

Mt. Pleasant Micropolitan Non-motorized Transportation Plan Visioning Workshop



Tuesday, March 15, 2011

7:00 to 9:00 PM

Isabella County Building



Agenda

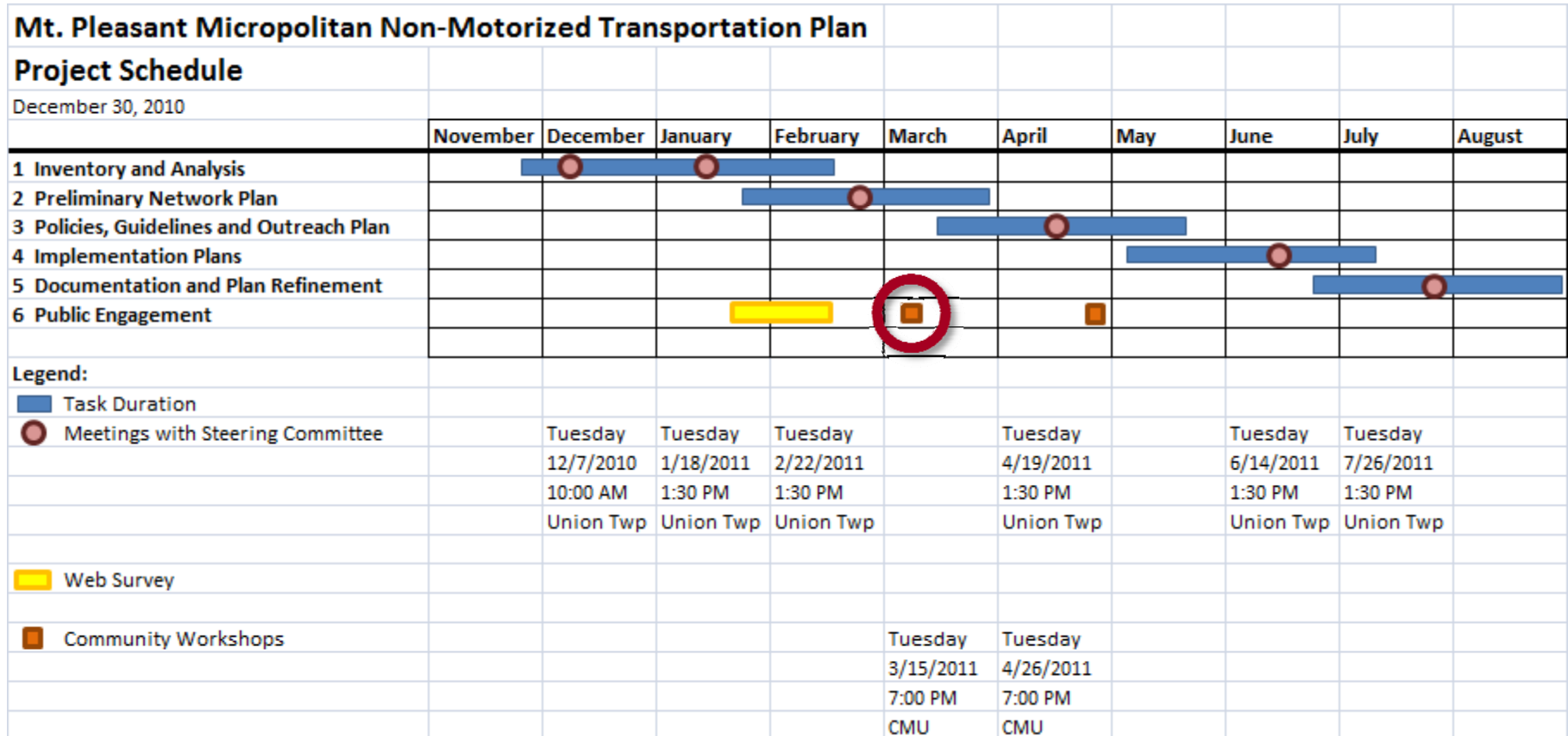
- Project Overview
- Web Survey Findings
- Goals and Objectives
 - Exercise
- Inventory and Analysis
- Preliminary Network Development
 - Mt. Pleasant Area Map Exercise
 - Isabella County Map Exercise
- Next Steps



Purpose of the meeting is to introduce the project, review survey results, refine goals and objectives and review potential non-motorized network



Project Schedule





Comparison to Peer Cities in Michigan

- Based on 2000 census commute to work data
- Michigan cities
- Population 20,000 - 40,000
- 1.5% Bike
- 15.9% Walk
- 0.7% Bus
- 18% Don't drive
- 10% of homes do not have a car

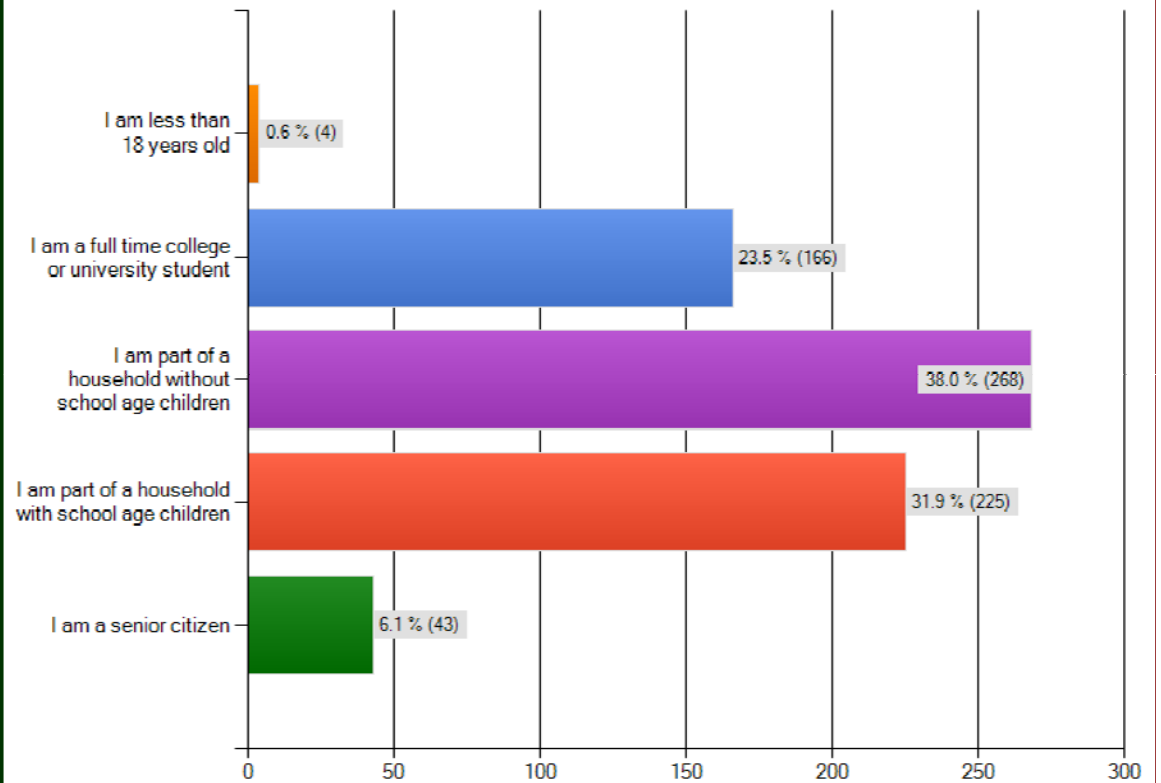
Rank	Place	Pop.	% of Commuters Who:				Percent Households W/O Car
			Bike	Walk	Use Transit	Don't Drive	
1	Ypsilanti	22,403	0.4	15.6	4.6	20.6	14.1
2	Mount Pleasant	26,101	1.5	15.9	0.7	18.2	10.0
3	Holland	35,211	0.5	7.8	1.1	9.3	7.5
4	Hamtramck	22,976	0.2	4.9	3.6	8.7	20.5
5	Port Huron	32,363	0.9	3.9	1.8	6.6	13.9
6	Adrian	21,497	0.3	5.5	0.7	6.5	10.2
7	Jackson	36,316	0.4	3.1	1.5	5.0	15.6
8	Inkster	30,115	0.6	2.2	2.2	5.0	14.9
9	Bay City	36,817	0.4	3.1	1.2	4.7	11.3
10	Monroe	22,349	0.1	2.6	1.1	3.8	11.8
11	Ferndale	22,105	0.3	1.9	1.3	3.4	8.2
12	Oak Park	29,793	0.2	2.1	1.2	3.4	9.6
13	Okemos	22,686	0.5	1.6	1.3	3.4	3.6
14	Eastpointe	34,077	0.1	1.3	1.0	2.5	7.8
15	Walker	21,795	0.1	1.4	0.9	2.3	5.6
16	Southgate	30,136	0.1	1.3	1.0	2.3	8.1
17	Wyandotte	28,006	0.2	1.9	0.2	2.3	7.8
18	Romulus	22,979	0.1	1.7	0.4	2.2	7.1
19	Madison Heights	31,101	0.3	1.1	0.7	2.0	8.6
20	Garden City	30,047	0.3	1.4	0.2	1.9	5.2
21	Allen Park	29,376	0.1	1.2	0.5	1.7	6.8
22	Burton	30,308	0.1	1.2	0.4	1.7	5.1
23	Saginaw Township North	25,061	0.2	0.5	0.5	1.2	8.2
24	Plymouth Township	27,650	0.1	0.7	0.1	0.9	4.3
25	Forest Hills	20,931	0.2	0.6	0.1	0.9	1.4
Averages			0.3	3.4	1.1	4.8	9.1



Web Survey (719 Surveys Started, 548 Completed)

- 50% live in the City of Mt. Pleasant
- 11% live in Union Twp
- Participants from every township, except Coldwater and Wise Townships
- 9% live outside Isabella County
- 20% work at CMU
- 51% work in the City of Mt. Pleasant
- 8% work in Union Twp
- 9% work outside Isabella County

Please indicate which of the following best describes your circumstance. For the purposes of this question, a household is considered any type of residence with one or more occupants.



3. Please indicate your gender

	Response Percent	Response Count
Male	41.9%	296
Female	58.1%	410
answered question		706
skipped question		13



Web Survey – Primary mode of transportation

Current Primary Mode of Transportation to Work:

- 68.6 % Drive
- 8.0 % Walk
- 6.5 % Bike
- Much higher walking percentages for education/school trips

4. What is your primary mode of transportation for the following types of trips? Please select walking, bicycling, bus, motorcycle, drive yourself, passenger or other. If you don't typically make a particular trip type select "Not Applicable".

	Not Applicable	Walking	Bicycling	Bus	Motorcycle	Drive Yourself	Carpool	Passenger	Other	Response Count
To Work	13.1% (91)	8.0% (58)	6.5% (45)	0.7% (5)	0.0% (0)	68.6% (478)	2.3% (16)	0.0% (0)	0.0% (0)	697
Education/School	45.2% (298)	14.5% (96)	5.2% (34)	2.6% (17)	0.0% (0)	20.7% (138)	1.6% (10)	0.6% (4)	0.6% (4)	660
Shopping & Personal Business	0.6% (4)	5.2% (37)	3.7% (26)	0.4% (3)	0.0% (0)	83.9% (594)	2.5% (18)	3.4% (24)	0.3% (2)	708
Leisure & Recreation	0.8% (6)	18.7% (132)	22.3% (158)	0.3% (2)	0.4% (3)	48.2% (341)	3.3% (23)	4.8% (34)	1.1% (8)	707
Other	25.2% (103)	19.4% (79)	16.4% (67)	0.5% (2)	1.5% (6)	30.9% (126)	1.5% (6)	1.2% (5)	3.4% (14)	408
									Other (please specify)	101
									answered question	711
									skipped question	3



Web Survey – Frequency of Walking and Bicycling

Transportation Trips:

- 38% WALK daily or weekly
- 24.1% BIKE daily or weekly
- 56% said they would WALK daily or weekly if facilities were available
- 55% said they would BIKE Daily or Weekly if facilities were available
- Biggest jump would be the frequency in bicycling

7. Please describe how frequently you walk and bicycle for the following types of trips:

	Daily	Weekly	Monthly	Rarely	Never	Response Count
Walk for fun and/or exercise	35.5% (240)	35.2% (238)	11.2% (76)	13.6% (92)	4.6% (31)	677
Walk for transportation	21.2% (144)	16.8% (114)	10.9% (74)	33.0% (224)	18.0% (122)	678
Bicycle for fun and/or exercise	12.9% (88)	28.7% (196)	20.1% (137)	23.0% (157)	15.4% (105)	683
Bicycle for transportation	8.9% (60)	15.2% (102)	10.0% (67)	33.1% (222)	32.8% (220)	671
Other (please specify)						58
answered question						686
skipped question						33

8. If a system of sidewalks, pathways, crosswalks, bike lanes, etc. is constructed, how do you think that would change your walking and bicycling habits?

	Daily	Weekly	Monthly	Rarely	Never	Response Count
Walk for fun and/or exercise	47.9% (315)	32.2% (212)	7.4% (49)	7.6% (50)	4.9% (32)	658
Walk for transportation	33.5% (219)	22.6% (148)	12.1% (79)	19.9% (130)	11.9% (78)	654
Bicycle for fun and/or exercise	33.1% (221)	34.0% (227)	13.0% (87)	10.8% (72)	9.0% (60)	667
Bicycle for transportation	30.9% (203)	24.5% (161)	11.9% (78)	15.7% (103)	17.0% (112)	657
Other (please specify)						41
answered question						673
skipped question						46



Web Survey – Current Destinations

- Participants were asked to identify where they currently bike or walk to

Survey Results

(# of people who currently bike or walk)

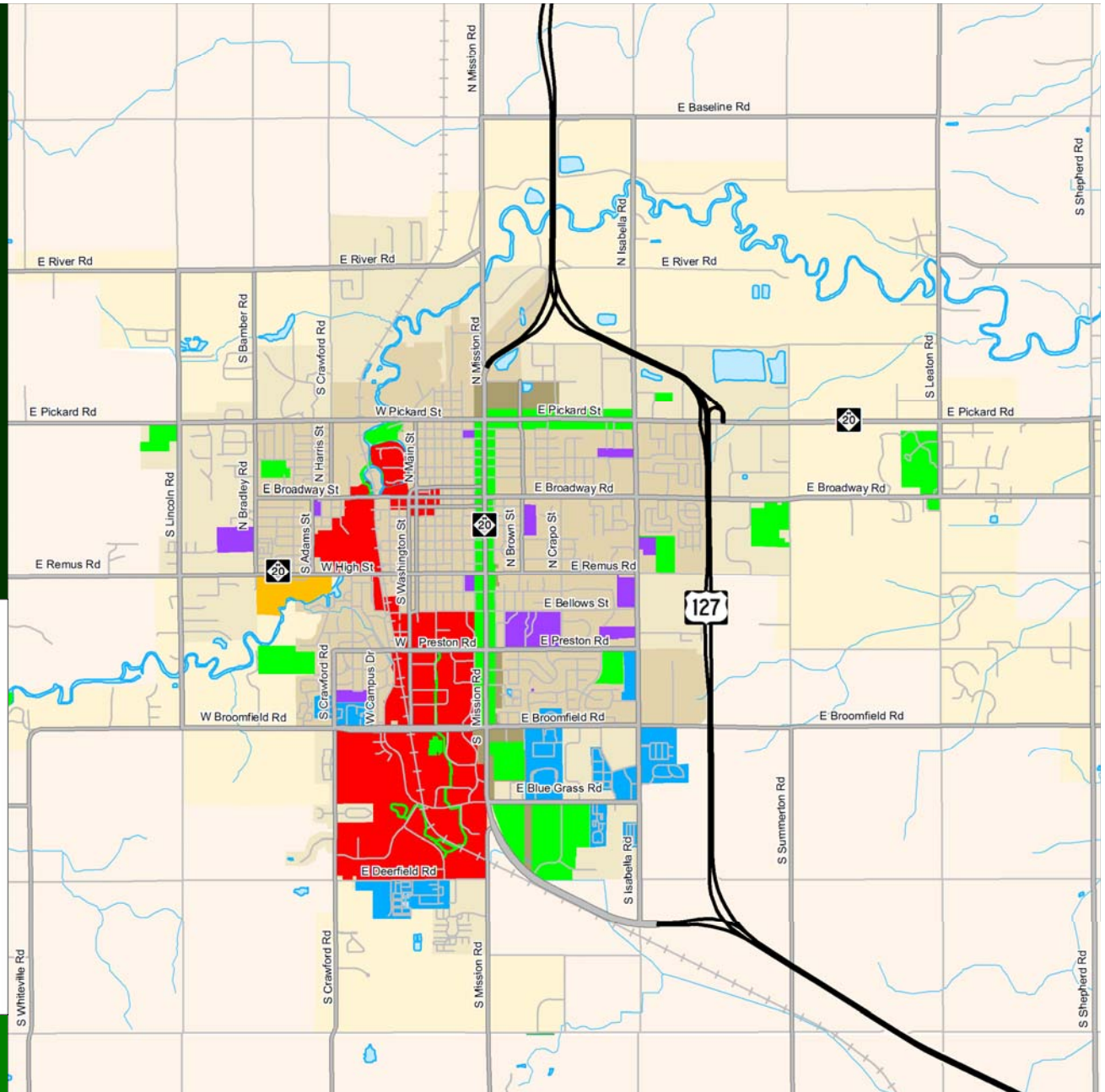
- Over 350
- 300 to 350
- 250 to 300
- 0 to 250

*548 people completed the survey

Other Activity Generators

- High Density Residential Areas
- Schools

The Greenway Collaborative, Inc
Wade Trim
LSL Planning, Inc.





Web Survey – Desired Destinations

- Participants were asked to identify where they would like to bike or walk to
- There is a strong desire to access commercial areas

Survey Results

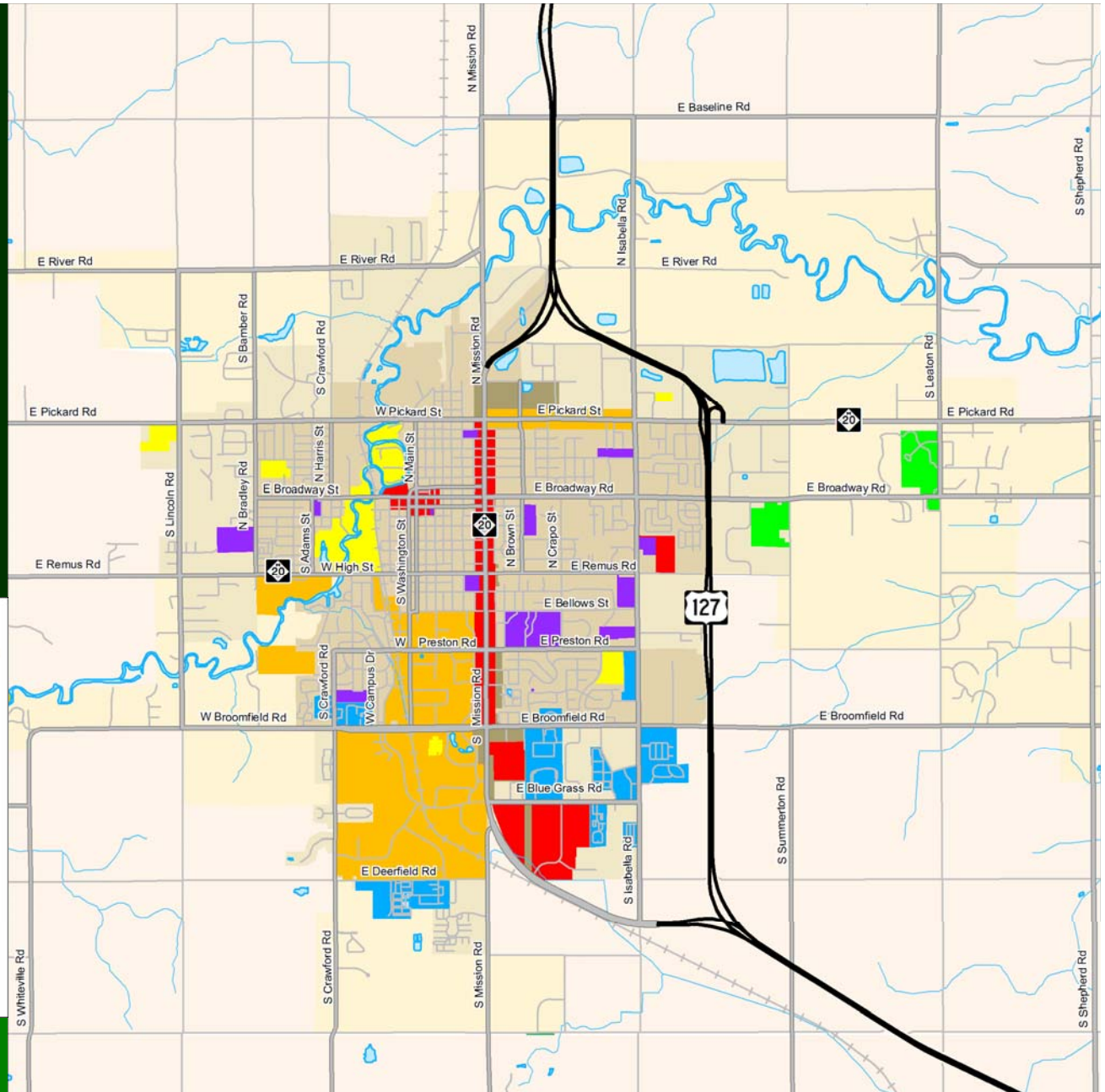
(# of people who would like to bike or walk)

- over 350
- 300 to 350
- 250 to 300
- 0 to 250

*548 people completed the survey

Other Activity Generators

- High Density Residential Areas
- Schools





Web Survey – Regional Current Destinations

- Participants were asked to identify where they currently bike or walk to

Survey Results

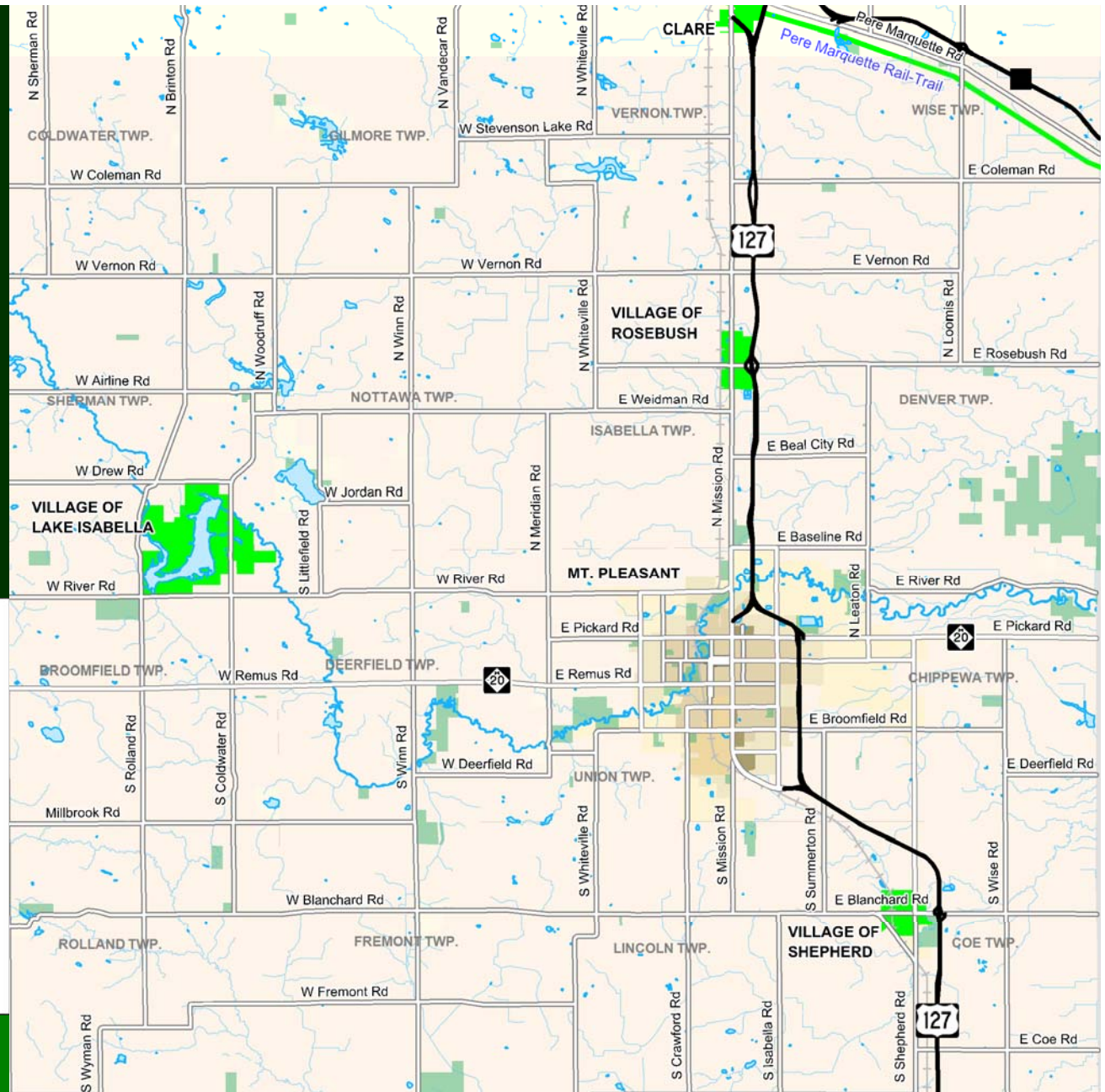
(# of people who currently bike or walk)

- Over 350
- 300 to 350
- 250 to 300
- 0 to 250

*548 people completed the survey

Other Activity Generators

- High Density Residential Areas
- Schools





Web Survey – Regional Desired Destinations

- Participants were asked to identify where they would like to bike or walk to
- There is a strong desire to access the Pere Marquette Rail-Trail

Survey Results

(# of people who would like to bike or walk)

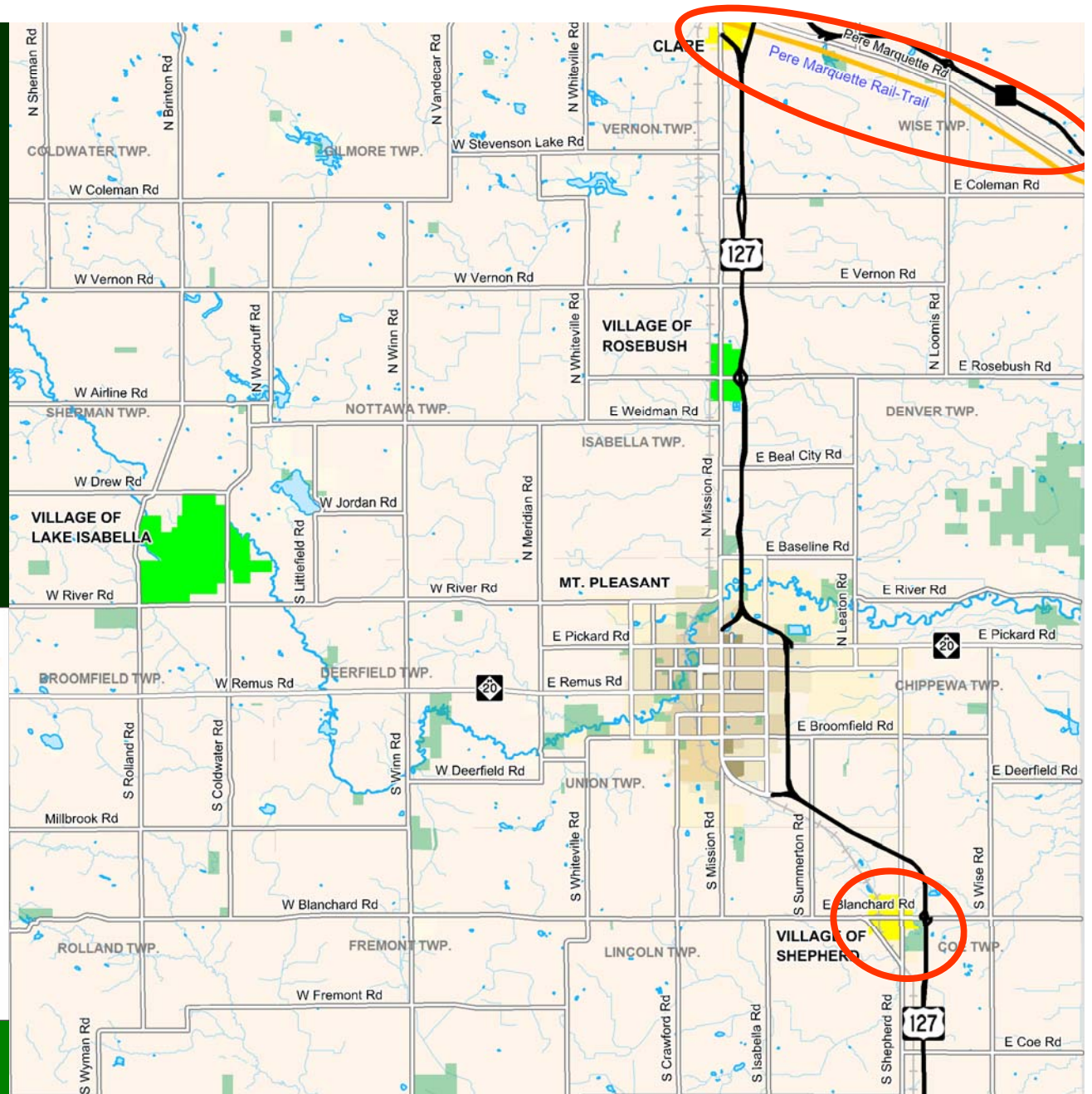
- over 350
- 300 to 350
- 250 to 300
- 0 to 250

*548 people completed the survey

Other Activity Generators

- High Density Residential Areas
- Schools

The Greenway Collaborative, Inc
Wade Trim
LSL Planning, Inc.





Web Survey

Top Concerns:

- Complete Sidewalk/roadside pathway system (76%)
- Snow and ice removal from sidewalks and pathways (63%)
- Complete bike lane system (59%)

12. For those destinations on this and the previous page that you indicated that you would like to walk or bicycle to in the future, please indicate the importance of following items in making that trip actually happen in the future.

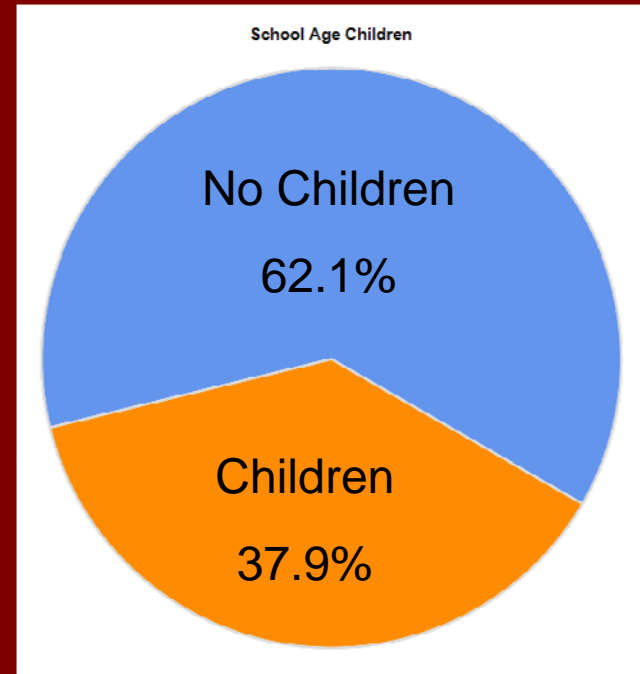
	Very Important	Somewhat Important	Not Very Important	Not Important	Response Count
Bicycle parking	41.2% (218)	36.3% (192)	12.1% (64)	10.4% (55)	529
Complete sidewalk / roadside pathway system	76.9% (412)	16.8% (90)	2.6% (14)	3.7% (20)	538
Complete bike lane system	59.1% (311)	24.3% (128)	8.7% (46)	7.8% (41)	526
Hands-on training on safe and effective bicycling	14.8% (77)	26.2% (136)	34.7% (180)	24.3% (126)	519
Lighting along sidewalks and pathways	50.5% (269)	31.0% (165)	12.2% (65)	6.4% (34)	533
Mid-block crosswalks	28.0% (145)	35.1% (182)	24.1% (125)	12.7% (66)	518
Map of available pedestrian and bicycle facilities	46.5% (247)	34.3% (182)	13.0% (69)	6.2% (33)	531
On-line customized walking and bicycling routes	35.1% (183)	34.0% (177)	22.8% (119)	8.1% (42)	521
Snow and ice removal from sidewalks and pathways	63.6% (343)	23.0% (124)	7.1% (38)	6.3% (34)	539
Wayfinding signs for suggested bicycle and pedestrian routes to key destinations	46.0% (242)	37.8% (199)	10.8% (57)	5.3% (28)	526
				Other (please specify)	22
				answered question	548
				skipped question	171



Web Survey – School Age Children

School Age Children:

- 220 respondents with school age students
- Every school was represented except Seventh Day Adventist Elementary
- Potential for 57% of respondents with school age children to walk/bike most or some of the time to school if a network was provided



18. How likely are you or your child to walk or bike to school in the future if there is a network of sidewalks, pathways, crosswalks, bike lanes, etc.?

	Response Percent	Response Count
Already walk or bike	13.4%	28
Likely to walk or bike most of the time	25.3%	49
Likely to walk or bike some of the time	32.0%	62
Not likely to start walking or biking	29.4%	57
answered question		194
skipped question		525



Web Survey – School Age Children

Top Concerns:

- Lack of sidewalks or pathways along the main roads (64.2%)
- Signalized intersections too busy (47.1%)
- Lack of sidewalks in the neighborhoods (44.7%)
- Weather (38.8%)
- Personal security concerns (37.8%)

19. What concerns do you have about walking or bicycling to school?

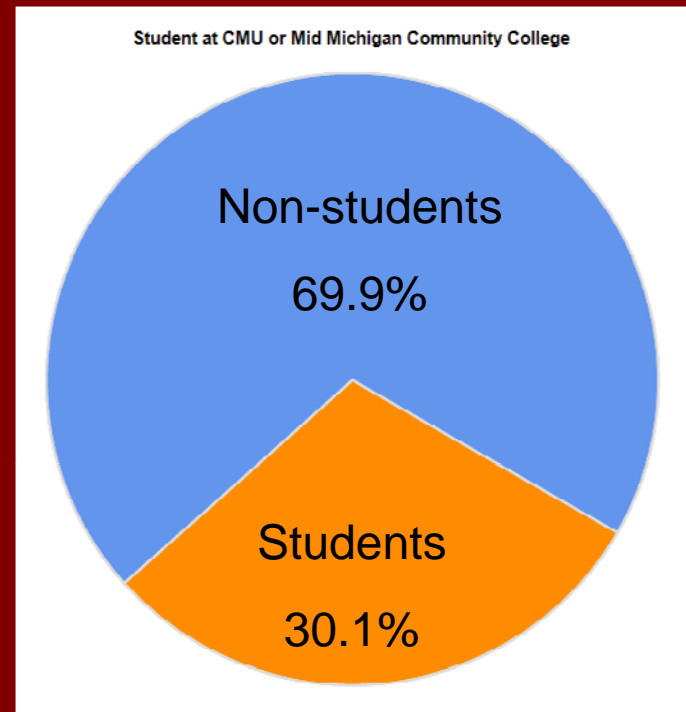
	Major Concern	Somewhat of a Concern	Minor Concern	Not a Concern	Not Applicable or Not Sure	Response Count
Lack of sidewalks in the neighborhood	44.7% (76)	21.8% (37)	11.2% (19)	11.2% (19)	11.2% (19)	170
Lack of sidewalks or pathways along the main roads	64.2% (111)	13.3% (23)	4.0% (7)	9.2% (16)	9.2% (16)	173
Existing crosswalks too far out of way	25.0% (41)	22.0% (36)	24.4% (40)	14.0% (23)	14.8% (24)	164
Signalized intersections too busy	47.1% (81)	22.1% (38)	14.0% (24)	5.2% (9)	11.8% (20)	172
Too far to walk or bike	31.0% (57)	15.2% (28)	17.4% (32)	29.3% (54)	7.1% (13)	184
No bike racks at school	11.5% (19)	23.8% (39)	15.2% (25)	29.7% (49)	20.0% (33)	165
Weather	38.8% (69)	29.2% (52)	15.7% (28)	9.8% (17)	6.7% (12)	178
Poor lighting along route	33.1% (56)	23.7% (40)	14.8% (25)	18.3% (31)	10.1% (17)	169
Personal security concerns	37.8% (68)	27.2% (49)	12.8% (23)	15.6% (28)	6.7% (12)	180
					Other (please specify)	18
					answered question	196
					skipped question	523



Web Survey – CMU/MMCC Students

CMU and MMCC Students:

- 160 students took filled out this section of the survey



21. What school do you attend?

What year are you?

	Freshman	Softmore	Junior	Senior	Graduate Student	Other	Response Count
Central Michigan University	23.8% (31)	12.3% (16)	19.2% (25)	16.2% (21)	22.3% (29)	6.2% (8)	130
Mid Michigan Community College	16.3% (7)	39.5% (17)	16.3% (7)	14.0% (6)	0.0% (0)	14.0% (6)	43
						answered question	160
						skipped question	559



Web Survey – CMU/MMCC Students

CMU or MMCC Students:

- Approximately half of the respondents use non-motorized transportation to get to class
- About 13% of respondents use non-motorized transportation for Errands and Shopping Trips
- About 18% of respondents use non-motorized transportation for Entertainment Trips

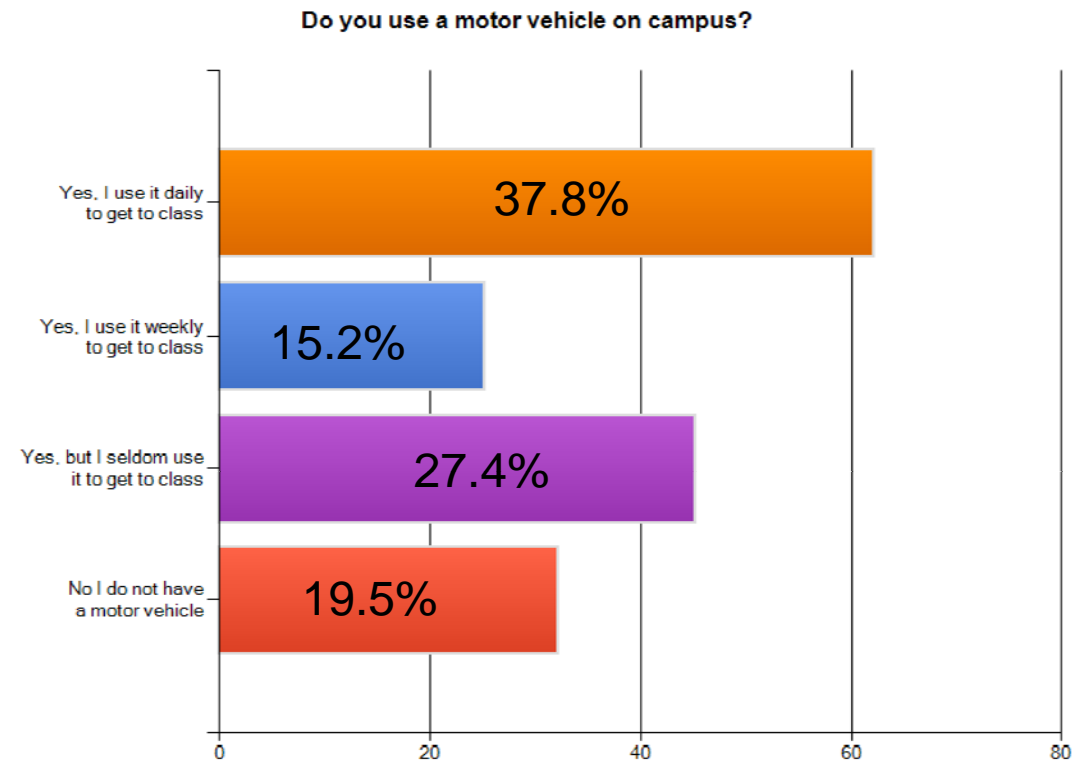
23. How do you generally get to the following locations?

	Walk	Bike	Bus	Motorcycle/Scooter	Drive Myself	Carpool	Passenger	Taxi	Other	Response Count
Class	35.4% (58)	13.4% (22)	2.4% (4)	0.6% (1)	44.5% (73)	0.6% (1)	0.6% (1)	0.0% (0)	2.4% (4)	164
Errands and Shopping	6.7% (11)	6.7% (11)	1.8% (3)	0.0% (0)	73.2% (120)	4.9% (8)	3.1% (10)	0.0% (0)	3.6% (1)	164
Entertainment	11.1% (18)	7.4% (12)	2.5% (4)	0.6% (1)	56.2% (91)	9.9% (16)	9.9% (16)	1.2% (2)	1.2% (2)	162
									Other (please specify)	17
									answered question	165
									skipped question	554



Web Survey - CMU/MMCC Students

- 46.9% of respondents seldom or never use a motor vehicle on campus

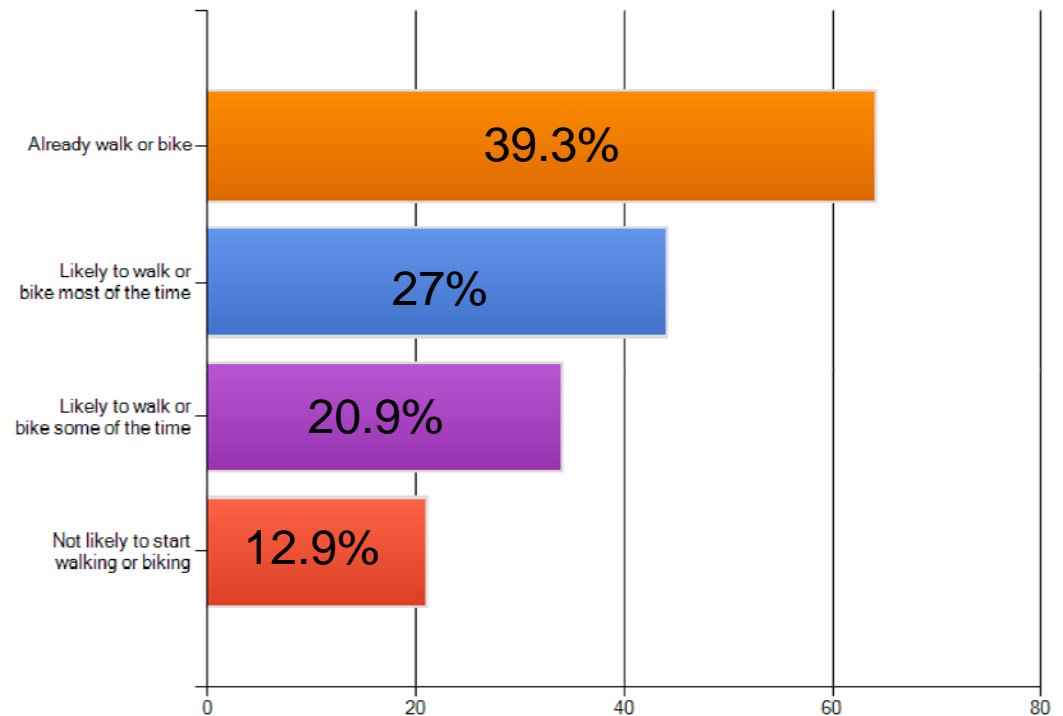




Web Survey - CMU/MMCC Students

- 42.6% more students may be likely to walk or bike most or some of the time if facilities were provided
- 60% of the students who use their car daily to get to school said that they would be likely to walk or bike most or some of the time if facilities were provided

How likely are you to walk or bike to school in the future if there is a network of sidewalks, pathways, crosswalks, bike lanes, etc.?





Web Survey - CMU/MMCC Students

Top Concerns:

- Lack of sidewalks or pathways along the main roads (53.2%)
- Weather (45.3%)
- Signalized intersections too busy (40%)

25. What concerns do you have about walking or bicycling to campus?

	Major Concern	Somewhat of a Concern	Minor Concern	Not a Concern	Not Applicable or Not Sure	Response Count
Lack of sidewalks in the neighborhood	31.6% (49)	28.4% (44)	20.0% (31)	13.5% (21)	6.5% (10)	155
Lack of sidewalks or pathways along the main roads	53.2% (83)	20.5% (32)	10.9% (17)	10.9% (17)	4.5% (7)	156
Existing crosswalks too far out of way	22.4% (34)	25.0% (38)	27.6% (42)	18.4% (28)	6.6% (10)	152
Signalized intersections too busy	40.0% (62)	28.4% (44)	17.4% (27)	11.0% (17)	3.2% (5)	155
Too far to walk or bike	24.5% (38)	23.2% (36)	18.1% (28)	30.3% (47)	3.9% (6)	155
No bike racks at school	11.0% (17)	19.5% (30)	22.1% (34)	35.1% (54)	12.3% (19)	154
Weather	45.3% (72)	26.4% (42)	19.5% (31)	6.9% (11)	1.9% (3)	159
Poor lighting along route	32.7% (51)	30.8% (48)	19.2% (30)	12.8% (20)	4.5% (7)	156
Personal security concerns	29.7% (47)	22.9% (36)	18.4% (29)	23.4% (37)	5.7% (9)	158
Other (please specify)						8
answered question						161
skipped question						558



Web Survey – Roadside Pathways

- A Roadside pathway is used by bicyclists, pedestrians and other non-motorized users.
- It is typically 8 to 10 feet wide and located within the road right-of-way.
- 40% of respondents use a roadside pathway daily or weekly as a pedestrian
- 30% of respondents use a roadside pathway daily or weekly as a bicyclist



Please indicate how frequently you use a roadside pathway?

	Daily	Weekly	Monthly	Rarely	Never	Response Count
As a pedestrian	19.5% (105)	21.2% (114)	14.1% (78)	32.3% (174)	12.8% (69)	538
As a bicyclist	10.0% (53)	20.7% (110)	15.4% (82)	31.2% (166)	22.7% (121)	532
				answered question		550
				skipped question		169



Web Survey – Roadside Pathways

Roadside Pathway top concerns:

- Gaps in the system
- Being hit by motor vehicles at intersecting driveways and roadways
- Snow and ice
- Condition of pavement

27. What are your concerns when walking or bicycling on a roadside pathway?						
	Major Concern	Somewhat of a Concern	Minor Concern	Not a Concern	Not Applicable or Not Sure	Response Count
Overhanging vegetation	9.7% (51)	30.4% (160)	34.8% (183)	20.3% (107)	4.8% (25)	526
Condition of pavement	31.3% (168)	37.9% (203)	20.3% (109)	6.9% (37)	3.5% (19)	536
Rough pavement transitions at intersecting driveways and roadways	25.6% (135)	35.1% (185)	24.7% (130)	10.4% (55)	4.2% (22)	527
Conflicts with pedestrians	14.0% (77)	27.0% (145)	32.1% (167)	21.1% (110)	4.2% (22)	521
Conflicts with bicyclists	12.3% (64)	25.9% (135)	34.1% (178)	23.9% (125)	3.8% (20)	522
Being hit by motor vehicles at intersecting driveways and roadways	48.2% (256)	21.8% (116)	14.9% (79)	11.3% (60)	3.8% (20)	531
Snow and ice	43.3% (231)	28.7% (153)	13.7% (73)	9.0% (48)	5.3% (28)	533
Puddles	14.0% (73)	26.8% (140)	34.3% (179)	20.7% (108)	4.2% (22)	522
Lighting	32.0% (169)	30.9% (163)	20.5% (108)	12.5% (66)	4.2% (22)	528
Gaps in the system	61.5% (270)	20.8% (155)	7.8% (41)	6.7% (35)	4.4% (23)	524
				Other (please specify)		37
				answered question		543
				skipped question		176



Web Survey – Roadside Pathways

- 48.7% of respondents are uncomfortable or somewhat uncomfortable on a roadside pathway with frequent intersecting driveways and/or roadways
- 46.8% of respondents are uncomfortable or somewhat uncomfortable on a roadside pathway when the pathway is right next to the roadway

28. What is your comfort level using a roadside pathway in the following contexts:

	Uncomfortable	Somewhat Uncomfortable	Somewhat Comfortable	Comfortable	Not Applicable or Not Sure	Response Count
With frequent intersecting driveways and/or roadways	15.2% (82)	33.5% (181)	26.8% (145)	21.3% (115)	3.3% (18)	541
When the pathway is right next to the roadway	19.6% (105)	27.2% (146)	24.3% (130)	25.9% (139)	3.0% (16)	536
When there is a strip of grass between the road and pathway	2.0% (11)	6.9% (37)	18.2% (98)	69.1% (372)	3.7% (20)	538
When there is a strip of grass and trees between the road and pathway	3.0% (16)	4.9% (26)	9.9% (53)	77.9% (417)	4.3% (23)	535
					answered question	542
					skipped question	177



Web Survey – Bike Lanes

- A Bike Lane is a travel lane dedicated to bicycle travel where bicycle travel the same direction as motorized traffic
- It is designated by pavement markings and signs
- Bike lanes are at least 5' wide where there is a curb and 4' wide where a curb does not exist
- 18% of respondents use a designated bike lane daily or weekly



29. How frequently do you bicycle in a designated bike lane?

		Response Percent	Response Count	
Daily		6.5%	35	
Weekly		11.5%	62	
Monthly		10.2%	55	
Rarely		33.3%	179	
Never		38.5%	207	
			answered question	538
			skipped question	181



Web Survey – Bike Lanes

Bike Lane top concerns:

- Being hit by motor vehicles turning into or out of driveways or local roadways
- Being hit from behind by motor vehicle
- Making left turns on busy roadways

30. What are your concerns when using or contemplating using a bike lane?

	Major Concern	Somewhat of a Concern	Minor Concern	Not a Concern	Not Applicable or Not Sure	Response Count
Debris	22.1% (114)	32.6% (168)	25.8% (133)	9.5% (49)	10.1% (52)	518
Condition of the pavement	28.4% (146)	38.7% (199)	18.3% (94)	5.8% (29)	8.9% (46)	514
Being hit by motor vehicles turning into or out of driveways or local roadways	64.4% (337)	17.0% (89)	7.5% (39)	2.9% (15)	8.2% (43)	523
Making left turns on busy roadways	57.5% (296)	21.6% (111)	8.7% (45)	3.7% (19)	8.5% (44)	515
Being hit from behind by a motor vehicle	60.7% (318)	18.1% (95)	9.5% (50)	3.2% (17)	8.4% (44)	524
Snow and ice	40.3% (208)	25.8% (133)	14.0% (72)	8.9% (46)	11.0% (57)	518
Puddles	16.2% (83)	23.0% (118)	32.9% (169)	18.1% (93)	9.7% (50)	513
Lighting	27.0% (139)	27.0% (139)	21.8% (112)	13.4% (69)	10.7% (55)	514
Gaps in the system	42.7% (218)	29.2% (149)	11.8% (60)	6.7% (34)	9.6% (49)	510
Other (please specify)						21
					answered question	527
					skipped question	192



Web Survey – Bike Lanes

Bike Lane comfort level:

- 68.7% comfortable or somewhat comfortable on 2 to 3 lane roads with speeds 35 MPH or less
- 65.5% Uncomfortable or Somewhat Uncomfortable on 2 to 3 lane roads with speeds 45 MPH
- 75.3. % Uncomfortable or Somewhat Uncomfortable on 4 to 5 lane roads with speeds 45 MPH and

31. What is or would be your comfort level in using a bike lane in the following contexts:

	Uncomfortable	Somewhat Uncomfortable	Somewhat Comfortable	Comfortable	Not Applicable or Not Sure
2 to 3 lane road with speeds 35 MPH or less	10.9% (58)	11.7% (62)	27.9% (148)	40.8% (216)	8.7% (48)
2 to 3 lane road with speeds 35 to 45 MPH	22.3% (117)	21.3% (112)	26.9% (141)	21.0% (110)	8.8% (45)
2 to 3 lane road with speeds greater than 45 MPH	42.8% (224)	23.5% (123)	15.5% (81)	9.8% (50)	8.8% (45)
4 to 5 lane road with speeds 35 to 45 MPH	41.6% (218)	23.9% (125)	14.5% (76)	11.6% (61)	8.4% (44)
4 to 5 lane road with speeds greater than 45 MPH	58.5% (306)	18.8% (88)	8.4% (44)	7.8% (41)	8.4% (44)



Web Survey – Desired Project Outcomes

Top Project Outcomes:

- Safety
 - More Non-motorized Facilities (Pathways, Bike Lanes, Sidewalks)
 - Connections to Destinations (Greater Mt. Pleasant Area and Region)
 - More Bicycle and Pedestrian Friendly Environment
- Used the most frequently mentioned project outcomes to draft a plan purpose, vision and goals and objectives



Draft Goals and Objectives

Purpose of Plan and Vision

The purpose of the plan is to identify the non-motorized network and the support systems necessary for safe and convenient non-motorized travel. As the network and systems are implemented, it is envisioned that this will result in more people freely choosing to walk and bicycle. It is further envisioned that this will in turn lead to a healthier and more socially engaged community

Goals:

1. Provide better Non-motorized connectivity
2. Institute changes that lead to a bicycle and pedestrian friendly community
3. Improve bicycle and pedestrian safety
4. Advance community healthy



Goal #1 – Non-motorized Connectivity

Goal #1:

- Provide better non-motorized connectivity

Objectives:

- A. Provide non-motorized connections between the Mt. Pleasant area and regional destinations (such as the Pere-Marquette Rail-Trail, Clair, Deerfield Park, etc.)
- B. Provide non-motorized links between key destinations within the Greater Mt. Pleasant area (such as shopping centers, parks, schools, campuses, downtown, etc.)
- C. Provide a complete non-motorized Network (Sidewalks, Bike Lanes, Bike Routes, Safe Road Crossings)



Goal #2 – A Bicycle & Pedestrian Friendly Community

Goal #2:

- Institute changes that lead to a bicycle and pedestrian friendly community

Objectives:

- A. Provide more bike parking and a range of bike parking options (in locations such as downtown, at shopping centers, covered and secure bike parking)
- B. Provide bike racks on buses
- C. Establish family friendly non-motorized facilities (such as neighborhood routes to safe routes to parks and schools)
- D. Create and distribute a guide map that shows bicycle facilities and recommended routes
- E. Improve the aesthetics of the area's transportation system (such as by street trees, decorative lighting, etc.)
- F. Enhance sense of community through increased social interaction between non-motorized transportation users



Goal #3 – Improve Safety

Goal #3:

- Improve bicycle and pedestrian safety

Objectives:

- A. Provide better lighting along non-motorized routes
- B. Improve the safety of bicyclists and pedestrians at existing busy road intersections
- C. Provide safe options to cross the road between existing signalized intersections
- D. Improve education of motorists in regards to pedestrian and bicyclist issues
- E. Improve the education of pedestrians and bicyclists in regards to rules of the road, motorist's concerns and safe travel
- F. Reduce the number of bicycle and pedestrian crashes



Goal #4 – Community Health

Goal #4:

- Advance community health

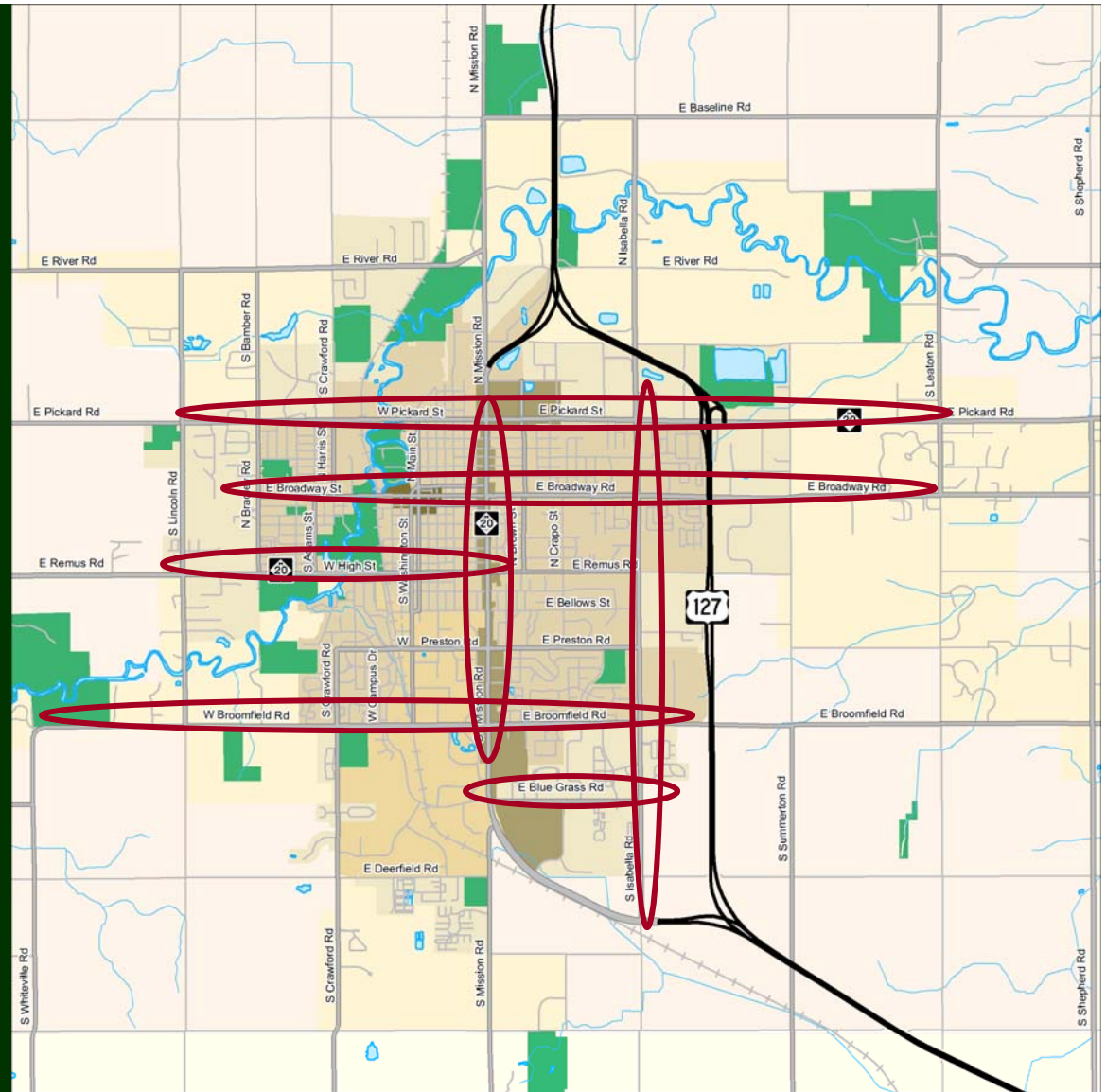
Objectives:

- A. Provide more active recreation opportunities (such as off-road trails)
- B. Reduce automobile dependency
- C. Increase the number of people walking and biking especially for daily transportation trips
- D. Improve air quality (such as reducing CO₂ emissions)
- E. Reduce obesity due to physical inactivity



Web Survey – Places of Concern

- **Mission Road**
 - Road Crossings Improvements
 - Safe Intersections
 - Safe Bike and Pedestrian Facilities
- **High Street**
 - Road Crossing Improvements
 - Safe Intersections
- **Pickard Street**
 - Road Crossing Improvements
 - Gaps in Sidewalk
 - No Paved Shoulder/Bike Lanes
 - Safe Intersection at Mission Rd
- **Broomfield Road**
 - Sidewalk Gaps
 - Bike Lanes
- **Bluegrass Street**
 - Sidewalk Gaps
 - Bike Lanes
 - Road Crossing Improvements
- **Isabella Road**
 - Safe Intersections
 - Sidewalk Gaps
 - **No Paved Shoulder/Bike Lanes**
- **Broadway Street**
 - Improve Crossing at US-127
 - No Paved Shoulder/Bike Lane
 - Sidewalk Gaps



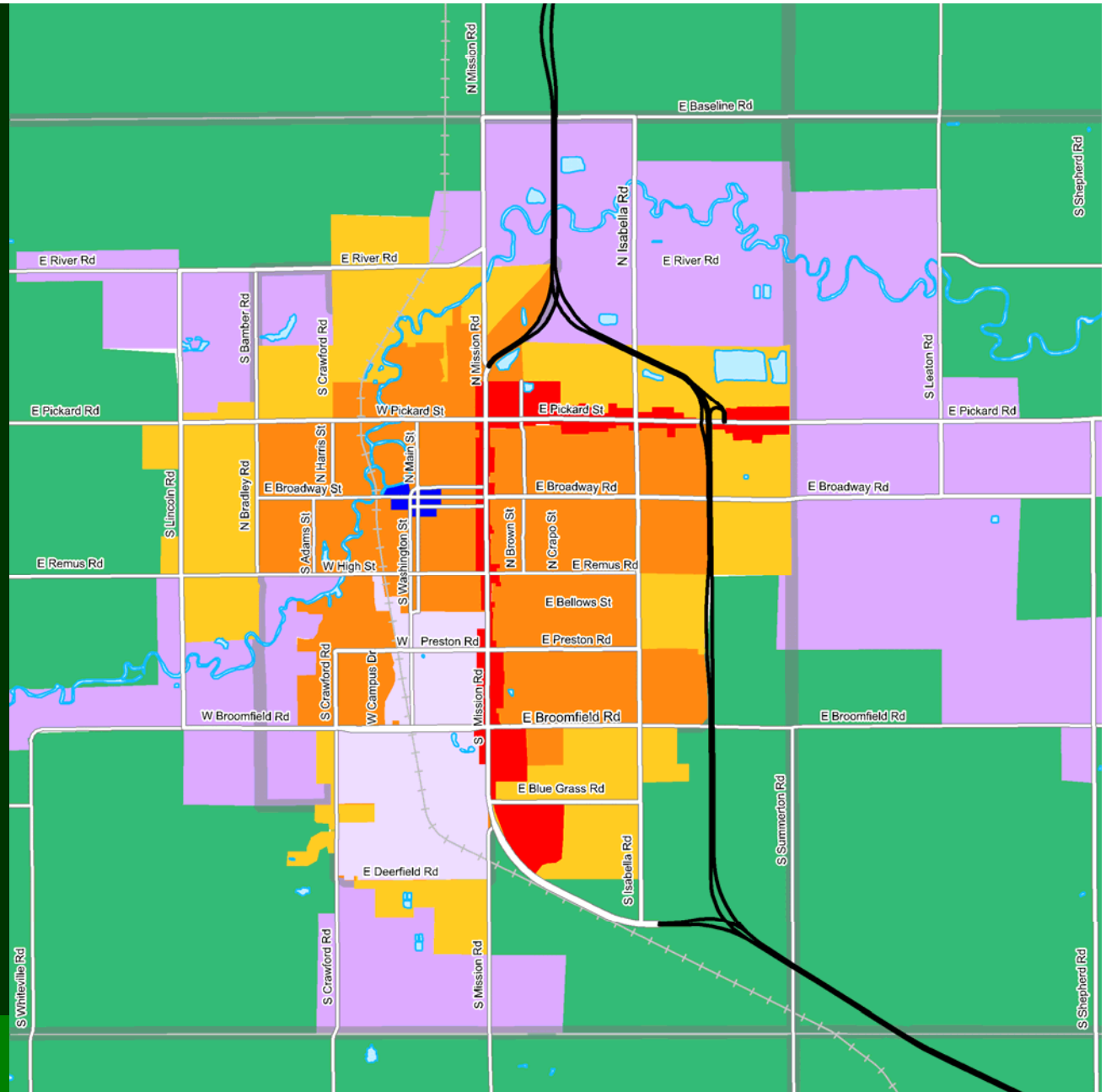


Micropolitan Area Context

- The existing and future context will inform a transportation project's design
- For long-life projects like road reconstruction and bridges must look 25 + years ahead

LANDSCAPE TYPES:

- Downtown
- Commercial Strip
- Campus
- General Urban
- Rural Agricultural
- Rural Residential
- Suburban
- Suburban Fringe/Transitional



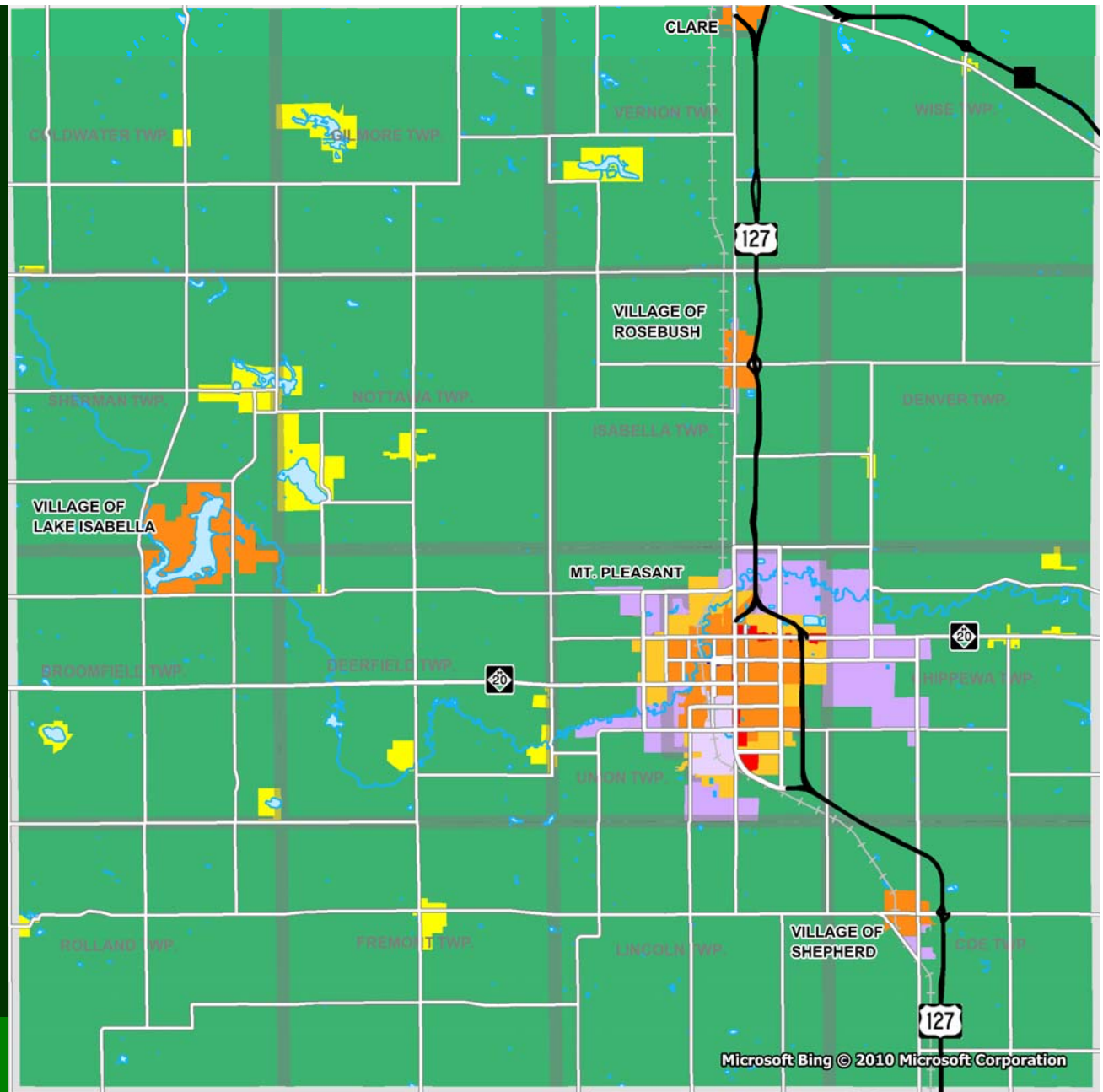


Isabella County Context

- The existing and future context will inform a transportation project's design
- For long-life projects like road reconstruction and bridges must look 25 + years ahead

LANDSCAPE TYPES:

	Downtown
	Commercial Strip
	Campus
	General Urban
	Rural Agricultural
	Rural Residential
	Suburban
	Suburban Fringe/Transitional





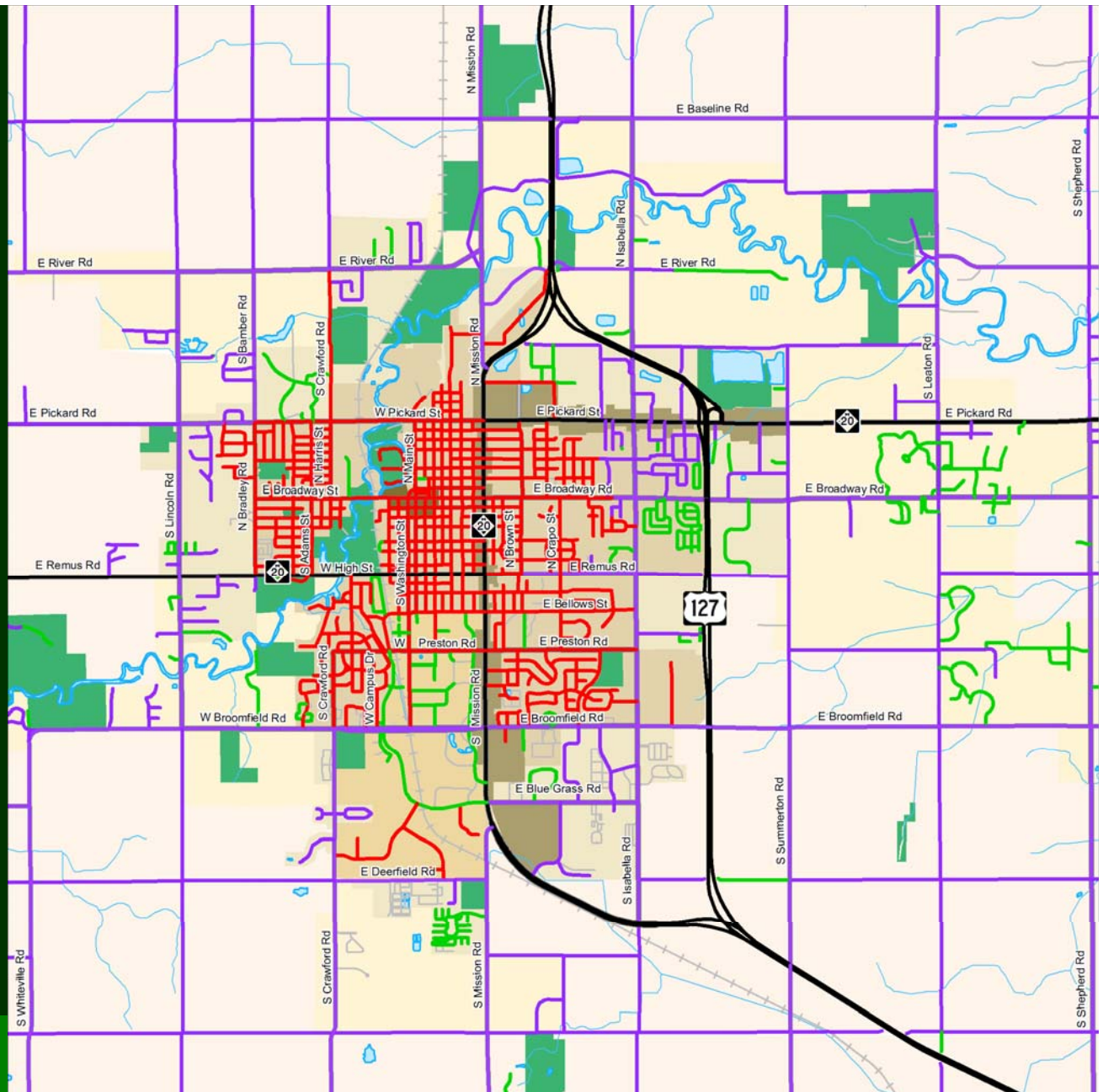
Road Jurisdiction

Roadways fall under different jurisdictions that must sign off on changes:

- MDOT
- County Road Commission
- City of Mt. Pleasant
- Private
 - Tribe
 - CMU
 - Developments

ROAD JURISDICTION

- MDOT
- Isabella County Road Commission
- City of Mt. Pleasant
- Private



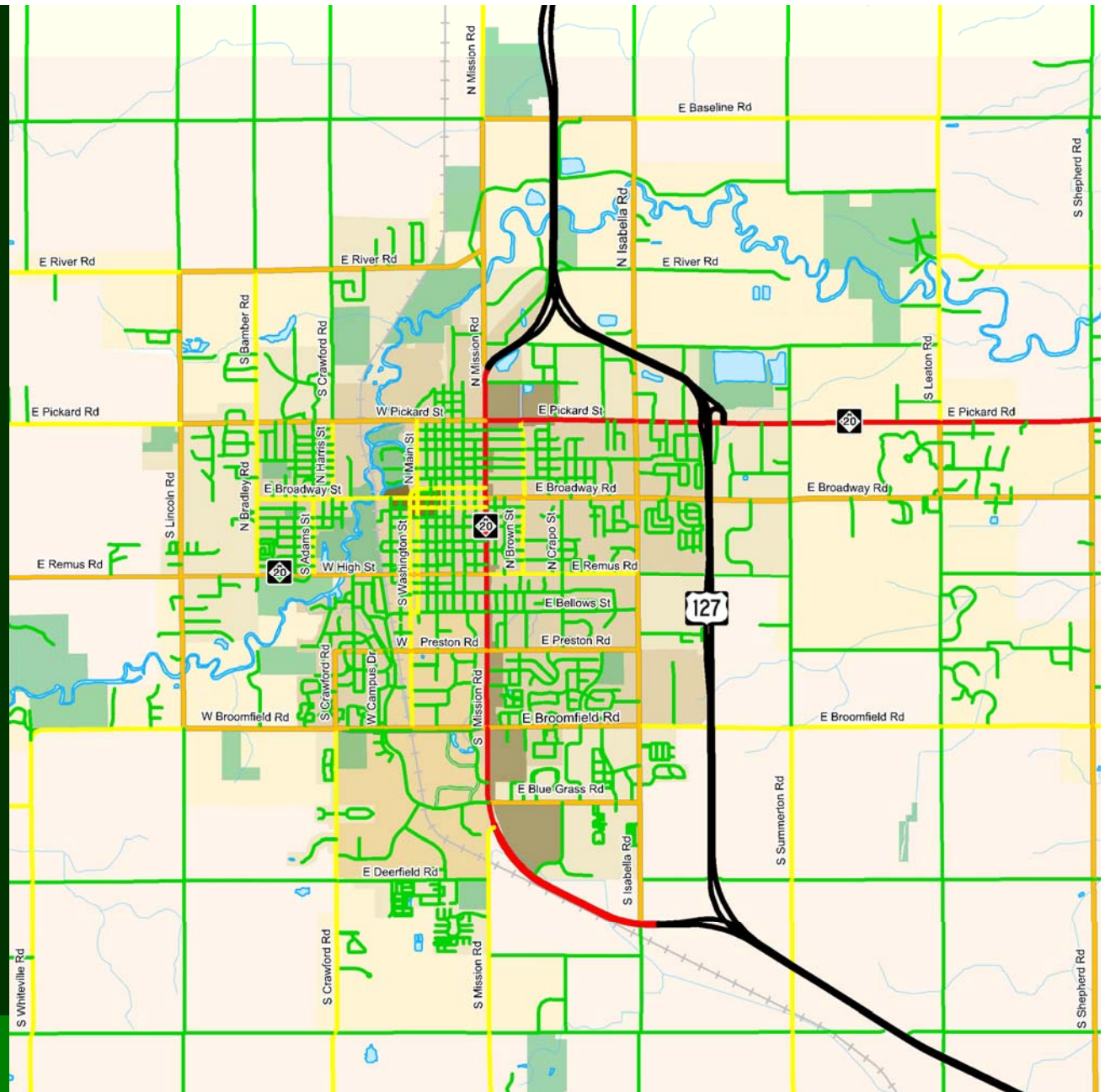


Road Functional Classification

- Hierarchy of roads

Functional Classification of Roadway

- Interstate
- Principal Arterials
- Arterials
- Collectors
- Local Roads

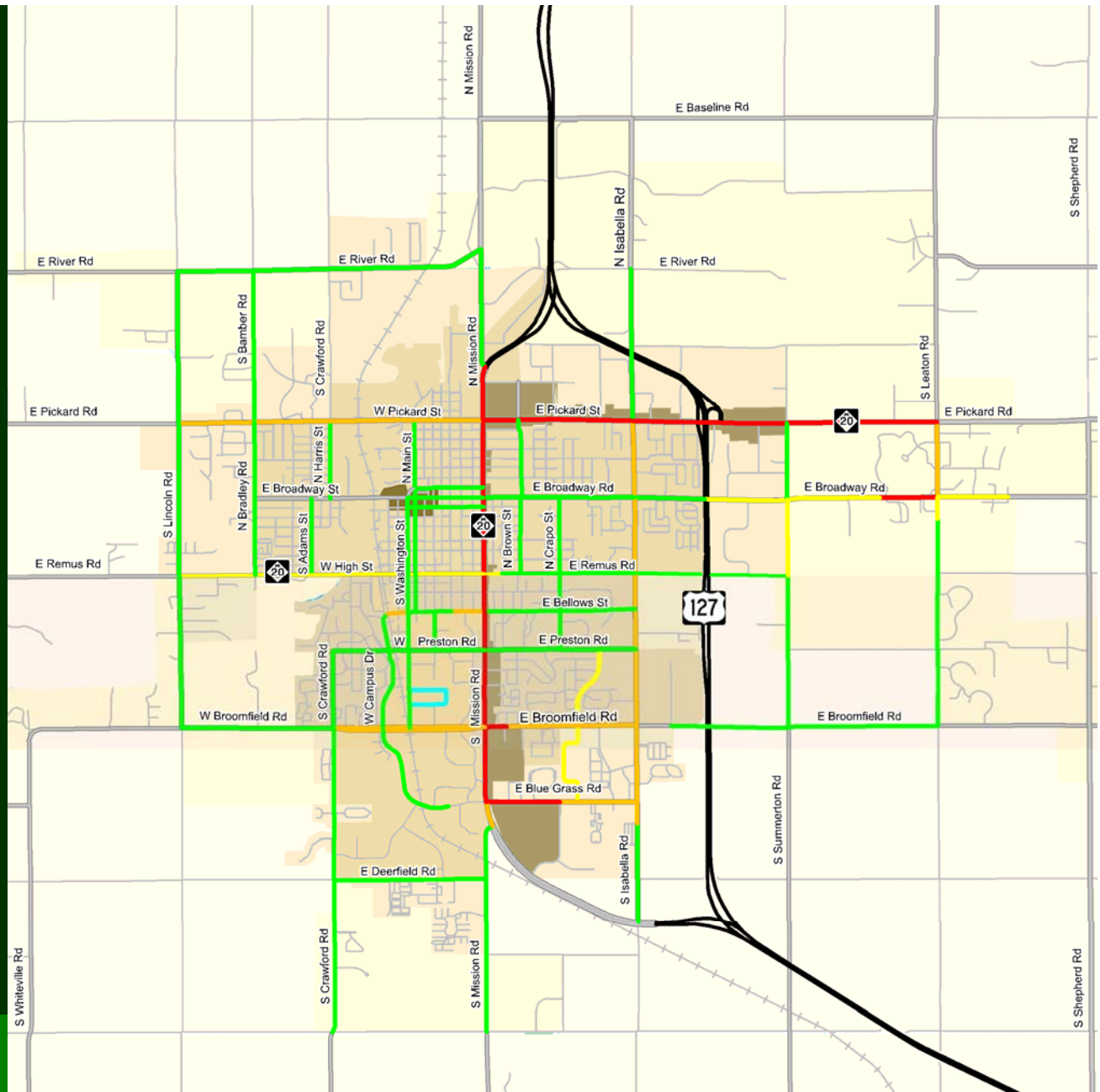
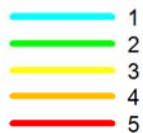




Number of Lanes

- Majority of roads are two lane
- Exceptions
 - Pickard
 - E Broadway
 - W High
 - Broomfield
 - Blue Grass
 - Mission
 - Isabella

Number of Lanes

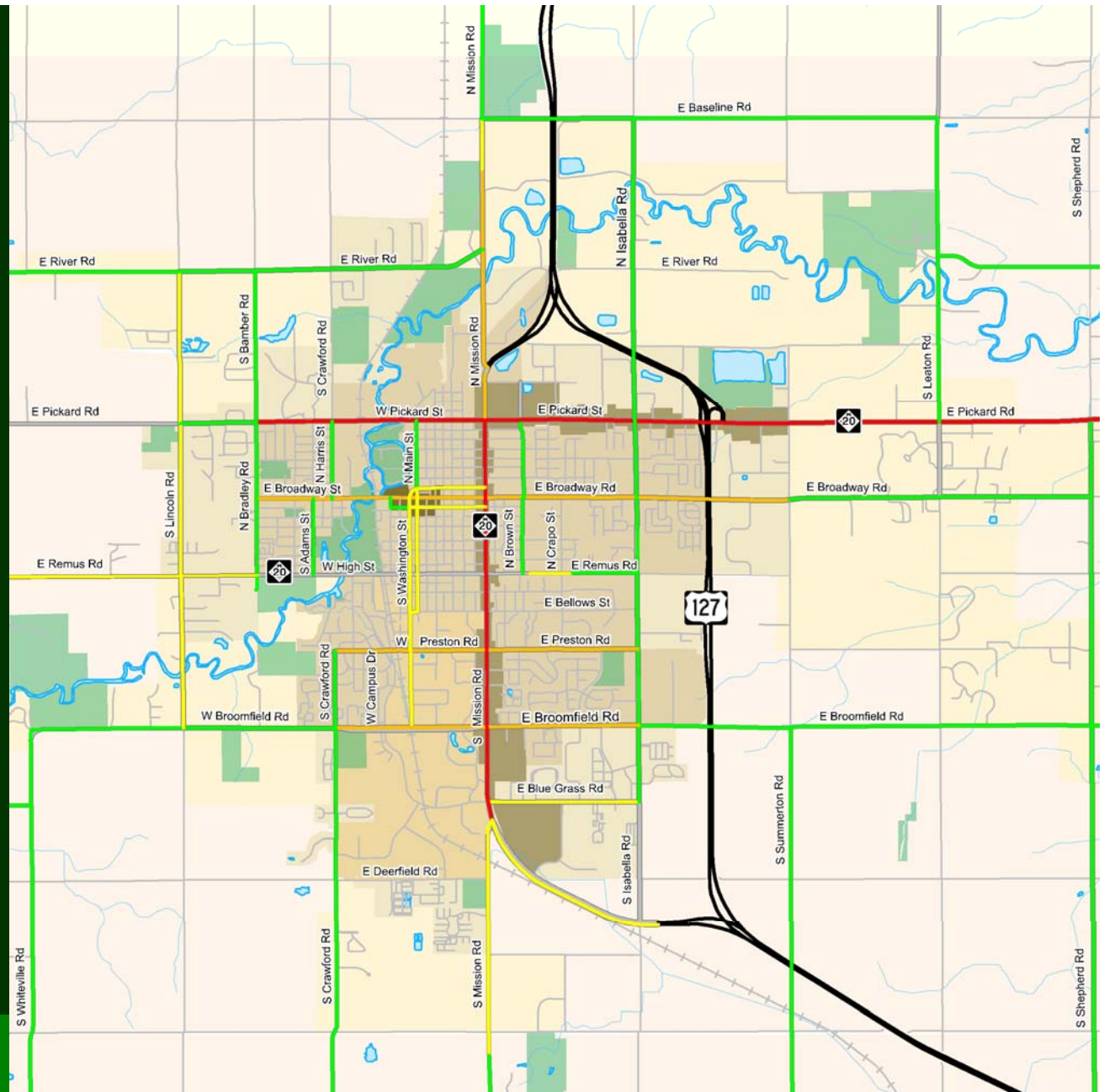
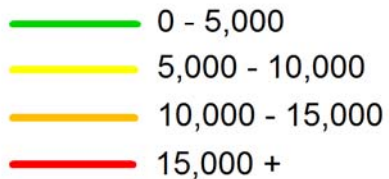




Average Daily Traffic Volumes

- Some data is questionable and/or dated
- But many roads have excess capacity – more lanes than necessary

Vehicle Traffic Volume (vehicles per day)



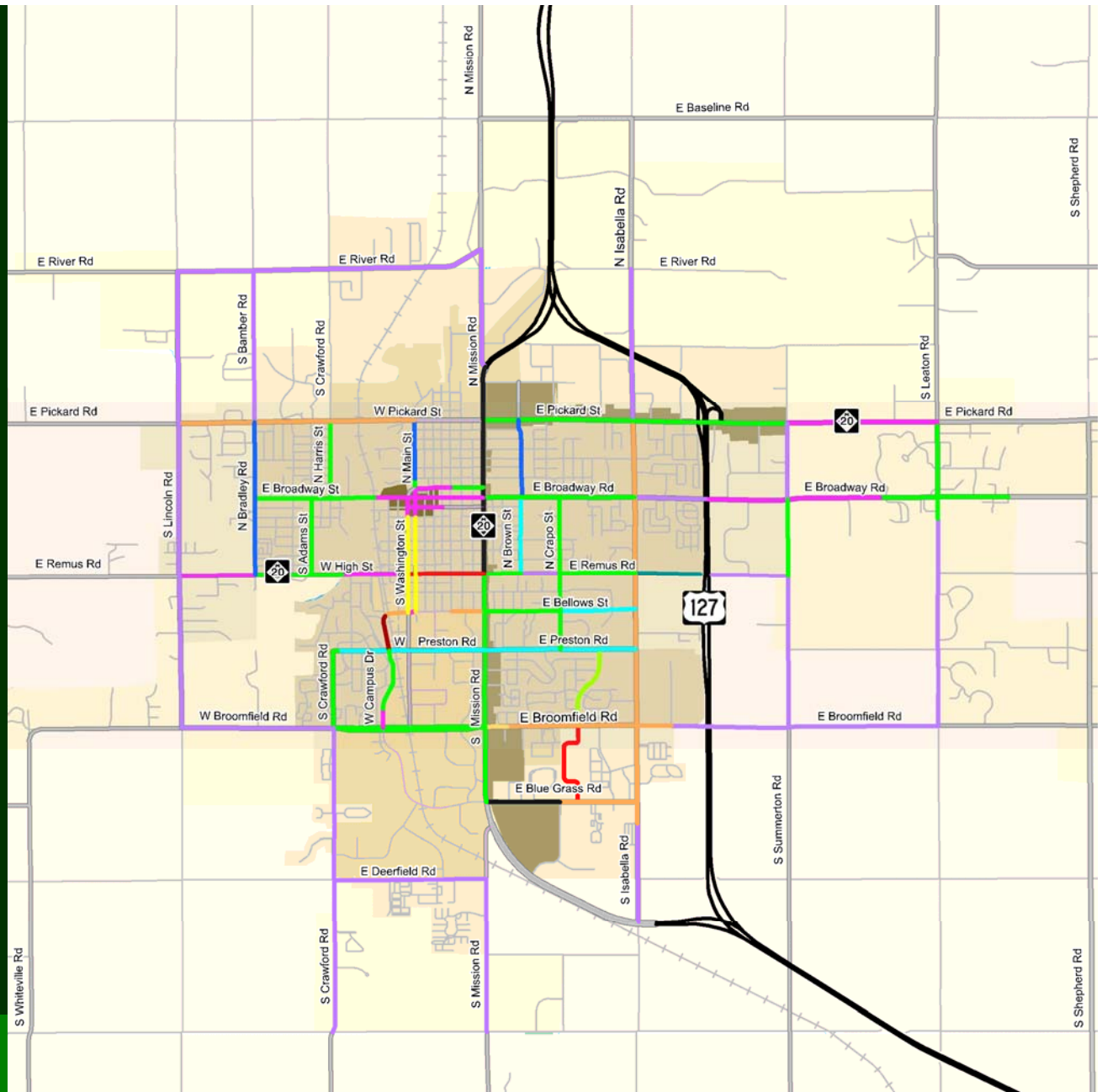


Bike Lane Potential

- Outstanding Near-term Potential for bike lanes

Potential Road Modifications

- 2 to 3 Lane Conversion
- 3 to 2 Lane Conversion
- 4 to 3 Lane Conversion
- 5 to 3 Lane Conversion
- Eliminate On Street Parking
- Eliminate One Travel Lane
- Lane Narrowing
- Lane Narrowing & Remove On Street Parking
- Pave Road
- Pave Shoulders
- Pavement Markings and Signs
- Reconstruct Road





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



Bicyclist operates as a vehicle



Sidewalks/Roadside Pathways vs. Bike Lanes

- Motorists Are Not Looking for Bicyclists on Sidewalks or Sidepaths 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.

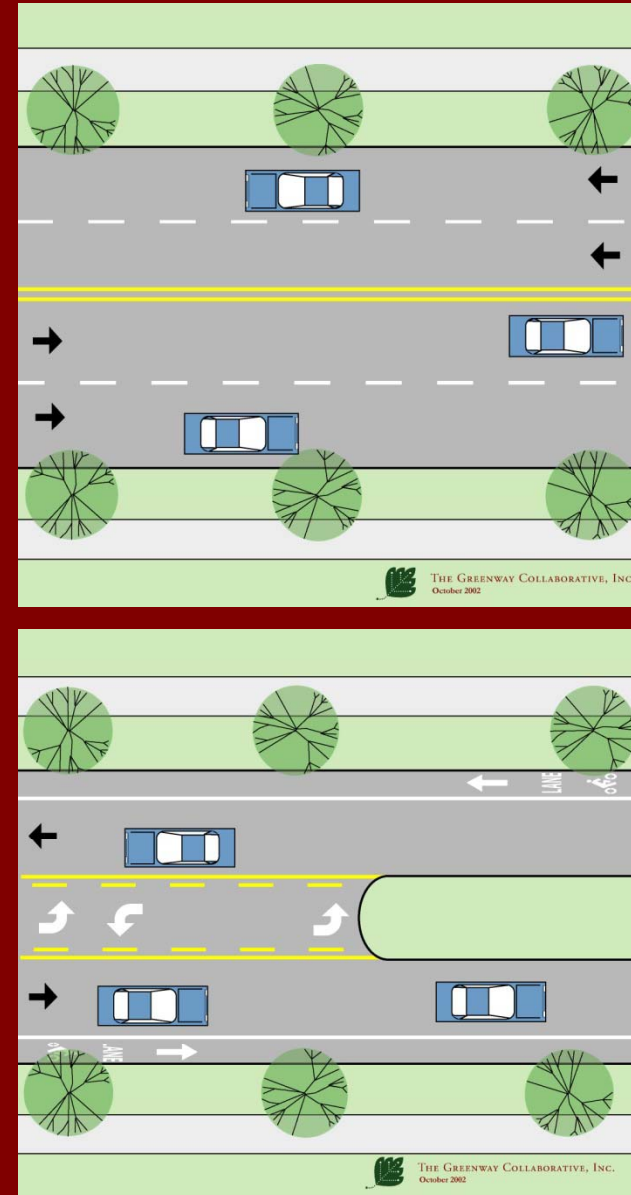


There is a reason experienced bicyclists travel on the road.



4 to 3 Lane Conversions

- Eliminates the lane weaving Issue common with 4-lane roads
- Research shows no loss in vehicular LOS up to 1,750 VPH (17,500 VPD)
- Used on roads up to 24,000 VPD
- Reduction in 85% speed by about 5 MPH
- Dramatic reductions in crashes and excessive speeding
- Many Michigan examples





4 to 3 Lane Conversion Issues

- A road's capacity is generally determined at intersections
- Need room for cars to “stack” at signals
- Gaps in traffic for pedestrian crossings and exiting driveways at higher volumes

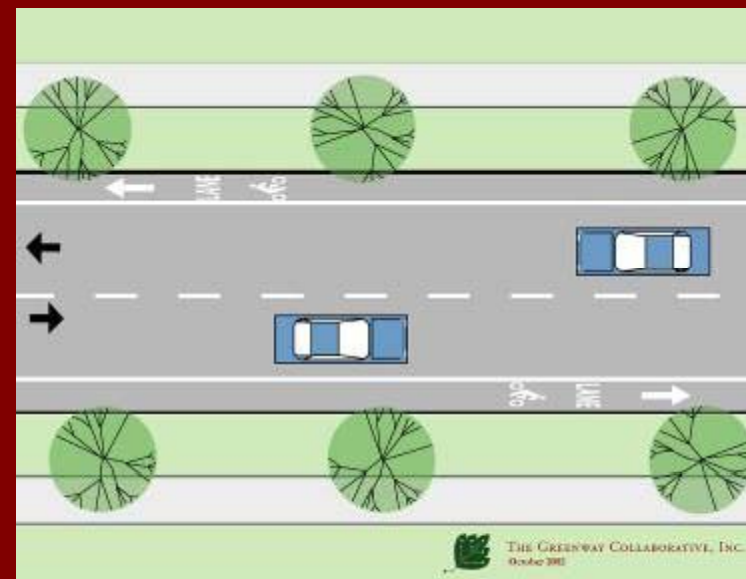
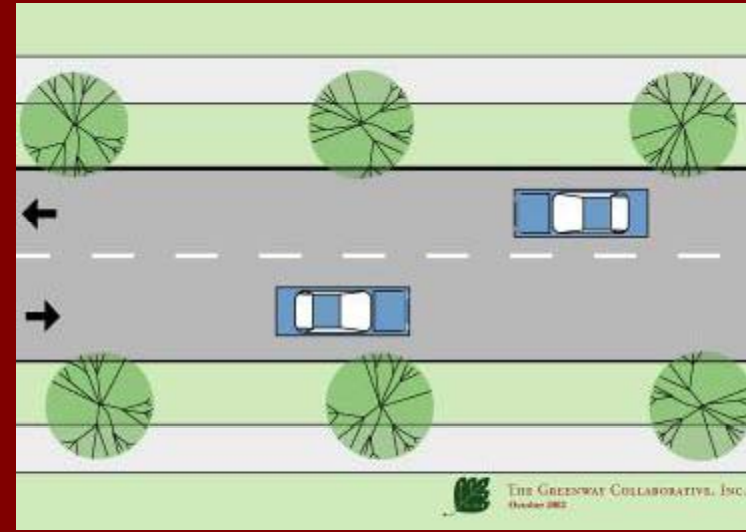


This 3 lane road in Ann Arbor is currently carrying about 20,000 vehicles per day



Lane Narrowing

- Some roads have 15-16' wide travel lanes
- 11' wide is preferable in most suburban and urban situations
- 10' acceptable in some cases

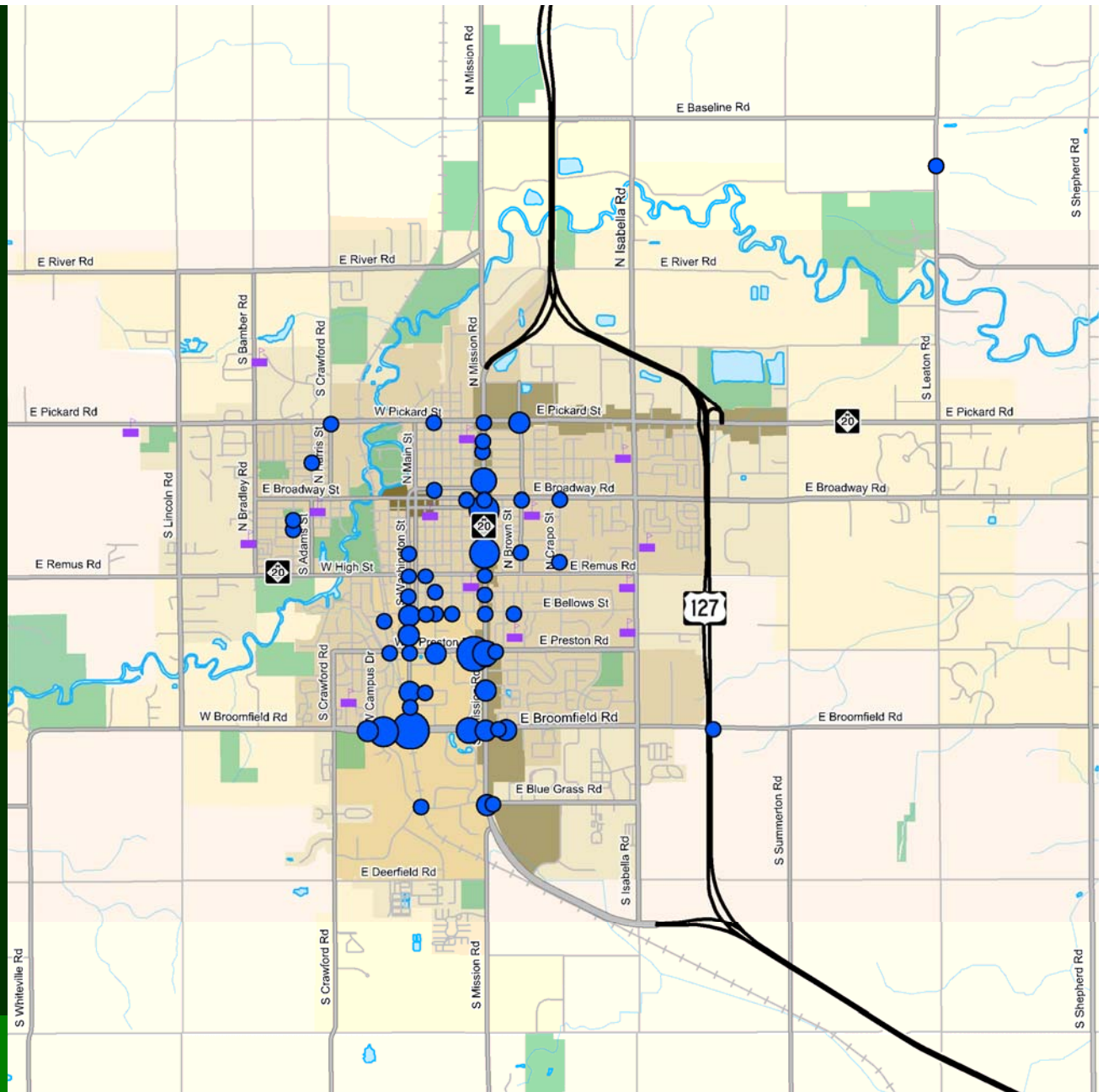
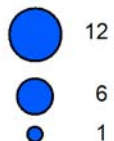




Bike Crash Locations

- West Broomfield Road
- Mission Street
- Main/Washington Corridor
- Preston Road
- Relates to Higher Population Density

Bike Crash Locations 2004-2009

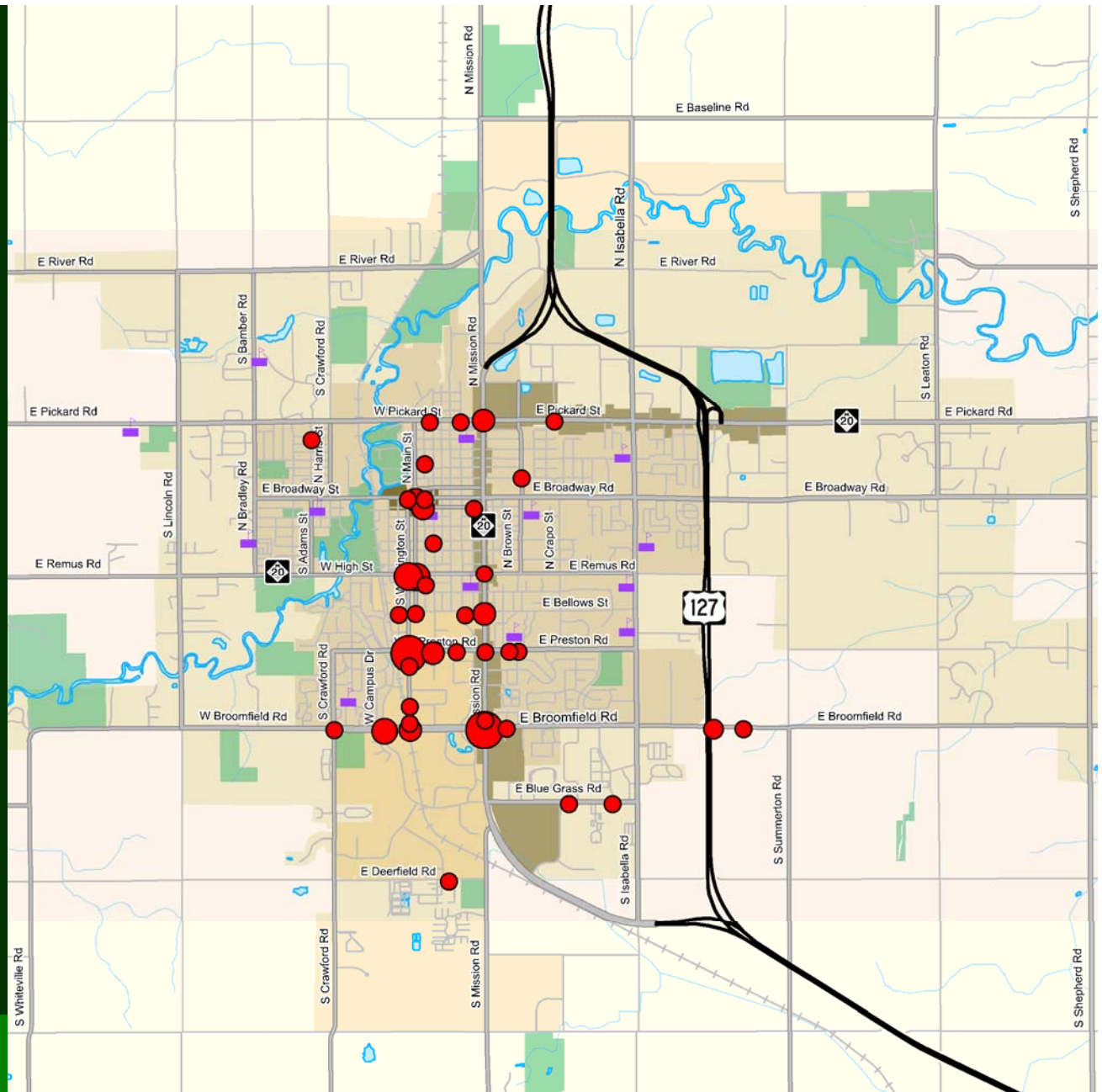




Pedestrian Crashes

- Main/Washington
- Preston Ave
- West Broomfield Road
- Mission Street
- Relates to Higher Population Density

Pedestrian Crash Locations 2004-2009





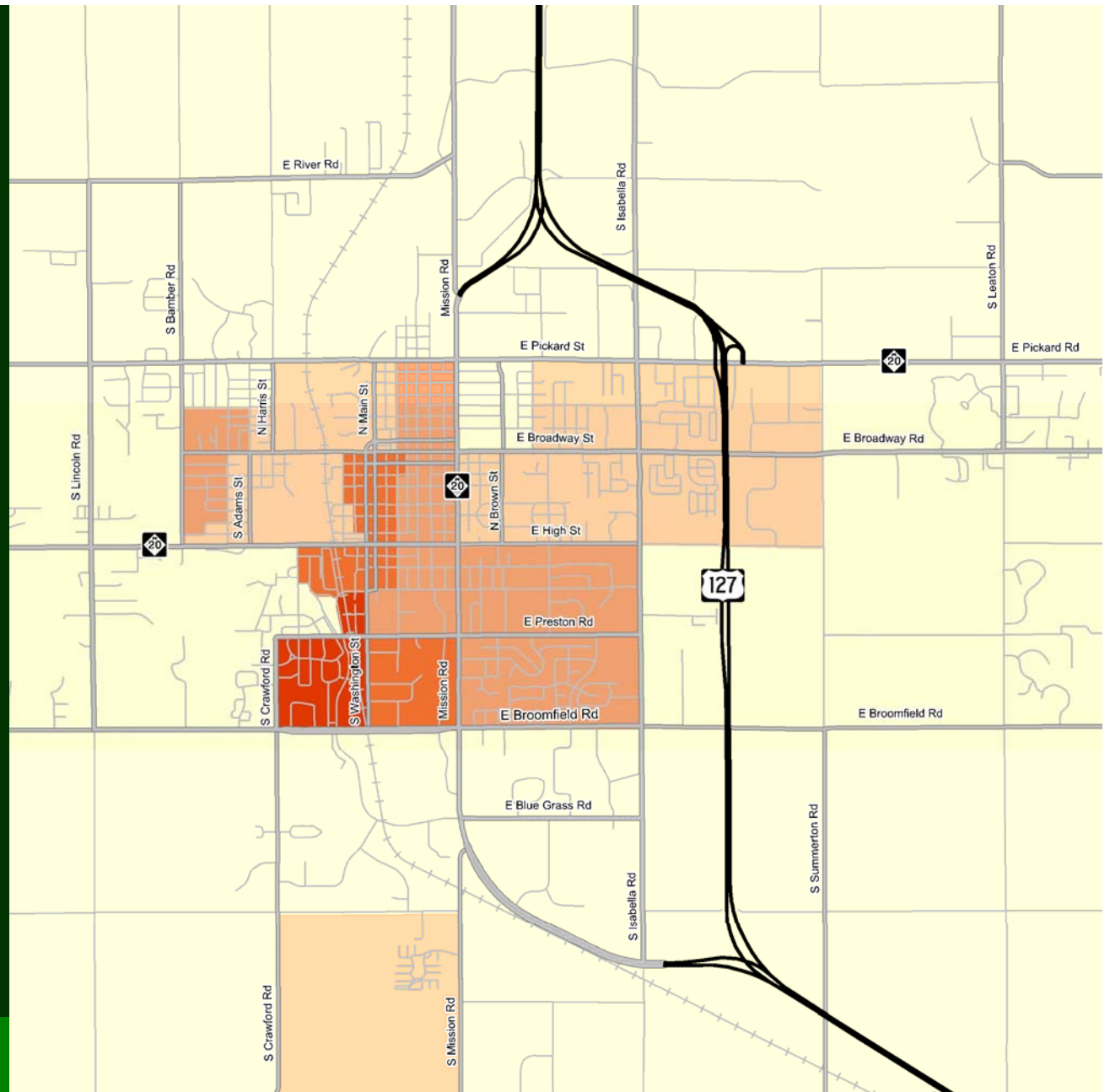
Population Density

Population Concentrations:

- Along Washington/ Main Corridor
- Between West Preston and West Broomfield
- West of Town
- Many new developments

Population Density (persons per acre)

■	20 to 30
■	10 to 20
■	5 to 10
■	2 to 5
■	0 to 2

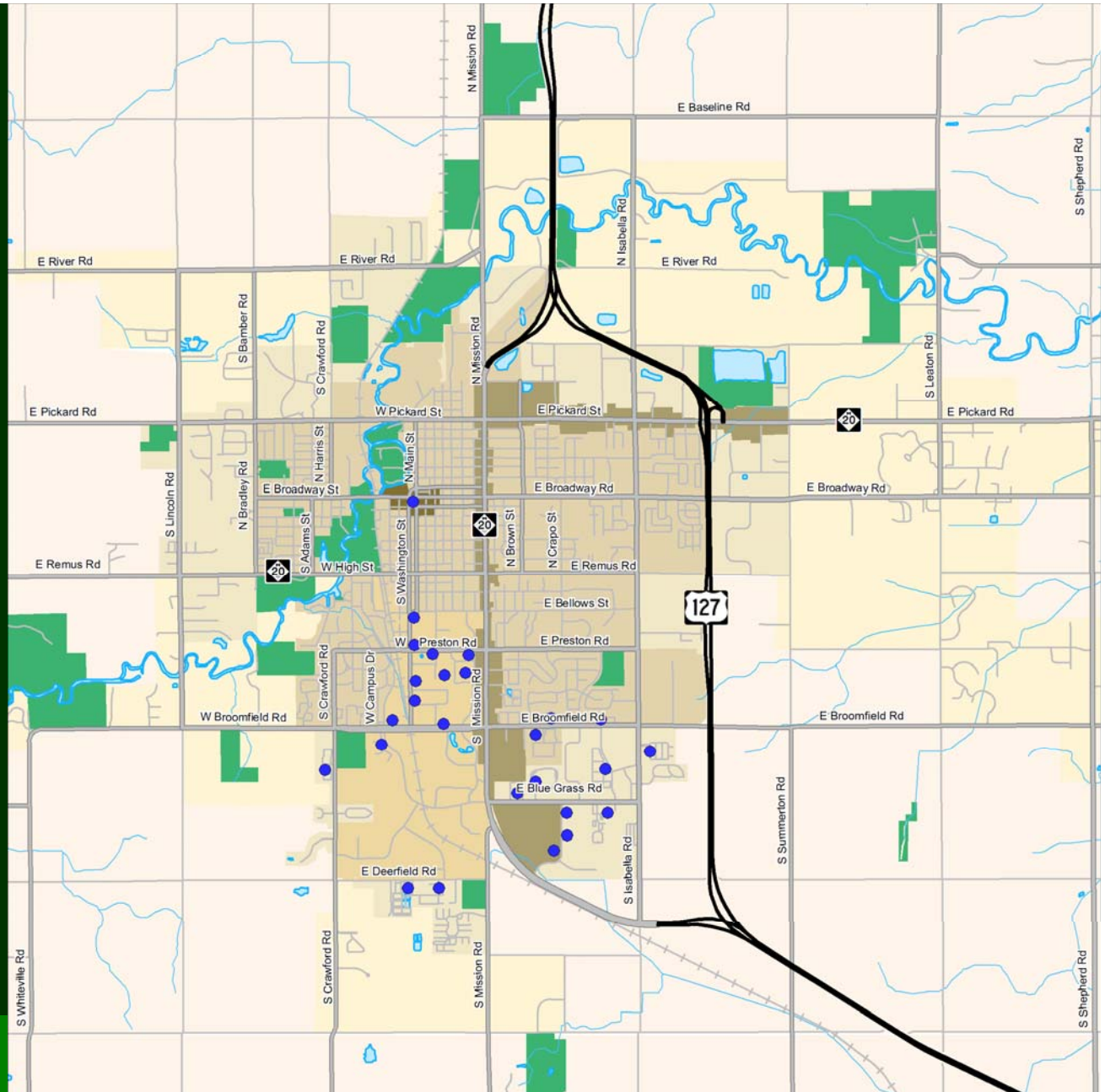




Bus Stops

- Associated with higher pedestrian volumes
- Generate cross roadway traffic

● ICTC Bus Stops



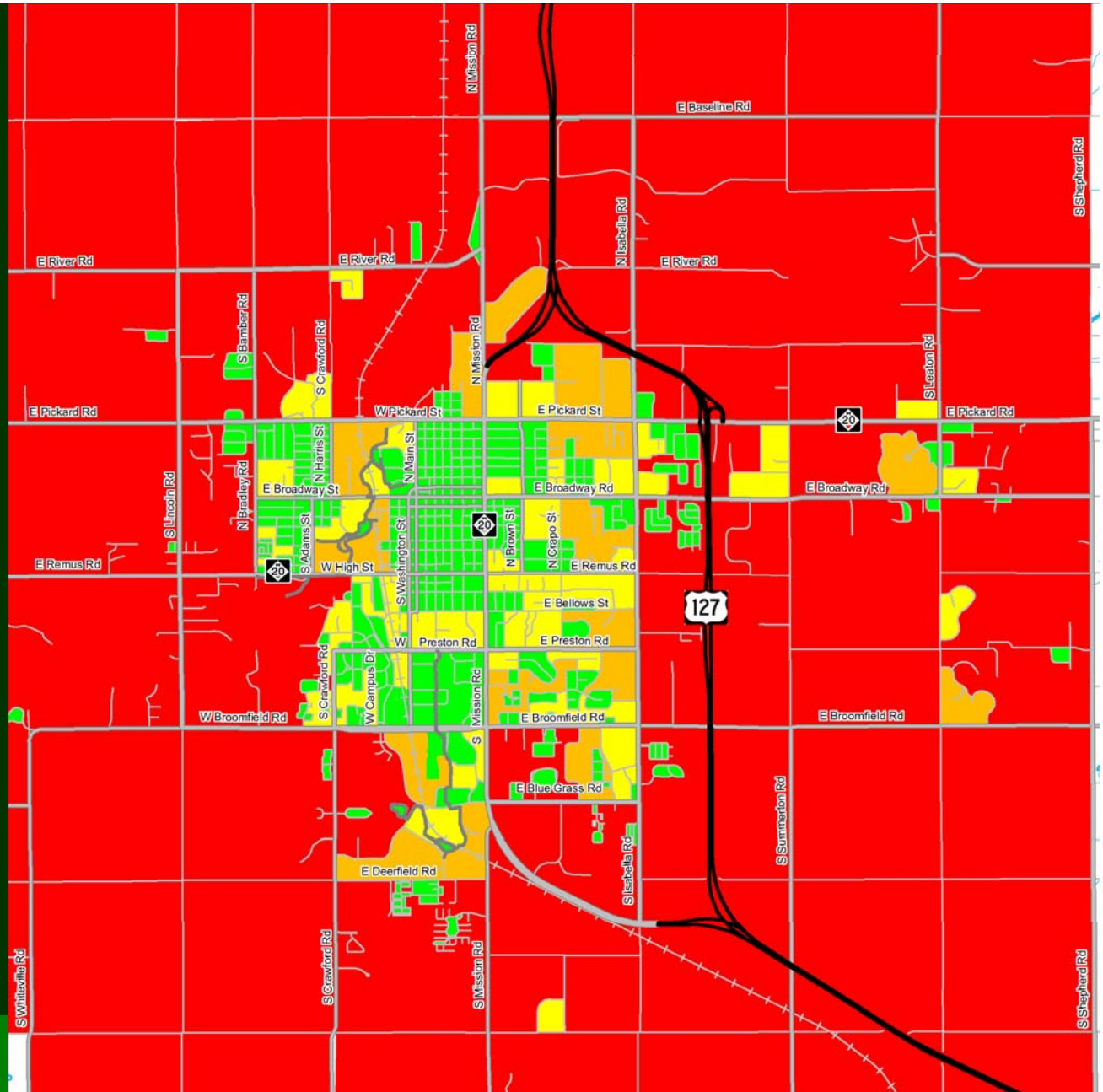


Block Size Analysis

- Shows of fine a grid the bicycle and pedestrian transportation network is
- Large blocks are impediments
- Excellent predictor of non-motorized travel volumes

Block Size in Acres

- Over 100
- 50 to 100
- 15 to 50
- 0 to 15





Developing a Spectrum of Non-Motorized Routes

- A non-motorized network may be seen as having three main components

Primary Links



Neighborhood Connectors



Off-Road Trails

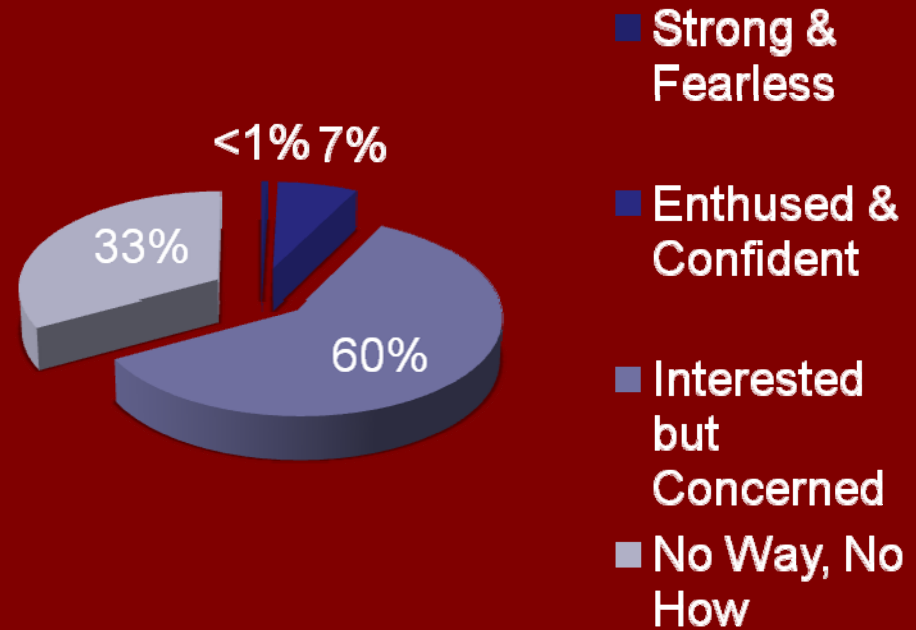




Four Types of Bicyclists

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

Bicycle Types



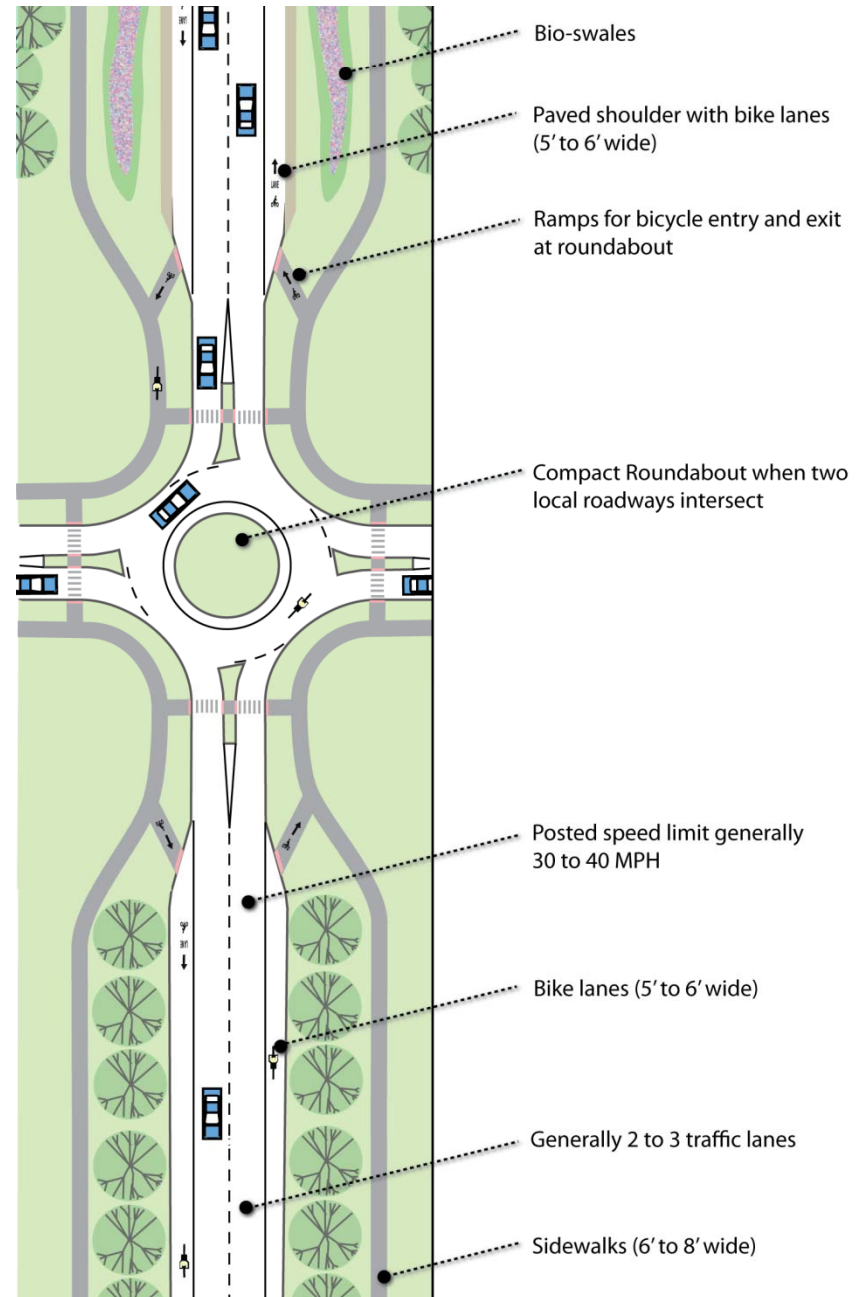
Not Really This Clear Cut. There Is Movement Between the Groups.



Primary Links – Pedestrian and Bicycle Focus

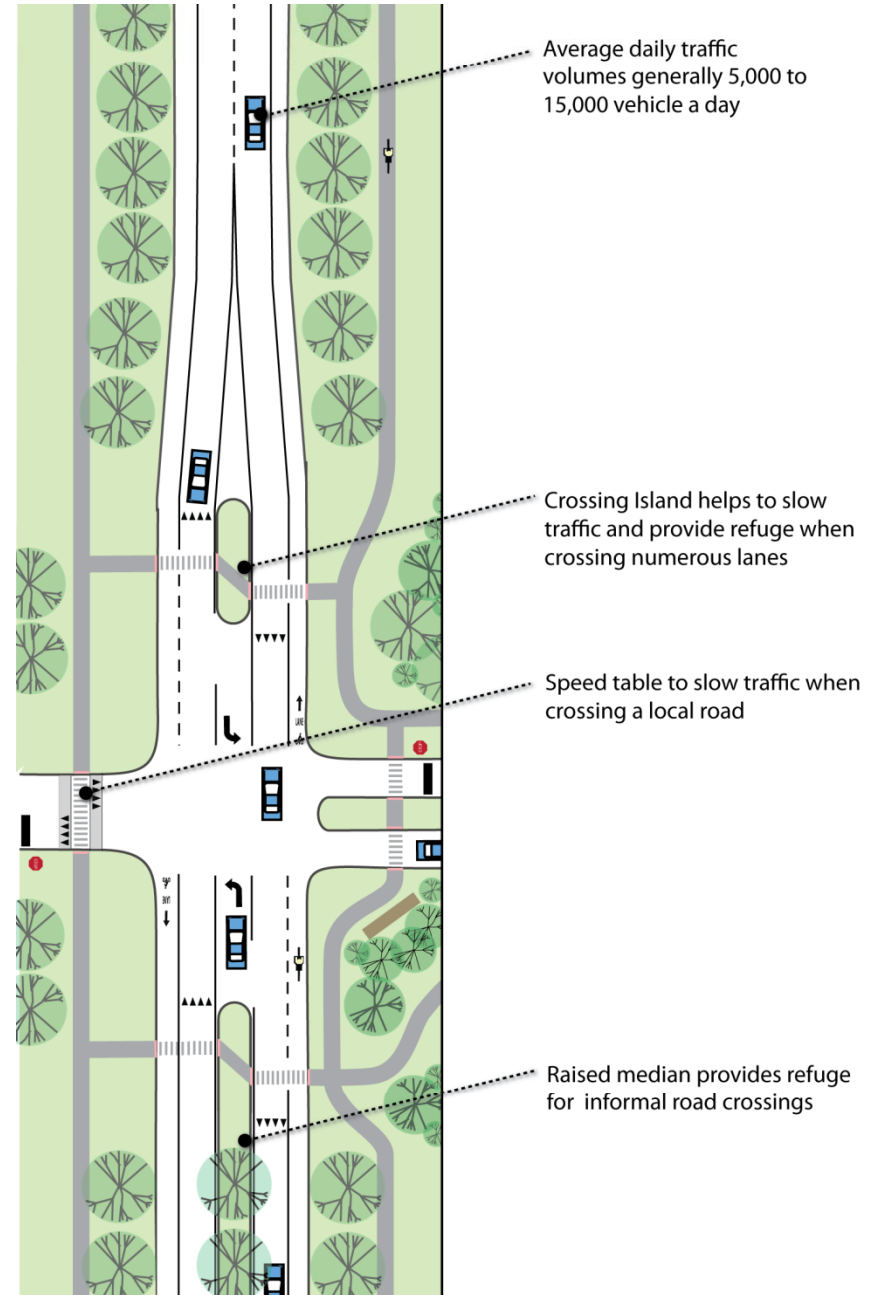


The Greenway Collaborative, Inc
Wade Trim
LSL Planning, Inc.



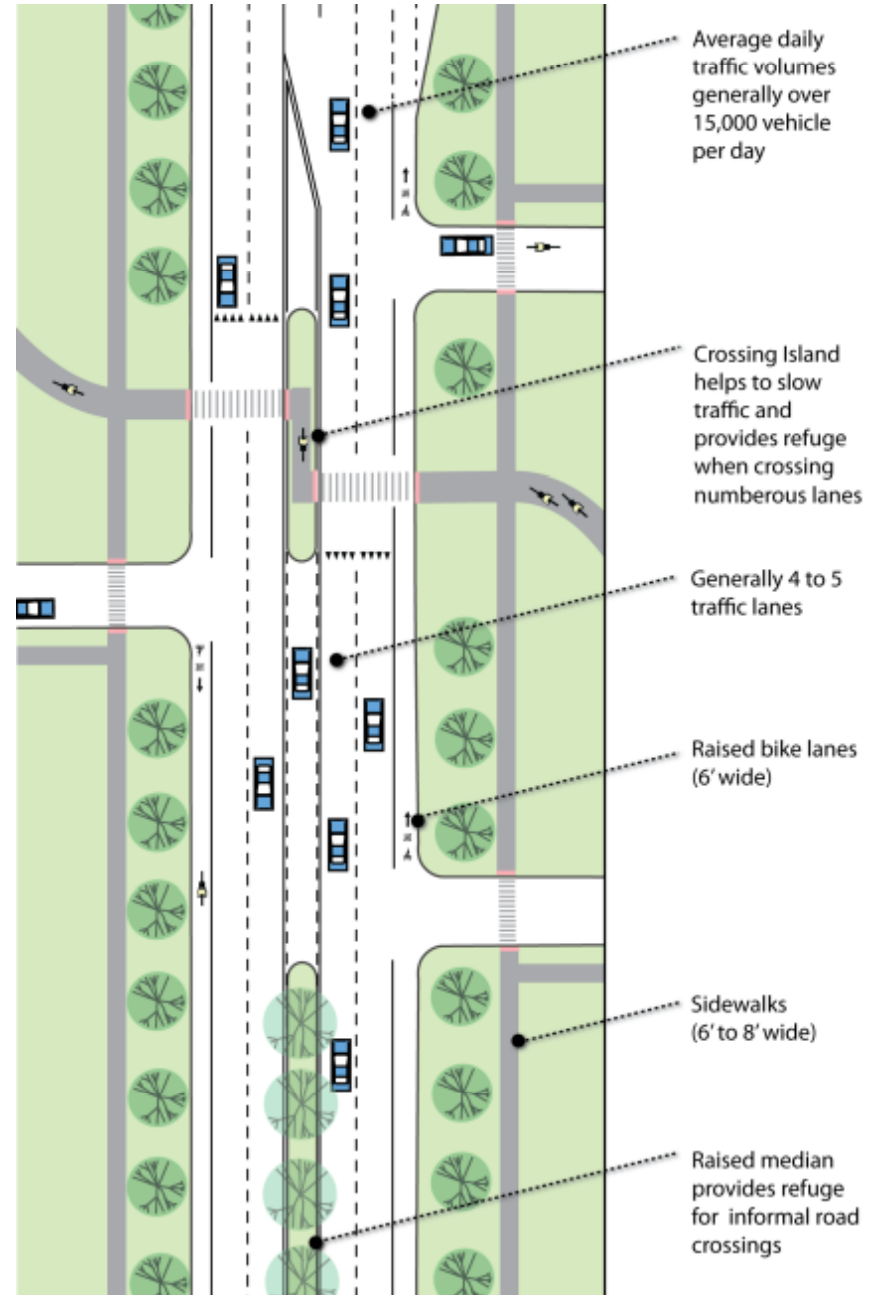


Primary Links – Pedestrian and Bicycle Focus



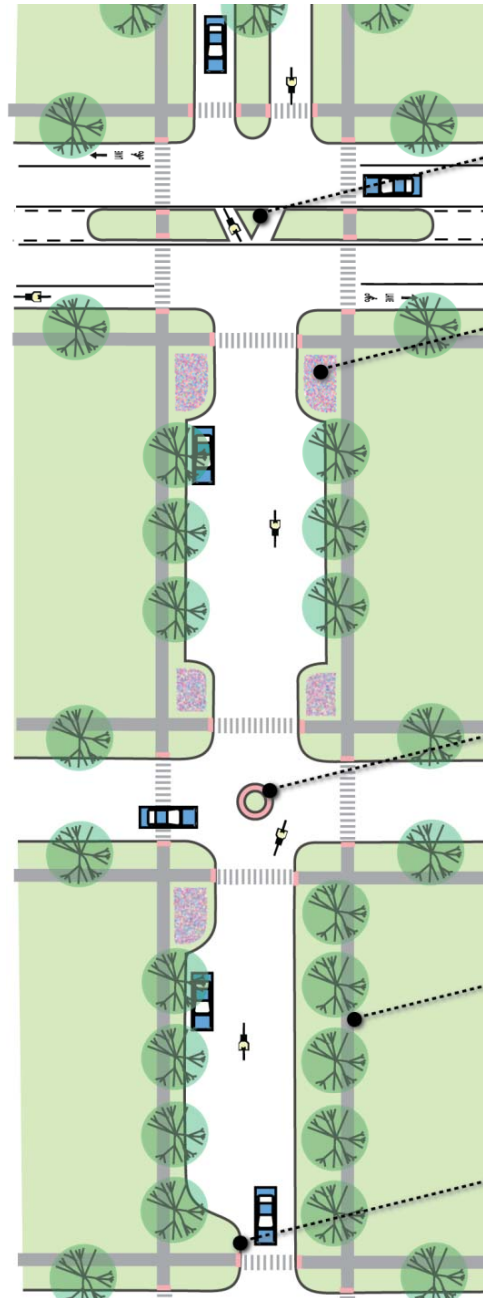


Primary Links – Auto Focus





Neighborhood Connectors



Raised median prevents motor vehicle traffic from cutting through

Chicanes help to calm traffic, shorten road crossing distance and provide areas for bio-swales

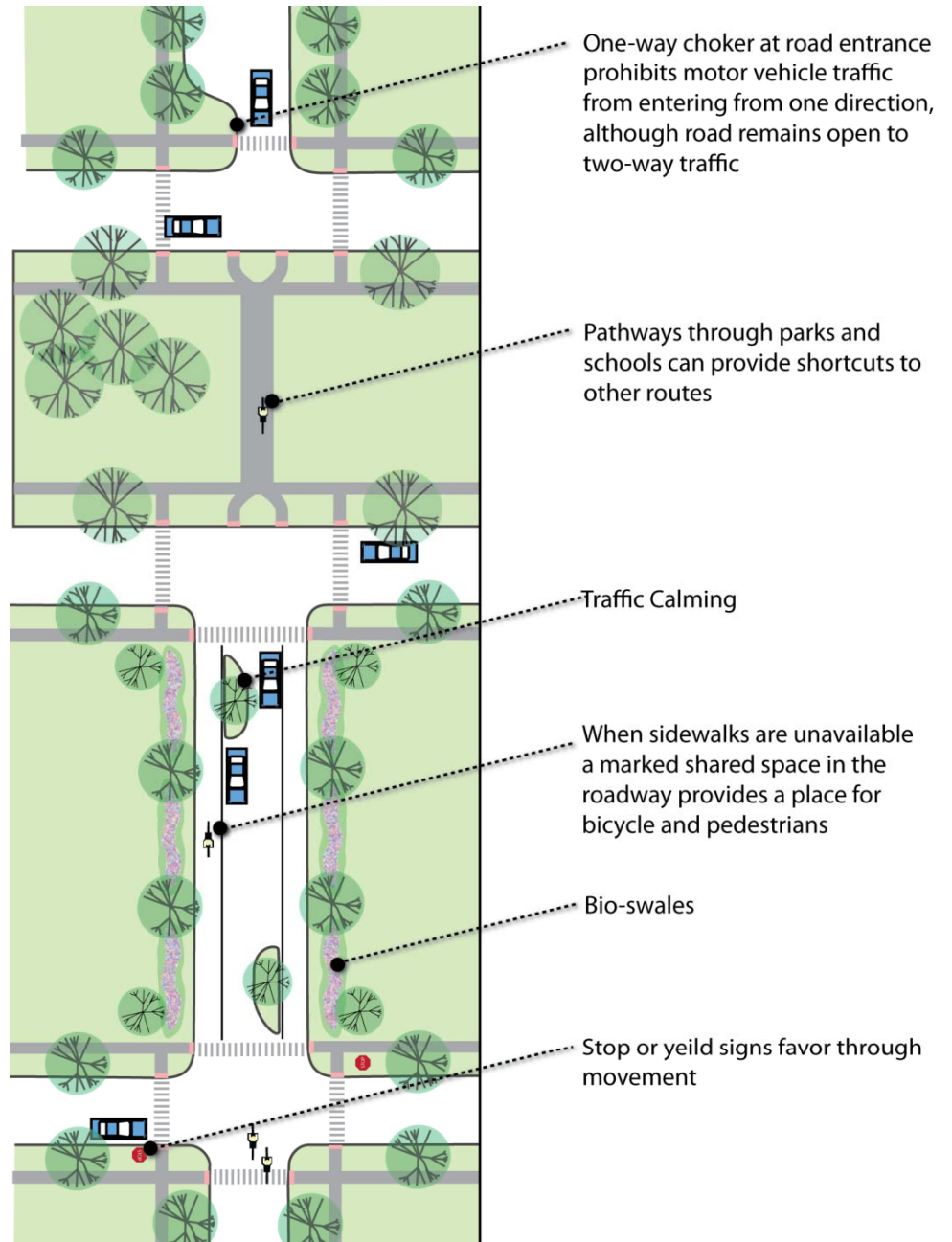
Traffic circle replaces stop signs and calms traffic

Generally 4' to 5' sidewalks on both sides of the road

One-way choker at road entrance prohibits motor vehicle traffic from entering from one direction, although road remains open to two-way traffic



Neighborhood Connectors



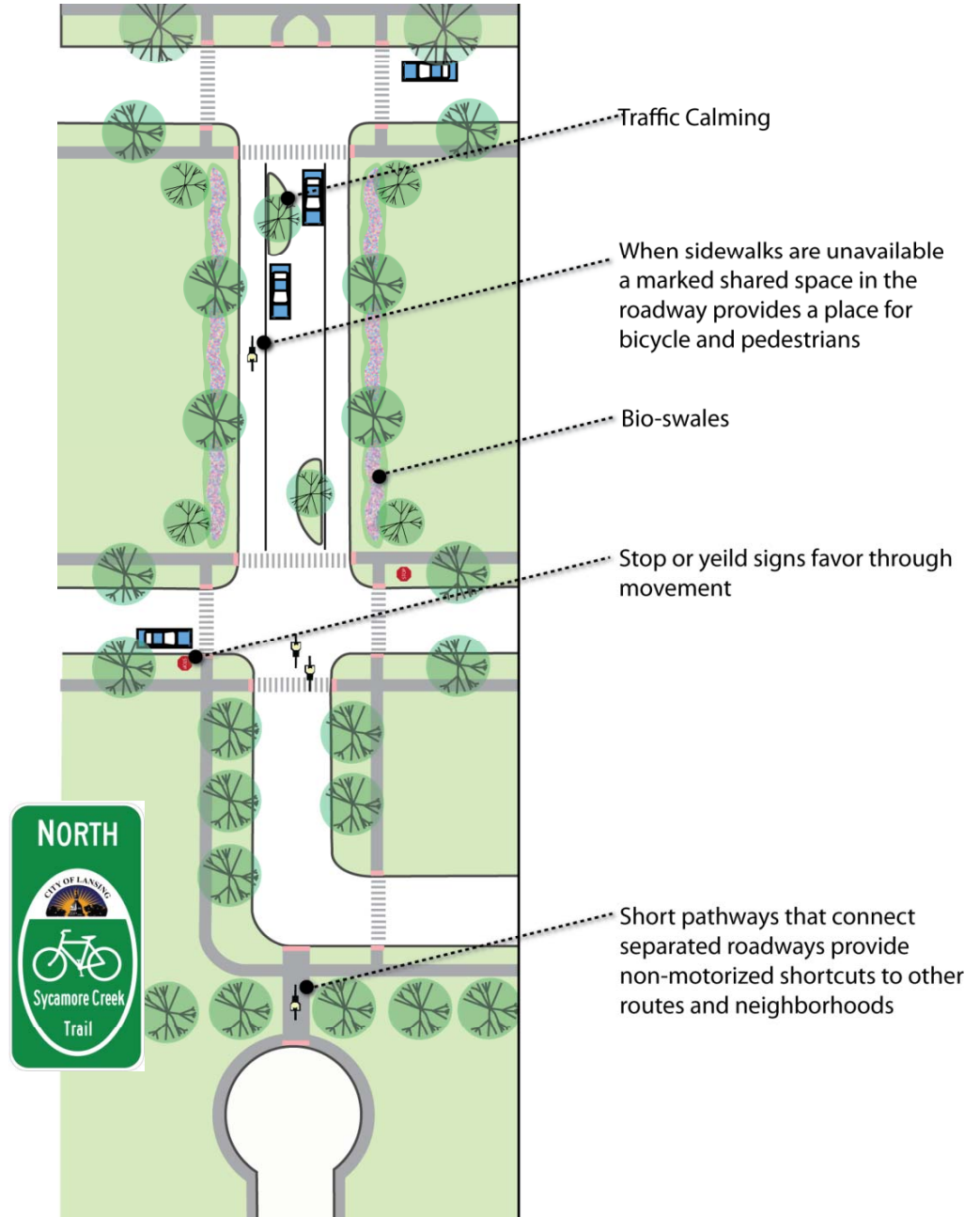


Neighborhood Connectors



←  Geir Community Center 1.5

 Lansing River Trail 3.5 →





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

- Principal Links
 - Auto Focus
 - Bike/Ped Focus
- Neighborhood Connectors
 - Routes
 - Crossing Improvements
- Off-Road Trails

Legend:

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





Next Workshop

- Tuesday, April 26 from 7:00 PM to 9:00 PM
- Same Place
- Review draft non-motorized network
- Look at preliminary policies, guidelines and outreach concepts



The Information Gathered At These Meetings Is Critical In Guiding the Project

Questions or Comments



Please Contact:

Norm Cox, LLA, ASLA
The Greenway Collaborative, Inc.
205 Nickels Arcade
Ann Arbor, MI 48104
Phone 734-668-8848

norm@greenwaycollab.com

www.greenwaycollab.com