

# Rock County Wisconsin Bicycle Map



## BELOIT TO JANESVILLE BICYCLE ROUTE CORRIDOR PLAN AND FEASIBILITY STUDY

Rock County, WI

February 2012







Afton Road existing on-street bicycle lanes and signage near Dawson Avenue in Beloit.

ACKNOWLEDGMENTS

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**Town of Rock**

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Off-road side-path in the City of Beloit.

The following memorandum summarizes the process, findings and recommendations of the Beloit to Janesville Bicycle Route Corridor Plan and Feasibility Study. The City of Beloit, on behalf of the Rock Trail Coalition, retained SAA Design Group, Inc. (SAA) to prepare a bicycle corridor master plan and feasibility study which (among other things) identifies the most logical and feasible route between the southern terminus of the Peace Trail in the City of Janesville and the northern terminus of the City of Beloit's trail network on the west side of the Rock River at U.S. Pride Park. This planning study evaluates and explores options for a designated bicycle connection between the two cities and provides a phased approach to the implementation of this critical and long-awaited regional connection. It is important to note that the following recommendations are not intended as final plans but rather as guidelines that will require further investigation, more detailed planning and engineering, and public input prior to implementation.

**PLEASE NOTE: Figures referenced in this report are attached at the end of this document.**

PLANNING AREA

Figure 1 illustrates the planning area for the Beloit - Janesville Bicycle Route project in the context of Southern Wisconsin's regional bicycle network, and Rock County in particular. While the planning area includes lands within both the City of Beloit and the City of Janesville, much of the planning area lies between the two cities, within Town of Rock and the Town of Beloit. The study considers optional route alignments within the planning area which traverse existing roadways and rights-of-way as well as unimproved lands in both public and private ownership. Of particular note, the planning area includes former right-of-way for the Chicago and Northwestern Railroad - most of which reverted to land owners in the 1970s - providing a unique "rails to trails" opportunity.

The study area is bordered to the south by Maple Avenue in the City of Beloit, to the west by South Afton Road/County Highway D, to the east by the Rock River, and to the north by Tripp Road in the City of Janesville. The north and south project limits are existing city-wide trail termini in the City of Janesville and the City of Beloit, respectively, with the Janesville system providing regional linkage to the Glacial River State Trail, and the Beloit system providing connections to Winnebago County, Illinois' bicycle network. The linear distance between the north and south ends of the study area spans approximately nine miles and provides a cross section of southern Rock County's landscapes: wetlands, shorelines, river bluffs, vibrant neighborhoods, agricultural fields, and healthy communities. Figure 2 illustrates the existing conditions of the planning area.

TRAIL TOURISM

One anticipated benefit of the development of a dedicated bicycling route between Beloit and Janesville is the enhancement of the economic viability of all of the communities the route touches. Businesses in Beloit, Janesville, and Afton all stand to benefit from the increased interest and traffic that the proposed route is sure to generate. National studies show that 43% of vacationers cite bicycling as an important factor in selecting a destination. In Wisconsin, there is substantial, documented evidence that a recreational, multi-use trail provides communities with an economic shot in the arm. Some examples include:

- Chequamegon Area Mountain Bike Association (CAMBA) trail users add

\$1,174,100 to the local economy annually.

- Peak season hotel rooms along the Elroy-Sparta Trail are booked up to a year in advance. Visitors traveled an average of 228 miles to use the facility.
- Wisconsin boasts more bicycle trails per capita than any other state in the Union. Hundreds of thousands of Wisconsin residents of all ages take to the road on bicycles each year, generating an economic impact estimated as high as \$834 million.

Obviously this phenomenon is not unique to Wisconsin, and communities across the nation that boast recreational trails realize an economic benefit. Multi-community trails - such as the proposed Beloit - Janesville trail - not only connect communities, they also provide opportunities for businesses to flourish with a nearly constant flow of visitors and patrons. One example, the Katy Trail in Missouri, connects 35 towns of varying sizes. Restaurants, bed and breakfasts, antique dealers, bicycle rental shops, and campgrounds serve hundreds of thousands of visitors each year and realize over 6 million dollars in local revenue.

While recognizing the economic potential of a multi-community trail is obviously not the same as actually capturing an economic impact, the three main communities (and the business owners who stand to be) most impacted by this plan - Beloit, Afton, and Janesville - are poised to work as partners to see that the Beloit-Janesville bicycle route provides communities and riders alike with the maximum recreational, cultural, and economic enjoyment possible.

Locally-owned businesses have been supportive of the proposed trail, and promise to serve as unique destinations along the route.







Riders on CTH D/Afton Road in the Town of Rock

PAST STUDIES

Several previous planning studies for this area were reviewed during the planning process including the Stateline Bicycle and Pedestrian System Plan for the Stateline Area Transportation Study (SLATS, the Metropolitan Planning Organization for the Beloit area) (Vandewalle & Associates, 2011), the Rock County Parks, Outdoor Recreation, and Open Space (POROS) Plan (Design Perspectives, 2009), the City of Janesville, the Town of Beloit Comprehensive Outdoor Recreation and Parks Plan (Batterman, 2009), and the Comprehensive Smart Growth Plans for each of the impacted communities.

PROJECT GOALS

The planning area is situated almost entirely in the gap between the City of Beloit and the City of Janesville in southern Rock County, Wisconsin. Similarly, this geographic gap coincides with a critical gap in the regional bicycle and recreation systems not only within Rock County but also beyond its borders into northern Illinois and south central/south eastern Wisconsin. Therefore, this Plan serves the crucial purpose of bringing local municipalities, the county, private landowners, and Rock County's residents together to identify the preferred and most feasible option for addressing and filling in this "missing link" in the region's bicycle network.

The following goals were identified for the master planning process:

- Connections to local/regional parks and open space.
- Improve regional connections.
- Environmentally sensitive route options.
- Development of off-street facilities (where possible) to allow access for riders of various abilities/comfort levels.
- Linking housing and employment centers via multimodal transportation.
- Accessibility for bicycle commuting to local business districts in Afton, Beloit, and Janesville.
- Provide a process for public input and comment.
- Fulfilling the mission of the Rock Trail Coalition

PUBLIC PROCESS

The Beloit-Janesville Bicycle Route Corridor Master Plan and Feasibility Study was prepared with input from staff and officials for each of the communities and the county, the Rock Trail Coalition, private landowners, and Rock County residents and businesses.

The following outline summarizes the public process for the Beloit - Janesville Bicycle Route Corridor Master Plan and Feasibility Study:

**October 3, 2011**

- Kick-off meeting
- Corridor tour with Rock Trail Coalition
- Discussion of past efforts
- Presentation of Opportunities and Constraints

**November 10, 2011**

- Public informational meeting
- Project overview/goal-setting
- Present process and preliminary findings
- Gather public input

**November 29, 2011**

- Opportunities Workshop
- Presentation of route alternatives to the Rock Trail Coalition
- Discussion of opportunities for Leadership Development Academy

**December 2011 - January 2012**

- Town of Beloit engagement (Town Board of Supervisors)
- Discuss route alternatives with Town of Beloit at public meetings
- Resolution of support approved January 23, 2012

**January 26, 2012**

- Discussion of plan recommendations with Rock Trail Coalition
- Update on local resolutions of support

**February 6, 2012**

- Town of Rock engagement (Town Board of Supervisors)
- Discuss route alternatives with Town of Rock at public board meeting
- Resolution of support approved February 6, 2012

**February 14, 2012**

- Rock County engagement (Parks Committee and County Board)

**February 23, 2012**

- City of Beloit parks committee engagement

**March 19, 2012**

- City of Beloit Common Council resolution of support

**March 26, 2012**

- City of Janesville resolution of support



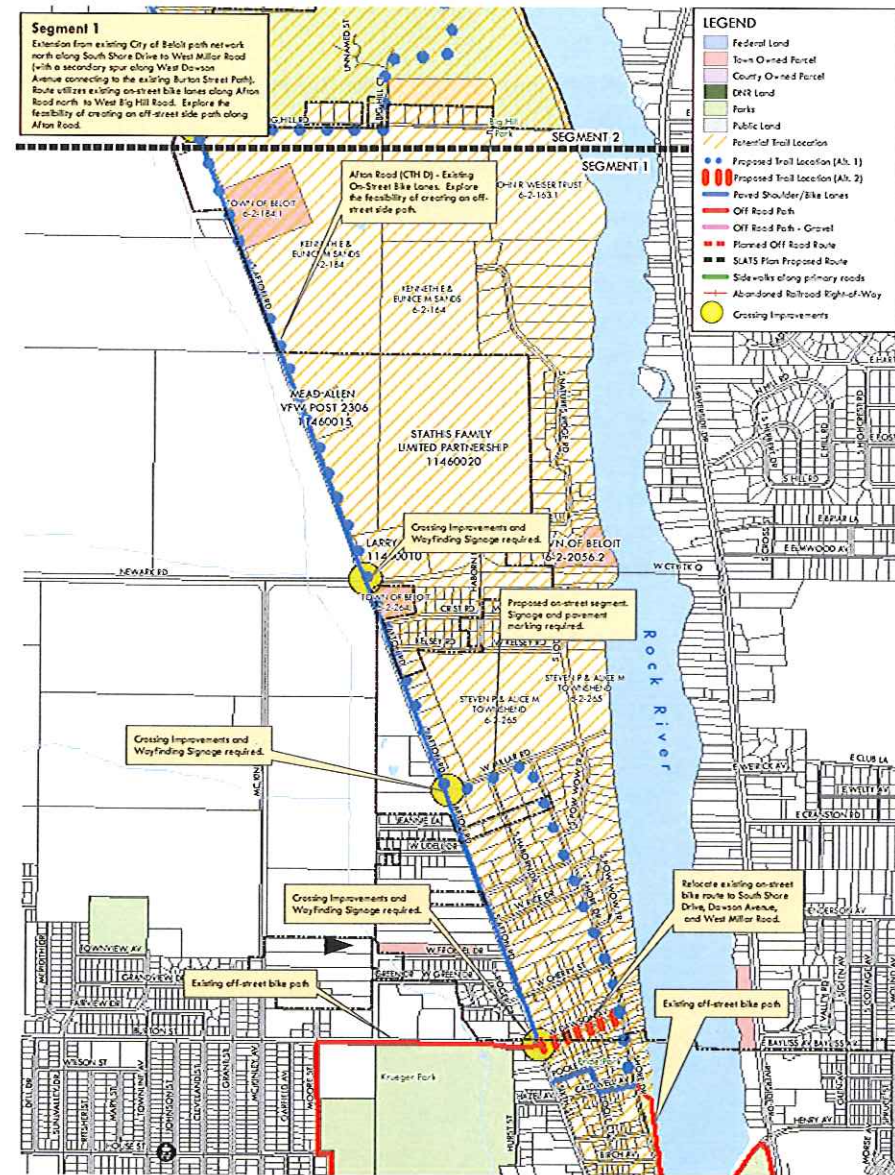


Existing on-road segment in the Town of Beloit.



Footbridge over the Rock River in the City of Beloit. This is a segment of the 5th Street Trail running from the Wisconsin-Illinois State Line to Krueger Park.

The vision for the Beloit - Janesville Bicycle Route is to provide a regional bicycling and recreation connection focused on Rock County's natural and cultural heritage, specifically celebrating the Rock River and associated environmental corridors as a unique ecosystem with local and regional significance. The establishment of this corridor will enhance the quality of life of current and future Rock County residents and diversify opportunities for recreation and tourism within the region. Additionally, the development of this corridor will have a positive economic impact for the communities it connects and passes through, particularly the charming hamlet of Afton located roughly halfway between the Tripp Road trailhead and Big Hill Park. Finally, development of the Janesville-Beloit Bicycle Route demonstrates the continued commitment of Rock County, The City of Beloit, the City of Janesville, the Town of Rock, and the Town of Beloit to sustaining and enhancing the unique experience one enjoys as a resident, business, and/or visitor to the region.



**Big Hill to Krueger Link (Segment 1)**

Segment 1 offers bicycle connection from Krueger Park on the City of Beloit's West Side to Big Hill Park on the City's north side via a combination of on-road and off-road routes. Segment 1 begins with a new on-street connection on South Shore Drive to the existing City of Beloit path network currently terminating at Caldwell Avenue/Reverend U.S. Pride Park. The on-road route continues north to Millar Road, where it turns west to connect to a proposed side-path (heading north) or existing on-street lanes (heading south) at Afton Road. Additionally, Segment 1 includes an on-road spur at West Dawson Avenue (from Shore Drive to Afton Road) to meet with an existing city trail at Burton Street which provides off-road connection to and through Krueger Park. The Dawson Avenue jog is proposed to replace an existing on-road "zig-zag" route using Caldwell Avenue and Poole Court between Shore Drive and 6th Street (Afton Road/CTH D in the City of Beloit). The Dawson route is preferred as it provides the rider with a straight line connection to the Burton Street side path and altogether avoids riding on 6th Street. Segment 1 effectively completes a connection from Big Hill Park at the City's northern edge to the Wisconsin - Illinois State Line (at Shirland Avenue/Beloit Transit Center), and provides for access to a number of local landmarks along the way.

While Afton Road (County Highway D) is currently improved with on-street signage and pavement markings designating it as a bike route, an off-street side path on the east side of Afton Road is a preferred option from W. Big Hill Road to W. Millar Road. The lack of separation between motor vehicles and bicycle facilities on Afton Road likely presents an impediment to heavier use of this route by bicycles. Concerns from riders who have used the Afton Road bike lanes included speeds of motorists, broken glass and other debris, and in some cases roadkill being impediments to using the on-street lanes. This path would supplement the on-street lanes to provide an alternative option for less experienced bikers or those who prefer a dedicated route.

In addition to the Afton Road side path, several signage and crossing improvements are recommended within Segment 1. Wayfinding signage is recommended for Dawson Avenue, Shore Drive, and Millar Road as these proposed on-street systems provide new connections linking the off-road facilities discussed above. In addition, crossing improvements are proposed along Afton Road at intersections with County Highway Q (Newark Road) West Dawson Avenue, West Millar Road, and West Big Hill Road. Improvements may include pavement markings, improved signage, and lighting.





Image of prefabricated bridges that can provide ADA compliant access within trail system.



Bass Creek Road near Afton.



A sketch of a trail section that may be implemented in Big Hill Park.

**Big Hill Route (Segment 2)**

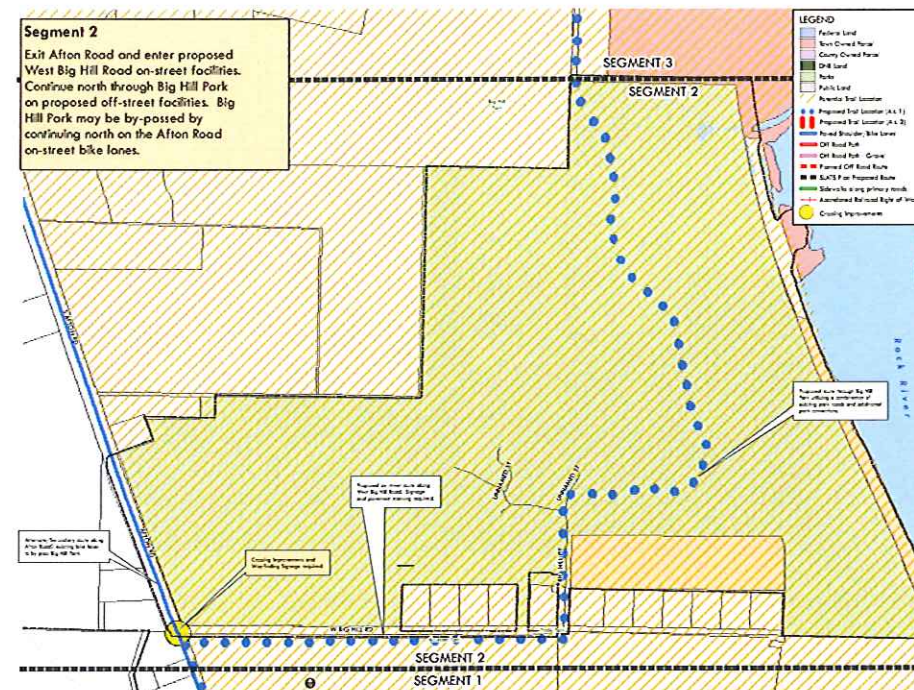
Segment 2 focuses on Big Hill Park, establishing much-improved bicycling access to the City of Beloit's northside landmark. The recommendation for Segment 2 is to exit Afton Road at West Big Hill Road and use on-street facilities to the park entrance, where an off-street network utilizing a combination of existing park roads and additional path connections will be developed to continue through Big Hill Park to the north, meeting the existing, unimproved, (roughly) 35 foot wide right-of-way for South Duggan Road. From this point a short on-street connection continues north for some 700 feet to meet Town of Beloit owned property near the intersection of South Duggan Road and South Walters Road.

Existing on-street bike lanes on Afton Road will remain both north and south of West Big Hill Road, providing on-road bicyclists with a "bypass" option versus going through the park. Additionally, an off-street path in the east right-of-way of Afton Road is recommended as an additional bypass option for less experienced riders.

The proposed on-street route along West Big Hill Road and in Big Hill Park will require new signage and pavement marking.

**Walters-Duggan Route (Segment 3)**

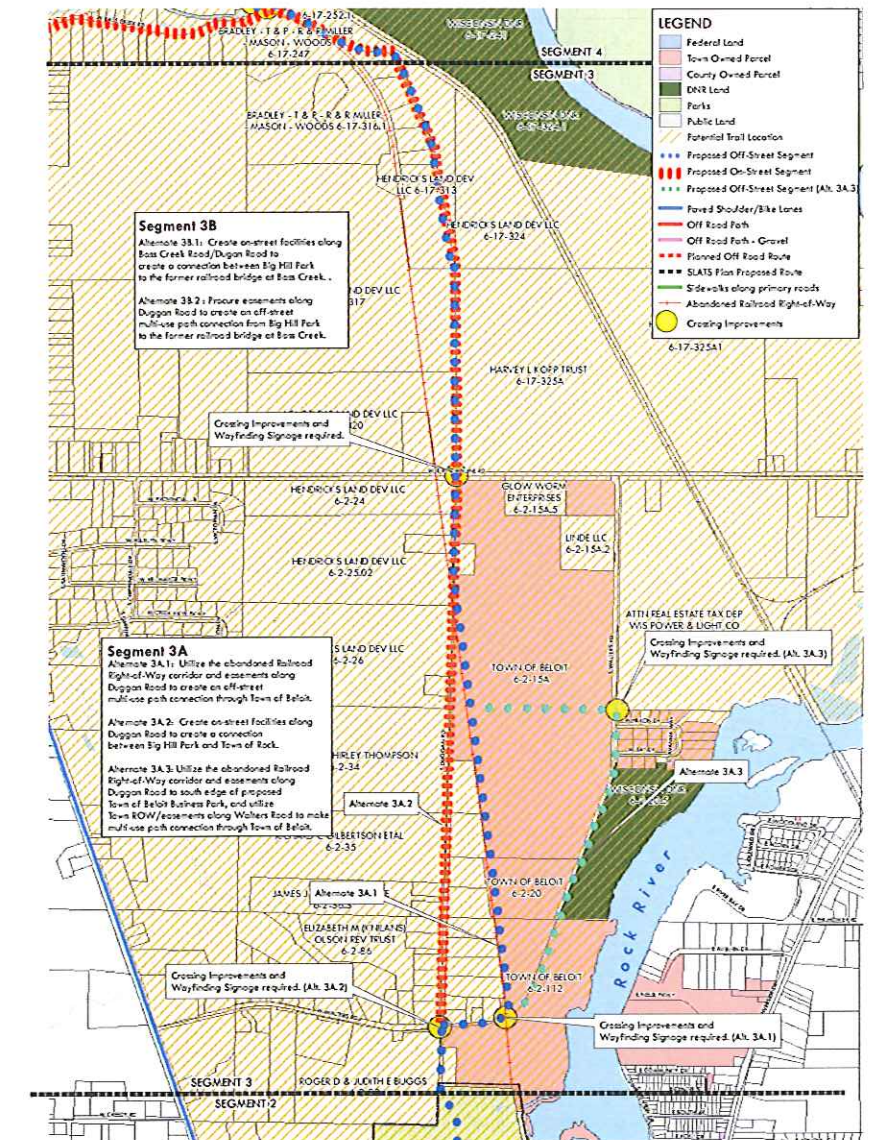
Segment 3 picks up on Town of Beloit property on the south side of Walters Road near its intersection with South Duggan Road. The southern portion of the route is proposed to be an off-road path, continuing east and then north on Town property to avoid a rather dramatic curve on Walters Road before passing through town-owned right of way for Walters Road in front of the Rock River Prairie State Natural Area. After continuing north past the DNR property, the path turns west across Walters Road to Town of Beloit-owned property before meeting with former right-of-way for the Chicago and Northwestern Railroad, now in Town of Beloit ownership. Once on the former rail right-of way, the path heads north/northwest until once again intersecting with South Duggan Road, where the route goes on-street. The on-street segment continues north on Duggan Road through the Town of Rock, before



again meeting former right-of-way for the Chicago and Northwestern Railroad just east of Afton. In addition to the proposed Walters and Duggan route, it should be noted that existing on-street lanes on Afton Road will remain. Essentially, the Walters-Duggan route provides an alternative journey through the Towns of Beloit and Rock for bicyclists - one that is decidedly less-traveled by automobiles.

Pavement marking, signage, and crossing improvements will be an important component of the development of Segment 3. Wayfinding signage is recommended at the Duggan Road intersection with the proposed off-road path and at the Duggan Road/Townline Road intersection. Crossing improvements will be necessary on Walters Road (where the off-street path crosses north of the DNR property), and at the Duggan Road/Townline Road intersection. Pavement marking and signage along south Duggan Road in the Town of Rock is proposed to clearly designate that section as a bike route.

While the Wisconsin DNR prefers an alternate routing scheme - one that does not pass in front of the State Natural Area - for Segment 3, this plan recognizes it as one of three viable alternatives.







Peace Trail follows the abandoned rail corridor in the foreground, as illustrated in this 1978 photo courtesy of Janesville Historian Den Alder. The proposed route follows this corridor into and partially through Afton Village.



Although the rail line is long since gone, the abutments for this bridge over Bass Creek near Afton remain. Special thanks to Janesville Historian Den Alder for this 1979 photograph.

**Peace Trail To Afton (Segment 4)**

Segment 4 recommends utilizing the abandoned Chicago and Northwestern Railroad right-of-way to create a multi-use path connection from Duggan Road to West Third Street in Afton, where it goes on-street and connects to existing on-road facilities (striped and signed) on Afton Road through downtown Afton. At the northern edge of Afton (just south of 7th Street), the route uses an existing easement across from the Afton Pub (over land owned by the Pub owners), crossing an active rail line and ultimately meeting with the existing gravel off-road trail that follows abandoned rail right-of-way to the terminus of Janesville's Peace Trail at Tripp Road.

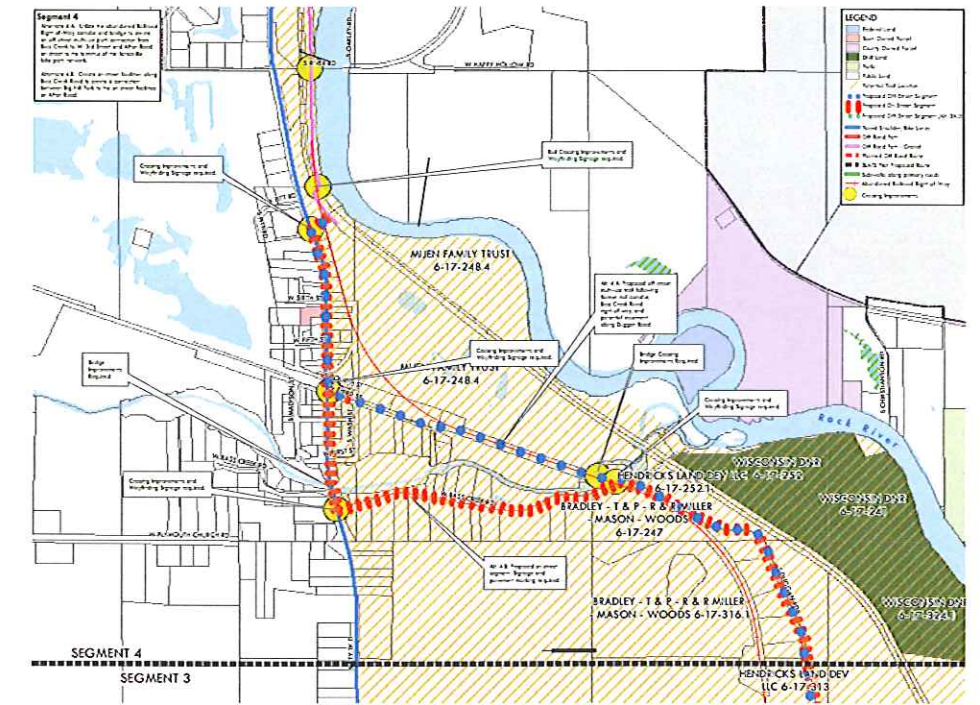
This segment offers a crossing of Bass Creek at the site of a former railroad bridge shortly before entering downtown Afton via West Third Street. The railroad bridge, constructed in 1880, was removed in 1973. However, four stone and concrete abutments remain, providing the opportunity to accommodate the nearly 125' span needed to cross Bass Creek with modular sections. Situated nearly halfway between the Tripp Road Terminus and Big Hill Park, the proposed bridge will be both a geographic and symbolic centerpiece for the proposed trail. A unique design which celebrates the historic connection between and beyond Beloit and Janesville is envisioned for the bridge, perhaps replicating a railroad bridge. However it is designed, the bridge crossing is a "showcase" element of this plan and the future trail, and will provide context and destination to tourists and all trail users. Given its significance and appeal, the proposed bridge may be a very viable candidate for substantial private fundraising and other creative funding options.

Segment 4 will require significant signage and wayfinding improvements, with a concentration on directing inbound travelers to Afton's local shops, eateries, and

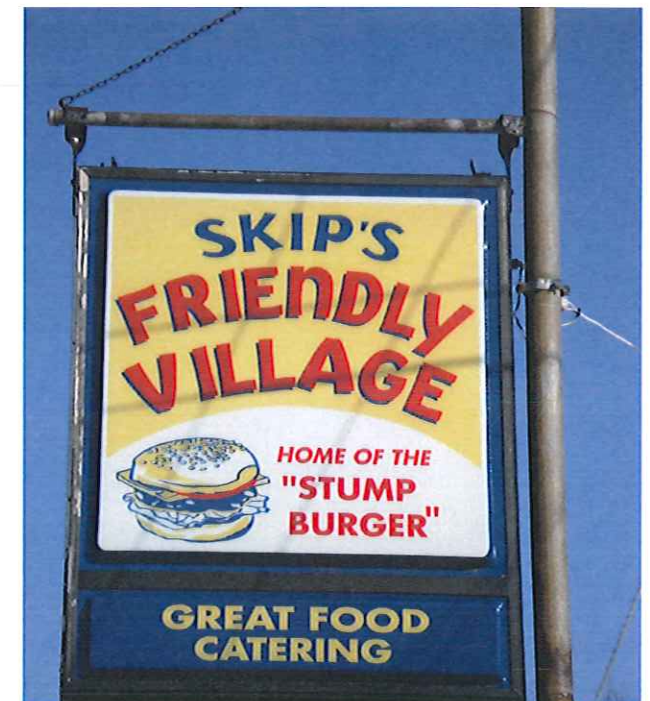


Existing bridge abutments over Bass Creek on the southeast side of Afton.

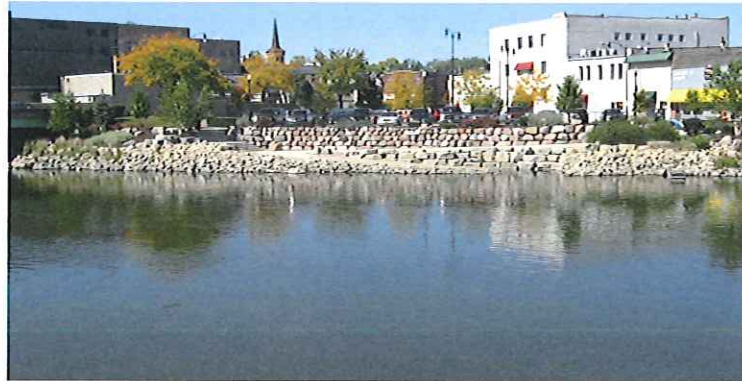
attractions. In addition, crossing improvements are required at the intersection of the gravel trail with Eau Claire Road/River Road, West Third Street and South Afton Road. Finally, the intersection of the proposed off-road path and West Bass Creek Road will require crossing improvements.



Skip's, one of many "must-stop" destinations in Afton, offers riders an oasis with the charm, good food, and excellent service Afton is famous for.







Providing improved connection between downtown Beloit and Janesville, South Beloit, and the rest of the region is a primary focus of the plan.



Well-placed signage is a critical component of a successful bicycle network.



The trailhead at Tripp Road offers access to the City of Janesville's Peace Trail, and is a key landmark along the planned regional route.

DESIGN

The proposed corridor seeks to capitalize on the successes of the City of Beloit and the City of Janesville in developing comprehensive intra-city bicycle infrastructure and assumes that the most feasible way to do this is by linking Peace Trail with existing facilities on the west side of the Rock River. While linking the excellent systems on the east side of the Rock River in both communities remains a high priority, the west side option presents opportunities in the immediate future that are not apparent east of the river.

During the planning process, several design principles emerged for the development of the corridor based on input received from city, town, and county staff and officials, the Rock Trail Coalition, and the public. A bicycle connection between the cities of Beloit and Janesville has been a long-standing goal for both communities and Rock County. In addition to providing an invaluable recreational and commuter route for bicyclists, the completion of this corridor will serve to showcase the commitment to community, reverence for nature, and sense of regional identity that makes Rock County a unique and treasured place among its residents and visitors. With this in mind, elements of corridor design will look to celebrate the characteristics of the communities it passes through and connects: healthy neighborhoods, strong, friendly, and locally owned businesses, a rich agricultural heritage, and a transportation legacy centered on river, rail, and human locomotion as an alternative to automobiles.

FACILITIES

The best strategy for accommodating bicycle trips is to provide adequate on-street bicycle lanes and to educate the driving public on the need to share the road with bicyclists. Signs, off-road bicycle paths, proper bike parking facilities, and non-infrastructure initiatives also facilitate safe bicycle travel. Facility sheets

describing the design and application of facilities are located at the end of this chapter.

Bike Lanes

Bike lanes can be incorporated into a roadway when it is desirable to delineate available road space for preferential use by bicyclists and motorists, and to provide for more predictable movements by each. Bike lane markings provide greater comfort for bicyclists who are not used to operating on a roadway with other traffic.

Bike lanes should be one-way facilities and carry bike traffic in the same direction as adjacent motor vehicle traffic. On one-way streets, bike lanes should generally be placed on the right side of the street. However, bike lanes on the left side of the street may be appropriate when it will substantially decrease the number of conflicts, such as those caused by heavy bus traffic or unusually heavy turning movements to the right, or if there are a significant number of left-turning bicyclists.

Curbside bike lanes and bike lanes adjacent to parking are common treatments. It is important that a curbside bike lane include at least 5 feet of space outside of the gutter pan to allow for snow storage and to discourage bicyclists from riding in the gutter pan. In corridors with limited space an innovative 5 foot gutter pan bike lane with saw cut joints can be installed to accommodate bicycles. See Facility Sheet 3.1.

Shared-Use Roadway

A shared-use roadway is typically a neighborhood street where traffic volumes and traffic speeds are low and bicyclists and motorists can comfortably share the road. Width is the most critical variable affecting the ability of a roadway to accommodate bicycle traffic. In order for bicycles and motor vehicles to share the



If desired, off-road trails can be maintained for bicyclists, runners, and walkers year-round.





Third Street at Afton, near the planned transition from on-street to off-road facilities.



Pavement markings at trail entrance in Beloit.



Signage at rail crossing.

use of a roadway without compromising the level of service and safety for either, the facility should provide sufficient paved width to accommodate both modes. This width can be achieved by providing wide outside lanes or paved shoulders. Where there is not enough width for a motor vehicle and a bicycle to operate side-by-side, a shared-lane marking can be installed to communicate that the roadway should function as a single-file facility. See Facility Sheet 3.2.

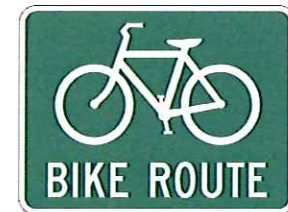
It is important to note that all streets should be designed to be bicycle friendly. Roadways should be designed so that catch basins or roadway joints will not entrap a bicycle tire. In addition, manholes should be placed in locations that will not impede bicycle travel. Efforts should also be made to keep roadway surfaces smooth and free from potholes.

**Multi-Use Path**

This facility is located within its own right of way, is usually 10-14 feet wide and is commonly designed for two-way travel. Multi-use paths can serve a variety of purposes. They can provide users with a shortcut through a residential neighborhood, provide access to school sites, and can provide an enjoyable recreational opportunity. Shared use paths can be located along rivers, lake fronts, canals, abandoned or active railroad and utility rights-of-way, limited access freeways, within college campuses or within and between parks. Paths can also provide bicycle access to areas that are otherwise served only by limited access highways closed to bicycles. See Facility Sheet 3.3.

Paths should be thought of as a complementary system of off-road transportation routes for bicyclists and others that serve as a necessary extension to the roadway network. Paths should not be used to preclude on-road bicycle facilities, but rather to supplement a system of on-road bike lanes, wide outside lanes, paved shoulders and bike routes. In Appleton, the off-road network includes a number of paths that lead over highways and are vital multimodal connections.

**Bicycle Routes and Other Signs**



Suitably designed bikeways can be identified formally as "Bike Routes." As defined by the American Association of State Highway and Transportation Officials (AASHTO), which is a standards setting body which publishes specifications, test protocols and guidelines which are used in highway design and construction throughout the

United States), bike routes are segments of a system of roads that are designated by a jurisdiction having authority with appropriate directional and informational markers, with or without a specific bicycle route number. These routes should indicate a major route that most bicyclists will feel comfortable using. The routes are not intended to link all possible locations, and bicyclists are not required to use these routes. New bicyclists, and bicyclists new to Rock County, will find these routes useful for getting to know the area by bicycle.

There are several reasons for designating signed bike routes:

- a. The route provides continuity to other bicycle facilities such as bike lanes and multiuse paths.
- b. The road is a common route for bicyclists through a high demand corridor.
- c. The route extends along local neighborhood streets and collectors that lead to an internal neighborhood destination such as a park, school or commercial district.

Bike route signs may be used on shared streets, streets with bike lanes, and on multiuse paths. Regardless of the type of facility or roadway where they are used, it is recommended that bike route signs include destination information, as shown in Facility Sheet 3.4.

"Bike Route" or "Share the Road" signage can be used to encourage bicyclists to use a given corridor and to remind motorists that they may encounter a bicycle. Bike Route signage should be placed at key decision points along a corridor and Share the Road signage should be spaced at regular intervals.

**Bicycle Parking Facilities**

Bicycle racks are necessary for cyclists to secure their bicycles once they reach their destination. Choosing the appropriate style of bicycle rack is based on how much security is required at a location. Available space is also a factor in determining what style of rack should be installed. Some bicycle rack styles take up more space than others and position parked bicycles differently. Choosing the right bike rack involves looking at utility locations, fire escapes, sidewalk dimensions, and visibility. Design is a critical component in bicycle rack selection. In general, a bicycle rack should include two points of contact with the bicycle to keep it from falling and damaging the bicycle. The "inverted-u" is considered one of the most functional and cost effective designs. See Facility Sheet 3.5. The hitch post rack, or hoop and bollard design currently used on College Avenue is also considered an attractive and space efficient bike rack that is designed for sidewalks and other narrow space applications.

**Additional Design Considerations and Facilities**

**Catch Basins:** A properly designed catch basin should be entirely located within the gutter pan and catch basin covers should be placed to avoid catching the tires of a bike. Drainage grates (catch basin covers) should be placed perpendicular to the direction of travel.

**Transitions (On- and Off-Street):** The transition of paths to roadways is particularly important for creating a functional bicycle network. Special design treatments should be applied depending on the relative volume of motor vehicle and bicycle traffic.

- a. **Bicycle-Pedestrian Signal:** for mid-block crossing of higher volume roadways, where the crossing is located a sufficient distance from adjacent signalized intersections.
- b. **Roundabout:** standard roundabout design on the motor vehicle approaches, with modified design for the bike path approaches.
- c. **Raised Crossing:** maintains the grade of the path across the roadway.
- d. **Multi-way Stop Control:** requires all approaches to stop, which can be desirable in locations with limited sight distance.

**Bike Station:** A Bicycle Station is a full service indoor bicycle storage facility that is typically staffed or has membership access. Bicycle Stations generally include a secure place to store a bike and may provide services such as bike repair, bike rentals, concessions, bicycle sales, and merchandising. Some bicycle stations include restrooms, drinking fountains, lockers, and shower facilities. Bicycle Stations are excellent locations to distribute maps and to provide the public with basic information about local paths, safety, and rules of the road.





Much of the northern segment follows abandoned railroad right-of-way..



A renovated bridge over Markham Creek in Janesville, built and paid for by volunteers. An active and engaged network of volunteers (like those seen in the images to the right) has been critical in the successful development and maintenance of Rock County's trails, and will continue..

**Dismount Zone:** Dismount zones are often needed when bicycles and pedestrians cannot safely share the same space. Signage and pavement markings are often helpful in informing bicyclists, however in some areas it is not practical or necessary to sign or mark the dismount zone because of a known statute or ordinance. Dismount signage and pavement markings should be minimized and should only be used when one or more of the following criteria are met:

- a. The location presents a clear safety problem such as a narrow sidewalk or a steep slope. Clear zones, sight distances, and crash history should be evaluated.
- b. The location has a substantial number of pedestrians such as a college campus or a sidewalk in front of numerous businesses. Both pedestrian and bicycle volumes and level-of-service should be considered and compared.
- c. The location is in an area with a high number of children or elderly pedestrians.
- d. The location has a suitable alternative route for bicycles within a reasonable distance.

**Crosswalk Enhancements:** Crosswalks are typically intended for pedestrians, however some bicyclists choose to ride on sidewalks and often use pedestrian crosswalks. Unless a path approaches an intersection, crosswalk design and crosswalk enhancements should be based on pedestrian needs and not designed specifically for bicycle use.

Striped crosswalks are often found at signalized intersections and typically consist of two solid parallel white lines. In some cases when the crossing distance is long or there are very high volumes, a zebra crosswalk may be used. Crosswalk enhancements may include zebra/continental crosswalks, crosswalk bollards, flashing warning signs, enhanced pavement markings, and lighted crosswalks.



**Refuge Islands:** Pedestrian refuge islands are defined as the areas within an intersection or between lanes of traffic where pedestrians or bicyclists may safely wait until vehicular traffic clears, allowing them to cross a street. Refuge islands are commonly found along wide, multilane streets where adequate pedestrian crossing time could not be provided without adversely affecting the traffic flow.

In areas of heavy traffic, a Z-crossing can be used to increase safety. A Z-crossing utilizes a median island and crosswalks laid out in a staggered configuration at uncontrolled intersections. The configuration requires pedestrians or bicyclists to walk or ride toward traffic to reach the second half of the crosswalk.

Bicyclists may benefit from pedestrian refuge islands if they choose not to utilize a travel lane to execute a turning movement. For this reason, refuge islands should be wide enough to accommodate a bicycle (preferably one with a trailer).

**Lead Pedestrian Intervals:** At some locations, bicyclists may encounter signal controlled intersections, especially when a multiuse path carries through or terminates at an intersection. In most cases, bicyclists will use the pedestrian signal to cross the intersection. When pedestrian signals are timed with a green phase at an intersection both pedestrians and motor vehicles (particularly right-turning vehicles) start at the same time and conflicts can result. A lead pedestrian interval is a change in signal phasing that allows a pedestrian phase to begin a short time (generally 4 seconds) before the green phase for motor vehicle traffic. This allows pedestrians and bicyclists a "head start" utilizing crosswalks in the intersection. This facility requires the intersection to be signed for "no turn on red". This signal phase enhances visibility of pedestrians and bicyclists at crossings and alerts motorists to the existence of vulnerable users in the right-of-way.





**Facility Sheet 3.1**

**Bike Lane**

**Description/Purpose**

Marked space along length of roadway for exclusive use of cyclists. Bike lanes create separation between cyclists and automobiles.

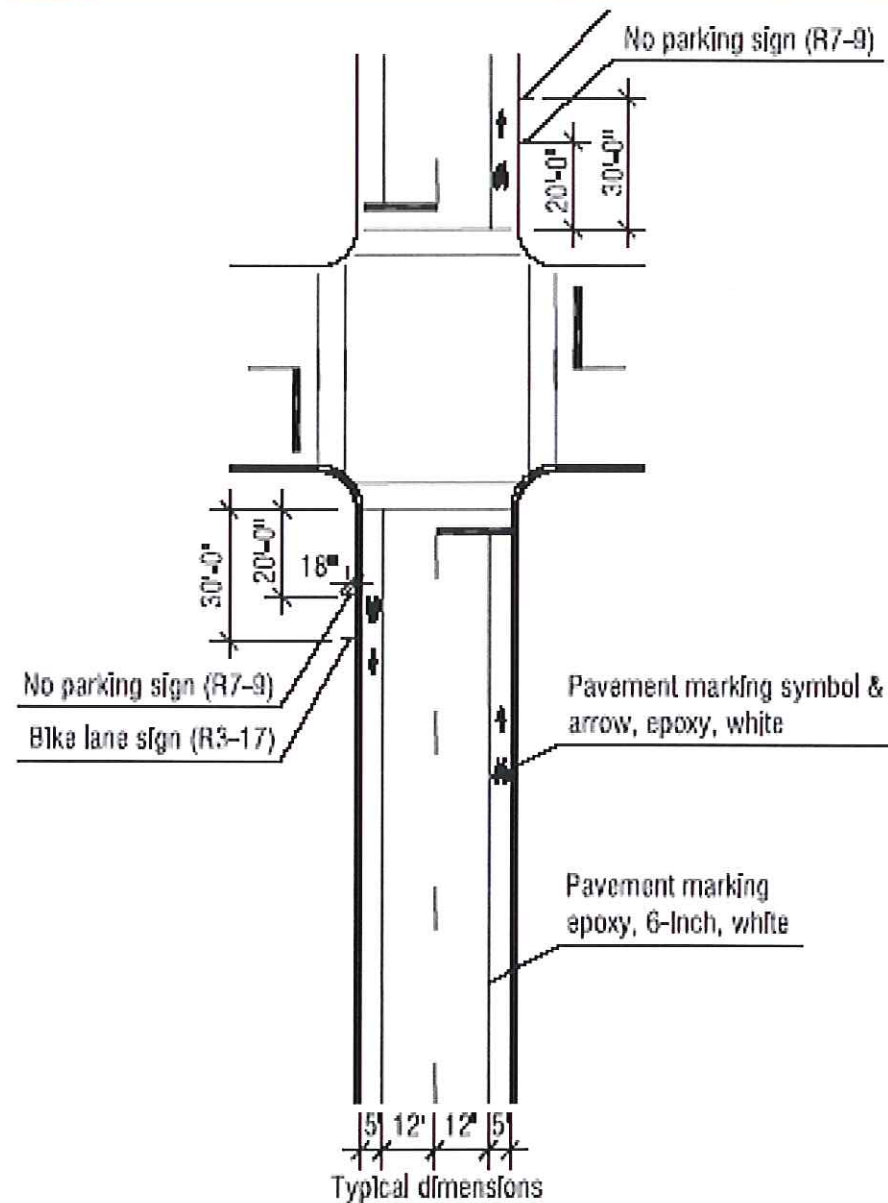
**Advantages**

- Provides bicycle access on major through street
- Clarifies lane use for motorists and cyclists
- Increases cyclist's comfort through visual separation

**Disadvantages**

- Space requirements may preclude other possible uses like parking or excess travel lane width

**Design**



**Application**

- On roadways with 3,000 motor vehicles per day or higher
- Any street with excessive curb-to-curb space where bike lanes could help reduce vehicle lane widths

**Design/Maintenance Considerations**

- Bike lane width
- Frequency of bike lane symbol
- Keep bike lane symbols out of the path of turning vehicles
- Typically placed on right side of roadway (unless one-way street)
- Automobile "door zone" clearance when bike lanes are adjacent to parked cars
- One-way facility carrying traffic in same direction as adjacent traffic

**Design Guidance**

- Minimum 4 feet width for roadways with no curb and gutter
- If parking is permitted, the bike lane should be placed between the parking area and the travel lane and have a minimum width of 5 feet
- Where parking is permitted but a parking stripe or stalls are not utilized, the shared area should be a minimum of 11 feet without a curb face and 12 feet adjacent to a curb face



**Facility Sheet 3.2  
Shared Lane**

**Description/Purpose**

Shared roadway pavement markings, or “sharrows”, are marking used to indicate a shared lane environment for bicycles and automobiles. Sharrows identify to all road users where bicycles should operate on a street where a separated facility is not feasible.

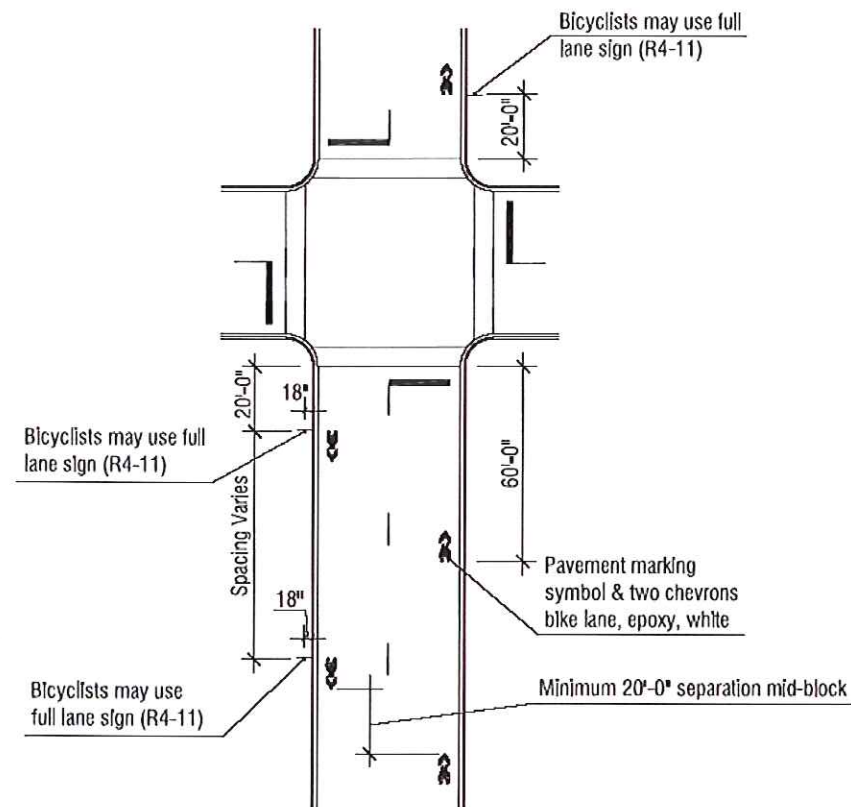
**Advantages**

- Helps cyclists position themselves in lanes too narrow for a motor vehicle and a bicycle to travel side-by-side
- Provides pavement markings where bike lanes are not possible

**Disadvantages**

- Maintenance requirements
- Not as effective as a separated bicycle facility

**Design**



**Application**

- On roadways with 3,000 motor vehicles per day or higher
- Any street with excessive curb-to-curb space where bike lanes could help reduce vehicle lane widths

**Design/Maintenance Considerations**

- Bike lane width
- Frequency of bike lane symbol
- Keep bike lane symbols out of the path of turning vehicles
- Typically placed on right side of roadway (unless one-way street)
- Automobile “door zone” clearance when bike lanes are adjacent to parked cars
- One-way facility carrying traffic in same direction as adjacent traffic

**Design Guidance**

- Minimum 4 feet width for roadways with no curb and gutter
- If parking is permitted, the bike lane should be placed between the parking area and the travel lane and have a minimum width of 5 feet
- Where parking is permitted but a parking stripe or stalls are not utilized, the shared area should be a minimum of 11 feet without a curb face and 12 feet adjacent to a curb face





**Facility Sheet 3.3  
Multiuse Path**

**Description/Purpose**

Multiuse paths effectively maximize available right-of-way by combining uses. They accommodate several types of non-motorized users including bicyclists, pedestrians, joggers, and roller bladers.

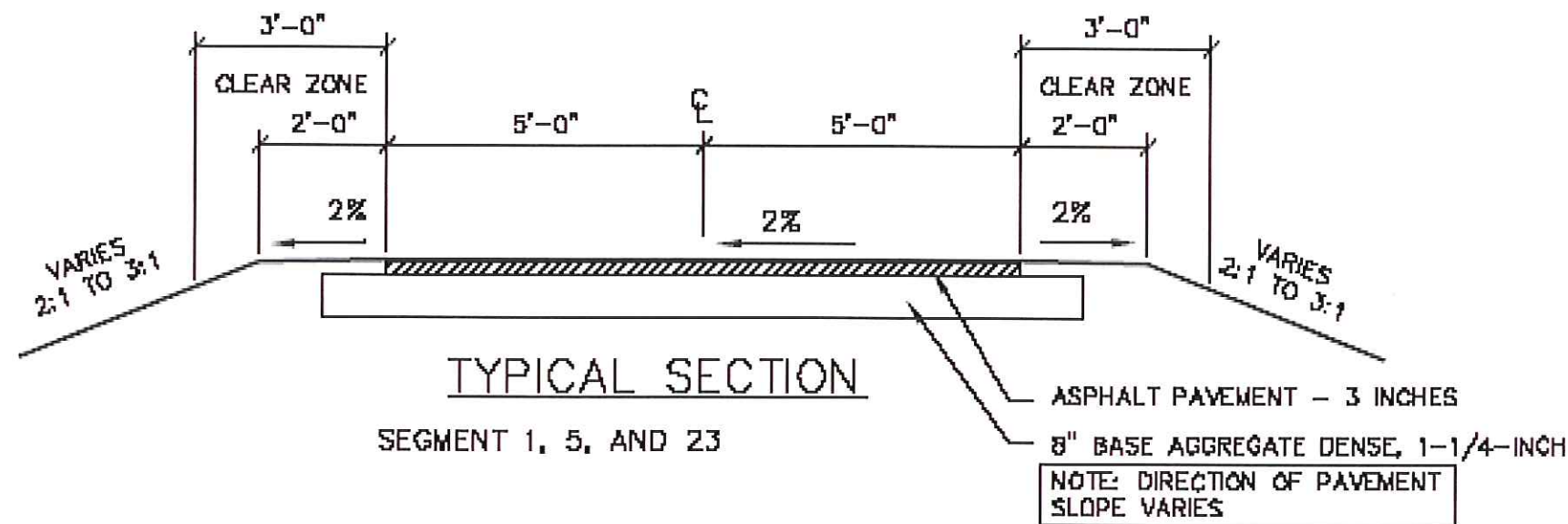
**Advantages**

- Can enhance access to destinations
- Wide range of user comfort

**Disadvantages**

- Right-of-way acquisition
- Cost

**Design**



**Application**

- Connections between cul-de-sacs
- Linear trail network
- Rails-to-trails conversions
- Along waterways

**Design/Maintenance Considerations**

- Speed of cyclists
- Slope, grade
- Pedestrian use volumes
- Lighting
- Signage
- Markings

**Design Guidance**

- Some multiuse paths are striped with a centerline to delineate direction
- Must be at least 10 feet wide; wider paths are preferred on busier paths
- Ideally, bicyclists and pedestrians should be separated
- Vegetation can be used adjacent to catch run-off



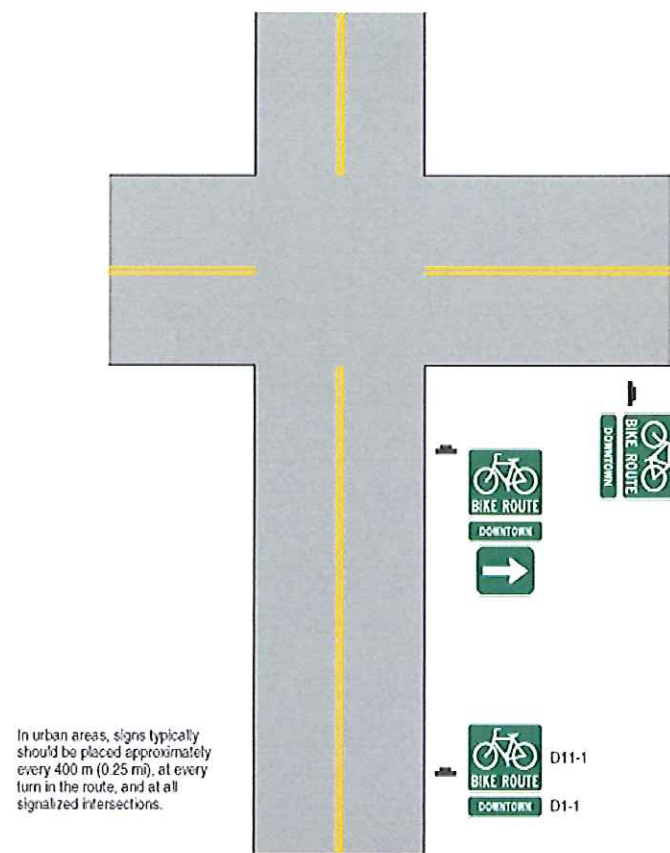
**Facility Sheet 3.4  
Bicycle Wayfinding**

**Description/Purpose**

Informational signage tells a cyclist where they are located or which facility they are using. Signs for bike routes or lanes also communicate to motorists that bicycles may be present. Wayfinding signage provides destination information at decision points and enhances the usability of the bicycle network. The Manual on Uniform Traffic Control Devices (MUTCD), published by the Federal Highway Administration, establishes standards for signage that will be referenced in implementing this plan.

**Design**

Figure 9B-6. Example of Signing for an On-Roadway Bicycle Route



**Advantages**

- Tells users where a route or path goes
- Can identify distance to destination
- Can name certain segments or paths

**Disadvantages**

- If there's a lot of information it may require frequent updating
- Names listed may be unfamiliar to users

**Application**

- Bike Route and Destination signs only on designated routes
- Destinations mentioned must accommodate bikes

**Design/Maintenance Considerations**

- All signs retroreflectorized
- Detour signs when under repair
- Limit number of signs per location

**Design Guidance**

- "No Motor Vehicles" sign at path entrance
- Warning signs at crossings
- Trail signs located 3' to 6' from trail edge
- Overhead signs on trails require 8' clearance



**Facility Sheet 3.5  
Bicycle Parking**

**Description/Purpose**

Bicycle parking allows bicyclists secure parking upon reaching their destination. Racks should be ideally located near a building entrance to encourage bicycle use and increase security.

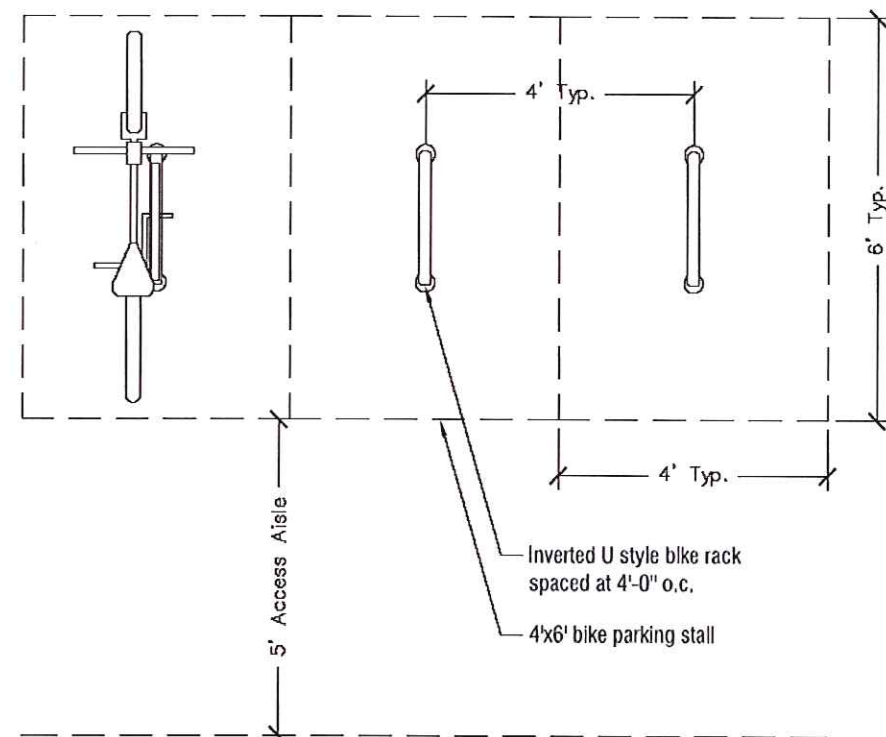
**Advantages**

- Provides a dedicated space for bicyclists
- Can encourage bicycle trips if well placed
- Formalizes access corridors for site planning

**Disadvantages**

- Requires maintenance
- Substandard designs can be a disincentive
- Security can be a concern

**Design**



**Application**

- Use to identify where bikes should be secured

**Design/Maintenance Considerations**

- Must be cleared of snow in winter
- Place in well lit area

**Design Guidance**

- Place on paved surface
- Surface should not exceed 2% slope
- Utilize 4' (preferred) x 6' stall with 5' access aisle (36" minimum spacing between racks)
- Locate within 50' of a building entrance





Above: Off-street components of the planned route provide riders with magnificent elements of escape to and communion with nature. Below: Bass Creek Espresso, one of many Afton businesses catering to bicyclists between Beloit and Janesville along the route.



PRIORITY PROJECTS AND PHASING

Given the geographic scope and nature of the recommendations of this plan, improvements should be considered in manageable phases to complete the project, as outlined below. Phases may span multiple years depending on funding.

**Phase One** - Project partners should focus on relatively "low hanging fruit" in Phase One to gather momentum for the project as a whole by earning some early successes. Phase One tasks are critical in establishing the vitality of the corridor and should be relatively easy to complete at reasonable costs. Tasks are listed below:

- Secure easements - The proposed route will likely require easements from property owners in the Town of Rock (especially in/near Afton) and the Town of Beloit. During the course of this project, discussions have been ongoing with property owners along the corridor for which easement agreements will be needed. Securing easements is a necessary and high priority for implementation of this project.
- Afton wayfinding - Developing a wayfinding/signage system for the corridor as it enters Afton from both the north and south is recommended as an early step in the implementation process.
- Re-route City of Beloit segment - The on-street connection between Shore Drive and Afton Road currently follows a "zig-zag" on-road route on Caldwell Avenue and Poole Court. Reassigning this route to Dawson Avenue via replacing or transferring signage, where it directly connects to the Burton Street off-road path across Afton Road, will be an easily implementable task.

**Phase Two** - Phase Two projects focus on work in Segments 3 & 4, from the terminus of Peace Trail through Afton and on through the Town of Rock and Town of Beloit to just north of Big Hill Park.

- Design and engineering - Detailed design and engineering plans for the off-road components on the south end of Afton must be completed for this new portion of the route. Similarly, off-road segments across Town of Beloit property between Duggan Road and Walters Road, and along Walters Road, will require design and engineering.
- Utility coordination - The proposed off-road path along Walters Road will ideally utilize space within current Right-of-Way, and may impact/be impacted by existing utilities within the right-of-way. As a component of the design of this segment, coordination with local telephone, energy and sewer utilities will likely be necessary.
- Afton wayfinding & crossing improvements- Mentioned above, a wayfinding/signage system for the corridor as it enters Afton from both the north and south is recommended as an early step in the implementation process. In addition, improved roadway crossings with signage are recommended on Afton Road (CTH D) at Third Street and on Afton Road (CTH D) near the Afton Pub property (where the off-road segment joins the on-street facilities on Afton Road.
- Rail crossing - The proposed route crosses an active railroad corridor in the northern portion of Afton, near the Afton Pub property. Rock County has a signed easement for the crossing with the railroad. Signage on the trail to alert riders of the railroad crossing is recommended, and Rock Trail Coalition has an agreement in place for the installation of the crossing.

- Pave gravel trail- While perhaps a longer-term target, paving the currently existing segment of the trail (from Tripp Road to Afton) is recommended.

**Phase Three** - Phase Three projects focus on work in Segment 2, which primarily deals with areas in and adjacent to Big Hill Park in the City of Beloit.

- Design and engineering - Detailed design and engineering plans will be needed for this new portion of the route.
- Wayfinding & crossing improvements- Wayfinding signage at the interior and exterior of the park is recommended to guide travelers. Additionally, the Afton Road crossing with West Big Hill Road should receive signage alerting motorists and bicyclists of the intersection. .

**Phase Four** - Phase Four projects focus on work in Segment 1, from the intersection of Afton Road with Big Hill Road to the southern limits of the project at Pride Park on Shore Drive in the City of Beloit.

- Design and engineering - Detailed design and engineering plans will be needed for the proposed off-road side path along the eastern side of Afton Road. Stormwater management will be a specific area of importance for this segment, as the
- Utility coordination - The proposed side path along Afton Road will ideally utilize space within current Right-of-Way, and may impact/be impacted by existing utilities within the right-of-way. As a component of the design of this segment, coordination with local telephone, energy and sewer utilities will likely be necessary.
- Secure easements - Should the Afton Road side path not be accommodated in existing right-of-way, easements may be required over property in the Town of Beloit.
- Wayfinding & crossing improvements- As this segment essentially provides the link between Big Hill Park and both Krueger and Pride Parks and is mostly on-street, wayfinding signage will be essential. There are also several crossing improvements to be considered, the most significant of these being the Afton Road intersection with Newark Road (CTH Q)

KEY IMPLEMENTATION STEPS

The following key implementation steps have been identified for the development of the Beloit-Janesville Bicycle Route Corridor. This initial list should be expanded and developed with more detail to establish a Critical Path Schedule that will direct the implementation of master plan recommendations. The Critical Path Schedule should include a breakdown of all implementation activities, a timeframe for completing each activity, and the entity responsible for each implementation activity.

- Adopt Beloit - Janesville Bicycle Route Corridor Plan and Feasibility Study
- Approval of an official name for the trail
- Prepare grant applications
- Prepare detailed design and engineering plans for phased improvements
- Permitting
- Phased development of corridor segments
- Prepare marketing and promotional materials for this new regional connection
- Special events programming





An example of a bike/ped bridge similar to a structure that could be used to cross Bass Creek is above, while one of the many charming stops to welcome inbound travelers to Afton is pictured below.



CONCEPTUAL BUDGETS

The SAA design team prepared conceptual budgets for the Beloit - Janesville Bicycle Route Corridor Plan broken down by corridor segments. A breakdown of these segmental cost estimates is attached with this document in Appendix 2. *These budgets are based on conceptual level planning, and more detailed analysis and design will be necessary to verify these budgets.* It will be critical for Rock County to develop a comprehensive funding strategy to support the phased implementation of master plan recommendations.

*Note: The total budget does not include property acquisition, private development (buildings, parking, and site improvements), additional studies, detailed design, or engineering.*

POTENTIAL FUNDING SOURCES

The financial realities of our time necessitate the acquisition of outside funding to enable the development of large projects. Grant funding also provides seed money and crucial capital for leveraging additional community dollars and support. While many projects identified in this master plan would benefit from the acquisition of outside funding sources, some projects will require grant funding if they are to be realized.

This section provides general information and details for many of the grant programs that may be used to acquire and develop bicycle and pedestrian facilities. It is important to note that funding availability and deadlines can change from year to year, so maintaining contact with the agencies, or even simply monitoring their websites, is advisable in order to stay current with funding opportunities. Primary categories of funding opportunities, by authorization agency, include:

- Wisconsin Department of Natural Resources
- Wisconsin Department of Transportation

Wisconsin Department of Natural Resources (DNR)

Knowles-Nelson Stewardship Program: Named for two of Wisconsin's most revered conservation leaders, Governor Warren Knowles and Senator Gaylord Nelson, the Wisconsin Legislature created this innovative program in 1989 to preserve valuable natural areas and wildlife habitat, protect water quality and fisheries, and expand opportunities for outdoor recreation.

All grant program awards cover up to 50% of eligible project costs. Projects eligible for Stewardship grant programs require that all land acquisition and development projects provide public access for "nature-based outdoor recreation" purposes. DNR decisions as to whether a particular project activity is "nature-based outdoor recreation" are made on a case-by-case basis. Please note that purchase and installation of playground equipment, and the purchase of land for recreation areas not related to nature-based outdoor recreation (dedicated sports fields, swimming pools, etc.) are not eligible. The Stewardship Program includes the four funds described below (A – D).

For more information and to submit applications contact the South Central Region representatives (listed below). All applications are due May 1.

Mary Rothenmaier

Telephone: (608)275-3322

Email: mary.rothenmaier@wisconsin.gov

A. Acquisition and Development of Local Parks (ADLP)

Description: Stewardship sets aside 50% of funds for projects that improve community parks and acquire land for public outdoor recreation. Applicants compete against other applicants from their region. Funds may be used for both land acquisition projects and development projects for nature-based outdoor recreation, such as fishing piers, hiking trails and picnic facilities. Funds are not available for non nature-based activities such as baseball and soccer fields. Costs associated with operation and maintenance of parks and other outdoor recreation facilities are not eligible for Stewardship funds.

Eligible Project Examples:

- Land acquisition projects that will provide opportunities for nature-based outdoor recreation.
- Property with frontage on rivers, streams, lakes, estuaries and reservoirs that will provide water-based outdoor recreation.
- Property that provides special recreation opportunities, such as floodplains, wetlands and areas adjacent to scenic highways.
- Natural areas and outstanding scenic areas where the objective is to preserve the scenic or natural values, including areas of physical or biological importance and wildlife areas. These areas shall be open to the general public for outdoor recreation use to the extent that the natural attributes of the areas will not be seriously impaired or lost.
- Land within urban areas for day-use picnic areas.
- Land for nature-based outdoor recreation trails.

Ineligible Project Examples:

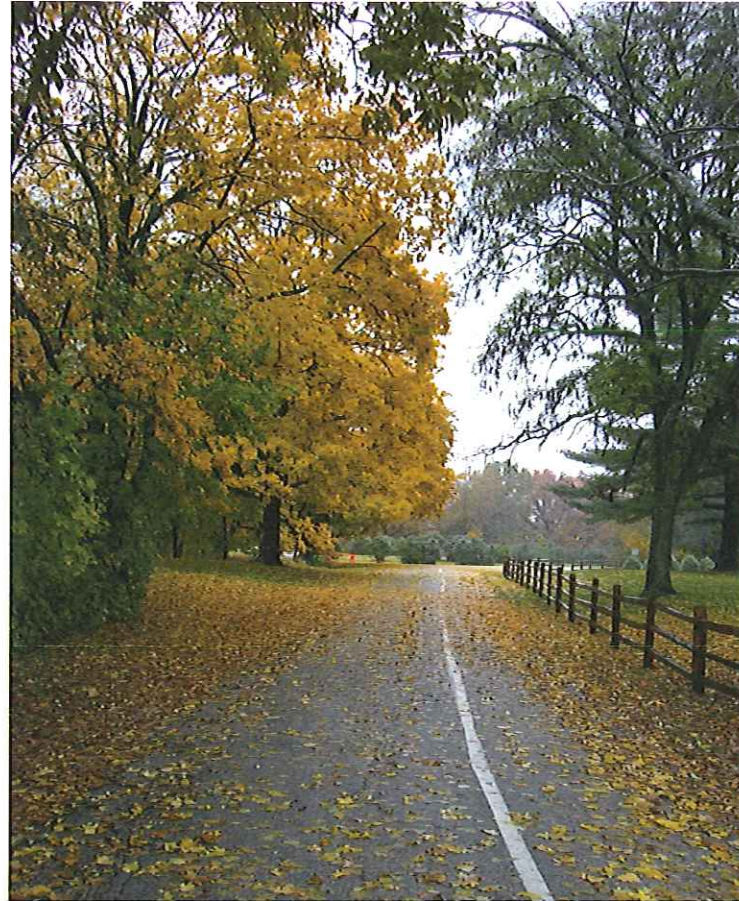
- Projects that are not supported by a local comprehensive outdoor recreational plan.
- Land to be used for non-nature-based outdoor recreation.
- Acquisition and development of golf courses.

B. Urban Rivers (UR)

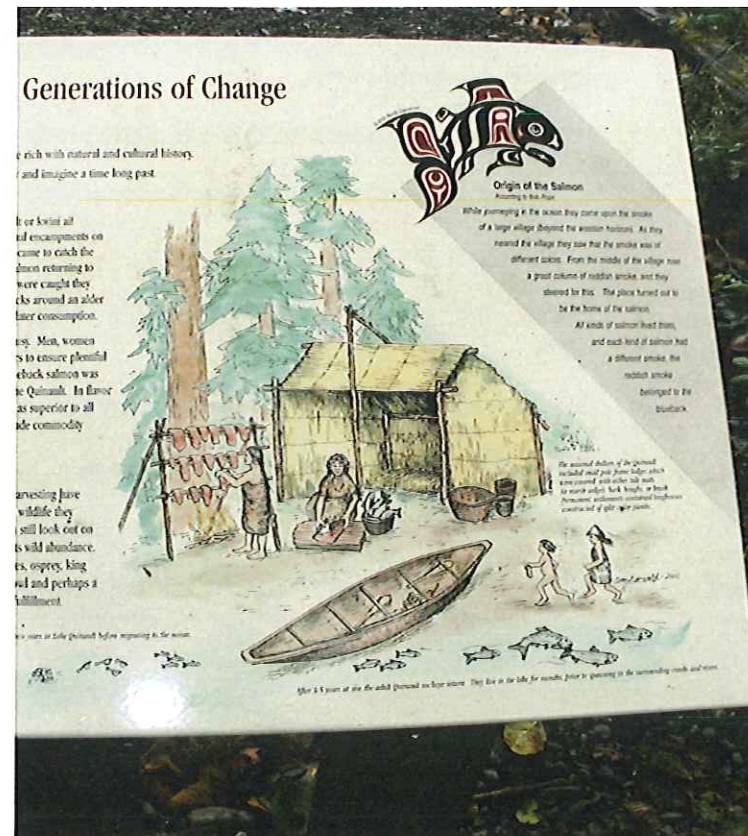
Description: Stewardship allocates 20% of funds annually to restore or preserve the character of urban riverways through the acquisition of land or easements adjacent to rivers. Funding will be provided for projects that are part of a plan to enhance the quality of a river corridor. Applicants compete against other applicants statewide. The purposes of the program are:

- To provide for economic revitalization through the restoration or preservation of urban rivers or riverfronts;





Above: Magnificent views abound throughout the corridor no matter the season. Below: Signage is a critical element in understanding the heritage and history of a route.



- To improve outdoor recreational opportunities by increasing access to urban rivers for a variety of public uses, including but not limited to, fishing, wildlife observation, enjoyment of scenic beauty, canoeing, boating, hiking and bicycling;
- To preserve or restore significant historical, cultural, or natural areas along urban rivers.

Funding Priorities: Priority is given to projects that have one or more of the following characteristics:

- Acquires land or land rights that preserve or restore natural values, including aesthetic values, and enhance environmental quality along urban waterways.
- Provides new or expanded diverse recreational opportunities to all segments of urban populations.
- Provides new or expanded access to urban waterways.
- Acquires blighted lands that will be restored to complement riverfront redevelopment activities.
- Encourages comprehensive riverway planning within and between municipalities and other agencies.
- Provides opportunities for increasing tourism.
- Acquires lands that through proper management will improve or protect water quality.

C. Urban Green Space (UGS)

Description: The intent of the Urban Green Space Program (UGS) is to provide open natural space within or in proximity to urban areas; to protect from urban development areas that have scenic, ecological or other natural value and are within or in proximity to urban areas; and to provide land for noncommercial gardening for the residents of an urbanized area.

Funding Priorities: Priority is given to projects that have one or more of the following characteristics:

- Planning Considerations, including:
  - Specifically implementing a priority of the Statewide Comprehensive Outdoor Recreation Plan
  - Implementing the approved master plans of 2 or more units of government or regional planning agencies
  - Preserving land that is listed on the natural heritage inventory database
  - Implementing elements of water quality plans or initiatives
- Project Considerations, including:
  - Serving the greatest population centers
  - Serving areas of rapidly increasing populations

- Providing accessibility
  - Having unique natural features, threatened or endangered species, or significant ecological value
  - Providing open natural linear corridors connecting open natural areas
  - Having water frontage
  - Containing or restoring wetlands
  - Protecting sensitive wildlife habitat
  - Protecting an area threatened by development
  - Preserving a natural community or one that could be restored
  - Having regional or statewide significance
  - Relating to brownfield redevelopment
- c. Administrative considerations, including:
- Projects that are ready to be implemented and/or continue previously started projects

D. Acquisition of Development Rights

Description: The purpose of the Acquisition of Development Rights Program is to protect natural, agricultural, or forest lands that enhance nature-based outdoor recreation. "Development Rights" are the rights of a landowner to develop their property to the greatest extent allowed under state and local laws. The goals of the program are achieved through the purchase of those development rights and compensating landowners for limited future development on their land.

Funding Priorities: Priority is given to projects that have one or more of the following characteristics:

- Property with frontage on rivers, streams, lakes or estuaries
- Property that creates a buffer between land that has been permanently protected for natural resource and conservation purposes and potential or existing residential, commercial or industrial development
- Property that is within the boundaries of an acquisition project established by the DNR, a government unit or a NCO where the uses of the property will complement the goals of the project and the stewardship program
- Property that is within an environmental corridor that connects 2 or more established resource protection areas

In addition to the Stewardship Programs listed above, a couple of other Wisconsin DNR-administered programs could be sought for funding assistance. These programs are listed below:

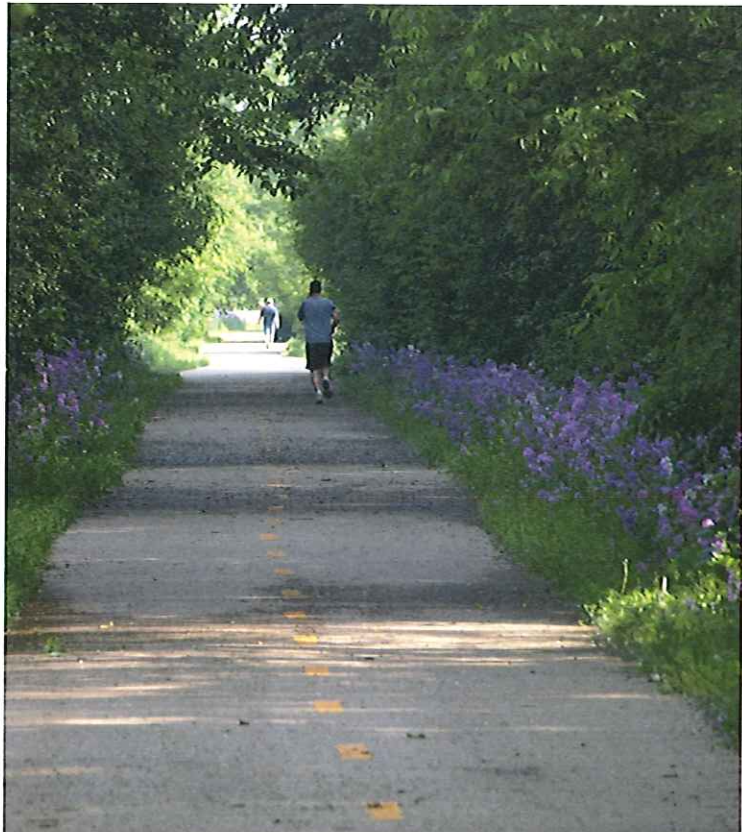
E. Recreational Trails Act (RTA)

Description: These funds are used to develop and maintain recreational trails and





The off-road segments of the planned route offer all-season recreation opportunities for hiking, cross-country skiing, and snowshoeing as well as bicycling, walking, and running.



trail-related facilities for both motorized and non-motorized recreational trail uses. RTA funds may only be used on trails which have been identified in or which further a specific goal of a local, county, or state trail plan included or referenced in a statewide comprehensive outdoor recreation plan. 30% of funds must be used on motorized trail uses, 30% on non-motorized trail uses, and 40% on diversified (multiple) trail uses.

**Funding Priorities:** Priority is given to projects that have one or more of the following characteristics:

- Maintenance and restoration of existing trails.
- Development and rehabilitation of trailside and trailhead facilities and trail linkages.
- Construction of new trails (with certain restrictions on Federal lands).
- Acquisition of easement or property for trails.

**F. Land and Water Conservation Fund (LWCF)**

**Description:** These funds are used to create parks and open spaces, protect wilderness, wetlands, and refuges, preserve wildlife habitat, and enhance recreational opportunities. LWCF provides 50% match grants to local governments for projects that are supported in local and regional plans and advance recreational opportunities.

**Funding Priorities:** Priority is given to projects that have one or more of the following characteristics:

- Serves the greatest populations.
- Regional or statewide in nature.
- Provides multi-season, multi activity use.
- Acquisition of easement or property for trails.

**Wisconsin Department of Transportation (DOT)**

The Wisconsin Department of Transportation offers a variety of programs that can provide financial assistance to local governments, along with other public and private entities, to make improvements to highways, airports, harbors, bike, rail and pedestrian facilities. The use of these funds in Kenosha would be most closely tied to developing trails to link parks and conservancy areas to places of employment, residence, and commerce. Programs administered through the DOT include the five funds described below (G-K).

For more information and to submit applications contact the representatives listed after each program. Local matches and application submission deadlines vary by program.

**G. Surface Transportation Program – Urban (STP-U)**

**Description:** This program allocates federal funds to complete a variety of improvements to federal-aid-eligible roads and streets in urban areas. Projects must meet federal and state requirements. Communities are eligible for funding

on roads functionally classified collector or arterial. The WisDOT requires that pedestrian and on-street bicycle accommodations be part of all STP projects within or in the vicinity of population centers, unless extraordinary circumstances can be demonstrated to WisDOT for not providing these accommodations.

**Contact:** Michael Erickson, Southwest Region at (608) 246-5361 or michael.erickson@dot.wi.gov

**Deadline:** spring of odd-numbered years

**H. Local Transportation Enhancements Program (TE)**

**Description:** Transportation enhancements (TE) are transportation-related activities that are designed to strengthen the cultural, aesthetic, and environmental aspects of transportation systems. The transportation enhancements program provides for the implementation of a variety of non-traditional projects, with examples ranging from the restoration of historic transportation facilities, to bike and pedestrian facilities, to landscaping and scenic beautification, and to the mitigation of water pollution from highway runoff. Most of the projects awarded in Wisconsin have been for bicycle and pedestrian facilities. Examples of bicycle and pedestrian projects include: multi-use trails, paved shoulders, bike lanes, bicycle route signage, bicycle parking, overpasses/underpasses/bridges, sidewalks, and pedestrian crossings. Local municipalities contribute 20% of the project costs. Transportation enhancement activities must relate to surface transportation. Federal regulations restrict the use of funds on trails that allow motorized users, except snowmobiles.

**Contact:** Renee Callaway, State Coordinator at 608-266-3973 or renee.callaway@dot.state.wi.us

**Deadline:** spring of even-numbered years in conjunction with BPPF, dates vary (no funding cycle in 2012)

**I. Bicycle and Pedestrian Facilities Program (BPPF)**

**Description:** Bicycle and pedestrian facility projects costing \$200,000 or more and planning projects costing \$50,000 or more are eligible for BPPF funds. To be eligible, the project must be usable when it is completed and not staged so that additional money is needed to make it a useful project. A project sponsor must pay for a project and then seek reimbursement for the project from the state. Federal funds will provide up to 80% of project costs, while the sponsor must provide at least the other 20%. Because of the similarities between the BPPF and the Transportation Enhancements (TE) program objectives and eligibility criteria, applications and funding for both programs are undertaken together.

**Contact:** Renee Callaway, State Coordinator at 608-266-3973 or renee.callaway@dot.state.wi.us

**Deadline:** spring of even-numbered years in conjunction with TE Program, dates vary (no funding cycle in 2012)

**J. Safe Routes to School (SRTS)**

**Description:** Safe Routes to School (SRTS) programs encourage children ages K-8 to walk and bike to school by creating safer walking and biking routes. These programs are funded through the revised federal transportation act - SAFETEA-LU - signed into law on August 10, 2005. This legislation provides funding to state





The planned route connects the natural, cultural, and civic resources of neighboring communities.



departments of transportation to create and administer SRTS Programs. SRTS Programs improve walking and biking travel options, promote healthier lifestyles in children at an early age and decrease auto-related emissions near schools. SRTS funds can be used for both infrastructure projects and non-infrastructure activities within 2 miles of elementary and middle schools (K-8). Safe Routes to School grants fully fund accepted projects (100% funding).

Contact: Renee Callaway, Wisconsin Safe Routes to School Coordinator, Wisconsin Department of Transportation at 608-266-3973 or renee.callaway@dot.state.wi.us

Deadline: even-numbered years (applications available in January and due in April)

**Public Funding**

The following table outlines several public funding sources available to increase bicycle and pedestrian programming and facilities development.

Grant Source/Name	Brief Description	Local Match*	Contact Information
<b>Wisconsin Department of Natural Resources</b>			
Knowles-Nelson Stewardship Program	Funding for "nature based" recreational facilities including hiking and biking trails.	50%	WisDNR  mary.rothenmaier@wisconsin.gov
Recreational Trails Grant (RTA)	Funding to build trails for motorized and non-motorized traffic.	50%	WisDNR  mary.rothenmaier@wisconsin.gov
Land and Water Conservation Fund (LWCF)	Funding for creation and enhancement of recreational opportunities, including bike and pedestrian trails.	50%	WisDNR  mary.rothenmaier@wisconsin.gov
<b>Wisconsin Department of Transportation</b>			
Surface Transportation Program (STP-U, STP-R)	Funding for collector and arterial roadway improvements; must include bike accommodations.	0%	WisDOT  michael.erickson@dot.wi.gov
Local Transportation Enhancement Program (TE)	Funds bicycle and pedestrian facility improvements that address commuting and transportation needs.	20%	WisDOT  renee.callaway@dot.wi.gov
Bicycle and Pedestrian Facilities Program (BPF)	Funds projects that construct or plan for bicycle or bicycle/pedestrian facilities.	20%	WisDOT  renee.callaway@dot.wi.gov
Safe Routes to School Program (SRTS)	Will fund improvements to public infrastructure within 2 miles of an elementary or middle school that will improve conditions for biking or walking to school. Also provides funds for "non-infrastructure" activities and planning for safe routes.	0%	WisDOT  Renee.callaway@dot.wi.gov



FIGURE 1 – PROJECT CONTEXT

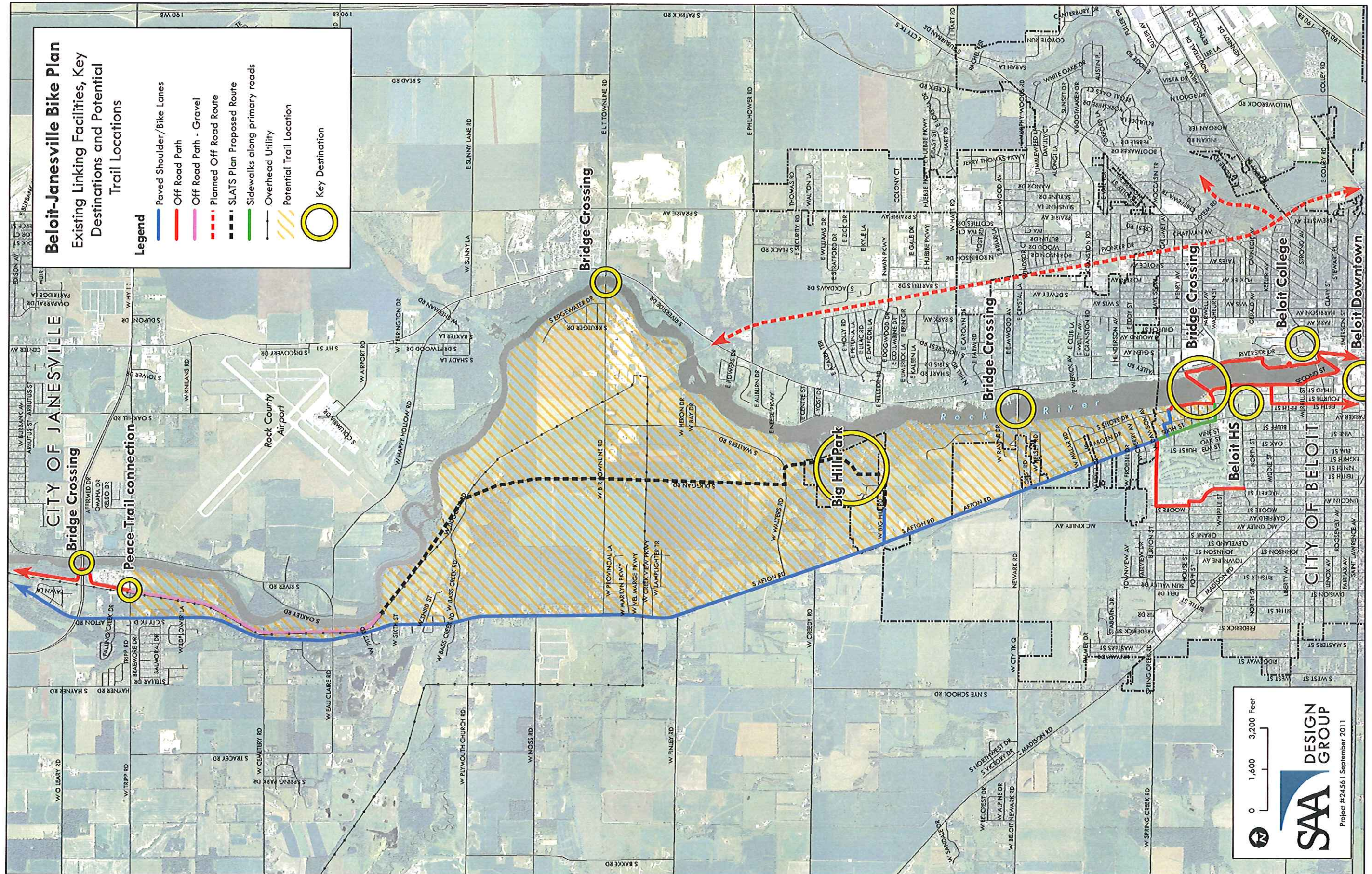


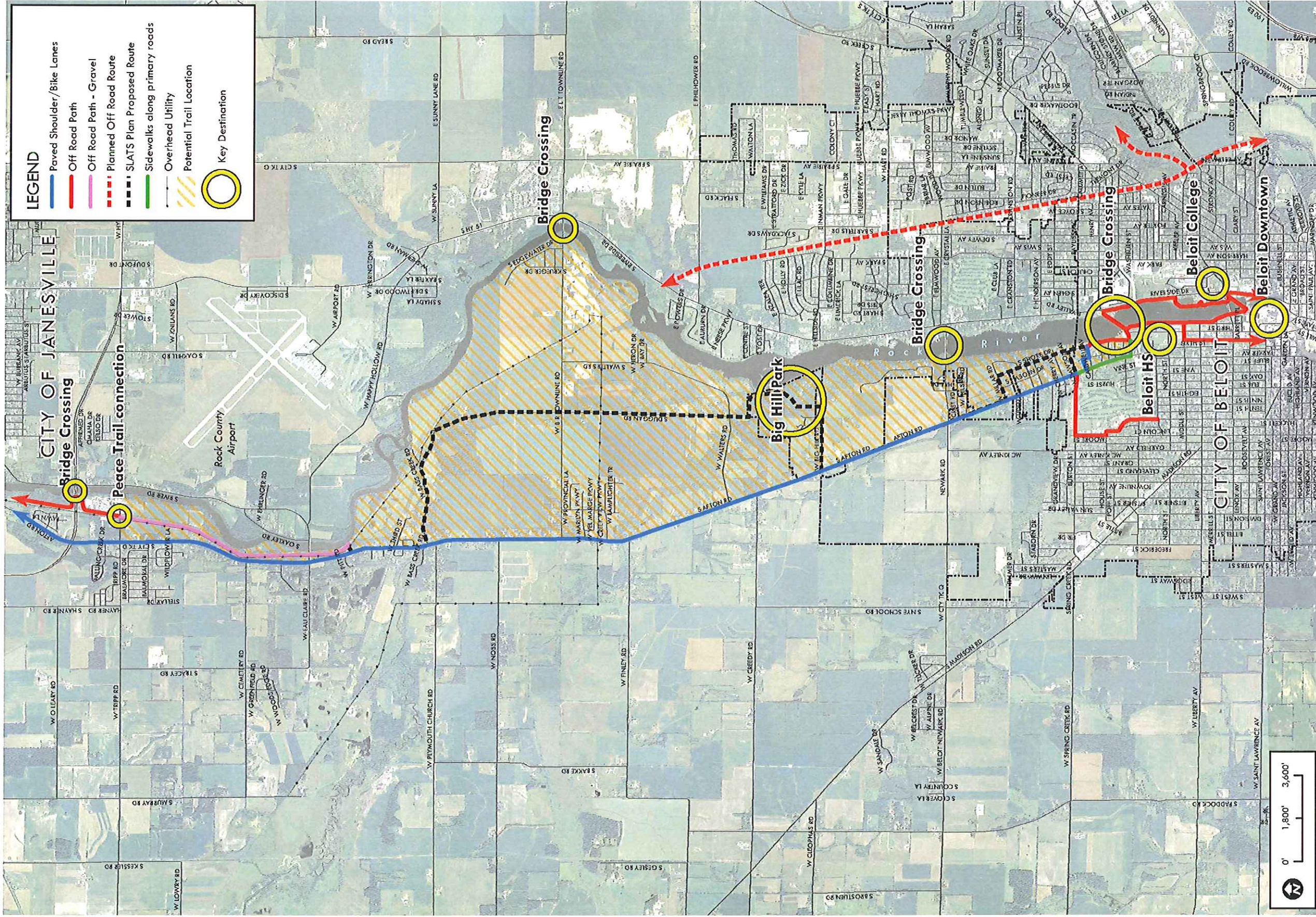


FIGURE 2 – EXISTING CONDITIONS

BELOIT-JANESVILLE BIKE PLAN

ROCK COUNTY, WISCONSIN

1109 | 2011



EXISTING FACILITIES AND KEY DESTINATIONS

SAA Design Group, Inc. | 717 John Nelson Drive, Madison, WI 53713 | + 608.255.0800 | www.saa-madison.com | #2456



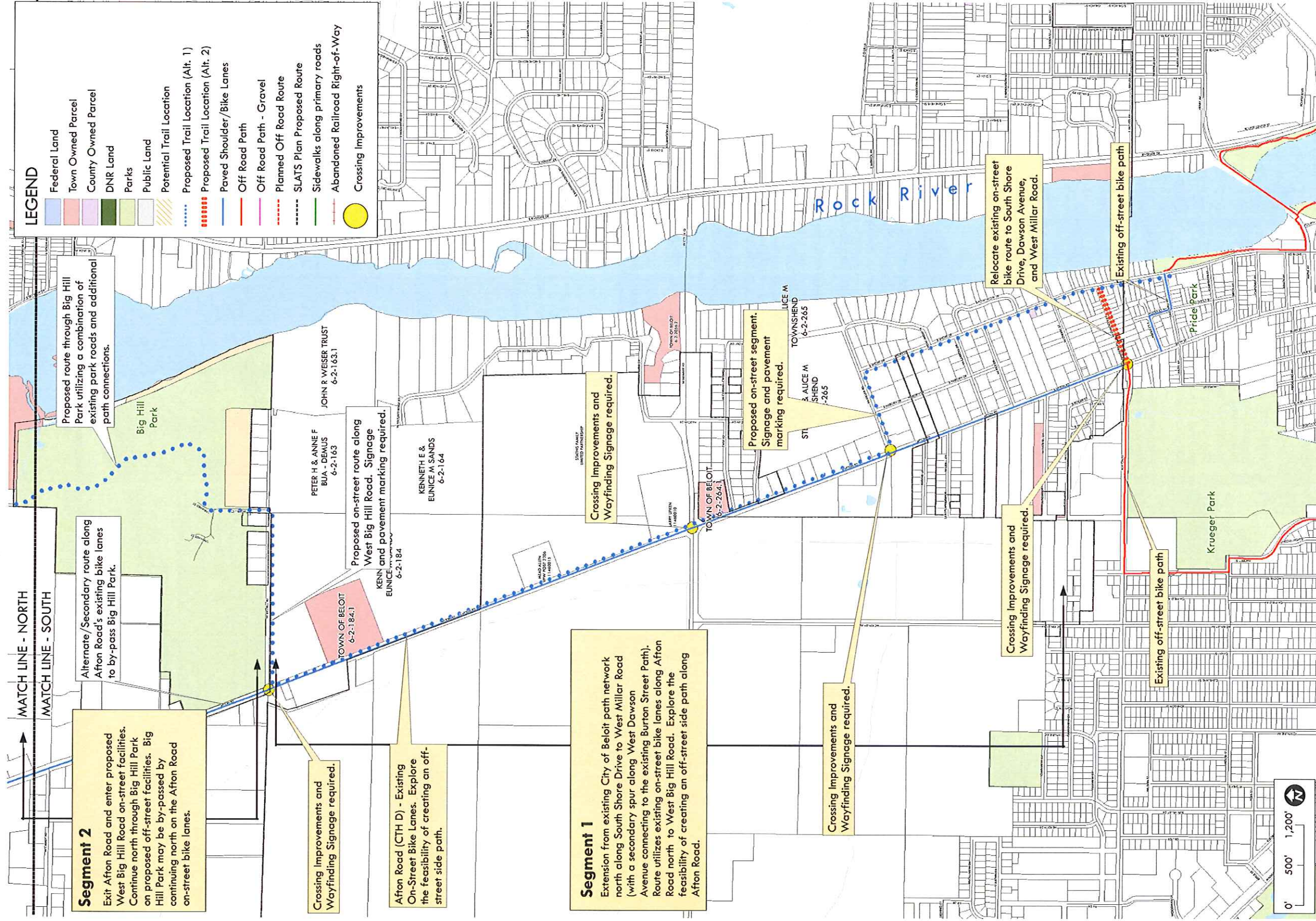


FIGURE 3 – SEGMENTS 1 & 2

BELOIT-JANESVILLE BIKE PLAN

ROCK COUNTY, WISCONSIN

0127 | 2012



**PROPOSED ROUTE - SOUTH**  
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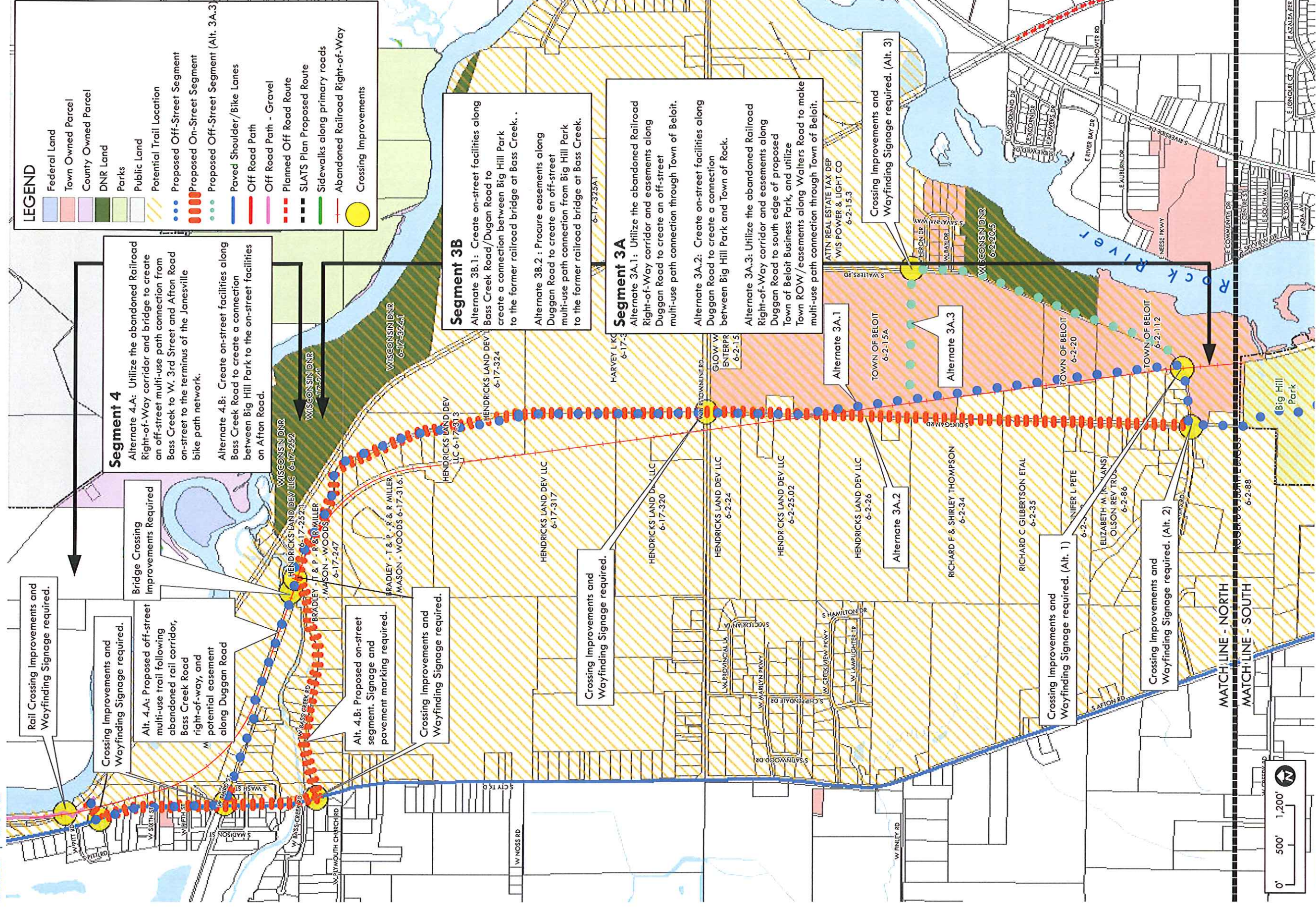


FIGURE 4 – SEGMENTS 3 & 4

BELOIT-JANESVILLE BIKE PLAN

ROCK COUNTY, WISCONSIN

0222 | 2012



PROPOSED ROUTE - NORTH

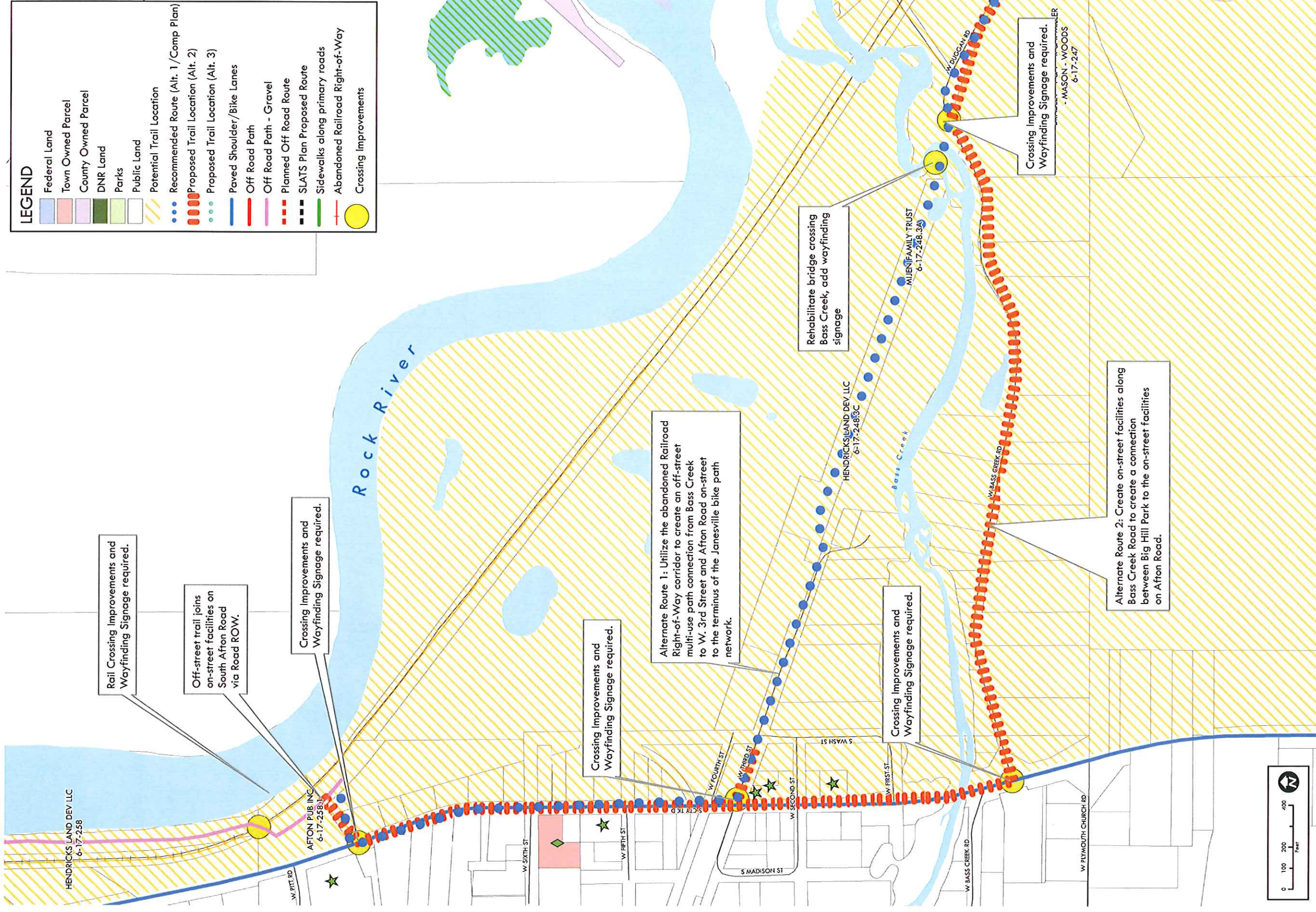


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FIGURE 5 – AFTON VILLAGE DETAIL

0123 | 2012



**LEGEND**

- Federal Land
- Town Owned Parcel
- County Owned Parcel
- DNR Land
- Parks
- Public Land
- Potential Trail Location
- Recommended Route (Alt. 1 / Comp Plan)
- Proposed Trail Location (Alt. 2)
- Proposed Trail Location (Alt. 3)
- Paved Shoulder/Bike Lanes
- Off Road Path
- Off Road Path - Gravel
- Planned Off Road Route
- SLATS Plan Proposed Route
- Sidewalks along primary roads
- Abandoned Railroad Right-of-Way
- Crossing Improvements

Rail Crossing Improvements and Wayfinding Signage required.

Off-street trail joins on-street facilities on South Afton Road via Road ROW.

Crossing Improvements and Wayfinding Signage required.

Crossing Improvements and Wayfinding Signage required.

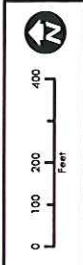
Alternate Route 1: Utilize the abandoned Railroad Right-of-Way corridor to create an off-street multi-use path connection from Bass Creek to W. 3rd Street and Afton Road on-street to the terminus of the Janesville bike path network.

Crossing Improvements and Wayfinding Signage required.

Rehabilitate bridge crossing Bass Creek, add wayfinding signage

Alternate Route 2: Create on-street facilities along Bass Creek Road to create a connection between Big Hill Park to the on-street facilities on Afton Road.

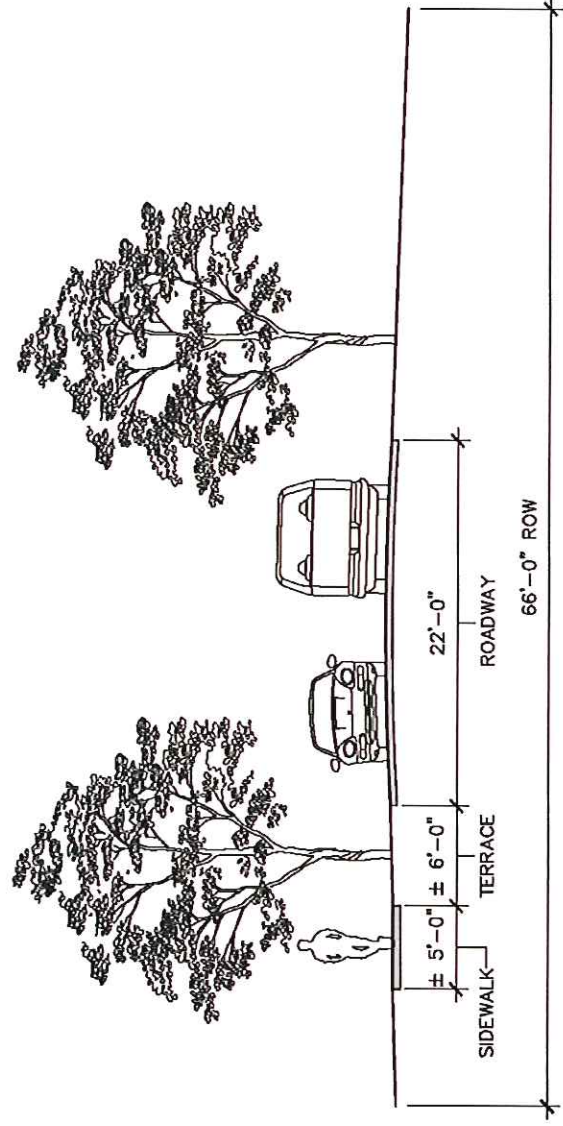
Crossing Improvements and Wayfinding Signage required.



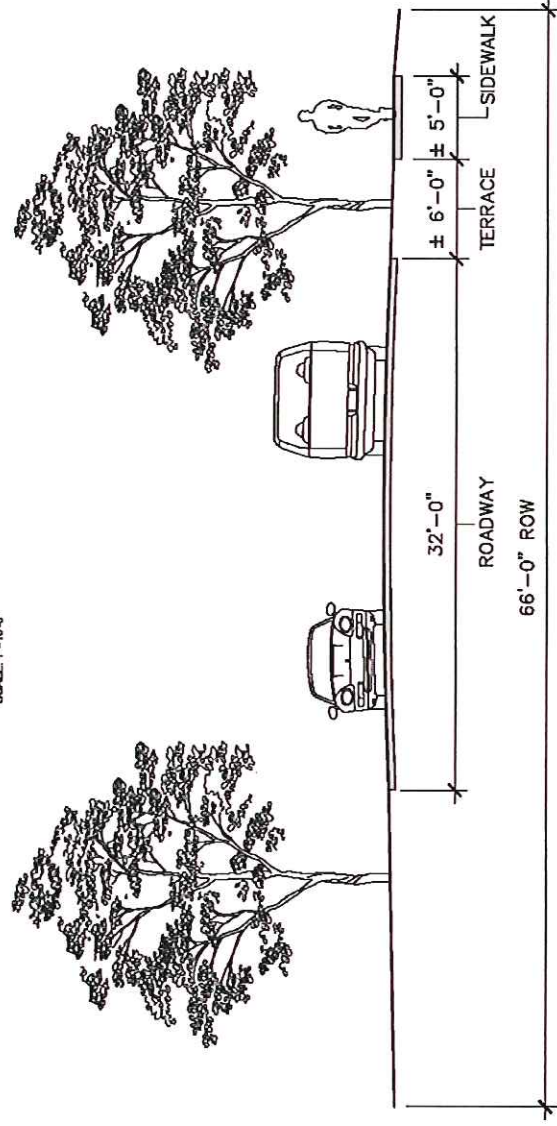
**PROPOSED ROUTE - AFTON DETAIL**  
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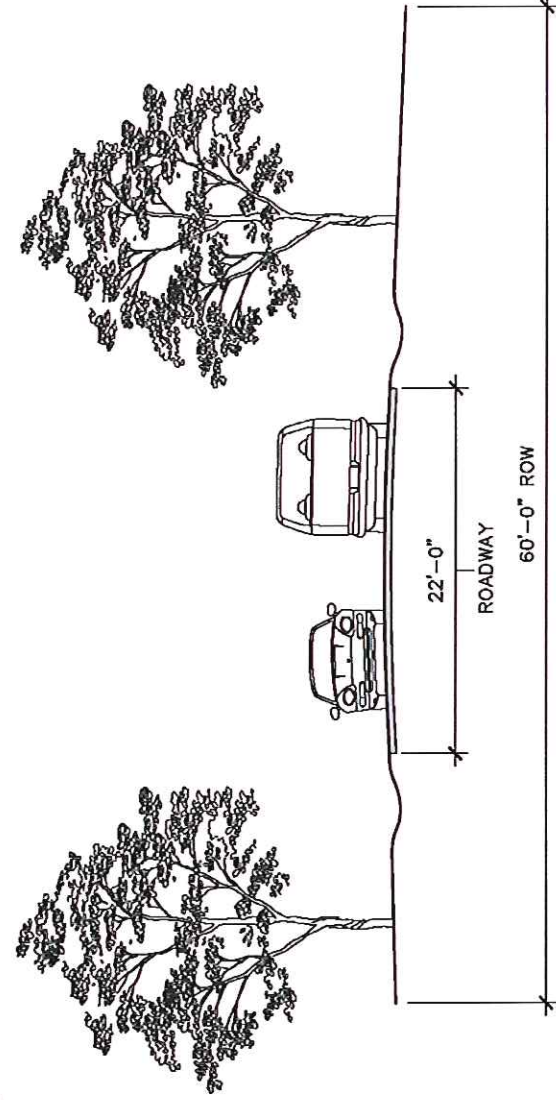
FIGURE 6A – EXISTING ROADWAY SECTIONS



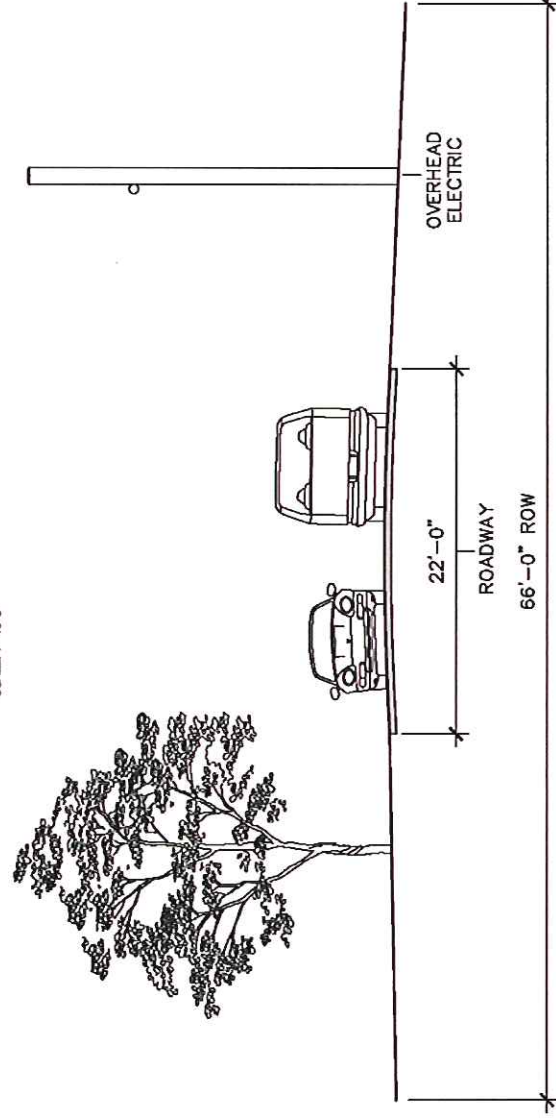
1



2



3



4



FIGURE 6B – EXISTING ROADWAY SECTIONS

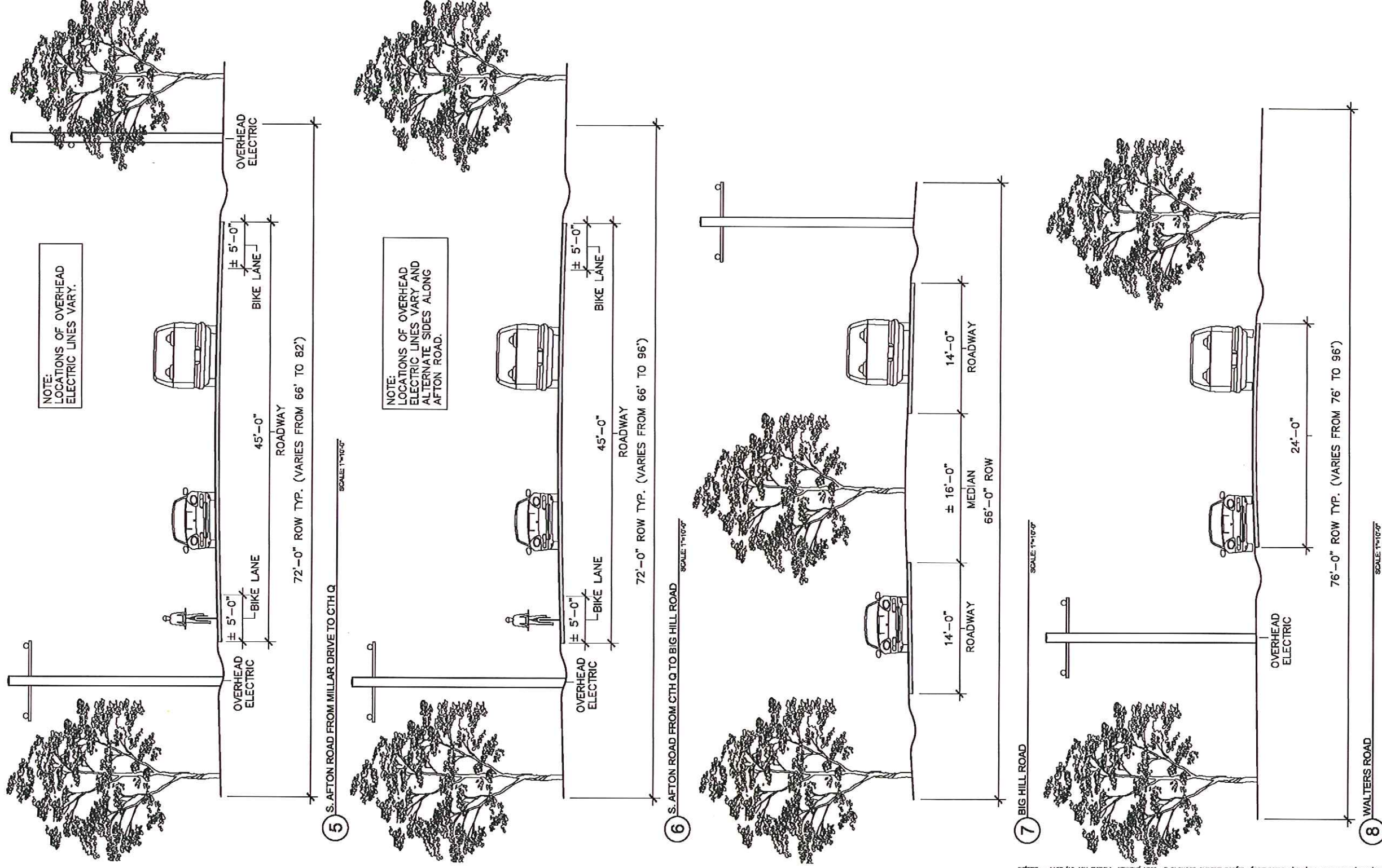
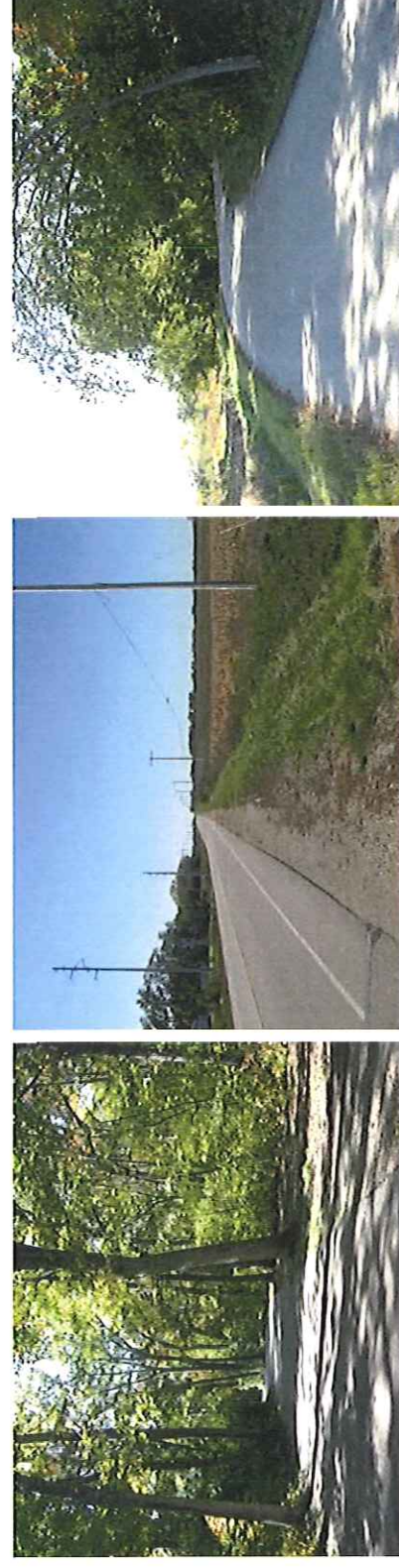
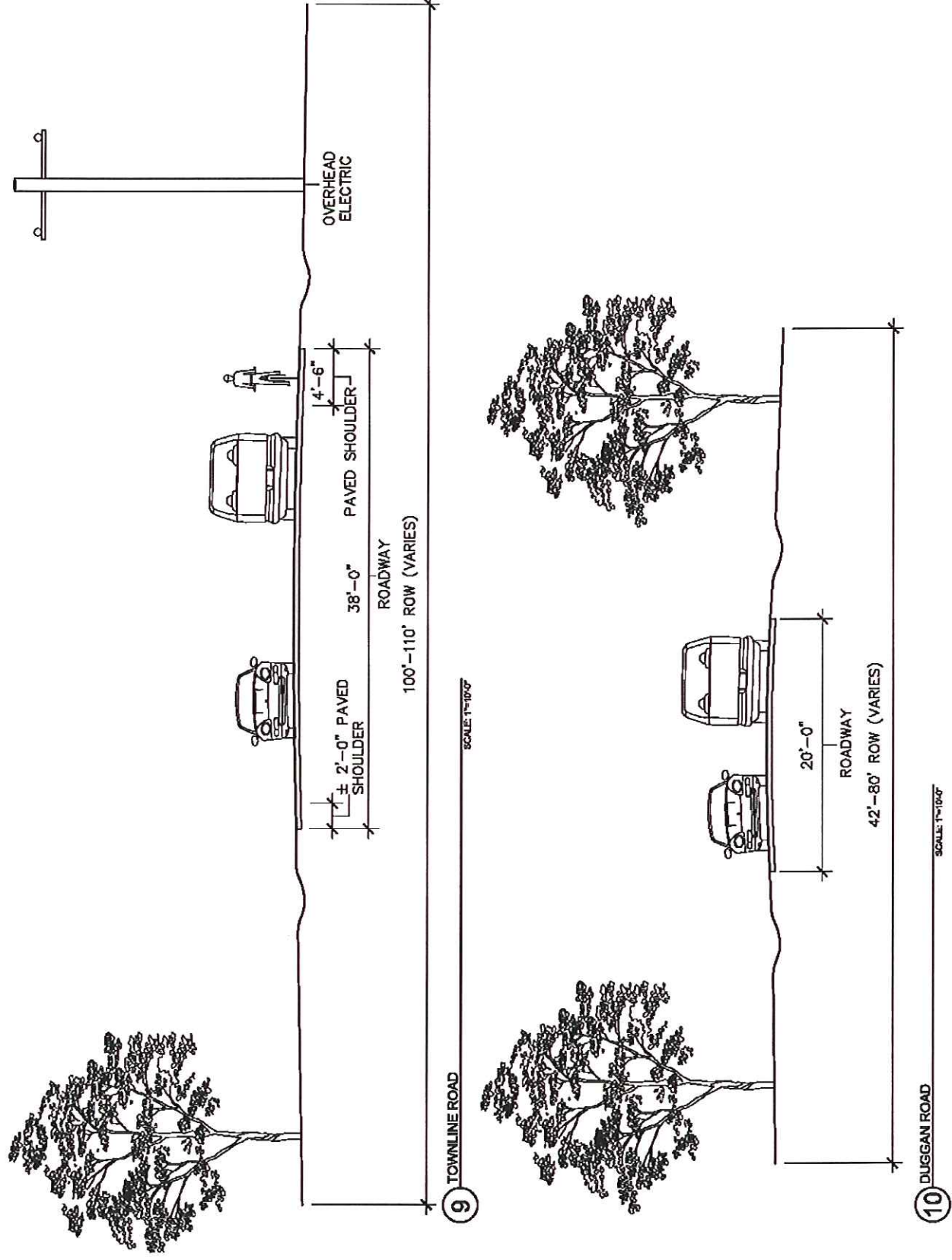




FIGURE 6C – EXISTING ROADWAY SECTIONS

BELOIT-JANESVILLE BIKE PLAN

ROCK COUNTY, WISCONSIN  
1109 | 2011



EXISTING ROADWAY SECTIONS

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File Path: \\saa-bkwin01\proj\Bicycle\BicycleRoute\Layout\EXISTING SECTIONS 0 User: jnolan Date: 04/04/2011 - 2:25pm





Landscape  
Architects  
Planners  
Engineers

**MEETING NOTES**

Date: November 10, 2011  
Project: Beloit – Janesville Bicycle Plan  
SAA#: 2456

Meeting Date: November 9, 2011 5:15-7:00 pm  
Location: Vision Beloit Center, 500 Public Avenue

Prepared by: Patrick Hannon and Blake Theisen, SAA Design Group

Meeting Attendees:

	<u>Affiliation:</u>
Patrick Hannon	SAA Design Group
Blake Theisen	SAA Design Group
Jeff Johnson	Stateline Spinners
Brian Ramsey	Beloit Parks
Larry Diehls	Not Supplied
Joseph Cook	Not Supplied
Doug Venable	Not Supplied
Jayne Paynter	Rock Trail Coalition
Dean Paynter	Rock Trail Coalition
Larry Arft	City of Beloit
Carolyn Brandeen	RTC
Therese Oldenburg	Paddle and Trail
Walter Loos	Paddle and Trail
Gus Larson	Not Supplied
Ruth Arnold	Not Supplied
Scott Arnold	Not Supplied
Pablo Toral	Beloit College
Brad Sippel	Paddle and Trail
Chris Brown	B&T
Dan Schreiber	Town of Beloit Parks
Phil Taber	Town of Beloit Supervisor
Larry Reimer	JVC
Josh Moore	Beloit College
Derek Hahn	LDA
Mark Preuschl	Beloit
Steve Miller	Beloit Spinners
Bob Soltau	SLATS
Elizabeth Brewer	Beloit College

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**Discussion:**

- Dean Paynter, President of the Rock Trail Coalition, provided an overview of the group's history and interest in creating a trail connection from Beloit to Janesville.
  - o Dave Gibbs and Lloyd Goding were among the first to realize the potential for the rail corridor abandoned in 1975.
  - o Over the years both Janesville and Beloit have significantly expanded their trail facilities and recent developments have moved the Beloit to Janesville segment closer to becoming a reality.
  - o In 2005, the Hendricks family got involved in the trail effort and provided easement donations down to Afton.
  - o In 2011 Janesville purchased the one remaining parcel needed to complete the Afton connection.
  - o Dean extended a special thanks to Walter Loos, Therese Oldenburg and Rick Barder for their knowledge and leadership
  - o In spring 2011, a group of interested parties met at Paddle and Trail (Beloit) and proceeded to form the loose Beloit-Janesville Peace Trail discussion group. Members include representatives from:
    - Bass Creek Espresso
    - Beloit and Beyond Bike Tour
    - Janesville Convention and Visitors Bureau
    - Paddle and Trail
    - Rock County Parks
    - Stateline Area Transportation Study
    - Trail neighbors, donors and advocates
    - City of Beloit Parks
    - City of Janesville Parks
    - Janesville Velo Club
    - Rock County Parks
    - Rock Trail Coalition
    - Stateline Spinners
- Blake Theisen with SAA Design Group provided an introduction to SAA's expertise, capabilities, history in the area and role in the project.
- Patrick Hannon with SAA Design Group provided an update on the project status, including goals, objectives and next steps after describing the study area and outlining the significance of making this connection between Beloit and Janesville.
  - o The purpose is to craft a feasible corridor master plan and report that can be used as a tool to gather support and pursue funding opportunities.
  - o The corridor master plan will provide a conceptual layout for the proposed route. Detailed engineering and exact configuration will occur at a later date once the plan has been adopted and funding has been secured for detailed design and construction.
- Blake Theisen provided an overview on what SAA has done in terms of inventory and analysis within the corridor and along the proposed route.
  - o Review of past planning studies, tour corridor and assess feasibility of route options, property information and right-of-way research, stakeholder interviews.

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- Patrick Hannon described potential route alternatives for both the northern and southern segments of the trail connection. Pros and cons to on and off street facilities were discussed along with challenges and potential solutions along the routes.
- Meeting attendees were asked to voice opinions and express hopes and concerns for the project. The following comments were discussed.

**Comments:**

- Why is the study area limited to the land west of Rock River?
  - o Decision made by task force in an effort to achieve results more quickly. Future opportunities may be considered east of the river as the network expands. SAA reviewed DOT projected projects and no immediate opportunities were identified for the east side.
- There is concern over snowmobiles and other motorized vehicles.
  - o Motorized vehicles will not be permitted the trail. Bollards, gates, etc. may be used to limit access.
- Who will be responsible for trail maintenance?
  - o The cities of Beloit and Janesville will maintain sections within their jurisdiction and Rock County/Rock Trail Coalition will likely maintain the rest.
- There is concern with an off-street trail as it may by-pass businesses in Afton.
  - o If an off-street path is not feasible along Afton Road, it may very well be separated from the business district to a degree. This is often the case with multi-use paths and small towns. Connecting paths and appropriate wayfinding signage may help cyclists reach businesses and, often, cyclists will seek out businesses regardless of trail proximity.
- There is concern over bicyclists potentially entering private property.
  - o Screening, berming and fencing can be implemented in areas where this issue may surface.
- The proposed change to the bike route near Beloit (utilizing Millar Road) seems to be an improvement.
  - o The re-alignment of Caldwell/Poole route to the proposed Dawson route is an improvement that the design team also prefers.
- Trail amenities, including drinking fountains, would be desired in key locations.
  - o We will look into incorporating amenities along the trail where appropriate.
- Broken glass and other debris along the path is a concern.
  - o Our hope is that the trail users will do their part to keep the trail clean and safe. Rock Trail Coalition or other user groups could possibly organize cleanup events as needed.
- The bike lanes along Afton Road are often poorly maintained and the presence of pea gravel, dead animals and glass can make them somewhat dangerous for cyclists.
  - o This is an issue that should be brought up with Rock County.
- Traffic speed and volume on Walters Road is a concern.
  - o This will be taken into consideration when looking at the entry/exit to big hill park.

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- Duggan Road is a relatively low traffic route and is a desirable option for a portion of the route.
  - o Duggan Road is not a bad option, but it may be more difficult to create facilities that would appeal to riders of all levels. This route is still being considered.
- Some property owners between Bass Creek Road and the abandoned railroad right-of-way have concerns over the location of the proposed route. They do not want it to be in their back yard.
  - o The design team and steering committee are willing to work with all property owners in the area to design an alignment that is functional and respects involved property lines.

**SAA Design Group Tasks:**

- Verify property information and exact abandoned rail corridor location.
- Fine tune maps based on comments received
- Continue to explore the feasibility of both the on-street and off-street alternatives for the northern half of the study area.
- Study the "curve" on Walters Road where the potential entrance to Big Hill Park is shown. There is concern over traffic speed, volume and visibility.
- Explore possibilities for trail routes and crossing Bass Creek at Bass Creek Road near former railroad bridge. Continue conversations with property owners in that area to reach a solution.
- Explore opportunities for creating a path segment from the southeast corner of Big Hill Park to the neighborhood along S. Natures Ridge.



APPENDIX 2 – COST ESTIMATES

COST ESTIMATE



Project: Beloit - Janesville Bicycle Route Corridor Plan Date: February 28, 2012  
 Cost Estimate Status: Master Plan Estimated by: ph/bt  
 Segments 1 through 2: City of Beloit to Walters Road Approved by: bt

Segment 1: City of Beloit to Big Hill Park (On-Street Route Relocation and Off-Street Side Path) Approximately 0.95 mile of on-street route, 1.6 miles of off-street path					
Item	Qty.	Unit	Unit cost	Item Total	Comments
1 General clearing and mobilization	1	ls	\$8,000.00	\$8,000.00	Clearing of structures, vegetation, erosion control, etc.
2 Off-Street multi-use path	8300	lf	\$50.00	\$415,000.00	Asphalt pavement, grading, erosion control
*Off-Street multi-use path	8300	lf	\$40.00	\$332,000.00	Gravel multi-use path
3 Utility relocation	1	ls	\$50,000.00	\$50,000.00	Possible relocation of overhead electric lines
4 Earthwork	1	ls	\$50,000.00	\$50,000.00	Grading, earthwork
5 Miscellaneous structures	1	ls	\$15,000.00	\$15,000.00	Culverts, storm sewer, etc.
6 Railing	1	ls	\$50,000.00	\$50,000.00	May be required along Afton Road multi-use path
7 Retaining walls	1	ls	\$150,000.00	\$150,000.00	May be required along Afton Road multi-use path
8 Intersection improvements	3	ea	\$20,000.00	\$60,000.00	Crosswalks, flashing beacons, signage, etc.
9 Signage	1	ls	\$2,500.00	\$2,500.00	Wayfinding and directional
10 Landscape improvements	1	ls	\$5,000.00	\$5,000.00	Restoration, tree replacement, etc.
11 Pavement markings	1	ls	\$5,000.00	\$5,000.00	Bicycle markings for on-street section
<b>Subtotal</b>				<b>\$810,500.00</b>	Paved (asphalt) multi-use path
Design				\$121,575.00	15% design fee
Contingency				\$162,100.00	20% contingency
<b>Total</b>				<b>\$1,094,175.00</b>	
*Subtotal with crushed stone path				\$727,500.00	Crushed stone multi-use path
Segment 2: Big Hill Park to Walters Road (Existing Park Roads and New Off-Street Path Connections) Approximately 1.2 miles of on-street route, 0.2 miles of off-street path					
Item	Qty.	Unit	Unit cost	Item Total	Comments
1 General clearing and mobilization	1	ls	\$15,000.00	\$15,000.00	Clearing of structures, vegetation, erosion control, etc.
2 Off-Street multi-use path	1050	lf	\$50.00	\$52,500.00	Pavement, grading, erosion control
*Off-Street multi-use path	1050	lf	\$40.00	\$42,000.00	Gravel multi-use path
3 Earthwork	1	ls	\$50,000.00	\$50,000.00	Extensive grading may be required within the park
4 Miscellaneous structures	1	ls	\$10,000.00	\$10,000.00	Culverts, storm sewer, etc.
5 Signage	1	ls	\$2,500.00	\$2,500.00	Wayfinding and directional signage
6 Landscape improvements	1	ls	\$10,000.00	\$10,000.00	Restoration, tree replacement, etc.
7 Existing park road improvements	1	ls	\$20,000.00	\$20,000.00	Pavement repair, guardrails, ramps, etc.
8 Pavement markings	1	ls	\$2,000.00	\$2,000.00	Bicycle markings for on-street section
<b>Subtotal</b>				<b>\$162,000.00</b>	Paved (asphalt) multi-use path
Design				\$24,300.00	15% design fee
Contingency				\$32,400.00	20% contingency
<b>Total</b>				<b>\$218,700.00</b>	
*Subtotal with crushed stone path				\$151,500.00	Crushed stone multi-use path

COST ESTIMATE



Project: Beloit - Janesville Bicycle Route Corridor Plan Date: February 28, 2012  
 Cost Estimate Status: Master Plan Estimated by: ph/bt  
 Segments 3 through 4: Walters Road to Existing Peace Trail Approved by: bt

Segment 3: Walters Road to Bass Creek (See alternate route options and associated maps)					
Alternate Route 3.A.1 (New Off-Street Path following abandoned Railroad Right-of-Way corridor). Comprehensive Plan recommended route. Approximately 1.5 miles of off-street path.					
Item	Qty.	Unit	Unit cost	Item Total	Comments
1 General clearing and mobilization	1	ls	\$50,000.00	\$50,000.00	
2 Off-street multi-use path	7775	lf	\$50.00	\$388,750.00	Asphalt Pavement, grading, erosion control
*Off-Street multi-use path	7775	lf	\$40.00	\$311,000.00	Gravel multi-use path
3 Miscellaneous structures	1	ls	\$20,000.00	\$20,000.00	Culverts, storm sewer, etc.
4 Intersection improvements	2	ea	\$20,000.00	\$40,000.00	Crosswalks, flashing beacons, signage, etc.
5 Signage	1	ls	\$5,000.00	\$5,000.00	Wayfinding and directional
6 Landscape improvements	1	ls	\$20,000.00	\$20,000.00	Restoration, tree replacement, etc.
<b>Subtotal</b>				<b>\$523,750.00</b>	
Design				\$78,562.50	15% design fee
Contingency				\$104,750.00	20% contingency
<b>Total</b>				<b>\$707,062.50</b>	
*Subtotal with crushed stone path				\$446,000.00	Crushed stone multi-use path
Alternate Route 3.A.2 (New On-Street Route on Duggan Road). Approximately 1.3 miles of on-street route.					
Item	Qty.	Unit	Unit cost	Item Total	Comments
1 General clearing and mobilization	1	ls	\$50,000.00	\$50,000.00	
2 On-street facilities (paved shoulders)	7020	lf	\$18.00	\$126,360.00	4' paved shoulders (asphalt pavement, grading, etc.)
3 Miscellaneous structures	1	ls	\$20,000.00	\$20,000.00	Culverts, storm sewer, etc.
4 Intersection improvements	2	ea	\$20,000.00	\$40,000.00	Crosswalks, flashing beacons, signage, etc.
5 Signage	1	ls	\$5,000.00	\$5,000.00	Wayfinding and directional
6 Landscape improvements	1	ls	\$20,000.00	\$20,000.00	Restoration, tree replacement, etc.
<b>Subtotal</b>				<b>\$261,360.00</b>	
Design				\$39,204.00	15% design fee
Contingency				\$52,272.00	20% contingency
<b>Total</b>				<b>\$352,836.00</b>	



APPENDIX 2 – COST ESTIMATES

COST ESTIMATE



Project: Beloit - Janesville Bicycle Route Corridor Plan Date: February 28, 2012  
 Cost Estimate Status: Master Plan Estimated by: ph/bt

Alternate Route 3.A.3 (New Off-Street Path along Walters Road and through Town of Beloit property) Approximately 1.75 miles of off-street path.					
Item	Qty.	Unit	Unit cost	Item Total	Comments
1 General clearing and mobilization	1	ls	\$50,000.00	\$50,000.00	
2 Off-street multi-use path	9200	lf	\$50.00	\$460,000.00	Asphalt pavement, grading, erosion control
*Off-Street multi-use path	9200	lf	\$40.00	\$368,000.00	Gravel multi-use path
3 Miscellaneous structures	1	ls	\$20,000.00	\$20,000.00	Culverts, storm sewer, etc.
4 Intersection improvements	2	ea	\$20,000.00	\$40,000.00	Crosswalks, flashing beacons, signage, etc.
5 Signage	1	ls	\$5,000.00	\$5,000.00	Wayfinding and directional
6 Landscape improvements	1	ls	\$20,000.00	\$20,000.00	Restoration, tree replacement, etc.
<b>Subtotal</b>				<b>\$595,000.00</b>	
Design				\$89,250.00	15% design fee
Contingency				\$119,000.00	20% contingency
<b>Total</b>				<b>\$803,250.00</b>	
*Subtotal with crushed stone path				\$503,000.00	Crushed stone multi-use path
Alternate Route 3.B.1 (New On-Street Route from Townline Road to Former Railroad Bridge at Bass Creek) Approximately 1.4 miles of on-street route.					
Item	Qty.	Unit	Unit cost	Item Total	Comments
1 General clearing and mobilization	1	ls	\$50,000.00	\$50,000.00	
2 On-street facilities (paved shoulders)	7150	lf	\$18.00	\$128,700.00	4' paved shoulders (asphalt pavement, grading, etc.)
3 Miscellaneous structures	1	ls	\$20,000.00	\$20,000.00	Culverts, storm sewer, etc.
4 Intersection improvements	1	ea	\$20,000.00	\$20,000.00	Crosswalks, flashing beacons, signage, etc.
5 Signage	1	ls	\$5,000.00	\$5,000.00	Wayfinding and directional
6 Landscape improvements	1	ls	\$20,000.00	\$20,000.00	Restoration, tree replacement, etc.
<b>Subtotal</b>				<b>\$243,700.00</b>	
Design				\$36,555.00	15% design fee
Contingency				\$48,740.00	20% contingency
<b>Total</b>				<b>\$328,995.00</b>	
Alternate Route 3.B.2 (New Off-Street Path from Townline Road to Former Railroad Bridge at Bass Creek on Duggan Road ROW/Easements) Approximately 1.4 miles of off-street path.					
Item	Qty.	Unit	Unit cost	Item Total	Comments
1 General clearing and mobilization	1	ls	\$50,000.00	\$50,000.00	
2 Off-street multi-use path	7200	lf	\$50.00	\$360,000.00	Asphalt pavement, grading, erosion control
*Off-Street multi-use path	7200	lf	\$40.00	\$288,000.00	Gravel multi-use path
3 Miscellaneous structures	1	ls	\$20,000.00	\$20,000.00	Culverts, storm sewer, etc.
4 Intersection improvements	1	ea	\$20,000.00	\$20,000.00	Crosswalks, flashing beacons, signage, etc.
5 Signage	1	ls	\$5,000.00	\$5,000.00	Wayfinding and directional
6 Landscape improvements	1	ls	\$20,000.00	\$20,000.00	Restoration, tree replacement, etc.
<b>Subtotal</b>				<b>\$475,000.00</b>	
Design				\$71,250.00	15% design fee
Contingency				\$95,000.00	20% contingency
<b>Total</b>				<b>\$641,250.00</b>	
*Subtotal with crushed stone path				\$403,000.00	Crushed stone multi-use path

COST ESTIMATE



Project: Beloit - Janesville Bicycle Route Corridor Plan Date: February 28, 2012  
 Cost Estimate Status: Master Plan Estimated by: ph/bt

Segment 4: Bass Creek to Existing Peace Trail via Third Street and Afton Road					
Alternate Route 4.A. Bass Creek to Existing Peace Trail via abandoned Railroad corridor to Third Street and Afton Road to Peace Trail. Approximately 0.6 miles of on-street route (new and existing), 0.5 miles of off-street path.					
Item	Qty.	Unit	Unit cost	Item Total	Comments
1 General clearing and mobilization	1	ls	\$20,000.00	\$20,000.00	
2 Bridge crossing	1	ls	\$200,000.00	\$200,000.00	New bike/ped bridge, possibly reuse ex. abutments
3 Off-street multi-use path	2600	lf	\$50.00	\$130,000.00	Asphalt pavement, grading, erosion control
*Off-Street multi-use path	2600	lf	\$40.00	\$104,000.00	Gravel multi-use path
4 Miscellaneous structures	1	ls	\$10,000.00	\$10,000.00	Culverts, storm sewer, etc.
5 Signage	1	ls	\$2,500.00	\$2,500.00	Wayfinding and directional
6 Landscape improvements	1	ls	\$10,000.00	\$10,000.00	Restoration, tree replacement, etc.
<b>Subtotal</b>				<b>\$372,500.00</b>	
Design				\$55,875.00	15% design fee
Contingency				\$74,500.00	20% contingency
<b>Total</b>				<b>\$502,875.00</b>	
*Subtotal with crushed stone path				\$346,500.00	Crushed stone multi-use path
Alternate Route 4.B. Bass Creek to Existing Peace Trail via Bass Creek Road and Afton Road (new and existing on-street routes) Approximately 1.25 miles of on-street route (new and existing) and 350 lf of off-street path (connection to Peace Trail).					
Item	Qty.	Unit	Unit cost	Item Total	Comments
1 General clearing and mobilization	1	ls	\$8,000.00	\$8,000.00	
2 Miscellaneous structures	1	ls	\$5,000.00	\$5,000.00	Culverts, storm sewer, etc.
3 On-street facility (paved shoulders)	3340	lf	\$18.00	\$60,120.00	4' paved shoulders (pavement, grading, etc.)
4 Off-street multi-use path	350	lf	\$50.00	\$17,500.00	Asphalt pavement, grading, erosion control
*Off-Street multi-use path	350	lf	\$40.00	\$14,000.00	Gravel multi-use path
5 Signage	1	ls	\$2,500.00	\$2,500.00	Wayfinding and directional
6 Intersection improvements	1	ea	\$20,000.00	\$20,000.00	Crosswalks, flashing beacons, signage, etc.
7 Landscape improvements	1	ls	\$5,000.00	\$5,000.00	Restoration, tree replacement, etc.
<b>Subtotal</b>				<b>\$118,120.00</b>	
Design				\$17,718.00	15% design fee
Contingency				\$23,624.00	20% contingency
<b>Total</b>				<b>\$159,462.00</b>	
*Subtotal with crushed stone path				\$114,620.00	Crushed stone multi-use path

\*No right-of-way, easement, or property acquisition is included in these cost estimates.