Red Cedar Greenway Master Plan

A project of:

MICHIGAN STATE UNIVERSITY

CITY OF EAST LANSING
HOME OF MICHIGAN STATE UNIVERSITY

With funding from:

MICHIGAN TRANSPORTATION ENHANCEMENT PROGRAM

Prepared by:

The Greenway Collaborative, Inc.

Bicycles & Inc.

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I. Project Overview

This project was spurred into existence by a number of factors including:

1) The popularity of the Lansing River Trail, its recent extension to the western edge of campus, and the desire to continue the trail through campus and further to the east.

2) The rethinking of campus transportation approaches and open space patterns that came about as a part of Michigan State University's (MSU) Campus 2020 Vision process.

3) A renewed commitment by MSU and the City of East Lansing to work together to address community issues.

4) Safety concerns brought about by accidents involving bicycles and pedestrians.

5) Water quality and shoreline erosion concerns of the Red Cedar River.

The Red Cedar corridor is the heart of the MSU campus and the prominent natural feature in the City of East Lansing. It holds a special place in the minds of the citizens of those communities and is clearly tied to their identity.

It is also one of the most important non-motorized transportation corridors on campus. The river corridor is a key east-west non-motorized link through Michigan State University, a campus with more than 43,000 students, and around 13,000 faculty and staff.

Opportunities and Challenges

The corridor connects numerous traffic generators. It is immediately adjacent to six residence halls housing more than 5,000 students and is within 1,000 feet of fourteen other residence halls housing almost 7,000 students. All of these residential complexes have extremely limited automobile parking. Primary campus destinations are all within about a mile and a half of the residence halls. Convenience and distance thus combine to make bicycling and walking very attractive options for students on campus.

The corridor is also immediately adjacent to four major classroom buildings, the main library, a hotel, Spartan Stadium, three major parking areas, and three intramural athletic facilities. Beyond the campus, the corridor serves the residents of the City of East Lansing, Lansing, and Meridian Townships on a daily basis and the residents of the region and state who visit MSU for special events. It has become a destination in its own right.

The corridor also experiences a high number of pedestrian and bicycle crashes. Where the existing paths cross Farm Lane and Kalamazoo Street, there averages at least one pedestrian crash and almost two bicycle crashes per year. Campus wide, 236 bicycle crashes and 60 pedestrian crashes have been reported over the past seven years, with most crashes resulting in injury.

While the goal across campus is to bring more bicycles into the roadway system to minimize bicycle/ pedestrian conflicts, there is no parallel road system to accommodate the bicycle traffic along the Red Cedar River. Even if there were, the scenic nature of the corridor would continue to draw bicyclists.

Therefore the Red Cedar Corridor presents a unique challenge. How do we efficiently and safely move large volumes of bicycles and pedestrians through the corridor while addressing the following?

- Motorized and non-motorized cross traffic
- Non-motorized turning movements
- The natural, scenic, and recreational aspects of the corridor

Project Goal

The project goal is to define a state-of-the-art non-motorized facility for the safe, efficient, and pleasant movement of people along the Red Cedar River, and a realistic means to implement that facility within the next five years.

Project Objectives

1) Improve user safety, as measured by a decline in the number and severity of crashes.

2) Encourage non-motorized travel, as measured by increases in pedestrian and bicycle counts.

3) Integrate the trail with the Lansing River Trail, as measured by the ease in which users can seamlessly use both facilities.

4) Educate users of appropriate trail etiquette and rules, as measured by observations, tickets and complaints.

Project Direction

In order to identify the most important items the Red Cedar Greenway Master Plan should address, a project direction exercise was undertaken at the beginning of the planning process. A list of design factors was drawn from the project's funding applications and project proposals. This list was then refined by the project Steering Committee and ranked in order of importance.

The exercise highlighted that the Steering Committee was in reasonable agreement on the four most important factors and the three least important factors. In the middle were four factors on which the committee did not agree about their importance. Of special note was the strong disagreement on whether or not to separate bicycle and pedestrian use.

The issue of separation of bicycles and pedestrians was explored at length, as were the other issues on which there was disagreement. The Steering Committee has noted that in many cases, if the issues that are of high importance are addressed well, this will take care of issues considered medium or low importance.

The following is the list of the eleven design factors in order of importance as ranked by the Steering Committee. The consensus on the ranking is noted in parentheses.

High Importance

- Minimize conflicts between bikes, pedestrians and cars (General Agreement)
- Creating safe non-motorized facilities (General Agreement)
- Encouraging non-motorized transportation (in place of motorized) (General Agreement)
- Educate users of relevant etiquette and laws (General Agreement)

Medium Importance

- Separation of bicycles and pedestrians, where possible (Strong Disagreement)
- Preservation & enhancement of natural features and park character (General Disagreement)
- Improve campus and community wayfinding (General Disagreement)
- Enhance recreation opportunities (General Disagreement)

Low Importance

- Identify new and incorporate existing social spaces (General Agreement)
- Enhance the community image (General Agreement)
- Improve water quality (Strong Agreement)

II. Overview of Existing Conditions

The natural beauty of the Michigan State University campus makes it a great place to walk or bike. In general, pedestrian facilities have traditionally been well planned on campus, but bicyclist accommodations are antiquated to lacking.

Photo courtesy of MSU Alumni Association Website

Off-Road Facilities

Existing pedestrian circulation paths are 8 to 14 feet wide, while bicycles have been provided for the most part with narrow, one-way 18- to 24-inch "spaghetti" paths that meander back and forth across the walkways. This treatment is seen along the Red Cedar River and, intermittently, in other parts of campus. In general, the path systems tend to follow the desire lines of users traveling from building to building.

Visually, the combined effect of all the various path pavements creates busy and fragmented central green spaces on campus. Functionally, the separation of uses does not work as originally intended.

Eight feet of space is required for two pair of pedestrians to pass each other comfortably. Since students often travel in larger groups and stop to socialize, the added width provided on many of the MSU pathways is good. The sheer numbers of pedestrians on campus require adequate facilities to accommodate high levels of use, especially during class change intervals. MSU is also working hard to accommodate pedestrians with disabilities through sensitive design.

A bicyclist requires 3.5 feet of operating space for balance and maneuverability, plus a two-foot shy distance from opposing traffic and lateral obstructions. These basic needs establish a 10-foot minimum trail width for two-way bicycle use. Thus the existing MSU bike paths are very substandard.

On-Road Facilities

Within street rights-of-ways, pedestrians are again routinely accommodated through sidewalk provisions. Bicycles are essentially vehicles and should use streets and roadways; however without "host facilities" such as signed and striped bicycle lanes, many cyclists ride on sidewalks. Less experienced bicyclists often feel safer being removed from the street environment, when in fact, research has shown that sidewalk riders are 1.8 to 4.5 times more at risk of being involved in a crash with a motor vehicle.

Recently, Michigan State University has begun to include on-street bicycle lanes as an integral part of campus transportation planning and street resurfacing projects. However, the initial facilities are not heavily used since the overall on-street bike lane system is still fragmented and incomplete. Instead, most cyclists add to the congestion on already heavily traveled sidewalks due to lack of their own facilities.

Traffic signals and roadway crossings have also been designed with minimal attention to bicyclist needs. Pedestrian-actuated push-button signals are inappropriate for bicycle use. A preferred solution is to use loop detectors embedded in both roadway and trail pavements that are sensitive and responsive to bicycles. Newer technologies such as wireless magnetometers and radar, infrared, ultrasound, and video detection may present the best solutions for all users. Signal timing should be geared to integrate typical path crossing traffic when passive detection is not utilized.

One-way streets on campus provide further disincentives to bicycle on the roadways, as trip distances become significantly lengthened. Bicyclists will tend to opt for the shortest direct path of travel, which means cutting across campus greens on pedestrian walkways, or even riding wrong-way in the street against the flow of traffic.

Bridges

The existing pedestrian bridges over the Red Cedar River are fairly wide for non-motorized structures. However, with the high levels of use on campus, such widths are at times less than desired for joint bicycle and pedestrian use. Adding to the congestion are design problems where bridges intersect with trails parallel to the river, and the frequent use of such locations for social gathering.

Per AASHTO, railings on bicycle structures should be at least 42 inches high to prevent a cyclist from toppling over the edge, and have a smooth rub rail positioned at handle-bar height. Wing walls or similar abutment railings are desired at bridge ends when adjacent to river bank slopes that are steeper than 1:3 and/or with less than 5 feet of separation from the edge of the path to top of bank. If at all feasible, perpendicular paths should be pulled away from the bridges to enhance sight lines and improve turning radii approaching the structure. Various MSU structures need to be upgraded to meet these guidelines.

Roadway bridges have been typically designed to serve the needs of automobiles, with pedestrian walkways provided on each side, but no bicycle accommodations. Bridge walkways thus often carry both bicycle and pedestrian traffic, and several are of inadequate width to handle the number of users. Like the separated non-motorized structures, roadway bridges often lack bicycle-height railings and abutments.

Bicycle Parking

Two styles of parking racks are found on campus. The newer "inverted U" model adds to both convenience and security through its simple and straight-forward design. However, the old-fashioned "school yard" racks designed to only hold a bicycle wheel should be systematically replaced with parking facilities that allow a cyclist to easily lock both the frame and one wheel to the rack.

Parking racks have been generally well placed throughout campus, being sited in convenient and highly visible locations near building entrances to minimize opportunities for bicycle theft. However, to access such dispersed parking facilities, bicyclists routinely ride on walkways not intended or designed for bicycle use.

User Behavior

The safety of people on foot and bike is of primary concern to Michigan State University. Pedestrian safety is compromised when faster traveling bicycles short cut through areas intended and designed for pedestrian use. Bicyclist safety is compromised when cyclists disregard traffic laws and ride against traffic, run signals, hop curbs and travel through crowded areas at speeds faster than they should.

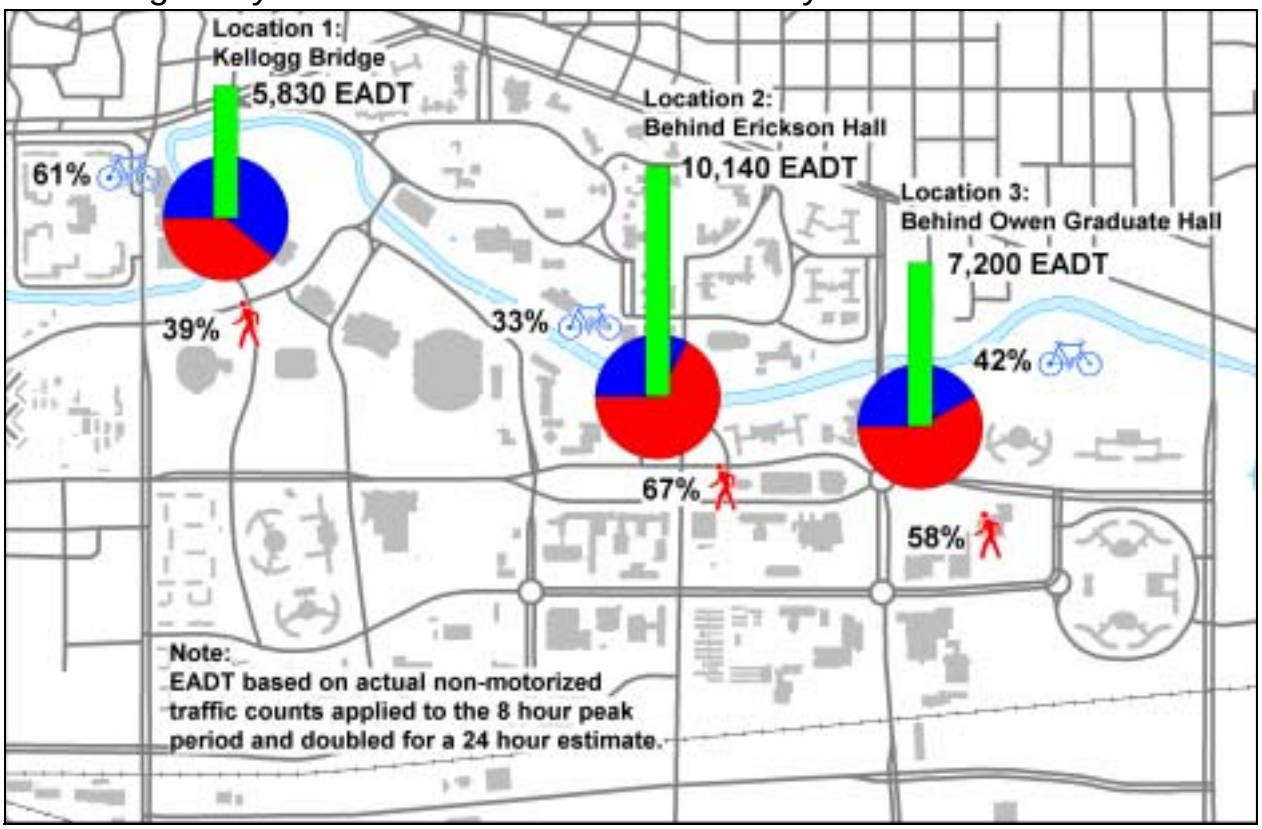
Motorists often fail to look for and yield to non-motorized users. Such problems are further compounded when bicyclists and pedestrians leave the sidewalk system and enter the street at unexpected locations, either in a mid-block dart-out situation or in front of turning vehicles at intersections.

Current law enforcement to control and prevent such behavior is minimal.

In Summary

The above factors collectively contribute to a system of non-motorized facilities with no separation of use between bicycles and pedestrians. All users try to take advantage of whatever space is available to get them wherever they need to go on campus. Frequent conflicts are encountered due to speed, turning and stopping differences between the faster bicyclists and slower pedestrians who, at the same time, are more mobile and unpredictable in their movements.

Existing Bicycle and Pedestrian Activity



How Many People Currently Bike and Walk?

To determine levels of bicycle and pedestrian use on campus, students working for Campus Park and Planning were used to take field counts at three key locations on campus during various times on various days of the week in the spring and fall of 2001.

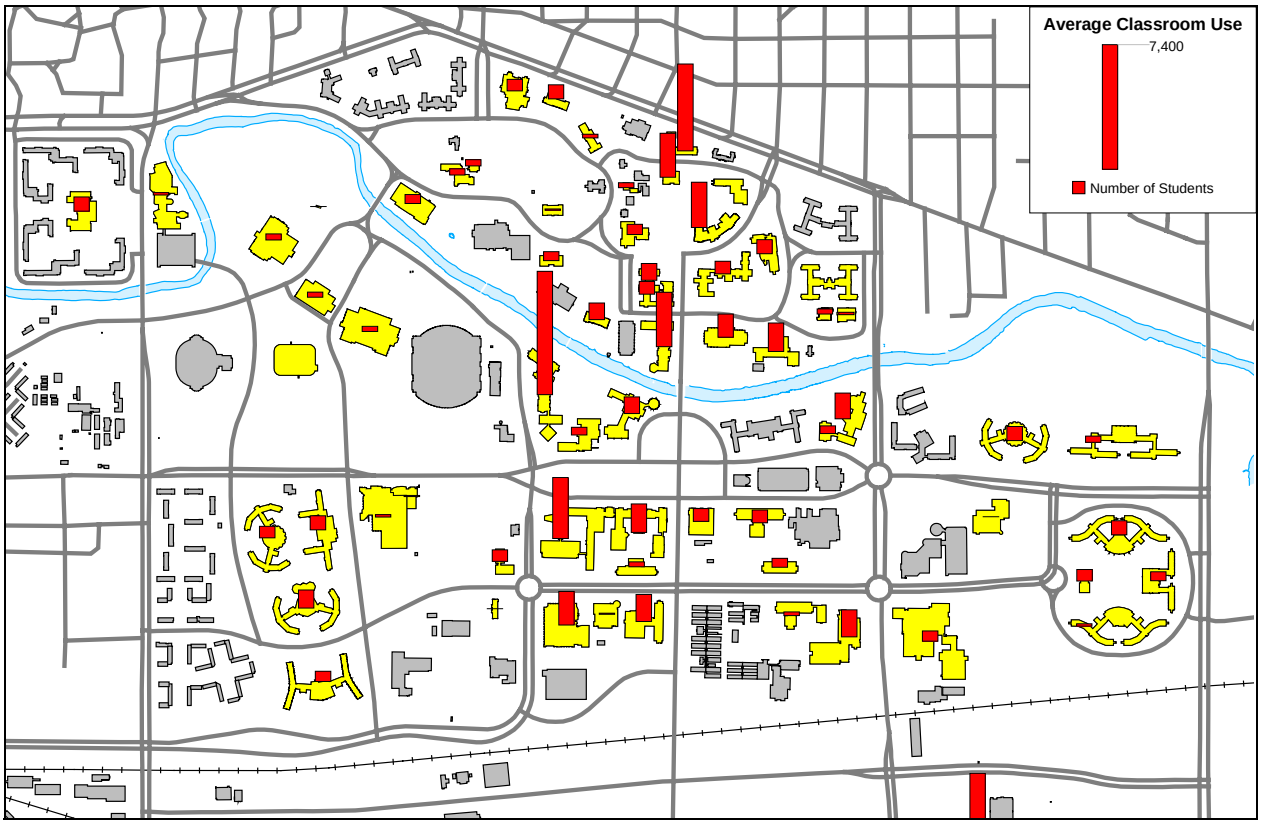
These counts were then combined with available MSU data on Total Student Class Hours by Day and Numbers of Students in Class by Time of Day to calculate the peak hour use and estimated non-motorized Average Daily Traffic (ADT) for a 24-hour period.

The highest peak of use can be anticipated at Location #2, behind Erickson Hall at the Wells Hall bridge, late mornings on Mondays and Wednesdays. A total of 1,021 non-motorized users per hour can be expected.

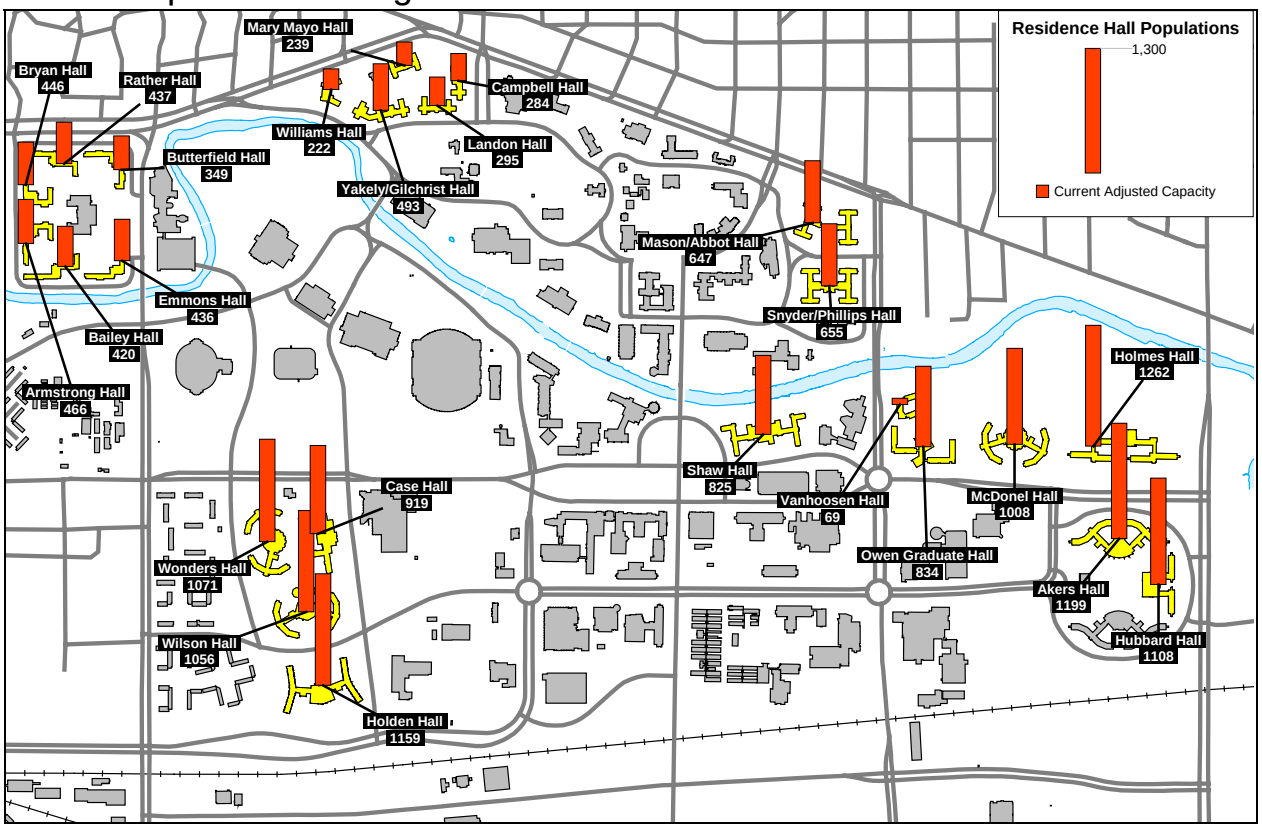
The estimated non-motorized ADT counts were determined by establishing the 8-hour peak and doubling it for a 24-hour ADT, a practice used to determine typical EADT for vehicular counts. The resulting estimated ADT of 5,830 to 10,140 for non-motorized modes is similar to the numbers of vehicles using campus streets.

The level of non-motorized use was split between bicyclist and pedestrian modes at the various count locations, as depicted above.

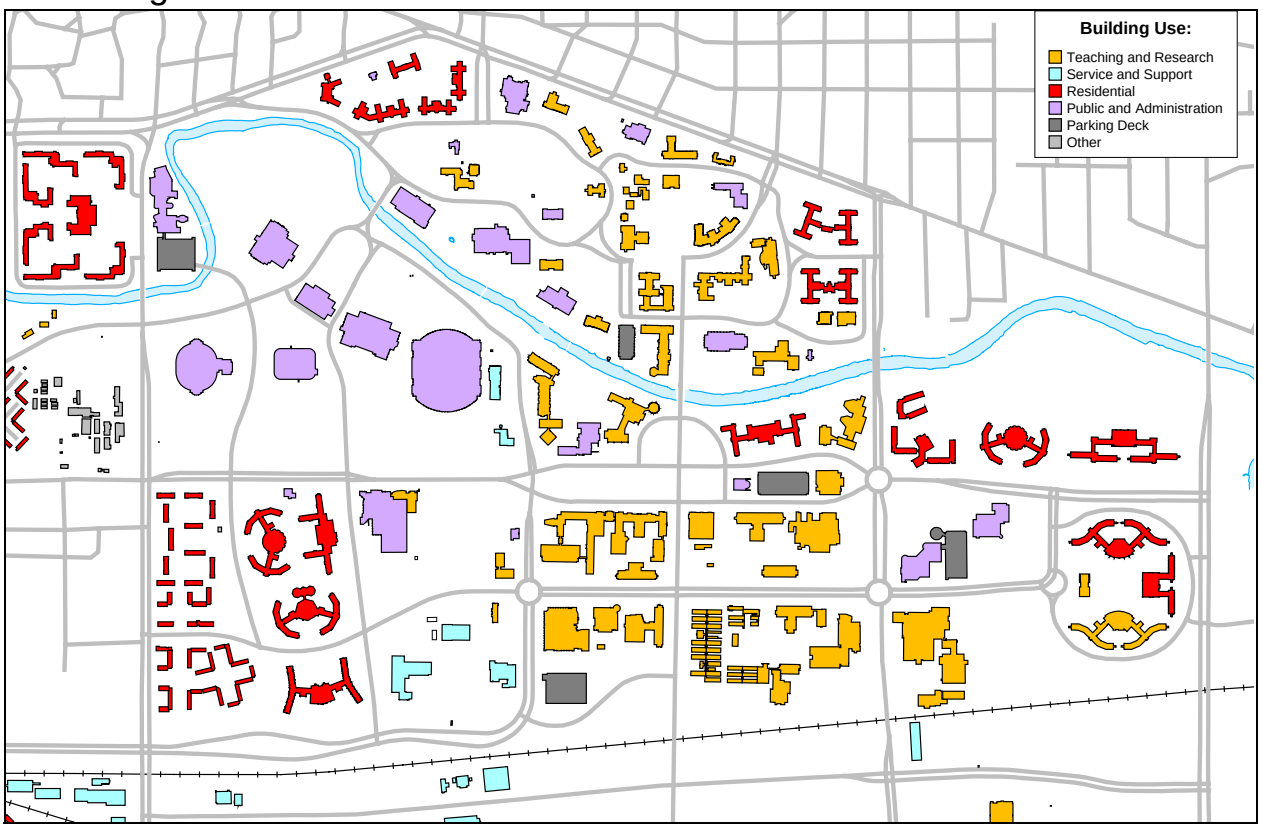
Classroom Use



On-Campus Housing



Building Use



Where Do People Want to Go?

In an attempt to establish desire lines for bicycle and pedestrian travel on campus, an analysis was made of origins, destinations and building usage patterns.

Using residential population data provided by the Department of University Housing, most trips were found to originate from the South Complex and East Complex residence halls, and to a lesser extent, the Brody Complex. It is also acknowledged that many trips originate off-campus in East Lansing and at the Cedar Village and Spartan Village apartment complexes, although population data for such was not available from MSU. This master plan therefore must address connections across campus and off campus into the larger community.

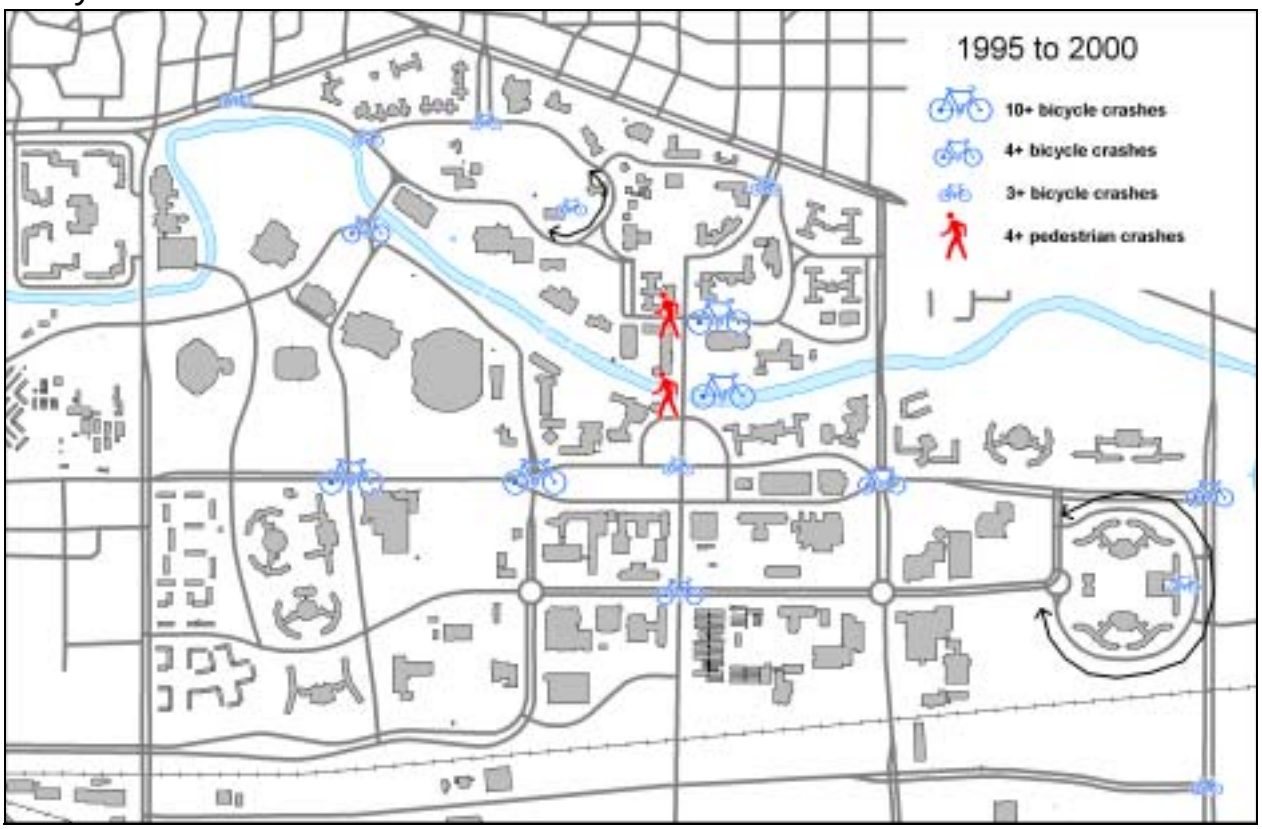
According to classroom use data obtained from the MSU Office of Planning and Budgets, major campus destinations include:

- Wells Hall
- Berkey Hall
- Engineering Building
- Bessey Hall
- Natural Sciences
- Old Horticulture

With the exception of Engineering, these high-use classroom buildings align to create a strong travel desire line along, and north of, Farm Lane. The new pedestrian mall that is being proposed in this location in the *2020 Vision Master Plan* will help to serve needs within this high demand corridor.

Primary building uses on campus will remain more or less the same over the next twenty years. Parking allocation, however, will be reconfigured to include more perimeter parking decks. This strengthens the intent of *Vision 2020* to balance automobile accommodations with a priority for pedestrian needs and public transit on campus.

Bicycle and Pedestrian Crashes



Can We Make Campus Safer?

On-campus bicycle and pedestrian crashes were examined for a five-year period, from 1995 to 2000. Police records include reported crashes that involve motor vehicles and result in injury. Data for crashes occurring off of the street system was not available. Nationally, it is estimated that less than ten percent of all crashes are actually reported since the majority of bicycle and pedestrian incidents don't involve vehicles, or result in only minor cuts and scrapes.

In general, findings on the MSU campus correspond with national statistics regarding crash patterns involving bicyclists and pedestrians.

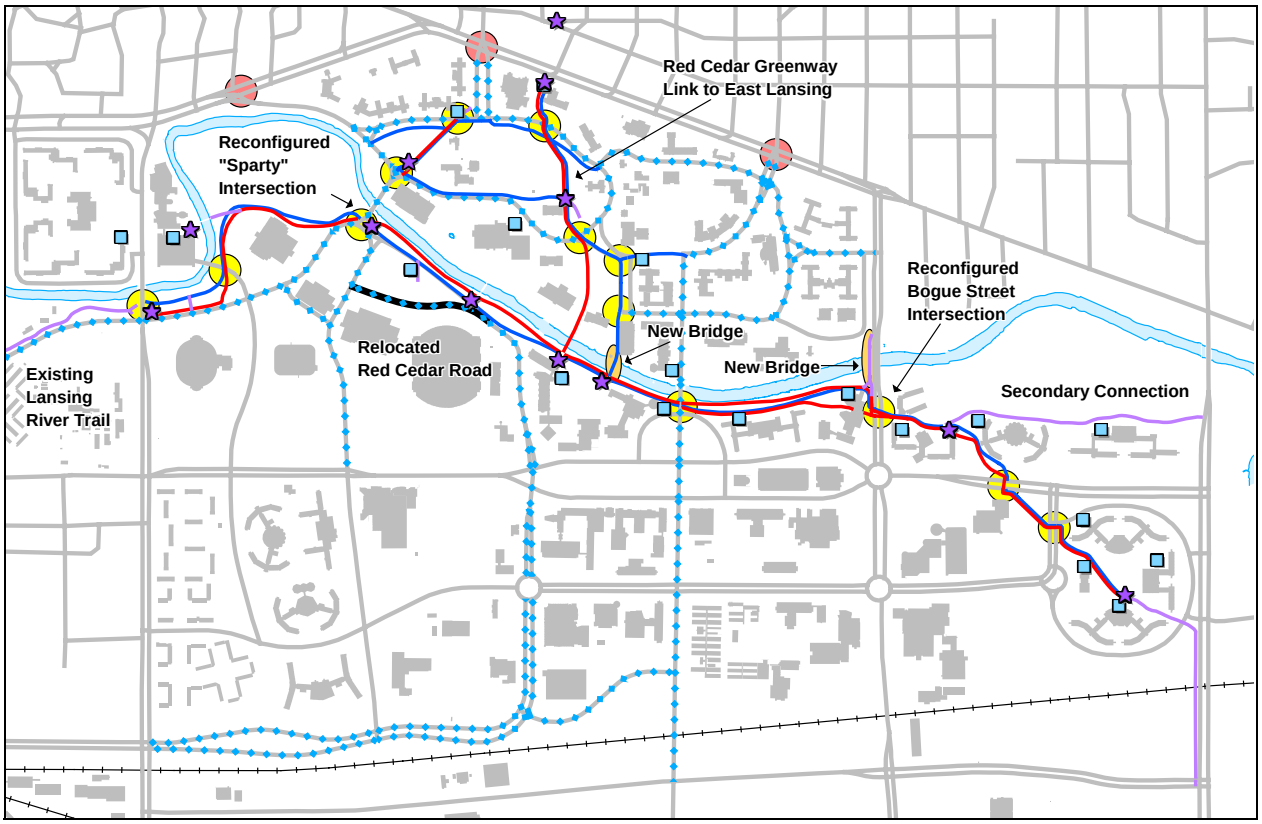
Bicycle Crash Characteristics

- Most crashes occurred on Mondays and Wednesdays, from 10:00 am to 3:00 pm, which directly corresponds with MSU's highest-use class periods.
- Bicycle crashes tend to be clustered at key street intersections, with the worst being Farm/Auditorium.
- Nationally, motorists are usually to blame in crashes involving adult bicyclists.
- Motorist errors at intersections contribute to 33.3%; while motorist overtaking cause another 10.5%.

Pedestrian Crash Characteristics

- Wednesdays and Saturdays saw the most crashes, which reflect MSU peak class schedules and the national trend of higher weekend crash rates, most often attributed to alcohol involvement.
- Pedestrian crashes occurred at dispersed locations across campus, and are thus difficult to map.
- Likewise, nationally, 80% of pedestrian fatalities occur at non-intersection locations, often from a dart-out situation.

III. Master Plan Overview



Legend

- Information Kiosks
- Monitored Bicycle Parking
- Shared-use Path
- Pedestrian Path
- Bicycle Path
- Road with Bicycle Lane(s)
- Path / Road Intersection Improvements
- In-road Bicycle Improvements to Campus Entrances
- Proposed New Non-motorized Bridge
- Road Re-alignment

Plan Highlights

- Develop the east-west Red Cedar Greenway through the heart of the MSU campus as an off-road system with separated paths for bicycles and pedestrians.
- Encourage separation by making it more convenient to use the correct facility.
- Provide information kiosks at key junctures for enhanced campus wayfinding.
- Use special paving at conflict points as a traffic calming technique to warn all users of intersecting paths.
- Improve road intersections for enhanced non-motorized crossing, preferably through the use of raised and colored speed tables.
- Continue the Red Cedar Greenway as a shared-use facility at campus edges to connect with the Lansing River Trail to the west, and into Meridan Township to the east.
- Develop secondary north-south paths to link the Red Cedar Greenway with MAC and East Lansing, and to connect Kalamazoo Street with Abbott Entrance.
- Add signed and striped bicycle lanes on selected streets to complete a campus-wide bike system.

Separated vs. Shared-Use Facilities

The issue of whether to provide multi-use path facilities or attempt to separate faster moving bicyclists from slower pedestrians is complex and controversial. As previously noted, there was no consensus, and in fact strong disagreement, among project Steering Committee members on how to address this issue.

MSU is not alone in its struggle to determine the best trail design options for multiple users. Drawing on experience from other communities who have attempted separation of uses by various means yields the following pros and cons to consider when designing the Red Cedar Greenway:

Considerations for Separated Facilities

- A single path facility needs to be wider than 14 feet to even consider lane striping to separate users. However, such lane designation is frequently ignored by users.
- Separated facilities each need to be wide enough to accommodate the intended user groups. If not, bicyclists and pedestrians will both tend to use the wider path and disregard the attempted use designation. From case study experience, pedestrians tend to be the user group in lowest compliance.
- The space between physically separated paths can be difficult to maintain, as can abutting facilities constructed of different materials -- i.e. asphalt next to concrete.
- Facilities need to be signed or have the intended use distinguished by design -- for example, through the use of colored pavements and/or lane striping.
- Conflicts occur at transition points. Users are uncertain where to continue traveling once the separated facilities end. Right-of-way must be apparent when paths intersect each other.
- Separation through fencing and/or striping can be ugly and create a significant amount of pavement in sensitive natural environments.

Considerations for Shared-Use Facilities

- Bicycles travel at speeds averaging 12 mph, while pedestrians typically move at speeds of 3 to 4 mph. This speed differential between bicyclists and pedestrians can lead to crashes and serious injuries.
- Pedestrians can stop, change direction and move suddenly without warning. Bicyclists need a much more generous turning radius and stopping distance to maintain balance and avoid leaning or skidding into a fall.
- Pedestrians tend to travel in groups and disperse themselves across the entire width of a path, creating obstacles to bicycle travel.
- Centerline striping can help to minimize conflicts, but swerving and passing are unavoidable.
- Reducing the number of contacts between different users through some form of separation, if possible, is recommended in highest use areas and congested zones such as near roadway crossings.
- Design alone can't solve conflicts between multiple users. It is also necessary to promote responsible behavior and trail etiquette.

Given these considerations, the project Consultant Team and Steering Committee examined several scenarios for user separation including: separated paths where pedestrians have right-of-way priority; separated paths where bicyclists have priority; and developing a shared-use path with centerline striping throughout and separate lane designations near street intersections.

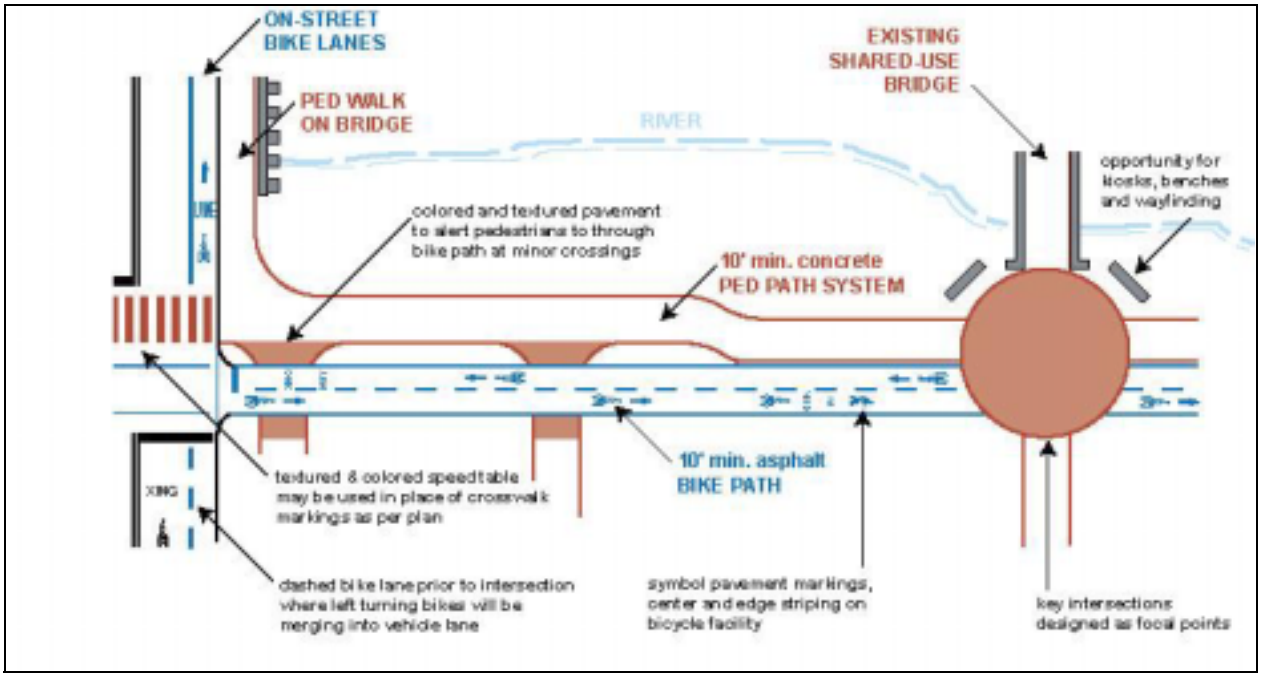
Due to the extremely high levels of non-motorized use on campus, and in particular along the Red Cedar River corridor, it was decided that separated facilities were warranted through the central part of campus. If space allows, separated facilities are also preferred in areas of moderate use at the campus edges. Spur facilities may be shared-use paths.

Proposed Path Configuration

Since most of the existing campus circulation system experiences joint use by bicyclists and pedestrians, it was determined that total separation of users throughout campus would be difficult, if not impossible. Systematically adding bicycle lanes to area streets will help to relieve congestion on sidewalks within roadway corridors. However, for the greenway trail along the river corridor, two separate paths for bicycles and pedestrians were deemed necessary to handle the high levels of use and to minimize conflicts due to speed differential between users.

In an effort to distinguish the off-road bicycle facilities from the network of campus walkways, the following design treatments are being recommended:

- The pedestrian path along the Red Cedar River should be a minimum of 10 feet wide and constructed of concrete, keeping with the design of other walkways on campus.
- The bicycle path, also a minimum of 10 feet wide, should be visually distinct -- paved in asphalt with 4" white edge striping, 4" yellow centerline striping, and pavement symbols to indicate direction of bicycle travel.
- Wherever possible, the two facilities are desired to be separated by open space. When such is not possible, careful attention needs to be paid to the longitudinal joint between facilities.
- A two-tiered approach should be taken to establish right-of-way where paths intersect:
    1) At intersections with minor walkways, pedestrians will be alerted to yield to bicycle travel through a combination of the bike path paving and striping traversing the walkways, and use of colored and textured pavement in advance of the intersection.
    2) At key major intersections, large areas of colored and textured pavement will alert all users to slow and be aware of each other. This focal point design will be supplemented with pavement markings that instruct bicyclists to yield to pedestrians.



On-Road Plan Elements

Upgrading and enhancing off-road paths along the river will solve many, but not all, bicycle transportation needs on campus. The proposed Red Cedar Greenway offers a more direct and convenient east-west route across campus than MSU roadways. However, to access the Red Cedar Greenway and other destinations not located along the river corridor, cyclists should rely on the street system as the most efficient means of getting to where they want to go.

To encourage such use, bicycle lanes are proposed for several campus streets as illustrated on the map on page 15. Bike lanes are signed and striped portions of the roadway designated for bicycle use. They are always implemented as one-way facilities on either side of the street. Arrows and pavement stencils indicate direction of travel - on the right, with the flow of traffic. Lanes are typically 4 to 6 feet wide, exclusive of curb and gutter, and are separated from vehicular travel by a six-inch solid white lane stripe.

Streets with bicycle lanes may also have on-street parking. For safety and visibility reasons, the bike lane must always be located between the parking bays and the right-hand travel lane, not next to the curb.

Bike lanes are more difficult to implement on one-way streets, especially those as found on campus that are not part of a one-way pair. Traveling one-way around East or West Circle greatly increases trip distance, which for the typical cyclist, is likely enough disincentive to encourage wrong-way riding and/or cutting across the campus green. Two options are available for consideration for adding bike lanes to one-way streets: 1) The street actually becomes a two-way facility, only cars are not allowed to enter going in one direction. This in essence creates a "contra-flow" bicycle lane in the street while permitting bicyclists to fully obey established traffic laws. 2) A parallel one-way bike path is constructed adjacent to the roadway to handle the "wrong-way" bike traffic. Potential problems with this design include difficult enforcement of such as a one-way facility, and user conflicts with pedestrians who will also likely use the parallel path.

Bicycle Parking

Parking for bicycles on campus must balance convenience, safety and security. The project Steering Committee and articles in *The State News* indicate bicycle theft is a serious problem and concern of bicyclists on campus. The Steering Committee also acknowledges that while the current location of bicycle parking racks immediately outside of almost every building on campus is desired for visibility and increased sense of security from bicycle theft, such dispersed bicycle parking may also contribute to decreased safety. To access the parking facilities, bicyclists routinely ride on walkways not intended or designed for bicycle use.

Photo courtesy of City of Corvallis website

MSU's *Vision 2020* plan for vehicular parking is to use perimeter decks to expand parking opportunities and relocate selective internal surface parking to help relieve congestion on campus. This same approach may be taken for bicycle parking. Selective bicycle parking racks should be eliminated if their location causes conflicts and congestion between bicyclists and pedestrians. Additionally, all "old school yard" style racks should be replaced with newer "inverted U" models to permit locking of both the bike frame and one wheel to the rack.

Bicycle parking opportunities may be additionally expanded on campus by providing centralized covered parking areas in strategic locations -- immediately adjacent to the designated bicycle facilities and at the Transit Center, for example.

To be effective, such parking needs to offer benefits beyond the traditional cluster of parking racks, and effectively address security concerns for locations that are not immediately beyond classroom windows. Parking may take the form of a "bikestation" concept as is being implemented in several communities in California, Washington and Colorado to offer secure, personally attended bicycle parking in a central location with added amenities for cyclists such as free air, bike maps, or even a coffee shop.

A step up from simply providing a roof over parking stations, a high-security approach would be to establish a program similar to that of the State Agency Commute Trip Reduction Program at Washington State. They have installed seven lockable "bicycle cages" in parking facilities around the Capitol Campus. The cages are free to state employees who commute by bicycle. Each cage is equipped with bicycle racks and can be accessed by state employees who have registered and have received an assigned code. The codes access all seven cages, allowing people to take their bicycles to other areas of the campus.

A similar high-security bicycle cage in use in Fort Collins, Colorado, is pictured at right.

Photo courtesy of the Bikestation™ Coalition

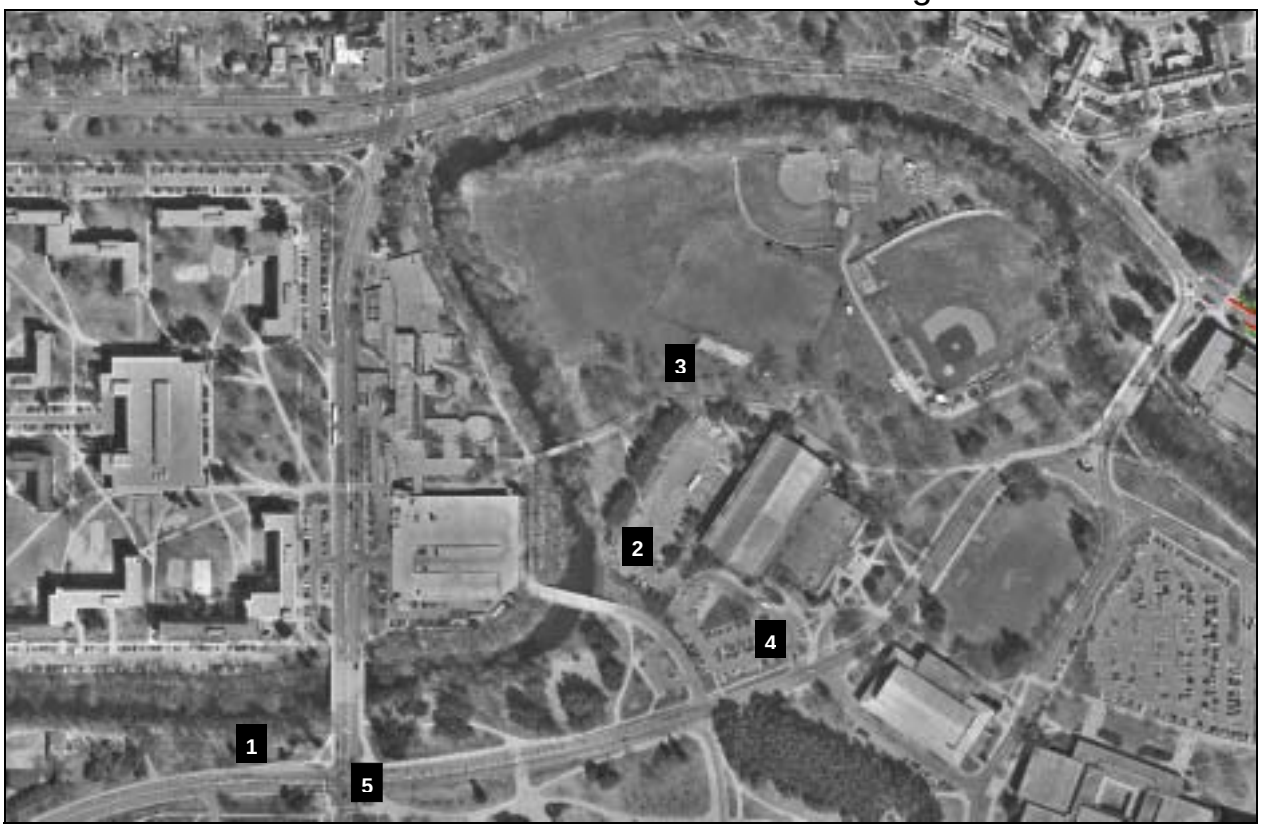
IV. Segment by Segment Plans

This section of the Red Cedar Greenway Master Plan divides the project into nine segments and summarizes each in terms of existing conditions and planned proposals for that area of the project. Existing conditions are depicted through aerial photos and on-site photographs, and where applicable, planned campus improvements as outlined in *Vision 2020* are illustrated. The existing conditions are then compared side-by-side to proposed recommendations depicting specific elements of this non-motorized plan.

The working sections of the Red Cedar Greenway have been identified as follows:

- Harrison Road to Sparty
- "Sparty" Intersection (Kalamazoo Street)
- Kalamazoo Street to Farm Lane
- Farm Lane Intersection
- Farm Lane to Bogue Street
- Bogue Street Intersection
- Bogue Street Bridge
- Bogue Street to Hagadorn Road
- East Lansing Connection

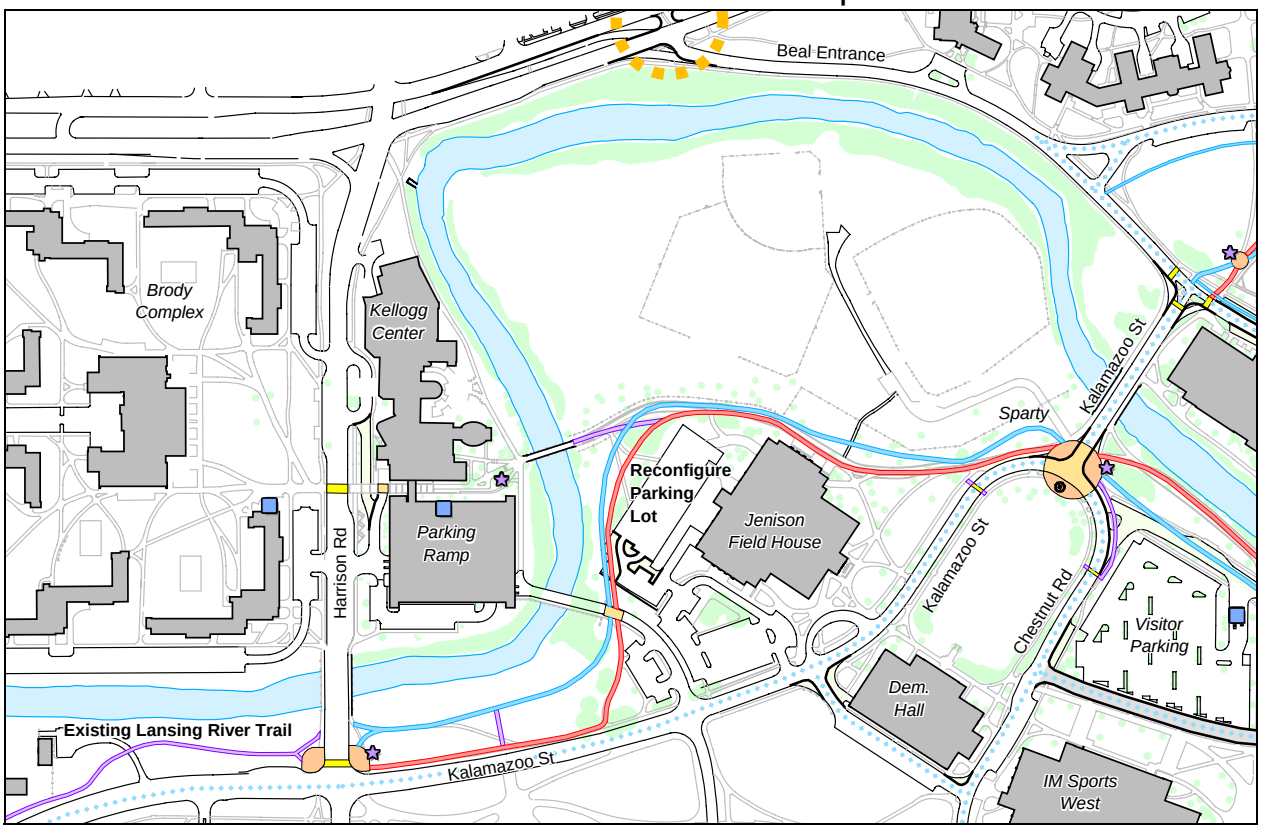
Harrison Road to Kalamazoo Street – Existing Conditions



Highlights

1. Lansing River Trail ends with no-clear way to continue.
2. Parking lot is adjacent to river and the riverfront is little used.
3. Elevated path through floodplain limits areas where path can be built.
4. Numerous driveway crossings exist along Kalamazoo.
5. Lansing River Trail's end point presence from the street is very limited.
6. Substandard bicycle "spaghetti paths" meander alongside of pedestrian walkway; typical throughout campus.

Harrison Road to Kalamazoo Street – Proposed Plan



Legend

- Information Kiosk
- Monitored Bicycle Parking
- Bicycle Path
- Pedestrian Path
- Other Path
- Road with Bicycle Lane(s)
- Special Paving
- Raised Crosswalk
- Standard Crosswalk
- New Curb Location
- New Road
- Removal of Pavement
- Removal of Path
- Proposed Building

Recommendations

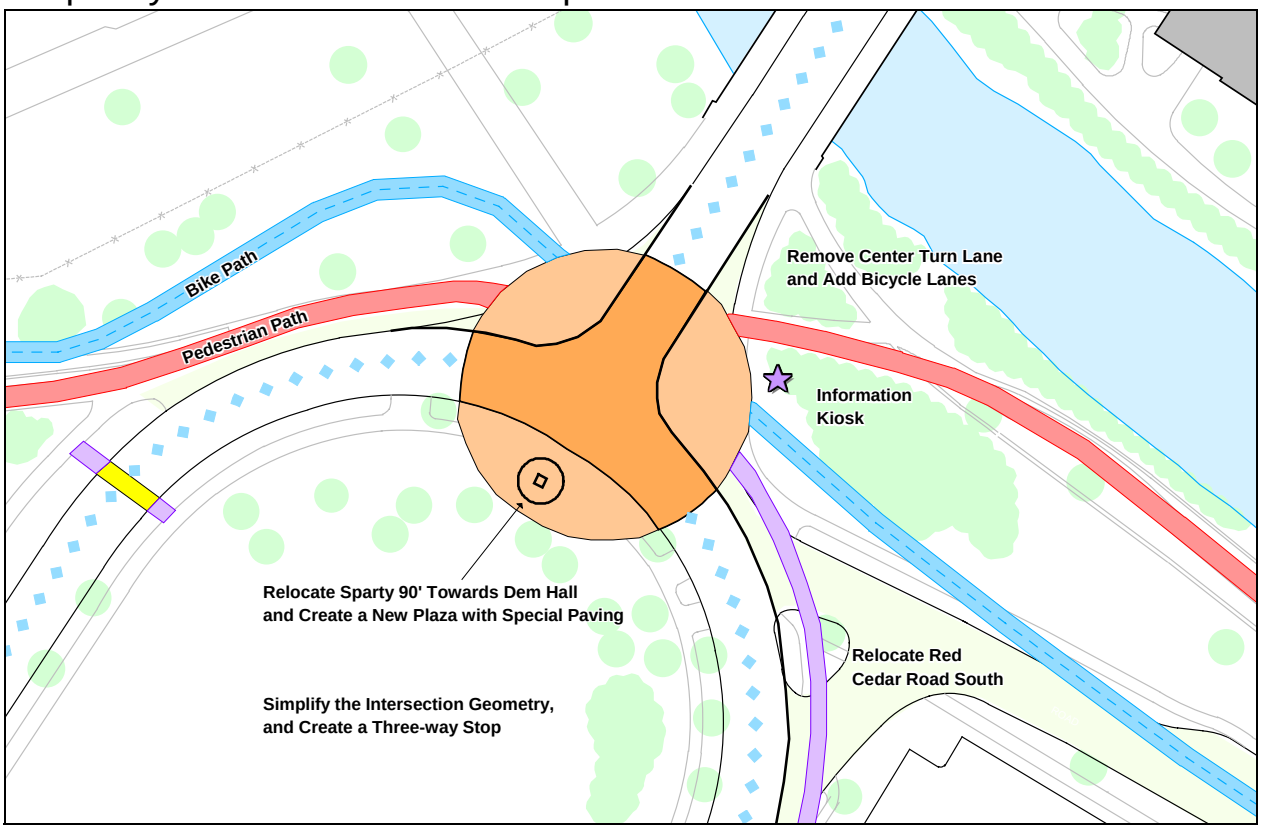
- Improve connection to the Lansing River Trail and enhance aesthetics of crossing at Harrison Road. Add an information kiosk welcoming greenway users to campus.
- Provide separated paths for bicyclists and pedestrians for all but the shared-use link to Brody Complex.
- Take advantage of lost riverfront and route greenway away from Kalamazoo Street.
- Reconfigure Jenison Field House parking lot to provide space for dual paths.

“Sparty” Intersection – Existing Conditions

Highlights

1. Kalamazoo St. ADT is approx. 10,000.
2. The Sparty sculpture has symbolic importance and is often photographed, yet is difficult to access in the middle of the intersection.
3. Multiple turning movements and limited sight distances make through travel confusing to motorists, bicyclists and pedestrians.
4. Motorists who are looking for other cars entering the intersection can be taken by surprise by bicyclists or pedestrians coming off of sidewalks.
5. Developing an underpass crossing is not an option due to height restriction and desire to preserve vegetation.

"Sparty" Intersection – Proposed Plan



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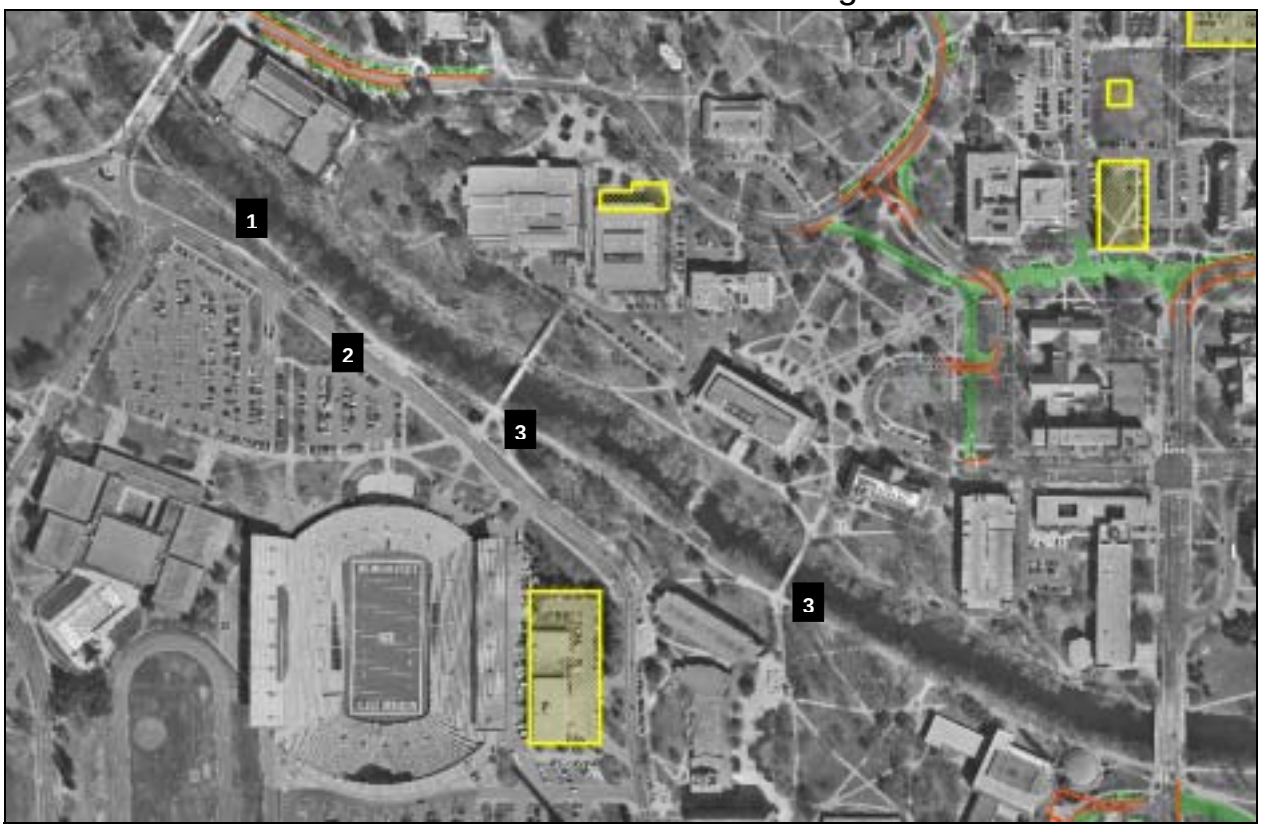
- Raised Crosswalk
- Standard Crosswalk
- New Curb Location
- New Road
- Removal of Pavement
- Removal of Path
- Proposed Building

Recommendations

- Retain Sparty's general position and create a plaza around a reconfigured intersection.
- Reconfigure the intersection as a 3-way stop with special paving in the roadway to emphasize the bicycle and pedestrian traffic.
- Relocate Red Cedar Road to the south to simplify turning movements – see next segment.
- Add a wayfinding information kiosk to make this a visitor-friendly area.
- Could coordinate improvements with a re-casting of the Sparty sculpture.
- Add on-street bicycle lanes to Kalamazoo Street and Chestnut Road as part of campus-wide bicycle system.

Kalamazoo Street to Farm Lane – Existing Conditions



Highlights

1. The adjacency of Red Cedar Road to the river causes the current pedestrian path to be located right at top of bank.

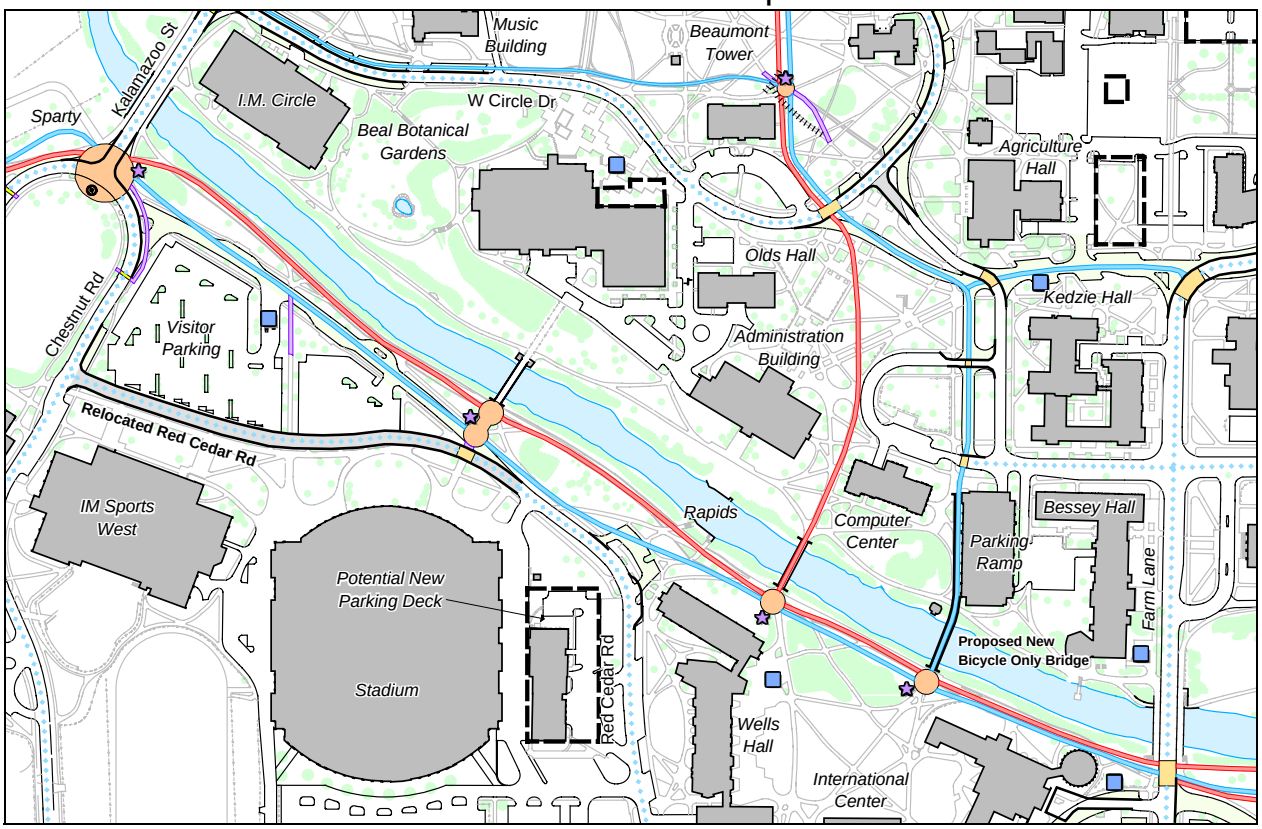
2. People in the adjacent parking lot have difficulty getting to path over barricades limiting entrance to the commuter lot.

3. Bridges end directly on the path, which limits sight distances and creates conflicts.

4. There is not enough space to accommodate two adjacent 10-foot paths through this section and preserve vegetation.

5. Low bridge railings currently do not meet AASHTO guidelines.

Kalamazoo Street to Farm Lane – Proposed Plan



Legend

- Information Kiosk
- Monitored Bicycle Parking
- Bicycle Path
- Pedestrian Path
- Other Path
- Road with Bicycle Lane(s)
- Special Paving
- Raised Crosswalk
- Standard Crosswalk
- New Curb Location
- New Road
- Removal of Pavement
- Removal of Path
- Proposed Building

Recommendations

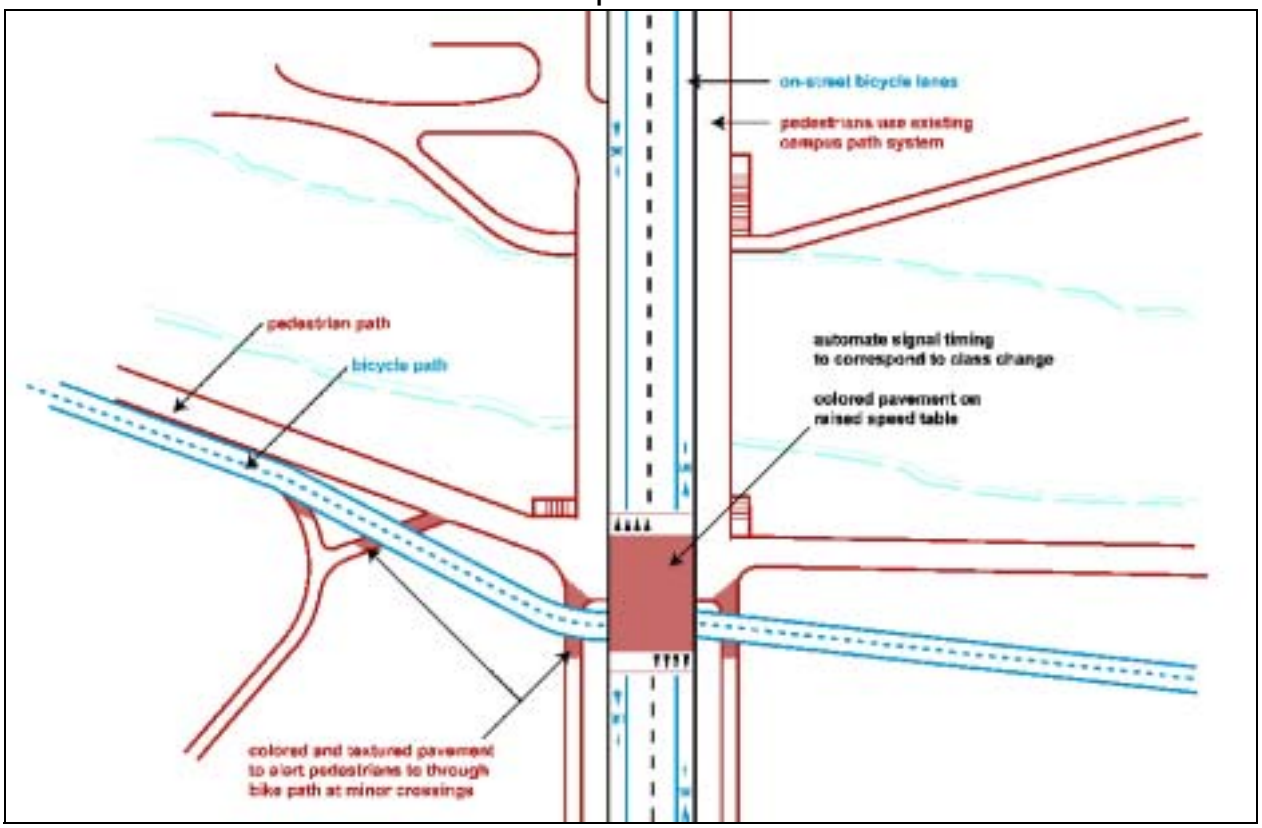
- Relocate Red Cedar Road to the south to improve water quality and pedestrian access to the greenway.
- Develop bike path on the old road bed, removing a portion of the parking lot to accommodate the path alignment.
- At bridges, pull pedestrian path back from abutments and create focal point plazas to alert users to potential conflicts in these high-use areas. Add way-finding signage.
- Develop a dual path system using the Wells Hall bridge and a new bridge to link the Red Cedar Greenway to MAC and East Lansing, see East Lansing Connections.
- Add bike lanes to Red Cedar Road; improve linkage from off-road paths to bike lanes on Farm Lane and Auditorium.

Farm Lane Intersection – Existing Conditions

Highlights

1. Farm Lane is a high-use street, with approximately 13,000 vehicular ADT. Traffic moves quickly.
2. The Red Cedar crossing of Farm Lane is a busy intersection in terms of bike/ped use, with an EADT of 10,000 non-motorized users.
3. Bicycle and pedestrian paths are not clear and often misused.
4. Flooding under bridge and significant vegetation limit underpass use.
5. The existing pedestrian signal is old, triggered by push-button, and not synchronized with class change.

Farm Lane Intersection – Proposed Plan



Speed Tables

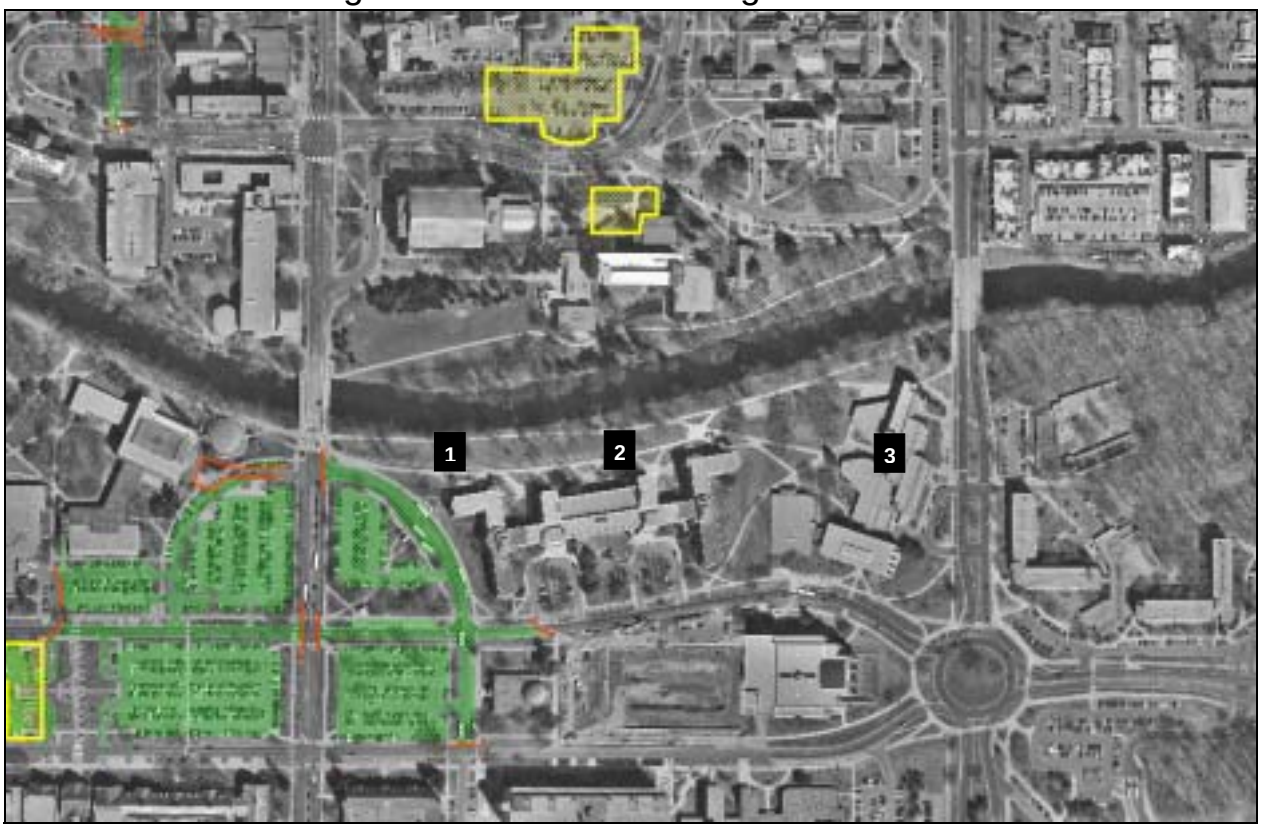
Apply this traffic calming treatment to other high-visibility roadway crossings on the MSU campus following these design guidelines:

- Typically speed tables are 22 feet in the direction of travel with 6-foot ramps on each end and a 10-foot flat section in the middle; other lengths (32 and 48 feet) reported in U.S. practice.
- Length of table will ultimately depend on length of crosswalk area needed to accommodate dual pathways.
- Most common table height is between 3 and 4 inches (and reported as high as 6 inches)
- Ramps are typically 6 feet long (reported up to 10 feet long) and are either parabolic or linear.
- Careful design is needed for drainage.

Recommendations

- Place priority on bicycle and pedestrian movements at this path/roadway intersection.
- Do so by constructing a speed table as a traffic calming technique. Speed tables are long raised speed humps with a flat section in the middle and ramps on the ends; often constructed with brick or other textured materials on the flat section.
- Coordinate intersection signal timing with class schedule to give non-motorized users priority during class change intervals.
- Use sections of colored and textured pavement on intersecting sidewalks and minor pedestrian pathways to alert users of crossing bicycle facility.
- Continue practice of striping bicycle lanes on streets to complete an on-road system throughout campus.

Farm Lane to Bogue Street – Existing Conditions



Highlights

1. Upper and lower paths exist. The lower is frequently subject to flooding.

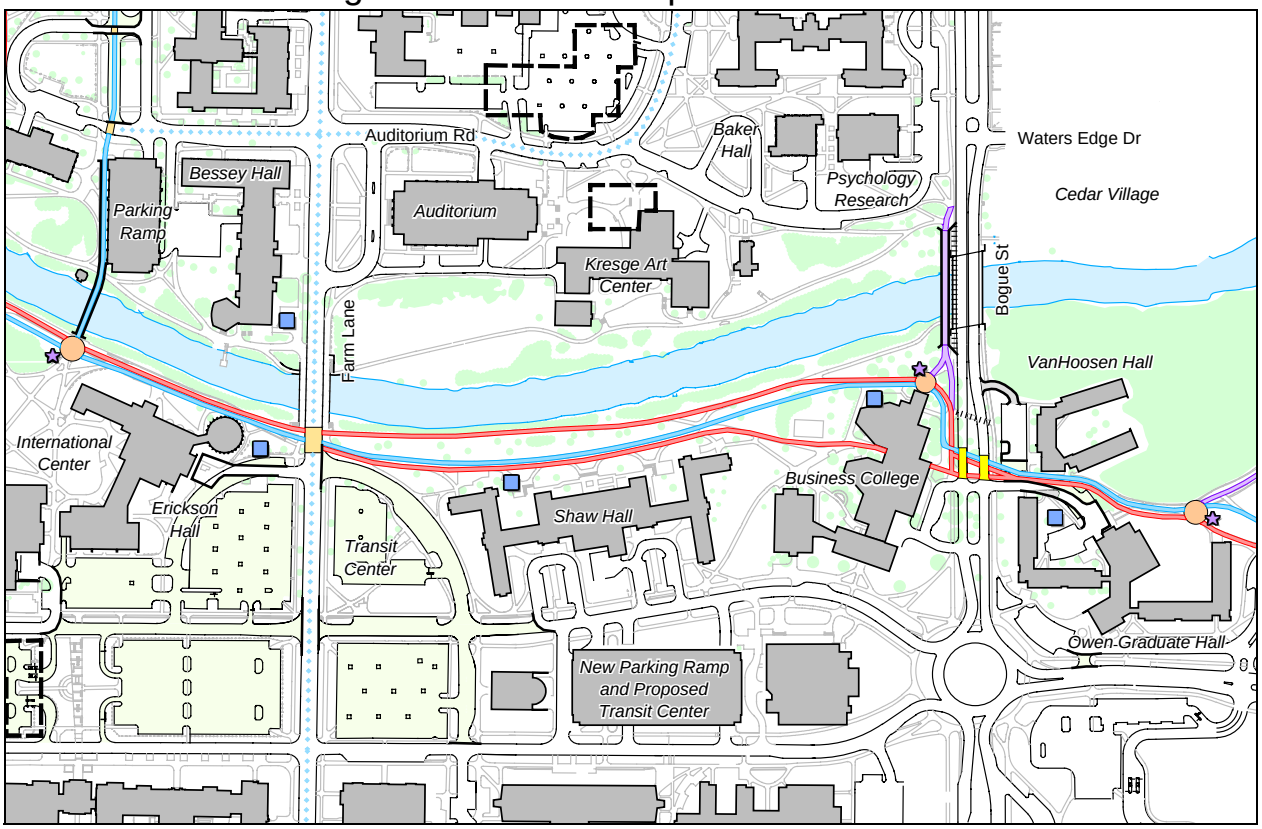
2. The bicycle "spaghetti path" pair is little used because of connections at Farm Lane and Bogue Street direct users to the lower path.

3. Business College building interrupts the flow of the path; most pedestrians cut through building.

4. The lower path gets the majority of both bicycle and pedestrian traffic.

5. The flood plain is very wide throughout this section of the project.

Farm Lane to Bogue Street – Proposed Plan



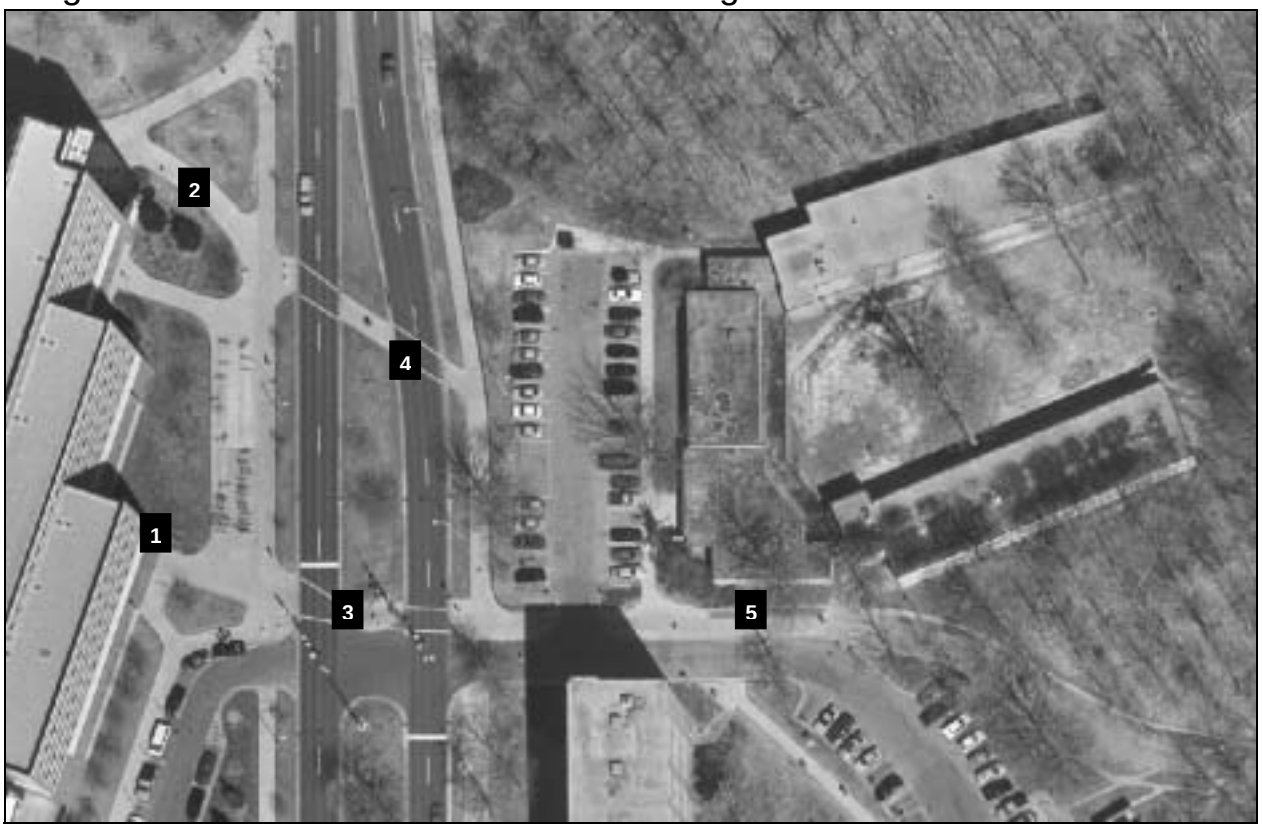
Legend

- Information Kiosk
- Monitored Bicycle Parking
- Bicycle Path
- Pedestrian Path
- Other Path
- Road with Bicycle Lane(s)
- Special Paving
- Raised Crosswalk
- Standard Crosswalk
- New Curb Location
- New Road
- Removal of Pavement
- Removal of Path
- Proposed Building

Recommendations

- Recognize frequent flooding of lower walkway and develop a back-up pedestrian path on higher ground.
- Develop parallel bicycle path and make good connections at either end for a continuous facility.
- Recognize the through-building travel pattern of pedestrians.

Bogue Street Intersection – Existing Conditions



Legend

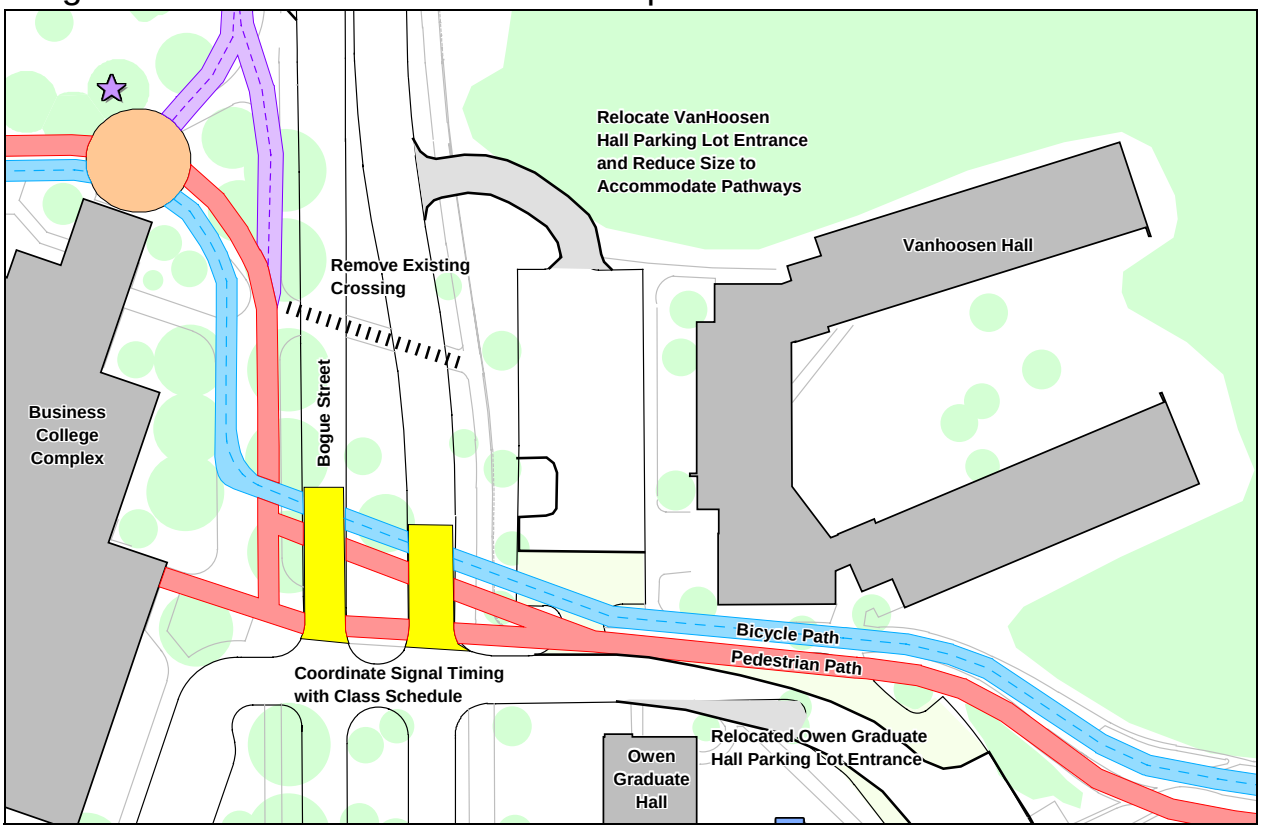
Vision 2020 Proposed Changes

- Potential Building Locations
- Curb Changes
- Pavement Removal

Highlights

1. There are two distinct approaches to this intersection - one goes through the Business College building.
2. The other skirts the north edge of the building.
3. Pedestrian signal with crosswalk and median refuge, although few users actually use the push-button.
4. Unsignalized mid-block crossing is used heavily by bicycles. Users cross whenever there are breaks in traffic, utilizing median refuge.
5. Space is tight adjacent to VanHoosen Hall and its front parking lot.

Bogue Street Intersection – Proposed Plan



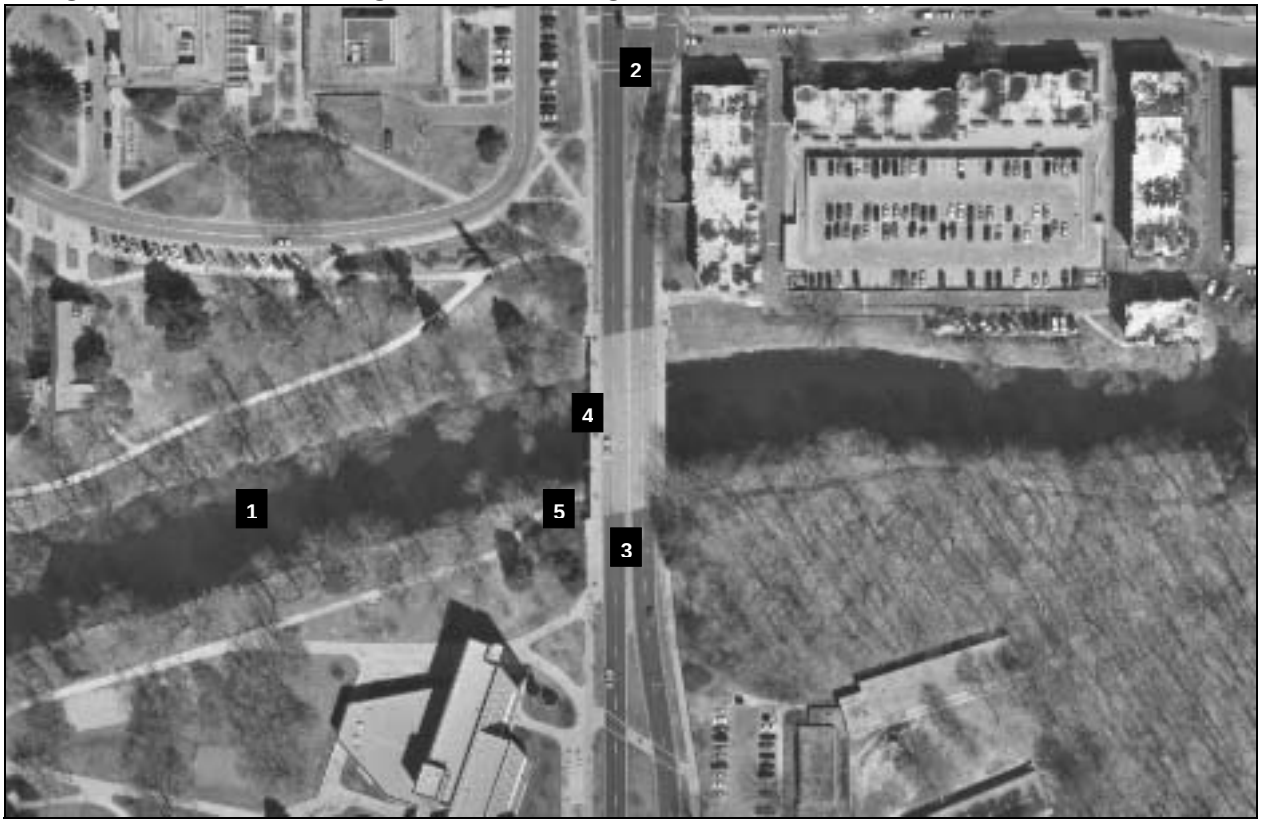
Legend

- Information Kiosk
- Monitored Bicycle Parking
- Bicycle Path
- Pedestrian Path
- Other Path
- Road with Bicycle Lane(s)
- Special Paving
- Raised Crosswalk
- Standard Crosswalk
- New Curb Location
- New Road
- Removal of Pavement
- Removal of Path
- Proposed Building

Recommendations

- Accommodate bicycle travel pattern around building to relocated crossing. Have lower floodplain walkway follow in a twin-pair alignment.
- Pull parking and service roads away from greenway alignment.
- Pull southbound signal arm back in advance of and to include the bicycle path crossing.
- Standard crosswalk is indicated but consider speed table option.
- Coordinate intersection signal timing with class schedule to give non-motorized priority at class change intervals.

Bogue Street Bridge – Existing Conditions



Highlights

1. The Red Cedar floodplain is very wide in this section of the project; lower areas flood frequently.

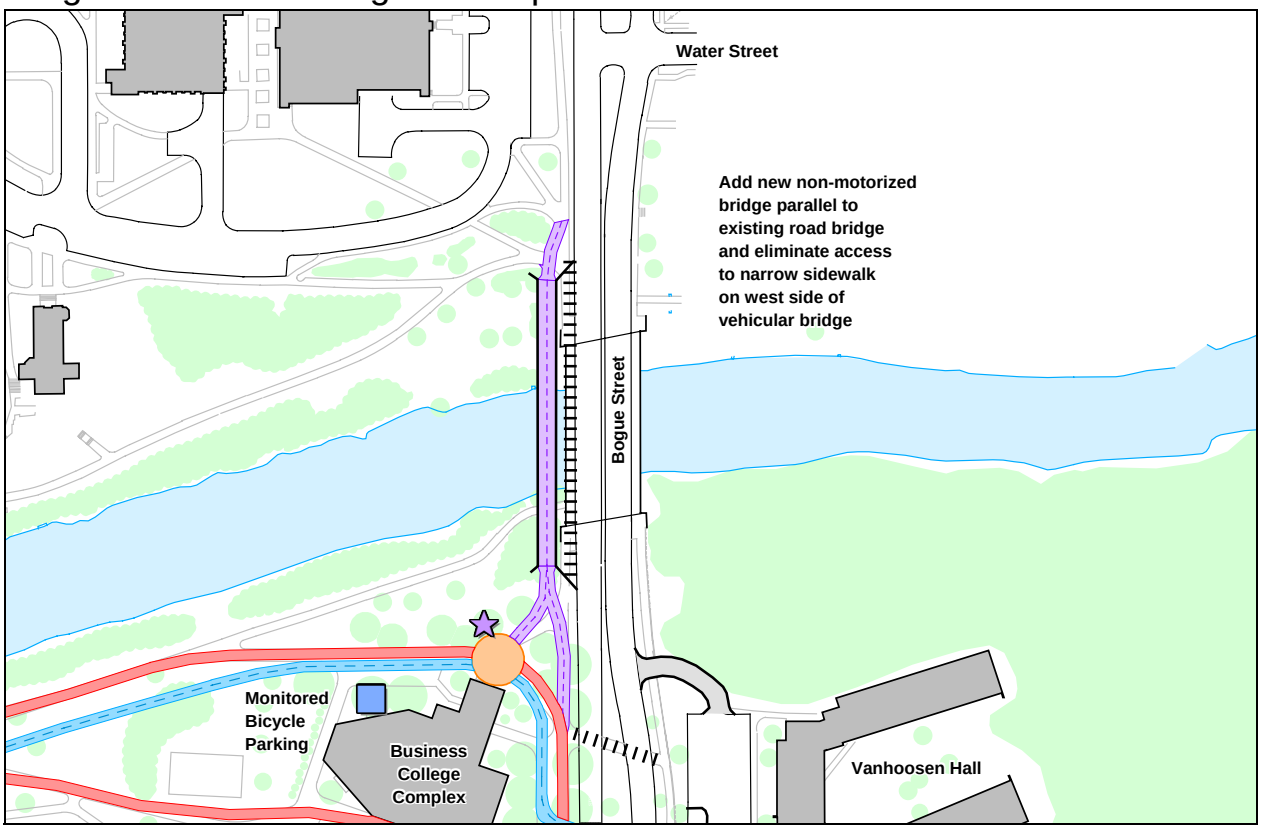
2. Pedestrian path users continuing northeast do not go all the way up to Waters Edge Drive to use the marked crosswalk.

3. Instead, path users continue their path of travel and cross Bogue at a diagonal, using the 18” wide raised lane divider on the bridge as a refuge point while waiting for gaps in traffic.

4. Sidewalks are over-crowded with pedestrian and bicycle users, especially on the west side of the Bogue Street bridge.

5. The existing underpass is little used due to low headroom and flooding issue.

Bogue Street Bridge – Proposed Plan



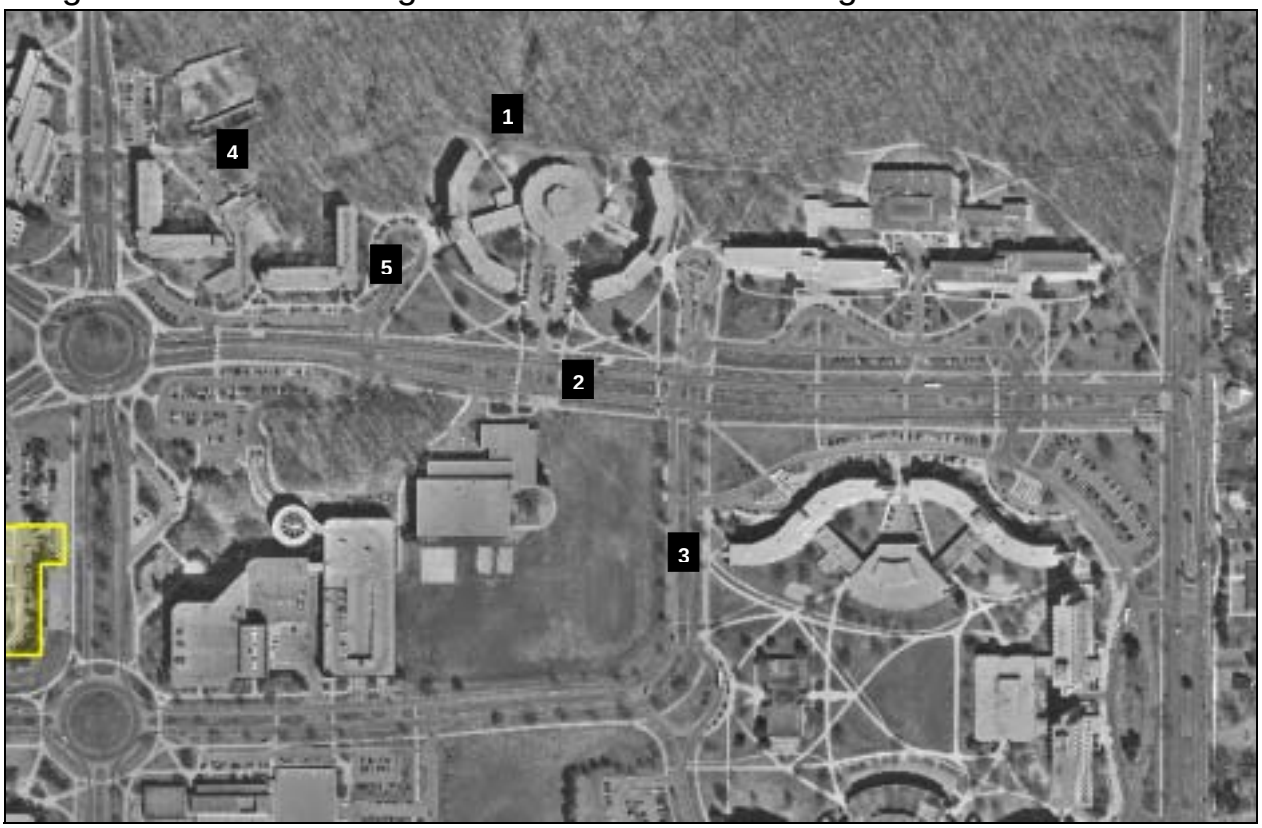
Legend

- Information Kiosk
- Monitored Bicycle Parking
- Bicycle Path
- Pedestrian Path
- Other Path
- Road with Bicycle Lane(s)
- Special Paving
- Raised Crosswalk
- Standard Crosswalk
- New Curb Location
- New Road
- Removal of Pavement
- Removal of Path
- Proposed Building

Recommendations

- Close the west sidewalk on the Bogue Street bridge to discourage diagonal cutting across the bridge. Remove existing sections of sidewalk approaching bridge.
- Construct a new non-motorized bridge immediately parallel to the roadway bridge. Make it wide enough to accommodate the heavy shared-use that this area experiences.
- Provide connections for direct travel to the west on the twin-pair alignment, and to the south to use the relocated Bogue Street roadway crossing - see previous segment.

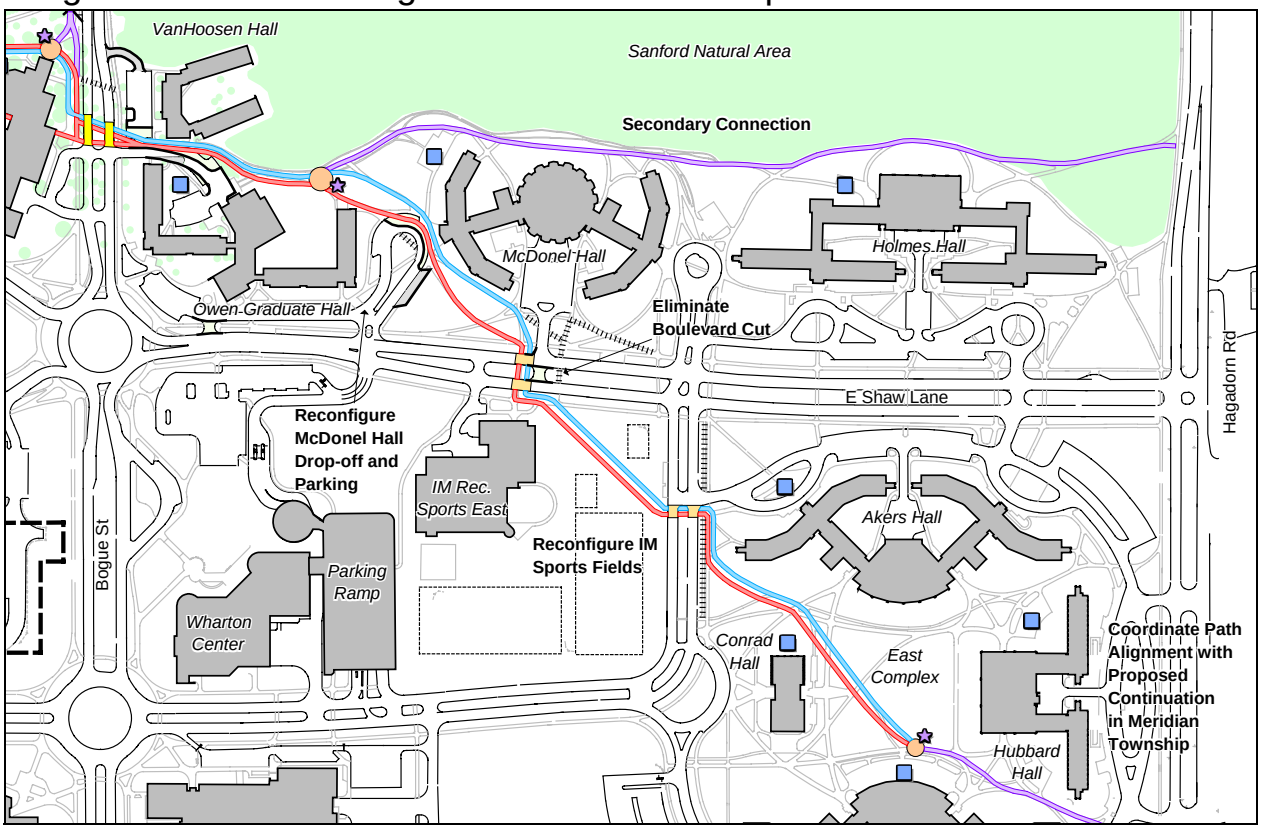
Bogue Street to Hagadorn Road – Existing Conditions



Highlights

1. There are many mature trees located immediately next to this section of path, as it skirts the Sanford Natural Area.
2. Conflicts exist crossing E. Shaw Lane.
3. Conflicts exist crossing Wilson Road.
4. Heavy use is experienced on the stretch between VanHoosen and McDonel Halls.
5. The main traffic pattern crosses the drop-off and parking loop in front of West McDonal Hall .

Bogue Street to Hagadorn Road – Proposed Plan



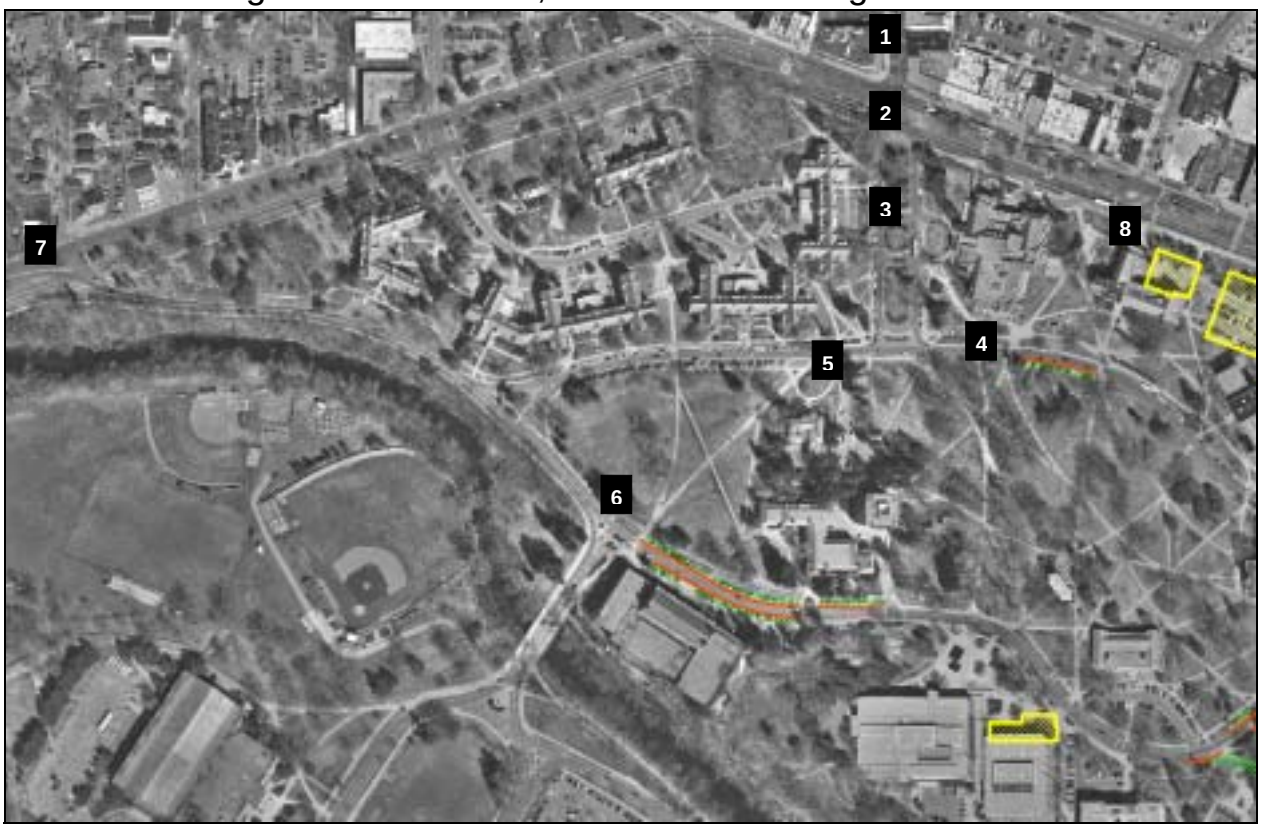
Legend

- Information Kiosk
- Monitored Bicycle Parking
- Bicycle Path
- Pedestrian Path
- Other Path
- Road with Bicycle Lane(s)
- Special Paving
- Raised Crosswalk
- Standard Crosswalk
- New Curb Location
- New Road
- Removal of Pavement
- Removal of Path
- Proposed Building

Recommendations

- Develop a focal point with wayfinding at the point where the greenway separates into three paths.
- Provide a secondary shared-use facility along the edge of the Sanford Nature Area.
- Reconfigure McDonel Hall and drop-off and parking loop to reduce conflict points.
- Continue the primary bicycle and pedestrian path alignments through the East Residential Hall Complex.
- Improve roadway crossings by eliminating one boulevard cut and installing speed tables.
- Add an information kiosk welcoming greenway users to campus from Meridian Township.

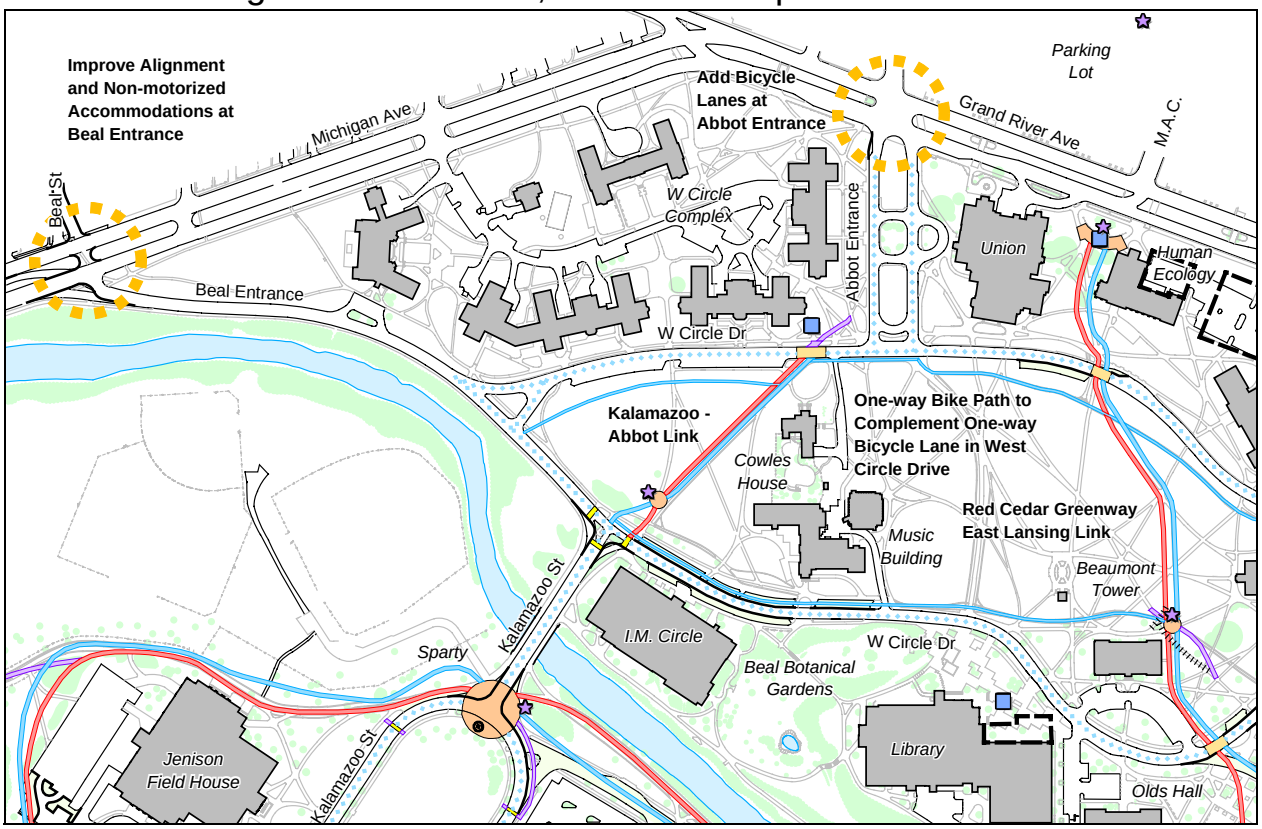
East Lansing Connections, West – Existing Conditions



Highlights

1. In East Lansing, Abbott has bike lanes on all but the southernmost block.
2. Crossing at the Grand River Avenue intersection is intimidating.
3. On-street parking is to be removed on Abbot Entrance, per the Vision 2020 Plan.
4. West Circle Drive is and will remain a one-way facility.
5. Space is tight in front of Cowles House.
6. Connection to Kalamazoo Street is awkward at existing intersection.
7. Crossing Michigan Avenue at Beal Entrance is difficult.
8. MAC is a desired entrance to East Lansing.

East Lansing Connections, West – Proposed Plan



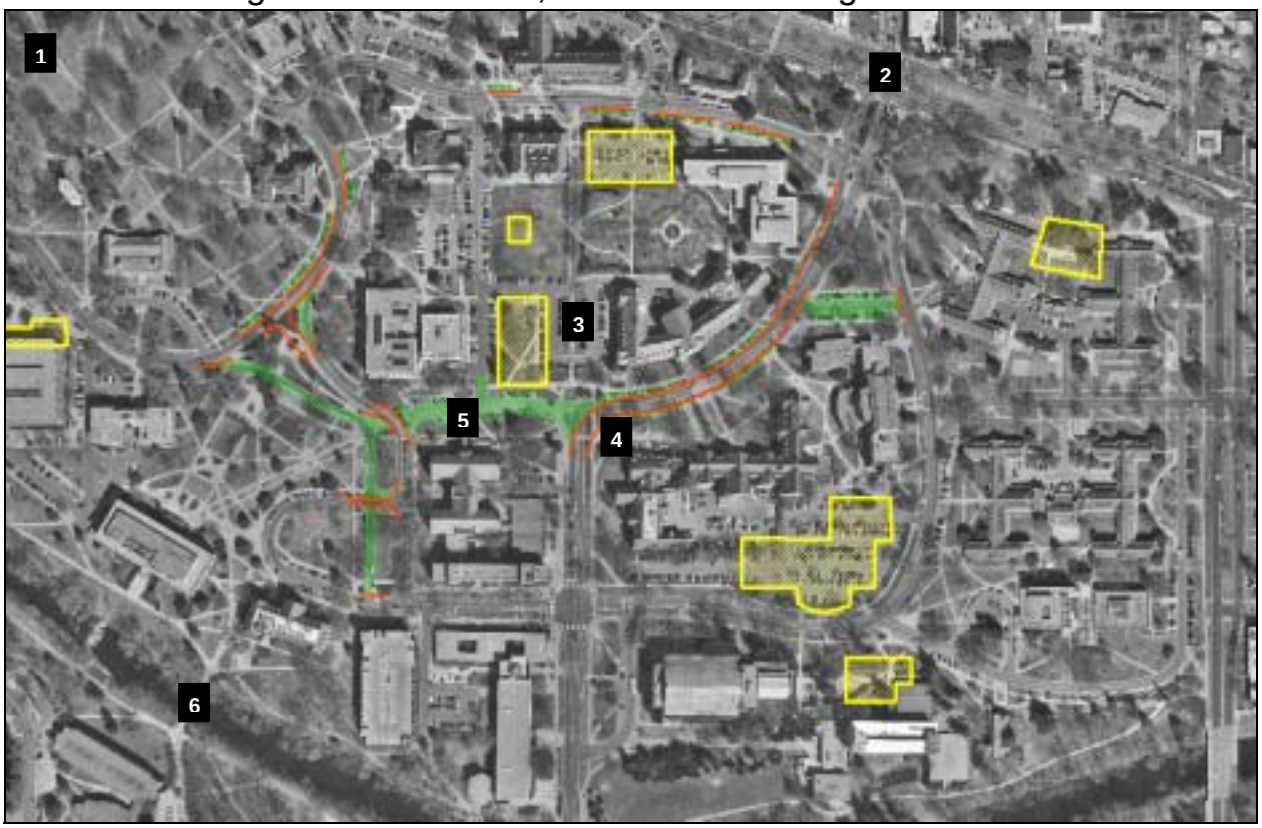
Legend

- Information Kiosk
- Monitored Bicycle Parking
- Bicycle Path
- Pedestrian Path
- Other Path
- Road with Bicycle Lane(s)
- Special Paving
- Raised Crosswalk
- Standard Crosswalk
- New Curb Location
- New Road
- Removal of Pavement
- Removal of Path
- Proposed Building

Recommendations

- Provide bicycle paths across the "Ellipse" at two key points.
- Provide a one-way bicycle path adjacent to the West Circle Drive to complement the bicycle lane in the one-way road. As an alternative establish a contra-flow bike lane in the roadway.
- For the Abbot Entrance, provide bicycle lanes on both sides of Grand River Ave. North of Grand River Ave., eliminate one northbound vehicular travel lane and add a northbound bicycle lane and a southbound through bicycle lane between the right-turn only lane and the through-traffic lane. This will require the elimination of the right-turn option from the southbound through-traffic lane. South of Grand River Ave., dash bike lane as per AASHTO guidelines and sign that right-turns yield to bikes. Adjust signal timing as necessary to permit bicycle crossing without conflicts with vehicles.
- For the Beal Entrance, realign Beal Street north and south of Grand River. Simply median cut through eliminating westbound acceleration lane.
- Simplify Kalamazoo St/W. Circle Drive intersection to a simple "T" configuration.

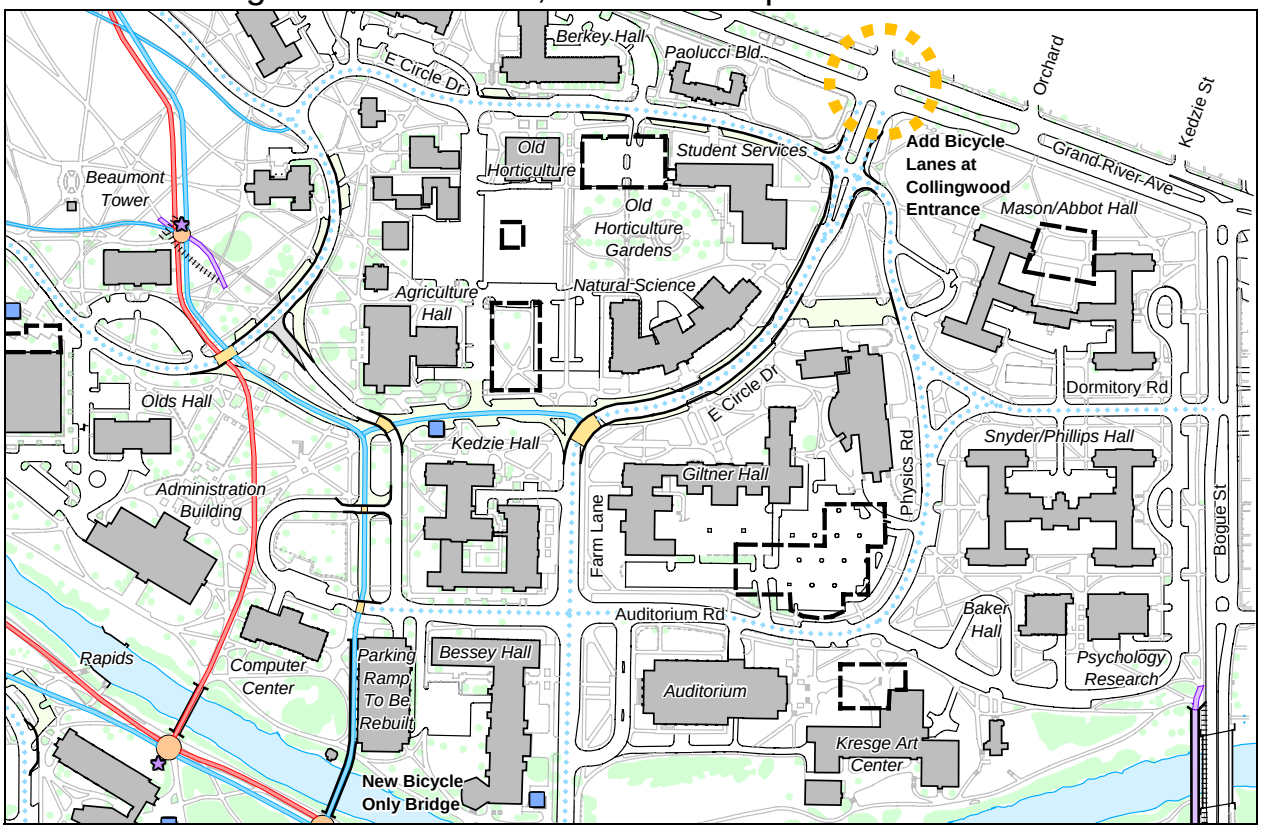
East Lansing Connections, East – Existing Conditions



Highlights

1. MAC is a desired non-motorized entrance into East Lansing.
2. Collingwood Drive is another proposed East Lansing bike route. Crossing Grand River Ave. at this intersection is intimidating.
3. A new pedestrian mall is proposed to continue north from Farm Lane, per Vision 2020.
4. The existing 90^{o} turn from Farm Lane onto East Circle will be smoothed out.
5. Bicyclists and pedestrians traffic needs to be accommodated in closed portion of East Circle Drive.
6. The Wells Hall non-motorized bridge experiences extremely high use.

East Lansing Connections, East – Proposed Plan



Legend

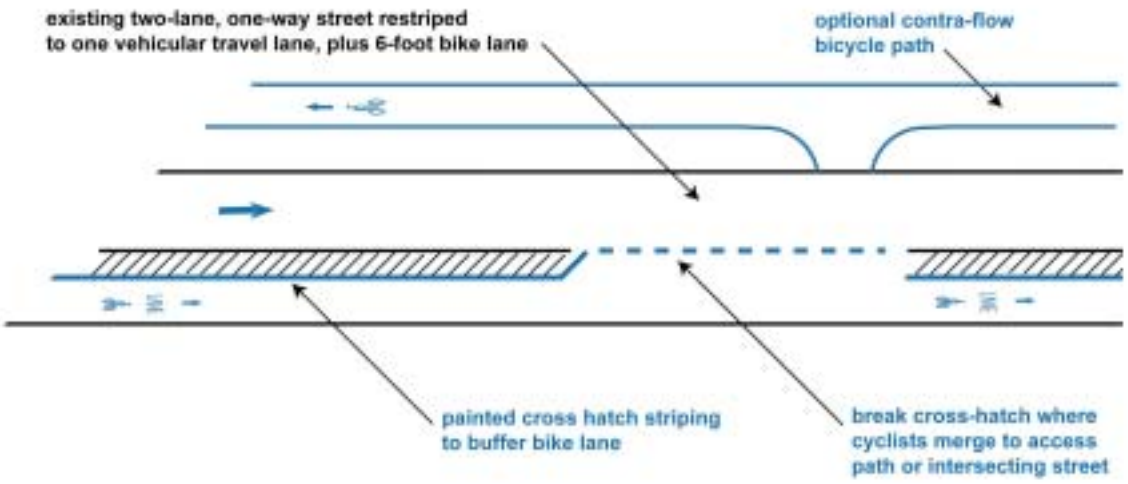
- Information Kiosk
- Monitored Bicycle Parking
- Bicycle Path
- Pedestrian Path
- Other Path
- Road with Bicycle Lane(s)
- Special Paving
- Raised Crosswalk
- Standard Crosswalk
- New Curb Location
- New Road
- Removal of Pavement
- Removal of Path
- Proposed Building

Recommendations

- Utilize abandoned portions of Auditorium Road and East Circle Drive for bicycle paths.
- Provide speed table mid-block crosswalks to calm traffic on campus roadways system and improve safety at crosswalks.
- Construct a new bicycle only bridge next to the parking deck by Bessey Hall. When the parking deck is reconstructed integrate a bicycle path on the west side of the structure and provide a bridge over the path on the north side of the river and the Red Cedar River. Consider working with the Engineering Department to use the bridge to highlight new bridge design methods and construction materials (see photograph on next page).
- For Collingwood entrance add bicycle lanes on both sides similar to those proposed for the Abbot entrance. Eliminate designated turn lane on southbound Collinwood to allow room for bicycle lanes.

The proposed bicycle bridge near Bessey Hall could be used to highlight new bridge design methods and construction materials. The Engineering Department has expressed interest in such a demonstration project and has prepared the above illustration to give an idea what such a bridge could look like.

West Circle Drive Bicycle Lane and Bicycle Path



V. Implementation Plan

The Red Cedar Greenway Master Plan is a pragmatic plan intended to be implemented within a five-year timeframe. Some portions of the plan can be undertaken immediately and independently of the bulk of the project while others will fail to work satisfactorily unless they are implemented in an integrated fashion.

The plan's greatest challenges to implementation are portions of the East Lansing connections which have been carefully integrated with the Vision 2020 plan. In particular, the route is integrated with the Auditorium Road reconfiguration and the replacement of the Parking Ramp adjacent to Bessey Hall. If these efforts are not to be undertaken in the immediate future then alternative interim solution should be implemented.

Proposed Project Phasing

The project has been divided into three phases. These phases are based on logical start and end points as well as their ability to function well independent of the other phases. While the project may be phased a number of ways, it was decided to first extend the Lansing River Trail east to the center of campus (Phase 1), then complete the trail through campus (Phase 2), and finally create the connections to East Lansing (Phase 3). The following is a summary of the phases, issues related to their implementation, and as summary of their costs:

Phase 1

Phase 1 begins at Hagadorn Road and extends east to Farm Lane. It includes the construction of new path, the reconfiguring of the parking lot behind Demonstration Hall, a new plaza at the intersection of Kalamazoo and Chestnut (the "Sparty" intersection), and the relocation of Red Cedar Road. There are two major issues with this phase, the relocation of Red Cedar Road and the relocation of the sculpture known as "Sparty."

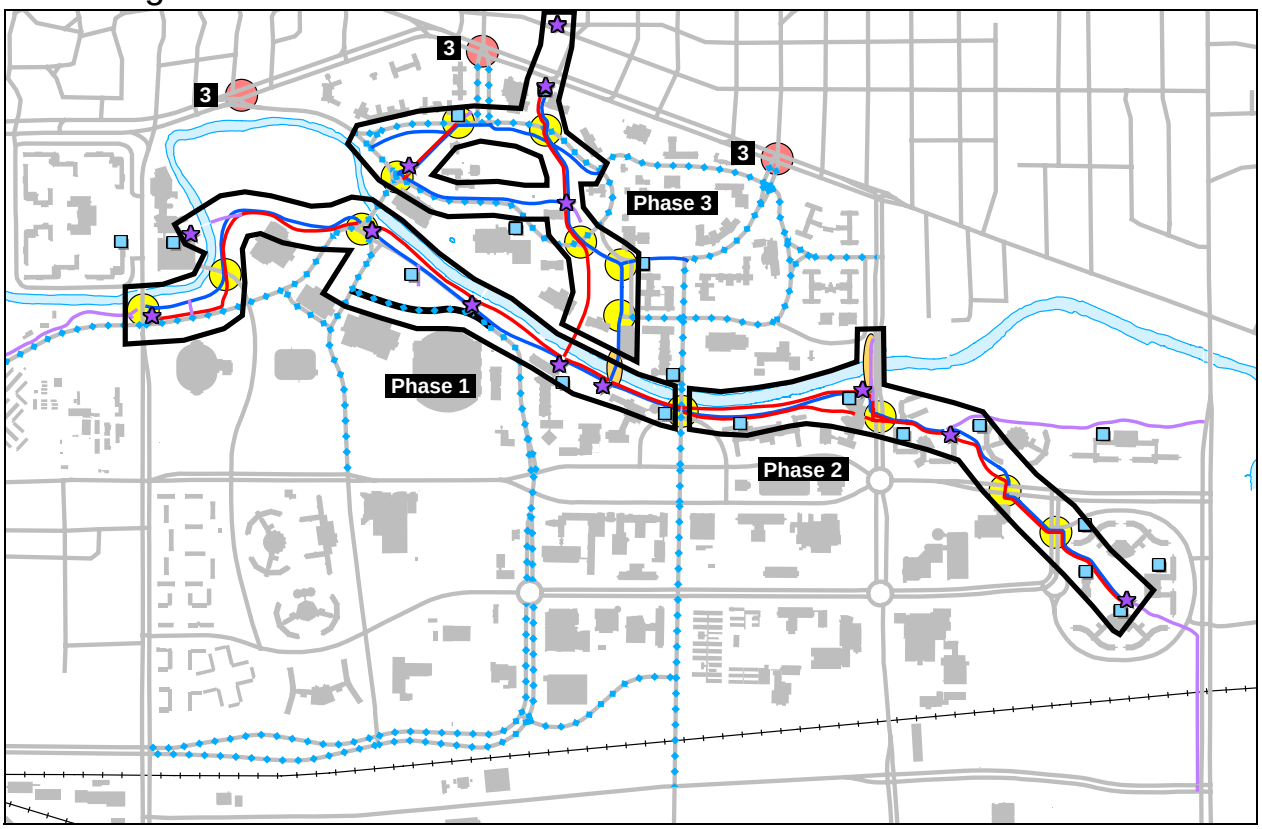
The relocation of Red Cedar Road provides three key benefits:

- Simplifying the geometry of the "Sparty" intersection resulting in less turning movements and fewer conflicts between automobiles and pedestrians/bicyclists;
- Improving pedestrian access to the path system from the commuter and visitor parking lots; and
- Providing a buffer between the parking lot and the river that improves the park character of campus, allows more room for the pathway system, and provides the opportunity for storm water detention and filtration.

Prior to proceeding with the relocation of Red Cedar Road, a feasibility study that undertakes additional research into issues such as the location of underground utilities need to take place.

The reconfiguring of the "Sparty" Intersection at the juncture of Kalamazoo Street and Chestnut Road is arguably the most dangerous intersection on campus. In the redesigned intersection the sculpture known as "Sparty" will be relocated about 90' but retain the look of the current location. It is suggested that the moving of the sculpture be coordinated with the bronze recasting of the sculpture with the original ceramic sculpture moved indoors for preservation. The reconstruction needs to be timed such that this important campus icon is in place for key events.

Phasing Overview



Legend

- Information Kiosks
- Monitored Bicycle Parking
- Shared-use Path
- Pedestrian Path
- Bicycle Path
- Road with Bicycle Lane(s)
- Path / Road Intersection Improvements
- In-road Bicycle Improvements to Campus Entrances
- Proposed New Non-motorized Bridge
- Road Re-alignment

Phase 2

Phase 2 continues the greenway east from Farm Lane to the Center of the East Residential Complex. It includes the reconfiguration of the Bogue Street intersection, a new non-motorized bridge, and two speed tables. Prior to proceeding with the non-motorized bridge an engineering study should take place that evaluates the more economical option of utilizing one of the southbound traffic lanes for non-motorized traffic.

Phase 3

Once the Red Cedar Greenway is in place along the river, the connections to East Lansing need to be improved and formalized. Phase 3 focuses on the link between downtown East Lansing and the Wells Hall area in the heart of campus. It also includes various improvements to the non-motorized system on the north part of campus

Potential Project Costs

Item	Qty.	Unit	Unit Cost	Item		
PHASE 1						
Harrison Road to Sparty:						
Asphalt Bicycle Path	24,000	SF	$ 2.00	$ 48,000		
Concrete Pedestrian Path	24,000	SF	$ 5.00	$ 120,000		
Other Concrete Path	3,000	SF	$ 5.00	$ 15,000		
Special Paving	5,500	SF	$ 10.00	$ 55,000		
Speed Table with Special Paving	1,200	SF	$ 7.00	$ 8,400		
Major Information Kiosk	1	EA	$ 10,000.00	$ 10,000		
Minor Information Kiosk	1	EA	$ 4,000.00	$ 4,000		
Reconfigure Parking Lot	1	LS	$ 10,000.00	$ 10,000		
Wall Removal	1	LS	$ 8,000.00	$ 8,000		
Lighting	30	EA	$ 3,000.00	$ 90,000		
Miscellaneous Site Work/Restoration	30%	Allow.	$ 110,520	$ 110,520		
Const. Documents and Administration	10%	Allow.	$ 47,892	$ 47,892		
					$	**526,812**
"Sparty" Intersection:						
Other Concrete Path	2,500	SF	$ 5.00	$ 12,500		
Plaza Special Paving	8,500	SF	$ 10.00	$ 85,000		
Road Special Paving	7,500	SF	$ 10.00	$ 75,000		
New Curb	600	LF	$ 8.00	$ 4,800		
Minor Information Kiosk	1	EA	$ 4,000.00	$ 4,000		
Miscellaneous Demolition	1	LS	$ 20,000.00	$ 20,000		
Lighting	8	EA	$ 3,000.00	$ 24,000		
Miscellaneous Site Work/Restoration	30%	Allow.	$ 67,590	$ 67,590		
Const. Documents and Administration	10%	Allow.	$ 29,289	$ 29,289		
(statue work not included)					**$**	**322,179**
Kalamazoo Street to Farm Lane:						
Asphalt Bicycle Path	28,000	SF	$ 2.00	$ 56,000		
Concrete Pedestrian Path	28,000	SF	$ 5.00	$ 140,000		
Other Concrete Path	1,500	SF	$ 5.00	$ 7,500		
Special Paving	12,000	SF	$ 10.00	$ 120,000		
Speed Table with Special Paving	1,200	SF	$ 7.00	$ 8,400		
Major Information Kiosk	1	EA	$ 10,000.00	$ 10,000		
Minor Information Kiosk	2	EA	$ 4,000.00	$ 8,000		
Demolition of Red Cedar Road	1,100	LF	$ 25.00	$ 27,500		
Restoration of Former Road Bed	50	MSF	$ 650.00	$ 32,500		
Storm Water Allowance	1,100	LF	$ 30.00	$ 33,000		
Relocate Red Cedar Road	1,100	LF	$ 125.00	$ 137,500		
Demolition of Wells Hall Parking Lot	1	Allow.	$ 5,000.00	$ 5,000		
Restoration of Former Parking Lot	7	MSF	$ 650.00	$ 4,550		
New Pull-out and Curbs	1	Allow.	$ 5,000.00	$ 5,000		
Lighting	35	EA	$ 3,000.00	$ 105,000		
Miscellaneous Site Work/Restoration	20%	Allow.	$ 139,990	$ 139,990		
Const. Documents and Administration	10%	Allow.	$ 83,994	$ 83,994		
					$	**923,934**

Farm Lane Intersection:						
Special Paving	800 SF	$	10.00	$ 8,000		
Speed Table with Special Paving	2,500 SF	$	7.00	$ 17,500		
Information Kiosk	1 EA	$	4,000.00	$ 4,000		
Lighting	4 EA	$	3,000.00	$ 12,000		
Miscellaneous Site Work/Restoration	20% Allow.	$	8,300	$ 8,300		
Const. Documents and Administration	10% Allow.	$	4,980	$ 4,980		
					$	**54,780**
				Total Phase One	**$**	**1,827,705**
PHASE 2						
Farm Lane to Bogue Street:						
Asphalt Bicycle Path	28,000 SF	$	3.00	$ 84,000		
Concrete Pedestrian Path	16,500 SF	$	5.00	$ 82,500		
Other Concrete Path	1,500 SF	$	5.00	$ 7,500		
Special Paving	2,000 SF	$	10.00	$ 20,000		
Information Kiosk	1 EA	$	4,000.00	$ 4,000		
Lighting	20 EA	$	3,000.00	$ 60,000		
Miscellaneous Site Work/Restoration	20% Allow.	$	51,600	$ 51,600		
Const. Documents and Administration	10% Allow.	$	30,960	$ 30,960		
					$	**340,560**
Bogue Street Intersection:						
Asphalt Bicycle Path	350 SF	$	3.00	$ 1,050		
Concrete Pedestrian Path	650 SF	$	5.00	$ 3,250		
Crosswalk	2,800 SF	$	0.50	$ 1,400		
Relocate and Reprogram Signal	1 LS	$	15,000.00	$ 15,000		
Miscellaneous Demolition	1 Allow.	$	2,000.00	$ 2,000		
Lighting	2 EA	$	3,000.00	$ 6,000		
Miscellaneous Site Work/Restoration	20% Allow.	$	5,740	$ 5,740		
Const. Documents and Administration	10% Allow.	$	3,444	$ 3,444		
					$	**37,884**
Bogue Street Bridge:						
Asphalt Path	3,200 SF	$	3.00	$ 9,600		
New Bridge	280 LF	$	2,000.00	$ 560,000		
Retrofit Bridge	1 Allow.	$	10,000.00	$ 10,000		
Lighting	4 EA	$	3,000.00	$ 12,000		
Miscellaneous Site Work/Restoration	20% Allow.	$	118,320	$ 118,320		
Const. Documents and Administration	10% Allow.	$	70,992	$ 70,992		
					$	**780,912**
Bogue Street to Hagadorn Rd:						
Asphalt Bicycle Path	25,000 SF	$	3.00	$ 75,000		
Concrete Pedestrian Path	25,500 SF	$	5.00	$ 127,500		
Other Shared-use Path	21,000 SF	$	3.00	$ 63,000		
Special Paving	4,000 SF	$	7.00	$ 28,000		
Speed Table with Special Paving	4,000 SF	$	7.00	$ 28,000		
Information Kiosk	2 EA	$	4,000.00	$ 8,000		
Miscellaneous Demolition	1 Allow.	$	5,000.00	$ 5,000		
Reconfigure McDonel Hall Drop-off	1 Allow.	$	15,000.00	$ 15,000		
Lighting	32 EA	$	3,000.00	$ 96,000		
Remove Median Cut	1 Allow.	$	8,000.00	$ 8,000		
Miscellaneous Site Work/Restoration	20% Allow.	$	90,700	$ 90,700		

Const. Documents and Administration	10% Allow.	$ 54,420	$ 54,420		
				$	**598,620**
			Total Phase 2	**$**	**1,757,976**
PHASE 3					
Red Cedar Greenway/East Lansing Link:					
Asphalt Bicycle Path	26,000 SF	$ 3.00	$ 78,000		
Concrete Pedestrian Path	22,000 SF	$ 5.00	$ 110,000		
Other Concrete Path	2,000 SF	$ 5.00	$ 10,000		
Special Paving	5,500 SF	$ 10.00	$ 55,000		
Speed Table with Special Paving	3,500 SF	$ 10.00	$ 35,000		
Information Kiosk	3 EA	$ 4,000.00	$ 12,000		
Lighting	42 EA	$ 3,000.00	$ 126,000		
Miscellaneous Demolition	1 Allow.	$ 5,000.00	$ 5,000		
New Bridge	190 LF	$ 2,000.00	$ 380,000		
Miscellaneous Site Work/Restoration	30% Allow.	$ 243,300	$ 243,300		
Const. Documents and Administration	10% Allow.	$ 105,430	$ 105,430		
				$	**1,159,730**
Abbot - Kalamazoo Link:					
Asphalt Bicycle Path	6,000 SF	$ 3.00	$ 18,000		
Concrete Pedestrian Path	5,500 SF	$ 5.00	$ 27,500		
Special Paving	1,400 SF	$ 10.00	$ 14,000		
Speed Table with Special Paving	1,900 SF	$ 10.00	$ 19,000		
Information Kiosk	1 EA	$ 4,000.00	$ 4,000		
Lighting	8 EA	$ 3,000.00	$ 24,000		
Reconfigure Intersection	1 Allow.	$ 20,000.00	$ 20,000		
Miscellaneous Site Work/Restoration	30% Allow.	$ 37,950	$ 37,950		
Const. Documents and Administration	10% Allow.	$ 16,445	$ 16,445		
				$	**180,895**
One-way Bike Path:					
Asphalt Bicycle Path	20,000 SF	$ 3.00	$ 60,000		
Lighting	40 EA	$ 3,000.00	$ 120,000		
Miscellaneous Site Work/Restoration	30% Allow.	$ 54,000	$ 54,000		
Const. Documents and Administration	10% Allow.	$ 23,400	$ 23,400		
				$	**257,400**
Entrance Improvements:					
Beal Entrance	1 Allow.	$ 25,000.00	$ 25,000		
Abbot Entrance	1 Allow.	$ 15,000.00	$ 15,000		
Collingwood Entrance	1 Allow.	$ 15,000.00	$ 15,000		
Miscellaneous Site Work/Restoration	30% Allow.	$ 16,500	$ 16,500		
Const. Documents and Administration	10% Allow.	$ 7,150	$ 7,150		
				$	**78,650**
			Total Phase 3	**$**	**1,676,675**
			Grand Total	**$**	**5,262,356**

Proposed Funding Strategy

Given the strong transportation nature of the project, a substantial amount of the project funding will likely come from Transportation Enhancement Funds (should the TEA-21 bill be reauthorized in a manner that maintains or improves the enhancement program). Another key source of funding is the Natural Resource Trust Fund as there is also a significant recreational component to the project. Also, the trail itself is a key extension of a regional recreational trail system in which the Natural Resources Trust Fund has already made a substantial investment.

Given the proposed changes to Enhancement Grant funding it is recommended that the project be presented as a whole with three distinct phases. Other proposed changes to the Enhancement Grants would allow Michigan State University to act as the fiscal agent for the funding (currently East Lansing acts as the fiscal agent). The project is an excellent candidate for funding as the Red Cedar Greenway is already mentioned in regional and local plans as a high priority project. In addition, Michigan State University and East Lansing control all of the property; have sound finances and a demonstrated ability to carry out similar projects.

As the Enhancement Funds and the Natural Resource Trust Funds are extremely competitive, it is recommended that the local match exceed the minimum requirements. The following is one alternative on how the funding could be distributed.

		Phase 1	Phase 2	Phase 3	Total
Transportation Enhancement Fund	50%	$ 913,853	$ 878,988	$ 838,338	**$ 2,631,178**
Natural Resource Trust Fund	25%	$ 456,926	$ 439,494	$ 419,169	**$ 1,315,589**
Proposed Local Match	25%	$ 456,926	$ 439,494	$ 419,169	**$ 1,315,589**
Total		**$ 1,827,705**	**$ 1,757,976**	**$ 1,676,675**	**$ 5,262,356**
Minimum Local Match Requirement		$ 297,002	$ 285,671	$ 272,460	$ 855,133

Proposed Long-Term Monitoring

In order to gauge the successes or failures of the proposed improvements, it is recommended that data be collected on the following items though the construction of the project and at least five years after completion:

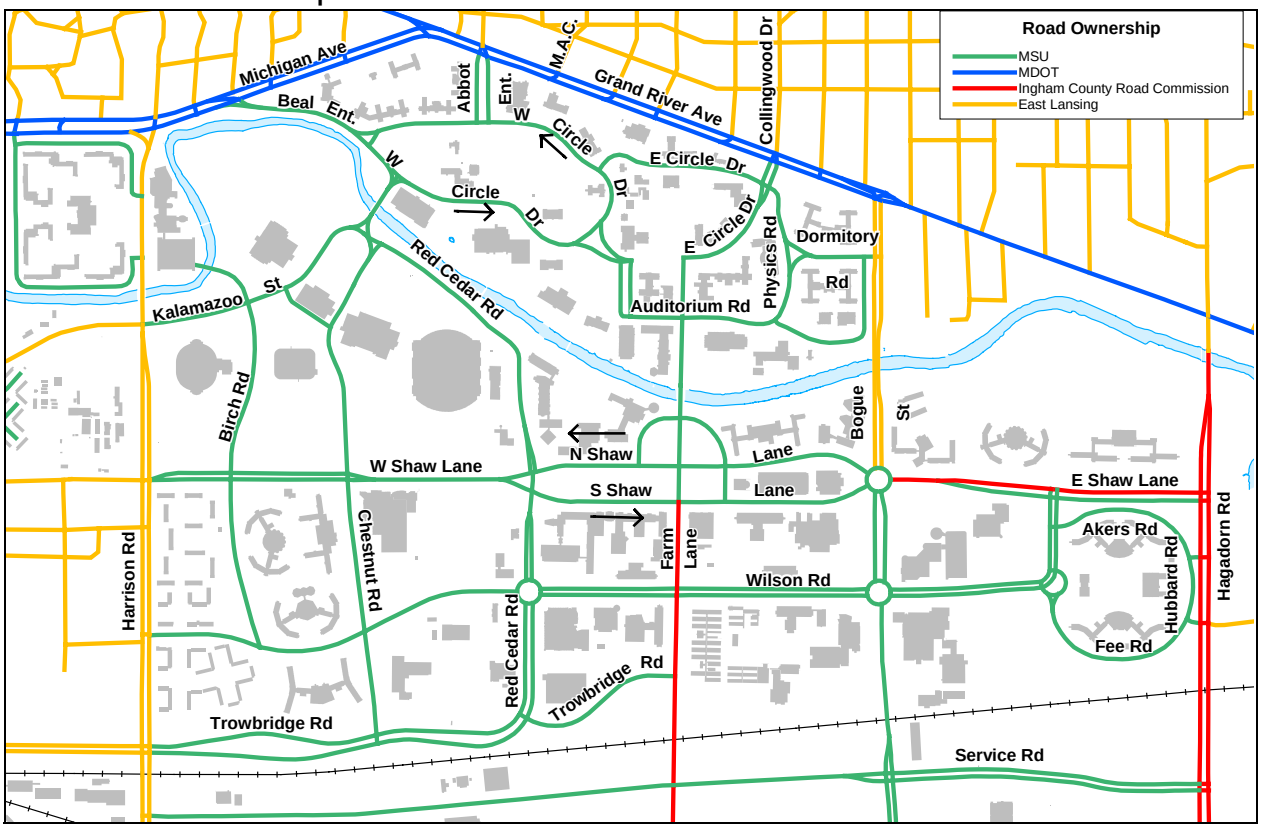
- Volumes of bicycles and pedestrians at three key junctures along the river, at one location along link to East Lansing, and at the Beal, Abbot, and Collingwood entrances.
- The number and location of pedestrian bicycle crashes
- The number of bicycles stolen

VI. Appendices

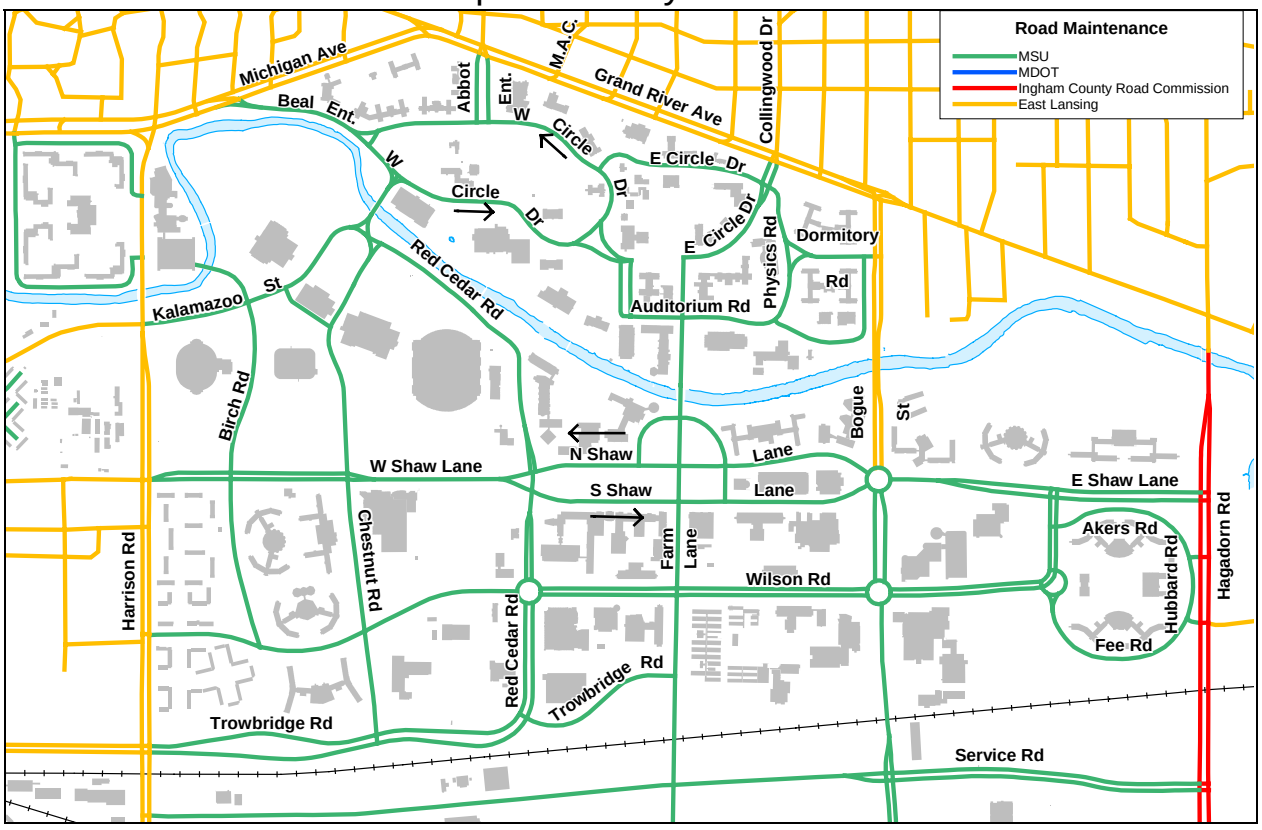
These report appendices contain supplemental information summarizing additional background data assembled by the consulting team, project milestones, and work done by the project Steering Committee through monthly meetings and public open house workshops.

- Road Ownership
- Road Maintenance Responsibility
- Road Lanes
- Road Average Daily Traffic
- Steering Committee and Public Meeting Summaries

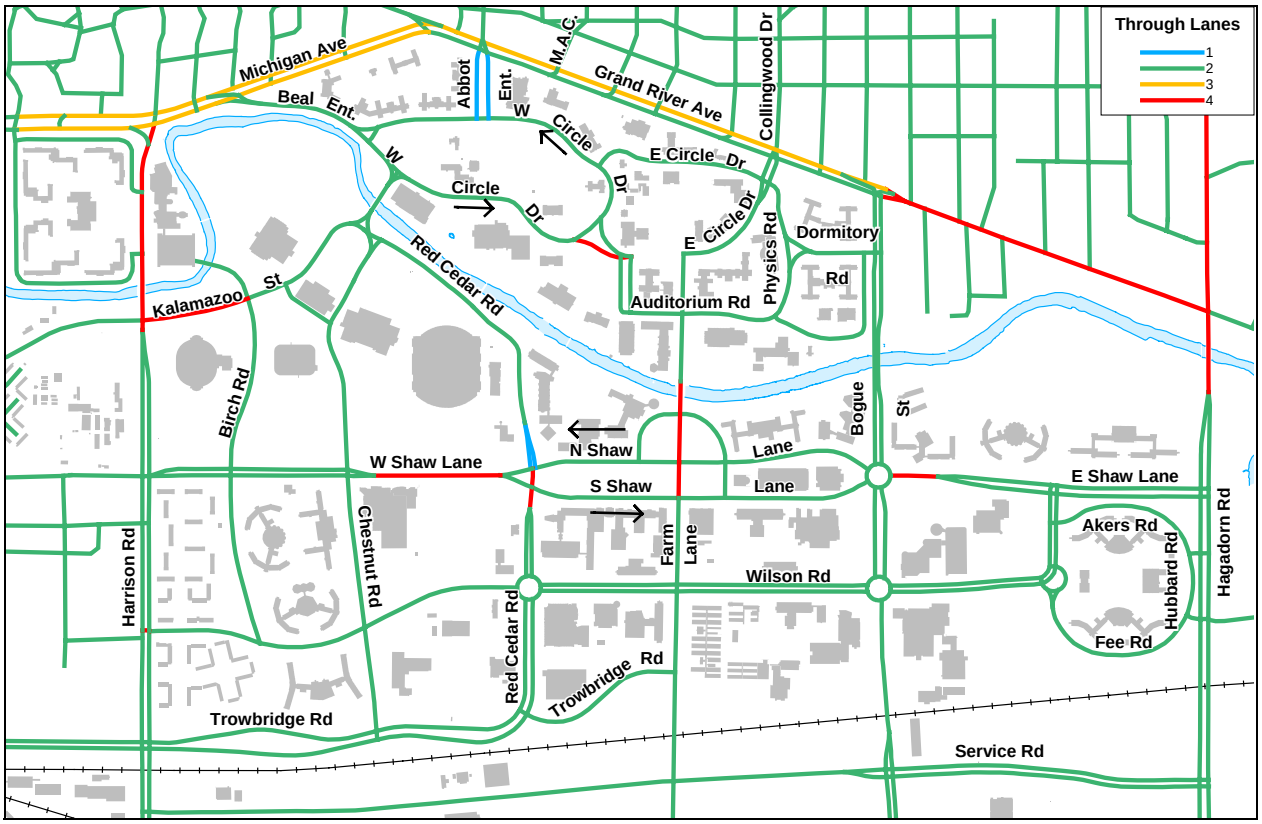
Road Ownership



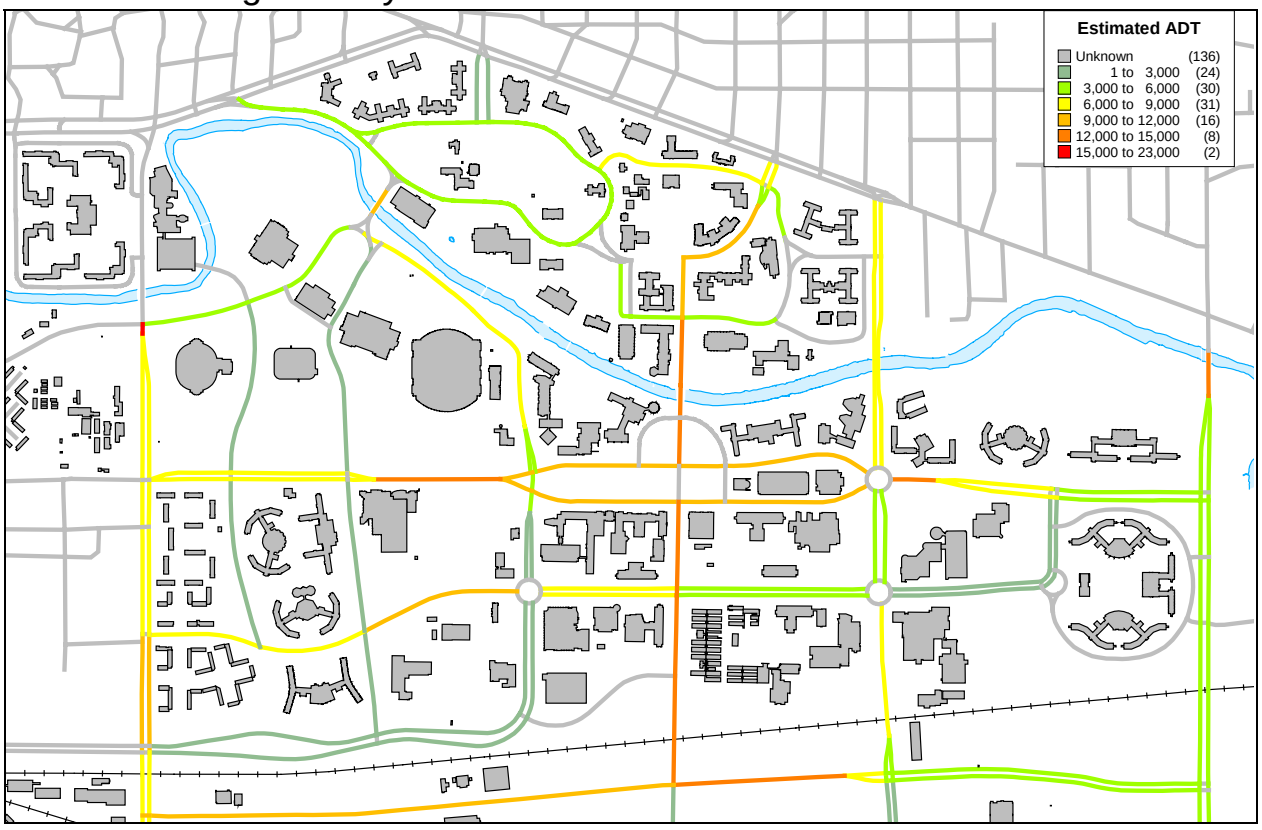
Road Maintenance Responsibility



Road Lanes



Road Average Daily Traffic



Project Milestones and Documentation

The following outlines the project schedule, key meetings, and documentation of the meetings.

- Project Kick-off Meeting with the Steering Committee - July 25, 2001
    - Meeting Summary
    - "Virtual Tour" Input
    - "Virtual Tour" Video Tape may be barrowed from MSU's Campus Park and Planning Department
- Inventory & Analysis Progress Meeting with the Steering Committee – August 28, 2001
    - Meeting Summary
    - Project Direction Weighting Results
    - PowerPoint Presentation – may be viewed online at: http://www.greenwaycollab.com/Red%20Cedar%20Greenway.htm
- Issue & Alternatives Workshop with the Steering Committee – September 18, 2001
    - Meeting Summary
    - PowerPoint Presentation – may be viewed online at: http://www.greenwaycollab.com/Red%20Cedar%20Greenway.htm
- Alternative Progress Meeting with the Steering Committee – October 23, 2001
    - Meeting Summary
    - Alternatives Review Session Comments
    - PowerPoint Presentation – may be viewed online at: http://www.greenwaycollab.com/Red%20Cedar%20Greenway.htm
- Alternatives Public Open House – November 27, 2001
    - Meeting Summary
    - Public Open House Audience Response Results
    - PowerPoint Presentation with the results of the audience response system have been added to the slides that compare the alternatives – may be viewed online at: http://www.greenwaycollab.com/Red%20Cedar%20Greenway.htm
    - Display Boards - see below to download the display boards that were at the Open House
- No Steering Committee meetings were held in December
- Draft Plan Review Meeting with the Steering Committee – January 22, 2001
    - Meeting Summary
    - PowerPoint Presentation – may be viewed online at: http://www.greenwaycollab.com/Red%20Cedar%20Greenway.htm

Project Kick-off and Preliminary Issue Input Meeting Summary

Red Cedar Greenway Steering Committee

Tuesday, July 25, 2001
1:30 – 3:30 PM, 203 Olds Hall

1. Introductions and Project Background **1:30 – 1:40**

Committee members introduced themselves and discussed their interest in the project. The following members were in attendance:

- Norman Cox, The Greenway Collaborative, Inc.
- Chris Davis, Tri-County Bike Association
- Todd Kauffman, MDOT
- Deb Kinney, MSU Campus Park and Planning
- Younes Ishraidi, Chief Engineer, Meridian Township
- Dr. Bob Maki, Adjunct Professor of Civil Engineering
- Bob Moore, Ingham County Parks
- Patty Oehmke, Assistant Director, Intramural Sports
- Matt Pettigrew, MSU Student

2. Proposed Project Schedule Review **1:40 – 1:50**

- Inventory & Analysis Progress Meeting with Steering Committee – Aug. 28
- Issue & Alternatives Workshop with Steering Committee – Sep. 18
- Alternative Progress Meeting with Steering Committee – Oct. 23
- Alternatives Public Open House – Nov. 27
- No Steering Committee meeting in December
- Draft Master Plan mailed to Steering Committee – Early January
- Final Comments on Draft Plan with the Steering Committee – Jan. 22
- Complete project by end of February pending University and City approval

3. "Virtual Tour" and Initial Issue Input Session **1:50 – 3:00**

The project area was be explored in 5 segments via a video taped bicycle ride, the segments were:

a) Hagadorn Road to Wells Hall Pedestrian Bridge, South Side
b) Wells Hall Pedestrian Bridge to Lansing River Trail, South Side
c) Lansing River Trail to Wells Hall Pedestrian Bridge, North Side
d) Wells Hall Pedestrian Bridge to Bogue Street, North Side
e) Farm Lane to Collingwood Entrance
f) Abbott Entrance to Red Cedar River, two options

At the end of each segment comments were solicited regarding site-specific issues that the master plan should address. These comments are recorded in the "Virtual Tour" Input Session Document.

4. Project Direction and Value Weighting **3:00 – 3:20**

The purpose of this exercise was for the consultant team to better understand the Steering Committee's expectations and focus for the project. The consultant presented a preliminary list of factors drawn from the request for proposals and the TEA-21 application. The Steering Committee refined the list and then ranked the list in order of importance. The revised list was then sent to Steering Committee members not present with the request that they also rank the factors. The following indicated the original list and how it was edited by the Steering Committee (additions are underlined, deletions are shown with strike through).

- Separation of Bicyclists and Pedestrians where possible
- Preservation ~~of~~ & enhancement of Natural Features and Park Character
- Encouraging Nonmotorized Transportation (in place of motorized)
- Improvement of Water Quality
- Creating Safe Nonmotorized Facilities
- Minimize conflicts between bikes, pedestrians and cars
- ~~Providing~~ Enhance Recreation Opportunities
- Improve Campus and Community Wayfinding
- Identify new and incorporate existing ~~Creating~~ Social Spaces
- Enhancing the Community Image
- Education of Users of Relevant Etiquette and Laws

The results of the ranking are documented in the Project Direction Weighting Document

5. Next Steps **3:20 – 3:30**

- The next meeting will be the Issue & Alternatives Workshop with Steering Committee – September 18, 2001

“Virtual Tour” Input Session

Red Cedar Greenway Steering Committee

Tuesday, July 25, 2001
1:30 – 3:30 PM, 203 Olds Hall

The following is a transcription (with minor edits) of the comments recorded during the “virtual tour.” The tour comprised of a video taped bicycle ride along the project corridors.

Segment One – Hagadorn Road to Farm Lane on the south side of the river:

- The “twin” narrow bicycle paths:
    - They receive little use except when there is heavy pedestrian use on the main pathways
    - They are dangerous
    - It is not clear that they are for bicycle use
    - Winter use is an issue
    - They seem randomly placed
    - Which way to ride is not clear
    - They require a lot of attention to ride
    - They can not accommodate a trailer
- It is very busy behind Owen Graduate Hall near Bogue Street as traffic from numerous large residence halls converge in this constricted area
- There is a dirt side path that is assumed to be from passing bicycles
- Would like to avoid crossing the streets but there is an issue with flooding at times
- The surface condition and material varies and there are elevation changes
- A concern was expressed regarding the proposed use of pavers in the 2020 plan
- The section along the Sanford Nature Area seems narrow
- The issue of the environmental impact of different surfaces was brought up in particular the issue of working around all of the existing trees
- The roots of the trees have caused cracking in the walk surface
- There should be signs that show the building locations, the only signs are on the road
- There should be a way to determine if you are on the “main” pedestrian/bicycle thoroughfare
- The question of if was OK for bicycle to ride behind Van Hoosen Hall
- Wayfinding techniques beyond signs should be explored

Segment Two – Farm Lane to Lansing River Trail on the south side of the river:

- Visibility at the bridge abutment is limited
    - Many accidents have been witnessed
    - Blind corners are created by the shrubs
- The bollards at the bridges are there to stop vehicular traffic on the bridge as this has been a problem in the past
- The close proximity of the poles and trees to the path was noted
- The “Sparty” intersection is the worst intersection
    - No one knows what to expect and who has the right-of-way
    - There are many conflicts
    - It is very political, proposed changes in the past have been resisted
    - The photographic importance of the area was noted
- The steps at by the Kellogg Center are not clear
- The whole area around the Kellogg Center is confusing
- The “Bike Only” sign is confusing in its application
- The curb in the middle of the walk is a hazard
- The concrete bollard at Harrison has poor visibility due to its low contrast with its surroundings

- The bridge pavement surfaces are slick – the Library Bridge is better than it used to be but the Wells Hall bridge is slippery for the entire length. The grit on some of the non-skid surfacing can come loose and cause more problems

Segment Three – Lansing River Trail to Bogue Street on the north side of the river:

- The sidewalk is narrow by Demonstration Hall
- There are more rest benches on the north side of the river
- It is scenic on the north side of the river
- There used to be lots of root damage to the path along this segment
- Have pervious pavements and/or grass blocks been considered or used for edging walks – no
- You must ramp up to meet the Wells Hall Bridge, would like to go under the brige
- The narrow path width brings about conflict
- Trail protocol is challenging. In practice using language is impractical because of the amount of users.
- School orientation should be utilized to educate users
- There is a drain in the middle of the path by Ramp #2
- The safety of the Farm Lane underpass is a concern
- Water has been known to puddle by the Auditorium
    - There are some drainage issues
    - Users go around the puddles on the grass
    - The area is in the 100 year flood plain
- The only ramp option to go up to Farm Lane is on the west side of Farm Lane, the other side is only grass and a stairway

Segment Four – Farm Lane at the Red Cedar Bridge to the Collingwood Entrance:

- How to signal left turns for bicyclists
- There is new geometry for Farm Lane to the Collingwood Entrance, initial estimates are around $250,000, not including steam tunnel work

Segment Five – Alternatives from the Abbot Entrance to various points on the Red Cedar:

- It is confusing as to where the river is
- There are grade problems with the Beal Garden
- Access is through parking
- There is a proposal to make West Circle one lane with a bicycle lane and parallel vs. perpendicular parking, this is in the final draft status
- Dorm loading is an issue

Inventory & Analysis Progress Meeting Summary

Red Cedar Greenway Steering Committee

Tuesday, August 28, 2001
1:30 – 3:30 PM, 203 Olds Hall

1. Introductions and Review of Agenda **1:30 – 1:40**

The following people were in attendance:

- Norman Cox, The Greenway Collaborative, Inc.
- Chris Davis, Tri-County Bike Association
- Jeff Kacos, MSU Campus Park and Planning
- Todd Kauffman, MDOT
- Deb Kinney, MSU Campus Park and Planning
- Nancy Krupiarz, Rails-to-Trails Conservancy
- Bob Moore, Ingham County Parks
- Wendy Wilmers Longpre, City of East Lansing Parks
- Jeff Miller, MSU Campus Park and Planning
- Matt Pettigrew, MSU Student
- Jim Renuk, IM Sports
- Gail VanderStoep, Asoc. Professor of Parks and Recreation

2. Review of Project Schedule **1:40 – 1:50**

The meeting schedule remains the same:

- Issue & Alternatives Workshop with Steering Committee – Sep. 18
- Alternative Progress Meeting with Steering Committee – Oct. 23
- Alternatives Public Open House – Nov. 27
- No Steering Committee meeting in December
- Draft Master Plan mailed to Steering Committee – Early January
- Final Comments on Draft Plan with the Steering Committee – Jan. 22
- Complete project by end of February pending University and City approval

3. Review of "Virtual Tour" Findings **1:50 – 2:00**

See "Virtual Tour" Input Session handout. It was noted that there are video tapes of the tour itself and most of the first meeting that are available from Deb Kinney for anyone who missed the first meeting. Originally it was going to be viewed again at this meeting but eliminated due to time constraints. The transcript of the comments made during the viewing was handled out. Norm Cox requested that anyone felt their comments were misinterpreted to contact him so that he could correct things.

4. Review of Project Direction and Value Weighting Findings **2:00 – 2:10**

See Project Direction Weighting handout. It was noted that this information is based on the responses to date, and that any further responses will also be incorporated in the findings. It was noted that Wayfinding is a repeated discussion topic at the meetings but came out with a generally low ranking (7^{th} place out of 11).

5. Preliminary Inventory and Analysis Report **2:10 – 2:50**

The Inventory and Analysis is generally grouped by the project factors that were discussed and ranked in the first meeting. They are listed below in order of importance as viewed by the committee to date. One factor was eliminated, *separation of bicycles and pedestrians* on which there was strong disagreement. This factor is discussed under *Bicycle, pedestrian, and automobile conflicts*. The factors *enhance recreation opportunities* and *identify new and incorporate existing social spaces* were combined due their lower ranking and related subject matter. *Encouraging Nonmotorized transportation (in place of motorized)* has been expanded to discuss demand for facilities.

- Bicycle, pedestrian, and automobile conflicts
- General facility safety
- Nonmotorized transportation demand and accommodation
- Etiquette and Laws
- Natural features and park character
- Campus and community wayfinding
- Recreation opportunities and Social spaces
- Community image
- Water quality

A PowerPoint presentation was made reviewing the findings to date. A copy of this presentation is available from Deb Kinney. Discussion included:

- Ways to separate bicycles and pedestrians on bridges by means of surfacing type and the potential to keep bicycles away from the edge removing the need for a tall railing
- Ways to accommodate people who stop on a bridge to look at the river
- Issues related to access to and crossing Farm Lane for west bound users on the north side of the river
- Concerns over the harsh transportation look of excessive striping of paths for separation in comparison to the natural campus atmosphere.
- There seems to be more pedestrian use than bicycle use at MSU, which is the inverse to many of the high use, trails around the country.
- Seasonal flooding making some pathways inaccessible

6. Potential TEA-21 Projects **2:50 – 3:20**

It was noted that this is the last known enhancement fund cycle. Future availability of funds is contingent on a reauthorization of TEA-21 or a similar bill. The general feeling in the transportation community is that the enhancement program has been very popular politically on both sides of the isle and is likely to retained in some form. The timing of the next funding cycle is uncertain given the reauthorization of the bill.

The original intent of the Master Plan project was to be completed prior to applying for funding. Delays in both the RFP and Contracting phases made this impossible. Therefore is was decided to look at potential projects during the analysis phase to see if any projects could stand on their own prior to the completion of the Master Plan project. The committee reviewed four candidate projects for a potential Oct 3 TEA-21 application:

- Sparty Roundabout Pair
- Rerouting Red Cedar Road closer to the north side of the Stadium
- Farm Lane Bridge Automated Pedestrian Detection &Signalization System
- Bogue Street at Eli Broad Building, Automated Pedestrian Detection and Signalization System

The following is a summary of the discussion on the four projects.

The Sparty Roundabout has been discussed before by campus officials. A student of Dr. Bob Maki has prepared drawings for a roundabout around Sparty. The safety issues of a putting a highly utilized photograph background and interest point in the middle of a traffic intersection was raised. The symbolic importance of the statue and its surroundings was felt to be to difficult subject to address and reach consensus on in the limited time that exists to prepare a TEA-21 application. Also, the project has both motorized and nonmotorized benefits and that may impact its ability to be funded.

The rerouting of Red Cedar Road was discussed. The concept was well received and thought that it should be pursued in the master plan. The concern was addressing all of the scope issues and reaching a consensus in the limited time frame. Again, while there would nonmotorized and environmental benefits the project could me misconstrued to be primarily a motorized project.

The Farm Lane Bridge Automated Pedestrian Detection and Signalization System was seen as the most appropriate candidate. The path location would not likely change making sure that it would work with the master plan. A number of design decisions would have to be made prior to the application be submitted and the short time frame was again raised. A suggestion was made to look at this intersection as a "test" area for the rest of the campus. The intersection could be reconfigured such as moving detection systems and changing signal timings and evaluated to determine the most effective approach. This was also considered a potential for MDOT's Special Project Research funds.

The Bogue Street at Eli Broad Building Automated Pedestrian Detection and Signalization System had many of the same issues as Farm Lane except that the path route may change as the multiple crossing points of this area is a concern.

7. Next Steps **3:20 – 3:30**

- It was also requested that handouts be distributed a few days prior to a meeting to give participants a chance to review the documents.
- It was noted that the documents handed out today along with the PowerPoint presentation would be available on The Greenway Collaborative's website – www.greenwaycollab.com
- MSU, East Lansing, and MDOT staff will discuss TEA-21 funding issues related to MSU vs. East Lansing roadways
- Todd Kauffman would check on the potential to use State Planning and Research Funds (SPR) for testing concepts at Farm Lane

8. Follow-up

It was decided by MSU Campus Park and Planning staff not to pursue a TEA-21 application at this time due to the many outstanding questions, short time frame and the desire to complete the master plan prior to seeking funding.

MDOT staff is currently checking into the project applicability to SPR funds.

The next meeting is Tuesday, September 18 @ 1:30 at East Lansing's City Hall, 410 Abbott Road, in the Squad Room, basement. PLEASE LET DEB KINNEY KNOW IF YOU ARE PLANNING ON ATTENDING & IF YOU NEED A PARKING PASS.

Issues and Alternatives Workshop Summary

Red Cedar Greenway Steering Committee

Tuesday, September 18, 2001
1:30 – 3:30 PM, East Lansing's City Hall, 410 Abbott Road, in the Squad Room, basement

1. Introductions and Review of Agenda **1:30 – 1:40**

The following people were in attendance:

- Norman Cox, The Greenway Collaborative, Inc.
- Chris Davis, Tri-County Bike Association
- Todd Kauffman, MDOT
- Deb Kinney, MSU Campus Park and Planning
- Terri Link, MSU Office of Sustainability
- Wendy Wilmers-Longpre, East Lansing Parks and Recreation Department
- Colleen McCann, Rails-to-Trails Conservancy
- Dr. Bob Maki, Adjunct Professor of Civil Engineering
- Virginia Martz (Ginger), MSU Resource Center for Persons with Disabilities
- Jeff Miller, MSU Campus Park and Planning
- Richard Mull, MSU Jenison Fieldhouse
- Terri Musser, Bicycle &, via phone
- Ruth Kline-Robach, MSU Water Research Institute
- Dr. Frank Telewski, MSU Curator of Campus Woody Plants and Campus Natural Areas Committee Secretary
- Gail VanderStoep, Asoc. Professor of Parks and Recreation

2. Review of Project Schedule **1:40 – 1:50**

- Alternative Progress Meeting with Steering Committee – Oct. 23
- Alternatives Public Open House – Nov. 27
- No Steering Committee meeting in December
- Draft Master Plan mailed to Steering Committee – Early January
- Final Comments on Draft Plan with the Steering Committee – Jan. 22
- Complete project by end of February pending University and City approval

3. 2020 Vision Project Coordination **1:50 – 2:10**

Key elements of the draft 2020 vision project as related to the Red Cedar Greenway were reviewed including:

- Future Building Locations
- Transportation Changes
- Natural Areas Zones

4. Review of the Major Issues and Opportunities **2:10 – 2:45**

- Facility Demand and Location
- Road/Path Intersection
- User Conflicts Along Paths
- Community Wayfinding and Connections

5. Concept Alternatives Workshop **2:45 – 3:30**

The Steering Committee dived into two groups. Each group developed a concept plan showing linkages and some elements that they would like to see pursued in the alternatives. The results of this exercise were consulted in the developing of the three preliminary alternatives

Alternatives Progress Meeting Summary

Red Cedar Greenway Steering Committee

Tuesday, October 23, 2001
1:30 – 3:30 PM, 203 Olds Hall

1. Introductions and Review of Agenda **1:30 – 1:40**

The following people were in attendance:

- Norman Cox, The Greenway Collaborative, Inc.
- Chris Davis, Tri-County Bike Association
- Younes Ishraidi, Chief Engineer, Meridian Township
- Todd Kauffman, MDOT
- Deb Kinney, MSU Campus Park and Planning
- Dr. Bob Maki, Adjunct Professor of Civil Engineering
- Virginia Martz (Ginger), MSU Resource Center for Persons with Disabilities
- Jeff Miller, MSU Campus Park and Planning
- Terri Musser, Bicycle &, via phone
- Dr. Frank Telewski, MSU Curator of Campus Woody Plants and Campus Natural Areas Committee Secretary
- Gail VanderStoep, Asoc. Professor of Parks and Recreation

2. Review of Project Schedule **1:40 – 1:50**

- Alternatives Public Open House – Nov. 27
- No Steering Committee meeting in December
- Draft Master Plan mailed to Steering Committee – Early January
- Final Comments on Draft Plan with the Steering Committee – Jan. 22
- Complete project by end of February pending University and City approval

3. Campus Use Patterns **1:50 – 2:10**

Norman Cox and Teri Musser, via phone, presented

- Campus use variances by day and time
- Pedestrian and Bicycle counts and projections
- Building use analysis

4. Crash and Road Use Analysis **2:10 – 2:20**

- Bicycle and pedestrian crash locations
- Road use analysis and travel patterns

5. Preliminary Alternatives Review **2:20 – 2:50**

- Summary of Previous Workshop Input
- Path Configurations
- Route Configurations

6. Alternatives Review Sessions **2:50 – 3:20**

The goal of the exercise was to evaluate the different path and route configurations. The consultants will use the results of this information to distill and combine the path and route configurations into two complete alternatives to be presented at the public workshop. The Steering Committee was asked a series of questions on the Path and Route Options, after each question all of the

Committee members were asked to respond.

Path Options:
- Shared-use facility or a hybrid/separated approach?
- Bicyclists or pedestrians should be closest to water?
- Priority travel for bicyclists/greenway or pedestrians/campus walkways?
- Use path striping, change of surfacing material, or other to differentiate greenway from campus walkway system?
- Favorite Parts?

Route Alignment:
- Completely Off-road or Include On-road facilities?
- Underpass or At-grade crossings?
- Single, Selected, or Many Entrances from East Lansing?
- Single East-West Path or Include Spurs?
- Favorite Parts?

The results of this session are recorded in the Alternatives Review Session Comments Document

7. Next Steps **3:20 – 3:30**

- Public Open House location
- Public Open House format
- Review of Alternatives

Public Open House Summary

Afternoon and Evening Sessions

Tuesday, November 27, 2001
3:00 – 5:00 PM and 6:00 – 8:00 PM
Michigan State University Union, Green Room

1. Project Overview 10 Minutes

An overview of the project was presented including:

- Project Scope
- Project Work Plan and Schedule
- Key Design Factors

2. Existing Conditions and Plans 15 Minutes

A summary of the existing conditions was presented including:

- Bicycle and Pedestrian Use and Safety
- Major Issues and Areas of Concern
- Vision 2020 Coordination

3. Alternatives Overview 15 Minutes

Two alternatives were presented including enlargements of key areas and segments

4. Evaluation of Alternative Segments 45 Minutes

The audience reviewed the alternatives segment by segment and indicated their preferences using an audience response system keypad. The results were tabulated immediately and they were able to see how the group preferences for each segment/detail area. The results are documented in the Public Open House Audience Response Results document.

5. Summary and Informal Discussion

General questions and informal discussion took place regarding the alternatives shown.

Attendance:

The following people were in attendance for the 3:00 Session:

- Ann Beaujean, MSU Government Affairs
- Steve Frank, MSU Grounds
- Sarah Luneburg, State News Reporter
- Gary Parrott, MSU Grounds
- Phil Wells, MDNR

Steering Committee Members:

- Norman Cox, The Greenway Collaborative, Inc.
- Chris Davis, Tri-County Bike Association
- Todd Kauffman, MDOT
- Deb Kinney, MSU Campus Park and Planning
- Virginia Martz (Ginger), MSU Resource Center for Persons with Disabilities
- Wendy Wilmers-Longpre, East Lansing Parks and Recreation Department
- Dr. Bob Maki, Adjunct Professor of Civil Engineering
- Jeff Miller, MSU Campus Park and Planning
- Dr. Frank Telewski, MSU Curator of Campus Woody Plants and Campus

The following people were in attendance for the 6:00 Session:

- Brian Bear
- Joe Fridgen, MSU Parks & Rec. Faculty
- Lucinda Means, League of Michigan Bicyclists
- Roger Thelen, Grounds
- Christina Riddle, League of Michigan Bicyclists

Steering Committee Members:

- Norman Cox, The Greenway Collaborative, Inc.
- Todd Kauffman, MDOT
- Deb Kinney, MSU Campus Park and Planning
- Nancy Krupiarz, Rails-to-Trails Conservancy
- Jeff Miller, MSU Campus Park and Planning
- Wendy Wilmers-Longpre, East Lansing Parks and Recreation Department

Draft Master Plan Presentation Summary

Red Cedar Greenway Steering Committee

Tuesday, January 22, 2002
1:30 – 3:30 PM, East Lansing's City Hall, 410 Abbott Road, in the Squad Room, basement

1. Introductions and Review of Agenda **1:30 – 1:40**

The following people were in attendance:

- Norman Cox, The Greenway Collaborative, Inc.
- Bernie Burns, MSU Police
- Jean Golden, City of East Lansing Deputy City Manager
- Jeff Kacos, MSU Campus Park and Planning
- Todd Kauffman, MDOT
- Deb Kinney, MSU Campus Park and Planning
- Terri Link, MSU Office of Sustainability
- Wendy Wilmers-Longpre, East Lansing Parks and Recreation Department
- Virginia Martz (Ginger), MSU Resource Center for Persons with Disabilities
- John Matuszak, City of East Lansing
- Gail VanderStoep, Asoc. Professor of Parks and Recreation

2. Review of Preliminary Plan **1:40 – 1:50**

An overview of the plan and the path configuration was presented. The plan was then reviewed segment by segment illustrating the existing conditions, the alternatives presented at the November Public Open House, the results of the public input on the alternatives, and the resulting master plan proposal. The following summarizes the key points discussed during the presentation:

- The covered and monitored bicycle-parking proposal should be modified to indicate monitored bicycle parking. There was some discussion on the severity of bicycle theft on campus and how realistic video monitoring would be. Also the idea of including covered bicycle parking in the new parking deck/transit center was discussed.
- Speed tables where the path crosses the road were seen as appropriate for MSU roads but not for East Lansing Roads.
- Keeping the pedestrian path along Kalamazoo Street near Harrison as shown on the draft master plan was seen as the preferred approach rather than closer to the river to minimize disruption to the remaining vegetation in this area.
- The Sparty intersection proposal was seen as a positive solution but the question of whether a three-way stop could handle the existing traffic flow was raised. The idea of preparing a digital photo image showing the proposed solution to illustrate how the position of Sparty would appear very similar was discussed as a way to help what will likely be a controversial move.
- The impact of moving Red Cedar Road on future Stadium plans was discussed along with its impact on game day traffic. The moving of the road was not considered to be a problem for either although staff would check regarding the Stadium expansion plans.
- A bus drop-off turnout should be included near the parking lot to the west of Wells Hall that is proposed to be removed.

- The Farm Lane solution was considered appropriate and it was noted that the signal at that location will need to be replaced soon anyway.
- The reconfiguring of the Bogue Street Bridge was discussed at length. East Lansing's preference was to indicate a separate span parallel to the Bridge. The modification may not be impossible but would need further traffic studies.
- The Bogue Street intersection was also discussed at length. It was decided that the "Y" split should be tightened up to reduce the crosswalk width.
- The path that follows the edge of the Sanford Natural Area should be shown as an alternative branch of the Red Cedar Greenway.
- The reconfiguring of the path as it crosses the IM fields needs to be checked with IM staff. The adjacency of the paths to the IM facility may be considered a positive from IM staff members and compensate for the changing of the field configurations.

3. Next Steps **3:15 – 3:30**

The plan will be revised as per the input listed above. The plan will then be forwarded to the MSU and East Lansing Staff for preliminary review then forwarded via e-mail to the Steering Committee for their review. Draft reports will also be circulated amongst MSU and East Lansing decision makers to gather feedback before final revisions are made and the plan is presented for adoption to the appropriate agencies.