City of Southfield Non-motorized and Transit Plan

Kick-off Workshop

Wednesday, October 19, 2011

6:30 to 8:30 PM

Rooms 220/221
Parks & Recreation Building

The Greenway Collaborative, Inc.

Agenda

- Introductions
- Project Overview
- Best Practices Overview
- Small Group Exercises:
  - Corridor Classification
  - Neighborhood Connectors
  - Key Issue Identification
- Regional Transit and Trail Connections
- Group Report Out
- Next Steps

Purpose of the meeting to better understand the issue and opportunities as well as special places of concern

Why Undertake a Non-motorized and Transit Plan

- A means to build consensus on how to best accommodate alternative transportation
- Improve safety for pedestrian and bicyclists
- Establish a logical framework for implementation
- Promote physical fitness through active transportation
- Improve quality of life for residents

Healthy, Livable Communities
Complete Streets
Cool Cities
Smart Growth
Safe Routes to School

All have common ground in improving non-motorized facilities

Creating "Complete Streets" in Key to Everything

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

All users include:

- Pedestrians
- Bicyclists
- Transit users
- Motorists
- Trucks

All users include:

- Children
- Elderly
- People of various abilities

Comparison to Peer Cities in Michigan

- Based on 2000 census commute to work data
- Michigan cities
- Population 60,000 - 80,000
- 0.1% Bike
- 1.5% Walk
- 1.2% Bus
- 2.7% Don't drive
- 7.1% of homes do not have a car

Michigan Communities 60,000 to 80,000

			% of Commuters Who:				Percent
Rank	Place	Pop.	Bike	Walk	Use Transit	Don't Drive	Households W/O Car
1	Kalamazoo	77,092	0.5	7.2	3.3	11.0	15.2
2	Saginaw	61,842	0.5	2.1	1.5	4.1	22.7
3	Pontiac	66,337	0.2	2.3	1.1	3.6	19.2
4	Wyoming	69,366	0.4	1.9	1.1	3.4	5.3
5	Royal Oak	60,062	0.3	1.9	1.0	3.3	5.8
6	Southfield	78,296	0.1	1.5	1.2	2.7	7.1
7	St. Clair Shores	63,124	0.0	1.1	0.7	1.8	6.0
8	Taylor	65,868	0.2	0.9	0.3	1.4	6.9
9	Waterford	73,162	0.1	0.9	0.2	1.2	4.0
10	Rochester Hills	68,840	0.2	0.9	0.1	1.2	4.0
11	Shelby	65,070	0.1	0.5	0.5	1.1	3.5
12	Canton	76,310	0.1	0.5	0.3	0.9	2.4
13	West Bloomfield Twp	64,804	0.0	0.5	0.2	0.8	3.05
	Averages	**68,475**	**0.2**	**1.7**	**0.9**	**2.8**	**8.1**

This is older data, more recent data from the American Community Survey has too small a sample to get a good picture for Southfield

In Michigan high range for walking is around 16% and 3% for bicycling (the bike numbers though have increased dramatically since 2000).

City of Southfield Non-motorized and Transit Plan

Understanding The Users

Key Issues for Pedestrians and Bicyclists

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No Such Thing as a Typical Pedestrian or Bicyclist

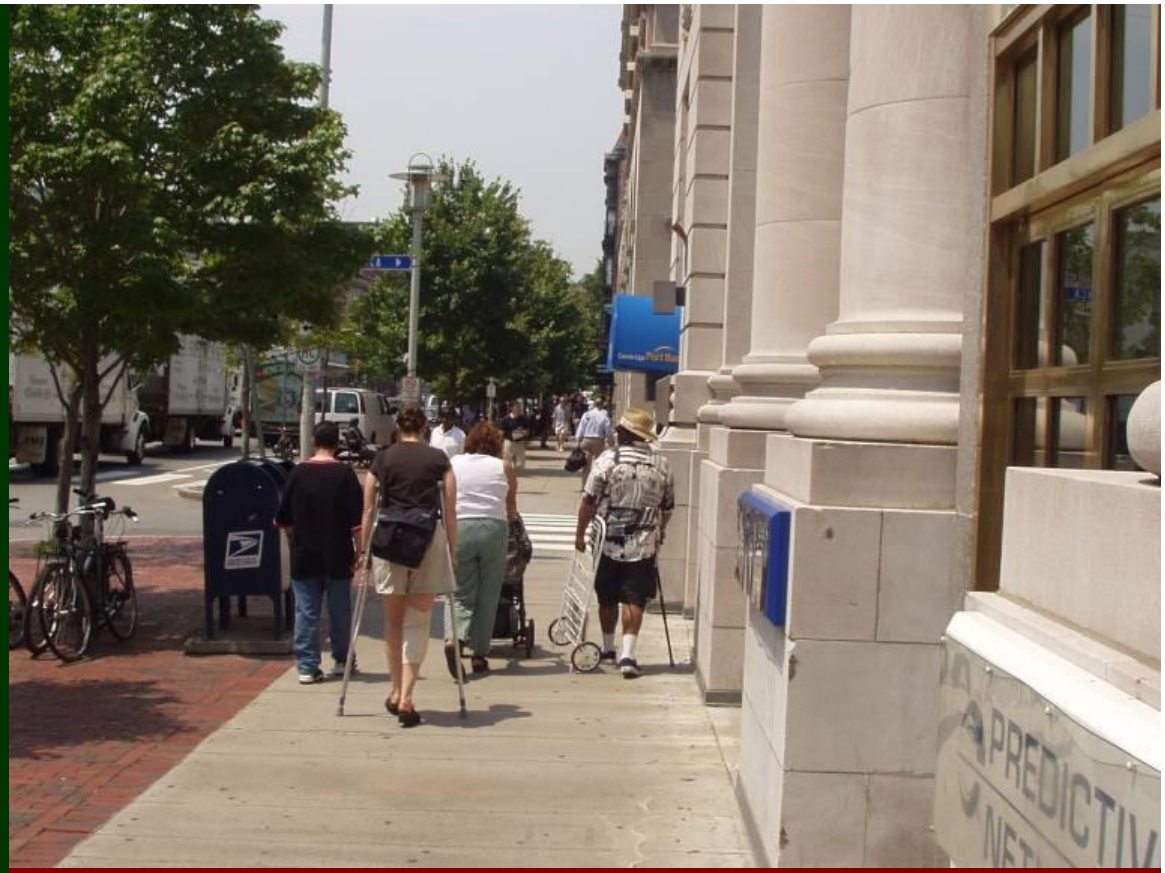
Wide Range of:

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

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

Types of Pedestrians

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



There is no required education program or licensing for pedestrians

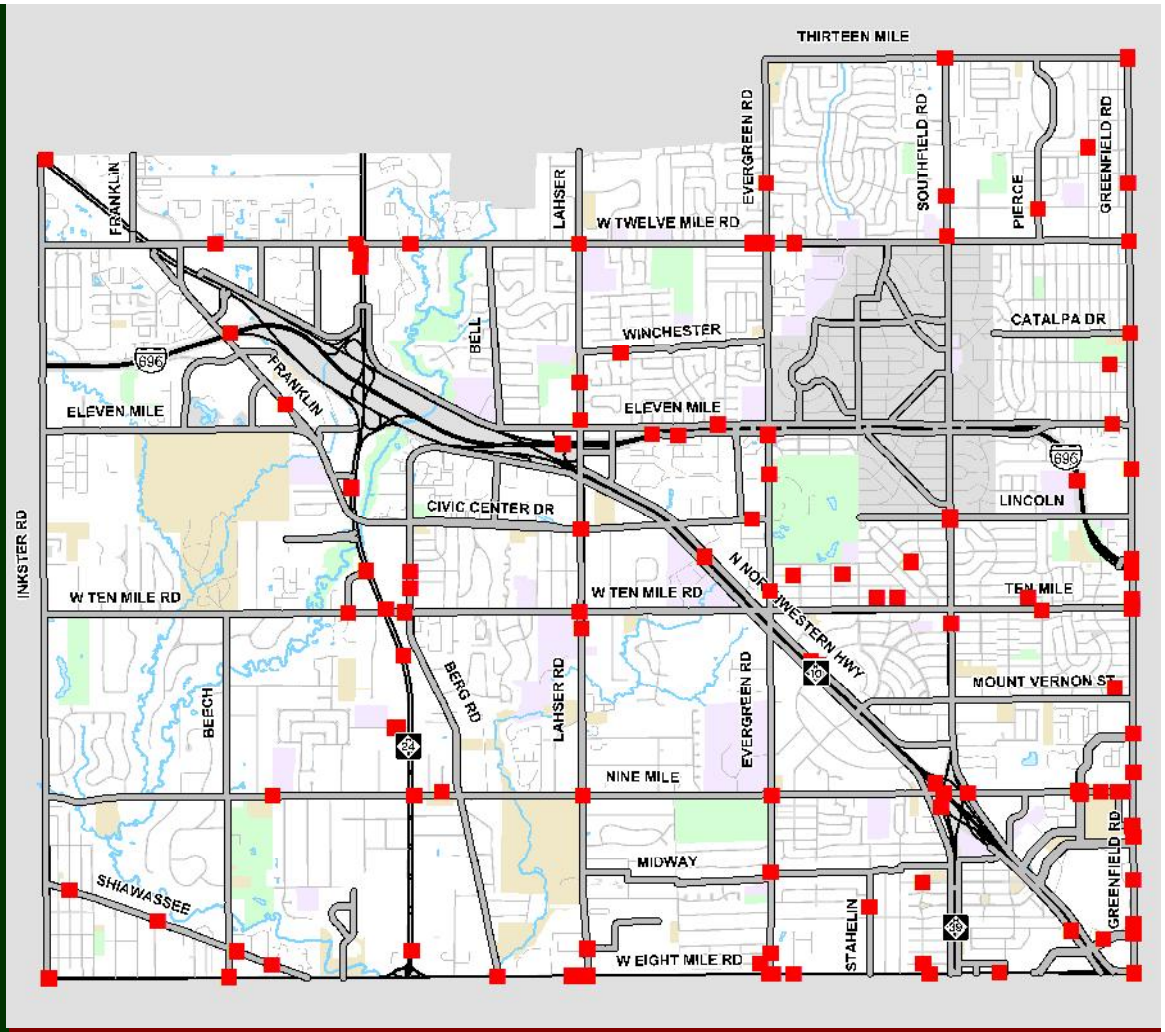
Importance of Direct Travel

- Most walking trips for personal business are about ¼ to ½ mile (5 to10 minute walk)
- Think of out of direction travel as a percentage of the total trip distance and walking time
- Thus a 10% detour for a ½ mile walking trip is 264’ (less than a city block)
- Really important at bus stops

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

Pedestrian Crash Locations

- A number of mid-block crashes
- Some seem to correspond to bus stop locations



Pedestrian Level of Service

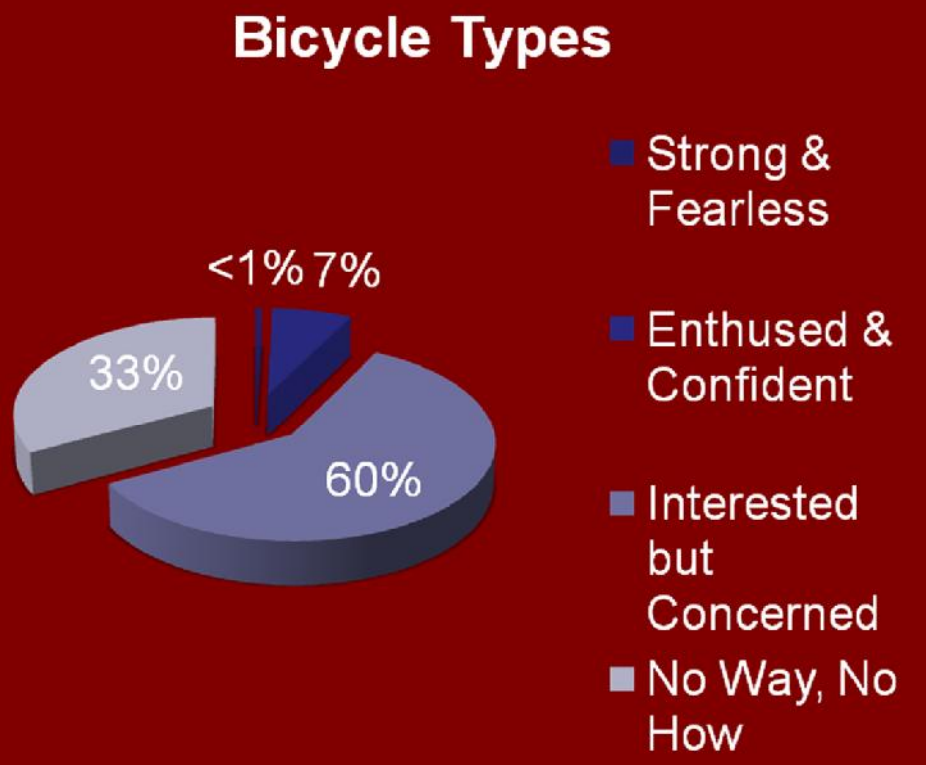
Key factors:

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

Pedestrians and bicyclists do not always mix well either

Different Types of Bicyclists

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



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

In-Road Bicycle Level of Service

Key factors:

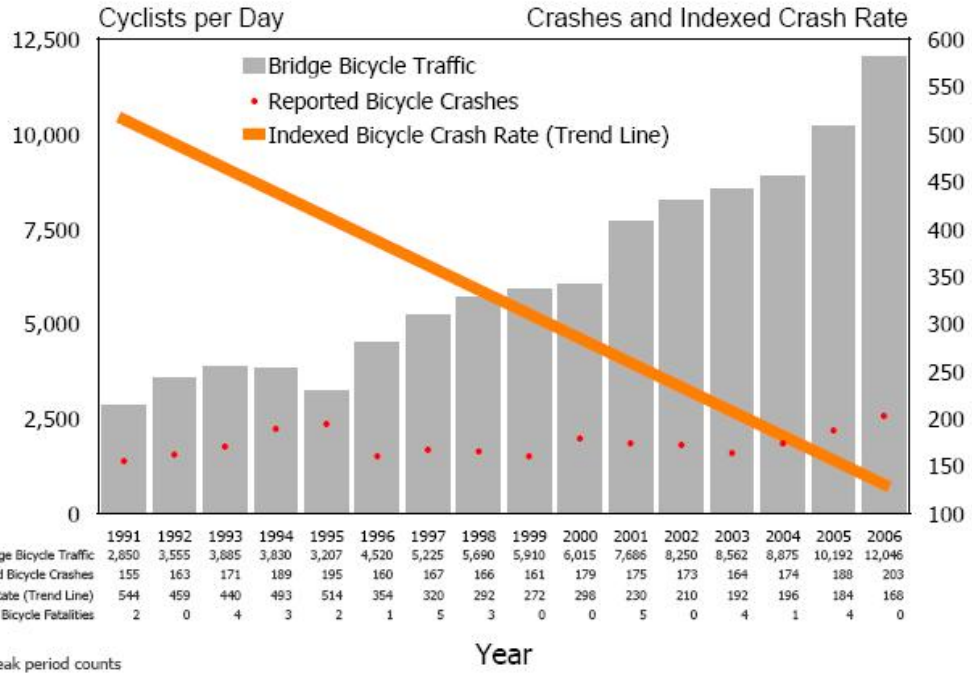
- Presence of bike lane
- Distance from motor vehicles
- Vehicle volume
- Vehicle speed
- Percent of truck traffic
- Size and complexity of intersections

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

Safety in Numbers

- The Most Effective Way To Increase the Safety of Pedestrians and Bicyclists is To Increase the Numbers of Pedestrians and Bicyclists
- Pedestrian and Bicycle Safety is A Biggest Concern Where There Are the Fewest Bicycles and Pedestrians

Combined Bicycle Traffic over Four Main Portland Bicycle Bridges Juxtaposed with Bicycle Crashes



	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Bridge Bicycle Traffic	2,850	3,555	3,885	3,830	3,207	4,520	5,225	5,690	5,910	6,015	7,686	8,250	8,562	8,875	10,192	12,046
Reported Bicycle Crashes	155	163	171	189	195	160	167	166	161	179	175	173	164	174	188	203
Indexed Bicycle Crash Rate (Trend Line)	544	459	440	493	514	354	320	292	272	298	230	210	192	196	184	168
Bicycle Fatalities	2	0	4	3	2	1	5	3	0	0	5	0	4	1	4	0

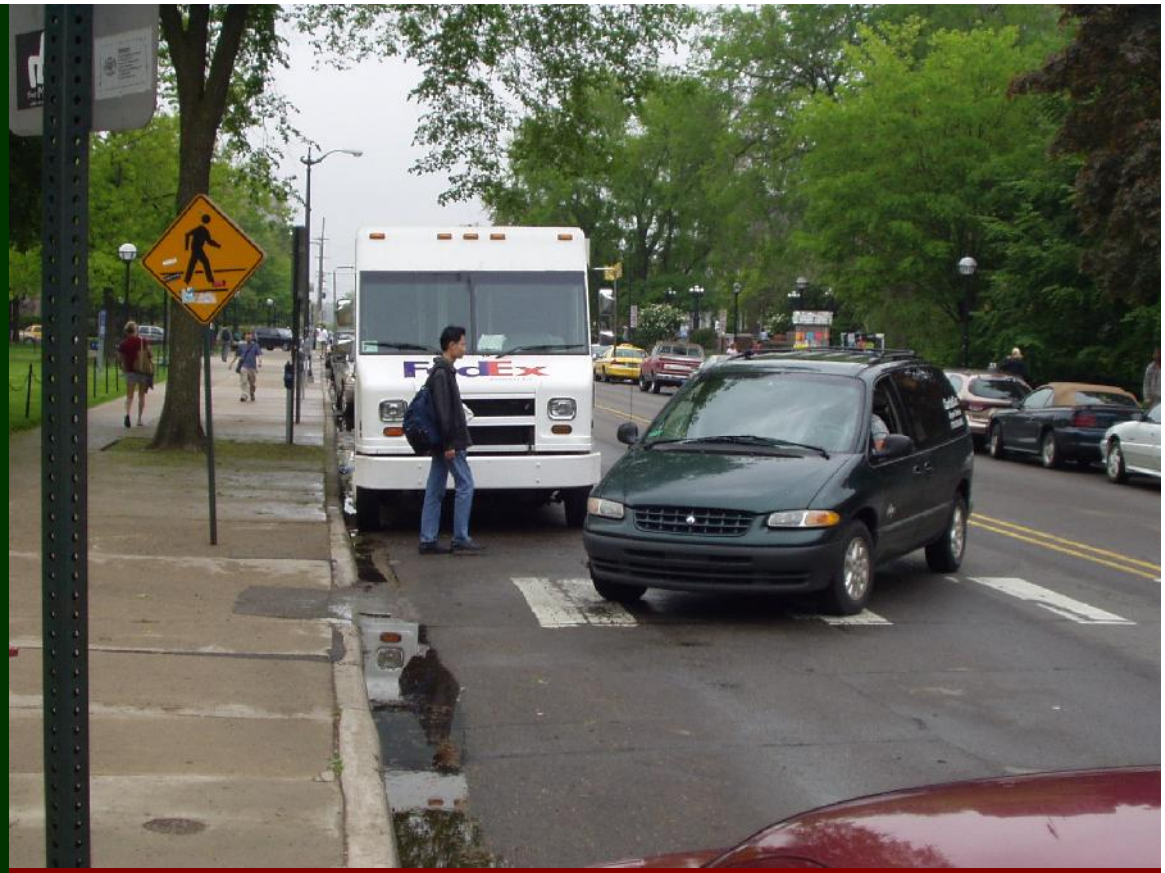
Extrapolated from peak period counts

"Crash Rate" represents an indexing of annual reported crashes to daily bicycle trips across the four main bicycle bridges.

In Portland The Number of Crashes Held Almost Steady While the Number of Cyclists Dramatically Increased

Safety in Numbers

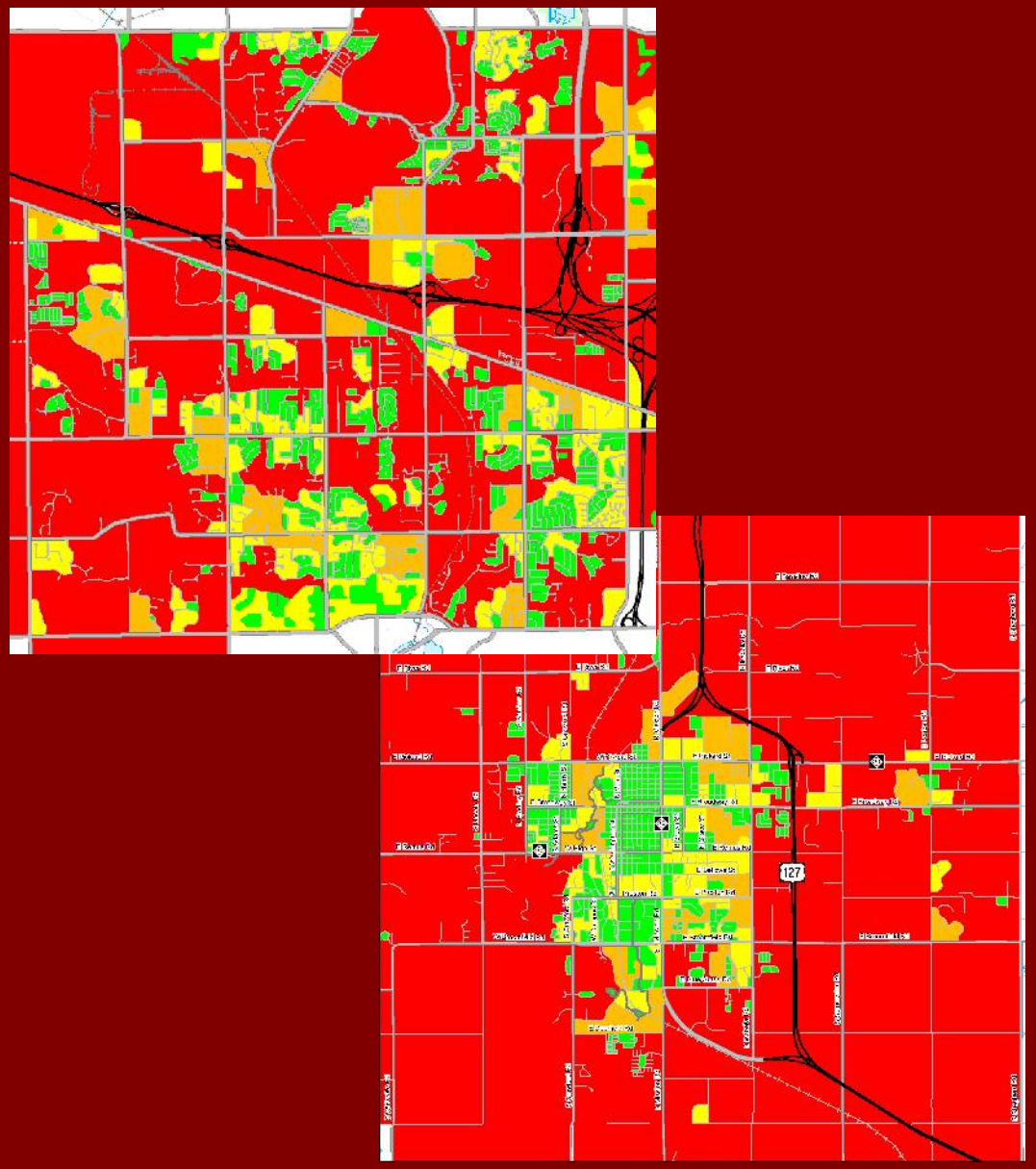
- The Concept Applies Community Wide and To Specific Locations and Times
- Less Frequent Use Needs More Visible Facilities to Increase Motorists Awareness
- This is The Opposite of How Motorized Facilities Are Dealt With



Dangerous Designs and Situations May be Off-Set By Expectations of Encountering Pedestrians.

Importance of Block Size

- Numerous studies have shown that the “grain” of the urban fabric is directly associated with the number of people walking and bicycling
- Small blocks permit direct travel
- A grid based network also tends to dissipate traffic and provide alternatives to busy roads



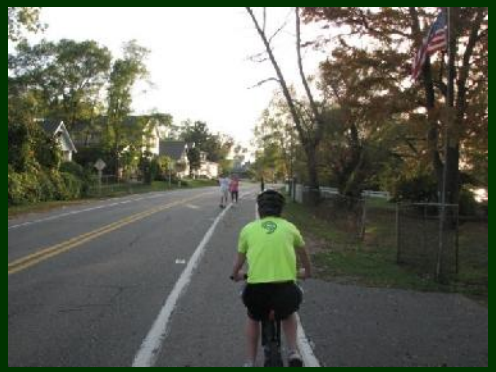
Travel Along Streets

Bike Lanes &
Sidewalks

Shared
Roadways

Roadside
Pathways

- Bike Routes
- Shared-Use Arrows



Paved
Shoulders

Sidewalk Quality of Service

A – Facility with Vertical Buffer

B – Facility with Buffer

C – Facility along Curb

D – No Facility, but Passable

E – No Facility, Not Passable

Sidewalk Widths

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

Bike Lanes

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

Target Audience: “Enthused and Confident” Bicyclists

Context: Used on Primary Roads in urban and suburban areas

Roadside Pathways

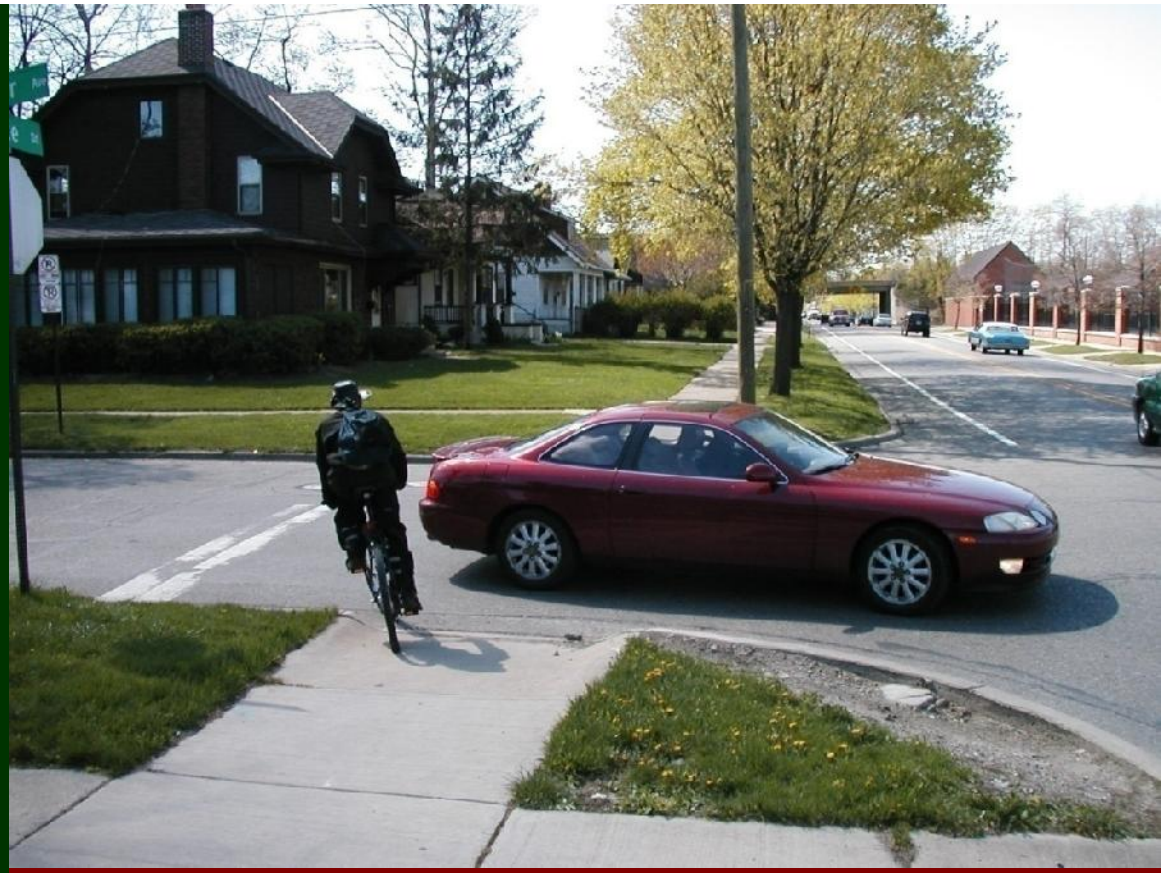
- A shared-use path separate from the road but still within a road ROW
- Issues include:
  - Conflicts with motorists at intersecting driveways and roadways
  - Pedestrian / bike conflicts
  - Getting to destinations on other side of the road
  - Transitions to on-road facilities

Target bicyclists: "Interested but concerned"

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

Roadside Pathways vs. Bike Lanes

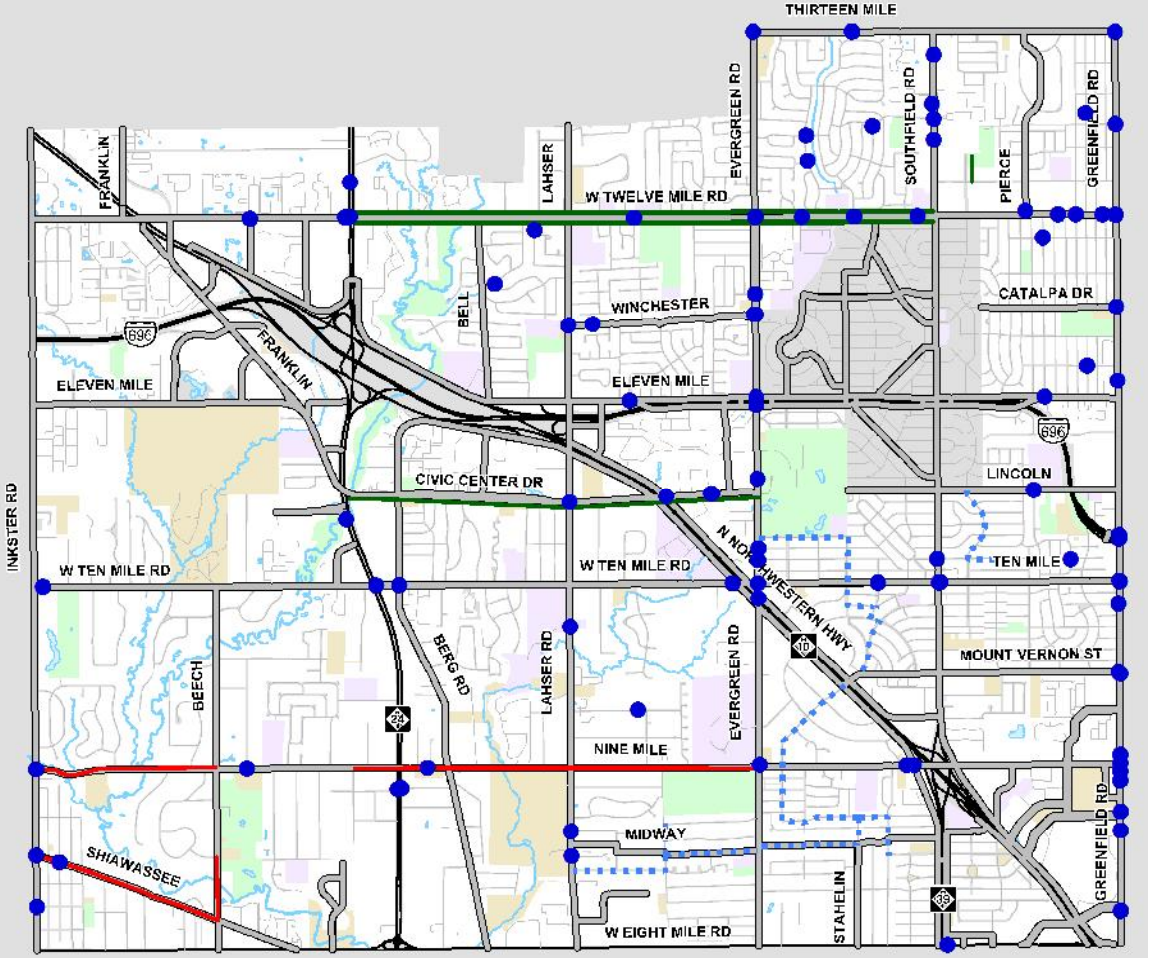
- Motorists are not looking for bicyclists on sidewalks or roadside paths especially when they are bicycling opposite the flow of traffic
- Bicycling on the sidewalk is generally slower and more inconvenient than bicycling on the roadway.
  - the presence of pedestrians
  - motorists that block the sidewalk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



Bike lanes are the current best practice for primary roads to reduce the number of crashes involving motorists and bicyclists

Bike Crash Locations

- A number of intersection crashes on 12 Mile and Civic Center Drive pathways



Bicycle and Pedestrian Routes

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

Target bicyclist: "Interested but concerned"

Context: generally used on local residential roads and rural routes with moderate speed and traffic volumes.

Shared Lane Marking

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

Target Audience: "Enthused and Confident" Bicyclists

Context: lower speed roads typically in downtown areas with on-street parking

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Travel Across the Roadway

- Mid-block Crosswalks
- Pedestrian Beacons

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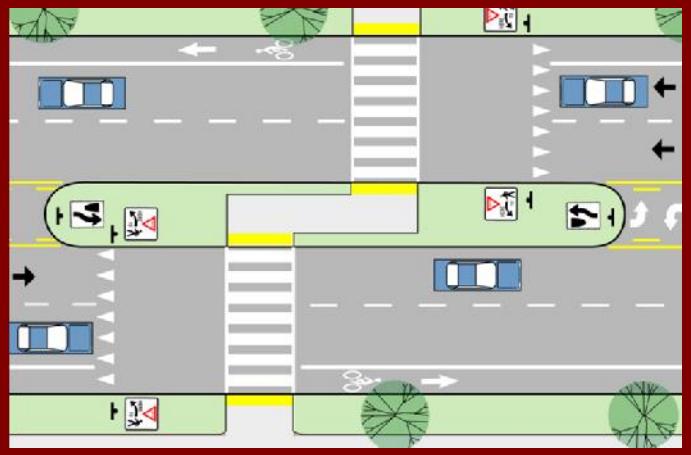
Rectangular Rapid Flash Beacon

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

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

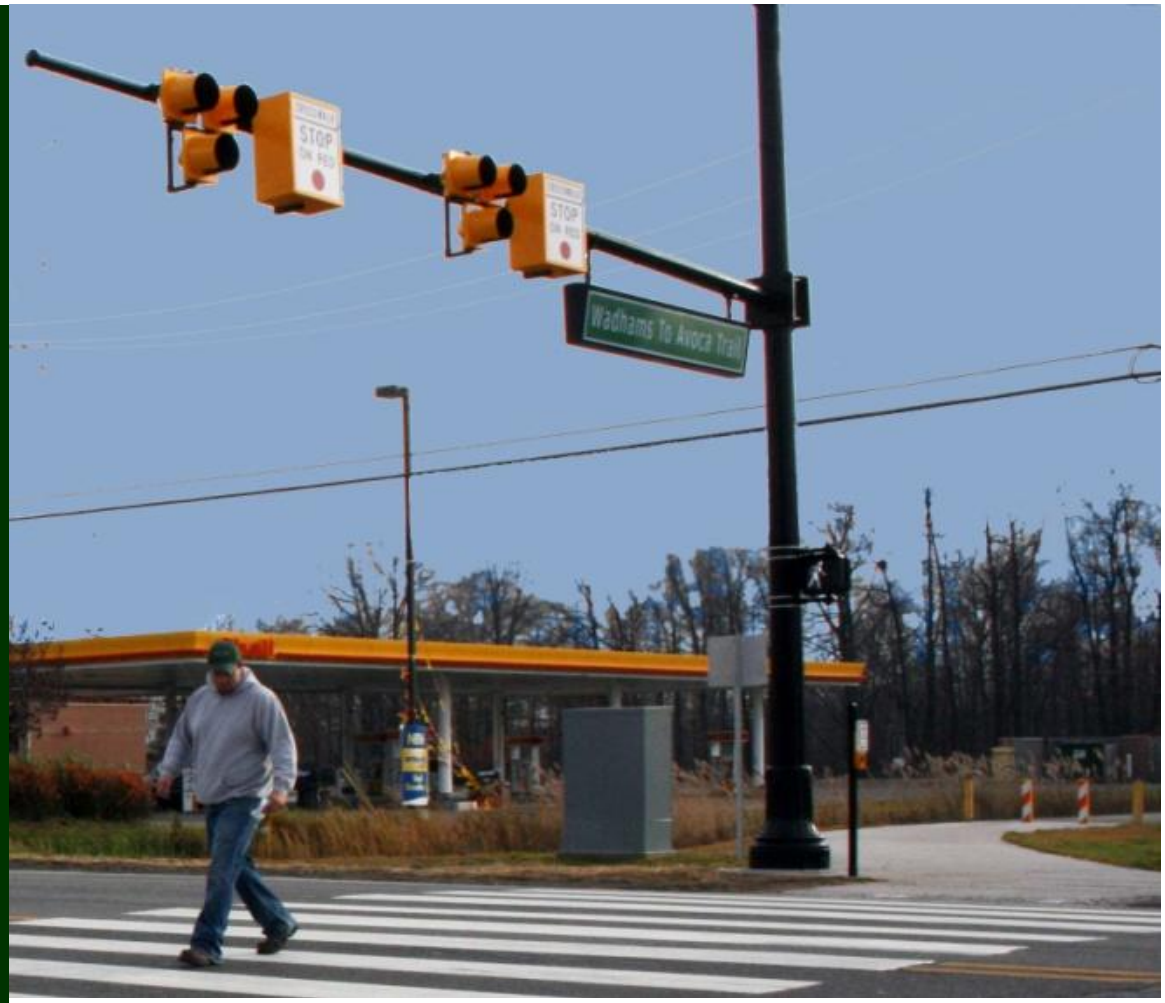
Crossing Islands

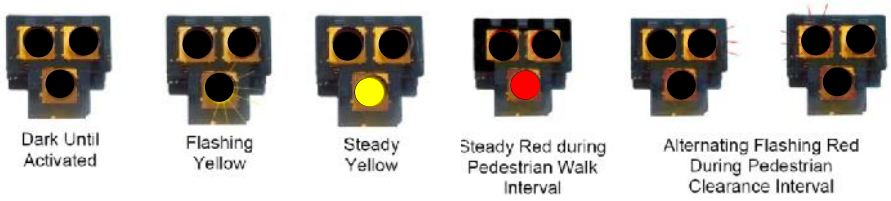
- Cross the road in two stages
- Only requires a gap in traffic from one direction at a time
- Zig-Zag Crossing Provide Room for Multiple Bicycles, Trailers and Tandems



Hybrid Pedestrian Beacon

- Good for locations where crossing islands are not practical
- Evaluation of 21 locations found a 69% reduction in pedestrian crashes after installation
- Minimal delay to motorized traffic





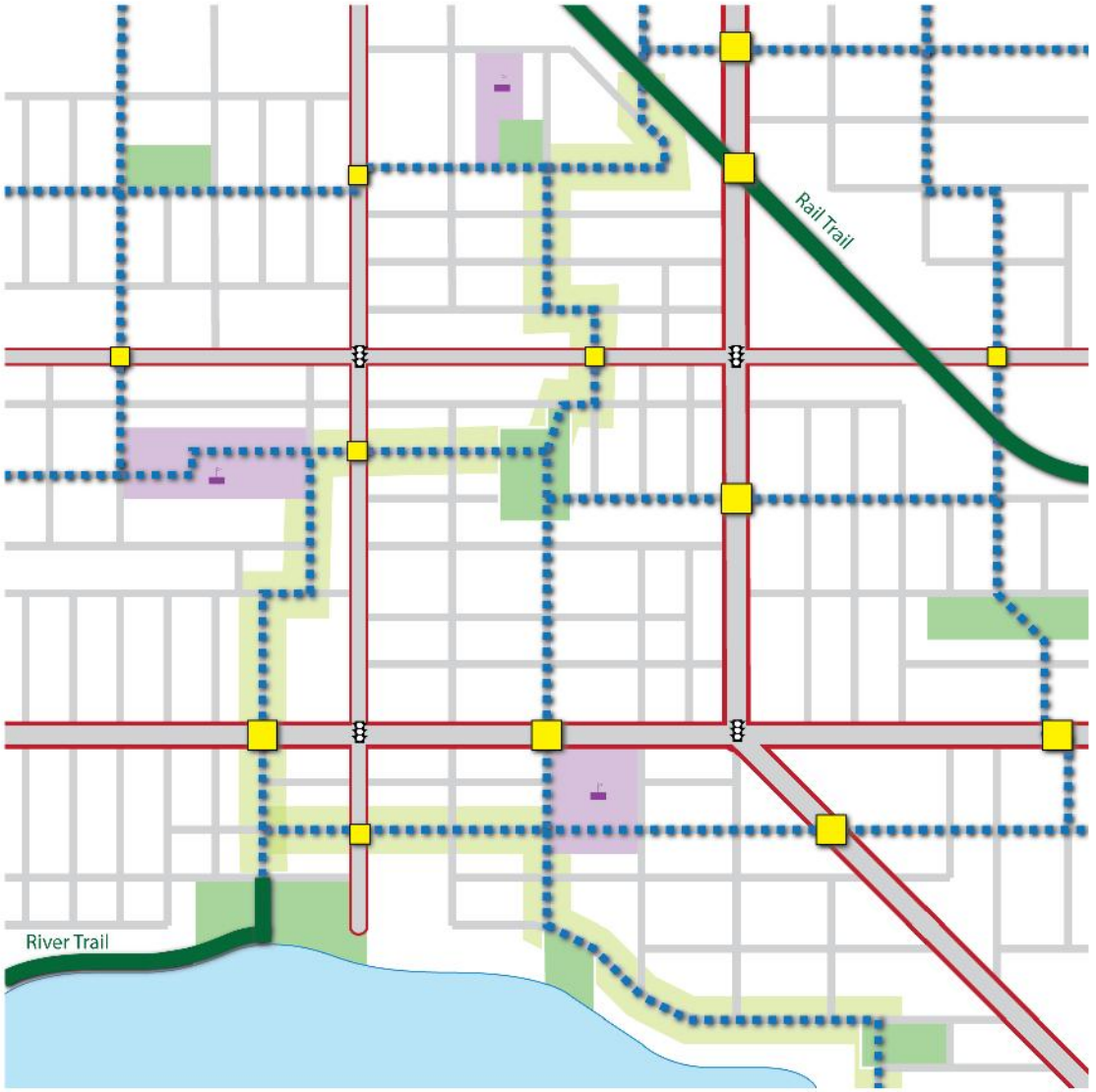
Off-Road Pathways

- A Shared Use Path Outside of a Road ROW
- Suitable for Bicyclists and Pedestrians
- Complement, But Do Not Replace On-road Facilities
- Wonderful Recreation Resource
- Great Place for Inexperienced Bicyclists to Build Skills

Provide Transportation and Recreation Links with Minimal Exposure to Motorized Vehicles

Non-motorized Network Diagram

- Improvements to the primary road system
  - Some more automobile focused
  - Others more bike/ pedestrian focused
- Bicycle and pedestrian routes
  - Using local roads and connecting pathways
- Crossing improvements
- Off-Road Trails



Legend:

Signalized Intesection	Local Road
School	Primary Road
Crossing Improvement	Complete Street
Park & Recreation Areas	Off-Road Trail
School Property	Neighborhood Connector
Water	Neighborhood Greenway

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Small Group Exercises

Corridor Classification

Neighborhood Connectors

Key Issues

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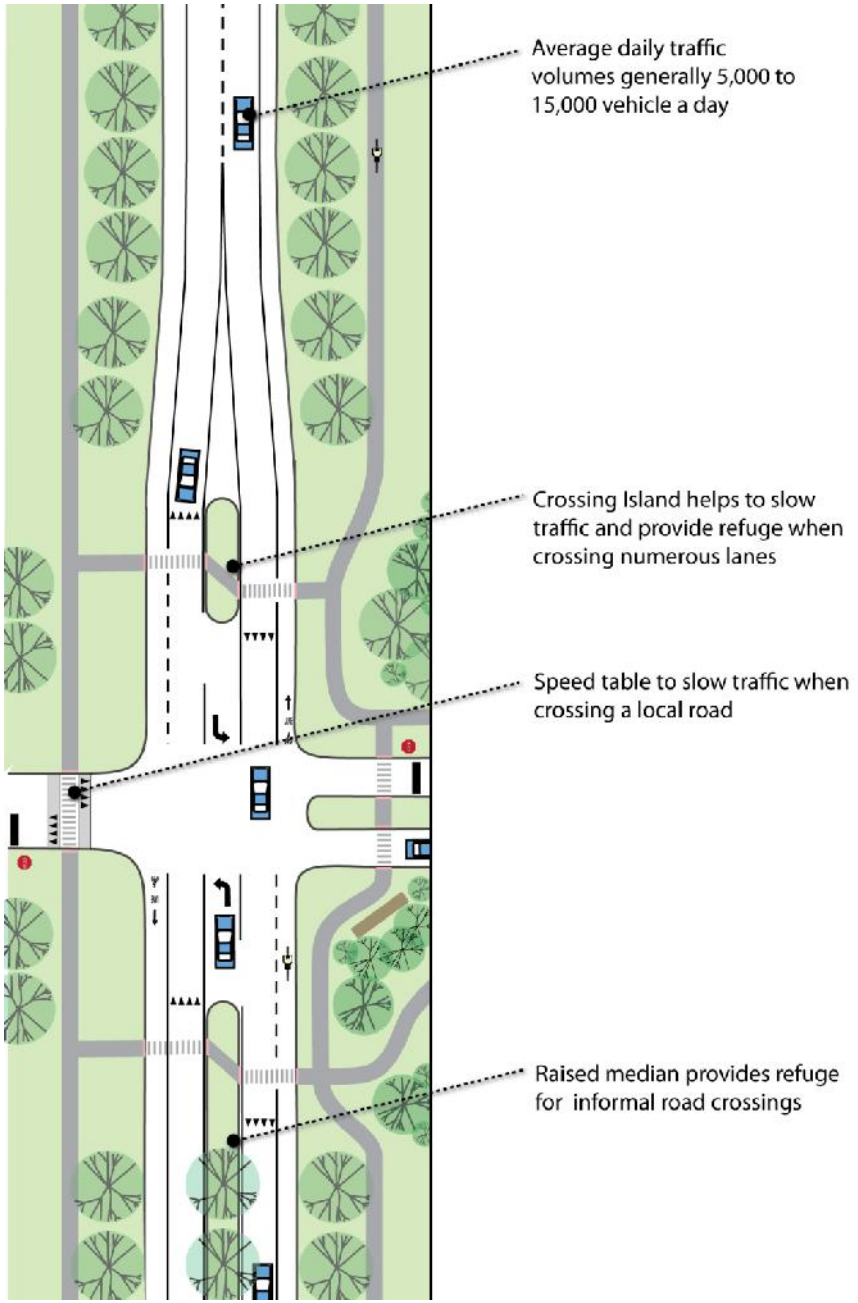
Pedestrian/Bicycle Focused Corridors

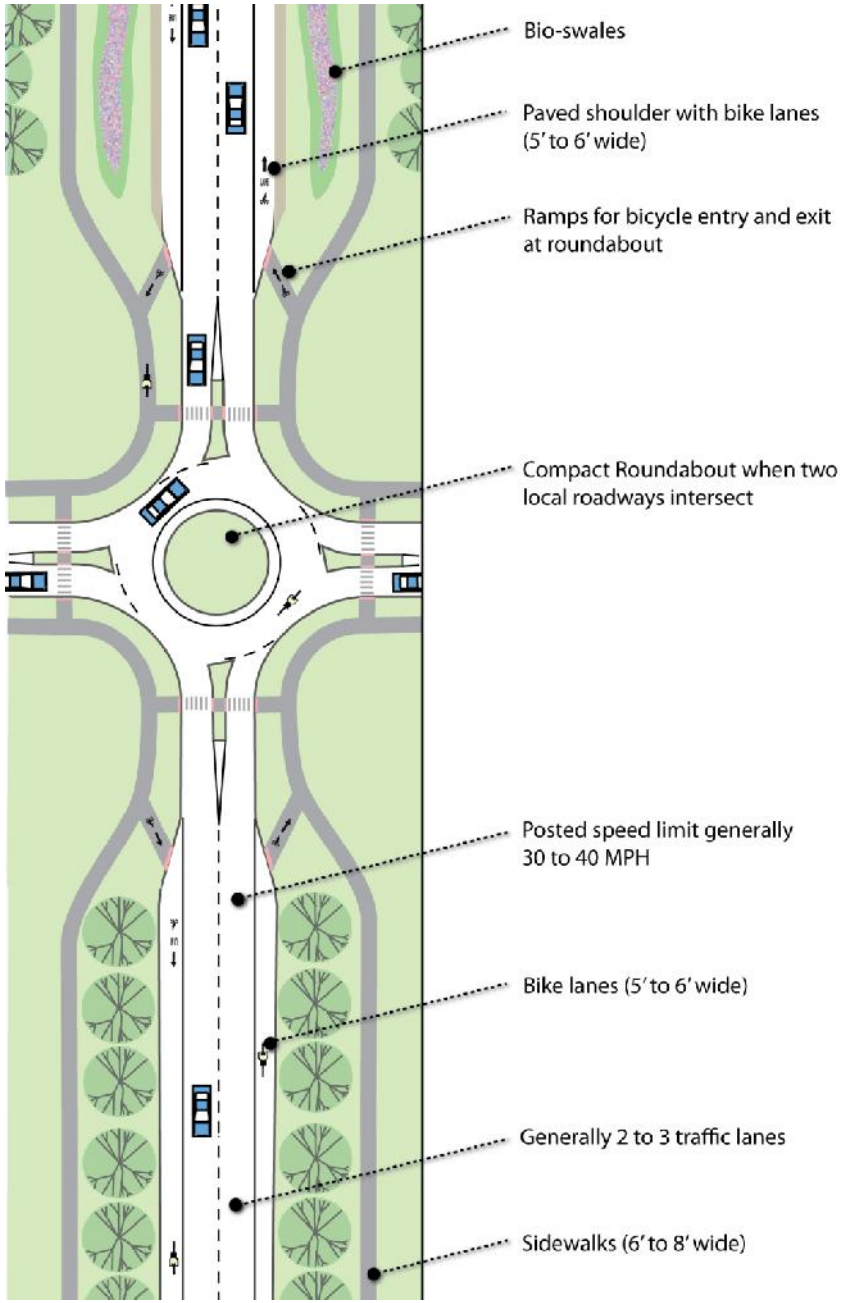
Typical Elements:

- Bike lanes & Sidewalks
- Crossing islands
- Planted medians
- Street trees
- 4 to 3 lane conversions
- Narrow travel lanes



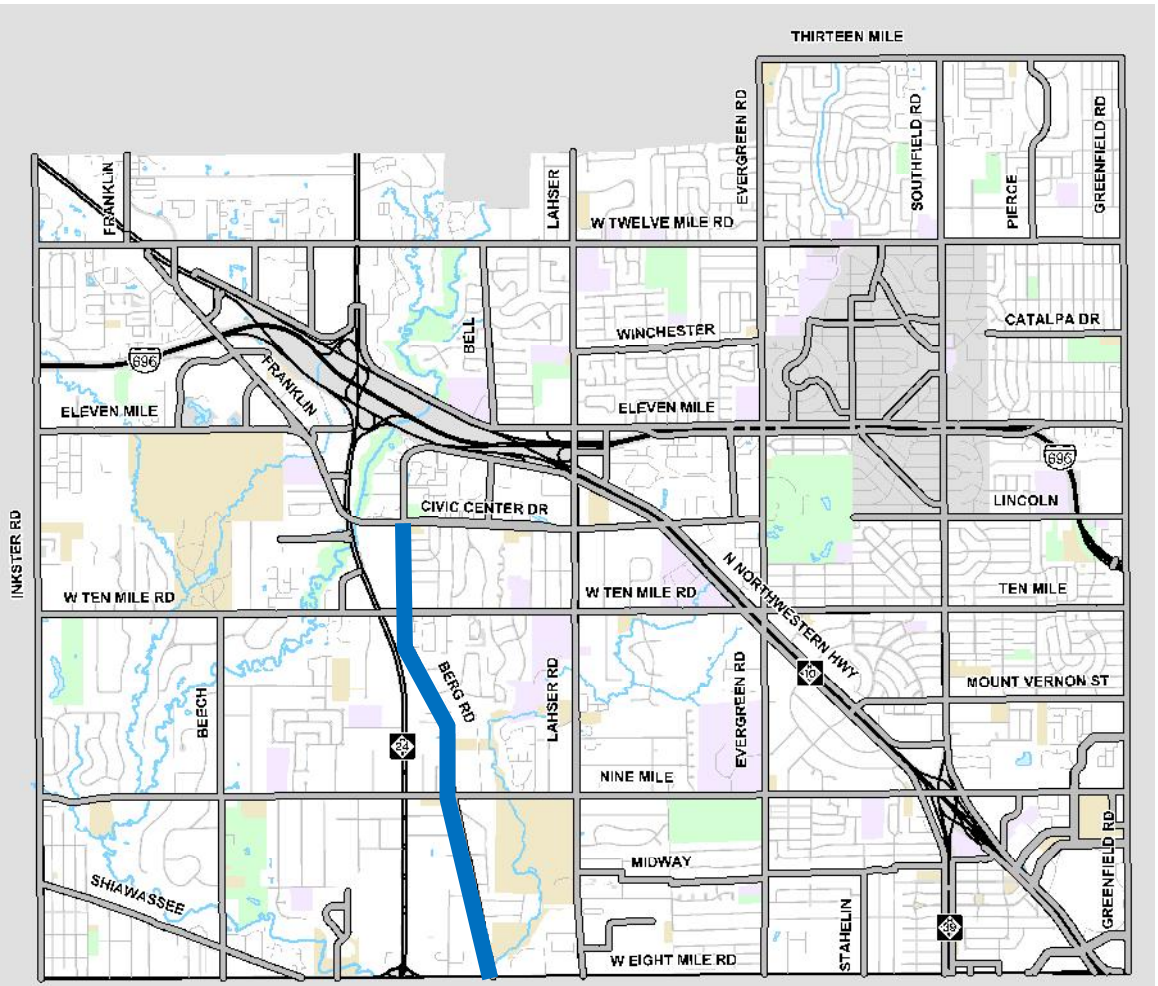
Pedestrian/Bicycle Focused Corridors

- Minimize speed differential between motorists and bicyclists
- Design roadway such that motorists naturally drive 35 MPH or less
- Utilize traffic calming measures that also improve safety and aesthetics



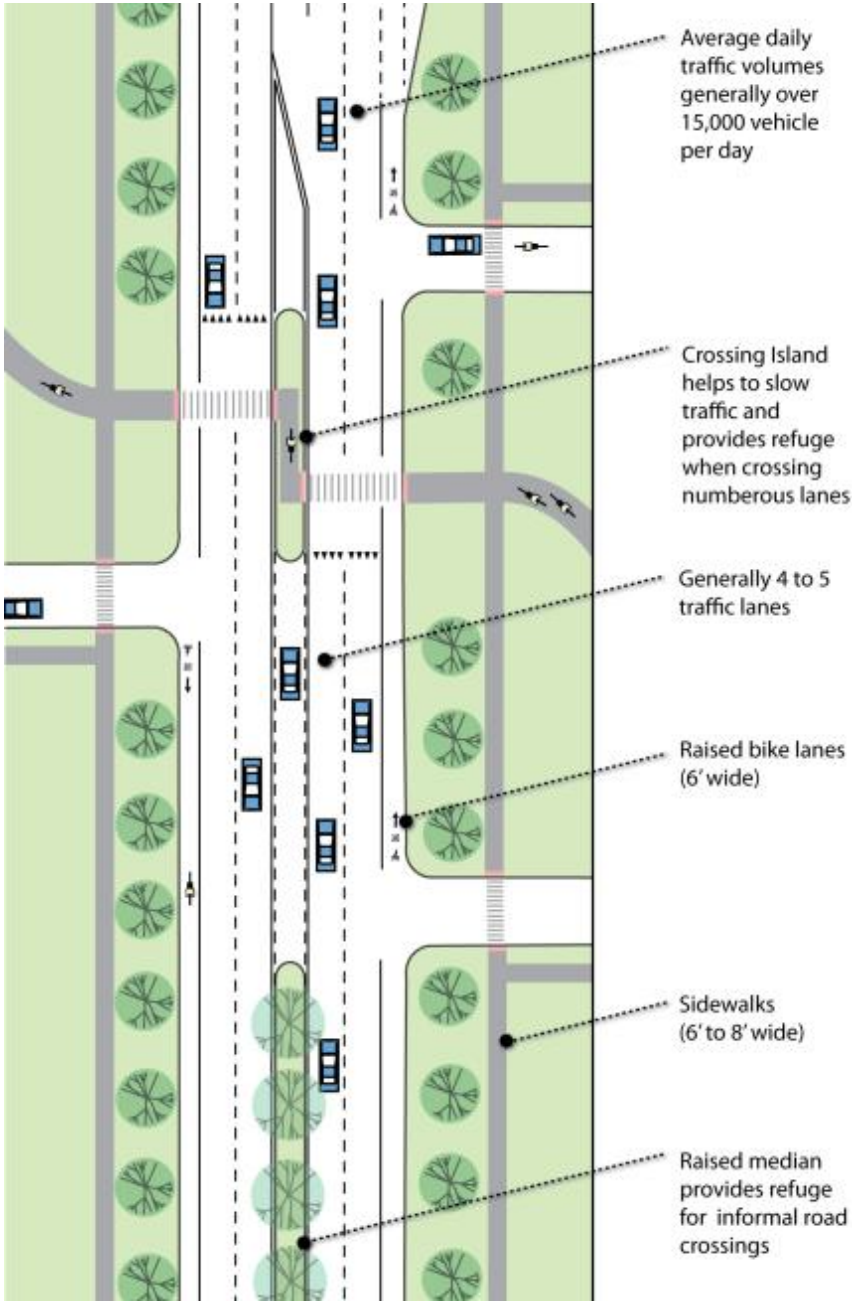
Identify Pedestrian/Bicycle Focused Corridors

- Using a 8 ½ x 11 map
- Mark approximately 1/3 of the primary road corridors that you feel <u>should be</u> bicycle and pedestrian focused
- Use a <u>BLUE</u> marker
- When everyone at the table is done, compare your maps and mark up the large map with a <u>BLUE</u> marker the roads that group is in consensus regarding their focus



Auto Focused Corridors

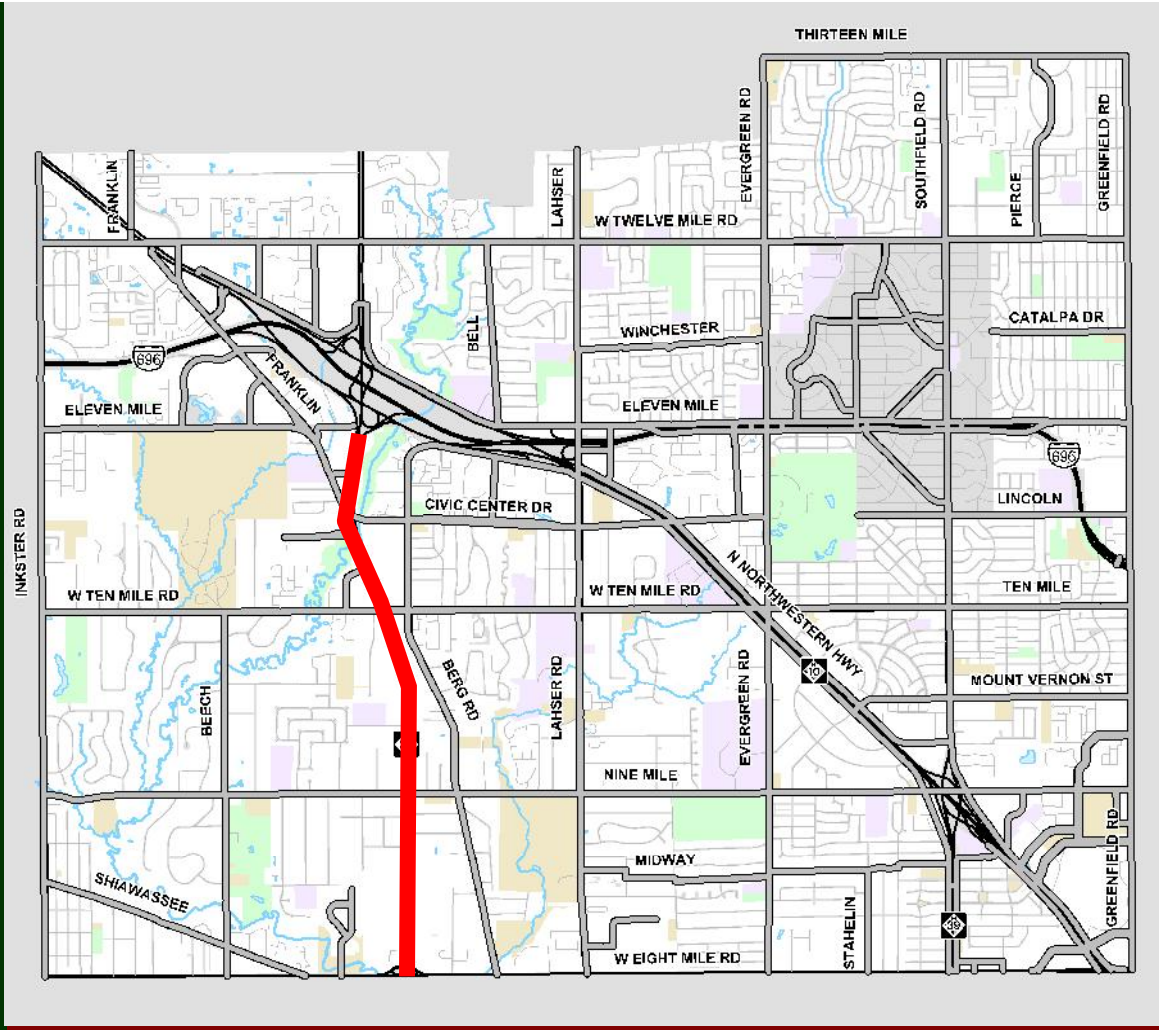
- Focus on getting pedestrians safety across the roadway especially at transit stops
- Accommodate bikes when possible but also look for alternative parallel routes



Identify Auto Focused Corridors

- Using a 8 ½ x 11 map
- Mark approximately 1/3 of the primary road corridors that you feel should be automobile and pedestrian focused
- Use a RED marker

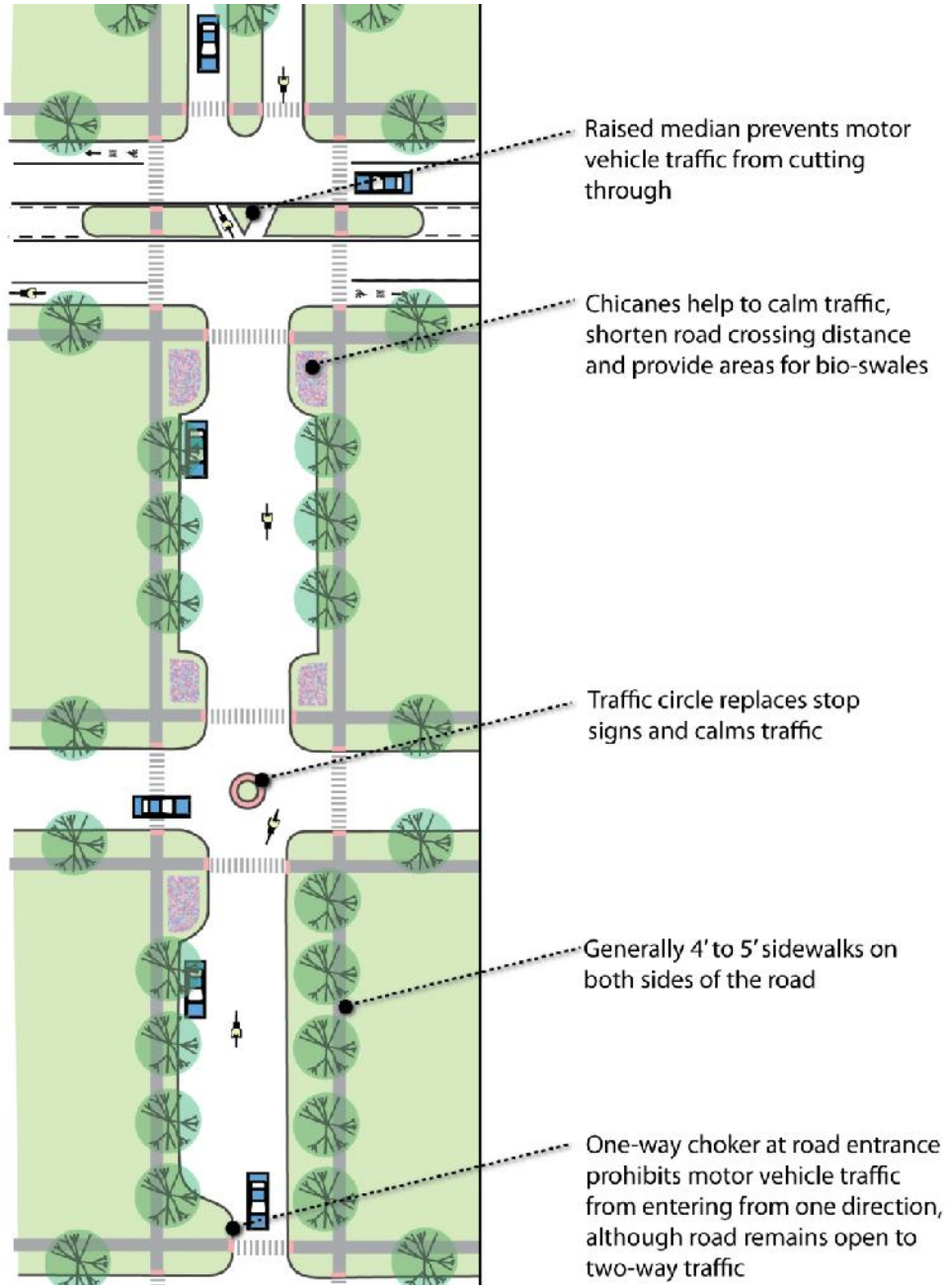
- When everyone at the table is done, compare your maps and mark up the large map with a RED marker the roads that group is in consensus regarding their focus



Neighborhood Connectors

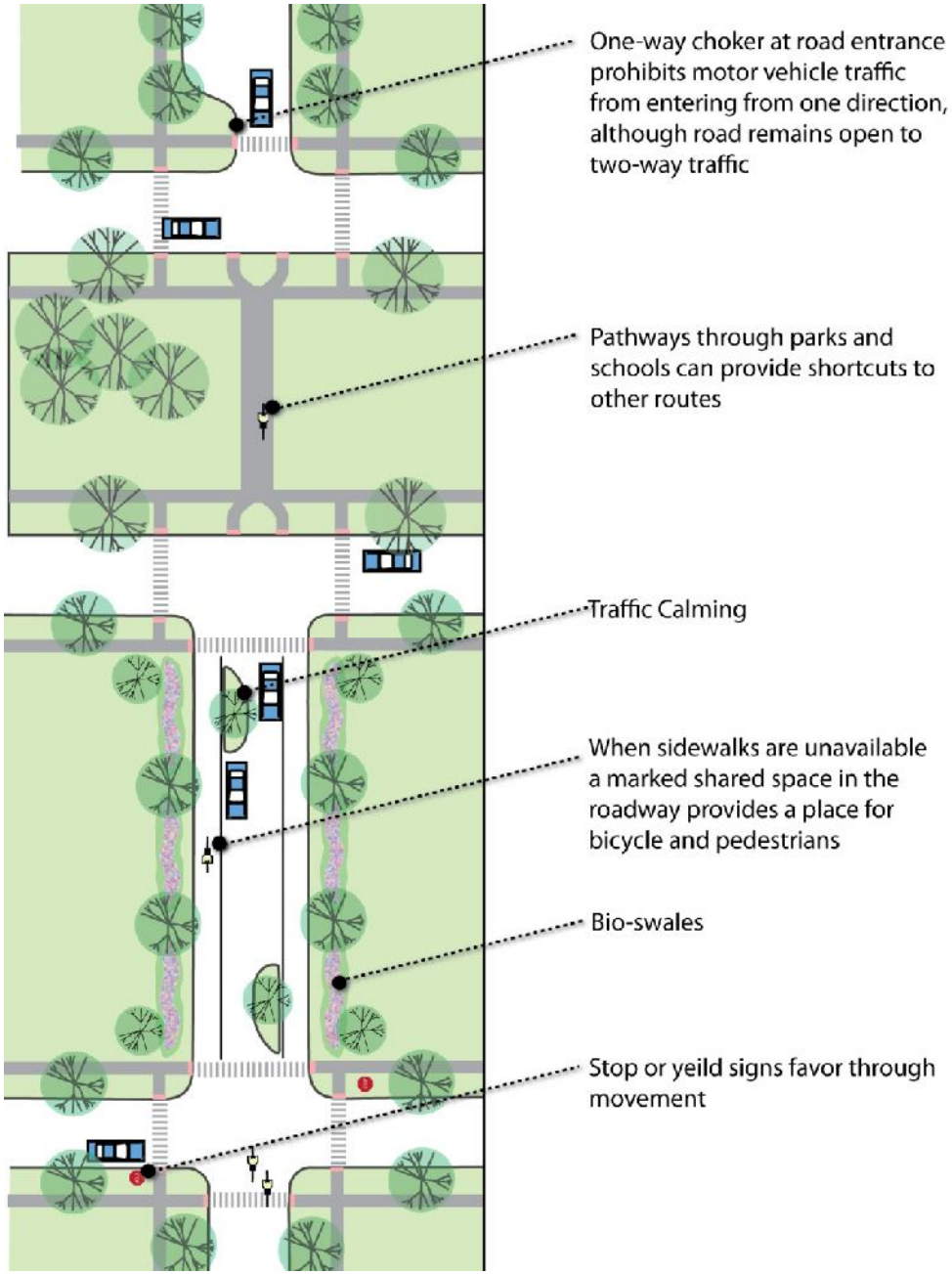
Common Elements:

- Restriction of through motor vehicle travel
- Mini roundabouts
- Curb extensions
- Wayfinding
- Street trees



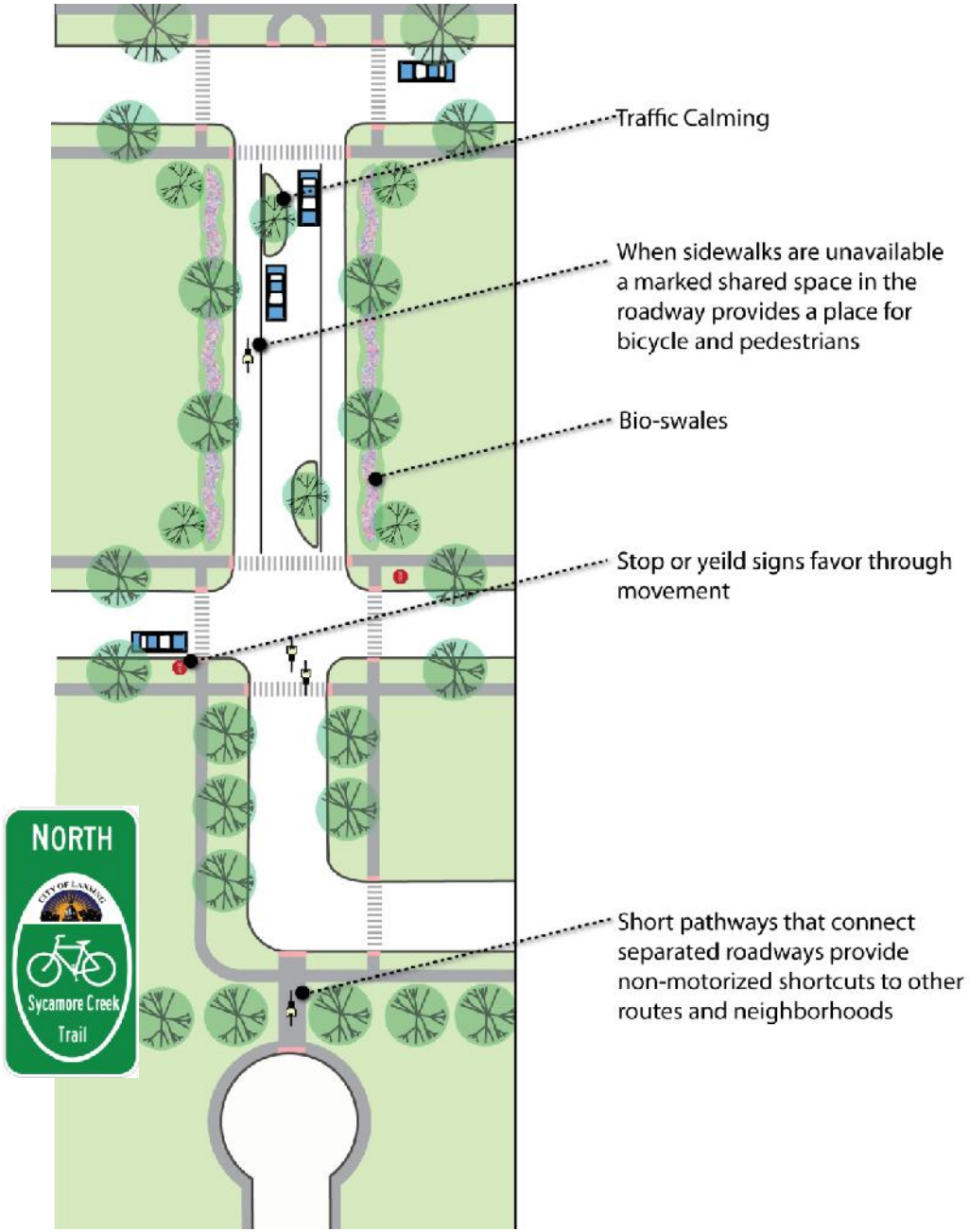
Neighborhood Connectors

- Focus on creating a very bicycle and pedestrian friendly environment
- Often an alternative to an auto focused corridor
- Frequently a combination of local roads and short off-road trails
- May incorporate “green street” elements



Neighborhood Connectors

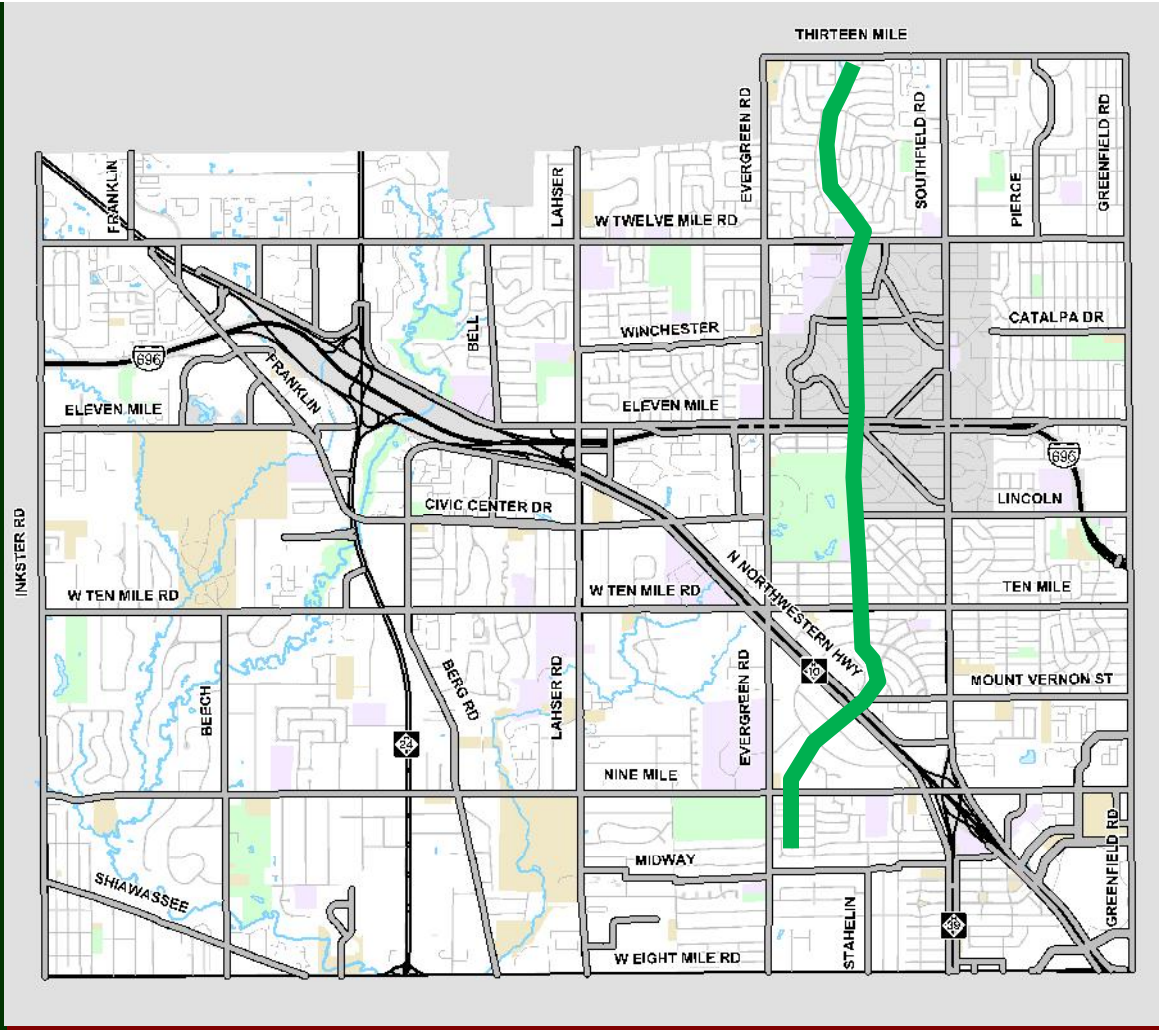
- Use to link parks, schools and other key community resources
- Tie into transit stops
- Comfortable for an 11 year old to bike by themselves



Neighborhood Connector Corridors

- Using a 8 ½ x 11 map
- Mark the local roads and existing or potential off-road trails that you feel should neighborhood connectors
- Use a GREEN marker

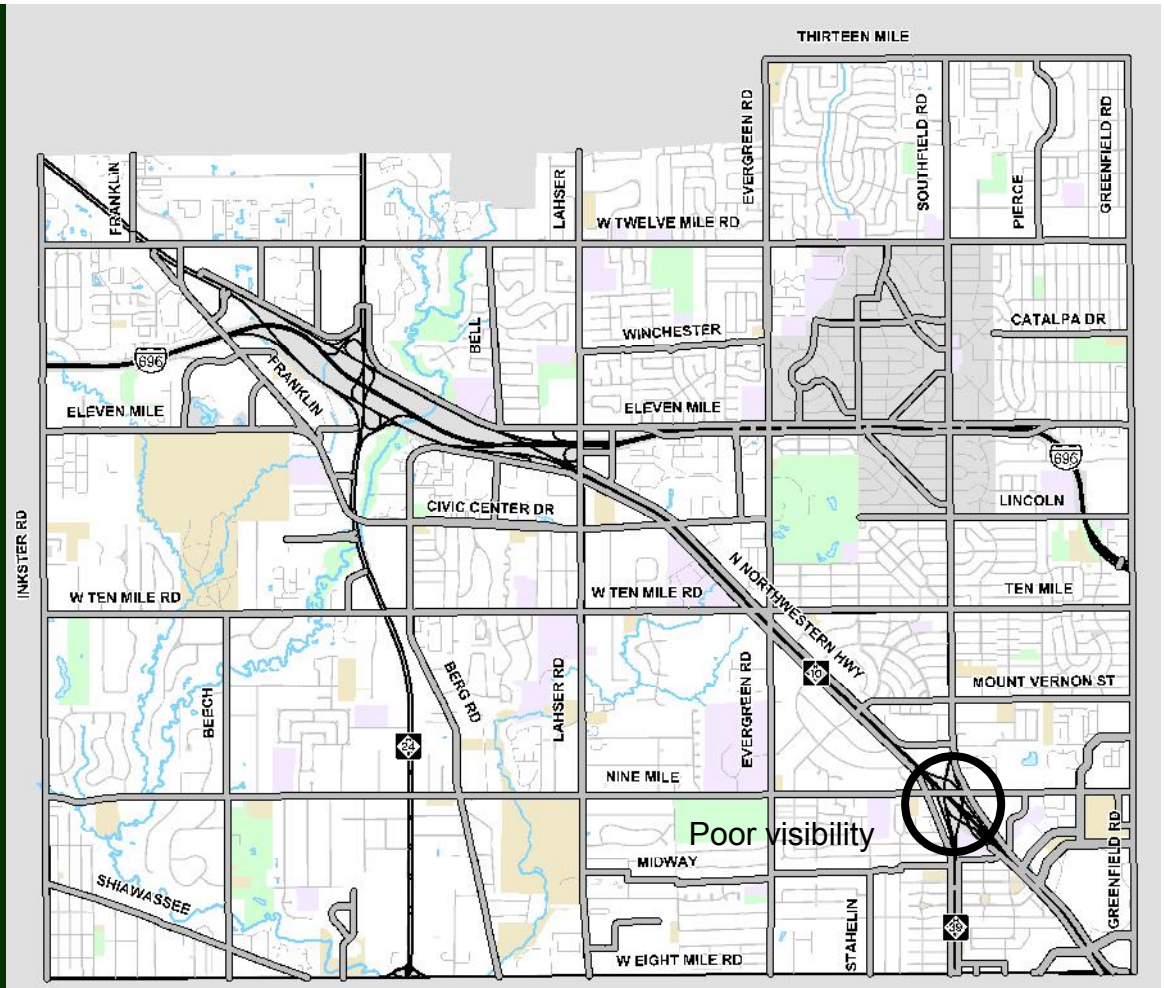
- When everyone at the table is done, compare your maps and mark up the large map with a GREEN marker the roads that group is in consensus regarding their focus



Key Issue Areas

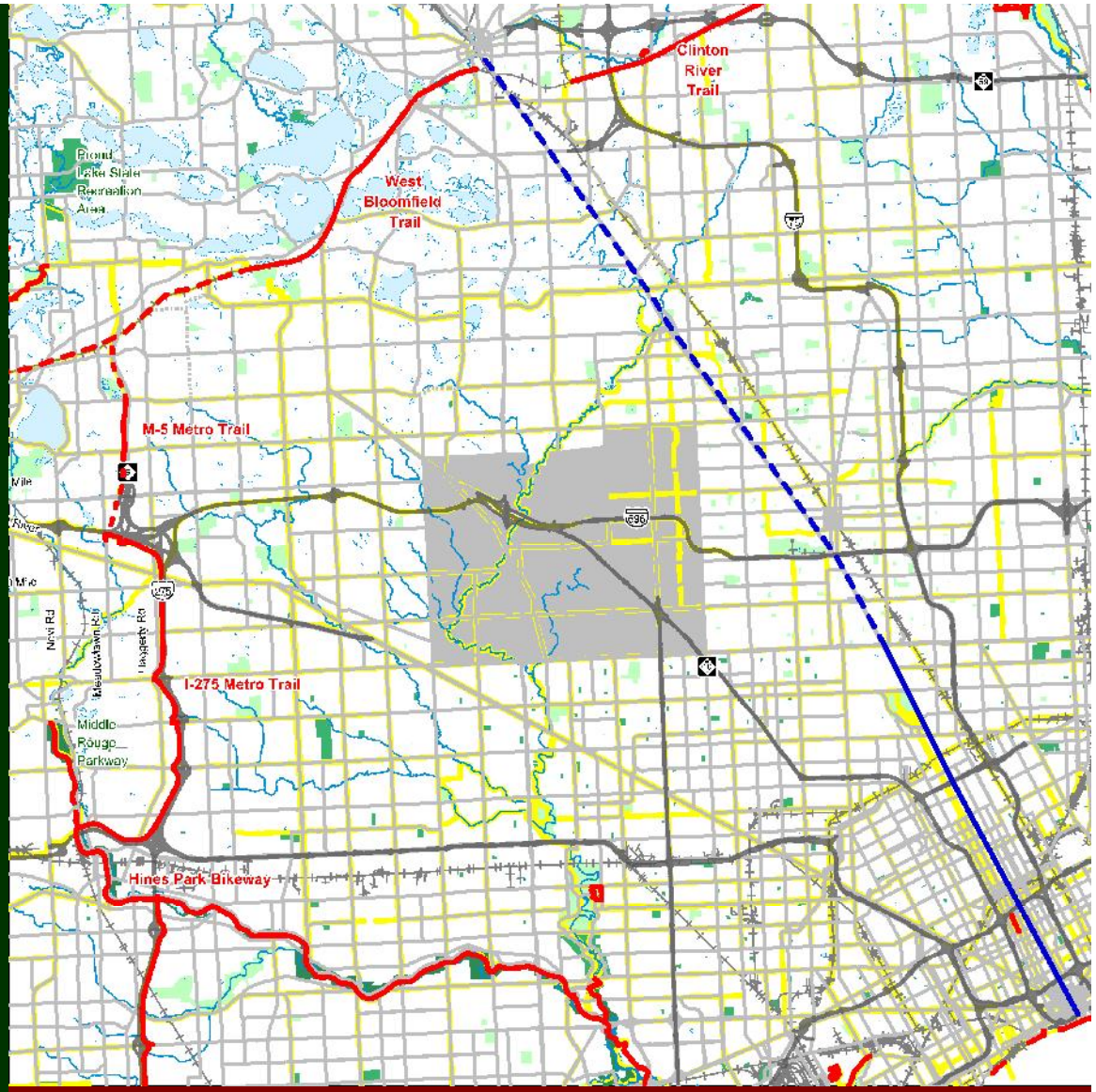
- Using a 8 ½ x 11 map
- Circle key issue areas and note the problem
- Use a BLACK marker

- When everyone at the table is done, compare your maps and mark up the large map with a BLACK marker the issues areas combining comments as appropriate



Woodward Light Rail and Regional Trail Connections

- How can we best tie into the developing light rail system?
- How does Southfield fit into the regional trail picture



Rethinking Streets

- People have come to view most streets as having a single purpose – to move cars and trucks
- Lost is the historical context of streets as a public forum
- People spend more recreation time on streets than in parks
- Streets define a community's character

A street encompasses the road, the landscape, the sidewalks, the architecture and the people.

Questions or Comments

Please Contact:

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