

# LIVONIA

## BIKE WALK

SEPTEMBER 14, 2015





# LIVONIA

BIKE WALK

City of Livonia, MI  
September 14, 2015

## BIKE/WALK LIVONIA

A Future Transportation Plan



MCKenna  
ASSOCIATES



# ACKNOWLEDGMENTS

## THANK YOU.

We would like to thank all those who participated in the development of the Bike/Walk Livonia Plan. The content in this Plan reflects the ongoing collaboration between City residents, stakeholders, the Steering Committee, Planning Commission, and City Council.

A special thank you to Justin Patrick, Livonia resident and bicycle advocate, for sharing independently collected data on City of Livonia sidewalk conditions.

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Toole Design Group (TDG) was founded in 2003. Toole Design Group (TDG) is the nation's leading planning, engineering and landscape architecture firm specializing in bicycle and pedestrian transportation. TDG has a national reputation in transportation master planning, traffic calming, pedestrian and bicycle research and facility design, rail-trail planning and design, transit accessibility and Safe Routes to School planning and design.

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## INTRODUCTION

**Project Purpose:** The Bike/Walk Livonia Plan aims to create a roadmap for the continued provision and enhancement of bicycle and pedestrian facilities in the City of Livonia, considering both near term improvements and long term vision.



# VISION STATEMENT + GOALS

## Vision

The City of Livonia's vision for its nonmotorized network is stated below. This vision will help create a culture change that promotes more bicycling and walking, which can bring neighborhoods, families, and residents together for fun and health. Achieving the vision for Livonia will require a concerted effort to educate community members on walking and biking safety. It will also require infrastructure improvements like bikeways, sidewalks, crosswalks, and even bike parking and bikeshare or bicycle rental, to allow the community to access its many destinations by foot or bike and safely provide connections between them.

*The City of Livonia will be an active place where residents can safely walk and bike to parks and shopping and other destinations. Neighborhoods will be connected via a practical, comfortable and complete network to support quality of life and promote healthy living.*

## Goals

The following goals guided the development of the Bike/Walk Livonia Plan:

1

### CONNECTIVITY.

Connecting to destinations such as parks, schools, trails, neighborhoods, and shopping districts / corridors.

4

### RECREATION AMENITIES.

Enhancing recreational opportunities in the community.

2

### SAFETY.

Improving safety at intersections and crossings.

5

### EDUCATION.

Supporting educational events and programs to promote walking and biking in Livonia.

3

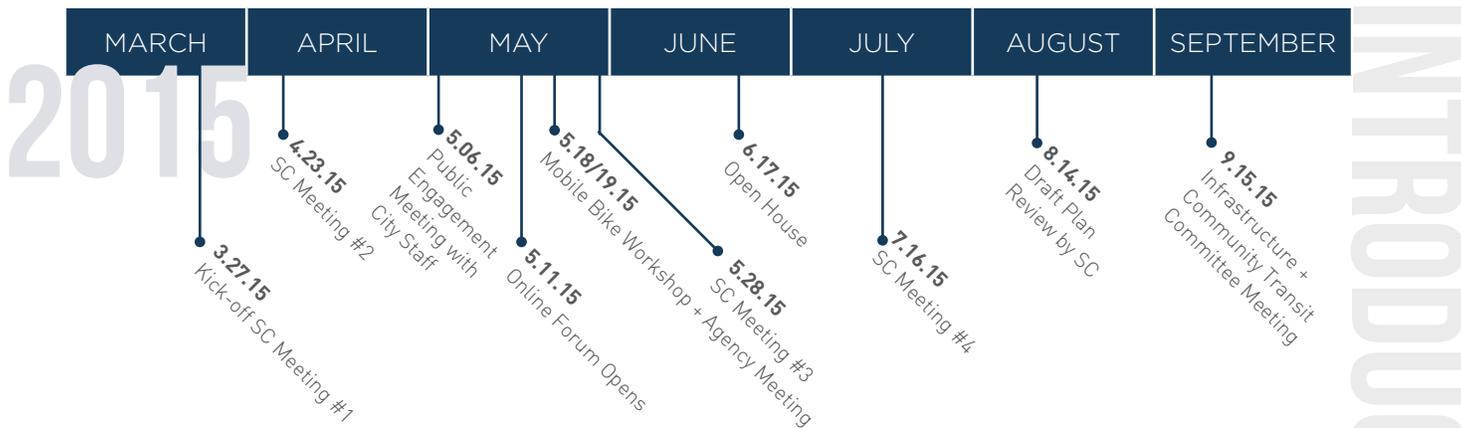
### COMPLETE THE NETWORK.

Planning for new bikeways and signs.

6

### COMPLETE STREETS.

Supporting Complete Streets so that the City's motorized network can be safely crossed and traveled upon and alongside by all users of the roadway, regardless of their age, ability or travel mode.



## PLAN PROCESS

### Steering Committee

The planning process, which culminated in the development of the Bike/Walk Livonia Plan, commenced in April 2015. A Steering Committee, guided by City Council, was formed to undertake the Bike/Walk Livonia Plan. The Steering Committee was comprised of a diverse and well rounded body including: Planning and Economic Development Director, Engineering Department, Police Department, Public Service Department, Parks and Recreation Director, and resident bicycle advocates of Livonia.

The Steering Committee worked directly with the consultants, McKenna Associates and Toole Design Group, who assisted the City in preparing the plan.

### Agency Meeting

The City's surface roads are owned and maintained by various jurisdictions, including the State of Michigan, Wayne County, and the City of Livonia. As a result, collaboration among the various transportation agencies is a critical element for the implementation of this plan.

In an effort to foster the collaborative relationships, the City of Livonia and McKenna hosted a meeting on May 18, 2015 with the Michigan Department of Transportation (MDOT), Wayne County Department of Public Services (WCDPS), and the Southeast Michigan Council of Governments (SEMCOG). The meeting was well attended by agency members including: Gorette Yung, P.E. (MDOT), Alex Bourgeau (SEMCOG), Brian Pawlik (SEMCOG), and Ali Aljawad (WCDPS).

### Bike Workshop

On May 19, 2015, the Steering Committee, together with several members of the public, participated in an organized bicycle ride through Livonia. Headed by Paul Lippens from McKenna Associates, the 7-mile bike tour visited the various street typologies in the City. This included riding along neighborhood streets, collector roads and busy arterials in residential, industrial and commercial areas.

The tour covered some of the most comfortable areas within Livonia to cycle on and some of the more difficult intersections, including the crossing of I-96.

Immediately following the tour, a breakout session was held at City Hall which focused on priority destinations, routes, and barriers.

*“I would like to see sidewalks EVERYWHERE in Livonia, especially along major roads starting with the border Inkster Rd.*

*Along the west side of Inkster, the sidewalk ends just past 5 Mile heading north to 6 mile. Also, no sidewalk exists along Schoolcraft between Inkster and Middle Belt.*

*How is one supposed to walk from Inkster Rd. to the shopping plaza with Meijer and PetSmart?”*

## PUBLIC ENGAGEMENT RESULTS

### Public Engagement Opportunities

In addition to the Steering Committee meetings, Agency meeting, and Bike Tour, the City of Livonia provided two public engagement forums for the Bike/Walk Livonia Plan: an Open House and Online Forum. Summaries of the results are detailed below:

#### Open House

On June 17, 2015, an Open House was held at the Livonia Civic Center Library from 6:00 – 8:00 PM and was well attended by residents, the Steering Committee, and members of City Council. In total, over 60 individuals attended and participated in a series of 5 stations. The stations consisted of: [1] What’s Your Big Idea? (idea sharing); [2] Destination Mapping; [3] Barrier / Hazard Mapping; [4] Routes Mapping; and [5] a Visual Preference Survey. Additionally, a presentation on the planning process for the Bike/Walk Livonia Plan and bicycle and pedestrian facility best practices was given.

#### Online Forum: Mindmixer

As part of the public engagement process, a website through the on-line platform, Mindmixer, was created. The website was active from May 11 to July 10, 2015 and featured 8 topics on nonmotorized transportation. Over the two month period, a total of 511 interactions occurred on the site between 103 participants. In addition, 3,411 individuals visited the site to learn more about Bike/Walk Livonia. To promote the website, the City’s media department created a short video which was televised and posted to the City’s Facebook and webpage. Notifications on each topic were also posted to the City’s Facebook page as they became available.

Overall, the participants were representative of the community (aside from individuals under the age of 18). As an online engagement tool, an under representation of those 18 and younger is common. It is important to note that a number of families attended the Open House, with younger children, who participated in the activities. A breakout of the Mindmixer participants are shown to the right. Major themes / key ideas of the Mindmixer site were aligned with the feedback from the “What’s Your Big Idea?” and large table mapping exercises which were conducted at the Open House.

The following key themes emerged:

- Develop a bike share program;
- Improve Victory Parkway as a route;
- Improve access to the Haggerty Road Commercial Corridor;
- Prefer shared use paths that are wide enough for two bicycles, esp. on the major E/W and N/S corridors;
- Require bike racks at businesses / offices;
- Improve Stark Road;
- Build on collaboration with surrounding municipalities;
- Develop additional bike trails in parks, including mountain bike trails;
- Create a self-reporting method (possibly with an application) for identifying and reporting broken / raised sidewalks and vegetation overgrowth;
- Participate in public transit;
- Develop a wayfinding system (possibly with an application) for points of interest, destinations, etc.;
- Prioritize traffic calming on neighborhood streets;
- Make aesthetic improvements to Bike/Walking paths – attract more users through landscaping enhancements and other pedestrian amenities;
- Improve traffic signalization – collaborate with Wayne County; and
- Develop bicycle pit stops with local businesses (i.e. small stopping stations with bike racks, hand pumps, restrooms, etc.).



*“Biking on the sidewalks is undesirable, and actually more dangerous than biking on the street.*

*When biking on the sidewalk, at intersections, bikes / cars are not visible to each other until the last instant, and their sudden approach is unexpected.*

*When biking with traffic (even without dedicated lanes), bikes are more visible, and cars have plenty of time and space to respond.”*

Other Mindmixer topics on pedestrian and bicycle facilities and the network provided quantitative data. Key findings of these surveys are listed below:

- Livonia is an active community in terms of both walking and biking; 71% of respondents bike daily or weekly; 86% of respondents walk outside for 15 minutes or more, either daily or weekly.
  - Livonia is perceived to be slightly more bikeable than walkable; 81% of respondents stated Livonia is moderately bikeable - i.e. one can bike to some key places but not everywhere, while 73% of respondents stated Livonia is moderately walkable.
  - Sidewalk facilities mostly used for active recreation. Examples include walking, running, dog walking, at 96%; socializing, like walking to a friend’s house or gathering space, at 54%; and for walking children to school, at 31%.
  - In terms of bicycle routes, approximately 60% of participants acknowledged that sidewalk facilities are not meant for biking and stated the desired for a shared use path instead of a sidewalk. Another 15% stated sidewalks are the only option at times. Approximately 19% of respondents prefer to bike on sidewalks.
  - 62% of respondents are very or somewhat comfortable biking in the roadway with marked bikeways, which include bike lanes and marked shared lanes. When provided with a buffered or protected bike lane, which are separated by curbing or bollards, the percentage of riders comfortable with riding in the road increases to 91%.
- However, it is clear from the survey (90%) and additional qualitative comments that the majority of respondents prefer protected bikeways, paths, or trails over on-street bike facilities. This idea is further reinforced by the fact that 53% of survey respondents feel that creating more off-street shared use paths (for both bicyclists and pedestrians) would have the largest positive impact on improving the bicycle network in Livonia. In contrast, 34% of respondents stated on-street bike lanes would have the largest impact.
- Respondents stated that major improvements to the bicycle network should start with major streets, like 6 Mile Road, at 32%, followed by lower volume streets, like Stark Road and bridge connections across I-275, both at 19%.

**VISUAL PREFERENCE SURVEY**

Stakeholders also participated in a visual preference survey where they ranked 36 different images based on their appropriateness for Livonia. Each image showcased a particular nonmotorized category: i.e. crosswalks, bikeways, landscaping, etc. The most desired image in each category was identified by a pink sticker.

Results from the survey are displayed on the following page with the highest ranked image shown.

	CATEGORY	HIGHEST RANKED IMAGE	RECOMMENDATIONS
PEDESTRIAN ELEMENTS	Crosswalks [90%]		+ decorative crosswalk treatments at intersections (i.e. stamped / colored concrete) + intersections crossing visibility is a priority
	Sidewalks [42%]		+ wide, shared use path (6-8 feet) with a landscaped buffer from road
	Landscaping [52%]		+ landscaped tree "wall" to buffer the pedestrian realm from the street
BICYCLE ELEMENTS	Bikeways [57%]		+ separated shared use path, buffered from roadway
	Protected Bike Lanes [63%]		+ separated shared bike lane, buffered from roadway with bollards or curbs
	Bike Intersections [71%]		+ colored pavement carried through intersection
BIKE/WALK AMENITIES	Bike Parking [58%]		+ traditional "U" shaped locks + flexibility in installing one or several
	Bike Route Signage [43%]		+ freestanding signage with wayfinding component
	Seating [52%]		+ creative seating that incorporates landscaping elements

*“I want walking, jogging, biking, and skating to be one of the go-to modes of transportation for the entire Livonia community.*

*I’d love to see people choosing to walk to pick up groceries, to drop their kids off at their friends house, to attend classes at Schoolcraft, and to get to and from work. I have always loved visiting cities where the sidewalks are constantly buzzing with pedestrians.”*

## EXISTING CONDITIONS

The existing conditions can be summarized by three (3) major themes:

- Urban development patterns across the City, including land use and roadway design characteristics.
- Road network usage and jurisdiction.
- Bicycling Level of Traffic Stress assessment.

### Urban Development Patterns

Development patterns throughout Livonia are consistent with mostly mid- to late-20th Century conventions. Nearly all of the City’s developable land consists of single-use districts, the majority of which is composed of single family residential housing. Commercial real estate is focused on major arterial streets with larger, newer commercial centers located adjacent to Interstate highways. Industrial properties are largely clustered in a swath directly south of I-96.

The road network is composed of major arterial roads spaced one mile apart. With a few exceptions due to topography or the presence of major highways, these arterial roadways form a regular grid throughout the City. The arterial roads generally have multiple travel lanes, with speed limits of 35 miles per hour or faster.

Livonia is bisected by Interstate I-96, which runs east to west through the southern portion of the community. I-275 runs north to south and roughly follows the western border of the City, separating a small portion of Livonia in the northwest corner.

The superblocks formed by arterial roads are broken up by local roads that provide circulation to the interior residential areas. The network of local roads generally forms an interrupted rectilinear grid, however straight roads tend to end abruptly due to topographical features including Livonia’s many water courses. The resulting pattern is that many rectangular blocks connect well to other blocks in the immediate neighborhood but require travel on arterial roads to access many of the City’s destinations.

**These conditions present challenges for bicycling and walking. Most notably, the large territories of single-use districts result in long travel distances for residents to access commercial districts for shopping or work. Furthermore, a lack of City-wide connectivity on local roads means that most pedestrian cyclists must travel on busy arterial roads for most trips.**

### Road Network Usage and Jurisdiction

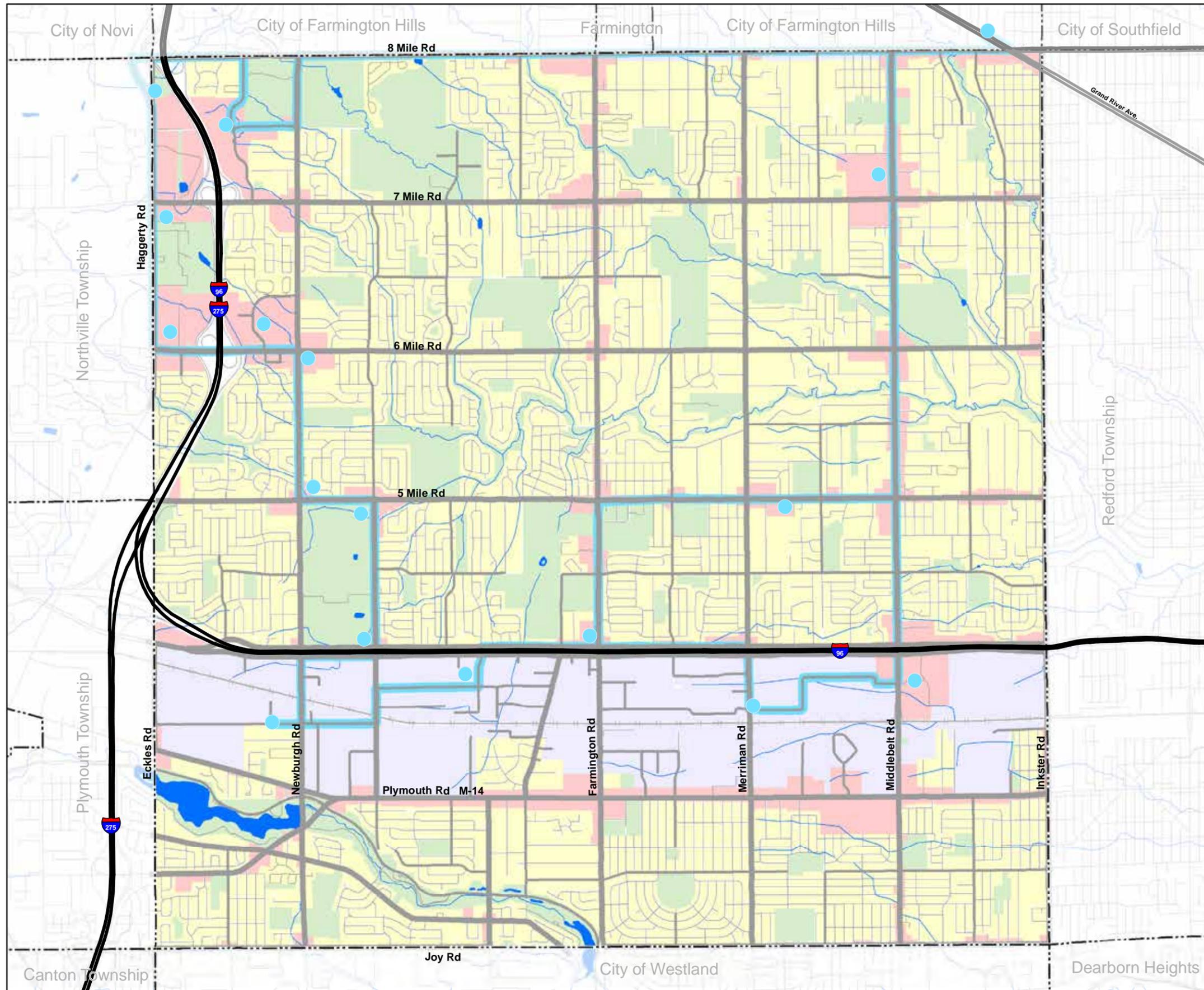
The State of Michigan, Wayne County, and the City of Livonia all own and maintain surface roads within the City limits. The State’s significant ownership, other than I-96 and I-275 is Plymouth Road/Ann Arbor Road, which is a large arterial road and part of the State highway network. Virtually all other major arterials in the City are county roads. With the remaining roads owned and maintained by Livonia.

According to recent SEMCOG traffic counts, traffic levels on the arterials vary significantly, with some locations, such as Merriman Road, seeing as much as 40,000 cars per day and others, such as Six Mile Road, carrying less than 15,000.

# Network Context

City of Livonia, Michigan

May 13, 2015



## Land Use Form & Function

- Parks / Services
- Residential
- Commercial / Office
- Industrial

## Roadway Form & Function

- Boulevards / Arterials (100-120 ft)
- Avenues / Collectors (70-100 ft)
- Streets / Locals (60 ft)

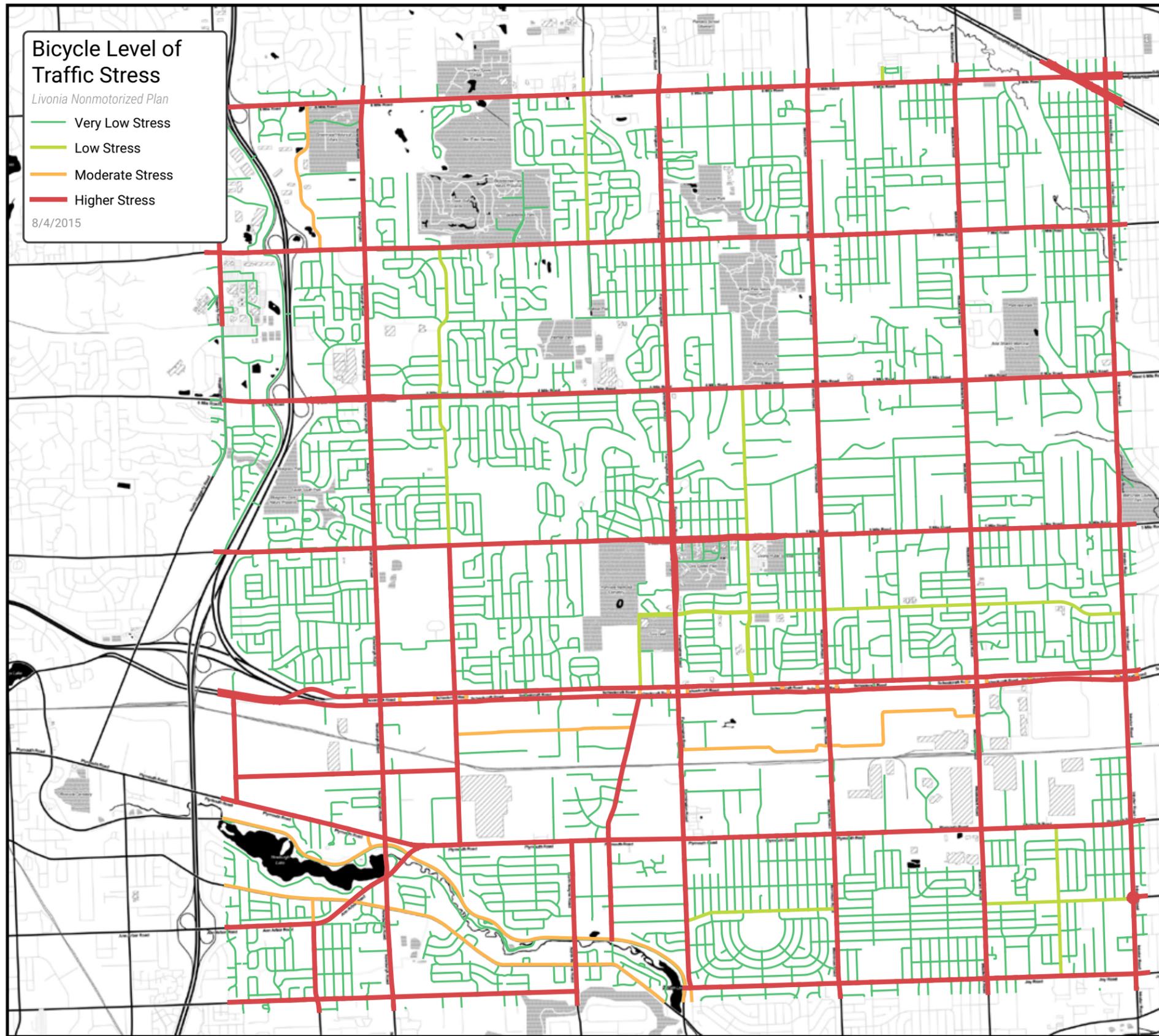
## Transit / Bus

- Bus Routes
- Bus Stops

0 2,000 4,000 FT

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Data Source: City of Livonia, 2015, Michigan Geographic Framework, Michigan Center for Geographic Information, Version 10a.



### Bicycling Level of Traffic Stress

The Southeast Michigan Council of Governments (SEMCOG) has conducted an analysis of roadways across the region, rating them according to the comfort level experienced by an average person traveling on a bicycle. The rating scheme follows the Bicycle Level of Traffic Stress (LTS) methodology, which is the result of work conducted by the Mineta Transportation Institute at San Jose State University, a federally-funded Tier 1 University Transportation Center. This methodology examines various characteristics of a roadway and the vehicular traffic that travels on it in order to assign a score indicating the stress induced on a typical person traveling by bike. The methodology is highly sensitive to traffic speed and roadways with speed limits over 35 mph are rated moderate to high stress. The scores range from 1 (least stressful) to 4 (most stressful).

The SEMCOG analysis was completed for the 2014 Nonmotorized Plan for Southeast Michigan. As a result, the analysis was also conducted on a regional scale. To tailor the analysis to the local level some ratings were adjusted by the Steering Committee in order to ensure that the ratings reflect the actual conditions as experienced by cyclists in Livonia.

It is important to note that the stress analysis does not necessarily indicate whether existing bicycle infrastructure is appropriate for the conditions, only the expected level of stress associated with those conditions. Depending on the intended user of a roadway, different facilities may satisfy the need to provide a safe and comfortable bicycling experience. For instance, it is more stressful to ride on an arterial like 7 Mile than a neighborhood street like W. Chicago. As such, bicycle infrastructure that provides more separation between cyclists and vehicles, like a shared use path, would do more to reduce cyclist stress on 7 Mile than on W. Chicago.

### CITY OWNED PATHS

PARK NAME	PATH WIDTH	APPROXIMATE PATH LENGTH
Dooley Park	8 feet	1,700 feet
Rotary Park	8 feet	2,700 feet
Bien (Tiffany) Park	8 feet	2,900 feet
Clements Circle Park	8 feet	1,700 feet
Bicentennial Park	8 feet	2,800 feet

### TOTAL PATH MILEAGE BY OWNER

OWNER	APPROXIMATE TOTAL MILEAGE
City of Livonia	2.2 miles
Wayne County	3.8 miles
Michigan Department of Transportation	3.4 miles

DATA SOURCE: SEMCOG 2015, with modifications by the City of Livonia.



## Pedestrian Infrastructure

The majority of arterial roads in Livonia are outfitted with sidewalks which greatly enhances pedestrian connectivity throughout the City. There are, however, a number of significant gaps. Notable gap locations include:

- Merriman Road between 5 Mile Road and 7 Mile Road
- Inkster Road along most of its length
- Newburgh Road north of 7 Mile Road
- Schoolcraft Road on either side of Interstate 96
- 6 Mile Road across Interstate 275
- Ann Arbor Trail

The presence of sidewalks along local roads within neighborhoods is variable; some locations have complete sidewalks, others have occasional gaps, and still others are lacking sidewalks altogether. The need for sidewalks on local neighborhood streets often depends on contextual elements and, because of lower traffic volumes, is less acute than the need to address gaps on Livonia’s arterial roads.

## On-Street Bicycle Infrastructure

Currently, the City does not have any significant on-street dedicated bicycle infrastructure. On most local roads, cyclists and motorists can successfully share the road without issues. However, the lack of bike lanes or other dedicated roadway space on arterials likely deters many citizens from using a bicycle for trips that would otherwise be well suited to bicycling.

It is important to note that there are paved shoulders on a few major roads, including Hines Drive, which is a well-known and used route for recreational bicycling. Where there are sidewalks alongside arterial roads, these are often used by cyclists as an alternative to on-street riding.

## Off-Street Bicycle and Pedestrian Paths

There are several off-street paths dedicated for bicycle and pedestrian travel in Livonia. The city owns and maintains paths in the public parks listed to the left in the “City Owned Paths” table.

One popular path running along Hines Park Drive is owned by Wayne County and forms part of the Rouge River Gateway Trail. This trail connects to many other communities in Wayne County, including Dearborn and Plymouth.

Finally, a path exists adjacent to I-275 and is owned by the Michigan Department of Transportation. This path is built largely in the interstate right-of-way and makes a continuous off-street connection from Livonia to Romulus and Wayne County Airport on the south and to Novi on the north.

The “Total Path Mileage by Owner” table identifies the approximate total mileage of all paths in Livonia for the City, Wayne County, and the Michigan Department of Transportation. The City controls roughly a quarter of existing paths, while Wayne County and the State divide the remaining paths roughly equally.





## THE NETWORK DEFINED

The Livonia future transportation network is designed to make biking and walking trips from residents' homes to neighborhoods, parks and trails, schools, commercial corridors, and other destinations, convenient, and enjoyable. With older adults choosing to age in place, with youth seeking independence, and with the ever-increasing cost of car travel, a complete active transportation network is designed to accommodate the many residents of Livonia.

This section provides network maps for all the recommendations. The following sections break down the network into four components:

1. Destinations
2. Pedestrian Network
3. Bicycle Network
4. Intersections

# TOP 10 DESTINATIONS

- 1 Hines Parkway
- 2 I-275 Metro Trail
- 3 Rotary Park
- 4 City Center
- 5 Bicentennial Park / Greenmead Historical Village
- 6 NW Entertainment District
- 7 Laurel Park Shopping District
- 8 Meds / Eds Campus
- 9 Plymouth Road Commercial District
- 10 Stark Road Recreation

## DESTINATIONS

First-rate places to eat, learn, shop, and recreate anchor Livonia's high quality of life. The transportation network and recommendations will help residents reach their favorite parks, trails, restaurants, shops, friends, schools, and jobs from their doorstep, without a car. Putting places first in the consideration of biking, walking, and transit improvements will help integrate sustainable, efficient, healthy living into community life.

Creating a network that encourages transportation between Livonia's important destinations: parks and recreation facilities, schools and institutions, commercial corridors and centers, and neighborhoods is an overarching goal of this plan. Many of the larger destinations could also install pedestrian and bicycle paths within their campuses. The destinations discussed in this section are the places residents and stakeholders agreed were most important in the development of Livonia's nonmotorized transportation system.

The Bike/Walk Livonia Plan aims to create key connections to these destinations, with a near term focus on creating links to the top 10 destinations (listed to the left). The Priority Destination Map identifies these top 10 destinations. A half mile distance is ideal for a 10-minute walk while 2 miles is a comfortable distance for bicycling. The Priority Destination Map also identifies a number of parks and community facilities, educational institutions, and commercial centers which were noted throughout the public engagement process as Livonia destinations.



A detailed description of each of the top 10 destinations are described below:

1. **Hines Parkway.** Weaving through the southwest section of the City, Hines Parkway is part of a larger Wayne County recreation greenway which connects Livonia to the east with Dearborn Heights and with Plymouth and Northville to the west. With many parks scattered throughout the greenway, a paved shoulder, and a separated shared use path, Hines Parkway provides safe and comfortable bicycle and pedestrian routes for users of all abilities.
2. **I-275 Metro Trail.** Running along I-275, this 8-10 foot shared use path connects Livonia to Novi / Farmington Hills in the north and to Plymouth / Canton to the south.
3. **Rotary Park.** Located just north of the City Center, Rotary Park features a winding shared use path, ideal for family biking and pedestrian activities.
4. **City Center.** The City Center area, located directly south of 5 Mile Road, is home to the Civic Center Library, City Hall, 16th District Courthouse, Police Station, Fire Station, Recreation Center, and the outdoor Bentley track facility leased by Livonia Junior Athletic League (LJAL).
5. **Bicentennial Park / Greenmead Historical Village.** Livonia’s largest park, Bicentennial contains a 0.5 mile shared use walking path. This destination also includes the Greenmead Historical Village which is a 95-acre farm complex, containing the Historical Village, picnic facilities and recreation areas. A Livonia historical trail could be developed at Greenmead.
6. **NW Entertainment District.** The northwest section of Livonia contains a variety of commercial and entertainment attractions, including restaurants, hotels, and a movie theater.
7. **Laurel Park Shopping District.** Home to Livonia’s mall, Laurel Park, this district also features a wealth of sit-down restaurants and retail establishments.
8. **Meds / Eds Campus.** Located between I-96 and 5 Mile Road and Newburgh and Levan, this green campus block is home to St. Mary Mercy Hospital, Madonna University, and Ladywood High School.
9. **Plymouth Road Commercial District.** Categorized by both large-scale retail establishments and smaller, neighborhood commercial, the Plymouth Road corridor is an attraction for shopping and dining and runs adjacent to many neighborhoods in southern Livonia.
10. **Stark Road Recreation.** Located just north of I-96 and west of Farmington Road, the Stark Road Recreation area includes the Ford Field Complex, Eddie Edgar Ice Arena, Livonia Family YMCA, Frost Middle School, and Stymelski Veteran’s Park



In addition, other destinations were identified through the public engagement process and include:

**Parks / Community Facilities** considered in the active transportation network development:

- Carl Sandburg Library;
- Sunset Park;
- Bien Park;
- Algonquin Park;
- Buckingham Park;
- Mies Park;
- Alfred Nobel Library; and
- Clements Circle Park.

**Educational** destinations considered in the active transportation network development:

- Davenport University;
- Clarenceville School District;
- Schoolcraft College;
- Marshall Elementary School;
- Stevenson High School;
- Coolidge Elementary School;
- Eastern Michigan University;
- Holmes Middle School;
- Hoover Elementary School;
- Lewis Cass Elementary School;
- Buchanan Elementary School;
- Riley Upper Elementary School;
- Randolph Elementary School;
- Frost Middle School;
- John F. Kennedy Elementary School;
- Roosevelt Elementary School;
- Churchill High School;
- Garfield Elementary School;
- Grant Elementary School;
- Franklin High School; and
- Emerson Middle School.

**Commercial Districts** considered in the active transportation network development:

- Livonia Marketplace;
- Middle Belt Commercial Corridor;
- 5 Mile Commercial Corridor;
- I-96 Industrial Corridor; and
- Wonderland Village.

# Priority Destination Map

City of Livonia, Michigan

August 13, 2015

## LEGEND

- Commercial
- Parks

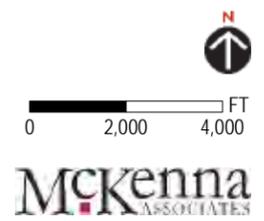
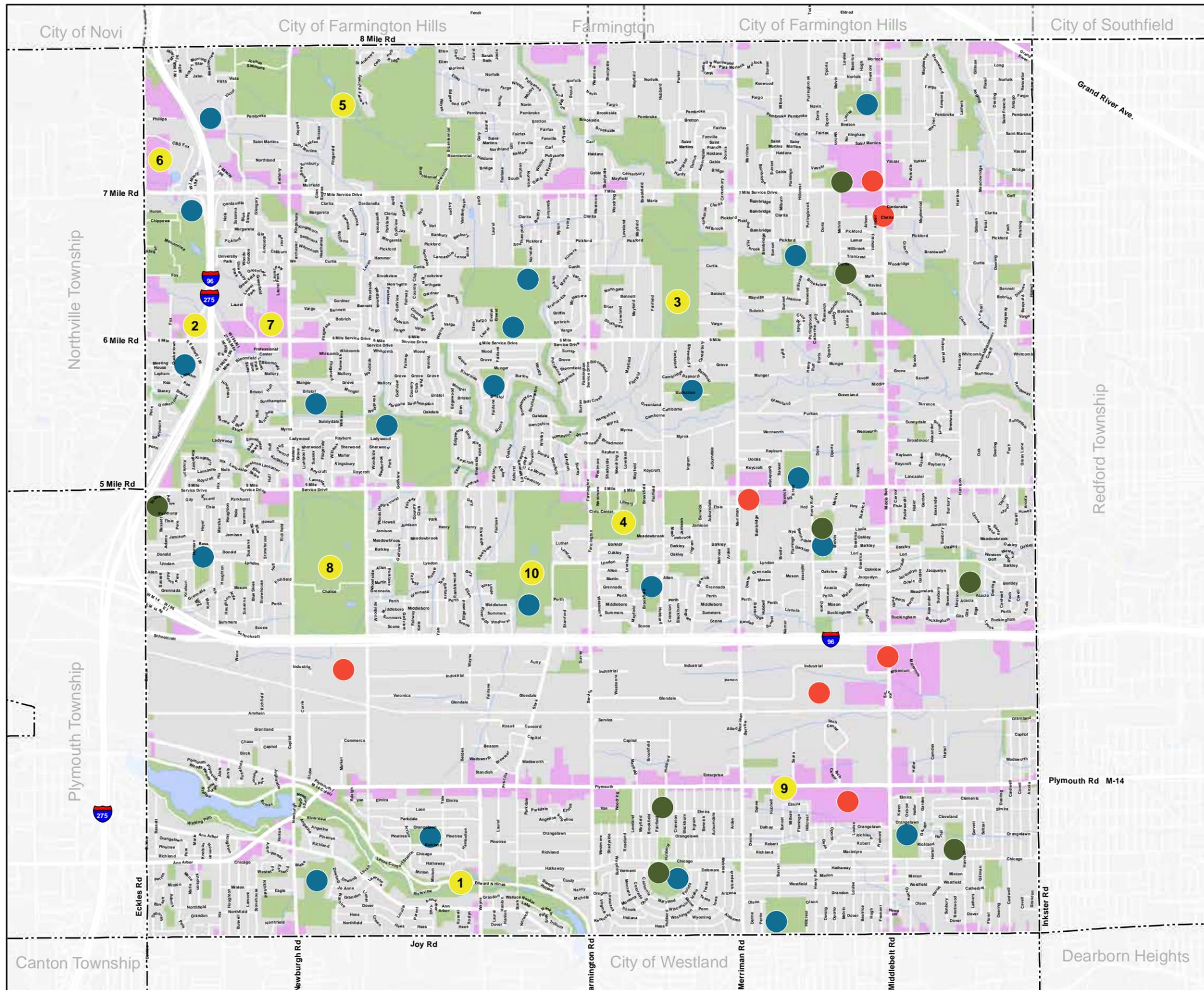
### ● Priority Destinations

1. Hines Parkway
2. I-275 Metro Trail
3. Rotary Park
4. City Center
5. Bicentennial Park / Greenmead Historical Village
6. NW Shopping District
7. Laurel Park Entertainment District
8. Meds / Eds Campus
9. Plymouth Road Commercial District
10. Stark Road Recreation

### ● Educational Destinations

### ● Park / Community Facility Destinations

### ● Commercial District Destinations



Data Source: City of Livonia, 2015, Michigan Geographic Framework, Michigan Center for Geographic Information, Version 10a.

# Pedestrian Network Map

City of Livonia, Michigan

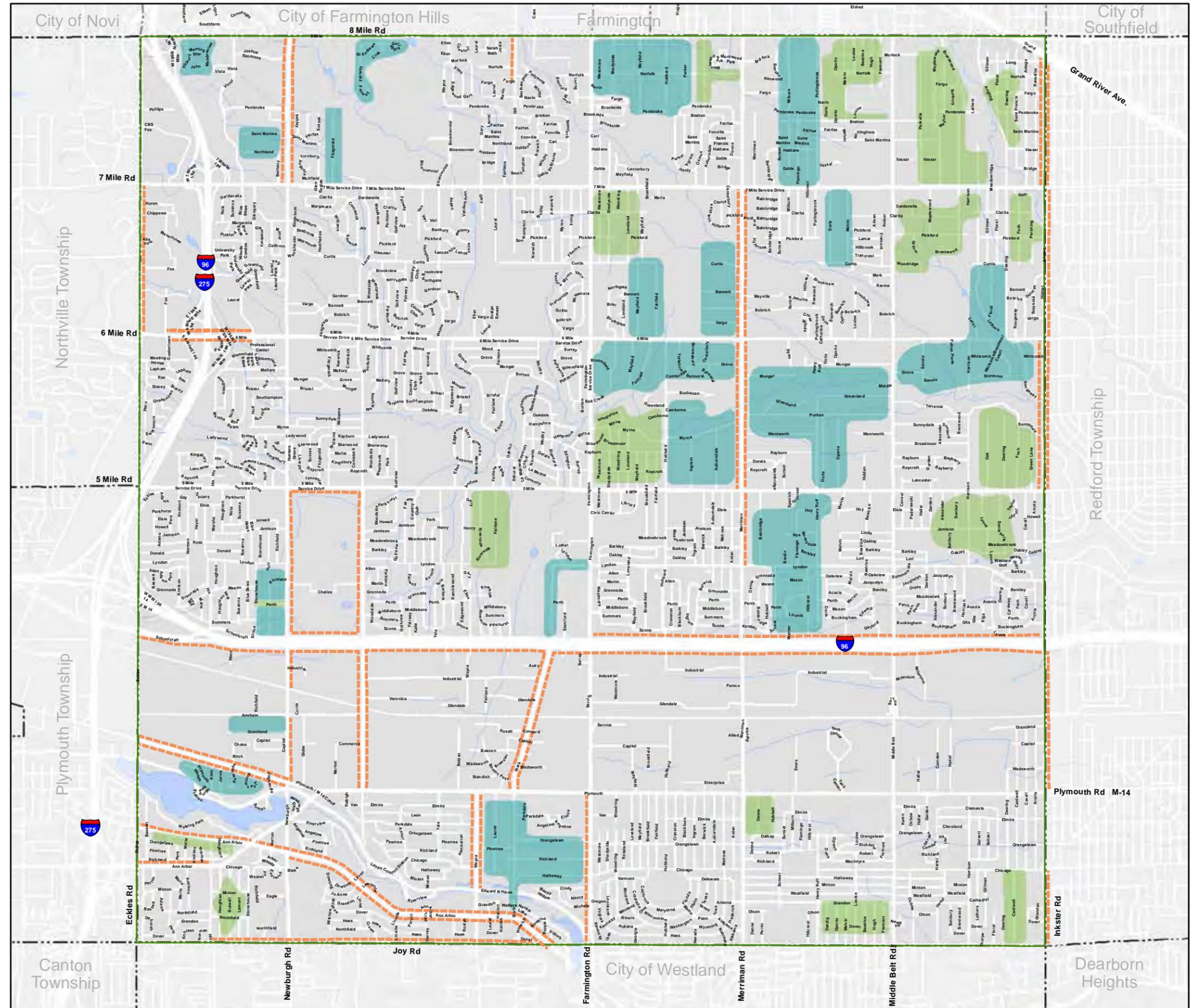
August 13, 2015

## LEGEND

 Arterial Sidewalk System Gaps

### Traffic Calming for Shared Streets

-  Shared Streets  
(Traffic Calming Recommended)
-  Sidewalk Gaps  
(Sidewalks Recommended)



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ASSOCIATES

Data Source: City of Livonia, 2015, Michigan Geographic Framework, Michigan Center for Geographic Information, Version 10a.

## PEDESTRIAN NETWORK

Livonia's transportation network is characterized by clusters of local, neighborhood streets, and coupled with much larger regional arterial thoroughfares that provide vehicle connectivity to the metro Detroit regional motorized network. This classification pattern also extends to the pedestrian network, where the streets fall into two specific categories: neighborhood and arterial streets. Both street typologies are further discussed below.

### Neighborhood Streets: Near Term and Mid Term

Neighborhood streets are generally safe and hospitable places for pedestrian activity. The majority of neighborhood streets in Livonia have a complete sidewalk system. Although, there are neighborhood streets without sidewalks. In some cases, walking in the street may be a safe way of proving pedestrian connectivity. In others, the lack of sidewalks may be an indicator of a gap in the sidewalk network, or a place where the sidewalk system was intended but not constructed. Based on analysis of the Livonia neighborhood sidewalk system for existing sidewalks and connectivity potential, the Pedestrian Network Map identifies two primary contexts of neighborhood areas without sidewalks.

- **Neighborhood Shared Streets:** Neighborhoods where design can support a shared walking, driving and biking environment. Streets in this area exhibit lower levels of (through) vehicle traffic and potential for traffic calming enhancements.
- **Neighborhood Sidewalk Gaps:** Neighborhoods that could be considered for completing the sidewalk system. Many of the lots in these areas already have sidewalks, or could better serve as connections to link areas that have sidewalks.

### Arterial Streets: Mid Term and Long Term

The arterial network is also generally safe to pedestrian activity and the majority of the arterial network has sidewalks. However, pedestrian activity may not be as hospitable or safe for younger individuals. In contrast to the neighborhood system, all of the arterial streets are recommended for a pedestrian connection on both sides of the street. The Pedestrian Network Map also identifies gaps in the arterial sidewalk network. These gaps are recommended for completion, either with sidewalks, or by coordination with installation of shared use paths to support biking and walking, as further discussed in the Bicycle Network Section.

- **Arterial Sidewalk System Gaps:** Areas recommended for installation of either sidewalks or a shared use path to complete the arterial sidewalk network.



Sidewalks

## Preferred Pedestrian Treatments

The following design treatments will ensure the safety and integration of pedestrians within Livonia’s transportation network. These treatments should be utilized in the design of each transportation project in the City of Livonia, as needed, to accommodate pedestrians of all ages and abilities.

### SIDEWALKS

A well-designed residential sidewalk has a minimum five-foot unobstructed width (10 feet in busy commercial areas) to allow pedestrians and people in wheelchairs to maneuver comfortably.



Signs

In addition to the sidewalk, there should be a space separating pedestrians and vehicular traffic. The sidewalk buffer zone, also called a furniture zone, is the area between the sidewalk and the curb or vehicle travel way. It provides separation from traffic and improves the pedestrian experience. In residential areas, this zone is often a planting strip for trees or grass. Most trees require at least six feet of open space around the trunk to reach maturity and maintain health. Utilities and other structures can be located in the buffer zone.

### SIGNS

Signs are an effective way to welcome, alert, inform, and direct pedestrians and other roadway users, especially at intersections and crossings. The Manual of Uniform Traffic Control Devices (MUTCD) offers guidance for signage use in the transportation network, including pedestrian and bicycle signs. Special districts may use distinctive wayfinding signs, interpretive placemaking signs, and banners to provide necessary user information and convey a sense of local identity. Warning signs can be used to improve visibility of pedestrian and bicycle network crossings.



Curb Ramps

### CURB RAMPS WITH DOME TACTILE INSERTS

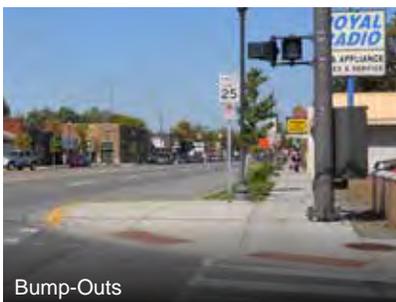
Curb ramps with tactile inserts make it easier for people in wheelchairs, the visually impaired, children, and people with strollers to cross from the sidewalk to the street at an intersection. Tactile inserts, which are usually red and bumpy, are especially important for the visually impaired because the dome tactile area helps them distinguish between the sidewalk and the street. All crossings, marked and unmarked, should have curb ramps with tactile inserts.



Crossing Islands

### CROSSING ISLANDS

Crossing islands reduce crossing distance and allow pedestrians to cross only one direction of traffic at a time. Crossing islands are most beneficial at unsignalized pedestrian crossings, but they also can be useful to shorten crossing distances at signalized intersections. One way to add a crossing island at multi-lane intersection is by “nosing out” the median.



Bump-Outs

### BUMP-OUTS

A curb bump-out is an extension of the sidewalk into the parking lane, reducing roadway width and creating a shorter crossing distance for pedestrians. Curb extensions can be used to slow vehicular traffic and increase awareness of pedestrians. Bump-outs may be used on arterial, collector and local roadways, and should not extend into the travel space for bicycles.

**PEDESTRIAN-SAFE TURNING RADIUS**

The turning radius at an intersection needs to accommodate both intended vehicles and any persons crossing the roadway. A wide turning radius facilitates fast turns by wider vehicles. A narrow turning radius provides for a slower and safer turn by the vehicles. Intersections should be designed as compact as possible. On truck routes, designers should use the effective turning radius and allow turning to and from multiple receiving lanes.



Crosswalks

**CROSSWALKS**

Painted crosswalks alert drivers where to expect people crossing. Crosswalks are typically two white lines across the street, but other designs draw more attention to the crossing and tend not to wear away as quickly. Special paving or colored markings may also be used.

**PEDESTRIAN SIGNALS**

Pedestrian signals indicate when a pedestrian is allowed to walk across a street. For a complete, connected pedestrian network, all intersections with traffic signals should have pedestrian signals at every corner.



Pedestrian Countdown Signals

**PEDESTRIAN DEMAND-ACTUATED SIGNAL**

At traffic signals where pedestrians are expected during most signal cycles, the signal can automatically show a walk sign. For traffic signals where pedestrians are expected less frequently, a button can be placed for a demand actuated signal. This kind of signal shows a walk light only when pressed.



Pedestrian Demand-Actuated Signals

**PEDESTRIAN COUNTDOWN SIGNALS**

Countdown pedestrian signals show how much time remains before the traffic signal changes and are designed to reduce the number of pedestrians who start crossing when there is not enough time to complete their crossing safely.

**LEADING PEDESTRIAN INTERVAL**

Leading pedestrian intervals are pedestrian signals that give pedestrians a head start in front of turning traffic when crossing the street. This tool should be used at traffic signals near parks, schools, or in other areas with a higher than average number of pedestrians.



Pedestrian Beacons



### PEDESTRIAN BEACONS

Pedestrian beacons are user activated signals used to control traffic and create additional awareness for pedestrians at unsignalized crossings. They are usually dark, allowing traffic to flow. When a pedestrian activates a beacon, they begin to flash, alerting drivers to the pedestrian.

### STREET ALIGNMENT CHANGES

Changes in the street alignment can encourage travel speeds at the posted limit. Pedestrians benefit from slower vehicle speeds because drivers tend to be more cautious, and crashes have higher survival rates.



### CHICANES

Chicanes are planted areas, curb extensions and/or medians that require drivers to slow down to negotiate bends in the travel space. Chicanes are most appropriate on local, residential roads and should not be used on streets with bus transit service or heavy truck traffic.

### ON-STREET PARKING

On-street parking calms traffic by visually narrowing a roadway and creating additional buffer space between pedestrians and automobile traffic.



### MINI-ROUNDBABOUT

Mini-roundabouts direct users through intersections in a predictable manner at slow speeds and set a tone of cautious driving. They have a fully mountable center island that can be driven over by emergency vehicles, buses or large trucks, when necessary. Mini-roundabouts are most effective when placed at the intersection of two local roads.



### PLANTINGS AND TREES

Street trees and landscaping are essential parts of the urbanized ecosystem, enhancing the comfort and safety of people who live and travel along the street. Trees provide shade to pedestrians, have positive environmental benefits, and function as a traffic calming measure to visually narrow a roadway.

### LIGHTING

Lighting creates safe and desirable places to walk at night and during daytime. Lighting selection can add value and aesthetic character to neighborhoods and commercial districts.



## BICYCLE NETWORK

Similar to the pedestrian network, the bicycle network in Livonia is largely characterized by neighborhood streets. The majority of these streets are safe and comfortable for biking and offer a strong foundation for the creation of an active and notable bikeway network. Further, most of Livonia’s priority destinations, including the Civic Center, Rotary Park, St. Mary’s Campus, as well premier regional trails such as Hines Park and the I-275 Metro Trail, are all within 10 to 20 minute bike rides from each other.

The neighborhood street grid, while desirable for biking, also lacks functional biking connections due to the natural topography of creeks and rivers. Additionally, the arterial thoroughfares and interstate system act as barriers. As a result, there are prominent gaps in the bicycle network which lack comfortable, and safe biking facilities and discourage City biking.

Recommendations for the bikeway network are intended to create both near term and long term impact on improved bicycle connectivity for Livonia residents. To achieve a measurable near term improvement, the Bike/Walk Livonia Plan first envisions the creation of a Livonia Bike Loop, followed by the formalization of Neighborhood Bike Routes. The arterial thoroughfare network requires a long term commitment to retrofitting corridors for nonmotorized transportation, which is divided into two categories, Primary Arterial Bike Routes and Secondary Arterial Bike Routes.

### Livonia Bike Loop: Near Term and Mid Term

The proposed Livonia Bike Loop is to be the central core of the bikeway network. The loop will connect to 70% of the City’s priority destinations and 55% of the secondary destinations. In total, the Livonia Bike Loop will connect 13 parks community facilities, 11 schools, and 7 commercial districts. The Loop also connects over 60% of the destinations identified in the Bike/Walk Livonia planning process. With the exception of 5 Mile Road, the Loop is planned entirely on locally controlled roadways and much of it can be feasibly implemented with relatively low-cost bikeway markings and wayfinding signs. A shared use path on 5 Mile Road and around the St. Mary Mercy Hospital and Madonna University Campus is a relatively higher cost project that will involve coordination with the Wayne County Department of Public Service (WCDPS) and Wayne County Parks, as well as local organizations. Additionally, to complete the connections on Curtis, Hubbard, and Lyndon, the Bike Loop envisions the formalization or creation of trail links though or adjacent to Rotary Park, Stevenson High School, Coolidge Elementary School, Sunset Park, the Livonia YMCA, and Frost Middle School. These links require coordination between the Livonia Parks & Recreation Department, the Livonia Public School District, and the YMCA, including the potential negotiation of easements. The Bikeways Network Map identifies the location of the proposed Livonia Bike Loop, which is recommended for completion within 1-3 years once funding has been identified and approved by city council. The Loop can be subdivided into six (6) distinct projects, which are ranked below according to community preferences and further described in the Implementation Chapter.

- Project 1: Hubbard between Lyndon and Rotary Park
- Project 2: Lyndon between Levan and Inkster
- Project 3: Stark between Hines Park and Lyndon
- Project 4: Levan between 5 Mile and 7 Mile
- Project 5: Curtis between Levan and 7 Mile / Middle Belt
- Project 6: 5 Mile between Haggarty and Inkster and the St. Mary Mercy Loop

*The following 5 implementation projects are recommended to support the near term development of the Livonia Bicycle Network.*

1

Conduct a bike share feasibility study

2

Develop a bike parking plan

3

Conduct a bicycle and pedestrian wayfinding study

4

Consider regional transit options to broaden regional access by bike

5

Develop a smartphone application for biking in Livonia

# LIVONIA BIKE LOOP PROJECTS

1 Hubbard

2 Lyndon

3 Stark

4 Levan

5 Curtis

6 5 Mile

## Neighborhood Bike Routes: Mid Term

Neighborhood Bike Routes are the neighborhood and collector level streets that make the best connections between destinations and start to complete the Bikeway Network. Neighborhood Bike Routes are predominantly roadways that are safe and comfortable to share with vehicle traffic and require only signs or shared lane markings. Improvements on these streets should be installed iteratively to connect to the Livonia Bike Loop and to the Primary Arterial Bike Routes. The Bikeway Network Map identifies the Neighborhood Bike Routes, which are recommended for completion within 3-5 years.

## Primary Arterial Bike Routes: Mid Term

Primary Arterial Bike Routes have been selected for the level of connectivity. They provide to the Livonia Bike Loop and the Neighborhood Bike Routes. While the Livonia Bike Loop is a connected system, it does cross the arterial network. Further, the Neighborhood Bike Routes have prominent gaps that require traversing along and crossing arterial corridors in order to keep on the comfortable roadways. The Primary Arterial Bike Routes represent the arterial thoroughfares with greatest potential to address these concerns. The Bikeway Network Map identifies the Primary Arterial Bike Routes, which are recommended for completion within 3-5 years. The notable Primary Arterial Bike Routes are, as follows:

- Inkster
- 7 Mile
- Plymouth
- Newburgh
- Merriman

## Secondary Arterial Bike Routes: Long Term

Secondary Arterial Bike Routes represent the long term vision for safely accommodating bicyclists and pedestrians on all roadways in the City of Livonia. While these roadways were not identified as Primary Arterial Bike Routes based on the network connectivity analysis, it is important to recognize that there may be opportunities to implement these corridors through reconstruction, utility, or maintenance projects initiated by other planning agencies. Every effort should be made by the City of Livonia to advocate for the completion of its bikeway network. The Bikeway Network Map identifies the Secondary Arterial Bike Routes which are recommended for completion as opportunities arise. The notable Secondary Arterial Bike Routes are, as follows.

- Middle Belt
- 7 Mile
- 8 Mile
- Joy
- Haggerty

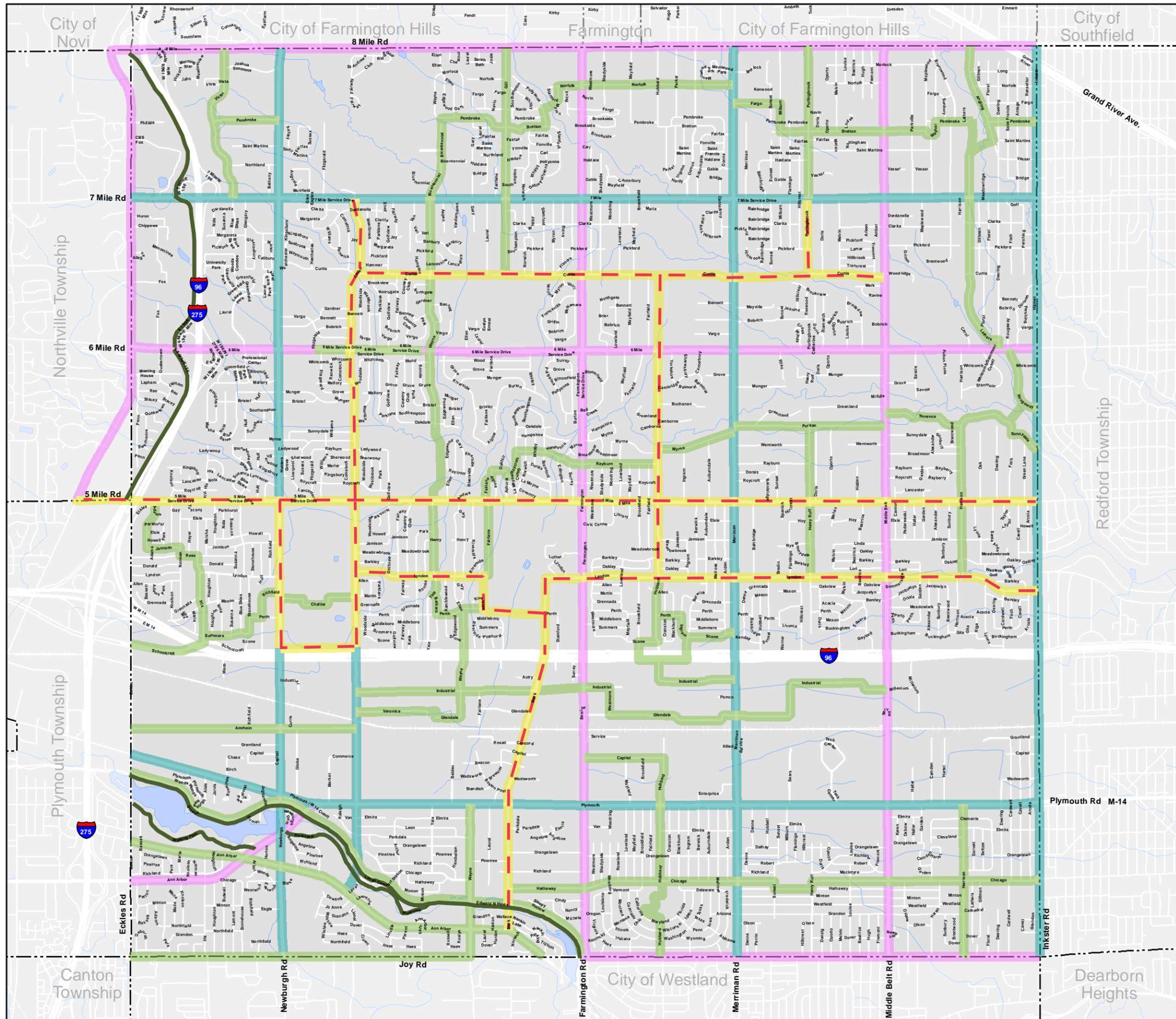
# Bikeways Network Map

City of Livonia, Michigan

August 13, 2015

## LEGEND

-  Livonia Bike Loop
-  Neighborhood Bike Routes
-  Primary Arterial Bike Routes
-  Secondary Arterial Bike Routes
-  Regional Trail



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ASSOCIATES

Data Source: City of Livonia, 2015, Michigan Geographic Framework, Michigan Center for Geographic Information, Version 10a.

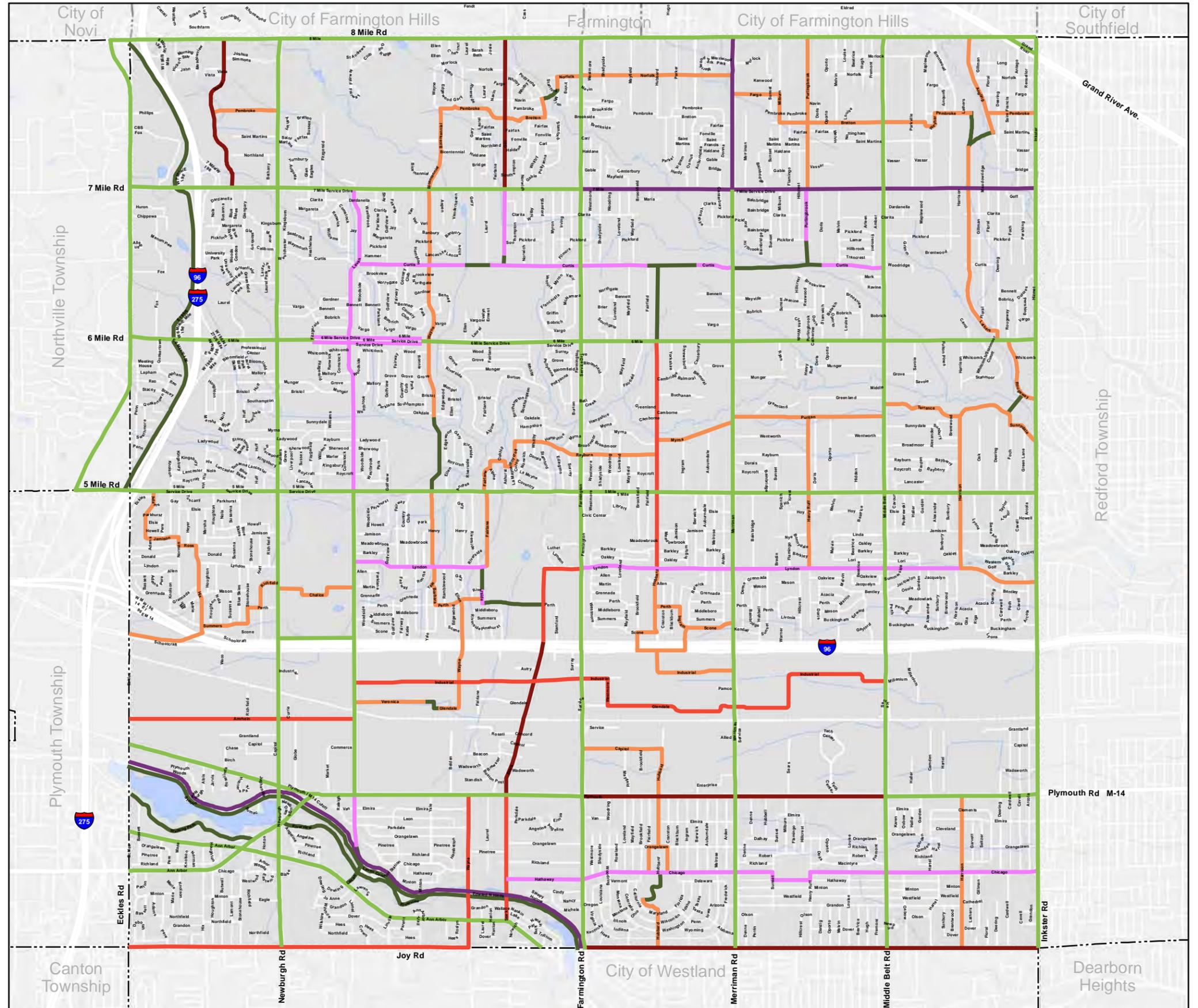
# Bikeways Preferred Facility Map

City of Livonia, Michigan

August 13, 2015

## Preferred Bikeway Treatment

- Bike Lane / Paved Shoulder
- Bike Lane / Road Diet
- Bike Route
- Marked Shared Lane
- Buffered/ Protected Bike Lane
- Shared Use Path
- Trail



## Preferred Bikeway Treatments

The following design treatments will ensure the safety and integration of bicyclists within Livonia’s transportation network. These tools should be utilized in the design of each transportation project in the City of Livonia, as needed, to accommodate bicyclists of all ages and abilities. Some of these treatments create awareness for cyclists on shared roadways, other treatments help to create space for cyclists separated from traffic, but still on the roadway, while others create a shared space for cyclists and pedestrians off the roadway.

The Bikeway Network Map identifies preferred bikeway treatments for each corridor based upon roadway context and feasibility analysis resulting from the Bicycle Level of Stress analysis (see Chapter 1.) The feasibility analysis considered existing roadway configurations, right-of-way-constraints, speed limits, traffic volumes, public input, steering committee preferences, and cost of improvements. Generally, all on-street markings are recommended within existing curb-to-curb dimensions, through lane narrowing to 10 -11 feet, elimination of lanes (road diets), or shared lane markings.

### SIGNED ROUTES

Bike route signs raise all users’ awareness and acceptance of cycling. They make all residents aware of the most bike-friendly routes in the community. Bike route signs are appropriate for any roadway that provides an essential link in a bicycle system, and can offer important, affordable motorist education and traffic calming. However, signage is no substitute for installation of an appropriate infrastructure to support safe cycling. Instead of posting simple “Bike Route” signs, the best solution is to implement a system of wayfinding signs that provide directions to specific destinations. These types of bikeway signs provide useful information and directions for cyclists, drivers and pedestrians alike.

### MARKED SHARED LANES

Marked shared lane use a double chevron and bicycle marking, or “sharrow,” in a lane intended for the joint use of motorized and bicycle traffic. Chevron symbols direct bicyclists to ride in the safest location within the lane, outside of the door zone of parked cars and areas where debris is likely to collect. Generally, marked shared lanes are a low-cost treatment suitable for lightly travelled collector and arterial roads.

### PAVED SHOULDERS

Paved shoulders are the paved areas adjacent to motor vehicle travel lanes. They can be considered for corridors that cannot accommodate 5-foot bike lanes, or as an interim step for corridors where funding has not yet been secured to add bike lane markings and signs. Paved shoulders also can be considered on roads where demand for bike lanes is limited, or on rural roads where shoulders are shared with pedestrians. For safe cycling, paved shoulders must be at least 4 feet wide.



Signed Routes



Signed Routes



Marked Shared Lanes



Paved Shoulders



Bike Lanes

### BIKE LANES

Bike lanes create a dedicated space for cyclists on a roadway. They are appropriate on streets with moderate to heavy traffic. Bike lanes are indicated by on-street markings, which can be supplemented with signage. Bike lanes reinforce proper roadway etiquette, raise the visibility of bicyclists, and help both bicyclists and drivers behave predictably when sharing road space. For safe cycling, bike lanes should be 4 - 6 feet wide.



Buffered Bike Lanes

### BUFFERED BIKE LANES (PAINTED SEPARATION)

Buffered bike lanes use a painted buffer area to separate the vehicle travel lane from the bike lane. This buffer, usually 2 - 3 feet wide, can provide sufficient separation to improve cyclists' comfort and safety on heavily traveled arterial corridors. Where there is sufficient space within the curb-to-curb area, buffered bike lanes provide a more affordable solution than a shared-use path. Buffers also can be used between the bike lane and on-street parking, to separate the lane from the door zone.



Protected Bike Lanes

### PROTECTED BIKE LANES (PHYSICAL SEPARATION)

Protected bike lanes are bike lanes separated from vehicle traffic by a curb, rail, or bollards, providing dedicated space for bicyclists who are not comfortable riding on busy streets. Protected bike lanes typically are wider than bike lanes, allowing cyclists to ride side-by-side or to pass each other.



Shared Use Paths

### ROAD DIETS

Road diets use the existing roadway, without expanding the paved surface, they reconfigure the lane width to add multimodal capacity, on-street parking and/or a turn lane. There are many types of road diets, but the two most common are described below.

- **Consolidate number of travel lanes:** Some roads with four travel lanes, two in each direction, do not need the additional travel lane, except for left turning traffic. Traffic might flow more smoothly with one travel lane plus a center left turn lane. So, a four-lane roadway can be re-striped as a three-lane roadway, and additional roadway can be used for on-street parking or a bike lane.
- **Reduce lane width:** Minimum roadway width, while maintaining capacity for a travel lane is 10 feet. Many roads are built with 12 foot or wider travel lanes. If sufficient width is available, travel lanes may be repainted at the minimum width, and the additional roadway width can be used for bike lanes or on-street parking,

### SHARED USE PATHS

Shared Use Paths are paved concrete or asphalt paths wide enough to accommodate both pedestrians and cyclists. They are typically a minimum of 8-feet wide with 2-feet of clearance on either side of the path. Side paths offer cyclists a safe place to bike off-street when there is no space for a bike lane, or it is unsafe to bike on the street. They should be installed parallel to arterial and collector streets in areas where there are only a limited number of driveways.

**TRAILS AND CUT-THROUGHS**

Trails are a place for recreation as well as transportation. Paved trails are off-street paths, usually not next to a roadway. Trails should be at least 8 feet wide with 2-feet of clearance on either side. However, a 10 to 12-foot paved trail with additional clearance is recommended. Cut-throughs offer pedestrians and cyclists shorter and more direct routes to adjacent residential neighborhoods, schools, or parks. They are usually short sections of sidewalk or shared use path. Neighborhood nature trails, like the one in Bluegrass Estates, could be formalized as cut-throughs in the Pedestrian and Bicycle network.

**BIKE PARKING**

Having a safe, secure place to leave a bike is an important part of traveling by bicycle. Racks should be located within clear view of the destination’s entranceway, preferably as close as the closest motor vehicle parking space, and no more than 50-feet away from the entrance. If multiple racks are clustered in a visible and signed location, they can be sited up to 100-feet away from the entrance. If racks are placed further away than this, cyclists are likely to ignore the racks and look for a closer place to lock up.

Bicycle parking should be located throughout the community on every block with stores or restaurants, at every school, park and recreational facility and at every place of employment. For destinations frequently visited by cyclists or where bicycles will be parked for a longer period of time, such as at a Hospital, covered bicycle parking should be considered in addition to racks.

Bicycle rack selection is important. A good rack has the following qualities:

- Support the bicycle upright by its frame in two places.
- Prevent the wheel of the bicycle from tipping over.
- Enable the frame and one or both wheels to be secured.
- Support bicycles without a diamond-shaped frame with a horizontal top tube (e.g. a mixte frame).
- Allow front-in parking: a U-lock should be able to lock the front wheel and the down tube of an upright bicycle.
- Allow back-in parking: a U-lock should be able to lock the rear wheel and seat tube of the bicycle.
- The rack element should resist being cut or detached using common hand tools, especially those that can be concealed in a backpack. Such tools include bolt cutters, pipe cutters, wrenches, and pry bars.

By choosing racks with a unique color or shape at high-visibility locations, the racks can add character to a community. The City may also use a cost sharing program with businesses where businesses or the chamber of commerce purchase racks, and Livonia installs them.



Trails



Cut-throughs



Bike Parking



On-street Bike Parking



Branded Bike Parking

- 1 Hubbard / 6 Mile
- 2 Hubbard / 5 Mile
- 3 Lyndon / Farmington
- 4 Lyndon / Merriman
- 5 Stark / Plymouth
- 6 Levan / 5 Mile
- 7 Levan / 6 Mile
- 8 Curtis / Farmington
- 9 Curtis / Merriman
- 10 Purlingbrook / 7 Mile
- 11 Levan / Lyndon
- 12 Stark / Hines
- 13 Newburgh / Hines

## CROSSINGS

### Priority Crossing Improvements

Throughout the planning process, Steering Committee members and Livonia residents provided feedback on locations in the City that were most difficult to cross on foot or by bike. The Priority Crossing Improvements Map identifies intersections that are recommended to be prioritized for multimodal enhancements. The priority crossings fall into two types: Interstate bridge crossings, and thoroughfare crossings that coincide with the proposed Livonia Bike Loop. These improvements are ranked based on the recommended phasing of the Bikeway Network and should be installed incrementally and coordinated with projects.

### INTERSTATE CROSSINGS

The interstate crossings of I-96 and I-275 lack safe bicycle accommodations and many lack pedestrian accommodations as well. The crossing of I-96 at Stark Road and I-275 at 5-mile are both located on the proposed Livonia Bike Loop and are recommended as priorities for retrofitting for bicycle and pedestrian accommodations. Other priority interstate crossing improvements are listed below; ranked based on public feedback and phasing recommendations of the bicycle network.

- Stark / I-96
- 5 Mile / I-275
- Levan / I-96
- 7 Mile / I-275
- Newburgh / I-96
- 6 Mile / I-275
- Middle Belt / I-96
- Wayne / I-96

### LIVONIA BIKE LOOP CROSSINGS

As the Livonia Bike Loop is installed, special attention should be given to crossing treatments that improve the visibility and safety of bicyclists and pedestrians at major intersections. The list of intersections to the left is prioritized based on the recommended phasing for installing the Bike Loop.

### Crossing Treatments

There are several commonly occurring barriers to walking and biking to destinations in Livonia. Applying the following design principals throughout the City, especially during the development phase of a project, will ensure greater walkability and bikability to destinations in Livonia. Some pedestrian crossing tools aware discussed previously in the Pedestrian Network section.

Bicyclists are particularly susceptible to crashes at intersections because motor vehicles are slowing down, speeding up and turning. Special treatments can be used at intersections to improve bicycle safety. Tools like thru-bike lanes, intersection marking and dashing, and bike turn lanes all can make the bicyclist more visible and thus less likely to be hit in intersections.

Complete intersections are intersections where all modes; cyclists, pedestrians, autos, and transit can safely and easily cross the street. The following treatments may be applied to make biking and walking safer and more comfortable in the City of Livonia.

**CROSSING MAJOR THOROUGHFARES**

Because many neighborhoods do not offer cut-through connections to nearby neighborhoods, pedestrians and cyclists often use collector and arterial roads to access their destination. To better accommodate these trips, all intersections of local and collector roads or local and arterial roads should have the following:

- Curb ramps with truncated domes at all corners of all intersections
- Stop signs, stop bars and painted crosswalks on the local legs of the intersection
- Paint or signs delineating the areas prohibited for parking including the required 20-feet before each intersection



Crossing Major Thoroughfares



Signal Detectors for Bicycles

**CROSSING LOCAL STREETS**

Although local streets are often pedestrian and bike friendly, ensuring that all corners of an intersection have curb ramps with truncated domes, stop signs instead of yield signs, marked crosswalks, and stop bars will make those intersections even safer for cyclists and pedestrians. Mini roundabouts and day-lighting (the removal of parking close to the intersection) can also be used at this type of intersection.

**SIGNAL DETECTORS FOR BICYCLES**

Unless properly positioned over an in-pavement detector loop, most bikes will not activate demand-actuated traffic signals. The Michigan Manual of Uniform Traffic Control Devices (MMUTCD) placement marking shows cyclists where to position their bicycle. Some traffic signal loop detectors will not detect a bicyclist regardless of the bike’s position. These loop detectors should be adjusted so they will detect most cyclists.



Hawk Beacons

**COMMERCIAL DRIVEWAY CROSSINGS**

Even though walking on an arterial or collector street is often the only option for a pedestrian wishing to access a shopping center, pedestrians are often not accommodated at shopping center and other driveways. In all new and reconstructed driveways, build sidewalk all the way across the driveway to illustrate that pedestrians have the right of way. If sidewalk is not available, stripe a crosswalk. Place a stop sign and stop bar at all driveway exits. Signs should be placed before the sidewalk so drivers do not stop in the sidewalk. Encourage narrow, shared driveways with the narrowest turning radius possible. This concept also applies to instances where shared use paths cross driveways.

**HAWK BEACONS**

High-intensity activated crosswalk (HAWK) pedestrian beacon could be used at key mid-block crossings. The HAWK beacon remains dark for traffic until a pedestrian (or bicyclist) activates the signal. When the beacon is activated, the beacon will give a flashing yellow light followed by a solid yellow light and then a solid red light. The pedestrian can then proceed. When the red light starts flashing, vehicles can then proceed as long as the pedestrian has cleared the crosswalk. Studies have shown a better compliance rate by motorists with HAWK beacons compared to other types of pedestrian crossing devices. Crossings with HAWK beacon could also be coupled with pedestrian refuge islands.



Countdown Signals

### RAILROAD CROSSINGS

Railroad crossings should be designed according to guidelines provided in the MMUTCD. Whenever possible, the angle of the intersecting sidewalk or shared use path should be adjusted to meet the tracks at a 90-degree angle. An unobstructed pedestrian and/or bicycle travel way should be maintained through the crossing area and tactile warning textures should be used to queue people with visually impairment.

### SIGNALIZED INTERSECTIONS

Traffic signals can be a safe place for pedestrians and cyclists to cross the street. Yet many traffic signals in Livonia have minimal or no accommodations for pedestrians. To accommodate pedestrians at all intersections, the following should be installed.

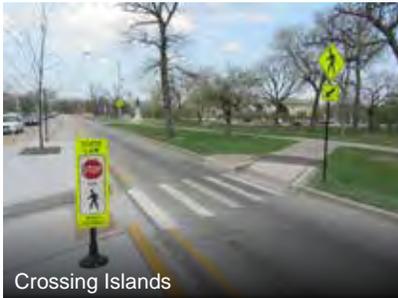
- Demand actuated pedestrian countdown signals on all legs of all intersections
- Striped crosswalks on all sides of the intersection
- Sidewalk connecting to the intersection on all sides
- ADA accessible curb ramps with truncated domes on all sides of the intersection
- Pedestrian warning signs on all roadway approaches
- Pedestrian crossing signs on all roadway approaches



"Pork Chop" Islands

Depending on the vehicle and pedestrian traffic volumes, the following additional accommodations may be considered:

- "Pork chop" style pedestrian islands at intersections with a right turn lane
- Medians as pedestrian crossing islands
- Reduced turning radii



Crossing Islands

### UNSIGNALIZED INTERSECTIONS

Most pedestrians will cross the street where it is most convenient. Formalized mid-block crossings can decrease random crossing movements. It is appropriate to provide formalized crossings at mid-block commercial destinations, unsignalized intersections and other pedestrian origin and destination points.

- "Zebra stripe" or "ladder style" crosswalks
- Sidewalk connecting to the intersection from both sides
- ADA accessible curb ramps with truncated domes
- Pedestrian warning signs on all roadway approaches
- Pedestrian crossing signs on all roadway approaches
- Curb extensions or bump-outs
- Pedestrian crossing island for multi-lane streets



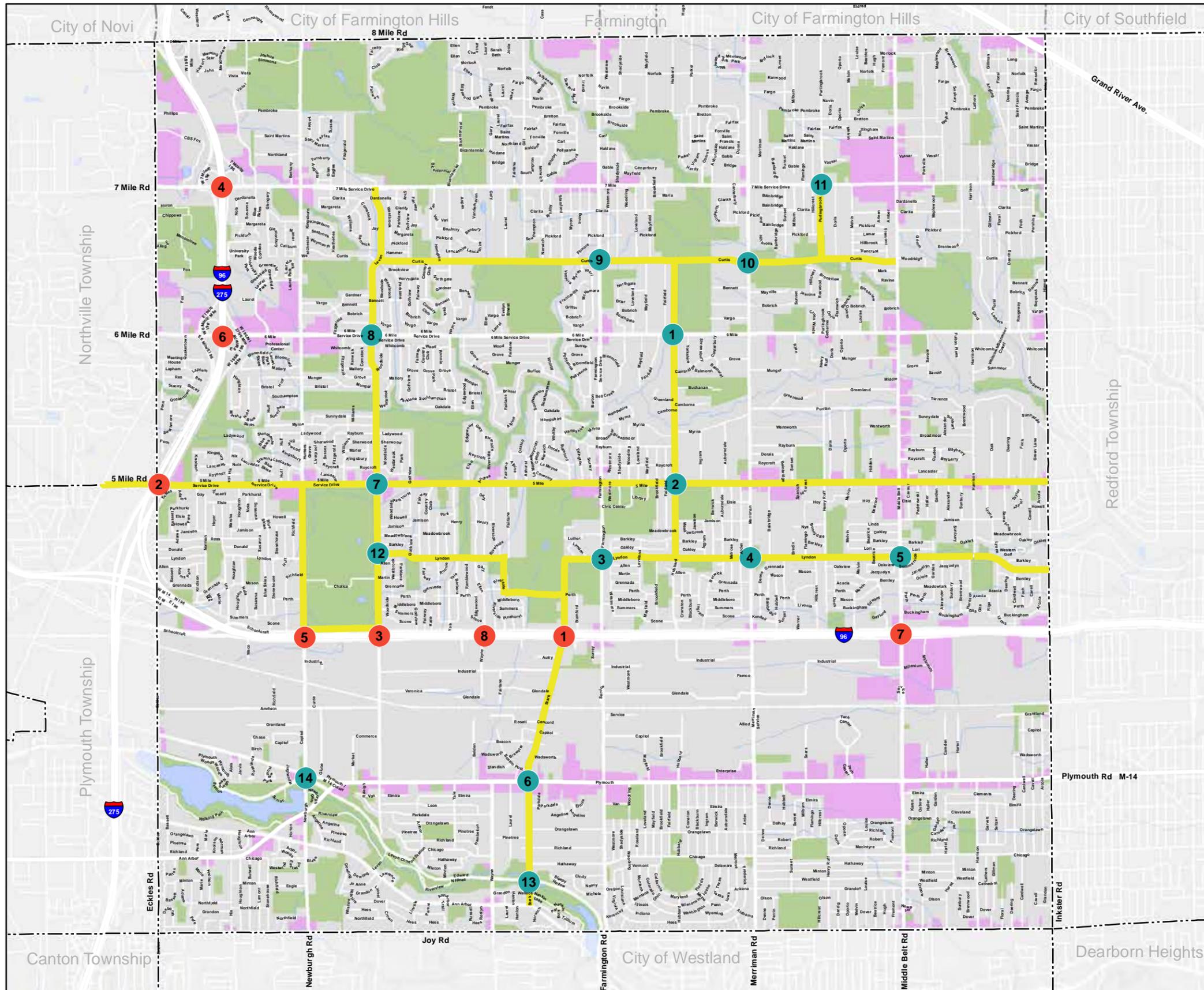
Crossing Islands

Depending on the vehicle and pedestrian traffic volumes, the following additional accommodations may be considered:

- Pedestrian crossing islands
- HAWK signals or other pedestrian activated signals
- Pedestrian arms for railroad crossings
- Reduced turning radii



Hawk Signals



# Priority Crossing Improvement

City of Livonia, Michigan

August 13, 2015

## LEGEND

- Commercial
- Parks
- Livonia Bike Loop

## ● I-96 & I-275 Crossing

1. Stark / I-96
2. 5 Mile / I-275
3. Levan / I-96
4. 7 Mile / I-275
5. Newburgh / I-96
6. 6 Mile / I-275
7. Middle Belt / I-96
8. Wayne / I-96

## ● Livonia Bike Loop Crossings

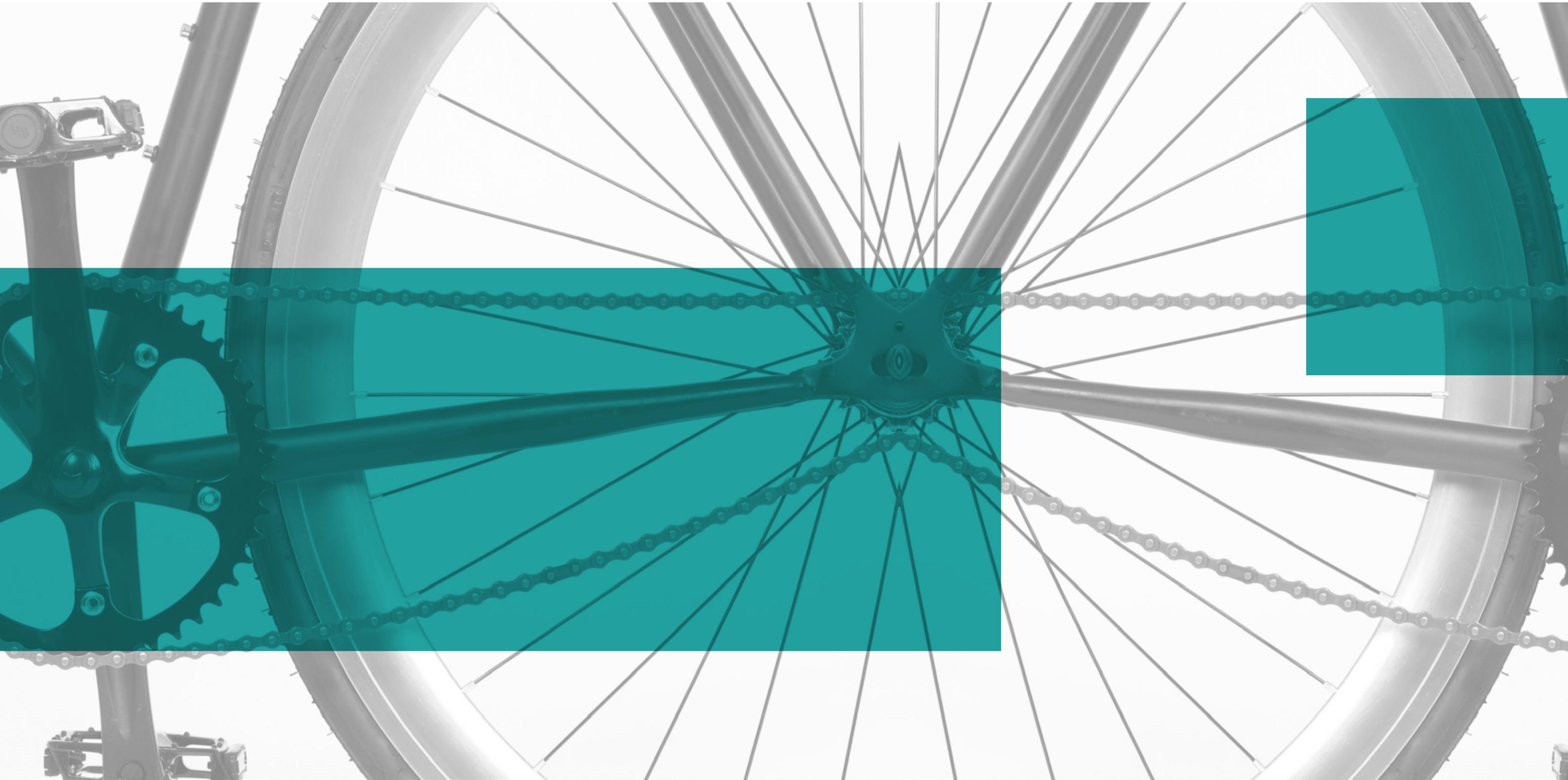
1. Hubbard / 6 Mile
2. Hubbard / 5 Mile
3. Lyndon / Farmington
4. Lyndon / Merriman
5. Lyndon / Middle Belt
6. Stark / Plymouth
7. Levan / 5 Mile
8. Levan / 6 Mile
9. Curtis / Farmington
10. Curtis / Merriman
11. Purling / 7 Mile
12. Levan / Lyndon
13. Stark / Hines
14. Newburgh / Hines

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FT



**MCKenna**  
ASSOCIATES

Data Source: City of Livonia, 2015, Michigan Geographic Framework, Michigan Center for Geographic Information, Version 10a.



## POLICY + PROGRAMMING

Chapter 3 lays out policy recommendations that will help sustain Livonia's vision for an active and connected transportation network. In addition to design and planning guidance, policy strategies can improve the transportation environment in ways that infrastructure cannot, by prioritizing safety through legislation and enforcement.

Education and encouragement are also powerful tools for promoting healthy and safe behaviors. Users of a bicycle and pedestrian transportation network need to be aware of how to protect themselves and others. As more people walk and bike for transportation and health, education should come in a variety of forms to reach all network users.





## MUNICIPAL POLICY

### Municipal Policy Recommendations

The City of Livonia's municipal code currently contains provisions benefitting active transportation users. These include strict speed limits on residential streets, sidewalk requirements, snow removal requirements, and zoning that fosters biking and walking. The recommendations that follow build upon the strong framework already established by the community.

#### **ADOPT A COMPLETE STREETS POLICY: MID TERM**

Following accepted best practices, the design recommendations throughout the Bike/Walk Livonia Plan are based on a complete streets philosophy. Complete streets are designed to enable safe access for all users of the transportation network regardless of age, ability, or travel mode. A complete street has no predefined facility requirements, but is optimized within its surrounding context to promote safe, convenient multi-modal transportation options for the community.

To ensure that these principles play a lasting role in the development of the local transportation network, Livonia should adopt a complete streets policy. Through this policy, the City will commit to the accommodation of bicyclists and pedestrians, as well as motor vehicles in all new transportation construction and maintenance projects whenever appropriate. The City will also pledge to work with other agencies with jurisdiction over local roadways to ensure a complete network.

It is recommended that Livonia develop its policy based on national and state best practices, and that the City Council adopt the policy into the municipal code.

#### **UPDATE ZONING CODE TO ENSURE WALKABLE AND BIKEABLE DEVELOPMENTS: MID TERM**

There are various opportunities for parcel redevelopment in the City of Livonia and for public improvements in the right-of-way. Facilities within private developments play a significant role in whether they can be accessed by foot or by bike. Livonia can update its zoning code to ensure that these sites and the rights-of-way are accessible to pedestrians and cyclists in all redevelopments. Sample model policies include:

- Require a maintenance policy for sidewalks, bikeways, and shared use paths.
- Allow for greater integration of land use types through multi-use developments, thereby decreasing distance barriers for walking and cycling.
- Require connectivity to building entrances.
- Require a maximum setback distance for building entrances, ensuring shorter trips through parking lots for cyclists and pedestrians.
- Increase flexibility on the required number of car parking spaces in order to limit parking lot size.

**ENGINEERING DESIGN STANDARDS: MID TERM**

The City’s engineering design standards should be revised and incorporate additional requirements that promote walking and biking, based on national best practices. Such standards will provide a basis for requiring pedestrian and bicycle facilities as properties are redeveloped and infrastructure improvements made to right-of-ways. While the City already has sidewalk design standards, this could be expanded to include design standards for shared use paths and bikeways.



**BICYCLE PARKING ORDINANCE: NEAR TERM**

Bicycle parking is an essential amenity for any nonmotorized transportation network. Residents will not use bikeways unless they can lock their bikes securely at their destinations. The City should set specific minimum standards for the quantity of parking required. To promote the use of the City’s planned bicycle network, Livonia should update its code to include national best practice standards for bike parking at key destinations. Example bicycle parking guidance is included in Attachment B: Design Resources.



**BIKE LANE PARKING ORDINANCE: LONG TERM**

As Livonia develops its biking and walking networks, bikeways will be installed on local streets. In order for these facilities to be safe for bicyclists, they must be kept clear of motor vehicle traffic. The City should consider the establishment and enforcement of meaningful penalties for motorists driving or parking in bike lanes, or blocking marked shared lanes with their vehicles.

**SAFE ROUTES TO SCHOOL (SR2S) PARTNERSHIPS AND SAFE ROUTES FOR SENIORS: MID TERM**

Collaborate with the school districts to promote Safe Routes to School. Safe Routes to School is a federally funded program that helps communities identify social and physical barriers to walking and bicycling to school. The program provides funding for education, encouragement, enforcement, and engineering projects aimed at making the trip to school safe, fun, and convenient for students in elementary and middle school. Additionally, Livonia can build on the Safe Routes to School concept by initiating a local Safe Routes for Seniors program.

## 3 E'S: EDUCATION, ENCOURAGEMENT, ENFORCEMENT

While engineered solutions to improve conditions for bicyclists and pedestrians often have the highest public profile, other efforts are a crucial part of a holistic approach to bicycle and pedestrian accommodations. The three (3) main efforts that are examined here are Education, Encouragement, and Enforcement.

Efforts to raise greater awareness of bicycle and pedestrian issues benefit all road users. In addition to changes in the physical design of roadways, programs that educate road users, encourage bicycling and walking, and increase compliance with existing laws will lead to improved road safety.

### Education

Education is a critical component to improving the safety of bicyclists, pedestrians, and motorists. Many bicycle and pedestrian crashes are predictable and therefore preventable. However, without the proper knowledge and skills on how to interact with different types of road users, people may behave in ways that put themselves or others at unnecessary risk (i.e. failing to yield to pedestrians in crosswalks, bicycling against traffic, walking with traffic). Furthermore, poorly-trained road users may not use safe facilities as intended and create resource-consuming enforcement issues. Education can provide all users of the traffic environment with the knowledge and skills they need to navigate traffic safely and enjoyably.

Children, people with disabilities, and older adults, because of their physical and mental characteristics, are particularly vulnerable as pedestrians and bicyclists and pose little risk to others. Conversely, motorists are at little risk in crashes with pedestrians and bicyclists and are almost exclusively capable of causing the greatest harm (regardless of fault).

In light of this dynamic, education efforts in Livonia should be targeted toward those operating motor vehicles being more aware of the effects of their actions while assuming a greater level of responsibility. Education efforts should also make vulnerable users—pedestrians and cyclists—aware of the proper interactions with motorized traffic.

### Youth Safety Education: Near Term

The City of Livonia's Passport to Safety event includes a station on bicycle safety. This event is tailored for children and is organized by the Police and Fire Departments. At the bicycle safety area, kids get free bike helmets properly fitted to their head, learn basic bicycling skill and are given the opportunity to ride on a test track to practice what they have learned.

### Recommendations:

- Research has shown that children begin adopting safe bicycling behavior after 4-6 hours of on-bike practice. Expand education efforts to children by working with local hospitals, Save Our Youth, the League of Michigan Bicyclists and/or the Michigan Trails and Greenways Alliance, or other stakeholders to offer at least two additional events or activities dedicated to teaching bicycle safety.
- Encourage elementary schools to incorporate a walking unit in physical education classes, in which pedestrian safety is discussed and practiced by taking walks around schools.
- Partner with Livonia Public Schools to explore the ability to have a Safe Routes to School program in Livonia to reach more schoolchildren with bicycle safety education efforts.

## Community Media Campaign: Near Term

As part of this plan, the City produced educational videos that aired on Livonia Television. The videos introduce citizens to the goals and planning process of the Bike/Walk Livonia Plan. These videos provide an excellent basis for future media campaigns that educate residents about bicycle and pedestrian issues.

In addition to resources produced by the City, The Michigan Department of Transportation (MDOT) and the League of Michigan Bicyclists have a range of educational materials on their websites. Suggested topics for Livonia to focus on include: Michigan's yield for pedestrians in crosswalks law, speeding in school zones, and sharing the road with bicycles.

### Recommendations:

- Distribute bicycle and pedestrian education information through City communications to residents, including the City newsletter, utility bills, or tax bills.
- In many areas, local TV and radio stations willingly run stories on bicycling and walking topics. Regularly provide media with material on bicycle and pedestrian safety and offer to meet on-location to demonstrate the information. Such materials fit with the mission of Livonia Television but could also be distributed through network affiliates or other channels with local programming.
- Work with law enforcement and the court system to offer a bicycle and pedestrian education course as an alternative for motorists, bicyclists, and pedestrians who are first-time minor offenders of bicycle- and pedestrian-related rules of the road.
- Develop a Bike / Walk Livonia smart phone application as a vehicle for community education efforts and stay connected with residents 24/7.

## Encouragement

Community events that highlight walking and biking will create awareness of using active transportation, and encourage residents who do not often walk or bike to try. The benefits are numerous – for example, employees who bike to work are healthier and more productive, and students who walk to school are better able to stay on task.

## Walk and Bike to School Day Events: Near Term

Several national organizations coordinate to designate an International Walk to School day each year in early October and a Bike to School day each year in early May. Walking and biking to school is fun for kids and is an opportunity for them to be physically active. It also helps reduce the traffic congestion around schools, making it safer for everyone using the streets during arrival and dismissal time.

### Recommendations:

- Coordinate with Livonia Central School District elementary and middle schools to host International Walk to School Day and Bike to School day events to encourage the use of active transportation and reduce traffic around schools.





### Bike to work week/national bicycle challenge: Near Term

In early 2015, the Mayor, Jack Kirksey, and City Council designated the first-ever Bike to Work day in Livonia. This event, which was timed to coincide with National Bike to Work Week, helped raise awareness of the benefits of biking to work and encouraged Livonia residents to tweet about their rides in order to win a prize. Bicycle commuting enables workers to fit regular exercise into their busy, but often sedentary, work routines.

#### Recommendations:

- Expand the Bike to Work Day event in Livonia to Bike to Work Week so that inclement weather, irregular work schedules, or other factors are less likely to impact participation.
- Encourage involvement with local bike shops and businesses by hosting refueling stops for bicycle commuters along popular routes.

Work with major employers such as St. Mary Mercy Livonia Hospital to encourage employees to sign up on the National Bike Challenge website. Other major employers in Michigan that participate include Molex, Amway, and Michigan Tech. Some employers even offer small incentives such as gift cards to employees that log a certain number of miles over the week / month.

### Community Events: Near Term

Other community events also provide opportunities for residents to get to know their neighbors, shop locally, and explore their community.

#### Recommendations:

- Work with the Livonia Chamber of Commerce or other local business groups to hold a “bike and dine” event, or a “shop by foot and bike” event. A Bike and Dine event is a progressive dinner where diners travel on bike to each restaurant. A Shop by Foot and Bike program encourages residents to walk or bike by offering discounts at local stores and community events. This can garner media attention for the local businesses and encourage people to try biking for transportation. The businesses highlighted should have adequate bicycle parking.
- Host a “bike-in movie” or “Wheels and Reels” at a City park. Such an event should be designed to be more convenient for people to walk or bike to the event than to drive.

### Online Social Media Strategies to Promote Community Events and Biking and Walking: Near Term

Create a single online site for residents visitors to receive updates and information on biking in Livonia to increase awareness and attendance at events.

#### Recommendations:

- Work with community groups and event sponsors to create and maintain a social media page for community active transportation events in Livonia. This effort could involve a combination of social media platforms including Facebook, Twitter, and others.

## Enforcement

Successful implementation of this plan will result in an increase in active transportation users, which can also create new law enforcement challenges. To promote the safety of all people using the active transportation network, Livonia should prioritize enforcement of traffic laws that deter reckless behavior by road users.

### Training for Police on Bicycle and Pedestrian Safety Issues: Near Term

Police officers can partake in a variety of trainings offered for law enforcement about pedestrian and bicycle safety. The League of Michigan Bicyclists offers information and resources for law enforcement officers in Michigan, including training sessions.

#### Recommendations:

- Conduct regular training for officers and staff on the rules of the road for bicyclists and pedestrians, and the most common causes of bicycle and pedestrian crashes. Special consideration should be given to laws that impact bicycle and pedestrian safety in school zones.

### Crosswalk Enforcement Events/Targeted Enforcement Efforts: Near Term

The Livonia Police can use existing pedestrian and bicycle crash data to identify the most dangerous locations for pedestrians. Livonia Police have successfully used the Strategic Traffic Accident Reduction (STAR) program since 2003, and should use a similar approach to evaluate locations and crashes involving pedestrians and bicyclists. Police “walk-out” stings have been used successfully in other communities to increase the number of motorists yielding to pedestrians, especially when paired with a television media effort.

#### Recommendations:

- Perform police “walk-outs” to enforce the state law requiring that motorists yield to pedestrians in crosswalks. Campaigns can be especially impactful in commercial areas near transit routes and near schools throughout the City.

### School Zone Traffic Enforcement: Near Term

Involving police and parking enforcement officers is an effective way to encourage compliance with existing laws. Regular traffic enforcement events around schools during arrival and dismissal are an effective way to remind drivers to operate their vehicles safely in school zones.

#### Recommendations:

- Create an internal calendar to schedule traffic enforcement event “stings” at Livonia schools during arrival and dismissal, ensuring that each school has an enforcement event at least once every semester to ensure driver compliance.





# 4

# IMPLEMENTATION

## IMPLEMENTATION

The Bike/Walk Livonia Plan advocates for a comprehensive set of network improvements, policies and programs that are staggered over several years. When implemented, they will help Livonia reach its vision for accommodating bicyclists and pedestrians in the City.

The effective implementation of this plan will require leadership by City Staff and a continued partnership with the schools and community organizations in Livonia. It will also require cooperation with neighboring municipalities, Wayne County, and the Michigan Department of Transportation.



## TIMING

The recommendations are divided into three (3) categories: near term, mid term, and long term. These categories will help the City coordinate its efforts with staffing and work plans.

### Near Term Priorities: 1 to 3 Years

The near term network recommendation is generally to focus on the installation of the Livonia Bike Loop. Corridors and intersections that are currently walkable and bikeable but may be aided by low-cost improvements, such as network signage, markings, cut-throughs, or crossing improvements, are major priorities in the next 3 years.

Near term policy and programming projects are quick-wins that should be completed in less than two years. These projects involve little to no start-up costs or long term organization. Many education and encouragement initiatives are proposed for near term implementation to build support for later projects.

### Mid Term Priorities: 3 to 5 Years

Mid term network recommendations are corridors and intersections that tie into the Livonia Bike Loop and can be easily improved—with a moderate construction budget—to become more walkable and bikeable. Examples of mid term priorities are corridors with low average daily traffic (ADT) and ample width to add roadway/right-of-way signs, bike lanes, or shared lane markings; intersections that are currently signaled but can be improved by curb extensions; local sidewalk completion; and other network amenities, such as benches and identity features.

For policy and programming projects, mid term means completion is expected within three to five years, although some projects require preliminary work in the near term. These projects may have initial start-up costs and coordination with community organizations. Mid term projects generally involve more planning.

### Long Term Priorities: More than 5 Years

Long term network recommendations are often complicated by jurisdictional issues or the balancing of regional network priorities. These recommendations may have other feasibility issues, such as high ADT or restricted road width or right-of-way.

Policy and programming projects, expected to begin implementation after five years, frequently depend on the completion of earlier projects and local support.

### Opportunistic Implementation

While this plan offers a guide to prioritizing these recommendations as near-mid, or long term priorities, the City should actively seek opportunities to coordinate implementation with private development and public projects. Private development can often trigger the need to improve the corridor frontage areas, and State and County construction and maintenance priorities can overlap with this plan's recommendations. Implementing agencies should remain aware of these kinds of opportunities and seek to coordinate the implementation of this plan with parallel County and regional efforts.

## EVALUATION

A plan as comprehensive as this one requires vigorous oversight to ensure its effective implementation. The following tools can help the City effectively evaluate their progress.

### **Continue the Plan Steering Committee as a Standing Bike-Ped Task Force**

The heart and soul of this plan came from local residents who participated in public engagement events hosted by the Steering Committee. Resident's visions and goals are expressed throughout the recommendations of this plan. Livonia can continue to benefit from the wisdom of these advocates by inviting them to join a standing bicycle and pedestrian task force. A representative from Livonia's Greenleaf Commission on Sustainability should be appointed to the task-force to ensure coordination of similar objectives.

The task force will monitor implementation of the plan, promote events celebrating biking and walking in Livonia, and encourage residents and visitors to use the improved biking and walking networks. The task force would benefit from membership derived from the key stakeholders who comprised the Steering Committee for this plan. The primary responsibilities of the task force are to:

- Facilitate outreach to the community at time of adoption of the Bike / Walk Livonia Plan and as parts of the plan are implemented. Task Force members can use their existing community and social networks to spread the word about upcoming projects.
- Monitor implementation of the plan.
- Establish a budget for the Task Force so that they may continue using City resources to implement the plan's recommendations.
- Form partnerships with schools and community organizations to advance the plan's recommendations.

### **REVIEW AND REPORT ON PLAN IMPLEMENTATION**

Livonia staff should regularly review and report on progress and implementation of this plan to the Bike-Ped Task Force. The City should establish performance metrics to include in the report. Recommended metrics include:

- Miles of bicycle network implemented;
- Miles of sidewalk, path and trails built;
- Complete intersections developed;
- Bicycle- and pedestrian-friendly policies adopted;
- Educational events and encouragement opportunities offered;
- Enforcement events held; and
- Other bicycle and pedestrian improvements.



IMPLEMENTATION



### **MONITOR BICYCLE AND PEDESTRIAN USAGE**

In addition to improving the built environment for biking and walking, advancing policy, and holding programs that promote biking and walking, it is important to monitor usage and safety of active transportation in Livonia. The following data-collection and analysis efforts should be made on a regular basis:

- Review and analyze crash data annually to identify high-crash area locations;
- Develop counting system for assessing use of bike racks; and
- Conduct bicycle and pedestrian counts at key roadway and trail locations throughout the City including adjacent lands in City and County parks.
- Monitor Livonia’s ratings on websites like “Walkscore” to see if plan implementation is resulting in improved ratings.

### **COORDINATE IMPLEMENTATION**

Livonia’s transportation network is part of a much larger regional system. Many recommendations in this plan are on roads or lands controlled by other agencies. To fully implement the Livonia Plan recommendations and to connect Livonia’s transportation network with the regional and statewide transportation system, the City will need to coordinate projects with other agencies. MDOT, Wayne County, SEMCOG, and the Livonia Public School District are partner agencies that should be consulted and coordinated with regularly during plan implementation.

## **FUNDING**

### **STRATEGICALLY PURSUE FUNDING FOR PLAN IMPLEMENTATION**

Although portions of this plan can be completed for little to no cost, this plan cannot be fully implemented without financial support. Many outside funding sources are available, and there are many opportunities to integrate plan implementation into the City’s budget. The following are suggestions for how to fund implementation of this plan:

- Dedicate funding towards biking and walking infrastructure and programs.
- Integrate recommendations into the CIP.
- Pursue outside funding opportunities.

There are numerous funding sources available to support the implementation of this plan. Opportunities include public sources, like the SEMCOG administered Transportation Alternatives program, as well as private partnership with institutions, like St. Mary Mercy Hospital and Trinity Health. Please see Attachment A: Funding Sources for a list of sources to draw upon for support during implementation.



## IMPLEMENTATION TABLE

Throughout this plan, the consultants have provided recommendations for implementation of the various recommendations. The plan advocates for a comprehensive set of network, policy, education, enforcement, encouragement, and evaluation improvements staggered over several years. The effective implementation of this plan will require leadership by Livonia staff and residents. It will also require cooperation with neighboring municipalities, Wayne County, and MDOT.

Biking and walking in the community will only increase if the plan's recommendations for education, encouragement, and enforcement are implemented in a timely manner in conjunction with the physical improvements to the network.

Based on level of difficulty, and number of stakeholders needed to implement, the following recommendations are prioritized for near, mid, or long term implementation.

# IMPLEMENTATION TABLE

PEDESTRIAN NETWORK	NEAR TERM	MID TERM	LONG TERM
Neighborhood Streets	X	X	
Arterial Streets		X	X
BICYCLE NETWORK	NEAR TERM	MID TERM	LONG TERM
Conduct a Bike Share Feasibility Study	X		
Develop a Bike Parking Plan	X		
Conduct a Bicycle and Pedestrian Wayfinding Study	X		
Consider Opting into Smart [Transit] to Broaden Regional Access by Bike	X		
Develop a Smartphone Application for Biking in Livonia	X		
Livonia Bike Loop	X	X	
Neighborhood Bike Routes		X	
Primary Arterial Bike Routes		X	
Secondary Arterial Bike Routes			X
CROSSINGS	NEAR TERM	MID TERM	LONG TERM
Interstate Crossings	X	X	X
Livonia Bike Loop Crossings	X	X	

## IMPLEMENTATION TABLE - CONTINUED

MUNICIPAL POLICY RECOMMENDATIONS	NEAR TERM	MID TERM	LONG TERM
Adopt a Complete Streets Policy		X	
Update Zoning Code to Ensure Walkable and Bikeable Developments		X	
Engineering Design Standards		X	
Bicycle Parking Ordinance	X		
Bike Lane Parking Ordinance			X
Safe Routes to School Partnerships		X	
EDUCATION RECOMMENDATIONS	NEAR TERM	MID TERM	LONG TERM
Youth Safety Education	X		
Community Media Campaign	X		
ENCOURAGEMENT RECOMMENDATIONS	NEAR TERM	MID TERM	LONG TERM
Bike to Work Week/National Bicycle Challenge	X		
Walk and Bike to School Day Events	X		
Community Events	X		
Online Social Media Strategies to Promote Community Events, Biking, and Walking	X		
ENFORCEMENT RECOMMENDATIONS	NEAR TERM	MID TERM	LONG TERM
Training for Police on Bicycle and Pedestrian Safety Issues	X		
Crosswalk Enforcement Events/Targeted Enforcement Efforts	X		
School Zone Traffic Enforcement	X		

## COST TABLE

FACILITY TYPE AND IMPLEMENTATION METHOD	STAND-ALONE PROJECT Typical Cost Per Mile	COORDINATED INFRASTRUCTURE PROJECT Typical Cost Per Mile (2015 Dollars)
<b>Bike Lane</b>		
Add Striping and Markings	\$34,700	\$33,379
Lane Diet	\$41,900	\$34,804
Road Diet	\$49,800	\$39,816
Widen Roadway	\$228,800	\$132,311
<b>Buffered Bike Lane</b>		
Lane Diet/Road Diet	\$73,700	\$54,393
<b>Paved and Striped Shoulder</b>		
Add Striping and Markings	\$12,500	\$10,778
Lane Diet	\$25,000	\$13,050
Road Diet	\$48,800	\$37,492
Pave Existing Granular/Earth Shoulder	\$111,000	\$91,250
Widen Roadway	\$270,400	\$201,340
Livonia Bike Loop Crossings	TBD	TBD
<b>Suitable Routes</b>		
Add Shared Lane Marking (Sharrow)	\$4,600	(same)
Add Bike Route Signage	\$1,900	(same)
Add Bicycle Boulevard Treatments	\$48,800	\$37,492
(Sharrows and signs only; traffic calming such as curb extensions and road humps increase costs substantially)	\$6,500	(same)
<b>Shared Use Path</b>		
Widen Existing Path (by 4 feet)	\$86,200	(same)
Construct New (10 feet)	\$215,400	(same)

These typical costs were developed in part using Wisconsin Department of Transportation Average Unit Price data located at: <http://roadwaystandards.dot.wi.gov/hcci/contracting-information/average-unit-price.pdf> (accessed June 5, 2015) as well as historical average costs observed by Toole Design Group.

1 Hubbard

2 Lyndon

3 Stark

4 Levan

5 Curtis

6 5 Mile

## 6 NEAR TERM PROJECTS

The following project description sheets have been developed for the top 6 priority projects. As stated in the bicycle network section of this plan, the near term projects were selected based on input from residents and steering committee members, as well as feasibility for construction and impact on the network connectivity. The projects represent near term investments that will create major and immediate improvements to the active transportation network. These detailed project descriptions serve as an excellent tool for future implementation funding applications.

1. Hubbard Street (Lyndon Street to Rotary Park)
2. Lyndon Street (Levan Road to Inkster Road)
3. Stark Road (Hines Drive to Lyndon Street)
4. Levan Road (5 Mile Road to 7 Mile Road)
5. Curtis Road (Levan Road to Middle Belt Road)
6. 5 Mile Road (Haggerty Road to Inkster Road, and the St. Mary Mercy Loop)

### Cost Estimates

Generalized cost estimates are provided for each project and are based on observed costs from a sampling of projects around the country, as well as publicly-available unit price information published by the Wisconsin Department of Transportation.

It is often feasible to schedule installation of new bicycle facilities during routine maintenance work such as repaving which can result in cost savings. The cost table provide details estimates for both project types: stand-alone and coordinated infrastructure. Cost estimate presented in the project descriptions assume that the work is completed as a stand-alone project.



## HUBBARD STREET

### (Lyndon Street to Rotary Park)

Hubbard Street serves mostly residential areas between I-96 and 6 Mile Road and includes a connection across Bell Creek. Bike lanes or paved shoulders are recommended along most of the stretch north of Lyndon Street, terminating at Rotary Park. A trail is also proposed through the park to connect with Curtis Road on the north.

#### JURISDICTIONS AFFECTED:

Hubbard Street is under municipal control

#### PRIORITY DESTINATIONS SERVED:

- Rotary Park
- City Center

#### LIVONIA DESTINATIONS SERVED:

- Buchanan Elementary School, 16400 Hubbard, Livonia, Michigan 48154

#### PRIORITY CROSSING IMPROVEMENTS IDENTIFIED:

- Hubbard Street and 6 Mile Road
- Hubbard Street and 5 Mile Road

PREFERRED FACILITY TYPE	ESTIMATED COST \$/MILE	DISTANCE (MILES)	ESTIMATED COST (ROUNDED)
Bike Lane - Widen Roadway	\$228,800	1.5	\$343,000
Bike Lane - Add Striping and Markings	\$34,700	0.5	\$17,000
Shared Use Path - Construct New	\$215,400	0.5	\$108,000



## LYNDON STREET

### (Levan Road to Inkster Road)

Lyndon Street runs east and west approximately a half mile north of I-96. It is continuous across the eastern half of Livonia, but connectivity is intermittent west of Farmington Road. The recommended alignment between Levan Road and Inkster Road drops south between Farmington Road and Riverside Road to follow an existing trail at Perth Street. Given the calm traffic and residential nature of most of Lyndon Street, marked shared lanes are the primary recommendation.

#### JURISDICTIONS AFFECTED:

Lyndon Street is under municipal control

#### PRIORITY DESTINATIONS SERVED:

- Stark Road Recreation
- Meds / Eds Campus - St. Mary Mercy Hospital, Madonna University, Ladywood High School

#### LIVONIA DESTINATIONS SERVED:

- Buckingham Park
- Algonquin Park
- Roosevelt Elementary School
- Frost Middle School

#### PRIORITY CROSSING IMPROVEMENTS IDENTIFIED:

- Lyndon Street and Levan Road

PREFERRED FACILITY TYPE	ESTIMATED COST \$/MILE	DISTANCE (MILES)	ESTIMATED COST (ROUNDED)
Shared Lane Marking	\$4,600	3.5	\$16,000
Bike Lane - Add Striping and Markings	\$34,700	0.5	\$17,000
Shared Use Path - Construct New	\$215,400	0.2	\$43,000



## STARK ROAD

### (Hines Drive to Lyndon Street)

Stark Road provides an important connection across I-96 between Hines Drive and Lyndon Street. It serves the mostly industrial area immediately south of I-96. The existing cross section varies from two lanes to four lanes. Bike lanes or paved shoulders are recommended along the length of Stark Road, either by striping existing roadway or reconfiguring the cross sections.

#### JURISDICTIONS AFFECTED:

Stark Road is under municipal control

#### PRIORITY DESTINATIONS SERVED:

- Stark Road Recreation
- Hines Parkway

#### LIVONIA DESTINATIONS SERVED:

- Frost Middle School, 14041 Stark Road, Livonia, Michigan 48154

#### PRIORITY CROSSING IMPROVEMENTS IDENTIFIED:

- Stark Road and Plymouth Road
- Stark Road and Hines Drive
- I-96 Overpass

PREFERRED FACILITY TYPE	ESTIMATED COST \$/MILE	DISTANCE (MILES)	ESTIMATED COST (ROUNDED)
Bike Lane - Add Striping and Markings	\$34,700	1	\$35,000
Bike Lane - Road Diet	\$49,800	1	\$50,000
Bike Lane - Pave Existing Granular Shoulder	\$111,000	0.5	\$55,000



## LEVAN ROAD

### (5 Mile Road to 7 Mile Road)

Levan Road is a residential road that runs north and south, paralleling I-275 on the western edge of Livonia. Traffic is relatively light and speeds are slower through the residential areas between 5 Mile Road and 7 Mile Road. As a result, the recommendation for this stretch is a marked shared roadway.

#### JURISDICTIONS AFFECTED:

Levan Road is under municipal control

#### PRIORITY DESTINATIONS SERVED:

- Meds / Eds Campus - St. Mary Mercy Hospital
- Bicentennial Park / Greenmead Historic Village

#### LIVONIA DESTINATIONS SERVED:

- Hoover Elementary School, 15900 Levan Road, Livonia, Michigan 48154
- Holmes Middle School, 16200 Newburgh Road, Livonia, Michigan 48154

#### PRIORITY CROSSING IMPROVEMENTS IDENTIFIED:

- Levan Road and Lyndon Road
- Levan Road and 6 Mile Road
- Levan Road and 5 Mile Road

PREFERRED FACILITY TYPE	ESTIMATED COST \$/MILE	DISTANCE (MILES)	ESTIMATED COST (ROUNDED)
Shared Lane Marking	\$4,600	2	\$9,200



## CURTIS ROAD

### (Levan Road to Middle Belt Road)

Curtis Road is a local road serving residential areas south of 7 Mile Road. It is discontinuous, being regularly broken up by water, forest, and other natural features. Because the road connections are intermittent, there are several recommended path facilities to connect through the area. The on road sections are very calm and are only recommended for shared lane markings.

#### JURISDICTIONS AFFECTED:

Curtis Road is under municipal control

#### PRIORITY DESTINATIONS SERVED:

- Rotary Park

#### LIVONIA DESTINATIONS SERVED:

- Stevenson High School, 33500 Six Mile Road, Livonia, Michigan 48152
- Coolidge Elementary School, 30500 Curtis Road, Livonia, Michigan 48152
- Sunset Park

#### PRIORITY CROSSING IMPROVEMENTS IDENTIFIED:

- Curtis Road and Farmington Road
- Curtis Road and Merriman Road

PREFERRED FACILITY TYPE	ESTIMATED COST \$/MILE	DISTANCE (MILES)	ESTIMATED COST (ROUNDED)
Shared Lane Marking	\$4,600	2.5	\$11,500
Shared Use Path - Construct New	\$215,400	1.2	\$260,000



## 5 MILE ROAD

### (Haggerty Road to Inkster Road, including the St. Mary Mercy Loop)

5 Mile Road is an arterial road that spans the entire City, making a direct, continuous connection from east to west. The right of way is very wide and the typical cross section consists of two travel lanes in each direction with a center turn lane. Traffic levels are moderate, but relatively low compared to many of the other major arterials in the City. In addition to 5 Mile Road, this project includes a loop around St. Mary Mercy Hospital and Madonna University.

Because of the high speeds and volumes in the project area, share use paths are recommended across the entire extent of the project.

#### JURISDICTIONS AFFECTED:

- 5 Mile Road is under the control of Wayne County

#### PRIORITY DESTINATIONS SERVED:

- City Center
- Meds / Eds Campus - St. Mary's Hospital

#### LIVONIA DESTINATIONS SERVED:

- Ladywood High School, 14680 Newburgh Road, Livonia, Michigan 48154
- Madonna University, 36600 Schoolcraft Road, Livonia, Michigan 48150
- Bien Park
- 5 Mile Road Commercial Corridor
- Riley Upper Elementary School, 15555 Henry Ruff Road, Livonia, Michigan 48154

#### PRIORITY CROSSING IMPROVEMENTS IDENTIFIED:

- I-275 Overpass

PREFERRED FACILITY TYPE	ESTIMATED COST \$/MILE	DISTANCE (MILES)	ESTIMATED COST (ROUNDED)
Shared Use Path - Construct New	\$215,400	8.5	\$1,831,000



## LIST OF ATTACHMENTS

A: Funding Sources

B: Design Resources

Mindmixer Report

Agency Presentation, 4.18.15

Open House Presentation, 6.17.15

Open House Exhibits, 6.17.15



# Attachment A – Funding Sources

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The proposed bicycle and pedestrian improvements proposed in the plan can be financed with a combination of resources from various levels of government. The suitability of the various resources depends on the size, scope, and type of project. Furthermore, the acceptance of outside funding can impose additional design requirements or other considerations that must be accounted for in the decision about how to finance a particular project. These funding sources are described below.

## General Fund

General Fund revenues are derived from property taxes, state-shared revenues, federal grants, license and permit fees, charges for services, interest on investments, and court fines or forfeitures.

General Fund revenues are very flexible, making them ideal for nonstandard projects, temporary pilot projects, or other projects which are not well suited to the other funding sources. Additionally, many small projects are inexpensive enough to make the overhead of applying for and managing a grant infeasible.

These can also be funded through the General Fund.

The flexibility of the General Fund also means that there are generally many competing demands for these resources.

Best suited for:

- Nonstandard projects
- Pilot projects
- Small projects

## Millage

A property tax millage can be used to finance specific bicycle and pedestrian projects. A millage is an effective way to divide costs over time among all of the taxpayers in the Township to provide matching grant funds or finance entire projects. However, a new millage would require voter approval and would only allow funding for the purposes outlined in the authorizing vote.

Best suited for:

- Large campaigns with multiple projects

## Michigan Natural Resources Trust Fund (MNRTF)

MNRTF provides funding assistance for the acquisition of land or rights in land for recreation or for protection of the land because of its environmental importance or scenic beauty. This fund is directed at creating and improving outdoor recreational opportunities and providing protection to valuable natural resources. The development grants are between \$15,000 and \$500,000 and there is no limit on the amount for acquisition projects because they depend upon the value of the property. A local minimum match of 25% is required for all projects. This grant is generally utilized for implementing large park projects and land acquisition.

Best suited for:

- Trails in new or existing parks

## Recreation Passport Grants

PA 32 of 2010 created the Local Public Recreation Facilities Fund to be used for the development of public recreation facilities for local units of government. Money for this fund is derived from the sale of the Recreation Passport which replaced the resident Motor Vehicle Permit (MVP) — or window sticker — for state park entrance. Development grants of \$7,500 to \$45,000 are available to local governments with a

focus on renovating and improving existing parks, although new parks are also eligible. The grantee must provide at least a 25% match. Projects are evaluated based on project need, site quality, project quality, applicant history, and, if two projects receive the same evaluation score, a criterion based on the project cost per capita.

Best suited for:

- Trails in new or existing parks

## **Land and Water Conservation Fund (LWCF)**

Eligible projects include community recreation and trailway improvements. These are grants of \$30,000 to \$100,000 to local governments for development of facilities such as athletic fields, tennis courts, playgrounds, trails and picnic areas, including support facilities, and the renovation and retro-fitting of existing facilities to make them accessible to persons with disabilities. Funds are provided through federal appropriations from the National Park Service. The grant match basis is fifty percent (50%) MDNR grant and fifty percent (50%) local match. Projects are evaluated based on project need, applicant history, site and project quality, and a fourth criterion based on the type of proposed project.

Best suited for:

- Trails in new or existing parks

## **MAP-21 (Transportation Alternatives Program (TAP))**

The Moving Ahead for Progress in the 21st Century Act (MAP-21) includes TAP, a new program to provide for a variety of alternative transportation projects, including many that were previously eligible activities under separately funded programs. TAP replaces the funding from pre-MAP-21 programs including Transportation Enhancements, Recreational Trails, Safe Routes to School, and several other discretionary programs, wrapping them into a single funding source.

TAP offers funding opportunities to help expand transportation choices and enhance the transportation experience through implementing a number of transportation improvements, including pedestrian and bicycle infrastructure and safety programs, historic preservation and rehabilitation of transportation facilities, environmental mitigation activities, and safe routes to school programs. TAP funding requires matching funds of at least 20 percent of the eligible project cost.

In Michigan, local governments and school districts can apply for TAP funds through a competitive statewide application administered by the Michigan Department of Transportation, or through a competitive grant process administered by local metropolitan planning organizations. SEMCOG awarded over \$6 million in TAP funding in fiscal year 2014. Funds can be used for a wide variety of projects, including non-motorized improvements, green infrastructure, and projects encouraging students in grades K through 8 to walk or bike to school. Eligible applicants include incorporated cities and villages, county road commissions, and public transit agencies. Other organizations can apply, but they must be sponsored by one of the eligible applicants just described. A signed agreement between the sponsored and sponsoring agencies must be completed for the application to be considered.

Best suited for:

- Large projects
- Projects that increase multi-modal transportation options, promote walkability, and improve quality of life.

## **MAP-21 (Recreation Trails Program)**

MAP-21 reauthorized the Recreational Trails Program (RTP) as a set-aside from the new Transportation Alternatives Program. The Recreational Trails Program (RTP) is a federal program that provides funds to each state to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. The RTP is part of the Department of Transportation's Federal Highway Administration (FHWA) and is administered by the Michigan Department of Natural Resources. Funds come

from a portion of fuel taxes from non-highway vehicles, motorcycles, and snowmobiles. Federal transportation funds benefit recreation including hiking, bicycling, in-line skating, equestrian use, cross-country skiing, snowmobiling, off-road motorcycling, all-terrain vehicle riding, four-wheel driving, or using other off-road motorized vehicles.

The RTP funds are distributed to the States by legislative formula: half of the funds are distributed equally among all States, and half are distributed in proportion to the estimated amount of non-highway recreational fuel use in each State.

Best suited for:

- Trails located on Department of Natural Resources land or linked to a trail on Department land.

## **Congestion Mitigation and Air Quality (CMAQ) Improvement Program**

The Federal Highway Administration administers the CMAQ program, which provides funding for projects that aim to reduce traffic congestion and improve transportation options for all citizens. The local CMAQ program is managed by SEMCOG, the Detroit region's Metropolitan Planning Organization.

Because CMAQ funds are distributed throughout the region they are typically only granted to projects that make important transportation connections or otherwise constitute a significant improvement to the transportation system.

Best suited for:

- Large projects
- Projects with a focus on transportation-oriented bicycling and walking

## **Surface Transportation Program (STP)**

The STP is a federal program which distributes money to Metropolitan Planning Organizations to build and maintain transportation facilities. SEMCOG administers the STP program for Livonia and other municipalities in and around Detroit.

Although STP funds have traditionally been used largely for automobile-oriented projects, there is no prohibition against STP funds being used for bicycle or pedestrian projects.

STP funds can be particularly impactful when bicycle or pedestrian improvements are included as part of routine maintenance or reconstruction of an existing roadway. For example, street resurfacing is an ideal time to add bike lanes or other pavement markings. Because construction work is already being performed, the marginal cost of the bicycle-specific infrastructure is virtually nothing. Likewise, when a roadway is undergoing total reconstruction pedestrian and bicycle facilities can often be included at minimal cost. Such projects are consistent with Michigan's Complete Streets law, enacted in 2010.

Best suited for:

- Retrofitted bicycle or pedestrian facilities
- Large projects
- Projects with a focus on transportation-oriented bicycling and walking

## Highway Safety Improvement Program (HSIP)

The HSIP is a federal program to reduce the number of percentage of fatalities and serious injuries on public roads. HSIP funding can be used to construct safer pedestrian and bicycle crossings; identification and correction of hazardous locations and roadway sections that constitute a danger to bicyclists and pedestrians. The Michigan Department of Transportation (MDOT) distributes most of the HSIP funding to its Regional offices. Those offices have some flexibility to use those funds as they attempt to meet the HSIP performance target of reducing fatalities and injuries by a certain percent in the region. MDOT's Metro Region would be responsible for deciding whether a project in Livonia could use HSIP funding.

Best suited for:

- Projects to improve bicycle and pedestrian safety at locations where injuries or fatalities have already occurred.

## Safe Routes to School (SRTS) Active Transportation Mini Grants

The Michigan Fitness Foundation and Michigan Department of Transportation annually provide up to fourteen grants of up to \$5,000 each for programs that encourage Michigan students in grades K-8 to walk, bicycle, or use other means of physical activity to get between home and school safely. Eligible programs include initiatives such as walking school buses, student trip-tracking programs, and bike clubs.

Best suited for:

- Small encouragement and education programs to promote active transportation.

## Donations

Businesses, corporations, private clubs, community organizations, and individuals will often contribute to recreation and other improvement programs to benefit communities in which they are located. Private sector contributions may be in the form of monetary contributions, the donation of land, the provision of volunteer services, or the contribution of equipment or facilities.

Donations are generally tied to a specific project and tend not to cover the full cost of construction. Often, donations are solicited as part of a local match for a grant program.

Best suited for:

- Local match portion of grant applications
- Small projects
- Pilot projects

# Attachment B: Design Resources

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## Bikeway and Pedestrian Facilities Design

*Best Design Practices for Walking and Bicycling in Michigan*

Michigan Department of Transportation

[http://mdotcf.state.mi.us/public/tands/Details\\_Web/mdot\\_research\\_report.pdf](http://mdotcf.state.mi.us/public/tands/Details_Web/mdot_research_report.pdf)

*Road Design Manual*

Michigan Department of Transportation, 2014

<http://mdotcf.state.mi.us/public/design/englishroadmanual/>

*\*see especially section 12.12*

*Guidance for Installation of Pedestrian Crosswalks on Michigan State Trunkline Highways*

Michigan Department of Transportation

[http://mdotcf.state.mi.us/public/tands/Details\\_Web/mdot\\_guidance\\_for\\_installation\\_of\\_pedestrian\\_crosswalks\\_on\\_michigan\\_state\\_trunkline\\_highways.pdf](http://mdotcf.state.mi.us/public/tands/Details_Web/mdot_guidance_for_installation_of_pedestrian_crosswalks_on_michigan_state_trunkline_highways.pdf)

*Guide for the Planning, Design, and Operation of Pedestrian Facilities*

American Association of State Highway and Transportation Officials (AASHTO), 2004

<http://www.transportation.org>

*Guide for the Development of Bicycle Facilities, 4<sup>th</sup> Edition*

American Association of State Highway and Transportation Officials (AASHTO), 2012

<http://www.transportation.org>

*Designing Sidewalks and Trails for Access*

Federal Highway Administration

<http://www.fhwa.dot.gov/environment/sidewalks/index.htm>

*Complete Streets Complete Networks: A Manual for the Design of Active Transportation*

Active Transportation Alliance, 2012

[www.atpolicy.org/design](http://www.atpolicy.org/design)

*Urban Bikeway Design Guide*

National Association of City Transportation Officials

<http://nacto.org/cities-for-cycling/design-guide/>

*Urban Street Design Guide*

National Association of City Transportation Officials

<http://nacto.org/urban-street-design-guide-2013/>

## Bike Parking

### *Bicycle Parking Design Guidelines*

Association of Pedestrian and Bicycling Professionals

<http://www.apbp.org/?page=Publications>

### *Bicycle Parking Manual for Businesses*

City of Ann Arbor

<http://www.a2gov.org/Documents/2014%20Updated%20Bicycle%20Parking%20Manual%20for%20Businesses.pdf>

### *University Course on Bicycle and Pedestrian Transportation – Lesson 17: Bicycle Parking and Storage*

Federal Highway Administration

<https://www.fhwa.dot.gov/publications/research/safety/pedbike/05085/pdf/lesson17lo.pdf>

## Other Resources

### *Local Government Assistance Programs*

Southeast Michigan Council of Governments

<http://semcog.org/Assisting-Local-Governments>

### National Complete Streets Coalition

<http://www.completestreets.org>

### *Manual on Uniform Traffic Control Devices*

Federal Highway Administration, 2009

<http://mutcd.fhwa.dot.gov/>

### *Safety Benefits of Raised Medians and Pedestrian Refuge Areas*

Federal Highway Administration

[http://safety.fhwa.dot.gov/ped\\_bike/tools\\_solve/medians\\_brochure/](http://safety.fhwa.dot.gov/ped_bike/tools_solve/medians_brochure/)

### *Safety Benefits of Walkways, Sidewalks, and Paved Shoulders*

Federal Highway Administration

[http://safety.fhwa.dot.gov/ped\\_bike/tools\\_solve/walkways\\_brochure/](http://safety.fhwa.dot.gov/ped_bike/tools_solve/walkways_brochure/)

### *Road Diet Information Guide*

Federal Highway Administration

[http://safety.fhwa.dot.gov/road\\_diets/info\\_guide/](http://safety.fhwa.dot.gov/road_diets/info_guide/)

### *Integrating Environmental Issues in the Transportation Planning Process: Guidelines for Road and Transit Agencies*

Southeast Michigan Council of Governments

<http://library.semco.org/InmagicGenie/DocumentFolder/EnvironmentalGuidelinesinTransportation.pdf>



## **Topic Name: Your Big Idea**

### **Idea Title: More Bike Lanes or Sidewalks**

Idea Detail: I feel like my generation (30 something's) expect a walkable and bike-able community. There are far too many stretches of incomplete sidewalks without a bike lane in the street that makes unmotorized transportation dangerous. If we are going to be a young family friendly (and singles friendly) community we need to improve this.

Idea Author: Tasha L

Number of Stars 26

Number of Comments 1

Comment 1: Incomplete sidewalks are particularly frustrating. Newburgh between 7 & 8 Mile roads, and Merriman from 7 Mile to 5 Mile are good examples. If there is going to be an investment in sidewalks, they should actually be useful and go somewhere. | By Tom C

### **Idea Title: make it easier for bikes and pedestrians to cross over 275**

Idea Detail: Right now, it is extremely difficult to cross over the freeway at 6 and 7 mile on a bike or on foot, especially if pulling a trailer, etc.

Idea Author: Heather M

Number of Stars 26

Number of Comments 0

### **Idea Title: A bike/walk bridge spanning I-275**

Idea Detail: Many bikers/walkers cross over I-275 on the 5 Mile and 6 Mile overpasses, where there are only narrow shoulders and no safety fencing. It is very dangerous and seems like an accident waiting to happen. I'd love to see a dedicated bike/walk bridge to connect all Livonia residents with the surrounding communities of Novi, Northville and Plymouth. It would also allow easier/safer access to the I-275 bike path.

Idea Author: Leslie A

Number of Stars 24



Number of Comments 2

Comment 1: Agree wholeheartedly | By Tasha L

Comment 2: I agree with the freeway crossings. Even 7 Mile with the sidewalks on the bridge is dangerous. There is often debris and since the rider's saddle is at about the level of the guardrail, a fall for any reason could put a rider right over the side. A low fence on top of the guardrail would go a long way toward a safer crossing. While a dedicated bike/walk bridge would be wonderful, I'd sooner see the limited resources put toward developing more bike/walk infrastructure throughout the city. | By Tom C

**Idea Title: Bike/walk paths through wooded areas linking neighborhoods.**

Idea Detail: There are many large, wooded areas that offer limited or no passage for non-motorized traffic between various areas in the city. These woods are mostly overgrown and have, at best a few dirt tracks for hikers. The mile roads and other main roads are, in my opinion too dangerous for bike riders not using the sidewalks. This forces bike and pedestrian traffic to share undersized, and in many cases poor condition or non-existent sidewalks along these relatively high speed corridors.

Giving cyclists and walkers a way to stay in the subdivisions and on side streets will offer a much safer and pleasant way for those groups to navigate the city.

Clearing brush and fallen trees followed by installation of wide, asphalt paths and a few bridges will maintain the appeal of the woods, offer access to more residents, and link large areas of the city.

Idea Author: Tom C

Number of Stars 19

Number of Comments 0

**Idea Title: Mass transit to downtown and surrounding areas**

Idea Detail: Driving down to Detroit and surrounding areas for events is time consuming, expensive, and often chaotic trying to find parking. I truly envy the mass transit systems of DC, Chicago, NY, etc where you can get in and out of the city to the 'burbs without your car. Even more so the public transit in Europe, is amazing. Not to mention the safety of it, people are obsessed with their phones and drive like idiots these days! The freeways are a mess,



construction is rampant. Get people off the roads, out of gridlock.

Idea Author: Cristina A

Number of Stars 19

Number of Comments 0

**Idea Title: walking marketplace downtown Livonia**

Idea Detail: make 5 Mile bet. Farm.& Merr. a walking marketplace. Get rid of the roadway. There's already the grassy knoll. Mane it a gathering place.

Idea Author: Sheeba C

Number of Stars 18

Number of Comments 3

Comment 1: 7 and Farmington is a more logical location as it already has large areas and vacant space that could be replaced, rather than developing a new area full of trees.

<https://www.change.org/p/livonia-mi-city-of-livonia-mi-create-a-downtown-north-of-7-mile-and-west-of-farmington> | By Heather D

Comment 2: I agree. Livonia needs a downtown area. | By Jim B

Comment 3: I totally agree. We need to downtown / entertainment area. Make bike paths that lead to this area or at least paths in that area. We are losing so many kids in the district, maybe this would attract younger couples to move to Livonia. | By rick G

**Idea Title: Launch Bike Sharing program in Livonia**

Idea Detail: Bike Sharing programs are popular in Europe. They are an emerging trend in the U.S. Livonia should study U.S. cities that have launched these programs.

Idea Author: Jim B

Number of Stars 17

Number of Comments 3



Comment 1: I was recently in Chicago. Their Bike Share program was widely used. | By Jim B

Comment 2: Great idea. My son lives in Minneapolis and they have a bike sharing program there.

| By Rayleen M

Comment 3: Great idea- I am all for any program that will make active transport more accessible for everyone in the community. | By Erin B

**Idea Title: Sidewalks on every main street.**

Idea Detail: People on Bikes and walking can't use many roads. Example Newburgh between 7 and 8, Victor parkway and many others.

Idea Author: Michael S

Number of Stars 16

Number of Comments 2

Comment 1: I know it's out of your way, but you could ride Pembroke past the post office to Victor Parkway and cross the freeway at 7 Mile (kinda' scary). Then take 7 to Haggerty and North to Target. The sidewalks on 7 Mile and on Haggerty are complete. | By Tom C

Comment 2: I totally agree. I live along Newburgh between 7 & 8 Mile and have to run in the road until there's sidewalk. We've asked City Council several time to put sidewalks along this stretch so we can be connected. Also I've love to be able to ride my bike over to Target (8 & Haggerty). But won't risk my life going 8 Mile to Haggerty | By Patty R

**Idea Title: Actual bike paths. Even if they are next to main roads.**

Idea Detail: Bike paths don't have cracks every 3 feet (asphalt) and are at least wide enough for two bikes.

Idea Author: Carla T

Number of Stars 16

Number of Comments 0



**Idea Title: Sidewalks**

Idea Detail: Finish sidewalks where there are none. Some roads are too busy to ride a bike on safely.

Idea Author: Linda V

Number of Stars 15

Number of Comments 0

**Idea Title: i would like to see side walks EVERYWHERE in livonia**

Idea Detail: especially along major roads. starting with the boarder Inkster rd. along the west side, the sidewalk ends just past 5 mile heading north to 6 mile. also, no sidewalk exists along school craft between Inkster and middle belt. how is one supposed to walk or bike from Inkster rd to the shopping plaza with Meijer and Petsmart. there are many places like this where there could be a sidewalk but there is not. I wasn't prepared with photos when this site was presented to me, but i will gather some and be back.

Idea Author: Leon M

Number of Stars 15

Number of Comments 0

**Idea Title: Promote this program through signage at local retailers.**

Idea Detail: Countertop signs and stacks of flyers could go a long way in generating interest in this project. I'm sure that local bike shops, REI, Toys R Us, and other retailers would be happy to support this. Also temporary signs like campaign signs could be put up at the parks, the Rec Center, City Hall, the library, and other places that already attract bikers and walkers. Even shops outside the city limits that Livonians are likely to frequent. The more participants you have, the more diverse ideas you will collect.

Idea Author: Tom C

Number of Stars 14

Number of Comments 1



Comment 1: Promote this program on the City of Livonia website as well | By Jim B

**Idea Title: Bike Racks**

Idea Detail: Encourage Business and Offices to add Bike Rack at their location

Idea Author: Frank S

Number of Stars 14

Number of Comments 2

Comment 1: Consider launching a bike sharing program in Livonia. This is common in Europe and an emerging trend in this country. | By Jim B

Comment 2: I once asked an owner to consider a rack at his restaurant (a free standing building). He said it was a good idea and he just had to check with his landlord (why, I don't know). It never happened even though bikes were randomly parked on the sidewalk or locked to trees. One bike (probably an employee) was chained to the gas meter back by the Dumpster. | By Tom C

**Idea Title: Participate in the regional mass transit system/**

Idea Detail: We should be participants in SMART. Our disabled and non-driving residents deserve the opportunity to participate in the regional economy without the imposed barrier of lack of transportation.

Idea Author: Karen C

Number of Stars 14

Number of Comments 0

**Idea Title: Incorporate Greenmead and the Wilson Barn as key points**

Idea Detail: Use Greenmead and the Wilson Barn as start points for the Bike Path. Greenmead could be at one end of the bike path, the Wilson Barn could be at the other end of the bike path. Incorporating them into the Bike Path would result in more community engagement.



Idea Author: Jim B

Number of Stars 13

Number of Comments 2

Comment 1: That would be cool. | By Mike O

Comment 2: I wonder if we could use some of the natural streams running NW-SE as a natural pathway similar to Hines Park? | By Ted D

**Idea Title: Multi-use paths the entire length of I-96 in Livonia**

Idea Detail: my mechanic is on the south side service drive between Newburgh and Levan. If there was a path along the service drive I could bring my bike on a bike rack on my vehicle when I drop it off for service, and then ride home. As it is, I have to involve another vehicle and driver for a ride. Paths are also lacking between Middlebelt and Inkster.

Idea Author: Tom C

Number of Stars 12

Number of Comments 1

Comment 1: A great idea, however, proximity to major traffic arteries means navigating through heavier automobile traffic at intersections. Removing the bike and walk routes even just a couple of blocks reduces the he risks greatly. Drivers and pathway users are able to more easily interact with fewer traffic elements to judge (cars turning, trucks approaching, left turns, etc) | By Mike O

**Idea Title: continue the sidewalk on stark**

Idea Detail: The sidewalk on stark ends before the first driveway of the YMCA. Anyone who is going to stymelski veterans park (usually moms with young kids) has to either go through the busy y parking lot or go on the street.

Idea Author: Christina Z

Number of Stars 12

Number of Comments 1



Comment 1: Lack of sidewalks were a challenge | By Jim B

**Idea Title: Rejoin Smart so we can travel to other cities and Metro**

Idea Detail: Livonia citizens need to be able to travel to other cities and people from other cities need to travel to Livonia destinations.

Idea Author: Frank C

Number of Stars 10

Number of Comments 0

**Idea Title: Collaborate with other cities planning improvements**

Idea Detail: I don't know if the link below will work, but the Detroit Free Press ran a story in Sunday's Paper about better pedestrian and cyclist accessibility in the city.

<http://digital.olivesoftware.com/Olive/ODE/DFREEP/LandingPage/LandingPage.aspx?href=REZQLzIwMTUvMDYvMDc.&pageno=MjI.&entity=QXIwMjIwMg..&view=ZW50aXR5>

Idea Author: Tom C

Number of Stars 9

Number of Comments 0

**Idea Title: 6 Mile & I275 Overpass**

Idea Detail: Need a sidewalk/bike path on 6 Mile from Newburgh to Haggerty Road. There isn't one going over the I275 bridge and it's really scary crossing.

Idea Author: Patty R

Number of Stars 9

Number of Comments 0

**Idea Title: Add a walking path around Devon Aire Park**



Idea Detail: I live in the neighborhood and would love if there was a walking path that went around the park area! I love Old Rosedale park. Wish our park was like that. Need to add some more stuff for the neighborhood.

Idea Author: Michele T

Number of Stars 8

Number of Comments 0

**Idea Title: We need to opt back in to SMART buses throughout all of Livonia.**

Idea Detail: Livonia needs to be an inclusive community not a exclusive community. We opted out of SMART buses 10 years ago. Times have changed. We are missing many opportunities for individuals to work, shop and attend colleges and universities here in Livonia - both residents and non-residents. I regularly see people walking from the last stop at Middlebelt every day to their jobs in the harshest of weather conditions - subzero temps, storms, even walking on Plymouth Rd because the sidewalks are blocked. We should all be willing to spend the cost of one family meal at a local restaurant per year to allow others the opportunity get to work safely. People want to get from Detroit to the suburbs where the jobs are - even if they could afford a car, the cost of insurance in Detroit is more than what the car is worth. Buses are an economical alternative. This needs to happen!

Idea Author: Gretchen A

Number of Stars 6

Number of Comments 1

Comment 1: Against it. What kind of survey on gives positive options? | By Michael S

**Idea Title: Bike paths, not sidewalks, linking together**

Idea Detail: Wide, asphalt bike paths throughout the city that lead to and from established paths and parks. I am a cyclist and a runner and a sidewalk isn't ideal for cyclists to share the trail.

Idea Author: Karen E

Number of Stars 6



Number of Comments 1

Comment 1: This idea incorporates interesting areas of Livonia | By Jim B

**Idea Title: Create a bike program coordinated with Livonia Transit**

Idea Detail: When I drive along Plymouth in the morning, the only walkers I usually see are the workers who ride the DDOT bus into Livonia and get off at Plymouth/Middlebelt or behind Costco to get to work. If there was a way to get bicycles into these riders' hands, then it would make the Livonia Transit system and even DDOT more usable for people in and around the city. How about bike racks on the Livonia Transit buses, and more recreational use such as having a way to ride a bicycle across town, and then be returned to your starting point through Livonia Transit?

Idea Author: Ted D

Number of Stars 6

Number of Comments 0

**Idea Title: Develop a smartphone app to report problem areas**

Idea Detail: Develop an app to allow cyclists and pedestrians to report obstructions, overgrowth, and broken or uneven sidewalks with their smartphones. The GPS function could be used to tag a map and the user could type in a description of the problem and/or take a picture.

Idea Author: Tom C

Number of Stars 5

Number of Comments 1

Comment 1: Or where there is no sidewalk | By Kim B

**Idea Title: We need to opt back in for buses throughout Livonia**

Idea Detail: We need to opt back into bring bus routes throughout Livonia so that people have a way to get as close to their work and to our colleges and universities. It was awful watching people walk from the last bus stop at Middlebelt to their work in subzero weather, including



walking on Plymouth Road because the sidewalks were not cleared. Add to that thunderstorms and other significant weather that creates a hazard for them to get to work. Our community should be welcoming to those that are working here, shopping here and attending our schools here.

Idea Author: Gretchen A

Number of Stars 5

Number of Comments 0

**Idea Title: Comprehensive Network of On-Road Dedicated Bike Paths**

Idea Detail: Biking on the sidewalks is undesirable, and actually more dangerous than biking on the street. At intersections, bikes / cars are not visible to each other until the last instant, and their sudden approach is unexpected. When biking with traffic (even without dedicated lanes), bikes are more visible, and cars have plenty of time and space to respond.

On some major roads (like Merriman), sidewalks don't exist and the roads are too busy for even the boldest cyclist.

Many other cities are becoming more bike-friendly. Bike-paths are good for bikers, but more bikes also improves car travel by reducing traffic.

City/County would have to study whether best approach is to create the paths on neighborhood roads, or to re-stripe the major roads. Or maybe some combination. If there is an additional opportunity to create "greenways" through the wooded areas, all the better.

Idea Author: Kevin S

Number of Stars 5

Number of Comments 1

Comment 1: While I am generally in favor of dedicated bike lanes, I don't believe they are really needed in the neighborhoods or on the secondary roads. The money and logistics to add them to low speed side roads would be better spent on protected lanes on the main roads like the mile roads, Plymouth, Farmington, Merriman, etc. I think the "greenways" idea should be the priority as they would allow cyclists alternatives to the main roads in many cases. | By Tom C



**Idea Title: Use Bike Score to measure Bike Path effectiveness in Livonia**

Idea Detail: Bike Score measures how good an area is for biking. Bike Score measures whether a location is good and safe for biking on a scale from 0 – 100 based on four equally weighted components – Bike lanes, hills, destinations and road connectivity and share of local workers' commutes traveled by bicycle. This metric could be used by Livonia to judge the effectiveness of its Bike Paths over time. It provides an easy way to evaluate bikability in Livonia over time and provide trends on bikability over time. Visit [walkscore.com](http://walkscore.com) for additional information.

Idea Author: Jim B

Number of Stars 5

Number of Comments 0

**Idea Title: Start a bike share program**

Idea Detail: Bikes all around the city that can be parked and shared all around the city.

Idea Author: Rayleen M

Number of Stars 4

Number of Comments 0

**Idea Title: A mountain biking trail in Bicentennial or Rotary park.**

Idea Detail: Mountain biking is an excellent way to get exercise and spend time with family. We usually head out to Lakeshore Park in Novi (where we pay per use or purchase an annual pass...something Livonia could do) or Maybury and then spend time in their parks rather than our own.

Idea Author: Christa B

Number of Stars 3

Number of Comments 0

**Idea Title: Add bike routes/paths to running/biking app mapping systems**



Idea Detail: I use strava and mapmyride and it would be helpful to look up trails or suggested rides in these apps.

Idea Author: Carla T

Number of Stars 1

Number of Comments 0

**Idea Title: Every citizen using active transport regularly!**

Idea Detail: I want walking, jogging, biking, and skating to be one of the go-to modes of transportation for the entire Livonia community. Right now, the only time I see people on the sidewalks is when they are doing their daily two laps around the block, or occasionally walking their kids to school. I'd love to see people choosing to walk to pick up groceries, to drop their kids off at their friends house, to attend classes at Schoolcraft, and to get to and from work. I have always loved visiting cities where the sidewalks are constantly buzzing with pedestrians - I believe it changes the entire atmosphere of the community. By getting out of our vehicles we are no longer isolated in our little metal cage - it encourages people to connect and share with others, rather than living in our own personal suburban bubble.

Idea Author: Erin B

Number of Comments 0



## **Topic Name: Pedestrian Improvements: Part I**

### **Idea Title: Continuous sidewalk on 6 mile between Newburgh & Haggerty.**

Idea Detail: There's no sidewalk over the freeway currently. This improvement would make it easier for people to bike to stores, college, etc.

Idea Author: Amy M

Number of Stars 22

Number of Comments 1

Comment 1: There are areas of the city that have long stretches of sidewalk that would make great bike paths. Five Mile between Newburgh and Merriman is one example. | By Jim B

### **Idea Title: Bike paths that connect many of the city parks together.**

Idea Detail: It would be great to be able to ride to the closest park in ones neighborhood. Then, from there, ride to other parks in the city using city sidewalks, bike paths, and surface streets without having to ride on the major roads in busy traffic.

Idea Author: Paula A

Number of Stars 20

Number of Comments 1

Comment 1: Use parks as points of interest for bike path route | By Jim B

### **Idea Title: Sidewalks on all main roads that lack them (eg Merriman).**

Idea Detail: Some main roads still don't have sidewalks such as Schoolcraft, Merriman, Wayne, Joy. Also there are many side streets with spotty sidewalks (gaps in them).

Idea Author: Frank C

Number of Stars 17

Number of Comments 0



**Idea Title: Wider, shared use, asphalt paths**

Idea Detail: Existing sidewalks (when they actually exist) are too narrow to safely accommodate pedestrians and bicycles. In many places they are uneven and/or broken. A wide, mixed use path should be available at least on the main north/south and east/west routes like the mile roads, Newburgh, Farmington, Merriman, Middlebelt, & Inkster.

Idea Author: Tom C

Number of Stars 16

Number of Comments 0

**Idea Title: Sidewalks in all neighborhoods**

Idea Detail: Teaching my 2 and 4 yr olds to ride bikes has been a dangerous journey. If only I knew about this prior to choosing a home/having kids. My children have ventured into the road while supervised and against my direction. While we make every effort to correct such behavior, the danger still exist.

Idea Author: Kenneth G

Number of Stars 15

Number of Comments 0

**Idea Title: Cut back grass/shrubs from sidewalks**

Idea Detail: So many sidewalks have overgrown bushes, trees, shrubs, etc that two people cannot walk side-by-side. I think the ADA mandates three feet of clearance, but if the city mandated that the entire walkway width was obstruction free up to a minimum of 6 feet, there would be a dramatic improvement. And it would cost almost nothing.

Idea Author: Eriq F

Number of Stars 13

Number of Comments 2

Comment 1: Some routes are so bad, "un-named riders" have taken to carrying pruning shears



on their rides. | By Tom C

Comment 2: If someplace is bad call ordinance they will require property owner to clear sidewalk. Farmington Road gets bad from Curtis to six mile. | By Kim B

**Idea Title: Connectivity and from the neighborhoods to Hines Park**

Idea Detail: Connectivity and from the neighborhoods to Hines Park

Idea Author: John K

Number of Stars 13

Number of Comments 1

Comment 1: Nature trails in Livonia could be retrofitted as Bike Paths | By Jim B

**Idea Title: Create a pedestrian walkabout tour with points of interest**

Idea Detail: Create a map of a walkabout tour with points of interest (certain stores, cemetery, etc) and put into an app. Create in the app historical data about the area, stats on the walk (estimated mileage, calories burned, etc) and update with construction/problems. Make a point system that pedestrians can use to compete (miles walked, trivia answers, personal goals reached, etc), and the points could be used for tickets to the Rec Center or something.

Idea Author: Ted D

Number of Stars 10

Number of Comments 1

Comment 1: Great way to communicate and market Livonia. | By Jim B

**Idea Title: Finish replace side walks down Schoolcraft**

Idea Detail: Finish replace side walk path on Schoolcraft Inkster to Middlebelt - would love to be able to bike to get groceries Meijer -- side walks west bound are gone and dirt path has sanitary manhole covers above grade causing hazards.

Businesses to have bike racks.

Idea Author: Kim B



Number of Stars 9

Number of Comments 1

Comment 1: The sidewalk along the north side of Schoolcraft between Middlebelt and Merriman is also incomplete. | By Frank C

**Idea Title: Finish the sidewalks**

Idea Detail: I live in Compton village and there is a section of the neighborhood right in front of a livonia school and public park and the sidewalks just dead-end. Why?

Idea Author: Carla T

Number of Stars 9

Number of Comments 0

**Idea Title: create a downtown type area.**

Idea Detail: Utilize large vacant area in the city (such as the strip malls at 7 and Farmington) to create a more welcoming area of local businesses and restaurants that people will feel comfortable walking to & from.

Idea Author: Heather D

Number of Stars 9

Number of Comments 1

Comment 1: I agree. If Livonia is to be competitive in the future and have the ability to attract new residents, it must have a downtown area. This is a key feature to attracting younger residents and their families. | By Jim B

**Idea Title: A downtown! Give people a destination IN the city - not OUT**

Idea Detail: Let's give pedestrians / bike riders a place to go to within city limits instead of making it easier for them to go outside of city limits to spend \$\$! A downtown would be perfect - ride your bike/walk - meet up with friends/family, dine, shop, play. This will stop people from leaving the city and going to Farmington, Northville & Plymouth to do these things and bring



residents/jobs/tax dollars to Livonia!!

Idea Author: Tamara O

Number of Stars 9

Number of Comments 0

**Idea Title: Eliminate sidewalk gaps.**

Idea Detail: One area that comes to mind is Ann Arbor Road @ the Plymouth Rd split (Y) - between Levan & Newburg Rds - under the Hines Drive overpass, on the way to Newburg lake/Hines Park. That is a very DANGEROUS area for both bicyclists and pedestrians.

Idea Author: Hank S

Number of Stars 9

Number of Comments 0

**Idea Title: Bike lane**

Idea Detail: Livonia is a PITA to bike from point A to point B.

Idea Author: Daniel G

Number of Stars 8

Number of Comments 0

**Idea Title: town square**

Idea Detail: People cross walks near the center of town. Something like Farmington does in the center of their town.

Idea Author: diane K

Number of Stars 6

Number of Comments 1



Comment 1: Farmington would be a good model for a simple downtown gathering area | By Jim B

**Idea Title: Create a downtown destination**

Idea Detail: <https://www.change.org/p/livonia-mi-city-of-livonia-mi-create-a-downtown-north-of-7-mile-and-west-of-farmington>

Idea Author: Heather D

Number of Stars 6

Number of Comments 0

**Idea Title: Improve traffic signals on major roads.**

Idea Detail: I know most signals are under jurisdiction of Wayne County, but they are very poorly timed and cause poor traffic flow including having to stop at every secondary road signal, many of which are probably not warranted. Wayne County does not have the resources to address traffic signalization in a meaningful way. When the City removed stop signs in the neighborhoods to better conform to the MMUTCD (which I agree with), traffic moved to secondary roads such as Levan, because the traffic flow is better than on Newburgh or Farmington due to poor signal timing. I believe Wayne County is in non-attainment for air quality, so it seems like Livonia could use grant funding such as CMAQ to address signals on major roads. Six Mile and Levan is a terrible intersection because of all the turning movements, and the Six Mile service drives on both sides. It is difficult to know where to look for cars when making that crossing. The swim club, schools, and parks mean many children cross there.

Idea Author: Sally D

Number of Stars 4

Number of Comments 0

**Idea Title: Utilize Walk Score to measure the walkability of Livonia**

Idea Detail: Walk Score is the only international measure of walkability. It is a leading provider of neighborhood maps to the real estate industry. This measure should be used to gauge the walkability of Livonia. This should become a standard metric for Livonia to measure its



pedestrian experience rating. Visit [walkscore.com](http://walkscore.com) for additional information.

Idea Author: Jim B

Number of Stars 3

Number of Comments 0

**Idea Title: Sidewalks along Merriman and all major roads.**

Idea Detail: When Merriman was widened, sidewalks SHOULD have been put in . Let's have sidewalks there and everywhere else there are major roads. Also, when there is only a house or two w/o walks in a subdivision with sidewalks, have those homeowners install them.

Idea Author: Gail G

Number of Stars 3

Number of Comments 0

**Idea Title: 15mph Speed Limit on Neighborhood Streets \*25mph is too fast**

Idea Detail: 25mph is too fast where children live and play. 25mph is too fast where our senior citizens dog walk and stroll throughout the day...especially when there are no sidewalks.

Neighborhood STOP signs have been replaced with YEILD signs and vehicles no longer even need to stop as they cruise through the neighborhood at 25mph.

15mph is the speed limit in our parks. Why? Because that's where children are and where vehicles need to be cognoscente of pedestrians. A neighborhood speed limit of 15mph should follow suite.

Photo Example: There are no sidewalks. Neighborhood Four way intersection, Yield Sign N/S bound, No Signage E/W bound, 25mph speed limit sign, vehicle enters the intersection with no caution for children, bicyclists or walkers.

25mph speed limit does not allow for sufficient reaction time in a neighborhood.

Idea Author: Tiffany S

Number of Stars 2



Number of Comments 0

**Idea Title: Aesthetic improvements**

Idea Detail: Many of the main road walkways have no draw, or do not make me want to go for a walk on them. Improved landscaping, and better walkways would go a long way to achieve this.

Idea Author: Christa B

Number of Stars 2

Number of Comments 0

**Idea Title: plant more trees**

Idea Detail: plant more trees so there's additional shade

Idea Author: valerie V

Number of Stars 1

Number of Comments 0



## **Topic Name: Favorite Biking / Walking Location**

### **Idea Title: Street Access to Hines Park**

Idea Detail: Look for street connections to Hines Park. Make access to Hines Park bike paths easy for bike riders.

Idea Author: Jim B

Number of Stars 12

Number of Comments 0

### **Idea Title: I love all of the areas that feel more like a nature trail**

Idea Detail: Hines, Rotary Park, around the many lakes, and many similar places throughout the city. Away from busy roads and large shopping centers, these places provide a beautiful place to disconnect from the daily hustle and bustle of the city.

Idea Author: Erin B

Number of Stars 6

Number of Comments 0

### **Idea Title: Rotary park**

Idea Detail: We love to walk both the wooded trails and the paved trails in the park!

Idea Author: Christa B

Number of Stars 6

Number of Comments 0

### **Idea Title: Bike path next to Frost Middle School off stark road**

Idea Detail: It is wonderful because it is an actual bike path that is made to fit two bikes wide, it is in a wooded/shaded area and connects two subs that would otherwise require me to bike on sidewalks next to main roads.



Idea Author: Carla T

Number of Stars 3

Number of Comments 2

Comment 1: I was mistaken. Coming in from the side of the school, I mistook Henry Clay Elementary for Holmes. While both schools have paths into the eastern sub, only Holmes goes through to Newburgh. There is also a similar path on the north side of Dickinson running east to Taylor Elementary and out to Curtis. Kinda' rough, though. It could use a new asphalt cap. |  
By Tom C

Comment 2: I just found another non motorized "wormhole" running next to Holmes Middle School from Newburgh onto Mallory behind the school. From there it's just a short ride east to Levan. As a bonus there is another path running between houses into the sub to the south of the school.

| By Tom C

**Idea Title: Bike laned**

Idea Detail: Bike lane coast to coast Lyndon , west Chicago . Bike path from Ford Field to Hines dr. Safer way to cross I -96 . Several bike to DPS Yard.  
Check out PEPPERMINT BIKE PARK. This would be sweet, for Field at REC CENTER.

Idea Author: Kim B

Number of Stars 2

Number of Comments 0

**Idea Title: Biking through my own neighborhood (Old Rosedale Gardens)**

Idea Detail: Beautiful historic neighborhood. Then continuing the bike ride through Mies Park then on to Hines Drive.

Idea Author: George D

Number of Stars 2



Number of Comments 0

**Idea Title: For biking, Wayne Road between 7 & 6 Mile.**

Idea Detail: There's plenty of room for bikes and cars, and not too much traffic.

Idea Author: Amy M

Number of Stars 2

Number of Comments 0

**Idea Title: 7 mile between Farmington and Newburgh.**

Idea Detail: it is a nice distance with decent sidewalks, parks, good neighborhoods and decent options like Biggby coffee to stop into.

Idea Author: Heather D

Number of Stars 2

Number of Comments 0

**Idea Title: Around Lake Newburgh**

Idea Detail: I haven't been out on a bike in a LONG time, but I recently really enjoyed taking the path along I-275 down to the Hines Drive path along the north side of Lake Newburgh. The ride got a lot less enjoyable for me as I was riding back home along Newburgh Rd and Ann Arbor Rd on the sidewalks (I'm just not confident enough of my riding skills to ride in the road, but it's not low-stress to ride on the sidewalks either!).

Idea Author: Tina O

Number of Stars 2

Number of Comments 0

**Idea Title: Regular Daily Route**

Idea Detail: This is the ride we usually do when my neighbor and I have no particular destination in mind. We start from home near 7 Mile & Newburgh Rd. Head east and then



north through Bicentennial Park, the subdivision north of the park, and on to 8 Mile. Then we head west past Glen Eden Cemetery to the sub at the top of the hill. Make a loop there and head east again along 8 Mile Rd. We loop all the subs, the condos, and the shopping centers on the way to Farmington Road. Then south hitting all the detours toward 7 Mile. We usually stop at McDonald's for coffee in the winter, or a park bench for a drink of water in the summer. Then back west on 7 Mile toward home with a final loop through Bicentennial near the fire station and the ballfields.

Idea Author: Tom C

Number of Comments 0

**Idea Title: I love the I275 bike path.**

Idea Detail: It's tranquil and takes you into other communities. It's also a little challenging with it's hilly terrain.

Idea Author: Patty R

Number of Comments 0

**Idea Title: I275 Bike Path**

Idea Detail: I love the I275 bike path. It's tranquil and well maintained. It's also a little challenging with it's hills (which I enjoy for a good workout). I like how it connects to other communities. We typically take that for a ride into downtown Plymouth on Saturday mornings for breakfast or the farmers market.

Idea Author: Patty R

Number of Comments 0

**Idea Title: 1275 Bike Path**

Idea Detail: My husband and I enjoy the I275 bike path. We run while my oldest daughter rides her bike. We pick it up at 6 mile and take it either north or south, either way is a great run. For longer runs, we can take the path south and pick up Hines Drive.

Idea Author: Anne L

Number of Comments 0



**Idea Title: Coventry Gardens Area**

Idea Detail: Very low amount of traffic, shady streets, no busy intersections

Idea Author: Rayleen M

Number of Comments 0

**Idea Title: Devonaire Neighborhood where we live: convenience**

Idea Detail: Our neighborhood is very walkable. If we had more incentives for the kids to regularly walk (such as the walking school bus concept: see <http://www.walkingschoolbus.org/>) and maybe some walking facilities that would support this (small shelters as stops, maybe strategically located restrooms or portable bathrooms) then it would be great exercise and an option for the school district to reallocate resources.

Idea Author: Ted D

Number of Comments 0



## **Topic Name: Bicycle Network: Part I**

### **Idea Title: Greenways**

Idea Detail: Greenways and dedicated bike paths that connect parks and points around the city and connects the city to neighboring communities.

Idea Author: Andrew M

Number of Stars 9

Number of Comments 0

### **Idea Title: More family friendly biking options along main roads**

Idea Detail: I would not be comfortable brining my elementary school aged children in an on-road bike lane. Wider biking/walking paths along the main roads would make biking with children more feasible.

Idea Author: Christa B

Number of Stars 9

Number of Comments 0

### **Idea Title: Bicycle Pit Stop**

Idea Detail: City of Livonia can Partner with local businesses to create a network of BPS's. Small stopping stations with bike racks, hand pumps/air compressors, simple emergency repair kits, restrooms, etc..

We have many Coffee Shops, 7/11's, Grocery Stores, Fitness Centers, etc. that are woven throughout our city. It has the potential to bring in patrons to their business while they provide a service to the community.

The businesses in the network can sponsor Monthly Summertime Bicyclist incentives (coupons, discounts) and/or an Annual Family Bikeathon (Stamp cards for each BPS visited with a community gathering at one of our wonderful parks).

Idea Author: Tiffany S



Number of Stars 6

Number of Comments 0

**Idea Title: Make sure that all city owned land that is on major roads**

Idea Detail: has a sidewalk or bike path on it - example on Newburgh between seven and eight mile rd, both Greenmead and Whispering Willows golf course have neither

Idea Author: Tom W

Number of Stars 4

Number of Comments 0

**Idea Title: More bike paths, especially connecting out from Hines Drive**

Idea Detail: I think that Farmington Road from Joy Road to I-94 would be a great place to start - There is already a shoulder on the road from Joy to Plymouth road but it is in pretty bad shape. Fixing it up and converting it to a bike lane out to Hines Drive would be amazing. See the picture - The paved shoulder is awfully narrow for bicyclists, and there is no sidewalk on the right side. There is plenty of room for expansion and if the gravelly part on the side is cleaned up or re-paved, an ideal bike lane could be created.

Idea Author: Jake B

Number of Stars 4

Number of Comments 0



## **Topic Name: Great Features of Livonia's Existing Non-Motorized Network**

**Idea Title: Not in Livonia.... Part of a wide network of interconnected paths.**

Number of Comments 2

Comment 1: Safe | By Tom C

Comment 2: This path leads from a residential neighborhood, through a park, and ultimately to a downtown shopping area. All without crossing more than a two lane secondary road. The bike / walk tunnel behind the riders leads to another park, and school, and then out to a main, 4 lane road with its own bike path. | By Tom C

**Idea Title: Dearborn bike path.**

Number of Comments 2

Comment 1: Safe | By Tom C

Comment 2: This beautiful path is unfortunately not part of Livonia's non-motorized infrastructure. It begins at the new train station on Michigan avenue. We rode from the station across Michigan at a crossing light. From there the path leads north through the woods, across the Rouge River at this bridge and behind U of M and Henry Ford colleges. Then on to Ford Road and ultimately connects to the Hines Drive bike path. All with only one surface crossing at Michigan Avenue. | By Tom C

**Idea Title: Trail network in the woods north of Rotary Paek**

Number of Comments 1

Comment 1: There are what appear to be several miles of hiking trails in this wooded area. While I would not advocate paving them all, a single east/west trail connecting to Curtis at both ends (with maybe a shot spur down to Rotary Park) would give cyclists an unbroken route from Merriman almost to Gill Road with crossing signals at Merriman and Farmington Roads. This would also leave the majority of the trails unpaved for hikers. | By Tom C

**Idea Title: Pathway to Buchanan Elementary School. Includes wood bridge over Bell Creek.**

Number of Comments 2



Comment 1: Safe | By Tom C

Comment 2: Proud | By Kevin S

**Idea Title: bridge on 7 mile between Merriman and Farmington. Very dangerous. The winter months it is horrific**

Number of Comments 0

**Idea Title: Pedestrian bridge on 7 mile between Merriman and Farmington. Very dangerous. The winter months it is horrific**

Number of Comments 0

**Idea Title: 7 mile between Merriman and Farmington**

Number of Comments 0

**Idea Title: Peppermint park build one in Livonia**

Number of Comments 1

Comment 1: Inspired | By Kim B

**Idea Title: Hines Park connects you to Plymouth, Northville, Westland, and Dearborn. You can also hop on the 275 trail.**

Number of Comments 0



## **Survey: Bicycle Network: Part 2**

**Question: How often do you ride a bicycle?**

**Never : 2**

**A few times a year : 4**

**Monthly : 3**

**Weekly : 14**

**Daily : 9**

**Question: How bikable is the entire City of Livonia? (select one answer)**

**Very bikable (i.e. I can bike to almost place I need; the store, work; school, friends. : 0**

**Moderately bikable (i.e. I can bike to some key places but no everywhere). : 26**

**Not bikable (i.e. I can only bike to one or two places I need, if any at all). : 6**

**Question: Are you comfortable biking on the sidewalk?**

**Yes, it is my preference : 6**

**Yes, it's the only option : 5**

**Undecided : 2**

**No, it's not meant for biking : 8**

**No, but I wish there were shared use paths instead of sidewalks : 11**

**Question: How comfortable would you be biking in the road with marked bikeways (bike lanes / marked shared lanes)?**

**Very comfortable : 9**

**Somewhat comfortable : 11**



**Undecided : 5**

**Not very comfortable : 5**

**Uncomfortable / not willing to try : 2**

**Question: How comfortable would you be biking in the road with a buffered or protected bike lane (separated by a curb or bollards)?**

**Very comfortable : 19**

**Somewhat comfortable : 10**

**Undecided : 2**

**Not very comfortable : 1**

**Uncomfortable / not willing to try : 0**

**Question: Would you prefer protected bikeways, paths, or trails over on-street biking when feasible?**

**Yes : 29**

**No : 2**

**Undecided : 1**

**Question: What areas outside of Livonia would you like to bicycle to? (check all that apply)**

**Farmington Hills : 9**

**Northville : 9**

**Novi : 4**

**Plymouth : 9**



**Redford : 1**

**Westland : 0**

**Question: Which of the following, if improved, would have the largest positive impact on improving the bicycle network in Livonia? (select your top choice)**

**More on-street bike lanes : 11**

**More off-street shared use paths (for both bicyclists and pedestrians) : 17**

**Better crossing at intersections : 4**

**More lighting : 0**

**More bicycle parking facilities (i.e. bike racks) : 0**

**Wayfinding signage for bike routes and destinations : 0**

**Motorist behavior : 0**

**Question: Where should the City first focus on improving the bicycle network? (select your top answer)**

**Local, neighborhood streets (i.e. West Chicago) : 2**

**Lower volume streets (i.e. Stark Road) : 6**

**Major streets (i.e. Six Mile Road) : 15**

**On bridges across I-275 : 6**

**At major intersections : 3**

### **Comments**

Number of Comments 2

Comment 1: There are multiple barriers to comfortable bicycling in Livonia. Mainly being bridges over rivers only on main roads; motorist behavior; sidewalks people assume bicyclists should be using (they are called Side walks not side-rides). Improve these and bicycling will



improve. | By Daniel G

Comment 2: I already ride to Norhville, Plymouth, Novi and Wesland ( and commute to work in Dearborn). Android app would not let me choose multiple cities. | By Steven P



## **Survey: Livonia Destinations**

**Question: Select your TOP 3 destinations to bike or walk to from the Livonia Destination Map (click the on the "Topic Details" tab above to find a large PDF of the map).**

**Destinations on the map are labeled #1-50 and correspond to the numbered list below.**

**1.Greenmead Historical Village : 4**

**2.Haggerty Road Commercial Corridor : 5**

**3.Davenport University : 0**

**4.Victory Parkway : 3**

**5.Bicentennial Park : 7**

**6.Carl Sandburg Library : 0**

**7.Livonia Marketplace : 1**

**8.Middlebelt Road Commercial Corridor : 1**

**9.Clarenceville School District : 0**

**10.Schoolcraft College Campus : 2**

**11.I-275 Metro Trail : 18**

**12.Laurel Park Place Mall : 5**

**13.Marshall Elementary School : 0**

**14.Stevenson High School : 1**

**15.Rotary Park : 9**

**16.Coolidge Elementary School : 1**

**17.Sunset Park : 0**



- 18. Eastern Michigan University : 0
- 19. Holmes Middle School : 1
- 20. Hoover Elementary School : 0
- 21. Lewis Cass Elementary School : 1
- 22. Buchanan Elementary School : 2
- 23. Riley Upper Elementary School : 0
- 24. Bien Park : 1
- 25. Randolph Elementary School : 1
- 26. Ladywood High School : 0
- 27. St. Mary Mercy Hospital : 0
- 28. Madonna University : 2
- 29. Frost Middle School : 0
- 30. Livonia YMCA : 1
- 31. Ford Field / Eddie Edgar Ice Arena : 4
- 32. John F Kennedy Elementary School : 0
- 33. Civic Center Library / City Hall : 6
- 34. Community Recreation Center / Bentley Track : 4
- 35. 5 Mile Road Commercial Corridor : 2
- 36. Algonquin Park : 1
- 37. Roosevelt Elementary School : 0



**38.Buckingham Park : 0**

**39.Industrial Corridor : 3**

**40.Hines Park : 20**

**41.Churchill High School : 1**

**42.Garfield Elementary School : 0**

**43.Plymouth Road Commercial Corridor : 2**

**44.Mies Park : 2**

**45.Grant Elementary School : 1**

**46.Alfred Nobel Library : 2**

**47.Franklin High School : 0**

**48.Wonderland Commercial Village : 1**

**49.Emerson Middle School : 1**

**50.Clements Circle Park : 1**

**Question: If there are additional destinations (not covered on the map above), please share your thoughts.**

**N/A(4)**

**No(4)**

**None(2)**

**Not safe to ride on sidewalks vechiles pay little attention to who has the right away**

**Outside of Livonia into Plymouth and Northville.**



**Rec Center too**

**Rotary nature trails**

**Special consideration should be given to a lack of sidewalks near schools where children are required to walk to school.**

**The Dairy Barn**

**These destinations are walking or biking distance from my house.**

**Trails off of Hines around Newburgh Lake**

**we love the wooded trails like those in Bicentennial and Rotary parks.**

**Would love to be able to cross I-275 more safely. Would then ride to more locations on the east end of Livonia.**

**No, just would love to have more smooth, wide and safe paths to ride on throughout Livonia**

**Need a bike route that goes from South of the city to the North (like a loop) build bike paths like Hilton Head, South Carolina  
<http://www.hiltonheadislandsc.gov/ourisland/pathways.cfm?menuheader=4>**

**Newburgh Road**

**Newburgh Road between 8 mile - Hines Park**

**.**

**Anywhere family friendly**

**Connection to Hines Park at the Inkster Road entrance.**

**Cruising through the neighborhood and cutting through the various schools (Hoover, Holmes, Clay, etc)**

**Difficult to cross I-96 and I-275 freeways riding a bike**

**DPS Yard**



**Farmington / 7 mile has some bike friendly places... Kinda? Livonia kinda...**

**Ford plant**

**Handy-Dip**

**Hines Park**

**I mostly walk the treadmill at the rec center. It would be nice to walk outside with friends.**

**I would love to be able to walk everywhere! How about a path through Beverly Park - it's a mess to get from bridge to park now.**

**I'd like to make a Japanese Garden as a destination at the Niji-Iro Elementary School in Taylor Elementary (36611 Curtis Rd Livonia MI 48152)**

**I'd love for there to someday be bike and walking trails that criss cross the city, allowing for safe, scenic transportation to and from anywhere in Livonia. We have a lot of work to do :)**

**If Livonia is building a USEFUL bike/walk path safely off the road (not in the road like some cities do) I think it should connect to the 275 pathway in as many places as possible and Hines Park (logically at Farmington Rd and Joy, and/or at Levan and Plymouth, and at Newburgh and Plymouth road). I ride a lot in Livonia, and I believe it is Newburgh road north of 7 that has NO bike trail OR sidewalk. There are more spots with no sidewalks at all, and that should be considered in this project.**

**Love to ride my bike to these places.**

**Meadows of Livonia Retirement Home**

**My top destinations change with my activities for the day.**

## **Comments**

Number of Comments 3

Comment 1: It is important to have connections to other trail systems, such as I-275 trail, Hines



Park/Rouge Gateway, and Canton trails so that we can eventually connect to Statewide trail networks. There also needs to be more signage and established routes to encourage those looking to complete various distance goals. Placemaking is also important to provide start/stop points (maybe with parking) and a place to gather and build support. Federal TAP grants may be helpful to fill in the few areas without sidewalks/safety paths to connect to other trail systems. There needs to be more paths from Five Mile south to Hines Drive, and fill in the missing pieces from east of I-275 to the I-275 trail. We have a lot of support for run/walks beginning at an early age now (girls on the run, martian marathon, etc.) we should have similar efforts to have bike events. | By Sally D

Comment 2: With the Bentley Field/Rec Center at one end and Rotary Park at the other, there should be a bike/walk lane on Hubbard between 5 & 6 Mile. | By April P

Comment 3: Couldn't agree more! | By Heather D



## **Survey: Pedestrian Improvements: Part 2**

**Question: Aside from getting in and out of a vehicle, how often do you walk outside for 15 minutes or more? (select one answer)**

**Never : 0**

**A few times per year : 4**

**Monthly : 3**

**Weekly : 21**

**Daily : 24**

**Question: How walkable is the entire City of Livonia? (select one answer)**

**Very walkable (I can walk to almost every place I need; i.e. the store, workplace, school, friends, etc.). : 5**

**Moderately walkable (I can walk to some key places but not everywhere). : 38**

**Not walkable (I can only walk to one or places I need, if any at all). : 9**

**Question: In what ways do you use the sidewalks in Livonia? (check all that apply)**

**To get to work : 3**

**To shop for essential goods (i.e. groceries, household products, etc.) : 14**

**To shop for non-essential goods : 13**

**For recreation (i.e. walking, running, dog walking, etc.) : 50**

**To socialize (i.e. walk to a friend's house or gathering space) : 28**

**To send children to school : 16**

**Question: What makes you feel unsafe when you are walking? (select all that apply)**



**Poor lighting : 19**

**Walking in the road : 36**

**Walking on a paved shoulder : 22**

**Crossing major roads at intersections : 34**

**Motorist behavior : 31**

**Sidewalks in poor condition : 17**

**Question: Which of the following, if improved, would have the largest positive impact on improving the pedestrian environment in Livonia? (select your top choice)**

**More sidewalk connections : 22**

**Wider sidewalks : 4**

**Better crossings at intersections (i.e walking signals, stripped pavement, etc.) : 13**

**More lighting : 1**

**More benches and other street furniture : 2**

**Public art : 0**

**More landscaping (trees and plantings) : 3**

**Motorist behavior : 7**

**Question: Are there any gaps the sidewalk network in your neighborhood?**

**Yes, there are sidewalk gaps in my neighborhood. : 6**

**Yes, there are sidewalk gaps in my neighborhood and I can list the following streets / areas that do not have sidewalks. : 22**

**( live South of 7 mile, just west of farmington -- I don't mind that our neighborhood does not have sidewalks, but what I hate is that there is no sidewalk on Hubbard road between 5 and 6 mile - it would be great having a**



link between Rotary park area and the Livonia rec center -

About half of the streets in my neighborhood have no sidewalks and poor lighting (Coventry Gardens -16280 Southampton St., Livonia, MI.

Ann Arbor Trail between Newburgh and Wayne Roads.

Both sides of Newburgh between 7 & 8 Mile Roads. Most of Merriman between 5 & 7 Mile Roads. 6 Mile across I-275.

Difficult to walk over freeways

From Farmington rd to Hines drive and Stark rd to Hines drive. Specific bike paths in these roads ( and other roads branching from Hines Drive) would be excellent. There are shoulders on some of these roads but they are very narrow and in poor condition (gravel and bumpy)

Louise st, Dover st.

Lyndon just East of Harrison. The city owns this property too.

Many crossings at T-intersections were removed, I assume to not have to comply with ADA ramps. It is hard to sometimes cross the street such as at Curtis and Country Club. If you want to walk north across Curtis to the park, the former sidewalk flags were removed. Or if you are walking along the north side of Brookview at Fairway, you have to walk over grass to stay on Brookview. This is in the area between 6 and 7 mile, west of Newburgh.

Merriman 6-7 near Green Mead and Whispering Willows, 275 at 6 and 7 mile

Merriman, Hubbard, Newburgh, Levan,

Newburgh road between 7 mile and 8 mile roads.

Newburgh between 7 & 8 Miles doesn't have any sidewalks and Victor Parkway doesn't have any sidewalks

Newburgh Rd between 7-mile & 8-mile

Park perimeters, Five Mile and Eccles



**Schoolcraft Merriman Wayne Rd Joy Rd**

**Several segments of Ann Arbor Trail between Newburgh and Wayne Roads**

**Stark Ford Field to Hines,  
Schoolcraft service Drive**

**The one that concerns me the most is along Perth from Stonehouse to Newburgh. There are several school buses that stop at Richfield and Perth and there is no sidewalk for the children to walk on to the bus stop. In the summer they walk on the grass but in the winter they either have to walk through the snow or in the street. I'm so glad this is the last year my children will be riding the bus from that corner.**

**There are no sidewalks in our neighborhood**

**Wayne Rd. near W. Chicago**

**Woodring, Rayburn, Loveland, Myrna, Roycroft, Hubbard**

**No, there are no sidewalk gaps in my neighborhood. : 24**

**Question: Where should the City first focus on improving the pedestrian experience?  
(select one answer)**

**Local, neighborhood streets where there are gaps in the sidewalk : 19**

**Major streets where there are gaps in the sidewalk (i.e. Merriman Road) : 21**

**On bridges across I-275 : 7**

**At major intersections : 5**

### **Comments**

Number of Comments 2

Comment 1: Yes - it's about time to improve and add sidewalks! | By Gail G

Comment 2: I live North of 7 mile and West of Newburgh and we have no sidewalks, we want our streets paved and sidewalks put in before any bike trails or walking paths are improved or



created! | By Angus M

## BIKE / WALK LIVONIA

Best Practices and Project Introduction

May 18, 2015



## COMPLETE STREETS: SUPPORT AGENCY COORDINATION



### THE TEAM

- ✓ Author of nationally recognized Complete Streets resources
- ✓ 12 years of multimodal planning in Michigan, Indiana and Illinois
- ✓ Former planning director of Active Transportation Alliance (Chicago)

**Paul Lippens, AICP**  
Principal Planner  
phone: 248.596.0920  
[plippens@mckenna.com](mailto:plippens@mckenna.com)

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- ✓ Urban design and graphic communication
- ✓ Public engagement and online
- ✓ Livonia native

**Laura Haw**  
Associate Planner  
phone: 248.596.0920  
[lhaw@mckenna.com](mailto:lhaw@mckenna.com)



Livonia Non-Motorized Master Plan

### Why do we need Complete Streets?

- Economic development
- More active, healthy population
- Provide transportation options other than car
- Enhance recreational opportunities in the community



### THE TEAM

- ✓ 9 years of traffic engineering experience in Michigan and Minnesota
- ✓ Michigan State Civil Engineering BS and MS
- ✓ Expert in transportation networks, walkability, and non-motorized analysis

**Hannah Pritchard, PE**  
Multi-modal Traffic Engineer  
phone: 612.587.0922  
[hpritchard@toole-design.com](mailto:hpritchard@toole-design.com)



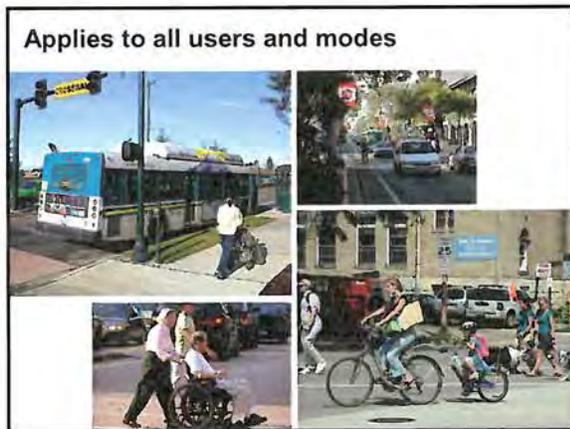
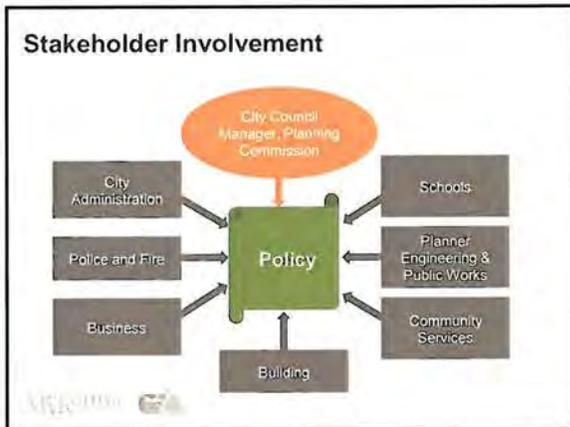

Livonia Non-Motorized Master Plan

## COMPLETE STREETS

*... can be safely crossed and traveled upon and alongside by all users of the roadway, regardless of their age, ability or travel mode...*

**Complete Streets Policy...**





### Defines Exceptions

**Common exceptions**

- Non-motorized use is prohibited
- Cost is excessively disproportionate to need or probable use
- Routine Maintenance (mowing, sweeping, spot repair)

**Defined process for exceptions**

- The City Manager
- Plan Commission
- City Council
- Public Committee

**PEDESTRIANS  
BICYCLES  
MOTOR-DRIVEN  
CYCLES  
PROHIBITED**

### Residential Sidewalks – Curb Zone

**Design Requirements:**

Min	Target	Max
1ft	1.5ft	2ft

**Summary Notes:**  
Clear zone for utility and furnishings, not applicable where there is no curb

### Residential Sidewalks – Furniture Zone



**Design Requirements:**

Min	Target	Max
2ft	6ft	10ft

**Summary Notes:**

A tree lawn separation area is desired

### Commercial Sidewalks – Furniture Zone



**Design Requirements:**

Min	Target	Max
4ft	5ft	8ft

**Summary Notes:**

Furniture zone for benches and transit shelters etc. Ideally 6 ft. to allow for 6'x6' tree grates.

### Residential Sidewalks – Pedestrian Zone



**Design Requirements:**

Min	Target	Max
4ft	5ft	8ft

**Summary Notes:**

Unobstructed walking area required

### Commercial Sidewalks – Pedestrian Zone



**Design Requirements:**

Min	Target	Max
5ft	5ft	10ft

**Summary Notes:**

Consider tree grate surfaces in pedestrian zone.

### Commercial Sidewalks – Curb Zone



**Design Requirements:**

Min	Target	Max
1ft	1.5ft	2ft

**Summary Notes:**

Clear zone for utility and furnishings

### Commercial Sidewalks – Frontage Zone



**Design Requirements:**

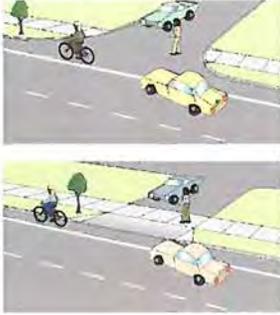
Min	Target	Max
1ft	5ft	10ft

**Summary Notes:**

Larger frontage zone allows for cafe seating.

### Driveway Design

Driveways built like intersections encourage high-speed turns



Continuous, level sidewalks and tight corners encourage slow-speed turns

### Paved Shoulder



Design Requirements:

Min	Target	Max
3ft	4ft	Varies

Summary Notes:  
New AASHTO allows paved shoulders of a minimum 3 ft. with closed drainage in retrofit projects.

Contexts encouraged for:  
Contexts required for:

### Bring buildings closer to the street

- Improves the streetscape for pedestrians and drivers
- Increases visibility of pedestrians to drivers



### Shared Lanes



Design Requirements:

Min	Target	Max
9ft	10ft	14ft

Summary Notes:  
Replaces vehicle lane. Paved shoulder, marked shared lane, or bike lane is preferred

DESIGNING COMPLETE STREETS

## BEST PRACTICES - BIKEWAYS



### Marked Shared Lane



Design Requirements:

Min	Target	Max
10ft	13ft	14ft

Summary Notes:  
Marking centered 11 ft. off curb with parking 4 ft. w/o parking. Place every 50 to 100 ft. preferred, maximum of 250 ft. on low volume roadways. Place in center of lane if travel lane is 12 ft. or less.

### Bike Boulevard or Neighborhood Greenways



**Design Requirements:**

Min	Target	Max
9ft	10ft	13ft

**Summary Notes:**  
Include bike boulevard marking

### Bike Lanes



**Design Requirements:**

Min	Target	Max
4ft	5ft	6ft

**Summary Notes:**  
Include bike lane marking

### Bike Boulevard and Neighborhood Greenways



Traffic barriers that favor bicycle movement

### Buffered Bike Lanes



**Design Requirements:**

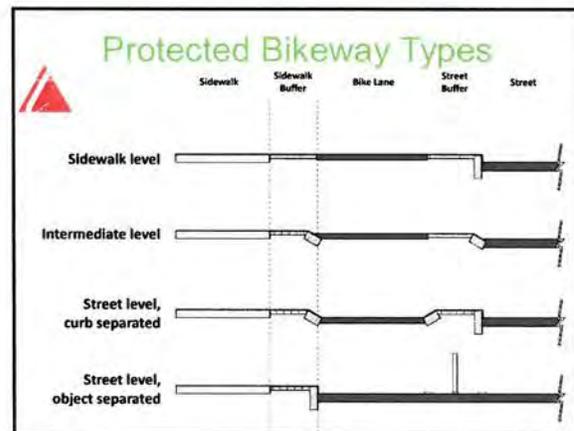
Min	Target	Max
6ft	7ft	9ft

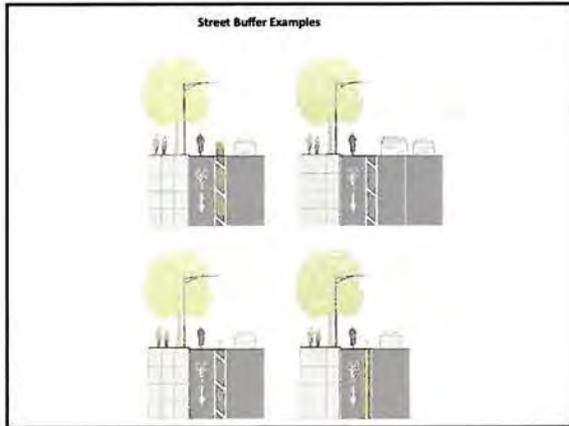
**Summary Notes:**  
Buffer of 2-3 ft. Maximum may be higher if larger buffer is required due to right-of-way dimensions.

### Bike Boulevard and Neighborhood Greenways



Traffic calming



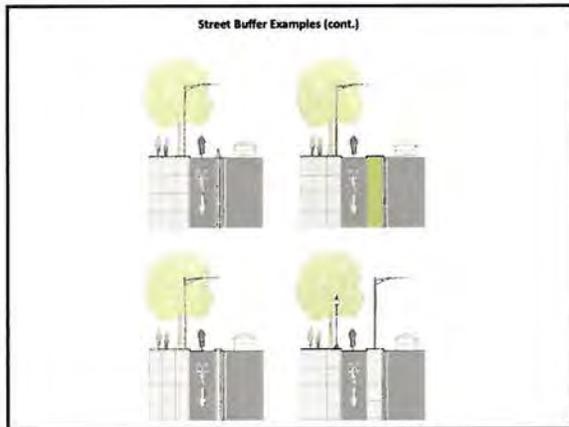


### One-way protected bikeway

**Design Requirements:**

Min	Target	Max
6ft	8ft	10ft

**Summary Notes:**  
Buffer of 2-3 ft. Maximum may be higher if larger buffer is required due to right-of-way dimensions.



### Two-way protected bikeway

**Design Requirements:**

Min	Target	Max
8ft	10ft	15ft

**Summary Notes:**  
Buffer of 2-3 ft. Maximum may be higher if larger buffer is required due to right-of-way dimensions.

Photo Credit: spokesdunedin.wordpress.com

### Protected bikeway – parking buffer

**Design Requirements:**

Min	Target	Max
7ft	8ft	9ft

**Summary Notes:**  
Parking zone is the separations. Includes 1 to 3 ft. buffer to passenger side door zone. 14 ft. minimum with parking.

Photo Credit: bikeforums.org

### Protected bikeway – sidewalk level

**Design Requirements:**

Min	Target	Max
8ft	10ft	12ft

**Summary Notes:**  
Created in pedestrian realm, can be shared with pedestrian zone or adjacent to pedestrian zone.

### Shared Use Paths



**Design Requirements:**

Min	Target	Max
8ft	10ft	14ft

**Summary Notes:**

Shared between bicycles and pedestrians in pedestrian zone. Can be 6 ft. with engineering judgment. Also side path.

### Crosswalks – Transverse Lines



-Edgelines are the minimum crosswalk treatment

-Lines should be 6 to 24in wide

-Spacing should be as wide as approaching sidewalk

### Trails



**Design Requirements:**

Min	Target	Max
8ft	10ft	14ft

**Summary Notes:**

Can be 6 ft. with engineering judgment. Can be gravel or limestone.

### Crosswalks – Longitudinal or Diagonal Lines



-Longitudinal lines are the preferred crosswalk treatment

-Lines should be 12 to 24in wide with 12 to 60in gaps

-Spacing should be as wide as approaching sidewalk

-Gaps should align with wheel base of vehicles

DESIGNING COMPLETE STREETS  
**BEST PRACTICES - CROSSINGS**



### Crosswalks – Custom



-Spacing should be as wide as approaching sidewalk

-Crosswalks can be created with bricks, pavers, or thermoplastic

-Custom designs should be supplemented with a 24in wide edge line to improve visibility

### Pedestrian crossing signals



Style	Design Considerations	Guidance
Pedestrian Signal Heads	Should be used to assist pedestrians in determining when to safely begin crossing	Shall be used in conjunction with vehicle signals where the MUTCD pedestrian volume warrant
Countdown Signals	Should be considered for all crossing with pedestrian signal heads	Must be included on all pedestrian signal heads where the pedestrian change interval is more than 7 seconds
Timing	Signal timing is typically designed based on an average walking speed. Assuming a lower walking speed will accommodate more users	Signal must be timed for the crossing distance at 3.5 ft. per second. 3 ft. per second should be used in high volume pedestrian areas

## DESIGNING COMPLETE STREETS BEST PRACTICES – BIKEWAY MARKINGS & CONTROL



### Crossing Islands – Traditional



- Dimensions vary – minimum 5 to 6ft in width to allow for a wheel chair
- Can be used on bus routes, and requires clear bicycle accommodation on bike routes.
- Can be designed with offset entrances to encourage drivers and pedestrians to face each other

ADT should be less than 20,000 and speed limit 30mph or less

### Signed Routes



**Design Requirements:**

Min	Target	Max
9ft	10ft	14ft

**Summary Notes:**  
Can be used on shared lanes or in combination with bicycle facilities

### Refuge Islands



- Refuge islands provide protection at busy crossings and work well for separated bike facilities and bike boulevard crossings
- Islands should be 6 to 10ft wide with 6ft of raised island on each side of refuge area, raised area should be curb height (6in)
- Refuge area should be wide enough to accommodate two bicycles

Toward the oncoming vehicle traffic, a 45 degree angled cut through can be used to improve bicycle and driver visibility

### Colored pavement



**Design Requirements:**

Min	Target	Max
4ft	5ft	6ft

**Summary Notes:**  
Pavement color should be green. Include bike lane marking and signs.

Should use skid resistant and retro-reflective materials for colored pavement

### Bike boxes



- 10 to 16ft deep to allow for two rows of cyclists
- Use on high volume bikeways, particularly where there is a high instance of right turning vehicles
- Pavement in box should be colored green with transverse lines around the outer edge of the box
- A stop bar should be placed to indicate appropriate stopping location for vehicles

Intersections with bike boxes must be designated No Turn on Red (NTOR)

### Multimodal Signals – Bike-Only Signals



Design Considerations	Guidance
Should be considered for shared use path and cycle-track crossings. Especially when cycle phase differs from vehicle and pedestrians. Can be used to provide a lead bicycle phase and manage a contraflow lane	Signal must be placed to maximize visibility by bicyclists. Bicycle signals can be actuated depending on volumes. Bicycle signals are preferred over directing bicyclists to use pedestrian signals

### Dashed intersection markings



- dashed lines and width should be the same width as the line they are extending
- Can be used at intersections with complicated turning movements to direct cyclists to facility on the other side
- Dashed lines should be 2ft long with a 2 to 6ft spacing, or 14-20in squares can be evenly spaced to improve visibility

### Multimodal Signals – Bike Actuated Signals



Design Considerations	Guidance
Should be considered on bike routes where vehicle signals are actuated to assure that bicyclists can trigger the signal change. Must be combined with pavement markings and instruction signs to indicate the place in the queue area where the signal will be triggered	Devices should be regularly tested and adjusted to assure that bicyclists are detected as intended. If a bicycle facility is provided, detection must be located within the designated facility. If a push button is provided, instruction signs should be placed in a location visible to bicyclists.

### Shared lane markings

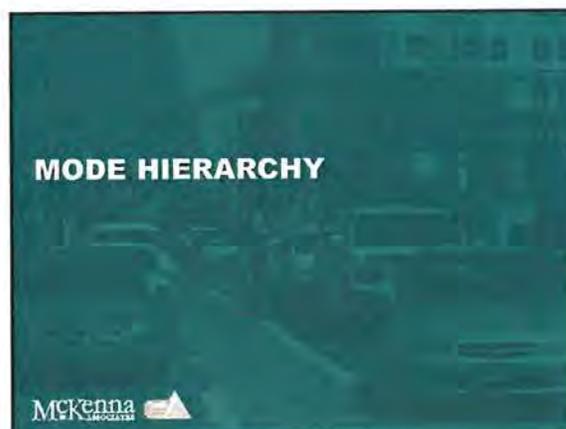
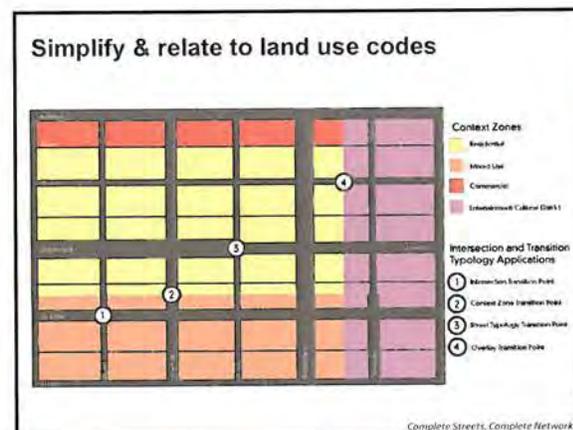
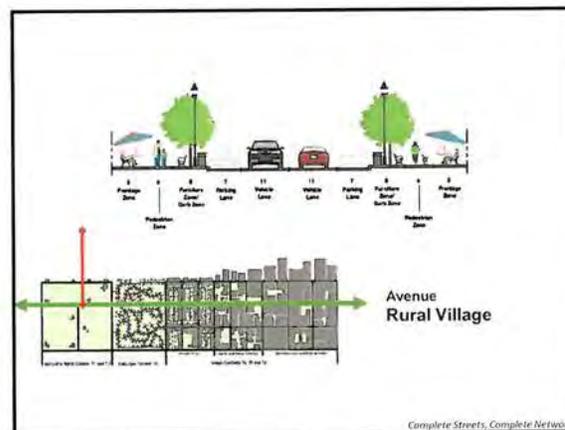
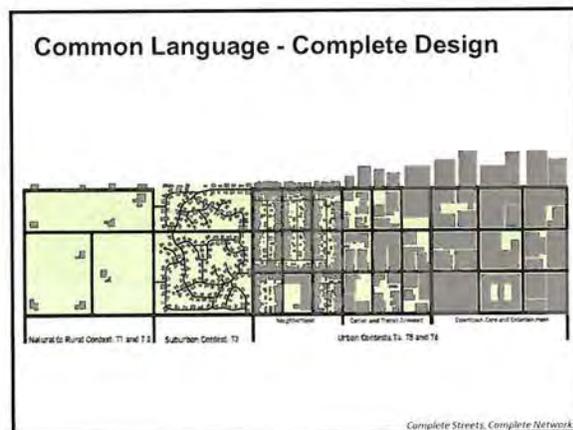


- Can be used at intersections with complicated turning movements to direct cyclists to facility on other side
- Consider on roadways with protected bikeways or bike lanes.
- Directional shared lanes within a vehicle lane can improve wayfinding with chevrons.

## DESIGN TYPOLOGY



McKenna  
CONSULTANTS



**3** **MODE HIERARCHY**  
PEDESTRIAN > BICYCLE > TRANSIT > AUTOMOBILE  
Protect Vulnerable Users. Design Complete Networks



The image shows four icons in a row, representing different modes of transportation. From left to right: a blue silhouette of a person walking, a blue silhouette of a person riding a bicycle, a yellow silhouette of a bus, and a green silhouette of a car. The icons are arranged in a horizontal line, with the pedestrian and cyclist on the left, the bus in the middle, and the car on the right.



**RESOURCES**

[ATpolicy.org/design](http://ATpolicy.org/design)  
– Complete Streets Complete Networks Design Manual

[smartgrowthamerica.org/complete-streets](http://smartgrowthamerica.org/complete-streets)  
– National Complete Streets Coalition

[chicagocompletestreets.org](http://chicagocompletestreets.org)  
– Complete Streets Chicago Design Manual

[Transportation.org](http://Transportation.org)  
– AASHTO "green book" Policy on the Geometric Design of Highways

[ITE.org/css](http://ITE.org/css)  
– Designing Walkable Thoroughfares

[charmack.org](http://charmack.org)  
– Charlotte Urban Street Design Guidelines





# BIKE / WALK LIVONIA

## OPEN HOUSE PRESENTATION

June 17, 2015



### BIKE WALK / LIVONIA: PROJECT PURPOSE & VISION

**PROJECT PURPOSE:**  
To create a plan for the continued provision and enhancement of bicycle and pedestrian facilities in the City of Livonia, considering both **near-term** enhancements and **long-term** vision.

**DRAFT VISION STATEMENT:**  
The City of Livonia will be an active place where residents can safely walk and bike to parks and shopping. Neighborhoods will be connected via a practical, comfortable and complete network to support quality of life and promote healthy living.

TONIGHT WE WANT TO HEAR YOUR PRIORITIES!



### THE TEAM

**Paul Lippens, AICP**  
Principal Planner  
phone: 248.596.0920  
[plippens@mckenna.com](mailto:plippens@mckenna.com)

- Author of nationally recognized Complete Streets resources
- 12 years of multimodal planning in Michigan, Indiana and Illinois
- Former planning director of Active Transportation Alliance (Chicago)

**Laura Haw**  
Associate Planner  
phone: 248.596.0920  
[laura@mckenna.com](mailto:laura@mckenna.com)

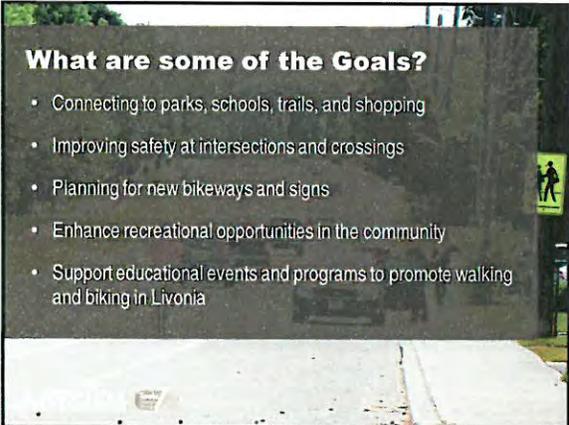
- Urban design and graphic communication
- Public engagement and online
- Livonia native



Livonia Non-Motorized Master Plan

### What are some of the Goals?

- Connecting to parks, schools, trails, and shopping
- Improving safety at intersections and crossings
- Planning for new bikeways and signs
- Enhance recreational opportunities in the community
- Support educational events and programs to promote walking and biking in Livonia



### THE TEAM

**Hannah Pritchard, PE**  
Multi-modal Traffic Engineer  
phone: 612.597.0522  
[hpritchard@tooledesign.com](mailto:hpritchard@tooledesign.com)

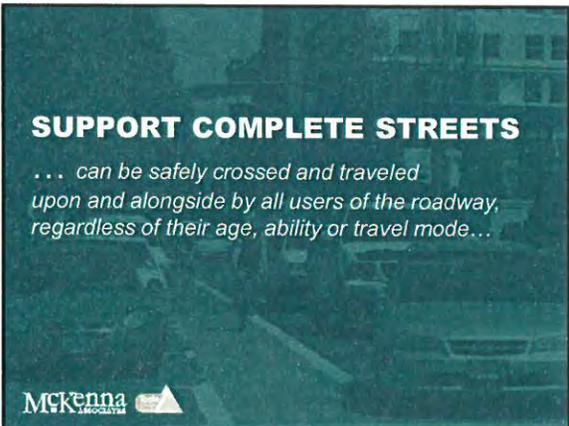
- 9 years of traffic engineering experience in Michigan and Minnesota
- Michigan State Civil Engineering BS and MS
- Expert in transportation networks, walkability, and non-motorized analysis



Livonia Non-Motorized Master Plan

### SUPPORT COMPLETE STREETS

*... can be safely crossed and traveled upon and alongside by all users of the roadway, regardless of their age, ability or travel mode...*






### Driveway Design

Driveways built like intersections encourage high-speed turns

Continuous, level sidewalks and tight corners encourage slow-speed turns

### Residential Sidewalks – Pedestrian Zone

Design Requirements:

Min	Target	Max
4ft	5ft	8ft

Summary Notes:  
Unobstructed walking area required

### Bring buildings closer to the street

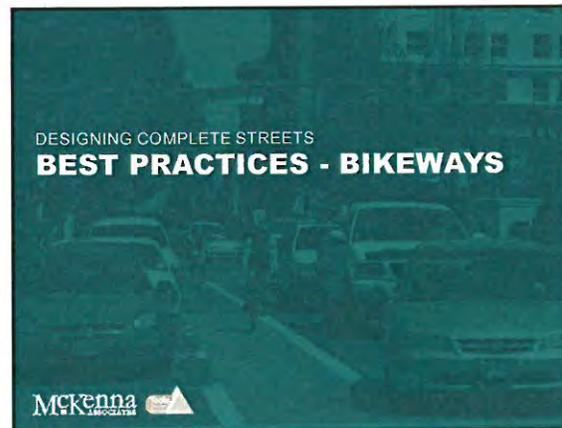
- Improves the streetscape for pedestrians and drivers
- Increases visibility of pedestrians to drivers

### Commercial Sidewalks – Pedestrian Zone

Design Requirements:

Min	Target	Max
5ft	5ft	10ft

Summary Notes:  
Consider tree grate surfaces in pedestrian zone.



### Paved Shoulder



**Design Requirements:**

Min	Target	Max
3ft	4ft	Varies

**Summary Notes:**

New AASHTO allows paved shoulders of a minimum 3 ft. with closed drainage in retrofit projects.

Contexts encouraged for:  
Contexts required for:

### Bike Boulevard or Neighborhood Greenways



**Design Requirements:**

Min	Target	Max
9ft	10ft	13ft

**Summary Notes:**

Include bike boulevard marking

### Shared Lanes



**Design Requirements:**

Min	Target	Max
9ft	10ft	14ft

**Summary Notes:**

Replaces vehicle lane. Paved shoulder, marked shared lane, or bike lane is preferred

### Bike Lanes



**Design Requirements:**

Min	Target	Max
4ft	5ft	6ft

**Summary Notes:**

Include bike lane marking

### Marked Shared Lane



**Design Requirements:**

Min	Target	Max
10ft	13ft	14ft

**Summary Notes:**

Marking centered 11 ft. off curb with parking 4 ft. w/o parking. Place every 50 to 100 ft. preferred, maximum of 250 ft. on low volume roadways. Place in center of lane if travel lane is 12 ft. or less.

### Buffered Bike Lanes



**Design Requirements:**

Min	Target	Max
6ft	7ft	9ft

**Summary Notes:**

Buffer of 2-3 ft. Maximum may be higher if larger buffer is required due to right-of-way dimensions.

### One-way protected bikeway



**Design Requirements:**

Min	Target	Max
6ft	8ft	10ft

**Summary Notes:**  
Buffer of 2-3 ft. Maximum may be higher if larger buffer is required due to right-of-way dimensions

### Crosswalks – Longitudinal or Diagonal Lines



- Longitudinal lines are the preferred crosswalk treatment
- Lines should be 12 to 24in wide with 12 to 60in gaps
- Spacing should be as wide as approaching sidewalk
- Gaps should align with wheel base of vehicles

### Shared Use Paths



**Design Requirements:**

Min	Target	Max
8ft	10ft	14ft

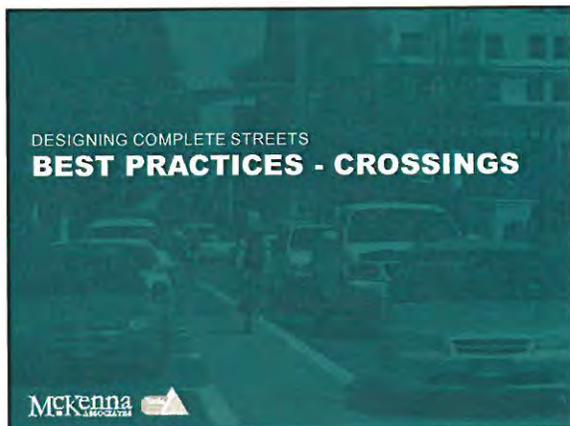
**Summary Notes:**  
Shared between bicycles and pedestrians in pedestrian zone. Can be 6 ft. with engineering judgment. Also side path.

### Pedestrian crossing signals



Style	Design Considerations	Guidance
Pedestrian Signal Heads	Should be used to assist pedestrians in determining when to safely begin crossing	Shall be used in conjunction with vehicle signals where the MUTCD pedestrian volume warrant
Countdown Signals	Should be considered for all crossing with pedestrian signal heads	Must be included on all pedestrian signal heads where the pedestrian change interval is more than 7 seconds
Timing	Signal timing is typically designed based on an average walking speed. Assuming a lower walking speed will accommodate more users	Signal must be timed for the crossing distance at 3.5 ft. per second. 3 ft. per second should be used in high volume pedestrian areas

DESIGNING COMPLETE STREETS  
**BEST PRACTICES - CROSSINGS**



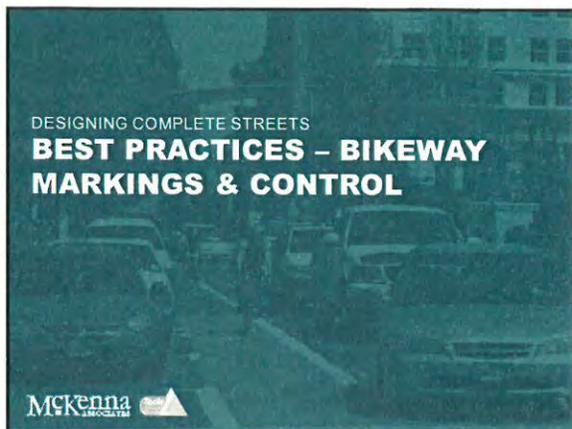
**McKenna**  
ASSOCIATES

### Refuge Islands



- Refuge islands provide protection at busy crossings and work well for separated bike facilities and bike boulevard crossings
- Islands should be 6 to 10ft wide with 6ft of raised island on each side of refuge area, raised area should be curb height (6in)
- Refuge area should be wide enough to accommodate two bicycles

Toward the oncoming vehicle traffic, a 45 degree angled cut through can be used to improve bicycle and driver visibility



### Dashed intersection markings



- dashed lines and width should be the same width as the line they are extending
- Can be used at intersections with complicated turning movements to direct cyclists to facility on the other side
- Dashed lines should be 2ft long with a 2 to 6ft spacing, or 14-20in squares can be evenly spaced to improve visibility

### Signed Routes



**Design Requirements:**

Min	Target	Max
9ft	10ft	14ft

**Summary Notes:**  
Can be used on shared lanes or in combination with bicycle facilities

### Multimodal Signals – Bike Actuated Signals



Design Considerations	Guidance
Should be considered on bike routes where vehicle signals are actuated to assure that bicyclists can trigger the signal change. Must be combined with pavement markings and instruction signs to indicate the place in the queue area where the signal will be triggered	Devices should be regularly tested and adjusted to assure that bicyclists are detected as intended. If a bicycle facility is provided, detection must be located within the designated facility. If a push button is provided, instruction signs should be placed in a location visible to bicyclists.

### Colored pavement

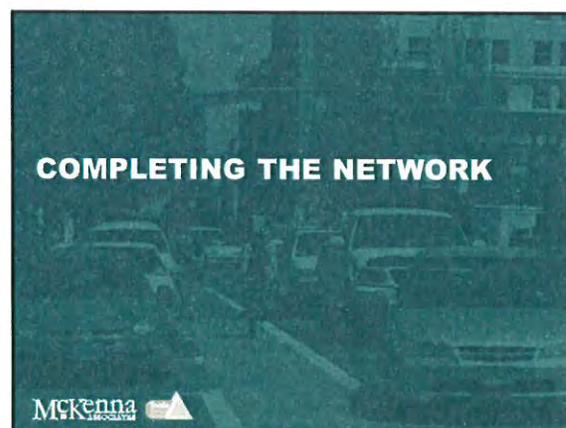


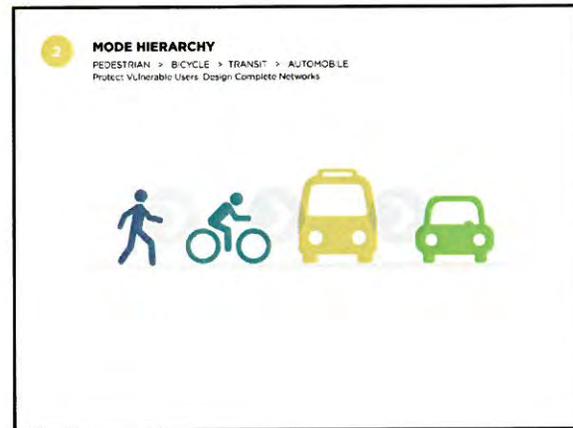
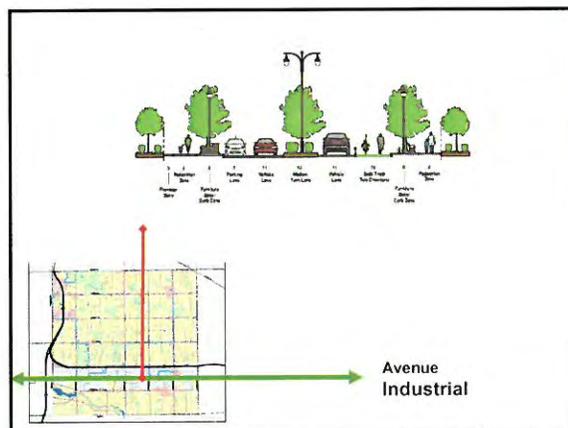
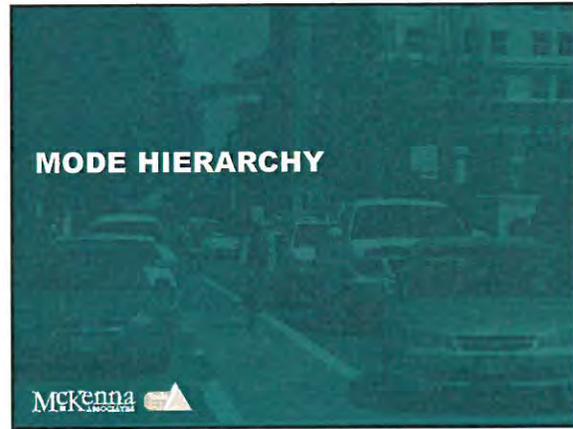
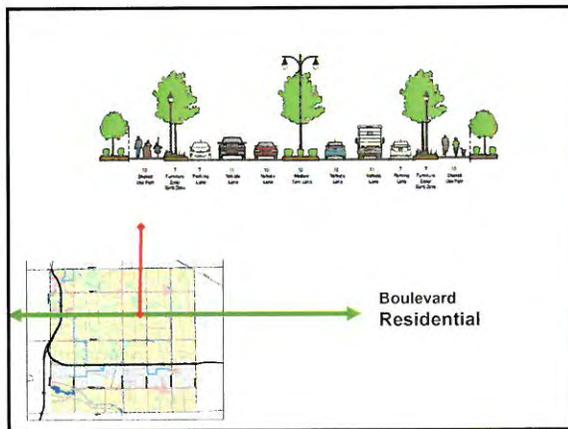
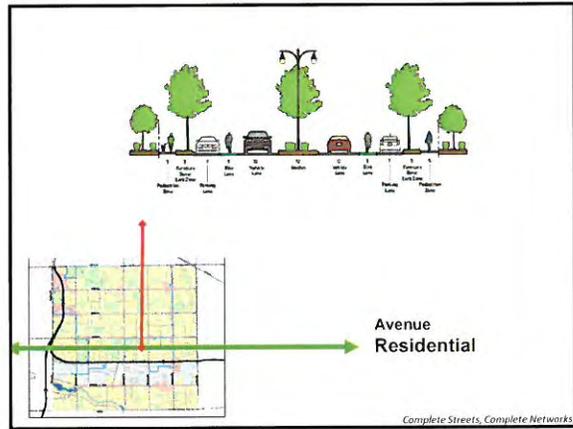
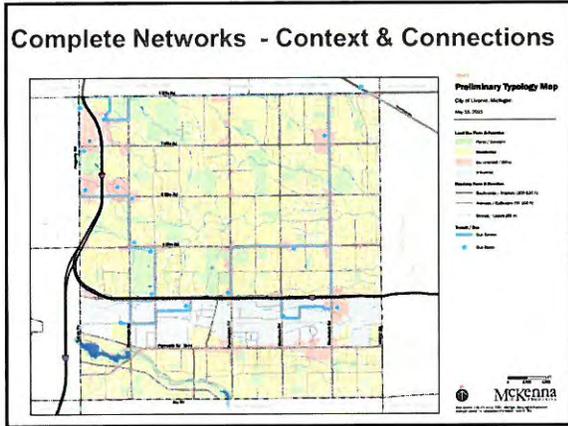
**Design Requirements:**

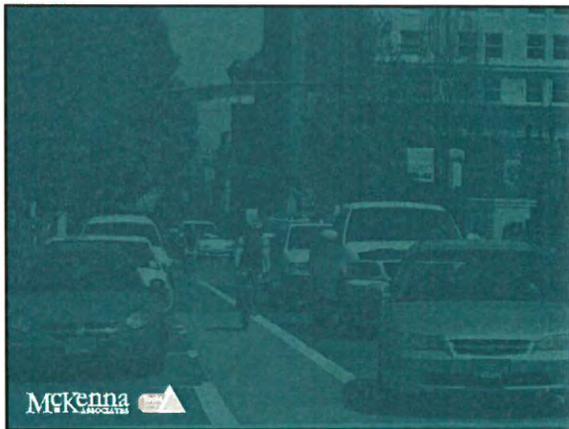
Min	Target	Max
4ft	5ft	6ft

**Summary Notes:**  
Pavement color should be green. Include bike lane marking and signs.

Should use skid resistant and retro-reflective materials for colored pavement









## Open House Exhibit Results



» Welcome!

The Open House on June 17, 2015 consisted of a series of 5 Stations where participants took part in the following activities:

- Station 1: What's Your Big Idea?
- Station 2: Priority Destination Mapping
- Station 3: Barrier / Hazard Mapping
- Station 4: Pedestrian / Bicycle Routes Mapping
- Station 5: Visual Preference Survey

## Open House Exhibit Results

STATION  
**1**

# WHAT'S YOUR BIG IDEA?

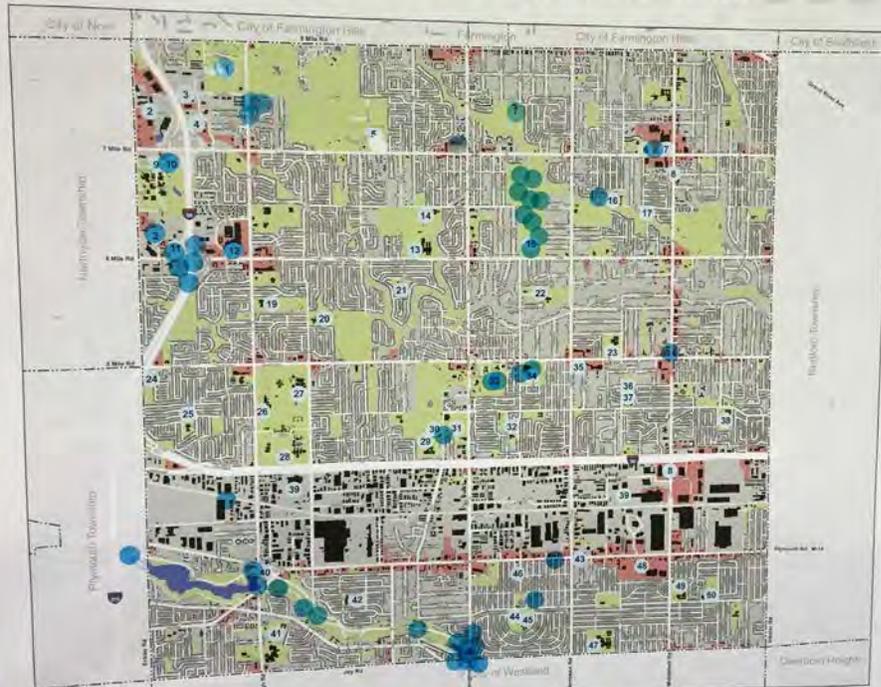


Share your one big idea for walking and biking in Livonia!  
Write it on a post-it and stick below:

- Need wider bike paths across bridges (i.e. Middlebelt and 6 Mile, over river);
- Need sidewalks on both sides of major streets;
- Need a way to easily report broken sidewalks – publicize it;
- Collaborate more with Wayne Co. parks;
- Invest \$\$ in Hines Park maintenance, lights, etc.;
- Sidewalk/path connectivity from Rosedale Gardens/Farmington Rd. Joy Rd to Hines Park;
- Connect roads like Curtis with continuous multi-use paths through wooded green areas (no cars);
- Fix broken ped-xing button at 6 Mile and Merriman;
- Bike lanes Lyndon West Chicago; path – Stack Ford Field to Hines;
- Require sidewalks throughout subs – Melvin/Doris aren't complete;
- Connection to Hines Park vis Stark; Farmington and Joy @ 4-way stop
- Create an intimate shopping/dining area in a location residents can easily access via biking and walking. A "downtown" would encourage more people to get out and meet in our community;
- Walkable, user-friendly "downtown";
- Better crossing for walkers/bikers over freeways;
- Find a way to connect park/rec areas with walking and biking paths: Rotary, Hines, etc.;
- Sidewalks on Newburgh between 7 Mile and 8 Mile;
- On all road construction, require bike paths - some on City right-of-ways;
- Make drivers aware of increased bikers/pedestrians;
- Roads like Lyndon and Hubbard could be great options to intersect the City!;
- Between 6/7 mile dedicated pedestrian bike bridge over I-275 to get to Schoolcraft College;
- Sidewalks around St. Mary's, Ladywood, Angelo Hospice, Schoolcraft, Madonna, etc.;
- Bike crossing over 5 Mile/I-275 bridge (like 7 Mile crossing);
- Safe/crossings for kid friendly riding;
- Better bike facilities at malls – bike lanes, bike locking;
- Connect bike paths throughout Livonia to Hines Park libraries and Greenmead;
- Incentives for shopping centers to provide bike racks and safe/path in/out;
- Add wide walking path on Newburgh between 7 – 8 Mile;
- Sidewalks: Newburgh, Merriman, Hubbard, Levan;
- Make biking around the City safer, there are areas that do not have sidewalks/shoulder so it is unsafe. Residents are stuck in "islands" surrounded by impossible areas;
- Enforce sidewalk clearing of snow and ice in winter. It's different to walk do in winter now, let alone adding more paths.
- Consider maintenance safety;
- The sidewalks that currently exist are ok, some could use improvement, but the first priority should be to put in sidewalks/bike paths in all places where they are lacking;
- More sidewalks! Merriman north of five Mile, Schoolcraft between Middlebelt and Farmington;
- More bike racks (Meijer has one but Walmart doesn't, etc.);
- Uninterrupted and/or good quality pathways from Northern Living down to Hines Drive;
- Add bicycle pit stops in collaboration with local businesses;
- Network of bike paths, should be able to cross City easily on a bike;
- Publicize routes, trails, distances;
- Contiguous east west bike route, between 6 – 7 Mile and 7 – 8 Mile;
- Complete sidewalks on all main roads. Require residence to prune back plants to keep walkways open;
- Connector from 275 path to Schoolcraft College;
- "Driver re-educator" - there are a lot of misconceptions about what is allowed and what are the laws around biking;
- Would like to be able to cross from Woodcreek Farms to Coventry Gardens without having to go to Five Mile and Farmington Light;
- Please require better maintenance of the sidewalks – they are like biking on rocks;
- Bike path along 5 Mile from 275 to Hubbard/Rec. Center;
- Stark Rd. needs: Road diet from I-96 to Plymouth;
- Sidewalk/path from I-96 to Hines;
- Have a sidewalk or path on at least one side of busy roads;
- Sidewalk/bike path Hubbard 5 – 6 Mile to Rotary. Safe bike path to Hines from the North Inkster, Middlebelt or Merriman; and
- Linking parks, schools, grocery, restaurants together through bike/walk trails.

STATION  
**2**

# PRIORITY DESTINATIONS



## DESTINATION MAP

City of Livonia, Michigan

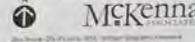
May 13, 2015

### LEGEND

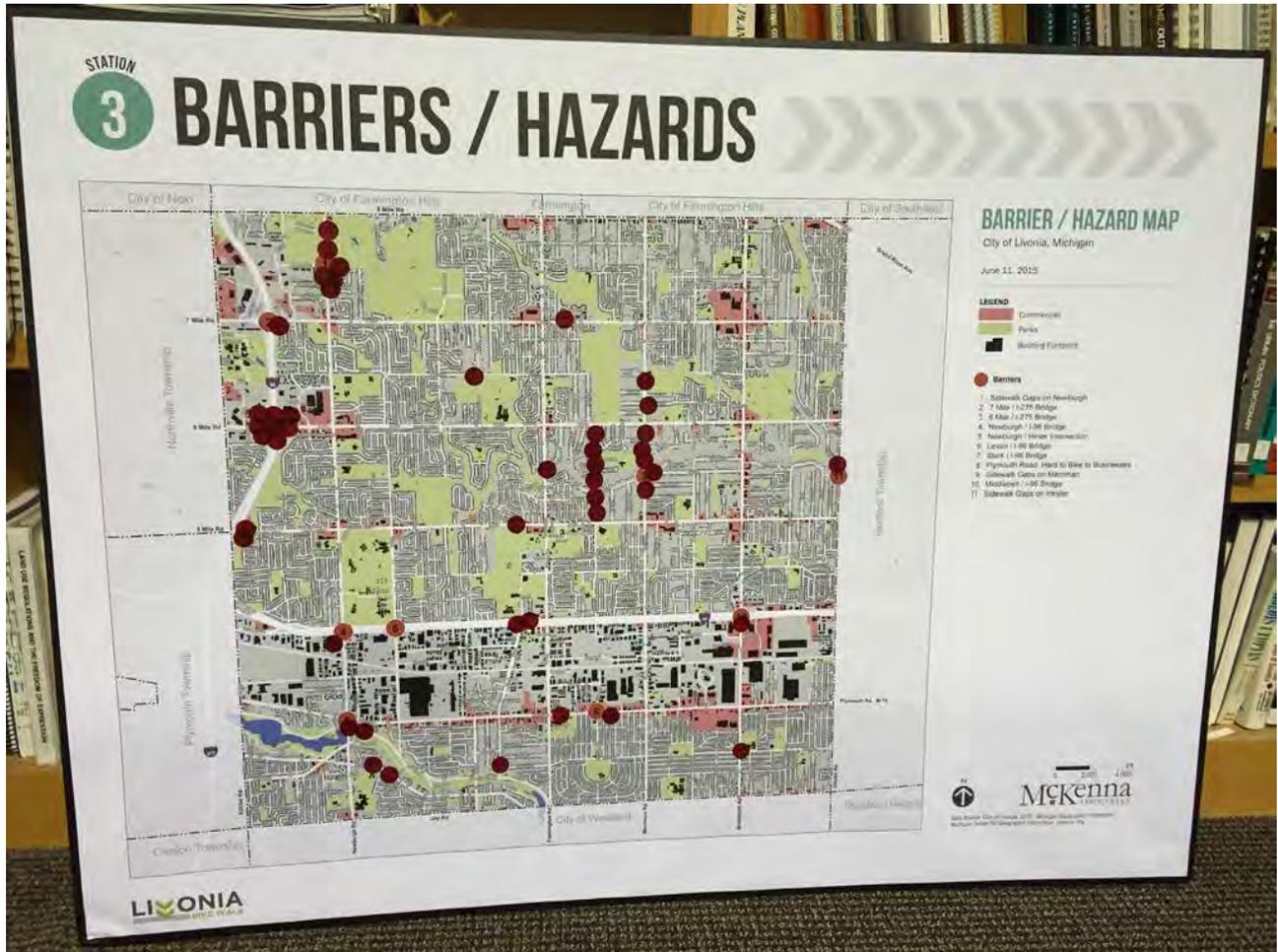
- Commercial
- Parks
- Building Footprint

### Livonia Destinations

1. Greenfield Historic Village
2. Haggerty Road Commercial Corridor
3. Davenport University
4. Victory Parkway
5. Bicentennial Park
6. Carl Sandburg Library
7. Livonia Marketplace
8. Middlebelt Road Commercial Corridor
9. Chalmersville School District
10. Schoolcraft College Campus
11. 1275 Metro Trail
12. Laurel Park Plaza Mall
13. Marshall Elementary School
14. Jewett High School
15. Rotary Park
16. Cossiga Elementary School
17. Sunset Park
18. Eastern Michigan University
19. Holmes Middle School
20. Hoover Elementary School
21. Laurel Creek Elementary School
22. Buchanan Elementary School
23. River Upper Elementary School
24. Bert Park
25. Randolph Elementary School
26. Ladwood High School
27. St. Mary's Hospital
28. Madonna University
29. Fink Middle School
30. Livonia YMCA
31. Ford Field / Eddie Edge Ice Arena
32. John F. Kennedy Elementary School
33. Civic Center Library / City Hall
34. Community Recreation Center - Bentley Track
35. Mile Road Commercial Corridor
36. Algonquin Park
37. Roosevelt Elementary School
38. Buckingham Park
39. Inwood Corridor
40. Innes Park
41. Churchill High School
42. Garfield Elementary School
43. Plymouth Road Commercial Corridor
44. Mix Park
45. Grant Elementary School
46. Alfred Nobel Library
47. Franklin High School
48. Woodhurst Village
49. Emerson Middle School
50. Clemens Circle Park



# Open House Exhibit Results



STATION  
**4**

# PEDESTRIAN / BICYCLE ROUTES



## ROUTES MAP

May 13, 2015

- LEGEND**
- Commercial
  - Parks
  - Bus Stop/Busway

**ROUTES**

1. Leikin
2. Hoad
3. Clark
4. Curtis
5. Hubbard
6. Lyndon
7. West Chicago





STATION  
**5**

# VISUAL PREFERENCE SURVEY

BIKEWAYS



1



2



3



4

PROTECTED BIKEWAYS



1



2



3



4

BIKE INTERSECTIONS



1



2



3



4

## BICYCLE ELEMENTS

### INSTRUCTIONS

Place dot in the gray box for your TOP CHOICE in each category according to your preference.

Top Choice



McKenna

# Open House Exhibit Results

**STATION 5 VISUAL PREFERENCE SURVEY**

**CROSSWALKS**

**1** **2** **3** **4**

**PEDESTRIAN WAYS**

**1** **2** **3** **4**

**LANDSCAPING**

**1** **2** **3** **4**

**PEDESTRIAN ELEMENTS**

**INSTRUCTIONS**  
Place dot in the gray box for your TOP CHOICE in each category according to your preference.

● Top Choice

**LIVONIA**  
BIKE WALK

Mekenna

Category	Option 1	Option 2	Option 3	Option 4
Crosswalks	0 dots	1 dot	1 dot	1 dot
Pedestrian Ways	1 dot	1 dot	1 dot	1 dot
Landscaping	1 dot	1 dot	1 dot	1 dot





