plan Commission to provide adequate pedestrian circulation or access to schools, shopping centers, churches, or transportation facilities.
- Street reconstruction should include bicycle lanes on those streets designated as local collector streets.
- City bicycle routes should be linked with routes in the surrounding communities.
- Other collector streets not scheduled for reconstruction on the Bicycle Trail System should be striped for bicycle lanes.
- Parking may need to be restricted along narrower streets on the Bicycle Trail System.

## Arbor Hills Leopold Neighborhood Plan (2013)

Improve Safety and Efficiency of Transportation (p. 52)

### Recommendations and Strategies

- Improve pedestrian and bicycle safety between northern Fitchburg and Fitchburg City Center; develop directional signage for bike route; mark high visibility crosswalk at Caddis Bend Road, flashing pedestrian signal, pedestrian refuge islands; consider widening sidewalk on east side of Fish Hatchery Road between Caddis Bend and extending to marked bike lanes on Glacier Valley Road.

Enhance Parks, Recreation and Open Space (p. 66)

### Recommendations and Strategies

- Create safer, well-marked pedestrian and bicycle routes to access Fitchburg's recreation destinations such as McKee Farms Park and other City of Fitchburg Parks; include way finding signage, continuous sidewalks, bike lanes, high visibility crosswalks, bump outs, pedestrian refuge islands, flashing pedestrian lights.
- Explore possibilities for planting additional trees along street terraces in North Fitchburg between High Ridge Trail and Post Road.

## Bicycle Transportation Plan for the Madison Metropolitan Area and Dane County (2015)

### Urban Bicycle Level of Service (p. 41)

Measuring the performance of the bikeway system today is important for identifying needs and improvements. The *Highway Capacity Manual* (Transportation Research Board, 2010) provides a methodology for determining the level of service (LOS) on bicycle facilities as well as other modes. Bicycle Level of Service (BLOS) estimates how bicyclists are likely to perceive their level of safety and comfort based on roadway geometry and traffic flow patterns. BLOS calculations are available for urban streets, rural roads, intersections, and shared-use paths. BLOS was only calculated for urban streets because the calculations are feasible with readily available information. Intersection BLOS is something that could be calculated and used to aid in a street reconstruction design project.

The BLOS methodology produces a level of service letter grade A through F, with A representing the “best” bicycling conditions and F representing “worst.” LOS can be calculated for “links” (sections of roadway between intersections), intersections, and “segments” (a combined score taking into account link score, intersection score, and other factors). However, the data needed for calculating intersection and segment score is beyond the capabilities of this regional plan.

\*\*The Fish Hatchery Road Corridor is shown as having the following BLOS:\*\*

- ‘F’ from Beltline to Greenway Cross
- ‘E’ from Greenway Cross to Post Road
- ‘D’ from Post Road to McKee Road/PD

Post Road is shown as BLOS ‘A’ east of Fish Hatchery Rd; ‘B’ west of Fish Hatchery Road.

Greenway Cross is shown as BLOS ‘C’ east of Fish Hatchery Road.

# Regional Transportation Plan 2050, Madison Area Transportation Planning Board (2017)

Key Recommendations (p. v)

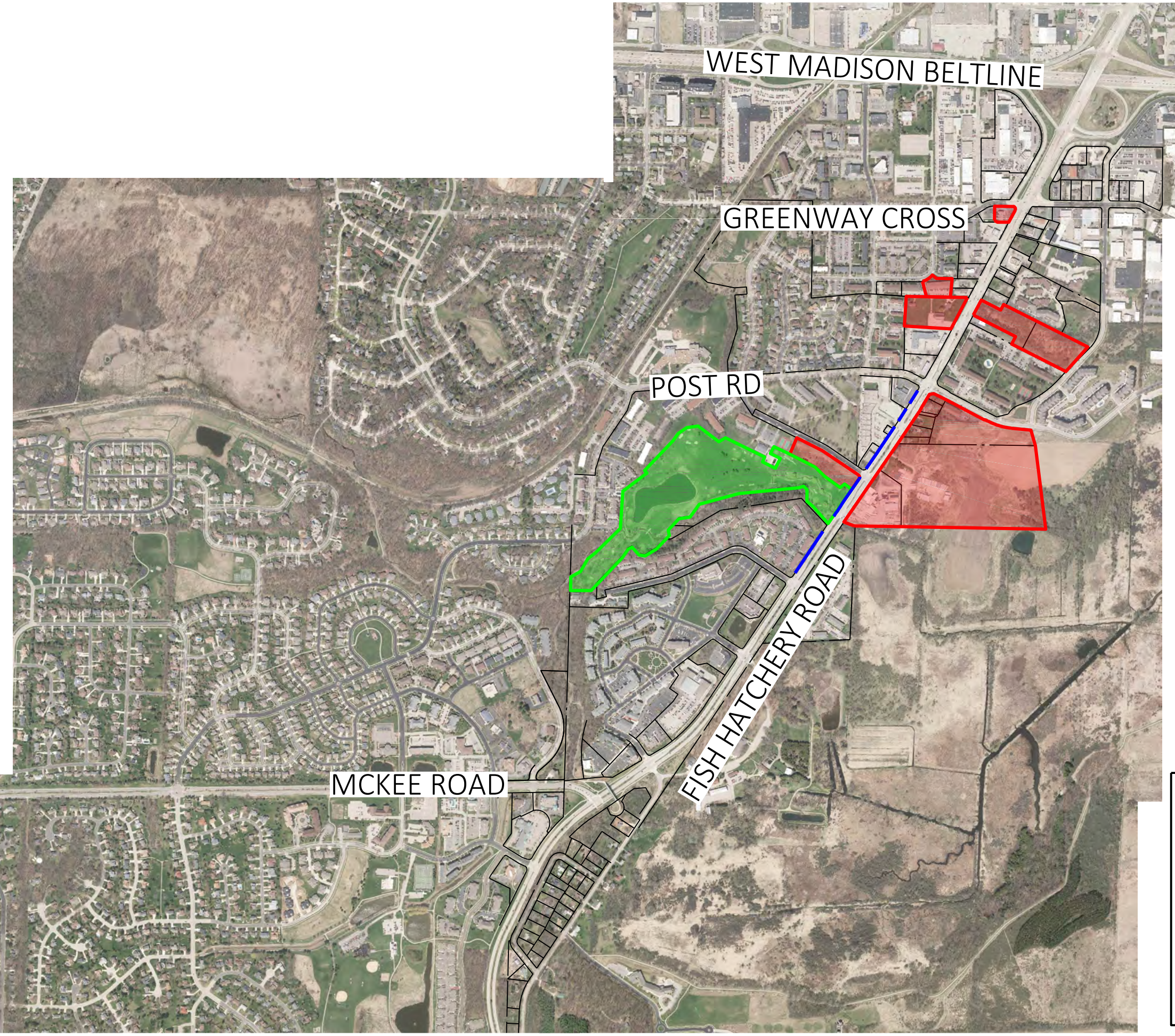
## **Bicycles**

- Expand the bikeway network with new shared-use paths and on-street facilities.
- Maintain and modernize existing bicycle facilities.
- Eliminate bicycle barriers and hazards in the bikeway network.
- Provide adequate bicycle parking.
- Improve bicyclist safety through a “3-E” approach.
- Continue bike share, education, and bicycle supportive policies.

## **Pedestrians**

- Provide sidewalks and appropriate pedestrian amenities in developing neighborhoods.
- Retrofit regional streets with modern, safe pedestrian accommodations.
- Improve safety and usability for pedestrians at intersections and crossings.
- Maintain sidewalks and pedestrian facilities for year-round use.
- Design new streets and retrofit existing streets to reduce speeding.

\*\*This plan has many very broad policy recommendations, but not much on localized recommendations for specific roadways or specific areas.\*\*






Attachment C



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**LEGEND**

-  PLANNED DEVELOPMENT AREAS
-  NINE SPRINGS GOLF COURSE
-  EXISTING RETAINING WALLS

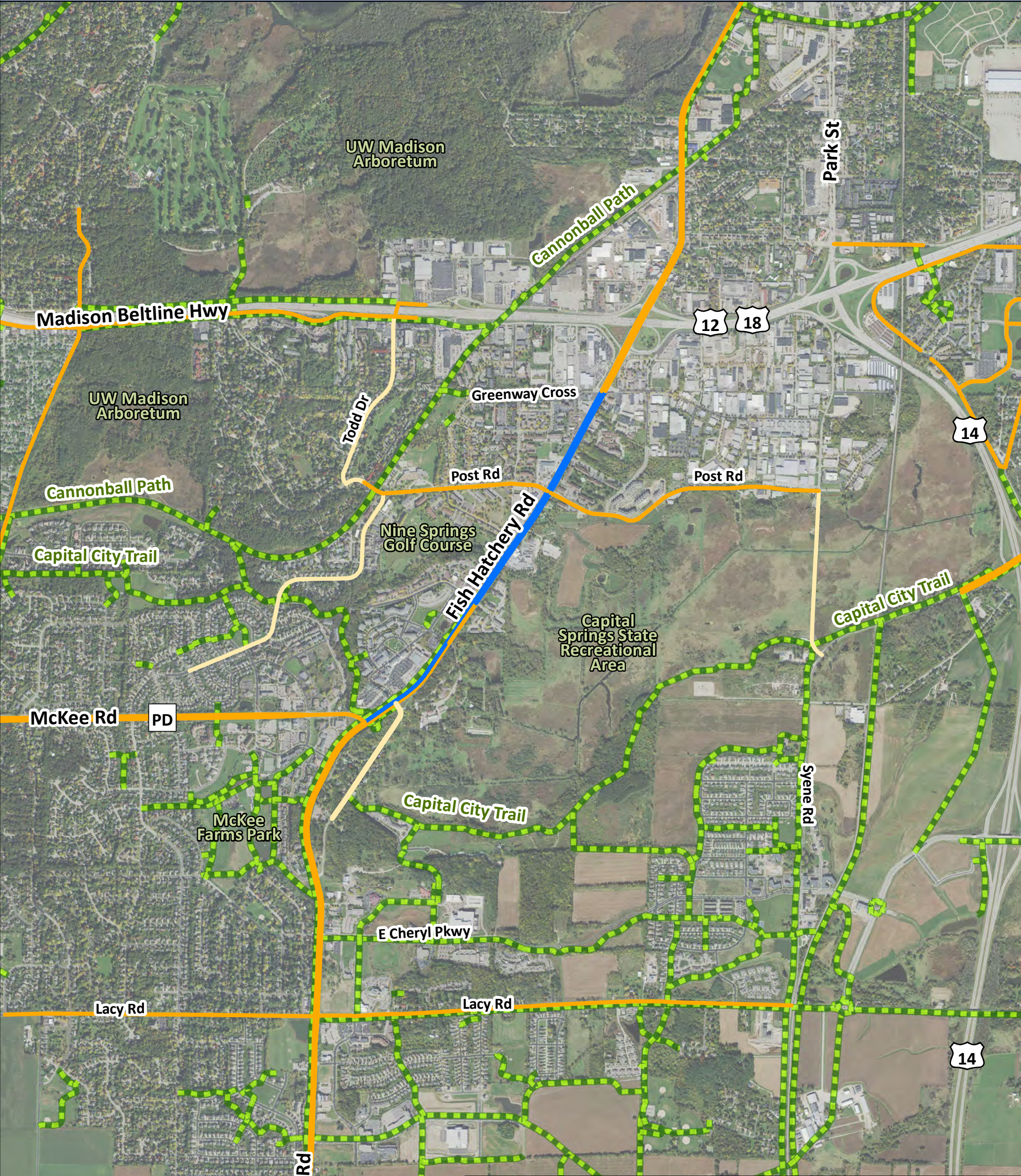
CITY OF FITCHBURG  
 SHARED USE PATH PARCEL OVERVIEW





Project No: 19-3488  
 Date: 09-05-2018  
 Designed By: LMW  
 Drafted By: JAL  
 Checked By: XXXX

Revisions: XX-XX-XXXX  
 SCALE, FEET  


SHEET NO.  
 1 OF 1

# Attachment D - North Fish Hatchery Road Bike Connections



-  On-Street Bike Lane
-  Local Street - Connecting Route
-  Shared Bus/Bike/Turn Lane
-  Paved Off-Street Bike/Pedestrian Path

