


Kick-off Webinar

Thumb Region Non-Motorized Transportation Plan December 1, 2010

Thumb Region Non-motorized Transportation Plan




Kick-off Webinar

Wednesday, December 1, 2010
12 NOON to 1:00 PM

The Greenway Collaborative, Inc. www.greenwaycollab.com

Webinar Agenda

- Project Overview
- Non-Motorized Transportation Best Practices
- Project Area Tour
- Next Steps
- Questions



Webinar Goal:

Provide an overview of the project and some of the best practices that we will be employing

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Project Overview

- Funded by an Energy Efficiency and Conservation Block Grant
 - Part of a larger effort looking at energy production and utilization in the region
- Project Focus:
 - Increasing the percentage of trips by bicycle and foot
 - Improve non-motorized safety
 - Utilizing non-motorized improvements as a catalyst for economic growth



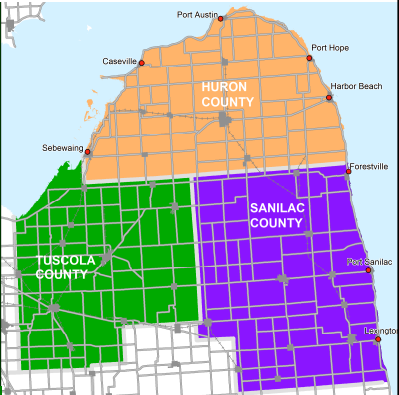
Create an environment where walking and bicycling are natural and appealing choices for both every day trips and recreational pursuits

Build a brand as an outstanding destination for bicycle touring

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Project Area

- Huron, Sanilac and Tuscola Counties
- Focus on M-25 corridor and the eight lakeshore communities
 - Over 120 miles of Lake Huron shoreline
- Build connections to the over 25 Inland communities
- Expand existing trails



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Project Schedule

	October	November	December	January	February	March
1 Inventory and Analysis						
2 Improvement Plans						
3 Policies, Guidelines and Outreach Plan						
4 Implementation Plans						
5 Documentation and Plan Refinement						
6 Harbor Beach Phase III & IV Design						
7 Public Engagement						

Legend:


- Task Duration
- Meetings with Working Group
- ◆ Webinar
- Community Workshops

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Opportunities – Increased Bicycle Tourism

The thumb region is ideal for bicycle touring:

- Low traffic roadways
- Great lakes shoreline
- Small cities and villages
- Well spaced cities and parks
- Many small points of interests
- Many food and lodging options
- Gentle topography
- Scenic natural and pastoral landscapes



The thumb region is of has the potential to become a major destination for weekend bicycle touring

Excellent potential to become part of the League of Michigan Bicyclist's Shoreline Tour


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Building on Existing Resources

- Potential to provide rental bikes to boaters visiting the region
 - Enable them to reach more destinations
- Tip of the Thumb Heritage Water Trail
- Link routes into campgrounds and resorts
- Potential to link physically separated historical and cultural resources through a unified interpretive program

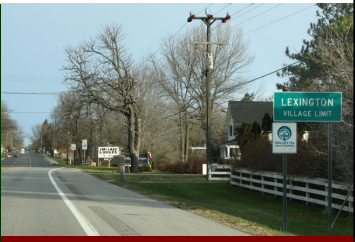


The thumb region's strength is the sum of its parts rather than one singular attraction

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Building on Existing Resources


- There is a 4' or wider paved shoulder on most of M-25
- Potential to easily add bike lanes to M-25 in most of the cities in villages
- Not many places in this can boast of a 120 mile shoreline ride with continuous bicycle facilities on low volume roads linking small towns and historic resources



By cutting across the thumb there is the potential to have a great three day bicycle circle tour

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Thumb Region Non-motorized Transportation Plan Best Practices



- Bicycle Facilities
- Share Use Facilities
- Pedestrian Facilities

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Best Practices Overview

- Understanding the users
- Key principals
- Travel along the roadway
- Travel across the roadway
- Other
 - Trails
 - Bike Parking
 - Bike Rental
 - Information Kiosks



A basic understanding of important complete street design elements and their application

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Complete Streets in a Nutshell

- Complete streets are
 - planned,
 - designed,
 - operated and
 - maintained
- such that all users may
 - safely,
 - comfortably and
 - conveniently
- move along and across streets
- throughout a community




All users include:	All users include:
• Pedestrians	• Children
• Bicyclists	• Elderly
• Transit users	• People of various abilities
• Motorists	
• Trucks	

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No "Typical" Bicyclist or Pedestrian

Wide Range of:

- Ages
- Education
- Skills
- Physical abilities
- Travel speeds
- Vehicle characteristics (for bicyclists and mobility assistance devices)



It is challenging to plan and design for the variety of non-motorized user types

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Types of Pedestrians

- Range of temporary and long-term physical and cognitive abilities
- Various degrees of "traffic tolerance"
- Multi-cultural – languages, laws and customs
- May not be familiar with all local rules of the roadway




There is no required education program or licensing for pedestrians

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Importance of Direct Travel Routes

- Most walking trips for personal business are about ¼ to ½ mile (5 to 10 minute walk)
- Think of out of direction travel as a percentage of the total trip distance and walking time
- Thus a 10% detour for a ½ mile walking trip is 264' (less than a city block)




Signs and barriers have little impact on changing people's behaviors

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Pedestrian Level of Service

Key factors:

- Presence of sidewalk (on both sides of street)
- Degree of separation from motor vehicles
- Vehicle volume
- Vehicle speed
- Percent of truck traffic
- Directness of route



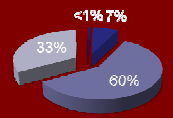
Pedestrians and bicyclists do not always mix well either

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Four Types of Bicyclists

- Strong & Fearless
 - <1%
 - Always Biking
 - Any Road Regardless of Condition
- Enthused & Confident
 - 7%
 - Frequently Bike
 - Like Designated Facilities Such As Bike Lanes
- Interested but Concerned
 - 60%
 - Occasional Rider
 - Local Roads and Trails
- No Way, No How
 - 33%

Bicycle Types



Not Really This Clear Cut. There Is Movement Between the Groups.

Developed by Roger Geller, Bicycle Coordinator, Portland Office of Transportation

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In-Road Bicycle Level of Service

Key factors:


- Presence of bike lane
- Distance from motor vehicles
- Vehicle volume
- Vehicle speed
- Percent of truck traffic
- Size and complexity of intersections



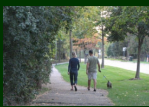
Pavement quality and debris along the edge of the road are also significant factors

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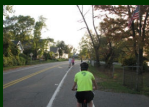
Travel Along Streets



Bike Lanes & Sidewalks



Roadside Pathways



Paved Shoulders



Shared Roadways


Bike Routes
Neighborhood Connectors
Shared-Use Arrows
Shared space

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Bike Lanes

- Designated travel lane for bicyclists
- Delineated by solid white stripe, bike icon pavement markings and signs
- Bicyclists travel the same direction as motorized vehicles
- 5' minimum width, increase width as speeds and traffic volumes increase



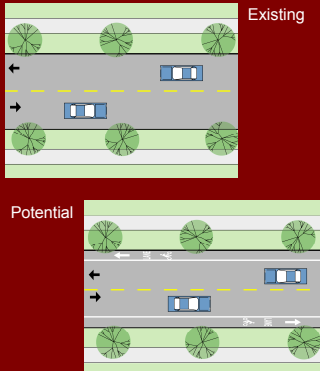
Target bicyclists: "Enthusiased and confident" bicyclists

Context: used on primary roads in urban and suburban areas

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Providing Bike Lanes Through Lane Narrowing

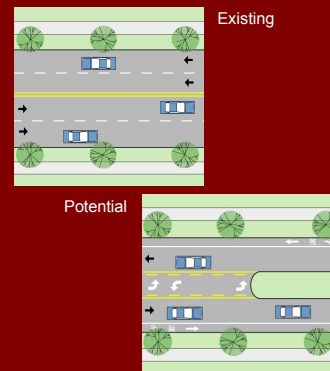
- A 30' wide road can accommodate bike lanes
- Motor vehicle travel lanes 11' to 10' wide are actually desirable in downtown areas
 - Slow vehicle speeds
- Next to no loss of vehicle capacity with narrow lanes



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Providing Bike Lanes Through 4 to 3 Lane Conversions

- Generally no loss in motor vehicle level service for roads under 17,500 per day
 - Most all roads in the region are under 10,000 VPD
- Dramatic reduction in excessive speeding
- Dramatic reduction in the total number of crashes



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Sidewalks Quality of Service



A - Facility with Vertical Buffer B - Facility with Buffer C - Facility along Curb

D - No Facility, but Passable E - No Facility, Not Passable


Sidewalk Widths

- 5' minimum
- 6' along collectors
- 8' along arterials
- Even wider downtown

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Paved Shoulders

- In rural areas, constructing sidewalks may not be practical
- Bikes travel with traffic
- Pedestrians travel the opposite direction of motor vehicles
- Paved shoulders have many benefits for motorized travel and road maintenance
- Should mark as bike where designated turn lanes are present




Target audience: "Interested but Concerned" bicyclists

Context: used along primary roads in areas with limited vehicular conflict points

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Roadside Pathways

- A shared-use path separate from the road but still within a road ROW
- Issues include:
 - Conflicts with motorists at intersecting driveways and roadways
 - Pedestrian / bike conflicts
 - Getting to destinations on other side of the road
 - Transitions to on-road facilities



Target bicyclists: "Interested but concerned"

Context: used along primary roads in areas with limited vehicular conflict points


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Roadside Pathway vs. Bike Lane

- Motorists are not looking for bicyclists on sidewalks or roadside paths especially when they are bicycling opposite the flow of traffic
- Bicycling on the sidewalk is generally slower and more inconvenient than bicycling on the roadway.
 - the presence of pedestrians
 - motorists that block the sidewalk or crosswalk.




Studies have shown that sidewalk riding is two to five times as dangerous as riding in the roadway

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Shared Roadways

- Not all roads require special facilities
- In an urban context, most local residential roads can provide key links without special facilities
- In a rural context, scenic routes with moderate traffic volumes and speeds may not need a paved shoulder



When a road has below 3,500 vehicles per day, motorists can generally pass bicyclists without waiting for oncoming traffic to clear

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Bike Routes

- Signs provide wayfinding to key destinations using routes appropriate for most bicyclists
- Often provide a low traffic alternate route to a major road
- Help to identify routes that may not be obvious



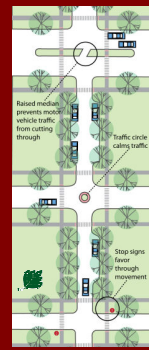

Target bicyclist: "Interested but concerned"
Context: generally used on local residential roads and rural routes with moderate speed and traffic volumes.



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Neighborhood Connectors

- AKA Bicycle & Pedestrian Boulevards
- Primarily on low speed, low traffic volume local roads with connecting pathways
- Provide traffic calming
- Often provide alternate route to a major road
- May have sustainable design elements, such as porous pavement and rain gardens


Target audience: "Interested but Concerned" bicyclists

Photos and Illustrations: The Greenway Collaborative, Inc.

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Shared Use Arrow

- Used where a bike lane is not feasible and/or desirable
- Indicated to motorists to expect bicycles
- Indicates to bicyclists to:
 - Ride with traffic
 - Ride a safe distance away from car doors



Target Audience: "Enthusiased and Confident" Bicyclists
Context: lower speed roads typically in downtown areas with on-street parking

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Travel Across Streets

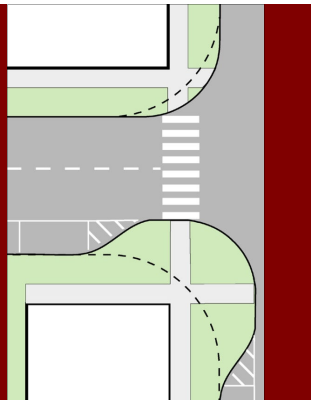
- Directional Ramps
- Curb Extensions
- Intersections
- Mid-block Crosswalks
- Pedestrian Beacons



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Curb Extensions

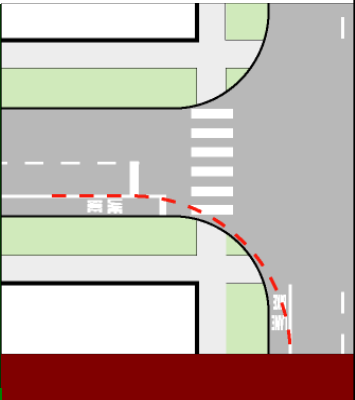
- Minimizes crossing distance
- Better for seniors
- Better visibility at corners
- Reduces illegal parking
- Shorter crosswalk equals longer "walk" signal time and reduces the clearance interval (flashing "don't walk" time)
 - Walking "pace" used to calculate signal timing being slowed from 4 feet per second to 3.5 feet per second



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Bike Lanes and Turning Radius

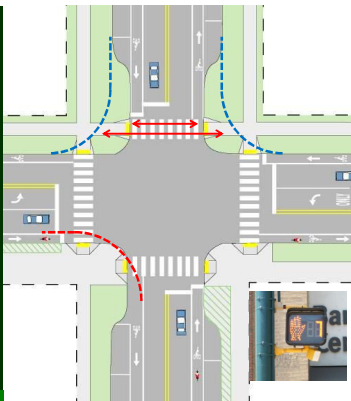
- Calculate based on actual turning radius from lane position not curb radius
- A tighter curb radius helps when positioning ramps to direct pedestrians towards the ramp on other side of street



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Small Urban Intersections


- Curb extensions
- Tight curb radii
- Advance stop bars for bicycles improve bicyclist viability
- Wide, high visibility crosswalks
- Accessible "countdown" pedestrian signals



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Informal Crossings

- Raised medians accommodate dispersed informal crossings
- Landscaped medians are less expensive to maintain than pavement
 - No snow clearing
 - No resurfacing
 - No pavement markings



In some locations it is difficult, if not impossible, to channelize pedestrians to designated crosswalks

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Basic Mid-block Crosswalk

- An approach to the crosswalk places a pedestrian such that their intent to cross the road is communicated to motorists
- Keep sightlines free of vegetation
- Yield markings set back from crosswalk



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Mid-block with On-Street Parking

- Curb extension places pedestrian into the sightlines on oncoming vehicles
- Reduces the potential of "dart-out" type crashes
- Areas simply marked off for no-parking often become default loading zones



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Speed Table Crosswalks

- Generally used on relatively low-volume, low speed roads
- Reduce speed of motor vehicle so that if a crash occurs, the injuries to a pedestrian will be minimal
- 6' long approach ramp rising 4" to a level top with a crosswalk
- Must be design so that it may be driven at posted speed

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Crossing Islands

- Cross street in two stages
- Only requires a gap in traffic from one direction at a time
- Light crosswalk and side of pedestrian facing traffic
- Make island as long and prominent as possible

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Zig-Zag Crossing Islands

- Pedestrians on island walk towards oncoming traffic
- Room for multiple users and longer vehicles such like bike trailers

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Rectangular Rapid Flash Beacon

- High intensity LED flashers that are paired with crosswalk signs to get motorist attention when crosswalk is in use
- Push-button or passively activated (automatic detection)
- Can be linked to advanced warning signs with LED flashers
- Solar powered models available

Most important aspect is that the flashers are only on when someone is about to or is crossing the road

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Hybrid Pedestrian Beacon

- Good for locations where crossing islands may not be practice
- Evaluation of 21 locations found a 69% reduction in pedestrian crashes after installation
- Minimal delay to motorized vehicles

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Bicycle and Walking Maps

- Show recommended routes
- Highlight community resources
- Provide key safety information
- Printed and web versions – web versions may be customized

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Information Kiosks

- Key orientation bridge between printed map and physical place
- Often includes map, details on community resources, events and other bulletins



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Interpretive Signs

- With bike routes and trails historic and cultural sites that are separated by significant distance can be linked thematically
- Signs may be linked to website and printed map resources
- An introduction and location to the of interpretive signs may be shown on bike route maps



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Automated Bike Rental


- New systems where bikes can be rented from automated stations via a credit card
- May be turned in at other stations
- High quality bikes



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Thumb Region Non-motorized Transportation Plan Lakeshore Communities

❖ Shoreline Communities



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Lake Shore Park to Lexington

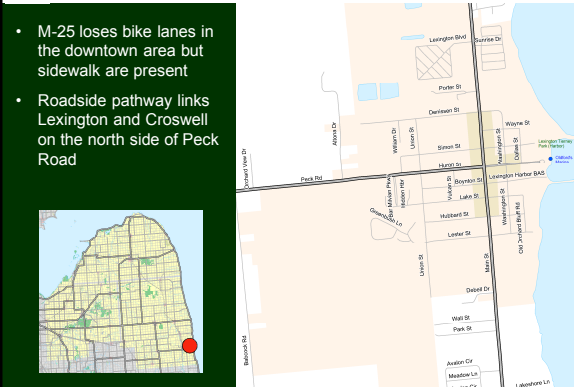
- 10 miles between Lakeshore Park and Lexington
- Potential to link to the Bridge-to-Bay Trail in St. Clair County



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Lexington

- M-25 loses bike lanes in the downtown area but sidewalk are present
- Roadside pathway links Lexington and Crosswell on the north side of Peck Road





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Lexington


- Potential to create a better tie between the downtown and the harbor
- Potential to continue bike lanes through the downtown south of Huron Street

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Lexington to Port Sanilac



- 11 Mile between Lexington and Port Sanilac
 - Two parks between them
- Trail proposed between Lexington and Port Sanilac
 - Completed an \$8,000 feasibility study
 - Has been awarded \$750,000 in federal funds for construction
 - Working to ID implementation agency and raise \$8,000 local match
 - Prepared request for proposals for planning and design



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Port Sanilac



- M-25 loses bike lanes in the downtown area but sidewalks are present

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Port Sanilac


- Likely potential to add Bike Lanes to Huron Shore Pike (M-25) through a 4 to 3 lane conversion and lane narrowing

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Port Sanilac to Forestville

- 16 miles between Port Sanilac and Forestville
- Three parks between the communities:
 - Forester Park
 - Roadside Park
 - Sanilac County Park



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Forestville

- Paved shoulder continues through entire city
- No sidewalks





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Forestville to Harbor Beach



- 16 Mile between Port Sanilac and Forestville
- Two parks between the communities:
 - Wagner Park
 - MDOT roadside Park




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Harbor Beach



- Existing shared-use path with planned extensions through North Park Campground, Waterworks Park and Bathing Beach Park
- M-25 loses bike lanes in the downtown area but sidewalks are present

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Harbor Beach


- Potential to continue bike lanes through downtown on M-25 and State Street by utilizing extra lane width

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Harbor Beach to Port Hope



- Seven miles between Harbor Beach and Port Hope
- No parks or rest stops



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Port Hope



- M-25 loses bike lanes in the downtown area but sidewalks are present

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Port Hope

- Existing bump outs in downtown on M-25



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Port Hope




- Existing bump outs in downtown on M-25
- Potential to continue bike lanes on Main Street (M-25) through the downtown by utilizing extra lane width

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Port Hope to Port Austin



- 18 miles between Port Sanilac and Forestville
- Many historic attractions between the two towns

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Port Austin



- Spring Street, Grindstone Road and Van Dyke Road lose bike lanes in the city
- Paved shoulders between Port Austin, Kinde and Bad Ax

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Port Austin

- Potential to continue bike lanes on Grindstone Rd and N Van Dyke Rd by utilizing extra lane width
- Evaluate adding shared use arrow to W Spring St

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Port Austin to Caseville



- 18 miles between Port Austin and Caseville
- Four parks between the communities:
 - Roadside Park
 - Port Crescent State Park
 - Thompson Park
 - Philip Park




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Caseville

- M-25 loses bike lanes in the downtown area but sidewalks are present

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Caseville


- Existing bump-outs in downtown area
- Evaluate if bike lanes or an alternative bike route can be implemented to the downtown area in the near future

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Port Austin to Caseville


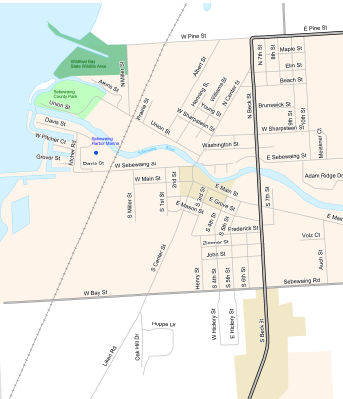
- 20 Miles between Caseville and Sebawaing
- A roadside park and hamlet of Bayport are between the two communities



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Sebawaing


- Has the most intensive commercial district along M-25 with four lanes of traffic
- The downtown is not along M-25

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Sebawaing


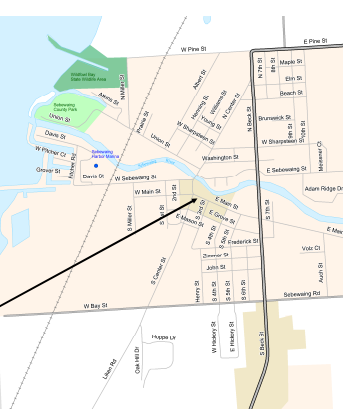
- Potential to add bike lanes to M-25 through a 4 to 3 lane conversion based on traffic volumes




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Sebawaing


- Evaluate potential for bike lanes and/or bike route through the downtown

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Sebawaing to Quinacassie State Wildlife Area

- 18 miles between Sebawaing and Quinacassie State Wildlife Area
- Village of Unionville has food
- Long-stretch between Unionville and the outskirts of Bay City – about 23 miles
- M-25 is removed from the shoreline
- Pastoral landscape
- More truck traffic




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Next Steps

- Web survey
- Mapping of bike routes
- Complete inventory and analysis
- Meet with representatives of the shoreline communities
- Prepare preliminary recommendations
- Review recommendations with the communities

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Questions or Comments



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