



# Our mission is to **inspire** people, **influence** transportation, and **improve** places

We are trusted strategic thinkers, problem solvers and knowledge leaders who provide council to public agencies, non-profits, and other consultants.

Our ultimate goal is to create eminently livable places for all to enjoy.

# The Greenway Collaborative, Inc

### People First Transportation Planning and Design. Since 1993 we have

focused on the people who walk, bike, take transit, and drive. We believe that our job is to help shape a transportation system that gives people, all people, regardless of their abilities and resources, a safe, comfortable, and convenient means for dignified travel. And we believe that a transportation network is more than a means to a destination, it is a means to an end. That end being a network of captivating and functional places that connect people, promote commerce, and highlight the unique character of each community.

Comprehensive Multimodal Transportation Plans

**Grant Assistance** 

**Trail Feasibility Studies** 

**Public Meeting Facilitation** 

Community Outreach Tools to Encourage Increased Physical Activity

Website Design and Management

Expert Technical Review and Design Consultation

Ecological Based Open Space and Greenway Plans

Land and Water Trail Planning, Design and Outreach Websites

**Bicycle and Trail Maps** 



# Our mission is to inspire people, influence transportation and improve places. We are trusted strategic thinkers, problem solvers and knowledge leaders who provide council.

problem solvers, and knowledge leaders who provide council to public agencies, non-profits, and other consultants. Our ultimate goal is to create eminently livable places for all to enjoy.



Norm Cox, PLA, ASLA President

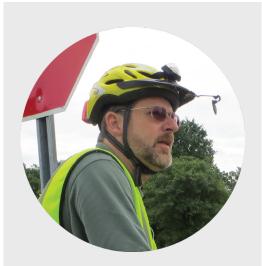


Carolyn Prudhomme, PLA, ASLA Principal



Visit www.greenwaycollab.com to download our resumes and get a better understanding of our work. Some of our recent project websites are also housed within www.walkbike.info.





#### **LICENSE**

Licensed Landscape Architect No.1082 State of Michigan 1990

#### **EDUCATION**

Bachelor of Landscape Architecture 1985, with honors

> Michigan State University Sigma Lambda Alpha National Honor Society

#### **EXPERIENCE**

President

Greenway Collaborative Ann Arbor, Michigan 1993 – PRESENT

Pollack Design Associates Ann Arbor, Michigan 1988-1992

Edward D. Stone, Jr. and Associates Fort Lauderdale, Florida 1986-1987

#### COMMITTEES

League of Michigan Bicyclists, Board of Directors

Governor's Traffic Safety Advisory

Committee, Pedestrian Bicycle Safety Action Team

MDOT's Multi Modal Development and Delivery Curriculum Review Committee

Project for Public Spaces, Placemaking Leadership Council

### Planscape Archineer



### Norman Cox, PLA, ASLA

**President - The Greenway Collaborative** 

Norm is a licensed landscape architect, but he calls himself a "Plan-scape Arch-ineer". His adopted moniker speaks to the way he approaches design. The solutions to great streets lie where the fields of planning, landscape architecture, architecture and engineering overlap. He believes his job is to design, plan and program for people first.

Norm is recognized as a pioneer and a knowledge leader who is able to transition from a regional plan to designing the details of an intersection. He is also commutes year-round using his bike and his feet observing how people interact. For he feels that even the best guidelines are useless unless you fully understand how people will actually use them.

#### RECENT RELEVANT EXPERIENCE

Bridge to Bay Trail Identification, Wayfinding, and Safety Improvements

St Clair County, Michigan

Jackson City + County Nonmotorized Plan Jackson County, Michigan

Livingston County Trails Plan Livingston County, Michigan

Bicycle + Pedestrian Plan & 2020 Plan Update Springboro, Ohio

Dearborn Multimodal Plan

Dearborn, Michigan

Iron Belle Trail Routing & Feasibility Study Warren, Center Line, Sterling Heights, Michigan

MDOT Metro Region & Bay Region Bike Maps Southeast Michigan

Great Lake-to-Lake Trail Route #1 Planning Update Southern Michigan

Regional Trail Connectivity Vision

Mason, Lake, Newaygo, & Oceana Counties, Michigan

Cass River Water Trail Website

Thumb Region, Michigan

Active Transportation Initiative for MI 1422 CDC Grant

Detroit, Lenawee, Grand Rapids, & Roseville, Michigan



### LICENSE

Landscape Architect No. 3901001718 State of Michigan 2018

#### **EDUCATION**

Bachelor of Landscape Architecture 2008, with high honors Michigan State University Sigma Lambda Alpha National Honor Society

## PROFESSIONAL MEMBERSHIPS

Association of Pedestrian and Bicycle Professionals American Society of Landscape Architecture

#### **EXPERIENCE**

Transportation Planner Greenway Collaborative Ann Arbor, Michigan 2008 – PRESENT

Student Intern Small Town Design Initiative Michigan State University 2007 - 2008

Landscape Designer Rambo Tree & Landscaping Chesterfield, Michigan 2006

### TRANSPORTATION PLANNER AND WEB GURU



Carolyn has worked as a non-motorized transportation planner with the Greenway Collaborative since 2008. During her time at the Greenway Collaborative she has been essential in the development of comprehensive non-motorized transportation plans, complete streets plans, bicycle and pedestrian maps, grant application assistance, trail marketing and branding strategies and ADA evaluation and assessment tools. She has worked on projects throughout Michigan and Ohio and specializes in GIS modeling, mapping, website development, as well as public engagement and product production.

#### RECENT RELEVANT EXPERIENCE

Bridge to Bay Trail Identification, Wayfinding, and Safety Improvements

St Clair County, Michigan

Jackson City + County Nonmotorized Plan Jackson County, Michigan

Livingston County Trails Plan Livingston County, Michigan

Bicycle + Pedestrian Plan & 2020 Plan Update Springboro, Ohio

Dearborn Multimodal Plan

Dearborn, Michigan

Iron Belle Trail Routing & Feasibility Study Warren, Center Line, Sterling Heights, Michigan

MDOT Metro Region & Bay Region Bike Maps Southeast Michigan

Great Lake-to-Lake Trail Route #1 Planning Update Southern Michigan

Regional Trail Connectivity Vision

Mason, Lake, Newaygo, & Oceana Counties, Michigan

Cass River Water Trail Website

Thumb Region, Michigan

Active Transportation Initiative for MI 1422 CDC Grant Detroit, Lenawee, Grand Rapids, & Roseville, Michigan

# **Projects**

### **Nonmotorized Transportation Studies and Plans**

The Greenway Collaborative, Inc has worked on over 30 nonmotorized transportations studies and plans in Michigan and Ohio. Below are a few recent examples.



Livingston County Trails Plan



Springboro Bicycle + Pedestrian 2020 Plan Update



Jackson City + County Nonmotorized Plan



Iron Belle Trail Routing & Feasibility Study



Dearborn Multimodal Plan



Regional Trail Connectivity Vision for Mason, Lake Newaygo and Oceana Counties

Range of Clients

MDOT, Region, County, Large Community, Small Community, Universities, Nonprofits, Health Departments

Types of Work

Corridor, City, County, and Regional Level Planning

Fee Range

\$9,000 to \$200,000

### **Nonmotorized Guides and Maps**

The Greenway Collaborative, Inc has developed over a dozen print and digital nonmotorized guides and maps in Michigan, Ohio and Ontario, Canada. Below are a few examples.



Essex County Bikeways and Pathways Map



Biking in the Boro Map and Pocket Guide (including updates in 2014, 2016, 2018, & 2020)



Huron River Trail Town Website and Kiosk Maps



MDOT Metro Region Bicycle Maps (including update in 2018)



MDOT Bay Region East & West Bicycle Maps



MDOT Grand Region Bicycle Map

Range of Clients | MDOT, Region, County, Large Community, Small Community

Types of Work | Trail Maps, Bicycle Guides, Walking Maps, Park Maps, Water Trail Maps

Fee Range | \$4,000 to \$50,000

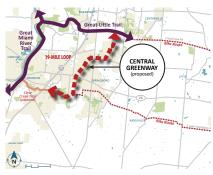
Click on any of the project names to be directed to the project webpage where you may download the project report and related documents, or visit www.greenwaycollab.com for a listing of all projects.

### **Trails and Greenway Systems**

The Greenway Collaborative, Inc has worked on over 20 trail and greenway system plans in Michigan and Ohio. Below are a few recent examples.



Livingston County Trails Plan



Springboro Bicycle + Pedestrian 2020 Plan Update



Ralph C. Wilson, Jr. Foundation Regional Greenway Opportunity Assessment



Iron Belle Trail Routing & Feasibility Study



Great Lake-to-Lake Trail Route #1 Planning Updates



Regional Trail Connectivity Vision for Mason, Lake Newaygo and Oceana Counties

Range of Clients Region, County, Large Community, Universities, Non-profits

Types of Work Fee Range \$8,000 to \$80,000

Click on any of the project names to be directed to the project webpage where you may download the project report and related documents, or visit www.greenwaycollab.com for a listing of all projects.

### **Branding & Wayfinding**

The Greenway Collaborative, Inc has worked on a dozen branding and wayfindings projects in Michigan and Ohio. Below are a few examples.



Bridge to Bay Trail Identification, Wayfinding, and Safety Improvement Plan



Biking in the Boro Guide and Identification Signage



MTGA Cross State Trail Branding and Marketing



Huron River Water Trail Kiosk Maps



Grand Region Bike Route & Regional Trail Wayfinding Guidebook



Oxford Trail Kiosk

Range of Clients County, Large Community, Small Community, Non-profit

Types of Work Logos, Bicycle Route and Trail Wayfinding Guides, Kiosk Maps

Fee Range \$4,000 to \$50,000

Click on any of the project names to be directed to the project webpage where you may download the project report and related documents, or visit www.greenwaycollab.com for a listing of all projects.

### **Websites**

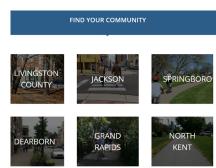
The Greenway Collaborative, Inc has created 2 water trail websites, and hosted a dozen different community websites through WalkBike.Info, a website developed in-house as a communication tool for client projects. All website were developed in Wordpress, including the company's website at www. greenwaycollab.com.



Cass River Water Trail Website



Huron River Water Trail Website



WalkBike.Info

Range of Clients Non-profits, County, Health Departments

Types of Work Interactive Maps, Document Downloads, Online Input Maps and Surveys, Terrain360 Integration

Fee Range \$15,000 to \$25,000

## **Recent Project Examples**

The following pages highlight recent project examples. Click on any of the project names to jump to that page in the document. Additional project examples can be found on our website at www.greenwaycollab.com.

- Livingston County Trails Plan
- Iron Belle Trail Route and Feasibility Study
- City of Dearborn Multimodal Plan
- Springboro 2020 Bicycle & Pedestrian Plan
- Regional Trail Connectivity Vision
- Jackson City+County Nonmotorized Plan
- Bridge to Bay Trail Identification, Wayfinding, and Safety Improvement Plan

# **Livingston County Trails Plan**

Livingston County Trails Plan is a comprehensive study involving the identification, mapping and analysis of trail networks throughout the County. The plan identifies priority routes that make the most meaningful connections and will be the focus for near-term investments.

Elements of the planning process include inventory/analysis, development of a GIS trail database, a trail summit, a gap and feasibility study of potential routes, identification of priority routes and cost estimates.

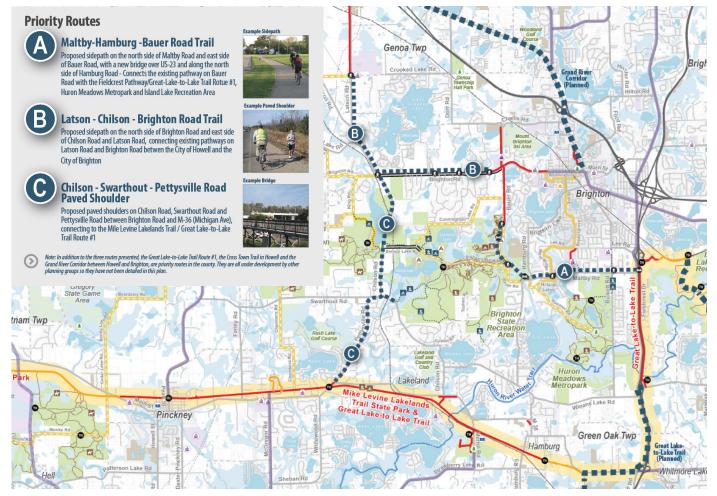
Client Livingston County Planning Department 304 E Grand River Ave, Suite 206 Howell, Mi 48431

Contact Kathleen Kline-Hudson KKline-Hudson@livgov.com

Dates | 2019 to 2020

Budget | \$24,555

Personnel | Norman Cox & Carolyn Prudhomme



A near-term network that focuses on how to improve safety and connectivity for what is out there right now along with priority routes that focus on providing new connections that link major population centers to park and recreation areas and regional trails.





Cost Estimate for Maltby Road - Bauer Road Trail								
Item	Description	Quantity	Unit	Unit Price	Cost			
1	Site Clearing and Rough Grading	18,047	LF	\$20	\$360,940			
2	11' Wide Asphalt Path, Base, and Grading	18,047	LF	\$75	\$1,353,525			
4	Basic Crosswalk with Signs	4	EA	\$5,000	\$20,000			
5	14' Wide Concrete Plank Boardwalk	1,848	LF	\$1,000	\$1,848,000			
6	14' Wide Concrete Deck Pedestrian Bridge	170	LF	\$4,000	\$680,000			
7	14' Wide Bridge over Expressway	1	ea	\$5,000,000	\$5,000,000			
8	Landscaping and Site Amenities	19,402	LF	\$20	\$388,040			
	Subtotal of Construction Costs				\$9,650,505			
	Contingency			20%	\$1,930,101			
	Construction Total *				\$11,580,606			
	Engineering & Design			10%	\$1,158,061			
	Construction Administration			4%	\$463,224			
	Construction Observation			6%	\$694,836			
	Subtotal of Total Soft Costs				\$2,316,121			
	Total Project Cost				\$13,896,727			

#### 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.
- It is assumed that there is a 66' ROW, as the extent of the ROW could not be confirmed with the existing GIS information.
- Cost estimate only includes priority route proposed pathways to nearby schools and parks are not included in estimate

Implementation oriented recommendations with planning level cost estimates for priority routes

# **Iron Belle Trail Route and Feasibility Study**

The Iron Belle Trail Routing and Feasibility Study examines potential alignments for the Iron Belle Trail in Center Line, Warren and Sterling Heights. The purpose of this project was to collaboratively develop a trail route through all three communities which will close the southern Macomb County gap in the Iron Belle Trail network and will safely link the greatest number of local community and county assets.

Numerous stakeholder meetings, online input maps and a community workshop were all used to gather input and reach a consensus on the proposed route. The proposed route showcases community assets and provides a safe, comfortable, and easy route to navigate through the community's of Warren, Center Line and Sterling Heights.

The plan defines a clear implementation strategy so the proposed route may be implemented in an efficient and timely manner. The route has been divided into 7 segments, with a breakdown of costs and detailed information for each segment.

Client | Macomb County Department of Planning

& Economic Development

1 S Main, 7th Floor

Mount Clemens, MI 48043

**Contact** | Amanda Minaudo

586-469-1551

Amanda.minaudo@macombgov.org

Sub-

Consultant | Bergman Associates

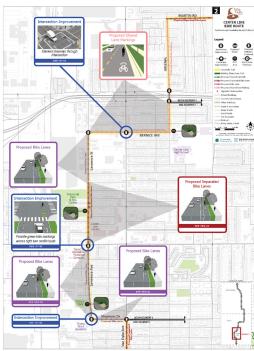
Dates | 2018 to 2019

**Budget** \$30,000 Center Line

\$42,000 Warren & Sterling Heights

Personnel Norman Cox & Carolyn Prudhomme





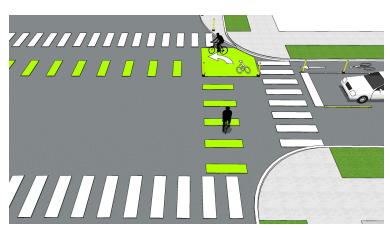
The Implementation Plan and Funding Strategy present a five-year plan to fully implement the project, including recommended tasks to undertake over the next nine months.



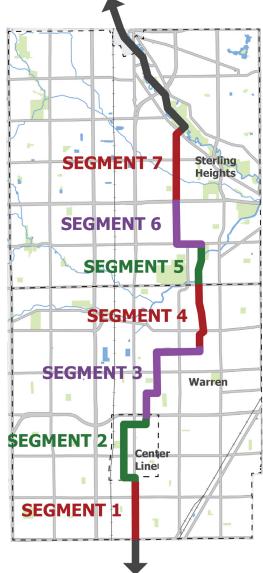
Corresponding to each of the seven segments, detailed cost estimates were prepared. Typical plans and unique intersection treatments had detail sheets prepared to help develop the estimates.

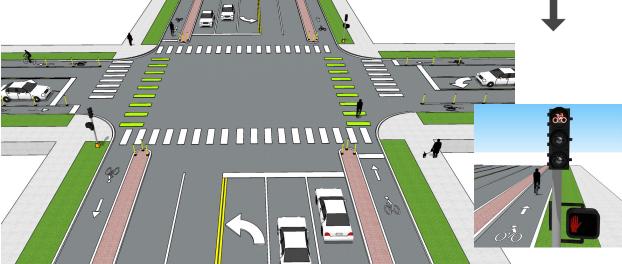


Signed bike routes on residential roads



Protected bike lanes with intersection turn box





Bike signal with green bike markings across intersection

# **City of Dearborn Multimodal Plan**

The City of Dearborn Multimodal Plan will help define current and future community needs and desires for people who walk, bike, ride, and drive. The plan will be used by the City to respond to the growing demand for alternative forms of travel and to promote safe and comfortable transportation options throughout the City.

The planning process was structured to create a transportation plan that puts people first. A robust public engagement plan was undertaken to reach out to minority groups across the community in different languages and cultures.

The plan is both visionary and pragmatic with both near-term recommendations and a long-term vision that reflects desires and priorities driven by stakeholder input. Flexibility is built into the plan given the rapidly changing nature of transportation.

Client City of Dearborn 16901 Michigan Ave Dearborn, MI 48126

Contact Mohamed Ayoub, Project Manager and former Senior Planner for City of Dearborn (734) 467-3210 (City of Westland, MI) ayoubmoh66@gmail.com

Kaileigh Bianchini (current contact) kbianchini@ci.dearborn.mi.us

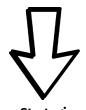
Sub-Consultant | livingLab Bergman Associates

Dates | 2018 to 2019

**Budget** | \$179,835

Personnel Norman Cox & Carolyn Prudhomme

**Immediate Focus** 



Strategic Implementation Plan



Implement As Opportunities
Present Themselves



Near-Term Enhancements



**Incorporate Into Major Construction Projects** 

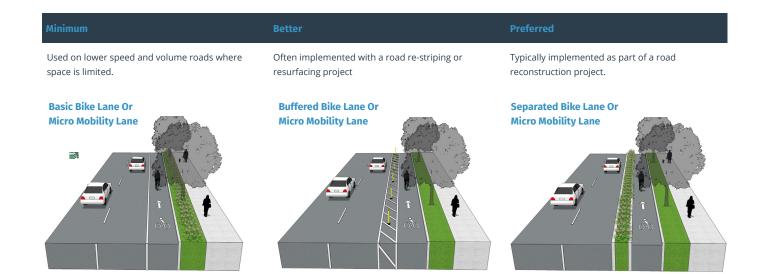


3 Long-Term Vision



Project implementation phasing that establishes a functioning network quickly, identifies easy to implement projects with road resurfacing or restriping, and sets a long-term vision for road reconstruction projects





A goal of this plan is to remain flexible as the system and technology changes. Several of the recommended facilities can transition over time from relatively inexpensive and easy changes made with paint in the near-term to more expensive and complex changes that could be accomplished when done in concert with a more significant infrastructure project such as when a road is being completely rebuilt.



In response to the growing impacts of autonomous vehicles, an all-season community concourse for people who walk, bike or use micro mobility vehicles was proposed.

# Springboro 2020 Bicycle & Pedestrian Plan

Since the adoption of the 2013 Bicycle and Pedestrian Plan there were a lot of significant changes nationally, regionally and locally that warranted revisiting the plan. The 2020 update of the plan identifies community priorities and provides detailed recommendations on where to focus future improvements.

The recommendations were based on input received from workshops, surveys, and online. The plan updates focused on expanding the existing bicycle and pedestrian network and providing more family-friendly routes and recreational opportunities. A central greenway was proposed to help connect the city's parks and provide a nonmotorized spine through the city. Additionally, specific park improvements, complete street improvements and policy and programs updates were recommended.

The implementation plan breaks down the Central Greenway into 12 segments that include planning level cost estimates and detailed recommendations

Client City of Springboro 320 West Central Ave Springboro, OH 45066

**Contact** | Dan Boron

danb@cityofspringboro.com

937-748-6183

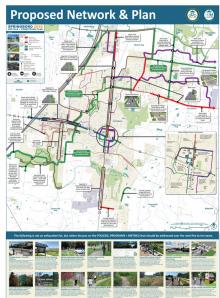
Dates | 2019 to 2020

**Budget** | \$49,595

Personnel | Norman Cox & Carolyn Prudhomme







The infrastructure recommendations are organized into three areas; The Central Greenway Vision, Recreational Trails and Proposed Network



#### Segment B: Clearcreek Park

Two options have been considered for the Greenway connection through Clearcreek Park. The preferred route recommends building a new 1 T'wide pathway though the middle of the park with a retangular rapid flash beacon at W Lower Springbow Road to E Milo Beck Park and some minor road crossing at a cress roads within the park.

The alternative route would include widening the existing asphalt path that follows W Lower Springboro Road around the parks perimeter.

The advantage of the proposed routes is it would complement the existing walking path system giving the park users more walking and running options.



#### **Cost Estimate for Preferred Route**

Item	Description	Quantity	Unit	Unit Price	Cost
1	Site Clearing and Rough Grading	600	LF	\$10	\$6,000
2	11' Wide Asphalt Path, Base, and Grading	3,000	LF	\$75	\$225,000
3	Culvert Allowance	1	EA	\$5,000	\$5,000
4	Site Restoration and Landscaping	3,000	LF	\$10	\$30,000
5	Trail Amenities	3,000	LF	\$10	\$30,000
6	Crosswalk Markings & Signs	2	EA	\$2,500	\$5,000
	Subtotal of Construction Costs				\$301,000
	Contingency			20%	\$60,200
	Construction Total				\$361,200
7	Engineering & Design			10%	\$36,120
8	Construction Administration			4%	\$14,448
9	Construction Observation			6%	\$21,672
	Subtotal of Total Soft Costs			_	\$72,240
	Total Project Cost				\$433,440



#### Trail segment pages structured to grant applications



#### **Expand Bike Parking Program**

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

Rather than providing an exhausting list, the plan focuses on the policies, programs and metrics that should be addressed over the next five to ten years.



# **Complete Streets + Vision Zero Ordinance**

Adopt policy that places human life paramount and establishes that safe, comfortable, convenient, and accessible transportation for all users is a priority for the City. Then establish the necessary inter-departmental coordination, roles and responsibilities, and performance measures to implement the policy. Additionally, update the 2001 thoroughfare Plan to incorporate bikes.



# Establish Permanent Bicycle and Pedestrian Counter Program

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

# **Regional Trail Connectivity Vision**

The Regional Trail Connectivity Vision looks at opportunities for developing a recreational trails network across Mason, Lake, Oceana and Newaygo Counties. Some of the major trail types that were considered include hiking trails, on-road and mountain bike trails, ORV trails and snowmobile trails.

A summit was held with key stakeholders across the region to develop a consensus trail vision and identify organizational capacities to implement the vision.

The vision is a strategic plan on how to leverage existing and proposed trail elements to promote economic growth in the region. The plan also provides a clear way forward on the next major trail investments.

Client Mason County Growth Alliance 5300 W US 10

Ludington, Michigan

Contact | Spence Riggs, former PM for MCGA

spenceriggs@gmail.com

Jodi Nickols (current contact)

The Right Place, Inc 231-742-3328

Sub- livingLab

Consultant | Williams & Works

Dates | 2018 to 2019

Budget | \$50,000

Personnel Norman Cox & Carolyn Prudhomme

BIKING

163 2887

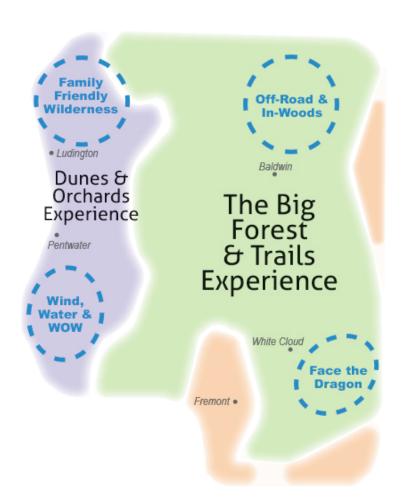
| Committee in the com

The overarching goal of this Plan is to leverage existing trail assets and plan new connections as a tool for sustainable economic growth for Lake, Mason, Newaygo, and Oceana counties.



# A TRAIL FOR EVERY SEASON AND EVERY MOOD

This is a vision for a connected network of trails for every season and every mood and builds upon the outstanding ORV, snowmobile, motorcycle, ATV, hike, bike, equestrian, x-country ski, snowshoe and water trails in West Michigan.



#### **SHARED USE PATH PRIORITIES**





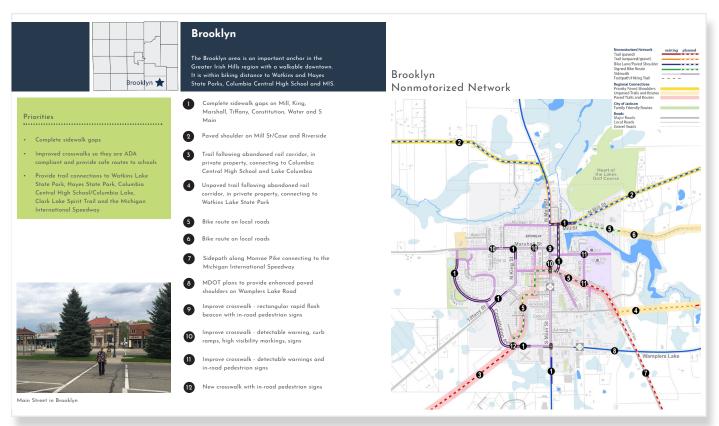
The trails vision balances large transformational trail projects with near-term cost-effective investments that can make an impact quickly. The many partners who were involved in the development of this plan are committed to a collaborative implementation effort.

# **Jackson City+County Nonmotorized Plan**

Jackson City + County Nonmotorized Plan brings together many efforts that have taken place over the years and builds upon those plans to craft a compelling and implementable vision that reflects the community consensus.

The plan recommendations are based on the input received during two robust public engagement sessions that included workshops across the county, surveys, and online options. The plan focuses on the links that connect communities and major destinations within the County as well as communities in adjacent counties. The plan strives to be visionary and pragmatic, understanding that feasibility and cost are key to implementation.

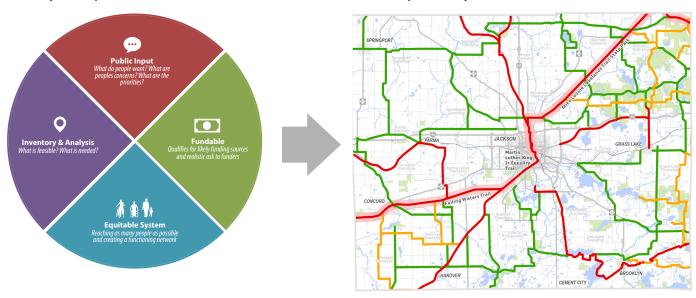
**Region 2 Planning** 120 West Michigan Ave, 9th Floor Jackson, Michigan 49201 Contact Tanva DeOliveira TDeOliveira@mijackson.org 517-745-9041 Sub-Consultant livingLab **Dates** 2019 to 2020 \$99,965 **Budget** Personnel **Norman Cox & Carolyn Prudhomme** 

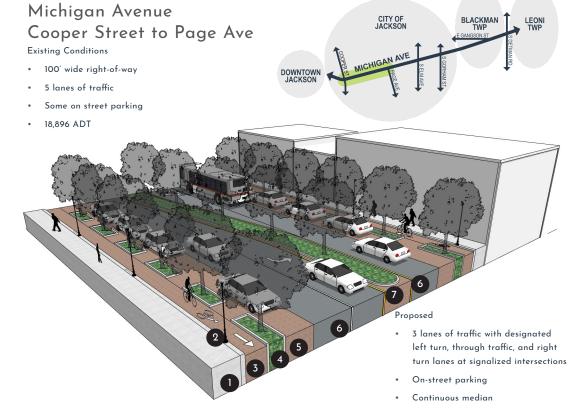


Report structured to have sections extracted and incorporated into local plans and support specific projects



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





The implementation plan includes: Funding Strategy Overview; Priority Trail Implementation Strategy; and 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.

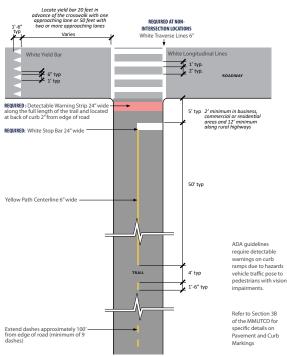
# Bridge to Bay Trail Identification, Wayfinding, and Safety Improvement Plan

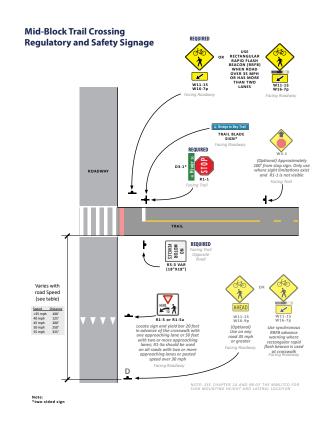
The Bridge to Bay Identification, Wayfinding, and Safety Improvement Plan was a major step in unifying all the segments of the Bridge to Bay Trail. The Plan defines what routes fall under the Bridge to Bay Trail heading and looks at how best to sign existing, temporary, and planned segments of trail as it develops. Baseline improvements were proposed for temporary routes to make sure a safe route could be provided.

The six-month planning process included: Trail System Definitions, Route Site Analysis, Trail Standards, Baseline Safety Improvements, Sign and Pavement Marking Plan, and Implementation Assistance as needed. The end product provides a resource for St. Clair County, and acts as a model for other trails in the region and state.

Client	Friends of the St Clair River 480 S Water St Marine City, Mi 48039
Contact	Sheri J Faust sfaust@stclaircounty.org 810-730-5998
Dates	2020 to 2021
Budget	\$76,300
Personnel	Norman Cox & Carolyn Prudhomme

## Detectable Warning and Typical Pavement Markings at Mid-block Trail Crossings





The Signage and Pavement Marking Guide includes standard plans and details that can be incorporated into future trail construction projects by local agencies.



















It was a challenge to provide wayfnding for a trail that is actively under development. The overview map became the organizing element for the wayfidning plan. It can be implemented and easily updated as new trail projects are completed.