

A plan for people who walk, bike and ride



MAY 2020

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Section 1 Overview + Process



The City of Jackson, Jackson County and several communities within the County have been working to improve walking and biking conditions for many years. A particular focus has been the construction of the Falling Waters Trail, Martin Luther King Jr. Equality Trail and Mike Levine Lakelands Trail State Park. This study builds on numerous regional, county, and local plans and studies. It also incorporates many of the significant nonmotorized improvements that have been made throughout the County in recent years. This plan is the logical next step providing the first ever detailed, county-wide, holistic, and strategic implementation plan for nonmotorized improvements.

This Nonmotorized Plan seeks to lay out a vision for a connected network that will serve those who want to walk, bike, ride and drive. The Plan focuses on the modes that have traditionally received less attention including biking and walking. The Plan is both visionary and pragmatic with near-term recommendations and a long-term vision that reflect desires and priorities driven by stakeholder input. Flexibility is built into the plan given the rapidly changing nature of transportation.

Why Plan?

While this Plan was led by the Region 2 Planning Commission, Jackson County and the City of Jackson, a number of different organizations, agencies and municipalities played a significant role in its development in order to help define current and future needs and desires for people who walk, bike, ride, and drive. The intention is for this Plan to be used by all organizations and agencies with influence in the County to respond to the growing demand to provide and promote safe and comfortable transportation options throughout the County as well as a system connected into the region.

The overall focus of this Plan is to:



Make travel more accessible for everyone by connecting people and places



Improve the quality of life for residents



Have a comprehensive plan to support and strengthen grant applications



Ensure coordination amongst agencies, organizations and municipalities within Jackson County



Strengthen the local economy by creating a desirable place to live, work, learn, and play

The Process

This plan was developed over a 14-month period with the bulk of the effort and meetings taking place throughout 2019. A Steering Committee was established that met regularly to guide the process. Engaging the public throughout the process and via various methods was a critical part of the effort. The Steering Committee completed a final review of the Plan prior to the Plan being recommended for adoption by the various agencies and municipalities in Jackson County.





What Drove This Project?

Health

According to the Physical Activity Guidelines for Americans, the first 22 minutes of moderately vigorous physical activity each day reduces many chronic diseases by up to 50%. The best way to integrate more physical activity into your life is to integrate it into your typical daily activities. The quality of the walking and bicycling experience is key. To obtain the benefits we must remove the barriers and establish a system that attracts people.

Safety

Improving the safety of the most vulnerable users of our network is critical - those that walk and bike. There were 304 pedestrian crashes over the past 10 years in Jackson County. That represents less than 1% of all crashes, but 8% of all fatal crashes. Bicyclists averaged 27 crashes a year over the past 10 years which is 0.5% of all crashes but 4% of all fatal crashes and 3% of all incapacitating injury crashes.

Community

By walking or biking, people build their social capital via the minutia of daily interpersonal interactions. The results of recent surveys and the identification of trails as the #1 priority in the 2018 Jackson County Parks Millage illustrate the support and enthusiasm the community has for increasing walkable and bikeable connections, and expanding recreational opportunities.

Economic Development

Providing a high quality of life is the key to attracting people that make the economy thrive including educated youth, high energy immigrants, educated senior citizens and entrepreneurs. Job creators want vibrant downtowns, green infrastructure, pedestrian and bicycle linkages, transit, diverse housing options, recreation amenities and a creative entrepreneurial environment. Trails and more walkable and bikeable places consistently show up on community surveys all around Michigan as the most frequently requested items residents are requesting in their communities.

Cost

The cost of doing nothing is in all likelihood greater than the cost of doing something. There is an estimated \$27 million a year in economic and societal impacts from pedestrian and bike crashes*. There are also costs associated with lower productivity at work and school as well as limited mobility for elderly, young and those with disabilities. Many of the improvements proposed in this plan will work to help to offset these costs.

* See the "Economic and Societal Impact of Crashes in Jackson County" in the Appendix



Engagement + Input

The Region 2 project managers and Steering Committee developed an engagement plan in order to gather as much input as possible while also considering the time line and budget for the project. There were 4 primary methods used to gather input from the public. The public was notified about participation opportunities via social media, email, newspaper public notices, news articles, Region 2 Planning website and via Steering Committee networks.



A project **website** was developed where schedule and drafts could be reviewed and input collected at <u>www.walkbike.info/jackson</u>



Established a **Steering Committee** comprised of stakeholders from a cross-sec

stakeholders from a cross-section of various agencies and municipalities. Met 6 times to gather input and feedback.

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Two **online surveys** were created - one early in the process and one later to comment on the preliminary plan. 328 surveys were completed. Awareness of the survey was done via social media, email and through the Steering Committee contacts.



Held two series of **public**

workshops with 10 meetings in May 2019 and 10 meetings in September 2019 where people could come to learn more about the project and give feedback on preliminary ideas and priorities. Over 160 community members participated in the meetings.









BROOKLYN/CLARK LAKE/LAKE COLUMBIA - MAP NOTES/CHANGES:

Things Heard During Planning Process

The survey was completed by 328 people and approximately 162 people attended at least one of the 20 public meetings and workshops that were held. Comments collected at public meetings were combined into a Google Map and can be viewed at <u>WalkBike.Info/</u> Jackson.

How People Get Around in Jackson County



How Satisfied People Currently Are



Issues Preventing Trips By Mode



- Maintenance/condition of existing sidewalks poor/narrow/uneven
- Lack of sidewalks or paved shoulder outside of downtowns
- Lighting and personal safety
- Snow/ice removal
- Drivers paying attention
- Lack of crosswalks
- Pavement condition (pot holes, debris)
- Availability of safe bikeways
- Driver knowledge and attitudes toward bikes
- Lack of separated bikeways
- Narrow roads/no paved shoulders
- High speed, high traffic
- Lack of bike parking
- Unfamiliar
 Confusion on bus route
 No bus routes near me



- Infrequent and inconvenient
 Expensive
- Safety
- Lack of commuter rail service



Create a Plan to Respond To Community Values



Link the parks, recreations areas and small towns



Highlight lakes and water features



Establish family friendly routes



Build on the success of the Falling Waters Trail to create a county-wide trail network



Highlight and maintain the character of rural areas



A pragmatic vision that can be implemented

What Makes Jackson Special?

Jackson County has a lot of things people LOVE about it - this plan should compliment and celebrate these things.



Additional Key Take Aways From Public Input Survey and Meetings

In-street bicycle facilities must be done right - good separation, connected, and well-maintained if they are to be used.

Need to take care of the pedestrian basics by filling sidewalk gaps and providing appropriate crosswalks.

We can't address bicycle and pedestrian facilities without addressing poor pavement condition of the roads.

There is a can-do attitude for building trails in the rural areas - willing to work with private landowners to make things happen.

The connections do not all have to look like the Falling Waters Trail - can be natural surface or gravel road routes.

Connections are not just between communities in Jackson - look beyond the borders.

Use inter-community trails and routes as a way to explore and celebrate the county's natural areas and rural character. Can be a key part of creating a brand for Jackson County and bring in visitors.

Rural on-demand system is not keeping up with demand - need some new approaches.

Limited service hours is the biggest limitation of the fixed route transit system.

Need to provide pedestrian and bicycle linkages in the suburban fringe areas.







Planning Process Schematic



3 CREATING THE PLAN



GOAL

The Report

- County Connectors
- Local Plans
- Summary Maps

Implementation Plan

- Funding Strategy
- Implementation
 Strategy
- Cost Opinions

Support Materials

- Geographic Information Systems
- Steering Committee Materials
- Public Input

A realistic plan with a 20year timeframe that reflects the community sentiments and provides a road map to implementation



Credit: Bright Walls George Rose

Section 2 Inventory + Analysis





Planning for a robust multi-modal network is complex and touches on a broad range of issues. Analysis of existing conditions was conducted in order to respond to multiple project objectives and provide a solid foundation for recommendations. Results of this analysis have been grouped into one of four categories:



Framework + Regional Trails



Streets + Environmental Conditions



Framework + Regional Trails

Framework

The City of Jackson is the central hub of Jackson County. There are 7 satellite commercial centers: Springport, Parma, Spring Arbor, Concord, Hanover, Brooklyn and Grass Lake. Just beyond the borders are the communities of Albion, Leslie, Stockbridge, Chelsea, and Manchester. Some communities that are further away from the City of Jackson are actually closer to and have a greater affinity to towns in the adjacent counties.

Just to the north of the City of Jackson is Blackman Township and Summit Township is just to the south. These communities that are within bicycling commuting distance of each other.

Regional Trails

Two regional trail corridors exist through Jackson County - the Iron Belle Trail and the Great-Lake-to-Lake Trail Route One- and generally follow the same route. These successful trails serve as the spine of this Plan.



Michigan's Iron Belle Trail

Michigan's Iron Belle Trail consists of two routes that stretch from Detroit to Ironwood. The hiking route (blue line in adjacent graphic) is more than 1,200 miles, traverses Jackson County, and is a combination of existing and proposed trails including the Falling Waters Trail, Mike Levine Lakelands Trail State Park, etc.

Great Lake-to-Lake Trail Route One

Numerous stakeholders and organizations have been working over the past decade or more to establish a 270-mile, continuous trail across lower Michigan from South Haven to Port Huron. This route includes connecting a number of existing trails such as the Macomb Orchard Trail, Mike Levine Lakelands Trail State Park, Kalamazoo River Valley Trail and the Kal-Haven Trail State Park. The Great Lake-to-Lake Trail Route One passes through Jackson County via the Falling Waters Trail, Martin Luther King Jr. Equality Trail and Grand River Artswalk. The completion of the Great Lake-to-Lake Trail Route One remains a high priority with stakeholders.

The Great Lake-to-Lake Trail Route One Inaugural Ride took place in 2019 on a 275-mile ride from South Haven to Port Huron connecting 9 counties, 34 municipalities and 42 townships.





Land Use, Demographics + Travel

Understanding the land use pattern of the county, the characteristics of the population, and how people travel are an important foundation for future recommendations related to improving people's ability to have transportation choices.

Demographics

Jackson County has an estimated (2018) population of 158,823 people with more than 20% living in the City of Jackson. The City of Jackson, northern Summit Township, and southern Blackman Township have the greatest population density in the County including the State Prison.

Policymap.com, using 2016 data from the American Community Survey and the Centers for Disease Control, evaluated a number of factors to look at health concerns and vulnerable populations. The middle map illustrates areas in the County with high rates of adults with high blood pressure, diabetes and/ or obesity. These are areas that should have increased opportunities for daily active transportation trips.

The bottom map illustrates the identified vulnerable population. These are areas with low income, limited or no access to a vehicle and high social vulnerability. Residents in these areas are more likely to depend on walking, bicycling, and transit as their primary means of transportation. 8% of county and 17% of City of Jackson residents live in households without a car.

Population Density



Source: Data shown from Esri's USA Population Density 2012 Updated Demographics Health Concerns



Source: View data at PolicyMaps.com

Vulnerable Populations



Source: View data at PolicyMaps.com

Directness of Travel

Land Use + Travel Patterns

Downtown Jackson extending out to the Henry Ford Alliance Health Campus is very walkable. However, the railroad and river act as significant barriers to bicycle and pedestrian travel around downtown Jackson.

Strava, an activity tracking application popular with runners and bicyclists, aggregates its user's data. This information, while not fully representational, does offer a reasonable view of where people are currently walking, running, and bicycling. Strava data illustrates high numbers of bicycle and pedestrian activity in downtown Jackson, MLK Jr Equality Trail, Falling Waters Trail, Cascades Park and Ella Sharp Park. The brighter the line, the more people that have walked or rode a bike along these routes.

Other commercial areas in the county are somewhat walkable. The Walk Score Map illustrates areas with high population density, commercial activity, access to recreation, school and transit, a mix of land uses and high connectivity promise the greatest return on investment. The majority of the County is highly car-dependent. The Walk Score map shows the City of Jackson and the immediate surrounding areas.





Strava Heat Map



The heatmap shows "heat" made by aggregated public activites over the last two years. Source: View data Strava.com



Walk Score

Streets + Environmental Conditions

Data was collected, mapped and analysed to better understand the existing street network, how the streets function, as well as the impact of environmental conditions on the provision of a multi-modal network in Jackson County.

Road	ways Jurisdiction
Ξ	State Trunkline County City/Village Private / Other

Roadway Functional Classification

Classification Jackson County Interstate / Freeway Arterial Collector Local Private

Classification, Jurisdiction + Unpaved

There are functional and jurisdictional hierarchies of the roadway system. The road network falls under three public agencies including the State of Michigan, Jackson County, and local municipalities.

In addition, roads are classified based on their function. Arterial roads traditionally were designated to focus on moving traffic through the community as quickly as possible. This role can be in conflict with the context of Jackson's arterials and where arterials go through the center of town and/or neighborhoods. Collectors are used as a connection between local roads and arterial roads. Local roads are the slowest for vehicular travel and are intended to allow people who live in low density residential to connect to other areas or to collector roads. Many of the main roads in Jackson County have low volumes and high speeds.

There are also a number of miles of unpaved roads in the County, including natural beauty roads throughout the Waterloo Recreation Area. These may lead to an opportunity to promote backroad bike routes on gravel roads - particularly in Waterloo as well as the Sharonville Game Area.

Unpaved Roads

Road Jurisdiction



Source: Data shown from Michigan Geospatail Datasets

Functional Classification of Roads



Source: Data shown from Michigan Geospatail Datasets

Unpaved Roads



Source: Data shown from Michigan Geospatail Datasets

Traffic Volumes

The arterials were designed to move a lot of vehicles at a high rate of speed. Higher speeds do not necessarily equate to higher volumes. Signalized intersections are the bottle necks and for the most part determine capacity. When signals are coordinated, they have the ability to regulate speed to a degree by creating a "green wave."

Over 20,000 15,000 - 20,000 10,000 - 15,000 5,000 - 10,000 0 - 5,000

Traffic Volumes in Jackson County



Source: Data shown from Michigan Department of Transportation Annual Average Daily Traffic Maps





Source: Data shown from Michigan Department of Transportation Annual Average Daily Traffic Maps

Environmental Factors

The extensive wetland system and hills that make Jackson County such a lovely place, also make construction of infrastructure and nonmotorized facilities difficult.

Wetlands and topography can have a significant impact on feasibility, permitting, accessibility, and construction costs for new sidewalks, paved shoulders, and trails.

Wetlands



Source: Data shown from US Fish and Wildlife Service - National Wetlands Inventory

Walking, Biking + Transit

A significant amount of data collection and analysis was completed in order to understand the existing sidewalk and bike networks with a focus on user stress, crosswalks, crashes, and opportunities to narrow or remove lanes to provide facilities.

Commute To Work

Based on 2018 data from The American Community Survey:

- 82% (estimated) of commute to work trips are people who live and work in the County
- 84% (estimated) of the workforce drive alone to work
- Spring Arbor University reflects the higher number of people who walk and bike to work west of Jackson (large census tracks)
- High numbers of bike, walk and take transit to work elsewhere have a strong correlation with vulnerable population areas.
- Many of the areas illustrated on the Transit To Work map are outside of JATA's Fixed Route Service area. These may be representing people using the Reserve a Ride Program.

Bike To Work



Walk To Work





Transit To Work

Ped/Bike Crash Patterns (2008-2017)

Crash data was collected for those crashes that involved a pedestrian or a bicyclist over a 10year period. For pedestrians, there have been approximately 30 crashes per year with more than one pedestrian death on the roadways of Jackson County each year. This represents <1% of all types of crashes, but 8% of all fatal crashes and 7% of all serious crashes. 42% of the pedestrian crashes were at intersections. There were a significant number of fatal and serious injury crashes in rural areas as well as a significant number of hit-and-runs (25%). About half of all crashes caused death or injury. Analysis showed that the following are NOT significant factors: drugs or alcohol, age, day, time, lighting, road condition or weather.

For bicyclists, there have been approximately 27 crashes each year with less than 1 per year resulting in death. This represents 0.5% of all crash types, but 4% of all fatal crashes and 3% of serious crashes. 63% of bicycle crashes took place at intersections. There were a significant number of fatal and serious injury crashes in rural areas as well as a significant number of hit-and-runs (25%). About half of all crashes caused death or injury.

Pedestrian Crashes



Fatal Injury

- Suspected Serious Injury
- Suspected Minor Injury
- Possible Injury
- No Injury
- michigantrafficcrashfacts.org

Bicycle Crashes



Source: View data at MichiganTrafficCrashFacts.org

Bicycle (2008-2017) Worst Injury in Crash

- Fatal Iniury
- Suspected Serious Injury
- Suspected Minor Injury
- Possible Injury
- No Injury

michigantrafficcrashfacts.org

269 crashes 6 fatalities

Pedestrian Network

The majority of the City of Jackson has sidewalks on both sides of the street. Outside of the City, few residential streets have sidewalks and the neighborhoods do not have a pedestrian link to the City or adjacent neighborhoods. Outside of the City, people are primarily walking on the local roadways. Existing foot paths can be seen connecting some neighborhoods illustrating the need to improve connections.

Crosswalks are an important infrastructure element when it comes to determining how walkable a community is. In general, pedestrians will not detour more than 10% of their total trip distance. When looking at existing crosswalk spacing in and around Jackson, the majority of corridors have over 1/4 mile stretches between crosswalks and signalized intersections.

Jackson and the immediate surroundings have many high-speed, multi-lane roadways that present significant challenges for pedestrians to cross safely. There are a number of proven safety countermeasures that may be employed to make pedestrian crossings safer. Lowering the speeds through design and removing unnecessary lanes is an example countermeasure.

Sidewalks + Crosswalks



Full size map available in Digital Appendix





Existing Bikeways



Shared Use Path	existing	planned
Bike Lane / Paved Shoulder		
Signed Bike Route		

Bike Stress Map



Bicycle Stress Map

- Stress tolerance levels for bicyclists ——— High Stress (bikes share roads with traffic)
- Moderate Stress (designated bike lane with traffic)
- Low Stress (local road or separated bikeway along road with traffic)
- No Stress (off road trail or shared use path)

Bicycling in Jackson County

Current conditions in the City were inventoried and analysed as a foundation for a long-term vision and recommendations. The Existing Bikeways Map illustrates the existing shared use pathways (8'- wide or greater), bike lanes, paved shoulders (4'- wide or greater) and signed bike routes in Jackson County. The Bicycle Stress Map illustrates the relative "stress" of bicycling on the roadway. The local street network provides a fairly extensive low stress system. The weak points in the system are crossing busy roads.

Bus Transit in Jackson County

The Jackson Area Transportation Authority (JATA) is a multi-service system providing county-wide transit services to all residents within Jackson County, depending on destination. The System Map illustrates its fixed routes run primarily within the City of Jackson and to a few destinations in the adjoining Townships, including Jackson College. City Bus Fares range between \$0.75 and \$1.50. 31-day passes can be purchased for between \$27 (children, seniors, disabled) and \$54 (adults). Most fixed routes operate at a service frequency of either every 30 minutes or every 60 minutes. JATA also has a Reserve-A-Ride program for residents, including wheelchair users.

The JATA 2018 Master Plan recognizes that Jackson currently has bicycle facilities and more are planned. JATA notes that they should work to improve the connections between non-motorized facilities and transit to improve "last mile" connections for transit riders. The 2018 JATA Master Plan Map identifies 7 Concern Areas (no sidewalks exist making it difficult to access the bus stops), and desired improvements such as crosswalks, and accessibility.

JATA Fixed Routes System Map



Source: View map at jacksontransit.com

Amtrak Train

The Amtrak Wolverine Line connects Jackson County to Chicago and Pontiac. The historic Jackson station is at Michigan Avenue and Cooper Street and has limited hours. Currently, the ped/bike connection between the JATA Transit Center in downtown Jackson and the Train Station is not direct and is separated by the railroad, river, and two busy streets.



Credit: Andrew Jameson via wikimedia commons



Mike Levine Lakelands Trail State Park Credit: michigan.org Pure Michigan

Section 3 Plan Elements







Trails

The term trail is used broadly in this report to describe a facility used by pedestrians, bicyclists, and some micromobility devices such as e-bikes. They generally exclude use by motor vehicles beyond e-bikes and mobility aids. These are the most inclusive of the facilities proposed and appropriate for users of all abilities and ages. A trail may have a natural surface or be surfaced in crushed fines or asphalt. For the most part, this report focuses on trails that are more substantial than a simple single-track hiking trail. The following are specific types of trails that are discussed in this project:

- Shared-Use Path
- Shared-Use Path Bridges and Boardwalks
- Rail-Trail
- Rail-with-Trail
- Utility Corridor Trail
- Sidepath
- Foot Trails

Note Regarding Trail Surfacing

While most trails in the urban and suburban areas will likely be surfaced in asphalt or concrete, trail surfacing in the rural areas is a local decision based on the context and the desired uses. Often, the first step in building a trail is to provide a graded and drained natural surface trail that is open to walkers, runners, and gravel or mountain bikes. Then, the community can decide over time if the surface should be improved further and if so what type of surface.

Foot Trails

While not the focus of the project, the plan does make mention of a foot trail in a few places that communities specifically requested. This would be a narrow, natural surfaced trail that generally works with the contours of the existing landscape, also known as a hiking trail.

Equestrian Trails

Some of the regional trails may decide to permit equestrian use. Where feasible, it is desirable to keep equestrians on a parallel track separated from pedestrians and bicyclists to minimize potential conflicts. This is especially the case on trails that have a significant number of users. When a single track will be shared by all users, natural surface and limestone surfaced trails are more desirable for equestrians than asphalt trails.



Example Limestone Trail



Shared-Use Path



A type of trail that generally has an improved surface of either crushed aggregate fines such as on the Mike Levine Lakelands Trail State Park or asphalt like the Falling Waters Trail. Current guidelines call for a minimum width of 10' with a 2' clear zone on either side of the trail. 11'- and 13-wide trails make it easier for two bicyclists to ride side-by-side and pass other users on the trail. The path should be gently graded (5% maximum slope), avoid tight turning radii, and have good visibly at all intersecting driveways and roadways for the safety of the users. The trail surface should drain to either side to avoid pudding water and ice buildup on the trail.

Bridges and Boardwalks



Bridges and Boardwalks for Shared-Use Paths are a minimum of 14' wide (4' wider than Shared-Use Paths) to account for bicyclists riding a safe distance away from the hand rails. They also need to be structurally capable of heavy loads such as a running event, occasional maintenance vehicles, and snow loads. The deck surface has a major impact on long-term maintenance. Wood decking while initially more economical, are difficult to clear snow from, require more frequent maintenance, and often become very slippery when wet. Concrete surfaces, while more expensive up-front, are much easier to maintain and sure under foot and wheel.



Falling Waters Trail Transitioning To Bridge. Credit mitrails.org

Rail-Trail



A type of trail that is built on an abandoned railroad grade. The Falling Waters Trail, the Mike Levine Lakelands Trail State Park, and the main trail at Watkins Lake State Park are all rail-trails. Given their historic transportation function, rail-trails provide direct connections between towns and are very gently graded and aligned trails. Some of the abandoned rail corridors in the county are now owned by Consumers Energy and are used as utility corridors with a mix of overhead and underground utilities. Others have been sold to a patchwork of private owners. For the corridors owned by Consumers Energy, there is typically a maintenance two-track that runs the length of the corridor.

Rail-with-Trail



A type of trail that is built parallel to an active railroad. The trail may be built within the railroad right-of-way or immediately adjacent to the railroad right-of-way. While there are no examples in Jackson County, there are many successful rail-with-trails around the country including two sections of the Border-to-Border trail in Ann Arbor. Getting permission to build a trail within the corridor from the owner of the railroad corridor can be challenging. Also, drainage ditches typically parallel both sides of the railroad grade leaving little dry ground to construct a trail. Alternatively, a pathway constructed on land immediately adjacent to the railroad corridor. This has the advantage of fewer intersecting driveways and roadways than a path along a roadway. A number of active railroads have parallel utility corridors.

Example Rail-With-Trail



Utility Corridor Trail



A type of trail that is built within an overhead power transmission or underground gas pipeline corridor. Utility corridors can be owned by a utility or transmission company or consist of a use specific easement on private property. Only corridors that are owned or primarily owned with a few easement gaps are likely candidates for trails. Utility corridors can prove challenging in that the routes may ignore steep slopes, wetlands, and roadway crossings that can pose significant challenges to construction of a trail. While utility companies have policies that permit incorporating trails within their property, it is not guaranteed. There is a specific approval process, fees, and requirements that must be followed. Often, there are more than one type of utility in the corridor so a trail must work around both overhead utilities and underground utilities in the same corridor.

Sidepath



A type of trail that runs parallel to a roadway and is within the road right-of-way. The Shared-Use Paths along the south side of Ann Arbor Road in Leoni Township, the south side of Spring Arbor in Summit Township, and the north side of Michigan Avenue on the west side of the City of Jackson are sidepaths. Depending on their location and how they are constructed, sidepaths present several safety and usability concerns. Motorists turning into and out of intersecting driveways and roadways are generally not looking for bicyclists traveling opposite the flow of traffic in the adjacent motor vehicle lane. Also, motorists turning out of intersecting roadways and driveways often block the crosswalk of the pathways.

Example Utility Corridor Trail



Note Regarding Trail Linkages

All of the preceding types of trails provide a distinct facility for pedestrians and bicyclists separate from a roadway. In creating links between communities and to key destinations around the county, it is not always possible to have the entire distance be a true separated "trail." Some segments of the trail will in fact be some type of Route or Local Nonmotorized Network (described later in this section).

Routes

Paved Shoulder Routes



On rural roads, the inclusion of an additional four or more feet of pavement outside of the white edge stripe provides a place for pedestrians to walk opposite the flow of traffic and bicyclists to ride with the flow of traffic. The width of the paved shoulder should increase with greater traffic speeds, and higher percentage of truck traffic. Ideally, a motor vehicle passing a bicyclist on the shoulder would be able to provide 5' of space between the vehicle and a bicyclist. If there is substantial on-coming traffic, a motorist should be able to do this by staying within their own lane.

Gravel Road Routes



One of the fastest growing segments of bicycling is gravel road riding. Bicyclists enjoy the scenic rural areas and very low volumes of traffic. Natural Beauty roads with low advisory speeds make for ideal routes. Jackson County has a number of very attractive gravel roads that go through State Parks, Recreation Areas, and Game Areas. Gravel road routes are also natural extensions of crushed fine surfaced trails like the Mike Levine Lakelands Trail State Park and natural surfaced trails within Watkins Lake State Park.



Example Gravel Road Route



Example Paved Shoulder Route

Signed / Marked Local Bike Routes



Local roads that provide low-stress connections to neighborhood destinations for people who walk and bike. These types of routes typically include wayfinding signs, traffic calming measures, and sometimes stormwater management features (like rain gardens). Crosswalk improvements may be needed where these routes cross major roadways.

Water Trail Route



A water trail is a designated route using lakes and rivers for canoeists and kayakers. It typically has designated launch sites along the route. There are several water trails in various stages of planning and development in Jackson County including the Upper Grand River Water Trail, the Chain of Lakes Water Trail, and the Portage River Water Trail. Water trails and land trails can share a common trail head with parking, water, and restrooms.



Example Signed/Marked Local Bike Route





Bike / Micromobility Lanes

Bike Lanes, or Micromobility Lanes, are portions of the road that have been designated through striping, signage, and pavement markings for the use of bicyclists, e-bikes, scooters, etc. The lanes can be added to existing roads through lane narrowing or reducing the number of vehicular travel lanes without affecting the existing curb. They typically run in the same direction as vehicular traffic.

Described here are basic bike lanes, buffered bike lanes and separated bike lanes. Special consideration should be given to how bike /micromobility lanes are handled through an intersection to prevent conflicts. The Federal Highway Administration has numerous guides available that provide details on the design and dimensions of separated bicycle facilities.



Minimal

Basic Bike / Micromobility Lanes



Used on lower speed and volume roads where space is limited. An exclusive space for bicyclists located adjacent to vehicular travel lanes. They assist in facilitating predictable behavior and movements between bicyclists and motorists.

Example Basic Bike Lane


Enhanced

Buffered Bike / Micromobility Lanes



Often implemented with a road re-striping or resurfacing project. Basic bike lane paired with a designated buffer space separating the bicycle lane from the adjacent motor vehicle travel lane and/or parking lane. Provides greater shy distance between motor vehicles and bicyclists and appeals to a wider cross-section of bicycle users.

Optimal

Separated Bike / Micromobility Lanes



Typically implemented as part of a road reconstruction project. Bikeways that are at street level and use a variety of methods for physical protection from passing traffic. May be combined with a parking lane or other barrier between the separated bike lane and the motor vehicle travel lane. Dedicates and protects space for bicyclists in order to improve perceived comfort and safety.



Example Buffered Bike Lane

Example Separated Bike Lane



Crossings

While safely moving various modes through and along corridors is important, getting vulnerable modes including pedestrians and bicyclists safely across corridors is essential. The examples here illustrate various ways to get people across corridors. Specific design treatments vary based on distance, speeds, volumes, etc.

Example Pedestrian Crossing Island



Raised Crosswalk



The crosswalk is at the same level as the sidewalk improving pedestrian accessibility. The road has a gentle ramp up to the crosswalk level that helps moderate traffic speed and improves crosswalk visibility.

Example Pedestrian Hybrid Beacon with a Crossing Island at a Bus Stop



Protected Intersection



Use of corner islands, restricted motor vehicle turns, bike lanes, and bicycle specific signals permit bicyclists to navigate a busy intersection without conflicts from turning vehicles or having to merge with motor vehicles. It also significantly improves pedestrian safety.

Rectangular Rapid Flash Beacon



A high-visibility strobe light placed below a crosswalk light is activated by pedestrians to alert drivers that a pedestrian is crossing the roadway. This is used at mid-block locations and is most effective on roads with speeds 35 mph or less. It is often used in conjunction with crossing islands on roads with more than two lanes.

Pedestrian Crossing Island



Pedestrians only need to cross one direction of traffic at a time which is much safer and allows for more opportunities as they only are looking for a gap in traffic from one direction. The island provides a strong visual indicator to motorists of the crosswalk. Often used in conjunction with rectangular rapid flash beacons.



Pedestrian Hybrid Beacon

A device that brings motor vehicles to a complete stop to help pedestrians safely cross busy and higher speed roadways mid-block. Motorized traffic is permitted to proceed through the intersection after stopping if a pedestrian or bicycle has cleared the crosswalk.

Crosswalk at Bus Stop



Mid-block bus stations should be located in conjunction with appropriate crosswalk facilities. The safest place for the crosswalk is behind the bus stop to allow for greater visibility of pedestrians in the crosswalk.



Credit: Experience Jackson

Section 4 **Regional + County Network**





The Regional + County Networks focuses on the links that connect communities and major destinations within the County as well as communities in adjacent counties. This network builds on the success of the Great Lake-to-Lake Route One that includes the Falling Waters Trail, the Martin Luther King Jr. Equality Trail, and the Mike Levine Lakelands Trail State Park.

These significant regional and/or county connections have been further organized by the type of system or experience that would be realized including:



Priority Trails



Priority Gravel Road Routes



Priority Paved Shoulder Routes

While not a focus of this planning process, Water Trails within the County are an important asset and coordination with land based trails is key to the success of both emerging systems.

Developing the Regional | County Network

The Priority Routes and Trails presented on the following pages are the result of a process that considered: Public Input; Inventory & Analysis; requirements of Funders; and the desire to create an Equitable System.

It was an iterative process. The first round of public input identified issues and opportunities. After a preliminary plan was developed, the second round of public input was used to refine and prioritize the plan.

When considering all of these factors, a network of connections that have regional and/or county significance emerged. These include existing or potential routes that:

- provide significant connections among communities within the county; and/or
- connect to adjacent counties
- offer a particularly unique experience within the county.

Together, these met the objective of creating an ambitious yet realistic plan with a 20-year timeframe that reflects community sentiments.







CRITERIA CONSIDERED WHEN SELECTING PRIORITY ROUTES AND TRAILS

Public Input

What do people want? What are peoples concerns? What are the priorities?

Inventory & Analysis What is feasible? What is needed?



Fundable Qualifies for likely funding sources and realistic ask to funders

A A

Equitable System

Reaching as many people as possible and creating a functioning network

Jackson Regional | County Network

The planned priority network is illustrated in the adjacent map and shows a combination of connected types of trails, routes and experiences including:

- Priority Trails
- Priority Gravel Road Routes
- Priority Paved Shoulder Routes

These three systems complement each other. A bicyclist who enjoys the paved Falling Waters Trail may also feel comfortable extending their ride on a paved shoulder route along a rural road. Someone who enjoys the character of a crushed fines trail like the Mike Levine Lakelands Trail State Park, may want to create a loop route that incorporates gravel road routes. By creating a more comprehensive network, more residents have the opportunity to walk or bike out their front door and have a designated route linking them to a regional trail.

Priority Trails and Routes

The trails, gravel road routes, and paved shoulder routes shown have been given the designation "Priority." The map should not be construed to show that these are the only such facilities that should be constructed or designated. Rather, it illustrates that routes that make the most meaningful connections and that work together to create a system throughout the county. These Priority routes should be the focus of new investments for the foreseeable future. The system shown represents an approximately 20-year vision.

The following pages provide further details of the various regional and county network priorities within Jackson County.

Mike Levine Lakelands Trail State Park



SPRINGPORT akelands trails evine ٩ PARMA JACKSON GRASS LAKE Martin Luther King Jr Equality Trail Falling Waters Trail CONCORD BROOKLYN HANOVER CEMENT CITY

Jackson Regional | County Network

Iron Belle/Great Lake-to-Lake Trail Route One

- Priority Trails
 - Priority Gravel Road Routes
 - Priority Paved Shoulder Routes

Priority Trails

The Plan builds off the regional trail spine of the Falling Waters Trail, the Martin Luther King Jr. Equality Trail, the Armory Arts Walk, and the Mike Levine Lakelands Trail State Park that together form the Great Lake-to-Lake Trail Route One and the Iron Belle Trail in Jackson County. These trails have proven to be popular and the few missing links in the county are currently either under development or in advanced planning stages.

The priority trail system also works to integrate other disconnected trails in the county into an interconnected trail network. The map below shows the existing major trails in the county and how they form the foundation for the proposed priority trail system. The map on the right illustrates the proposed regional trail system. Nine new priority regional trails are indicated and coded by unique colors. The following pages include detailed recommendations for each of these trails.

In addition to the color coded Priority Trails, there are some links that may extend into adjacent counties. These include from Hanover to Mosherville; Rives Junction to Onondaga and Leslie; and Concord to Albion. These are still desirable links, but there are significant obstacles to achieving these connections.



Priority Trails







Albion Parma	A Parma to Albion Rail-with-Trail Partner with Consumers Energy to provide off-road trail between Albion and Parma along south side of active rail and within transmission line corridor. Existing wetland areas could have impact on cost.
Length •	7.7 miles
	••••••
Surface	Unpaved off-road trail (option to pave later if desired)
•	•••••••••••••••••••••••••••••••••••••••
Transmission Line Corridor	Parallels active rail corridor
•	••••••
Public Input	Priority. Option for Great Lake-to-Lake Trail Route One
•	•••••
Ownership	Consumers Energy and 2 private property owners
•	•••••••••••••••••••••••••••••••••••••••
Topography	Easy. Follows existing 2-track
•	•••••
Bridges + Boardwalks	Cross the North Branch of the Kalamazoo River near Bath Mills Road
•	•••••••••••••••••••••••••••••••••••••••
Road Crossings	Minor
•	•••••
Existing Structures	Need to work around distance from existing power lines and railroad
	•••••••••••••••••••••••••••••••••••••••
Magnitude of Cost	\$2.55 Million (Further evaluation needed. Price could vary considerably due to easements + wetlands)



Parma to Albion Trail Considerations







Michigan Avenue | Chapel Road

Provide pathway connection between Spring Arbor, Parma and Western School Campus following rightof-way of Michigan Avenue and Chapel Road. May need to use private property adjacent to roadway to avoid topography and vegetation.





Michigan Avenue | Chapel Road Sidepath Considerations



Rectangular rapid flash beacon across Michigan Ave at Elizabeth Street



Marked crosswalk at S Harrington Road



Marked crosswalk at Chapel Road



Marked crosswalk at McCain Road



Connection to Western High School Campus



Marked crosswalk at King Road



Pathway along Teft Road under development





Hanover | Horton Rail Trail

Partner with Consumers Energy for unpaved trail from Hanover to Falling Waters Trail following abandoned rail corridor. Condition of bridge over N Branch of Kalamazoo River could impact cost.





Hanover Horton Rail Trail Considerations







Summit to Clark Lake

The connection is relatively low cost to build, however acquiring right-of-way from numerous property owners will be challenging and could impact overall cost.

Length	6.7 miles
Surface	Unpaved off-road trail (option to pave later if desired)
Right-of-Way	Former Rail Corridor and existing trail segment in Clark Lake
Public Input	Priority. Input was mixed on using extra right-of-way along US-127 instead of abandoned rail corridor
	•
Ownership	Consumers Energy, right-of-way, Jackson County Road Commission, and 5 private owners
Topography	Assume a graded rail corridor
Bridges + Boardwalks	Minor
	•
Road Crossings	Major crossing of US-127 in Jackson
	••••••
Existing Structures	Portions of corridor have driveways and buildings
Magnitude of Cost	<u>\$1.29 Million (Further evaluation needed. Price could vary considerably due to easements + wetlands)</u>
Route Alternative	US-127 right-of-way as alternative to entire corridor; use existing unpaved roads as signed bike route connection between N Stony Lake road and Reed Road paralleling corridor



Summit to Clark Lake Rail Trail Considerations



5 Trail through private property with wetlands, alternative route use Ridge Road (gravel)





Columbia Township Rail Trail

A paved off-road trail connection between the Village of Brooklyn and Columbia Central High School following former rail corridor; requires easements from numerous property owners with one home directly adjacent to corridor.

Length	• 2.1 miles
	• • •
Surface	Paved off-road trail
	•
Right-of-Way	Former Rail Corridor
	•
Public Input	High Priority. Local stakeholders actively working on trail alignment.
	•
Ownership	Village of Brooklyn and 1 private property owner
	• • • • • • • • • • • • • • • • • • • •
Topography	Assume a graded rail corridor
Bridges + Boardwalks	Minor. Near some wetlands.
	•
Road Crossings	Minor
	•
Existing Structures	Property owners' home near corridor
Magnitude of Cost	\$1.61 Million (Further evaluation needed. Price could vary considerably due to easements.)
Route Alternative	Turk Road



Columbia Township Rail Trail Considerations



Pathway along east side of Hewitt Road connecting to Columbia Central High School



Rectangular rapid flash beacon crossing Cement City Road

3 Easement required along abandoned rail corridor in private property; owner home adjacent to trail corridor



Marked crosswalk at Dearmyer Road



Marked crosswalk at Constitution Avenue



Watkins Lake

Unpaved off-road trail following former rail corridor mostly in private ownership. Would require numerous easements with 3 homes directly on corridor. May need to use parallel gravel road for connection.

Length	• 4.6 miles
	•
Surface	 Unpaved off-road trail (option to pave later if desired)
	•
Right-of-Way	 Former Rail Corridor and existing trail segment in Watkins Lake State Park
	•
Public Input	 High Priority. Local stakeholders actively working on trail alignment.
	•
Ownership	 12 private property owners. Talks with Sportsman Club in Brooklyn have taken place.
	•
Topography	Assume a graded rail corridor
	•
Bridges + Boardwalks	Minor. Some wetlands nearby.
	•
Road Crossings	Minor
	•
Existing Structures	3 homes directly on corridor
	•
Magnitude of Cost	 \$1.59 Million (Further evaluation needed. Price could vary considerably due to easements + bridge)
	•
Route Alternative	 May need to use Waterman Road right-of-way (gravel) to by-pass homes on corridor.



Watkins Lake Rail-Trail Considerations





Ann Arbor Road

Sidepath connection between Jackson and Grass Lake using right-of-way on Ann Arbor Road. Part of sidepath exists between N Sutton Road and Gilletts Lake Road.





Ann Arbor Road Sidepath Considerations



from adjacent property owners

Marked crosswalk at Tims Lake Blvd



Rives Rail With Tra

Partner with Consumers Energy for unpaved offroad trail between Blackman and Rives along west side of active railroad and within a transmission line corridor. Wetlands could impact cost.

Length	• 8.0 miles
	•
Surface	 Unpaved off-road trail (option to pave later if desired)
Right-of-Way	 Parallels active rail corridor
	•
Public Input	Priority. Experience wet areas along corridors. Connect to Northwest School Campus on Van Horn.
	•
Ownership	 Consumers Energy and a few private property owners.
	• • •
Topography	 Unsure of grading of two-track through wet areas.
	•
Bridges + Boardwalks	 Boardwalk may be required through wet areas.
	•
Road Crossings	• Minor
	• •
Existing Structures	 Need to coordinate distance from existing power lines and railroad.
Magnitude of Cost	 \$3.58 Million (Further evaluation needed. Price could vary considerably due to extensive wetlands)
	•
Route Alternative	 Follow Rives Junction Road Corridor to connect to Northwest School Campus



Rives Rail with Trail Considerations

- 1 Sidepath along west side of Rives Junction Road and Railroad Road
- 2 Sidepath along south side of Broughwell Road



Marked crosswalk at Henry Road



5

- Marked crosswalk at Van Horn Road
- Appears to be room under US-127 overpass for trail adjacent to active rail

- 6
- Rectangular rapid flash beacon at Morrill Road



Marked crosswalk at Cunningham Road



Crossing island on Lansing with rectangular rapid flash beacon (based on 4- to 3-lane conversion)



Mount Hope Road

Sidepath connection between the Village of Grass Lake and Waterloo State Recreation Area using right-of-way along Mount Hope Road.

3.7 miles
•
Paved Sidepath
Parallels Mount Hope Road
Priority. The desire to connect to subdivision off Mount Hope Road and to new Henry Ford Allegiance Health care facility planned near I-94.
Mostly right-of-way with a some private property owners. May require easements with adjacent property owners.
Swales, utilities and vegetation
Bridge crossing I-94
 Railroad crossing and minor road crossings
Nothing significant
<u>\$4.86 Million (Further evaluation needed. Price could vary considerably due to easements.)</u>



Mount Hope Sidepath Considerations

- Sidepath will require extensive grading, retaining walls and gates at railroad crossing
- 2

Rectangular Rapid Flash Beacon at Willow and Mount Hope Road



Rectangular Rapid Flash Beacon at Sand Hill and Mount Hope Road



Rectangular Rapid Flash Beacon at Deer Run Road and Mount Hope Road



Provide connection to future health care center



Marked crosswalk at Knight Road



Coordinate with MDOT to provide pedestrian bridge over I-94

Connect to Pinckney-Waterloo trailhead

Priority Gravel Road Routes

Some of the most scenic areas of Jackson County are best explored via gravel roads. In the northeast part of the county, Glenn, Maute, Green, Loveland, and McClure Roads provide a 10-mile east-west transect of the Waterloo State Recreation Area and on of the most beautiful stretches of road in Southeast Michigan. This route is already favored by gravel road riders and is part of the Waterloo Grit & Gravel Race which kicks off the Michigan Gravel Race Series. With the recent extension of the Mike Levine Lakelands Trail State Park, existing gravel roads, and a few new single-track connections, it is possible to create an over 30-mile loop trail. This, in combination with the wildly popular DTE Energy Trail, will make this area of the county a destination for bicyclists.

In the southwest part of the county, gravel roads may be used in conjunction with the Falling Waters Trail to offer loop routes. In the southeast part of the county, gravel road routes in combination with trails along abandoned railroad corridors are proposed to provide a link between Brooklyn, Watkins Lake State Park, and Manchester. Along the eastern boundary with Washtenaw County, a gravel road route is proposed to connect Waterloo State Recreation Area, Sharonville State Wildlife Management Area, Watkins Lake State Park, and Hayes State Park.

Hastings, Michigan, home to the Barry-Roubaix gravel road race that attracts thousands of riders each year is an excellent model of a community embracing gravel road riding. The County Road Commission installed permanent bike route signs marking the race routes as many bicyclists would come to train or just casually ride the routes.

Public Would Like to See Built First:

- + Connection to Falling Water Trail using North Cross Rd
- Connection to Hayes State Park from Brooklyn (Waterman Rd, Bettis Rd, Ladd Rd, Owen Rd, Cash Rd, Mulvaney Road, Wellwood Rd, and Ayes Rd)
- Gravel Road Route through Waterloo State Rec Area including multiple loops following in Jackson and Washington Counties (Tophith Rd, Leeke Rd, Harr Rd, Parks Rd)









Priority Gravel Road Routes

Regional | County Nonmotorized Network

Priority Gravel Road Routes

Short Trail Connection Along Paved Road or Private Property

Priority Paved Shoulder Routes

Bicyclists riding between communities in rural areas seek routes that strike a balance between directness of route, the amount of traffic, topography, scenery, and the presence of a paved shoulder. The Priority Paved Shoulder routes identify the locations that meet those criteria and would benefit most from the addition of a wide paved shoulder. Given the default speed on rural roads is 55 mph, the speed differential between bicyclists and motorists is substantial and a crash between the two will almost always result in a fatality or serious injury for the bicyclist. For pedestrians, a paved shoulder is the only place in most cases to walk along the road. Thus paved shoulders should be viewed as important lifesaving safety features of a roadway.

Beyond the safety benefits for pedestrians and bicyclists, the paved shoulders provide benefits to road longevity and motorized user safety. Federal Highway Administration's design guide for Small Town and Rural Multimodal Networks provides excellent guidance on how paved shoulder widths, markings at intersections, incorporation of rumble strips, etc. The minimum width for a paved shoulder is 4' wide. Michigan Department of Transportation and other federal agencies do not recognize a 3' wide paved shoulder as a bicycle facility.

Public Would Like to See Built First:

- Popular road route for cyclists (Seymour Road, O'Leary Rd, Clear Lake Road and Trist Road, Race Road)
- + Connection to Jackson College and Dahlem Nature Center (Jackson Road, Browns Lake Road and Wickwire)
- Albion Road between Concord/Falling Waters Trail and Albion Connection to Meridian-Baseline State Park (N Meridian Road, Coonhill Road, Wooster Road)
- Popular road route for cyclists between Hanover and the Falling Waters trail (Roundtree Road, Bowerman Road, Sears Road and Thorne Road)





Priority Paved Shoulder Routes

Regional | County Nonmotorized Network

Priority Paved Shoulder Routes

Coordination with Water Trail Routes

Water trails were not part of the scope of this planning process. However, it's recognized that coordination between land trails and water trails is beneficial. Particularly, there are often opportunities for shared trailheads and trailhead amenities such as parking, restrooms, drinking fountains, signage, etc. There are also opportunities for coordinated multiactivity events such as paddle-bike-run. Water Trails are a designated route on a navigable waterway primarily for kayaking, canoeing and stand-up paddle-boarding.

A Development Plan was created in 2017 for the Upper Grand River Water Trail by Land Information Access Association (LIAA), Region 2 Planning Commission, and The Upper Grand River Watershed Alliance. The goal of the Plan is to outline the activities, process and framework to establish a water trail along the Upper Grand River. The Plan includes the desire to have several access points that may also be able to be coordinated with land trails and trailheads including:

- Vandercook Lake County Park
- Ella Sharp Park in Jackson
- High Street East Bridge in Jackson
- Riverfront Park in Jackson
- Jackson County Fairgrounds
- Parnall Road in Blackman Township
- Maple Grove Bridge in Rives Township

Groups in the region are also working to advance water trails along the Kalamazoo River and the River Raisin.









Water Trails in Jackson County

Regional | County Nonmotorized Network

Water Trails



Credit: flickr photo/Michigan Municipal League
Section 5 Local Network



This section provides detailed recommendations for the ten Jackson County communities listed to the right. The plans only include the "priority recommendations" and should not be construed as a comprehensive list.

For the smaller satellite communities, the recommendations have been scaled to a realistic list of what can be accomplished in the near-term. For the larger communities in the central part of the county, the recommendations are more robust given the greater resources available to those communities.





- Complete sidewalk gaps
- Improved crosswalks so they are compliant with the Americans with Disabilities Act and provide safe routes to schools
- Provide trail connections to Watkins Lake State Park, Hayes State Park, Columbia Central High School/Columbia Lake, Clark Lake Spirit Trail and the Michigan International Speedway
- Provide trail connection to Lake Columbia and Clark Lake Spirit Trail



Main Street in Brooklyn

Brooklyn

The Brooklyn area is an important anchor in the Greater Irish Hills region with a walkable downtown. It is within biking distance to Watkins and Hayes State Parks, Columbia Central High School and MIS.



Complete sidewalk gaps on Mill, King, Marshall, Tiffany, Constitution, Water and S Main



3

Paved shoulder on Mill St/Case and Riverside

Trail following abandoned rail corridor, in private property, connecting to Columbia Central High School and Lake Columbia

Unpaved trail following abandoned rail corridor, in private property, connecting to Watkins Lake State Park



Bike route on local roads



Bike route on local roads



Sidepath along Monroe Pike connecting to the Michigan International Speedway



MDOT plans to provide enhanced paved shoulders on Wamplers Lake Road



Improve crosswalk - rectangular rapid flash beacon with in-road pedestrian signs



Improve crosswalk - detectable warning, curb ramps, high visibility markings, signs



Improve crosswalk - detectable warnings and in-road pedestrian signs

New crosswalk with in-road pedestrian signs





- Complete sidewalk gaps
- Improve crosswalks so they are compliant with the Americans with Disabilities Act and provide safe routes to schools
- Provide trail connection to Swains Lake County Park
- Extend the Falling Waters Trails to Calhoun County as part of the Great Lake-to-Lake Trail/Iron Belle Trail and improve connections to the downtown



Main Street in Concord Credit: Google Streetview

Concord

Concord is located at the western terminus of the Falling Waters Trail. It has a quaint Main Street area with schools and Swains Lake County Park within walking distance of downtown.



Narrow travel lanes on bridge to add sidewalk on east side of bridge



Add sidewalk to Jackson Road



Complete trail gap along River Street



Improve crosswalk - detectable warnings, curb ramps, and high visibility markings



Improve crosswalk - detectable warnings, curb ramps, and high visibility markings



Sidepath connection along the west side of S Main Street to Swains Lake



Local road bike route



Extension of Falling Water Trail to Calhoun County currently under study



Paved shoulders along Albion Street and Hanover Street







- Completing sidewalk gaps
- Improve crosswalks so they are compliant with the Americans with Disabilities Act and provide safe routes to schools
- Improve railroad crossings for people who walk and bike
- Provide trail connections to the Waterloo-Pinckney Recreation Area and to new subdivisions on the edge of town
- Provide a trail connection along Mount Hope Road connecting to the Waterloo-Pinckney trailhead and future medical center near I-94



Whistlestop Park Depot in Grass Lake

Grass Lake

The Village of Grass Lake has a walkable downtown with nearby parks, schools and neighborhoods to connect. The Waterloo-Pinckney Rec Area is a major bicycle destination to the north.



Provide foot paths between parks and downtown



Complete sidewalk gaps along Michigan Avenue, Warrior Trail, Portage Street and Lakeside Drive



Work with landowners to provide connection from Michigan Ave to Grass Lake Middle School



Local road bike route on Clark, Water, South, Church, Lake, Brown, Portage and Union Streets



Sidepath connection to Breezy Lane



Improve railroad crossings



Improve crosswalks - detectable warning, curb ramps, high visibility marking, in-road pedestrian signs or rectangular rapid flash beacons to help slow traffic in the downtown and along school routes



Crosswalk with rectangular rapid flash beacon



New crosswalk - provide access to trail from neighborhoods





Paved shoulders on Wolf Lake Road, Norvell Road and Grass Lake Road





- Completing sidewalk gaps
- Improve crosswalks so they are compliant with the Americans with Disabilities Actand provide safe routes to schools
- Provide trail connection to Horton and the Falling Waters Trail via abandoned rail corridor



Credit: Google Streetview



Consumers Energy corridor along former railroad between Horton and Hanover

Hanover

Hanover has a quaint Main Street area with the local library, school and park within walking distance.



Unpaved trail along abandoned rail corridor on Consumers Energy property connecting to Falling Waters Trail in Summit Township



Potential for unpaved trail along abandoned rail corridor on Consumers Energy property connecting to Mosherville - work with land owners to provide trail link from State Street to Consumers Energy corridor

3

Improve school crosswalk - detectable warning, curb ramp, high visibility markings, signs, realign ramps so pedestrians are not dumped into the driveway



Improve crosswalks - detectable warning, curb ramp, high visibility markings, signs



Complete sidewalk gaps along Seward, Dean, Main and State

Pathway through Hanover on Village property

Hanover Nonmotorized Network





- Completing sidewalk gaps
- Improve crosswalks so they are compliant with the Americans with Disabilities Act and provide safe routes to schools
- Provide a trail along Michigan Ave connecting to Western High School Campus and Spring Arbor
- Provide trail connection to Albion via abandoned rail corridor



Consumers Energy corridor along active railroad between Parma and Albion



Credit: Google Streetview

Parma

Parma has a quaint Main Street area with the local library, school and park within walking distance. Michigan Avenue and the railroad create barriers to walking and biking across the community.



Improve crosswalk - detectable warning, curb ramp, high visibility markings, signs



Improve crosswalk - rectangular rapid flash beacon, detectable warning, curb ramp, high visibility markings, signs



Add sidewalk connections from neighborhood to school



Complete sidewalk gaps along Grove Street, James Street and Railroad Street



Bike route down Main Street and Railroad Street



Paved shoulders on Michigan Ave/Main Street and N Union Street/Parma Road



Unpaved trail following Consumers Energy corridor, paralleling railroad, between Albion and Parma



Sidepath along Michigan Ave connecting to Western School Campus and Spring Arbor





- Completing sidewalk gaps; with a focus on 2nd Street
- Improve crosswalks so they are compliant with the Americans with Disabilities Act and provide safe routes to schools and Spring Arbor University
- Provide trail connections to Western School Campus, Bean Elementary School, the Falling Waters Trail and the Village of Parma



Spring Arbor has the potential to support a lot of walking and bicycling trips due to Spring Arbor University and proximity to the Falling Waters Trail'. Recent projects along Main and Teft are improving bike/ped connections in the community.



Improve crosswalk - rectangular rapid flash beacon, detectable warning, high visibility markings, signs



Connection to Falling Waters Trail - sidepath along Teft Road currently under development



Complete sidewalk gaps along 2nd Street, Dickens St, Henderson, Richard, Main and College St



Sidewalk connection to Bean Elementary School - work with private land owners



Sidepath along Chapel Road connecting to Western School Campus and Parma



Pathway connection from Richards Road to Dearing through city-owned property



Sidewalk connection along King Road to Nobel Road and Bean Elementary School



2nd Street near Spring Arbor University Credit: Google Streetview

Note:

Local efforts have been focusing on Dearing Road as the main connection to Western School Campus. However, based on further input and feasibility studies, this Plan recommends Chapel Road be considered.

Spring Arbor Nonmotorized Network



Nonmotorized Network

Bike Lane/Paved Shoulder

Signed Bike Route

Trail (paved) Trail (unpaved/gravel) existing planned

....

.....

.....



Springport

Springport has a walkable Main Street area with the local library, school and park within walking distance. Recent focus has been on providing connections to a new store adjacent to the downtown.



Marked crosswalk at Jac Court



Complete sidewalk gaps along Mechanic, Pearl Street, Maple Street, Green Street and Railroad Street

3

Improve crosswalk - detectable warning, curb ramp, high visibility markings, in-street pedestrian signs (long-term install crossing island)



Work with local utility company to provide trail south of town



Potential for traffic calming measures



Pursue trail along abandoned rail corridor if landowners are amenable



- Completing sidewalk gaps; with a focus on 2nd Street
- Improve crosswalks so they are compliant with the Americans with Disabilities Act and provide safe routes to schools
- Provide trail along abandoned rail corridor where landowners are amenable



Historic Depot in Springport off Railroad Street





Blackman Township

Nonmotorized Network Overview

Blackman Township surrounds Jackson to the north and includes the route of the Iron Belle Trail/Great Lake-to-Lake Trail Route One. The Township is challenging to walk and bike in due to the railroads, US-127, I-94 and Grand River.

Priorities

- Completing sidewalk gaps along key routes
- Improve crosswalks so they are compliant with the Americans with Disabilities Act and provide safe routes to schools
- Provide connections across expressways, rivers and bridges
- Connect to schools
- Connect to isolated neighbourhoods
- Complete the Iron Belle Trail / Great Lake-to-Lake Trail Route One



Township Hall on Parnall Road Credit: Google Streetview

The plan for Blackman Township focuses on linking disconnected neighborhoods to commercial areas, overcoming the obstacles presented by the freeways, and linking to the Iron Belle Trail / Great Lake-to-Lake Trail Route One. The following pages breakdown the network as follows:







Blackman Township

There are a lot of opportunities for shared-use path connections in Blackman Township. The Township has already been busy working on the alignment of the future Iron Belle Trail/Great Lake-to-Lake Trail Route One that crosses Jackson County. Many of the other proposed routes utilize existing rights-of-way, public property, Consumers Energy property, or follow existing easements. The proposed pathways connect to isolated neighborhoods and schools.

Note: Rives Junction Road may be an alternative route if the abandoned rail-trail between Blackman and Rives is not feasible



Apartments along Springport Road





Unpaved trail connection following Consumers Energy corridor to Rives



Connection to existing pathway at Northwest High School campus



Connect neighborhoods to existing pathway to school campus



Planned Iron Belle Trail extension



Add pathway to east side of Lansing Road with 4- to 3-lane conversion



Provide pathway connection behind neighborhoods along sewer easement



Potential to connect to planned water trailhead, bridge over river required



Add pathway along north side of Boardman with 4- to 3-lane conversion



Trail connection through private property to connect to isolated neighborhoods



Trail connection along the backside of neighborhoods south of Springport Road



Add pathway to overpass by reducing lanes on bridge deck from 4 to 2 lanes



Add pathway along east side of Shirley, north side of Woodworth Road and through Consumers Energy property



MDOT planning to reconfigure interchange to a diverging diamond with nonmotorized trail



Continue pathway down west side of Airport Road

Blackman Township Trails



Existing



Blackman Township

Bike Lanes and Paved Shoulders

There are opportunities to add bike lanes through 4- to 3-lane conversions on a few roads in Blackman Township. 4- to 3-lane conversions are a proven safety countermeasure by the Federal Highway Administration. By restriping the roadway, they provide a low-cost solution that leads to a reduction in crashes and allows for a designated bike lane.

Adding paved shoulders to a roadway takes a little more effort. The most cost-effective way is to coordinate with an upcoming road reconstruction project.



Add bike lanes through 4- to 3-lane conversions on Parnall, Springport Road, O´Neil Road, Wildwood Road and Laurence Road



Add paved shoulders to Springport, Parnall, Seymour, and County Farm



Coordinate 3- to 2-lane conversion on Ganson with the City of Jackson





Blackman Township

Sidewalks + Crosswalks Signed Bike Routes

Blackman Township Sidewalks +Crosswalks

Blackman Township should make it a priority to complete sidewalk gaps along major roads that connect neighborhoods, schools and commercial areas. Crossing islands and rectangular rapid flash beacons are recommended on roadways in more rural areas where bicycles and pedestrians may not be expected.



2

3











Blackman Township Signed Bike Routes

Signed bike routes on local roads can be very economical and provide a low-stress facility for people who bike. There are a few areas in Blackman Township where a bike route on a local road can provide more connectivity within the nonmotorized network.

Hawthorne Dive and Sherwood Lakes Blvd through the manufactured home developments north and south of West Parnall Road linking up to the proposed off-road trail to the Shopping Center between Springport and I-94



Local Road Bike Route



Blackman Township

Detail Area

The central part of Blackman Township has some of the most densely populated areas of the county. This detail area illustrates how trails are proposed to link population centers with commercial areas and institutions.

The plan also proposes trails through the US-127 freeway interchanges which present the most imposing barriers to access in this area. The interchange at Springport Road may be modified to include a trail without impacting operations. The I-94 interchange is in the early planning stages for a new design that would incorporate a nonmotorized pathway.



Existing foot trail to shopping center from neighborhoods south of Springport Road





Trail connection along the backside of neighborhoods south of Springport Road



Opportunity for signed bike routes on lowspeed, low-volume neighborhood roads



Add pathway to overpass by reducing lanes on Springport Road bridge deck from 4 to 2 lanes



Add pathway along east side of Shirley Road, north side of Woodworth Road and through Consumers Energy property.



Michigan Department of Transportation evaluating reconfiguring interchange to a Diverging Diamond configuration



Complete sidewalk connections around shopping center



4- to 3-lane conversion proposed for segments of North Wisner, Adams, Monroe, and Boardman as a Federal Highway Administration proven safety countermeasure

Blackman Township Detail Area

Nonmotorized Network

Trail (paved) Trail (unpaved/gravel) Bike Lane/Paved Shoulder Signed Bike Route Sidewalk Footpath/Hiking Trail



Regional Connections

Priority Paved Shoulders Unpaved Trails and Routes Paved Trails and Routes

City of Jackson

Family Friendly Routes Roads

Major Roads Local Roads **Gravel Roads**







Summit Township surrounds Jackson to the south and includes portions of the Falling Waters Trail/Iron Belle/Lake-to-Lake Trail.

Priorities

- Completing sidewalk connections to schools and between neighbourhoods
- Improve crosswalks so they are compliant with the Americans with Disabilities Act and provide safe routes to schools
- Connect adjacent neighbourhoods to the Falling Waters Trail
- Provide bike routes on local roads to connect neighbourhoods
- Connect to Jackson College
- Connection to Hanover/Horton via abandoned railroad corridor



Summit Township Offices on Ferguson Road Credit: Google Streetview

Summit Township

Nonmotorized Network Overview

Summit Township presents a challenge for people who walk and bike due to the wetlands and water features that create isolated neighborhoods. Many of the roadways leading to these neighborhoods have narrow rights-of-way making it difficult and expensive to provide bicycle and pedestrian facilities.

The plan has three primary elements: First, connecting isolated neighborhoods in the north part of the township through short off-road trails and signed bike routes on local roads. Second, expanding the existing sidepath system along the primary roads in the central part of the township. Third, providing paved shoulders along the primary roads in the more rural south part of the township to provide access to Jackson College and the Dahlem Nature Center.

To the right is an overview of the proposed nonmotorized network for Summit Township. The following pages breakdown the network as follows:



Trails





Sidewalks & Crosswalks

Nonmotorized Network existing planned Trail (paved) rail (unpaved/gravel) Bike Lane/Paved Shoulder signed Bike Route Signed Bike Route sidewalk Footpath/Hiking Trail - - - Regional Connections - - - Priority Paved Shoulders - - - Unpaved Trails and Routes - - - Paved Trails and Routes - - - Roads Roads Main Reader - - -

Roads Major Roads Local Roads Gravel Roads



Summit Township

Nonmotorized Network



Pathways and trails provide low-stress connections that are critical to the nonmotorized network. Summit Township should focus on making short trail connections among the Falling Waters Trail and adjacent neighborhoods as well as providing connections to isolated neighborhoods.

To be eligible for state/federal funding, shared-use pathway connections need to be at least 10' wide to provide for both bicycle and pedestrian use.



Falling Waters Trail

Summit Township

Trails



Pathways connecting neighborhoods through township property



Township applied for grant to build connection from Blue Lane to school



Connection through golf course following service road



Connection to Kibby through undeveloped parcel



Connection to Falling Water Trail through private property



Connection to Falling Water Trail through Consumers Property



Connect neighborhoods to Falling Water Trail



Connect neighborhoods following water/sewer easement



Pathway along north side of McDevitt Road under development



Pathway planned through Vandercook Lake Park



Unpaved trail along abandoned rail corridor on Consumer Energy Property connecting to Horton and Hanover



Explore opportunities for an off-road trail between Vandercook Park and Jackson College



Pathway along north side of Horton Road to proposed trail along sewer easement; future opportunity to add path on south side Horton and Jackson Road when area rebuilt

Summit Township Trails



Existing



Summit Township

Signed Bike Routes and Paved Shoulders

Summit Township Bike Routes

Local Road Bike Route

There are opportunities for bike routes on local roads in the northwest quadrant of Summit Township. By providing wayfinding signs along local roads and crosswalks at major road crossings, signed bike routes can be very economical and provide a low-stress facility for people who bike.



Summit Township Paved Shoulders

Existing

While an off-road trail would be an ideal connection to Jackson College, cost and feasibility make it very challenging. At the very least, it is recommended that a paved shoulder connection be provided.



Pathway planned along north side of McDevitt, when developed existing bike lanes will be removed



Paved shoulder connections to Jackson College and Dalhem Environmental Education Center



Coordinate with City of Jackson on 3- to 2-lane conversions on Page Ave, Dettman and the MLK/Francis corridor





Summit Township

Sidewalks and Crosswalks

Ideally, every major road should have sidewalks and every major intersection should provide safe pedestrian crossings. However, in the spirit of keeping this plan realistic and affordable, only a few key sidewalk and crosswalk locations have been identified, in hopes that they will be accomplished. These locations were selected because they provide connections between neighborhoods and to schools.

Any new developments that go in should include sidewalks and crosswalks.



Falling Waters Trail crossing at Weatherwax Road in Summit Township



Sidewalk connection to school with future development



Sidewalk connection between Townsend Elementary School and Vandercook Lake Park



Sidewalk along private property to connect gap in Franklin Road



Marked crosswalks at Floyd across Hague



Marked crosswalk at Kathmar Drive across Badgley with short sidewalk spur between Kathmar and Brookside



Marked crosswalk at Walmont across Stonewall with a short sidewalk spur between Metzmont and Melvern



Rectangular rapid flash beacon at Cascade Ridge/Smiley Drive



Marked crosswalk at Thorncrest



Marked crosswalk at Kirkwood



Improve crosswalk - make flashing beacon visible to turning vehicles on Horton, or consider installing a raised crosswalk across



Marked crosswalk at Clark St

Weatherwax



Rectangular rapid flash beacon at Kibby Road with proposed pathway



Rectangular rapid flash beacon at Horton Road with proposed pathway





The City of Jackson is the hub of the county and of the county's trail system. The city has a lively walkable downtown, mostly complete sidewalk network, and an extensive trail system to build on.

Priorities

- Completing the Iron Belle Trail thorough the city
- Creating better access to the commercial areas in the northwest part of the city
- Extending the off-road trail system in the southside of the city
- Establishing a family friendly network of bike routes and trails throughout the city



Downtown Jackson

City of Jackson

Nonmotorized Network Overview

The City of Jackson has made tremendous strides in becoming a more walkable community in the past ten years. Building on this success, this plans primary focus is creating a network of pedestrian and bicycle routes through the city that are comfortable to use by all ages.

To the right is an overview of the proposed nonmotorized network for the City of Jackson. The following pages breakdown the network as follows:



Trails



Family Friendly Bike Routes



Sidewalks & Crosswalks



Michigan Ave Corridor Study





City of Jackson

Family Friendly Bike Routes

The most significant proposal for the City of Jackson is establishing a network of family friendly bike routes. These routes primarily consist of separated bike lanes that have a planted buffer between the bike lane and the roadway. Most people would actually think of these as trails. Bicyclists would travel with the flow of the traffic (as with a standard bike lane) to improve safety at intersecting driveways and roadways.

These routes become urban greenways where the emphasis is on the safe, comfortable, and convenient accommodations for bicyclists and pedestrians. A few links are provided by signed bike routes on very low volume residential streets.




City of Jackson Family Friendly Bike Routes







City of Jackson

Building the Family Friendly Network



3- to 2-Lane Conversions

The bulk of the family friendly bike routes can be created by converting existing low speed (30 mph or less), low volume (less than 11,000 Average Daily Traffic Counts), mostly residential three lane roads to two lane roads. For the few signalized intersections where a designated left turn lane is warranted, the roadway can flair to three lanes.

At three and four-way stop intersections, raised crosswalks or raised intersections should be used. At signalized intersections, protected intersections should be used. See pages 36 and 37 for more information.

4- to 3-lane Conversions

There are a number of 4- to 3-lane conversions proposed in the northeast side of town on Wisner Street, Monroe Street and Argyle Street. These, in conjunction with shared-use pathways will extend bicycle access from the neighborhoods to the mall areas. More experienced bicyclists will opt for the bike lanes while less confident bicyclists choosing the pathways. The Federal Highway Administration lists 4- to 3-lane conversions are proven safety countermeasures as they improve safety not just for bicyclists, but also for motorists and pedestrians.



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Existing Proposed

Trails

The City of Jackson has focused a lot of energy on completing the Iron Belle Trail/Great Lake-to-Lake Trail Route One through the City. There are only a few short segments left until the City of Jackson portion of the trail will be complete.

Many of the other proposed routes utilize existing rights-of-way and public property to make connections between neighborhoods, parks and schools. The proposed trails are all paved shared-use paths and sidepaths.

Signed Bike Route on Local Road

Some of the Family Friendly Bike Routes are on extremely low volume residential streets. These routes do not require any separated bicycle facilities. By providing wayfinding signs along local roads and crosswalks at major road crossings, signed bike routes can be very economical and provide a low-stress facility for people who bike.





City of Jackson

Sidewalks + Crosswalks

In general, the City of Jackson has fairly good sidewalk coverage with sidewalks on both sides of the street throughout the majority of the City. Where it lacks is around the shopping malls at the northwest corner of the City.

Having a complete sidewalk network is a great start, but as the City moves forward, it needs to make sure that all sidewalks and crosswalks are compliant with the Americans with Disabilities Act (ADA). Every existing signalized intersection should include a pedestrian crossing that is ADA compliant.

An issue that was identified in the inventory and analysis were long stretches of roadways without a crosswalk. The map marks proposed crosswalk locations that correspond with the Family Friendly Bike Routes.



Crosswalk at Mechanic Street in Downtown Jackson





City of Jackson

Michigan Avenue Proposed Corridor Study

Michigan Avenue from Cooper Street to Ganson is an important commercial corridor in the County and a gateway to the City of Jackson. Currently, commercial development is intermittent along the corridor and the building setbacks vary. Planning and zoning efforts call for a more uniform building frontage to the right-of-way line to help establish a better pedestrian environment and more of a main-street feel. While detailed recommendations for Michigan Avenue are beyond the scope of this study, an initial evaluation of traffic indicates that the section between Cooper Street and Ganson may function better than it currently does as a three lane road. This would allow the introduction of separated bike/micromobility lanes and medians. The following are a couple of illustrations of what may be possible.



Michigan Avenue Page Ave to Ganson

Existing Conditions

- 66' wide right-of-way
- 4 lanes of traffic
- No on-street parking
- 13,269 to 14,041 Average Daily Traffic Counts



Proposed

- 3 lanes of traffic with designated left turn, through traffic, and right turn lanes at signalized intersections
- Intermittent median mid-block

Conceptual Design Elements

Sidewalk

Pedestrian scale lighting



- Street trees and rain gardens
- Parking on permeable pavers
- 6

Travel Lanes

Landscaped Median

Proposed Next Steps

Reconfiguring a state trunkline, especially one with a MDOT rail corridor crossing, is a formal process where the local agency would be required to perform a safety and operations analysis and engage the citizens and businesses in a planning process. The Jackson Anchor Initiative is about to embark on a new East Michigan Avenue study that includes a portion of proposed corridor area from the downtown east to Henry Ford Allegiance Health Campus and beyond. This could serve to introduce the concepts and gauge if there is interest in pursuing them further. If so, it is recommended that the City of Jackson, Jackson Anchor Initiative, Jackson DDA, Blackman Township, Jackson Department of Transportation, and MDOT collaborate on corridor study.

6 4 3

Please note graphic

only shows half of

right-of-way



Section 6 Policies, Programs + Metrics





Simply providing the infrastructure is not enough. Public polices must be set in place to support the improvements. Programs let people know what is available and how to use the system. Metrics allow communities to track how effective the investments have been. This section of the Plan details recommendations for:



Metrics

Programs



Establish Bike Parking Programs

Expand bike parking outside of the downtowns to make sure that convenient bike parking is available at all shopping, civic buildings, public parks, and new developments. Require that bike parking follows the Association of Pedestrian and Bicycle Professional Guidelines for all new developments.



Education Paired with Enforcement

As new and unfamiliar facilities come online there will be confusion on issues such as who yields to whom. Initial enforcement action should be education based (no financial penalty) and provide information on why they were stopped. After an introductory period, focused enforcement should be employed as needed.



Uniform Wayfinding and Sign System

Establish a trail and route identification and wayfinding system that can be used throughout the county. Integrating the signing into the City and County's street sign systems to ensure its longevity. In addition to the signs, include information kiosks at key junctures that include maps of the entire systems and information on events.

DRAFT PRELIMINARY PLAN FOR REVIEW

Click on the tiles below to explore each element of the draft plan. Provide your comments at the bottom of the page.

View a Presentation of the Preliminary Plan 🖈

The draft recommendations are based on the input we received in May from workshops, surveys, and online. The plan includes major county connections and detailed recommendations for some of the smaller communities and the City of Jackson.

The plan strives to be visionary and pragmatic, understanding that feasibility and cost are key to implementation. Unpaved seasonal trails and routes reflect the rural character of the county and provide a more economical approach to developing a county-wide trail network. The topography and water features that make jackson County so special, also make it a challenge to implement off-road trails. Narry of the proposed routes follow abundhend rail



Web and Printed Maps

Create a website that is a one-stop-shop for everything to do with walking, bicycling, and micromobility. This should provide information on facilities, events, safety, and projects. Create and distribute maps of existing facilities that include safety information. These maps should be updated yearly to keep up with the construction of new facilities. This web and printed maps should coordinate with the on-the-ground wayfinding and identification system.



Organized Rides and Walks

Establish a series of ongoing walk and ride programs that appeal to a variety of age and interest groups. These could include fun rides as well as educational bicycling and walking tours that explore the historic and natural places.



Jackson Trail Fund

Establish with the Jackson Community Foundation, a special fund for the express purpose of implementing and supporting the proposed trail system. This fund would then be the vehicle that corporations and individuals can use to support the trails.



New Facility Education and Outreach

Use the completion of a new project as an opportunity to introduce the public to the new facilities in a controlled environment of a special event and raise awareness on how to safely use something that they may not be familiar with. Also use temporary banners to help people understand how to interact with new on-street bicycle facilities.



Connected Vehicle Infrastructure

As separated bicycle lanes are built, integrate passive detection of bicyclists and pedestrians at conflict points that transmits to connected vehicles as well as providing activated visual warnings for human operated vehicles.

Policies



Complete Streets + Vision Zero

Each community should adopt Complete Street and Vision Zero policies based on national models which place human life paramount and establishes that safe, comfortable, convenient, and accessible transportation for all users is a priority. Then for each community, establish the necessary interdepartmental coordination, roles and responsibilities, and performance measures to implement the policy.



Manage Autonomous Vehicles and Micromobility Device Space and Use

Develop policies and plans to for AV vehicle pick-up/ drop-off zones in the downtowns and guidelines for private commercial areas.. Define what class e-bikes, and what micromobility devices may be used on pathways and bike lanes.



Develop an Americans with Disability Act Transition Plans

Each community should assess the existing pedestrian network for compliance with the Americans with Disabilities Act. They should also develop a system to respond to complaints of inaccessible routes. Implement proactive measures to eliminate barriers to key public destinations.



County-Wide Trail Commission

Building and maintaining the proposed trail system will take the coordination of State, County, City, Village and Township public works departments, transportation departments, parks departments, planning departments, elected officials, law enforcement officials, businesses, and local foundations. The first step would be to create a new commission with the charge to oversee the construction and maintenance of the proposed county trail system.

Policies



Establish Trail Task Forces

For each of the ten regional trails, establish a task force that is charged with moving the trail forward towards implementation. The task force should include representatives of the likely implementation and/ or fiduciary agencies, appointed public officials and elected officials from each of the communities the trail transverses, and the representatives from the general public.



Commitment to Best Practices

The design and engineering of the bicycle and pedestrian facilities should be based on the current best practices as defined by the most recent guidelines published by the National Association of City Transportation Officials (NACTO), Federal Highway Administration (FHWA), and the Association of Pedestrian and Bicycle Professionals (APBP).



Create Shovel-Ready Projects

Prior to obtaining funding, several projects, including some of the more ambitious projects, should move forward securing all necessary easements and prepare construction documents. These "shovel-ready" projects are attractive candidates for stimulus projects and funding redirected from projects that hit unexpected roadblocks.

JACKSON COUNTY BCycle

Bike Sharing is Here Bikes the failing Waters Tail. Purchase a day poss direct the bikes with a Creat Carl or become an Annual Marke bikes failer 3 Hous (32/hour each additional hour) Marke bikes failer 3 Hous (32/hour each additional hour) Additional Marketer 500 - Additional Courty Big (2014) - Additional Co

Members checkout bikes faster with their B-card! Not only do Annual Memberhips save you money, but also time if ag your B-card and/y at the bike dock and skip the loads alt boards. Click here to bin now.



Bike Share Expansion

Explore opportunities to expand the existing bike share program in Jackson County. Options to include other micromobility devices, such as e-bikes or e-scooters, should be considered as a way to expand transportation options in the community. Expansions should focus on lower income neighborhoods that have limited access to motor vehicles. These programs should incorporate a minimal cost yearly pass similar to Detroit MoGo's Access Pass for residents who are enrolled in state benefit programs.

Metrics



Establish Permanent Bicycle and Pedestrian Counter Program

As major facilities such as the priority trails and separated bike lanes are implemented, place permanent counters at strategic locations. For trails use counters that can distinguish between different types of users.



Bicycle Friendly Community Award

After a few years of work, when progress is beginning to show, communities should apply for the Bicycle Friendly Community Award. The Bicycle Friendly Community program is an excellent way to measure progress and a way to get recognition for the community's work.



Appendix



Region 2 Planning has digital copies of all project deliverables. In addition, the project website at <u>http://walkbike.info/jackson</u> includes a detailed digital appendix with a wealth of information on how the plan was developed and supporting materials.

Appendix (Included in this document) Regional Trail Implementation Plan

- Funding Strategy
- Implementation Strategy
- Cost Opinion

Large Format Plan Maps

- County Network Map
- Jackson Area Map

The following additional appendix materials are available at walkbike.info/jackson or can be obtained from Region 2 Planning

Steering Committee Meeting Materials

• Agendas, Notes and Presentations

Summer 2019 Public Engagement

Meeting Materials and Results

Fall 2019 Public Engagement

Meeting Materials and Results

Inventory + Analysis

 Maps, Existing Plans and Economic Impact of Crashes

Geographic Information System

Priority Trail Implementation Plan

The implementation plan includes three key elements geared towards taking the priority trails identified in the plan: Funding Strategy Overview; Priority Trail Implementation Strategy; and a Priority Trail Cost Opinions. They are intended to be the foundation for preparing individual trail grant applications and an overall plan to building the system. Prior to preparing any grant applications, the implementing agencies and fiduciary agents should be convene a meeting with all of the potential funding agencies to discuss and refine a funding strategy.

Funding Strategy Overview

This chart outlines the most likely funding sources to be used for the construction of the priority trail system. It outlines a general funding strategy of 1/3 federal, 1/3 state, and 1/3 local funding. Within each of those larger categories it identifies the specific funding sources and an overview of what is funded, the amounts, match requirements, and timing. This is only a primer on the key sources, each funding sources should be consulted to understand the specific requirements.

Priority Trail Implementation Strategy

This spreadsheet takes the total cost for each trail from the Priority Trail Cost Opinions and outlines a proposed funding strategy. The strategy matches the nature of the trail with appropriate funding sources. It also accounts for the percentage of match typically required to be competitive and what can be counted as a match. The costs are shown spread out over a twenty-year period to achieve a reasonable ask of the various funding agencies.

Priority Trail Cost Opinions

These spreadsheets are master plan level and based on generalized unit prices for the major trail elements. For example, an item such as an 11'-Wide Asphalt Path is inclusive of limited grading, sub-base preparation, aggregate base, asphalt, and basic site restoration. These are broad brush costs and do not reflect the specific circumstances of each trail.

Notes:

• Boardwalk and bridge costs are based on a concrete deck surface. While this is more expensive initially, the seasonal and long-term maintenance is substantially less than a wood deck structure.

- Landscaping and Site Amenities are general allowances for basic items such as site restoration, benches, signage, and trash receptacles.
- The percentages identified in the soft costs are general rules of thumb. Smaller projects and projects requiring substantial engineering or extensive soil testing may have higher soft costs.

Some trails note Potential Additional Costs for Boardwalks Based on Adjacent Wetlands. While trails are only proposed where the route appears to be dry based air photography the project scope did not include detailed site investigations of the corridors. The potential additional costs are based on the presence of mapped wetlands adjacent to the route and are intended to be a worst-case scenario.

Trail Maintenance Costs

The Cost Opinions do not include the cost to maintain investments into a trail system. General maintenance done during the spring, summer, and fall include items such as evaluation, mowing, vegetation trimming, drainage maintenance, and sweeping. These costs are in the range of \$2,200 per path mile per year. For paved paths during the winter, snow removal can be a significant cost at around \$200 per path mile per clearing.

In addition to the maintenance items that are done on a yearly basis, there is pavement preservation and pavement maintenance that is scheduled over many years. Minor crack sealing should be done at least every four years and costs approximately \$1,800 per path mile. Major crack sealing costs approximately \$5,200 per path mile and is done less frequently. A surface sealant (AKA fog sealant) should be done every eight years and costs approximately \$2,600 per path mile.

There are a number of trail maintenance guidelines available for reference when setting up a maintenance regiment including: Michigan Recreation & Park Association's Hard Surface Trail Maintenance Manual; Rails-to-Trails Conservancy's Maintenance Practices and Costs of Rail-Trails; and the Montana Department of Transportation Shared Use Path Inventory and Detailed Maintenance Plan.

Priority Trail Funding Strategy

	Source	What's Funded	Amounts	Match	Timing
ederal	Transportation Alternative Program (TAP)	 Crossing Improvements Trails in right- of-way Trails with strong transportation potential 	 Approx, \$30 million annually statewide \$200,000 min. grant amount Can commit to multi-year funding 	 20% minimum >50% to be competitive Match with state and local sources 	 Three deadlines each year Tentative decisions made three months after deadlines
Ľ	Safe Routes to School (SR2S)	 Sidewalks Crossing Improvements 	 Approx. \$3 million annually statewide Up to \$10,000 per school 	• None required	• Same as TAP
itate	Michigan Resources Trust Fund (MRTF, Trust Fund)	 Recreational trails Trail amenities Property acquisition 	 Approx, \$23 million annually statewide \$15,000 to \$300,000 grant amount for improvements, acquisition not capped 	 25% minimum >40% to be competitive Match with federal and local sources 	 April 1 each year Decisions 12-18 months after grant submission
Ň	Iron Belle Trail Fund	 Completion of the Iron Belle Trail 	 Not set amounts but competitive 	 Match with federal and local sources 	• Not a set deadline
	Act 51 Sec. 10k	 Planning, education & construction in right-of-way 	• Approximately \$23,000 each year	• None required	• Yearly planning process
Local	General Fund, Millages, TIFA / DDA	 General funds are flexible Millages typically are restricted Tax Increment Finance Authority/ Downtown Development Authroity funds are tied to a specific area 	• Varies	• Typically, some match required	• Varies
	Foundations & Businesses	 Typically have specific criteria Special purpose funds can be created 	• Varies	 Typically, some match required 	• Varies

Priority Trail Implementation Strategy

				P	roposed Fun	ding St	trategy							
ID Priority Trails	Miles		Total Cost	Fe	ederal (TAP)		State		Local				Private	
A Parma to Albion Rail-with-Trail \$ 308,386 Per Mile \$ 20,009,726 Potential Extras Evaluate wetlands prior to programing	8.3	\$	2,552,940	\$	255,294	10%	\$ 1,276,470	50%	\$	765,882	30%	\$	510,588	20%
B Michigan Avene Chapel Road Pathway \$ 892,987 Per Mile Potential Safe Routes to School Project	5.8	\$	5,179,668	\$	2,589,834	50%	\$ 517,967	10%	\$	1,553,901	30%	\$	517,967	10%
C Hanover Horton Rail-Trail \$ 361,073 Per Mile	8.7	\$	3,151,443	\$	315,144	10%	\$ 1,575,721	50%	\$	630,289	20%	\$	630,289	20%
DSummit to Clark Lake Rail-Trail \$ 192,237 Per Mile \$ 7,079,745 Potential Extras Evaluate wetlands prior to programing	6.7	\$	1,283,290	\$	256,658	20%	\$ 384,987	30%	\$	384,987	30%	\$	256,658	20%
E Columbia Twp Rail-Trail \$ 763,315 Per Mile	2.1	\$	1,608,102	\$	482,431	30%	\$ 482,431	30%	\$	482,431	30%	\$	160,810	10%
F Watkins Lake Rail-Trail \$ 306,443 Per Mile \$ 15,698,189 Potential Extras Evaluate wetlands prior to programing	5.2	\$	1,593,562	\$	318,712	20%	\$ 796,781	50%	\$	318,712	20%	\$	159,356	10%
G Ann Arbor Road Pathway \$ 726,458 Per Mile	8.7	\$	6,295,204	\$	3,147,602	50%	\$ 629,520	10%	\$	1,888,561	30%	\$	629,520	10%
HRives Rail-With-Trail\$445,421Per Mile\$21,296,858Potential ExtrasEvaluate wetlands prior to programing	8.0	\$	3,577,739	\$	715,548	20%	\$ 1,073,322	30%	\$	1,073,322	30%	\$	715,548	20%
Mount Hope Road Sidepath \$ 1,297,362 Per Mile	3.7	\$	4,856,835	\$	2,428,418	50%	\$ 485,684	10%	\$	1,457,051	30%	\$	485,684	10%
	Miles		Total Cost	Fee	deral (TAP)		State		Local			Private		
Total Project Costs	57.2	\$	30,098,784	\$	10,509,641	35%	\$ 7,222,882	24%	\$	8,555,135	28%	\$4	4,066,420	14%
20 Vear Plan - Annual Costs	29	ć	1 50/ 929	ć	525 /192		\$ 361 1/4		ć	127 757		ć	202 221	
20 Tear Fian - Ailliudi Costs	2.5	ç	1,304,333	Ş	323,402				ş	421,137		Ş	203,321	

Prioirty Trail Cost Opinion

The following pages provide planning level cost estimates for the 9 priority trail segments.

Preliminary Cost Opinion

Grade existing service road; bridge over river; and crosswalks

Notes:

- a Path on private property (mostly Consumers Energy Property)
- c Total Length

Property) 43,710 LF

8.3 Miles

ltem	Description	Quantity	Unit	Unit Price	Cost	
1	11' Wide Graded Natural Surface Path	43,216	LF	\$ 20	\$	864,325
2	Crosswalk Signs and Pavement Markings	2	EA	\$ 5,000	\$	10,000
3	RRFB Ped. Crossing w/ Advanced Warning	2	EA	\$ 50,000	\$	100,000
4	14' Wide Concrete Deck Pedestrian Bridge	145	LF	\$ 4,000	\$	580,000
5	Basic Site Amenities	43,710	LF	\$5	\$	218,550
	Subtotal of Construction Costs				\$	1,772,875
	Contingency			20%	\$	354,575
	Construction Total *				\$	2,127,450
	Engineering & Design			10%	\$	212,745
	Construction Administration			4%	\$	85,098
	Construction Observation			6%	\$	127,647
	Subtotal of Total Soft Costs				\$	425,490
	Total Project Cost *				\$	2,552,940

* Insufficient information on presence of wetlands to prepare cost opinion

Potential Additional Cost for Boardwalk	ks Base	d on /	Adjacen	t Wet	lands	5
14' Wide Concrete Plank Boardwalk	15,022	LF	\$	1,000	\$	15,022,317
Reduction of 11' Natural Surface Path	15,022	LF	\$	(75)	\$	(1,126,674)
Subtotal of Potential Boardwalk Construction Cost	ts			-	\$	13,895,643
Contingency				20%	\$	2,779,129
Potential Boardwalk Construction Total					\$	16,674,772
Engineering & Design				10%	\$	1,667,477
Construction Administration				4%	\$	666,991
Construction Observation				6%	\$	1,000,486
Subtotal of Total Soft Costs for Boardwalks				-	\$	3,334,954
Potential Additional Boardwalk Costs					\$	20,009,726



B Michigan Avene | Chapel Road Pathway

Preliminary Cost Opinion

Paved sidepath; bridge over river; and crosswalks

Notes:

_

- a Path along Road ROW
- c Total Length



30,626 LF

5.8 Miles

	Description	Quantity	Unit	Unit Price	Cost	
1	Site Clearing and Rough Grading	30,626	LF	\$ 20	\$	612,520
2	11' Wide Asphalt Path, Base, and Grading	30,626	LF	\$75	\$	2,296,951
3	Crosswalk Signs and Pavement Markings	5	EA	\$ 5,000	\$	25,000
4	RRFB Ped. Crossing w/ Advanced Warning	1	EA	\$ 50,000	\$	50,000
5	Landscaping and Site Amenities	30,626	LF	\$ 20	\$	612,520
	Subtotal of Construction Costs				\$	3,596,992
	Contingency			20%	\$	719,398
	Construction Total				\$	4,316,390
	Engineering & Design			10%	\$	431,639
	Construction Administration			4%	\$	172,656
	Construction Observation			6%	\$	258,983
	Subtotal of Total Soft Costs				\$	863,278
	Total Project Cost				\$	5,179,668

C Hanover | Horton Rail-Trail

Preliminary Cost Opinion

Grade existing railroad balast, short trail in town, bridges, and crosswalks

Notes:

- a Path on private property (mostly Consumers Energy Property)
- c Total Length 46,084 LF

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Hanoverd

Horton

	Description	Quantity	Unit	Unit Price	Cost	
1	11' Wide Graded Existing RR Balast	43,672	LF	\$ 20	\$	873,442
2	11' Wide Asphalt Path, Base, and Grading	2,112	LF	\$75	\$	158,385
3	Crosswalk Signs and Pavement Markings	13	EA	\$ 5,000	\$	65,000
4	Landscaping and Site Amenities	46,084	LF	\$ 20	\$	921,676
5	Retrofit Existing Bridge	1	LS	\$ 50,000	\$	50,000
6	14' Wide Concrete Deck Pedestrian Bridge	30	LF	\$ 4,000	\$	120,000
	Subtotal of Construction Costs				\$	2,188,502
	Contingency			20%	\$	437,700
	Construction Total				\$	2,626,202
	Engineering & Design			10%	\$	262,620
	Construction Administration			4%	\$	105,048
	Construction Observation			6%	\$	157,572
	Subtotal of Total Soft Costs				\$	525,240
	Total Project Cost				\$	3,151,443

D Summit to Clark Lake Rail-Trail

Preliminary Cost Opinion

Grade existing railroad ballast and crosswalks

Notes:



b Total Length

	Description	Quantity	Unit	Unit	Price	Cost	
1	11' Wide Graded Existing RR Balast	35,247	LF	\$	20	\$	704,939
2	Crosswalk Signs and Pavement Markings	2	EA	\$	5,000	\$	10,000
3	Basic Site Amenities	35,247	LF	\$	5	\$	176,235
	Subtotal of Construction Costs					\$	891,174
	Contingency				20%	\$	178,235
	Construction Total					\$	1,069,408
	Engineering & Design				10%	\$	106,941
	Construction Administration				4%	\$	42,776
	Construction Observation				6%	\$	64,165
	Subtotal of Total Soft Costs					\$	213,882
	Total Project Cost					\$	1,283,290
	* Insufficient information on presence of weth	ands to prepa	re cost o	opinion			

35,247 LF

Potential Additional Cost for Boardwalks Based on Adjacent Wetlands

14' Wide Concrete Plank Boardwalk	5,017	LF	\$ 1,000	\$ 5,016,826
Reduction in Trail Grading	5,017	LF	\$ (20)	\$ (100,337)
Subtotal of Construction Costs			-	\$ 4,916,489
Contingency			20%	\$ 983,298
Potential Boardwalk Construction Total				\$ 5,899,787
Engineering & Design			10%	\$ 589,979
Construction Administration			4%	\$ 235,991
Construction Observation			6%	\$ 353,987
Subtotal of Total Soft Costs for Boardwalks				\$ 1,179,957
Potential Additional Boardwalk Cost	S			\$ 7,079,745



6.7 Miles

E Columbia Twp Rail-Trail

Preliminary Cost Opinion

Paved shared use path on abandoned railroad corridor and crosswalks

Notes:



2.1 Miles

- a Path on private property
- b Total Length

	Description	Quantity	Unit	Un	it Price	Cost	
1	11' Wide Asphalt Path, Base, and Grading	11,124	LF	\$	75	\$	834,267
2	Crosswalk Signs and Pavement Markings	2	EA	\$	5,000	\$	10,000
3	RRFB Ped. Crossing w/ Advanced Warning	1	EA	\$	50,000	\$	50,000
4	Landscaping and Site Amenities	11,124	LF	\$	20	\$	222,471
	Subtotal of Construction Costs					\$	1,116,738
	Contingency				20%	\$	223,348
	Construction Total					\$	1,340,085
	Engineering & Design				10%	\$	134,009
	Construction Administration				4%	\$	53,603
	Construction Observation				6%	, \$	80,405
	Subtotal of Total Soft Costs					\$	268,017
	Total Project Cost					\$	1,608,102

11,124 LF

F Watkins Lake Rail-Trail

Preliminary Cost Opinion

Grade existing railroad ballast, gravel road route, and crosswalks

Notes:

1 2

3

4

- a Path on private property
- Total Length С

Total Length	27,457	LF		5.2	Miles	
Description	Quantity	Unit	Uni	t Price	Cost	
11' Wide Graded Existing RR Balast	21,291	LF	\$	20	\$	425,820
Crosswalk Signs and Pavement Markings	3	EA	\$	5,000	\$	15,000
14' Wide Concrete Deck Pedestrian Bridge	60	LF	\$	4,000	\$	240,000
Landscaping and Site Amenities	21,291	LF	\$	20	\$	425,820
Subtotal of Construction Costs					\$	1,106,640
Contingency				20%	\$	221,328
Construction Total					\$	1,327,968
Engineering & Design				10%	\$	132,797
Construction Administration				4%	\$	53,119
Construction Observation				6%	\$	79,678
Subtotal of Total Soft Costs					\$	265,594

Total Project Cost (use existing bridge)

Potential Additional Cost for Boardwalks Based on Adjacent Wetlands

Note: this is unlikely unless the railroad grade has	been ren	noved			
14' Wide Concrete Plank Boardwalk	11,124	LF	\$	1,000	\$ 11,124,000
Reduction of 11' Graded Existing RR Balast	11,124	LF	\$	(20)	\$ (222,480)
Subtotal of Potential Boardwalk Construction Cos	-	\$ 10,901,520			
Contingency				20%	\$ 2,180,304
Potential Boardwalk Construction Total					\$ 13,081,824
Engineering & Design				10%	\$ 1,308,182
Construction Administration				4%	\$ 523,273
Construction Observation				6%	\$ 784,909
Subtotal of Total Soft Costs for Boardwalks					\$ 2,616,365
Potential Additional Boardwalk Costs					\$ 15,698,189



\$

1,593,562

G Ann Arbor Road Pathway

Preliminary Cost Opinion

Paved sidepath and crosswalks

Notes:



b Total Length

45,754 LF

8.7 Miles

Grass Lake

Twp

Jackson

4

	Description	Quantity	Unit	Unit Price		Cost	
1	Site Clearing and Rough Grading	45,754	LF	\$	20	\$	915,080
2	11' Wide Asphalt Path, Base, and Grading	45,754	LF	\$	75	\$	3,431,581
3	Crosswalk Signs and Pavement Markings	5	EA	\$ 5	,000	\$	25,000
4	Landscaping and Site Amenities	45,754	LF	\$	20	\$	915,088
	Subtotal of Construction Costs					\$	4,371,670
	Contingency				20%	\$	874,334
	Construction Total					\$	5,246,004
	Engineering & Design				10%	\$	524,600
	Construction Administration				4%	\$	209,840
	Construction Observation				6%	\$	314,760
	Subtotal of Total Soft Costs					\$	1,049,201
	Total Project Cost					\$	6,295,204

H Rives Rail-With-Trail

Preliminary Cost Opinion

Grade service road; paved trail in built-up areas; paved sidepath; and crosswalks

Notes:

- a Path on private property (primarily Consumers Energy Property)
- c Total Length



8.0 Miles

Description	Quantity	Unit	Unit Pri	ce	Cost	
11' Wide Graded Existing Surface Path	27,068	LF	\$	10	\$	270,684
11' Wide Asphalt Path, Base, and Grading	15,342	LF	\$	75	\$	1,150,650
Crosswalk Signs and Pavement Markings	3	EA	\$ 5,	000	\$	15,000
RRFB Ped. Crossing w/ Advanced Warning	1	EA	\$ 50,	000	\$	50,000
Crossing Island w/ RRFB and Adv. Warning	2	EA	\$75,	000	\$	150,000
Landscaping and Site Amenities	42,410	LF	\$	20	\$	848,207
Subtotal of Construction Costs					\$	2,484,541
Contingency				20%	\$	496,908
Construction Total (use existing bridge)					\$	2,981,449
Engineering & Design				10%	\$	298,145
Construction Administration				4%	\$	119,258
Construction Observation				6%	\$	178,887
Subtotal of Total Soft Costs					\$	596,290
Total Project Cost					\$	3,577,739

42,410 LF

* Insufficient information on presence of wetlands to prepare comprehensive cost opinion

Potential Additional Cost for Boardwalks Based on Adjacent Wetlands

Note: The existing service road appears to be marginally higher than the adjacent wetlands							
14' Wide Concrete Plank Boardwalk	15,989	LF	\$	1,000	\$	15,988,660	
Reduction of 11' Asphalt Trail	15,989	LF	\$	(75.00)	\$	(1,199,175)	
Subtotal of Potential Boardwalk Construction Costs		•	\$	14,789,485			
Contingency				20%	\$	2,957,897	
Potential Boardwalk Construction Total				•	\$	17,747,382	
Engineering & Design				10%	\$	1,774,738	
Construction Administration				4%	\$	709,895	
Construction Observation				6%	\$	1,064,843	
Subtotal of Total Soft Costs for Boardwalks				-	\$	3,549,476	
Potential Additional Boardwalk Costs					\$	21,296,858	

I Mount Hope Road Sidepath

Preliminary Cost Opinion

Paved sidepath; bridge over freeway; RR pedestrian crossing; and crosswalks

Notes:

- a Path in ROW or adjacent private property
- b Total Length

19,766 LF

3.7 Miles

Waterloo Pinckney Trail

Grass Lake

	Description	Quantity	Unit	Unit	Unit Price		Price Cos		
1	Site Clearing and Rough Grading	19,766	LF	\$	20	\$	395,320		
2	11' Wide Asphalt Path, Base, and Grading	19,766	LF	\$	75	\$	1,482,475		
3	Crosswalk Signs and Pavement Markings	1	EA	\$	5,000	\$	5,000		
4	RRFB Ped. Crossing w/ Advanced Warning	4	EA	\$	50,000	\$	200,000		
5	Pedestrian RR Crossing Improvements	1	LS	\$	250,000	\$	250,000		
6	14' Wide Concrete Deck Pedestrian Bridge	260	LF	\$	4,000	\$	1,040,000		
7	Landscaping and Site Amenities	19,766	LF	\$	20	\$	395,327		
	Subtotal of Construction Costs					\$	3,372,802		
	Contingency				20%	\$	674,560		
	Construction Total					\$	4,047,363		
	Engineering & Design				10%	\$	404,736		
	Construction Administration				4%	\$	161,895		
	Construction Observation				6%	\$	242,842		
	Subtotal of Total Soft Costs					\$	809,473		
	Total Project Cost					\$	4,856,835		

Large Format Plan Maps: Full size digital maps (30" x 40") can be downloaded at <u>walkbike.info/jackson</u>





