

McCordsville Bike and Pedestrian Master Plan



DRAFT

October 11, 2019





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add more detail

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SUMMARY



SUMMARY

City of McCordsville

Tonya Galbraith - Town Manager
Ryan Crum - Director of Planning and Building

Stakeholders

Maria Bond - Director of Community Relations / Mt. Vernon Schools
Stephanie Miller - Principal / McCordsville Elementary
Hancock Flat 50 Member
Bridgette Cook-Jones - Hancock County Tourism Director
Christine Owens - Cumberland Assistant Town Manager & Planner
Adam Zaklikowski - Fortville Planning Administrator
Steve Long - Hancock Health
Randy Sorrell - HEDC Director
Flory May - Vernon Township Trustee
Mel Branson - Buck Creek Township Trustee
Bob Bronson - IN DNR
Jason Taylor - Fishers City Engineer
Susan Bodkin - County Surveyor
Keith Lash - Residential developer - VP Lennar Homes
Tom Willey - Commercial Developer - Reliant Partners
Aimee Ector - Business owner - Second Stories
John Jokantas - Resident, trail supporter, County E911 Director
Anna Gremling - MPO
City of Lawrence representative
Aletha Dunston - Ft. Ben Re-use Authority Director
Joe Mitchell - Executive Minister / Outlook Christian Church
Scott McCain - Resident & real estate agent
Ariel Schoen - Resident & biker
Mary Gobble - Hancock Community Foundation Director
Mary Anne Wietbrock - Pennsy Trail Group
Anna Bergmann
Jen Higginbotham - Metropolitan Planning Organization

Steering Committee

Ann Kloc
Brienne Schneckenberger
Amanda Everidge
Mark Witsman
Ron Crider
Ryan Crum
Tonya Galbraith

Design Team



CONTEXT DESIGN **Project Lead, Landscape Architects**

- Joe Mayes, Project Manager
- Ben Kay, Project Manager Support



CMT **Engineering**

- Cassie Reiter, Project Engineer
- Scott Hanson, Project Planner

Approval / Signature area

Executive Summary

The McCordsville Bike and Pedestrian Master Plan booklet documents the process and proposes a comprehensive system within the town and connecting to adjacent communities and systems.

The Town of McCordsville is fast growing bedroom community outside of Indianapolis and the second largest municipality in Hancock County, Indiana. McCordsville is located in the northwest corner of Hancock County just south of Geist Reservoir, bordering both the City of Lawrence in Marion County and the Town of Fishers in Hamilton County. The town is conveniently located along State Highway 67 and less than 10 minutes from I-70, I-69, I-465 and State Road 234.

Due to the town's rapid growth and development, the elected officials, town staff and citizens have increasingly voiced interest and support to create a walkable and bikeable vision for the future of the Town of the McCordsville. The design team worked with the Town staff and the Indianapolis Metropolitan Planning Organization to create a this 5 step process to collect, propose and implement the plan:

1. Review the existing facilities, assets, programs and uses for strengths, weaknesses, opportunities and threats to inform the planning process.
2. Empower a public engagement process that is collaborative with the Town Staff, Steering committee, stakeholders, community, schools, neighborhoods, and town leadership in a meaningful, innovative dialogue.
3. Utilize technology and graphics to bring life to the storytelling of the existing conditions, gather information, and present the plan.
4. Envision a bold plan that beautifully balances the safety, maintenance, recreational needs, and access while encouraging the increase of pedestrians and bicyclist in the town.
5. Develop a realistic implementation plan that prioritizes action steps and create strategies, short- and long-term phases, and real-world costs.

The proposed plan for this system includes proposing improvements to 12 main corridors and proposing 6 new greenways. Specifically, here are the goals intended to be accomplished by the implementation of this plan:

- Increase the number of people walking and biking for everyday transportation purposes by creating a trail plan that connects people to destinations.
- Increase the number of people walking and biking for recreation by creating a trail plan that provides highly accessible and desirable recreation opportunities.
- Provide priorities for future bike/pedestrian projects.
- Provide feasibility of multi-use trails along riparian corridors.
- Establish safe and functional routes for bicycles and pedestrians between community destinations.
- Identify "branded" trails within the system that can have additional interest and design elements and a source of community pride.
- Recommend policy changes and action steps for a successful implementation.

2

PUBLIC INPUT



Summary

Public Engagement Events

The design team attended and organized a variety of methods to gain public input on the McCordsville Bike and Pedestrian Master Plan. Two of the plan's overall goals specifically relate to the public engagement:

1. Empower a public engagement process that is collaborative with the Town Staff, Steering committee, stakeholders, community, schools, neighborhoods, and town leadership in a meaningful, innovative dialogue.
2. Utilize technology and graphics to bring life to the storytelling of the existing conditions, gather information, and present the plan.

To meet these goals, the design team utilized the following means to engage the public and display the design process:

- Steering Committee - a group of town staff, town officials, interest groups and private citizens to help guide the design team.
- Stakeholder Group - a group of stakeholders from interest groups, business entities, and adjacent municipalities to provide input and guidance in the overall plan
- Pop-up Engagement - our team had a booth at the McCordsville Pathway to Fitness 5K to engage citizens and gather input.
- Project Website - provided a 24/7 portal for citizens to visit, see current materials and provide input.
- Online Survey - an online survey was published and gathered over 220 results.
- Public Approval Process - a public forum to formally adopt the plan for the Town of McCordsville's use.

McCordsville Path To Fitness 5k



Steering Committee Meetings



Website

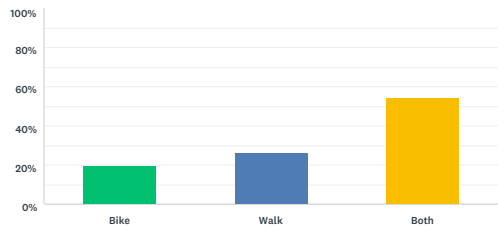


Survey Results

McCordsville Bike and Pedestrian Master Plan

Q1 When bike and pedestrian facilities are in place, are you more likely to walk or bike within McCordsville?"

Answered: 216 Skipped: 6

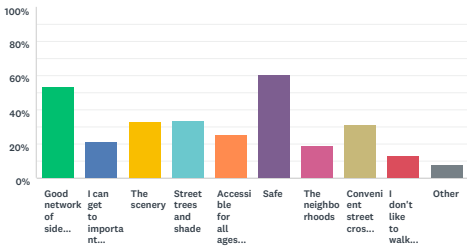


ANSWER CHOICES	RESPONSES
Bike	19.44%42
Walk	25.93%56
Both	54.63%118
TOTAL	216

McCordsville Bike and Pedestrian Master Plan

Q2 What do you like MOST about walking and biking in McCordsville? (Choose 4)

Answered: 219 Skipped: 3

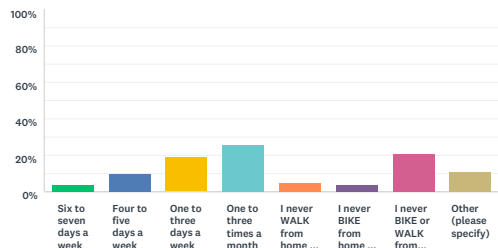


ANSWER CHOICES	RESPONSES
Good network of sidewalk, trails, and paths.	53.42%117
I can get to important destinations and events	21.00%46
The scenery	32.88%72
Street trees and shade	33.33%73
Accessible for all ages and physical capabilities	25.57%56
Safe	60.27%132
The neighborhoods	19.18%42
Convenient street crossings	31.05%68
I don't like to walk or bike McCordsville	12.79%28
Other	8.22%18
Total Respondents: 219	

McCordsville Bike and Pedestrian Master Plan

Q3 How often do you walk or bike from HOME to another destination?

Answered: 220 Skipped: 2

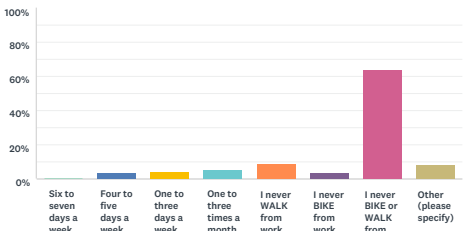


ANSWER CHOICES	RESPONSES
Six to seven days a week	4.09%9
Four to five days a week	10.00%22
One to three days a week	19.09%42
One to three times a month	25.91%57
I never WALK from home to a destination	5.00%11
I never BIKE from home to a destination	4.09%9
I never BIKE or WALK from home to a destination	20.91%46
Other (please specify)	10.91%24
TOTAL	220

McCordsville Bike and Pedestrian Master Plan

Q4 How often do you walk or bike from WORK or SCHOOL to another destination?

Answered: 215 Skipped: 7

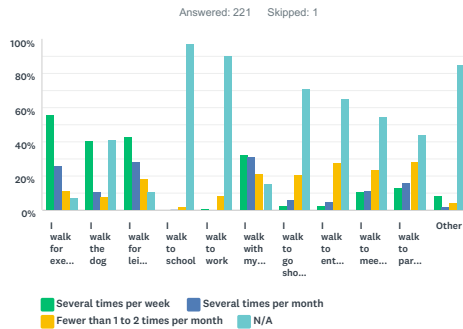


ANSWER CHOICES	RESPONSES
Six to seven days a week	0.47%1
Four to five days a week	3.72%8
One to three days a week	4.65%10
One to three times a month	5.58%12
I never WALK from work or school to a destination	8.84%19
I never BIKE from work or school to a destination	4.19%9
I never BIKE or WALK from work or school to a destination	64.19%138
Other (please specify)	8.37%18
TOTAL	215

Survey Results

McCordsville Bike and Pedestrian Master Plan

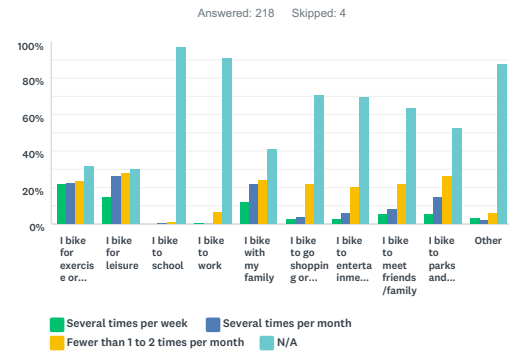
Q5 Please tell us about the types of WALKING trips you take and how often:



	SEVERAL TIMES PER WEEK	SEVERAL TIMES PER MONTH	FEWER THAN 1 TO 2 TIMES PER MONTH	N/A	TOTAL RESPONDENTS
I walk for exercise or personal fitness	55.35% 119	26.05% 56	11.63% 25	6.98% 15	215
I walk the dog	40.40% 80	10.61% 21	8.08% 16	40.91% 81	198
I walk for leisure	43.20% 89	28.16% 58	18.45% 38	10.68% 22	206
I walk to school	0.00% 0	0.53% 1	2.13% 4	97.34% 183	188
I walk to work	1.08% 2	0.00% 0	8.60% 16	90.32% 168	186
I walk with my family	32.68% 67	31.22% 64	20.98% 43	15.61% 32	205
I walk to go shopping or errands	2.63% 5	5.79% 11	20.53% 39	71.05% 135	190
I walk to entertainment or restaurants	2.59% 5	5.18% 10	27.46% 53	64.77% 125	193
I walk to meet friends/family	10.77% 21	11.28% 22	23.59% 46	54.36% 106	195
I walk to parks and recreational amenities	12.81% 26	15.76% 32	28.08% 57	43.84% 89	203
Other	8.49% 9	1.89% 2	4.72% 5	84.91% 90	106

McCordsville Bike and Pedestrian Master Plan

Q6 Please tell us about the types of BIKING trips you take and how often:

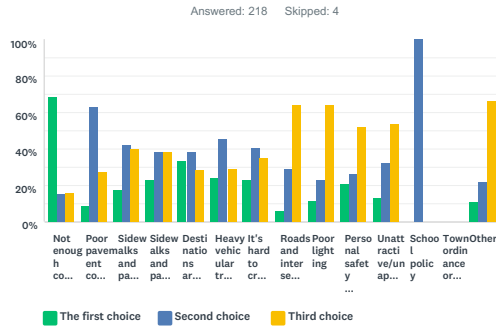


	SEVERAL TIMES PER WEEK	SEVERAL TIMES PER MONTH	FEWER THAN 1 TO 2 TIMES PER MONTH	N/A	TOTAL
I bike for exercise or personal fitness	21.96% 47	22.43% 48	23.83% 51	31.78% 68	214
I bike for leisure	15.20% 31	26.47% 54	27.94% 57	30.39% 62	204
I bike to school	0.00% 0	1.05% 2	1.58% 3	97.37% 185	190
I bike to work	1.05% 2	0.53% 1	6.84% 13	91.58% 174	190
I bike with my family	12.38% 25	21.78% 44	24.26% 49	41.58% 84	202
I bike to go shopping or errands	3.06% 6	4.08% 8	21.94% 43	70.92% 139	196
I bike to entertainment or restaurants	3.11% 6	6.22% 12	20.73% 40	69.95% 135	193
I bike to meet friends/family	5.61% 11	8.67% 17	21.94% 43	63.78% 125	196
I bike to parks and recreational amenities	5.53% 11	15.08% 30	26.63% 53	52.76% 105	199
Other	3.36% 4	2.52% 3	5.88% 7	88.24% 105	119

Survey Results

McCordsville Bike and Pedestrian Master Plan

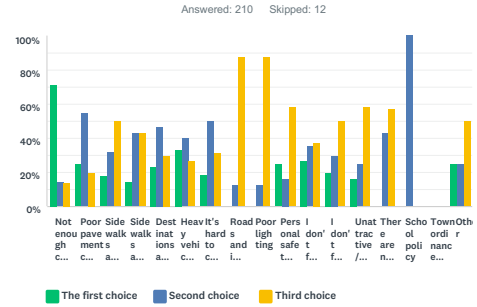
Q7 What factors DISCOURAGE WALKING in McCordsville? Select your top 3 (1 being the most important reason)



	THE FIRST CHOICE	SECOND CHOICE	THIRD CHOICE	TOTAL	WEIGHTED AVERAGE
Not enough connected paths and sidewalks	68.32% 110	15.53% 25	16.15% 26	161	1.48
Poor pavement conditions	9.09% 1	63.64% 7	27.27% 3	11	2.18
Sidewalks and paths are too close to the road	17.50% 7	42.50% 17	40.00% 16	40	2.23
Sidewalks and paths are too narrow	23.08% 3	38.46% 5	38.46% 5	13	2.15
Destinations are too far away to walk to	33.33% 33	38.38% 38	28.28% 28	99	1.95
Heavy vehicular traffic and speeding traffic	24.35% 28	46.09% 53	29.57% 34	115	2.05
It's hard to cross busy roads	23.47% 23	40.82% 40	35.71% 35	98	2.12
Roads and intersections too wide to cross	5.88% 1	29.41% 5	64.71% 11	17	2.59
Poor lighting	11.76% 2	23.53% 4	64.71% 11	17	2.53
Personal safety is a concern - I don't like to walk alone	21.05% 4	26.32% 5	52.63% 10	19	2.32
Unattractive/unappealing scenery (no trees, nothing of interest to explore)	13.51% 5	32.43% 12	54.05% 20	37	2.41
School policy	0.00% 0	100.00% 1	0.00% 0	1	2.00
Town ordinance or code	0.00% 0	0.00% 0	0.00% 0	0	0.00
Other	11.11% 1	22.22% 2	66.67% 6	9	2.56

McCordsville Bike and Pedestrian Master Plan

Q8 What factors DISCOURAGE BIKING in McCordsville? Select your top 3 (1 being the most important reason)



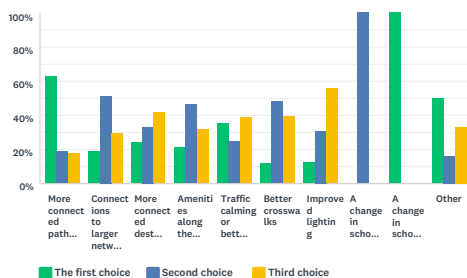
	THE FIRST CHOICE	SECOND CHOICE	THIRD CHOICE	TOTAL	WEIGHTED AVERAGE
Not enough connected paths and sidewalks	71.74% 99	14.49% 20	13.77% 19	138	1.42
Poor pavement conditions	25.00% 5	55.00% 11	20.00% 4	20	1.95
Sidewalks and paths are too close to the road	18.18% 4	31.82% 7	50.00% 11	22	2.32
Sidewalks and paths are too narrow	14.29% 2	42.86% 6	42.86% 6	14	2.29
Destinations are too far away to bike to	23.40% 11	46.81% 22	29.79% 14	47	2.06
Heavy vehicular traffic and speeding traffic	33.60% 42	40.00% 50	26.40% 33	125	1.93
It's hard to cross busy roads	18.60% 16	50.00% 43	31.40% 27	86	2.13
Roads and intersections too wide to cross	0.00% 0	12.50% 1	87.50% 7	8	2.88
Poor lighting	0.00% 0	12.50% 1	87.50% 7	8	2.88
Personal safety is a concern - I don't like to bike alone	25.00% 3	16.67% 2	58.33% 7	12	2.33
I don't feel comfortable riding in the road	27.12% 16	35.59% 21	37.29% 22	59	2.10
I don't feel comfortable riding with young/inexperienced family members	20.00% 4	30.00% 6	50.00% 10	20	2.30
Unattractive/unappealing scenery (no trees, nothing of interest to explore)	16.67% 4	25.00% 6	58.33% 14	24	2.42
There are no places to safely store/lock my bicycle at my destination	0.00% 0	42.86% 6	57.14% 8	14	2.57
School policy	0.00% 0	100.00% 1	0.00% 0	1	2.00
Town ordinance or code	0.00% 0	0.00% 0	0.00% 0	0	0.00
Other	25.00% 2	25.00% 2	50.00% 4	8	2.25

Survey Results

McCordsville Bike and Pedestrian Master Plan

Q9 What factors ENCOURAGE an increase of WALKING in McCordsville? Select your top 3 (1 being the most important reason)

Answered: 213 Skipped: 9

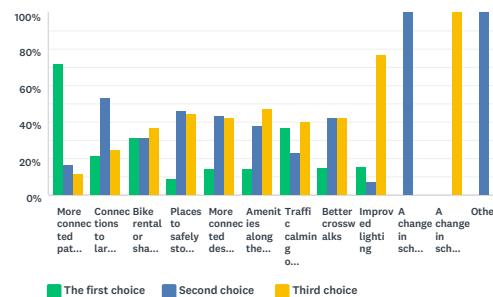


	THE FIRST CHOICE	SECOND CHOICE	THIRD CHOICE	TOTAL	WEIGHTED AVERAGE
More connected paths and sidewalks	63.06% 99	19.11% 30	17.83% 28	157	1.55
Connections to larger networks outside of McCordsville	19.12% 13	51.47% 35	29.41% 20	68	2.10
More connected destinations	24.56% 28	33.33% 38	42.11% 48	114	2.18
Amenities along the trail and paths (seating, drinking water, interpretation signage, fitness nodes)	21.43% 18	46.43% 39	32.14% 27	84	2.11
Traffic calming or better protected paths, trails and sidewalks	35.65% 41	25.22% 29	39.13% 45	115	2.03
Better crosswalks	12.07% 7	48.28% 28	39.66% 23	58	2.28
Improved lighting	12.50% 2	31.25% 5	56.25% 9	16	2.44
A change in school/work policy	0.00% 0	100.00% 3	0.00% 0	3	2.00
A change in school/work facilities (showers, ect)	100.00% 1	0.00% 0	0.00% 0	1	1.00
Other	50.00% 3	16.67% 1	33.33% 2	6	1.83

McCordsville Bike and Pedestrian Master Plan

Q10 What factors ENCOURAGE an increase of BIKING in McCordsville? Select your top 3 (1 being the most important reason)

Answered: 207 Skipped: 15



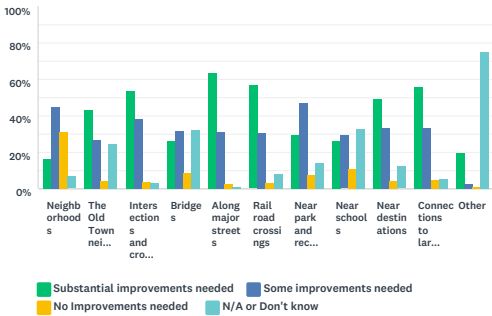
	THE FIRST CHOICE	SECOND CHOICE	THIRD CHOICE	TOTAL	WEIGHTED AVERAGE
More connected paths and sidewalks	72.19% 109	16.56% 25	11.26% 17	151	1.39
Connections to larger networks outside of McCordsville	21.59% 19	53.41% 47	25.00% 22	88	2.03
Bike rental or share program	31.58% 6	31.58% 6	36.84% 7	19	2.05
Places to safely store/lock my bicycle at my destination	8.89% 4	46.67% 21	44.44% 20	45	2.36
More connected destinations	14.43% 14	43.30% 42	42.27% 41	97	2.28
Amenities along the trail and paths (seating, drinking water, interpretation signage, fitness nodes)	14.55% 8	38.18% 21	47.27% 26	55	2.33
Traffic calming or better protected paths, trails and sidewalks	36.89% 38	23.30% 24	39.81% 41	103	2.03
Better crosswalks	15.15% 5	42.42% 14	42.42% 14	33	2.27
Improved lighting	15.38% 2	7.69% 1	76.92% 10	13	2.62
A change in school/work policy	0.00% 0	100.00% 2	0.00% 0	2	2.00
A change in school/work facilities (bike parking, showers, ect)	0.00% 0	0.00% 0	100.00% 1	1	3.00
Other	0.00% 0	100.00% 2	0.00% 0	2	2.00

Survey Results

McCordsville Bike and Pedestrian Master Plan

Q11 What locations need the most pedestrian and biking improvements?

Answered: 214 Skipped: 8



	SUBSTANTIAL IMPROVEMENTS NEEDED	SOME IMPROVEMENTS NEEDED	NO IMPROVEMENTS NEEDED	N/A OR DON'T KNOW	TOTAL	WEIGHTED AVERAGE
Neighborhoods	16.33% 32	44.90% 88	31.63% 62	7.14% 14	196	2.30
The Old Town neighborhood	43.65% 86	26.90% 53	4.57% 9	24.87% 49	197	2.11
Intersections and crosswalks	54.08% 106	38.27% 75	4.08% 8	3.57% 7	196	1.57
Bridges	26.42% 51	32.12% 62	8.81% 17	32.64% 63	193	2.48
Along major streets	63.86% 129	31.68% 64	2.97% 6	1.49% 3	202	1.42
Rail road crossings	56.92% 111	30.77% 60	3.59% 7	8.72% 17	195	1.64
Near park and recreation facilities	29.84% 57	47.64% 91	7.85% 15	14.66% 28	191	2.07
Near schools	26.42% 51	29.53% 57	10.88% 21	33.16% 64	193	2.51
Near destinations	49.48% 96	33.51% 65	4.64% 9	12.37% 24	194	1.80
Connections to larger trail and path networks outside of McCordsville	56.16% 114	33.50% 68	4.93% 10	5.42% 11	203	1.60
Other	20.00% 14	2.86% 2	1.43% 1	75.71% 53	70	3.33

McCordsville Bike and Pedestrian Master Plan

Q13 Enter up to five (5) places to bike and walk to within the Town of McCordsville.

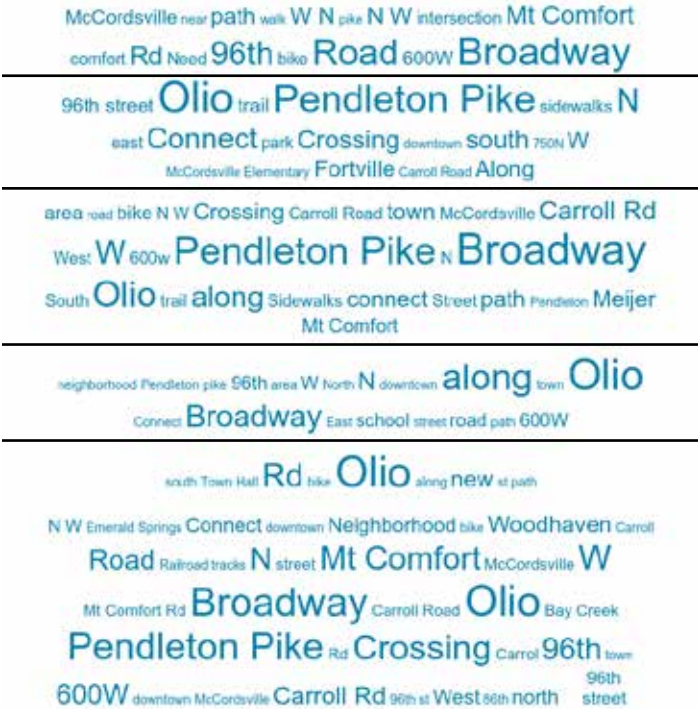
Answered: 139 Skipped: 83



McCordsville Bike and Pedestrian Master Plan

Q12 Enter up to five (5) intersections, streets, corridors, neighborhoods, locations or areas that you would like to become more PEDESTRIAN and/or BICYCLE friendly? (Please be detailed in your description.)

Answered: 169 Skipped: 53



McCordsville Bike and Pedestrian Master Plan

Q14 Enter up to five (5) places to bike and walk to outside of the Town of McCordsville.

Answered: 137 Skipped: 85

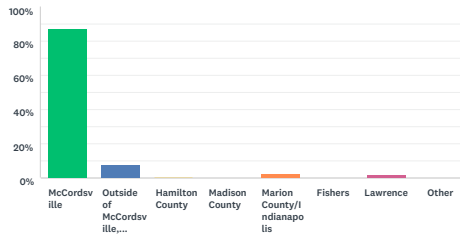


Survey Results

McCordsville Bike and Pedestrian Master Plan

Q15 Where do you live?

Answered: 216 Skipped: 6

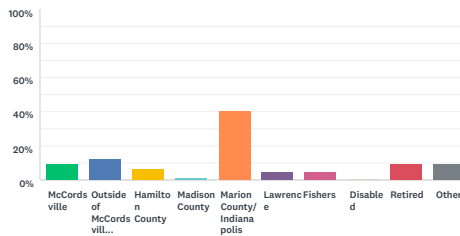


ANSWER CHOICES	RESPONSES	
McCordsville	87.50%	189
Outside of McCordsville, but in Hancock County	7.87%	17
Hamilton County	0.46%	1
Madison County	0.00%	0
Marion County/Indianapolis	2.31%	5
Fishers	0.00%	0
Lawrence	1.85%	4
Other	0.00%	0
TOTAL		216

McCordsville Bike and Pedestrian Master Plan

Q17 Where do you work?

Answered: 216 Skipped: 6

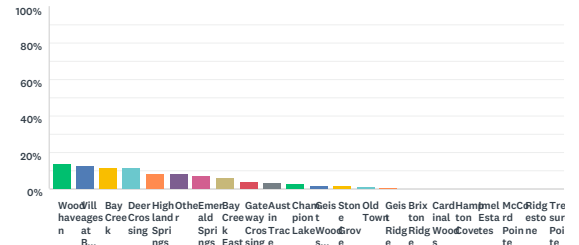


ANSWER CHOICES	RESPONSES	
McCordsville	9.26%	20
Outside of McCordsville, but in Hancock County	12.50%	27
Hamilton County	6.48%	14
Madison County	1.39%	3
Marion County/Indianapolis	40.74%	88
Lawrence	5.09%	11
Fishers	5.09%	11
Disabled	0.46%	1
Retired	9.26%	20
Other	9.72%	21
TOTAL		216

McCordsville Bike and Pedestrian Master Plan

Q16 If you are a McCordsville resident, in what neighborhood or general area do you live?

Answered: 196 Skipped: 26



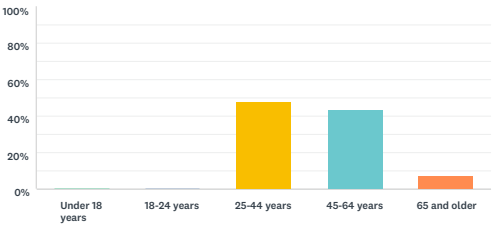
ANSWER CHOICES	RESPONSES	
Woodhaven	13.78%	27
Villages at Brookside	12.76%	25
Bay Creek	12.24%	24
Deer Crossing	12.24%	24
Highland Springs	8.67%	17
Other	8.67%	17
Emerald Springs	7.65%	15
Bay Creek East	6.63%	13
Gateway Crossing	4.08%	8
Austin Trace	3.57%	7
Champion Lake	3.06%	6
Geist Woods Estates	2.04%	4
Stone Grove	2.04%	4
Old Town	1.53%	3
Geist Ridge	1.02%	2
Brixton Ridge	0.00%	0
Cardinal Woods	0.00%	0
Hampton Cove	0.00%	0
Imel Estates	0.00%	0
McCord Pointe	0.00%	0
Ridgestone	0.00%	0
Treasure Pointe	0.00%	0
TOTAL		196

Survey Results

McCordsville Bike and Pedestrian Master Plan

Q19 Please indicate your age group

Answered: 218 Skipped: 4

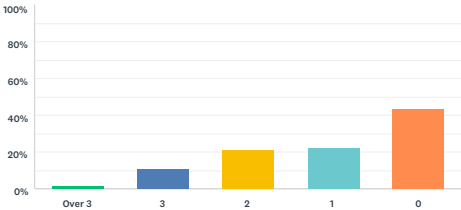


ANSWER CHOICES	RESPONSES
Under 18 years	0.46%1
18-24 years	0.46%1
25-44 years	48.17%105
45-64 years	43.58%95
65 and older	7.34%16
TOTAL	218

McCordsville Bike and Pedestrian Master Plan

Q20 How many children (0- 18 years) live at your residence?

Answered: 217 Skipped: 5



ANSWER CHOICES	RESPONSES
Over 3	1.84%4
3	11.06%24
2	21.20%46
1	22.12%48
0	43.78%95
TOTAL	217

McCordsville Bike and Pedestrian Master Plan

Q21 What is your big idea for the bike and pedestrian plan?

Answered: 155 Skipped: 67



McCordsville Bike and Pedestrian Master Plan

Q22 What is the biggest opportunity for the bike and pedestrian plan?

Answered: 123 Skipped: 99



Public Input Conclusions

Public Engagement Conclusions

In conclusion, the public input process was meaningful and guided the design team in the following ways:

- Highlighted known issues and patterns of use within the town that are not readily visible by site visits.
- Confirmed problem areas and use patterns that the design team noted.
- Provided insights into the community's culture and opinions of how the plans would be received.
- Confirmed interest from the community to create an improved system within the town.
- Helped define destinations, high-use corridors and connection needs to surrounding communities.
- Identified priority needs within the system.
- Defined the best bicycle facilities to be successfully adopted and used within the community.

This input helped guide the design team and develop the existing conditions and proposed conditions displayed in the following chapters.

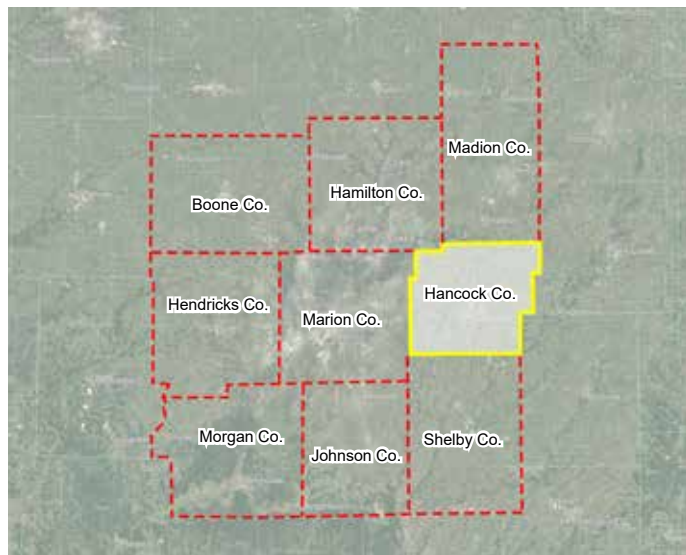
3

EXISTING CONDITIONS



EXISTING CONDITIONS

Indiana Counties Map



Description

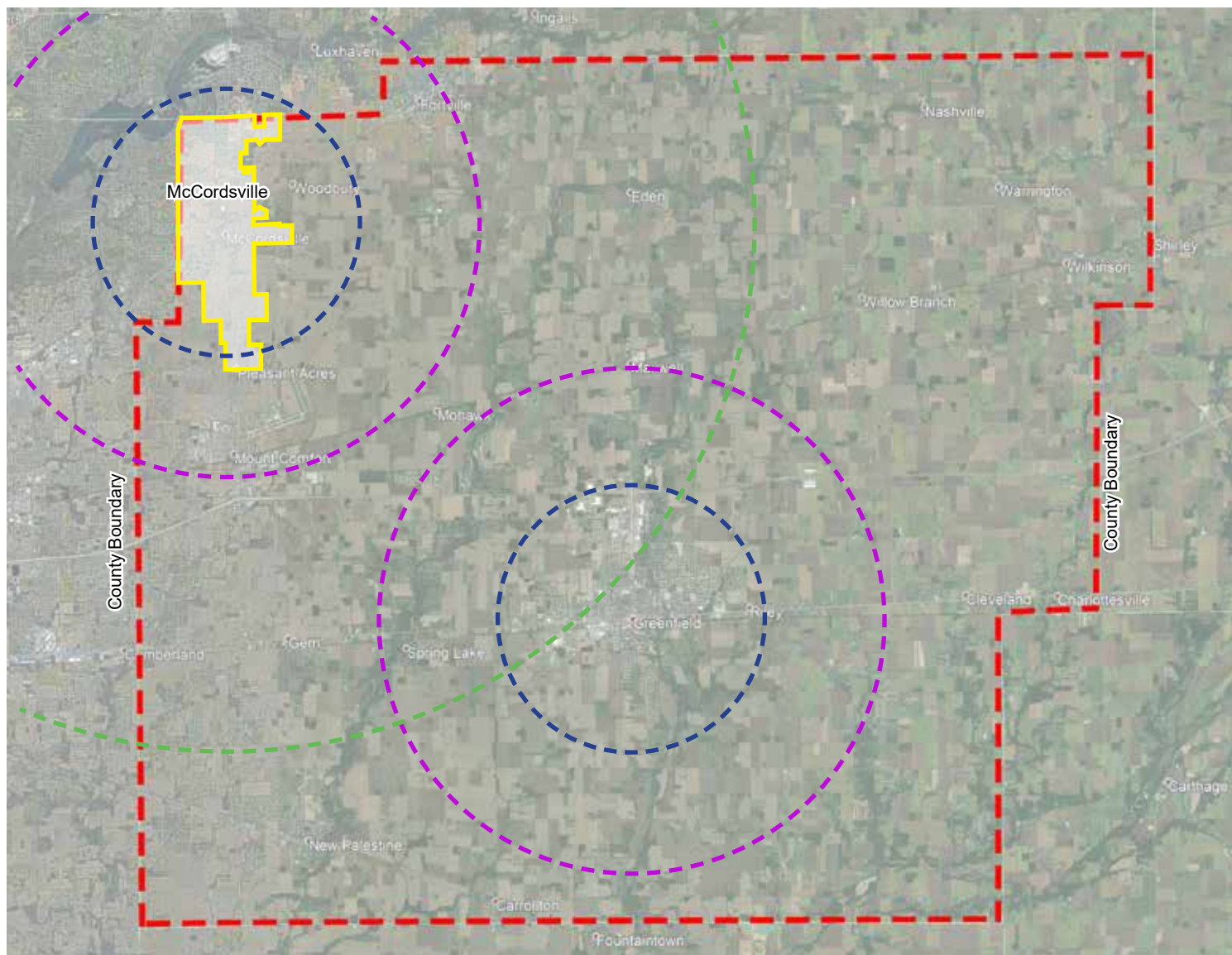
McCordsville, IN is located in the northwestern-most corner of Hancock County, which is one of the 8 “Donut” counties that surround Marion County.

McCordsville is a 30 minute drive south-west to the county seat of Marion County, Indianapolis, which is also the capital of the state.

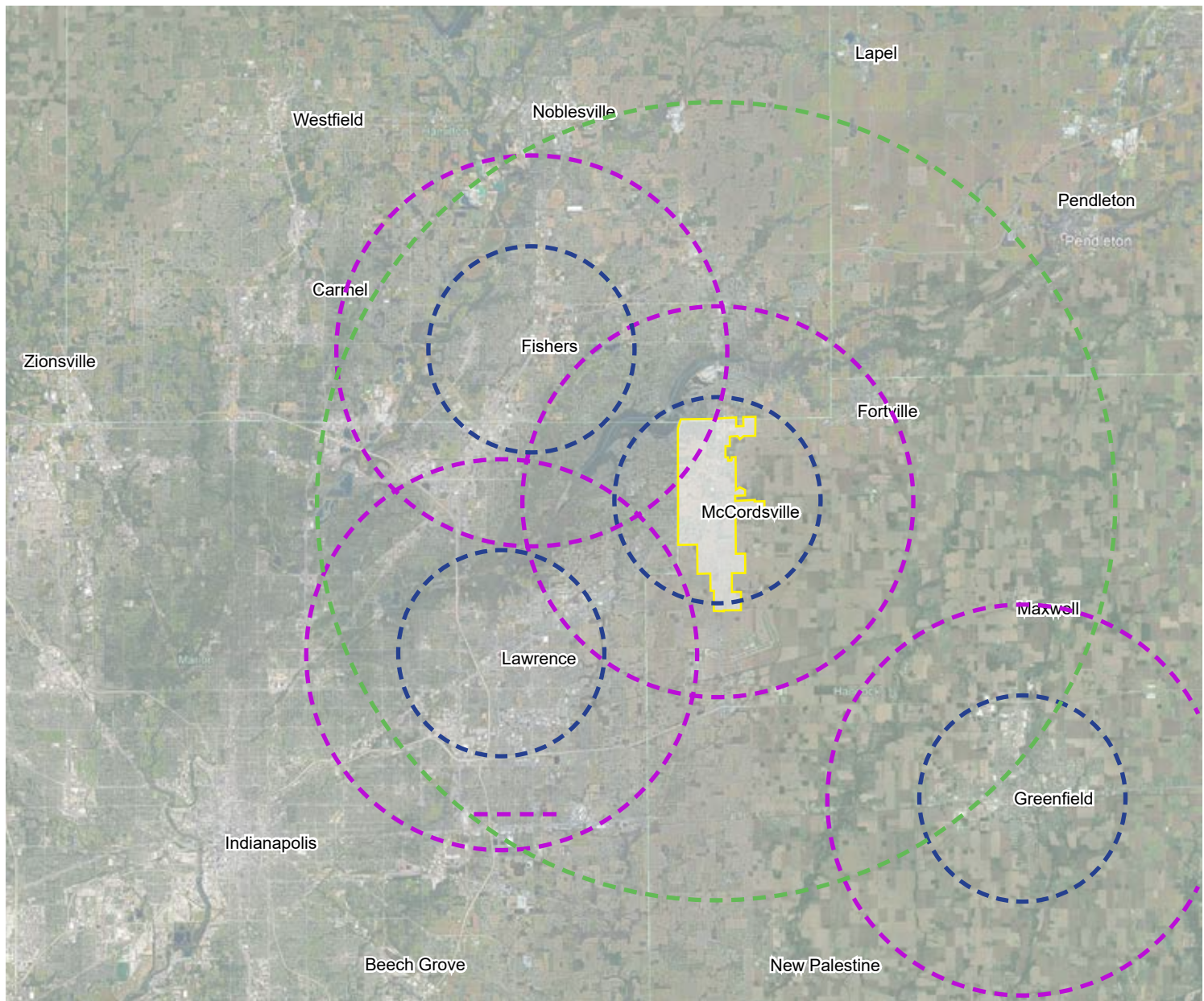
McCordsville is also a 23 minute drive north-west from the county seat of Hancock County, Greenfield.

maps are not to scale

Hancock County Map



Regional Map



Description

The map above shows biking radii to and from McCordsville and the surrounding towns / cities.

These radii assume an average biking speed of 10 mph.

Average walking speed is roughly 3 mph, therefore, it can be assumed that a pedestrian will walk roughly 1/3 the distance a biker will ride in the same time frame.

Legend

15 minute bike radius	---
30 minute bike radius	---
60 minute bike radius	---

EXISTING CONDITIONS

Legend

Corridor Roadway

Waterway

Public park

Town Boundary

Area of Interest

5 minute bike radius

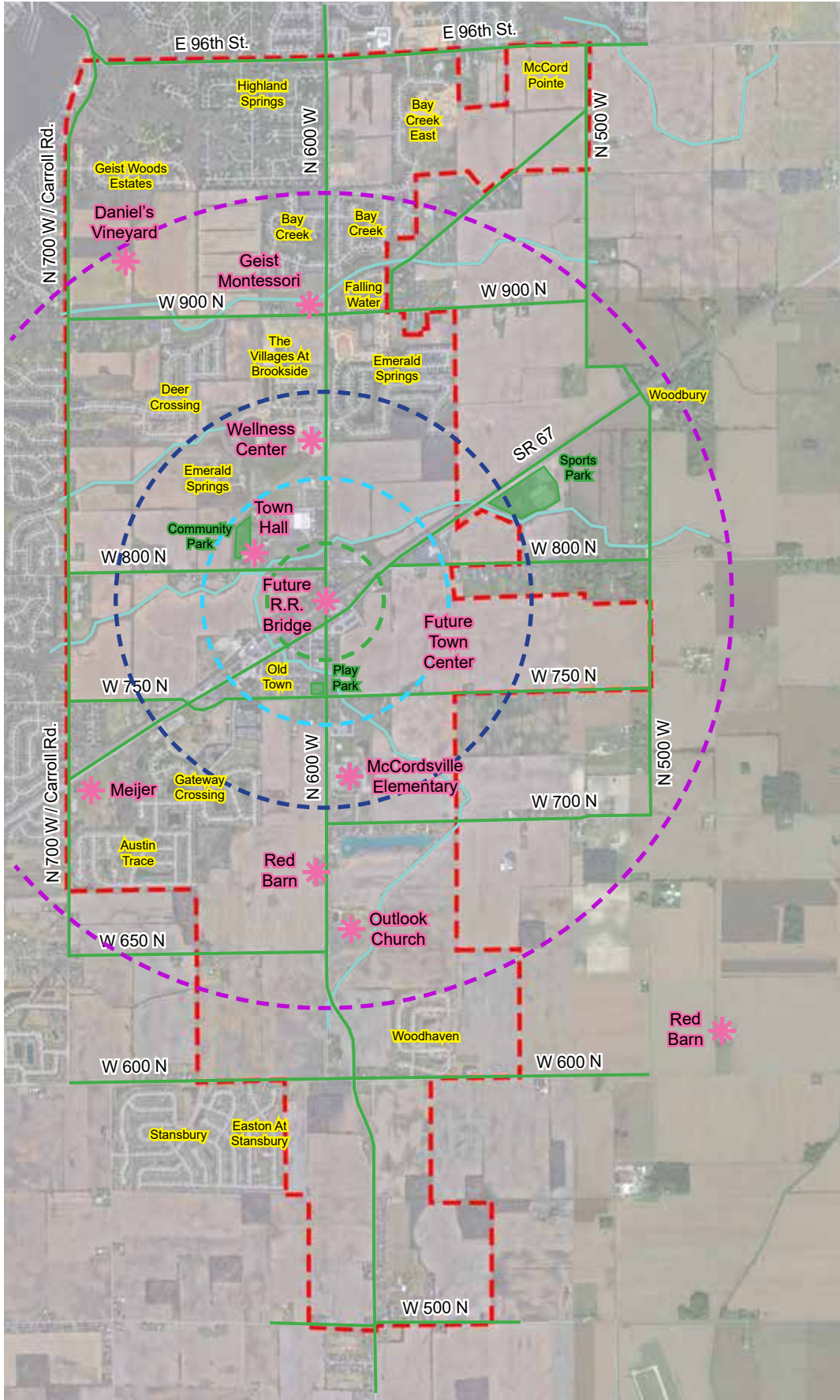
10 minute bike radius

5 minute walk radius

10 minute walk radius

Neighborhood

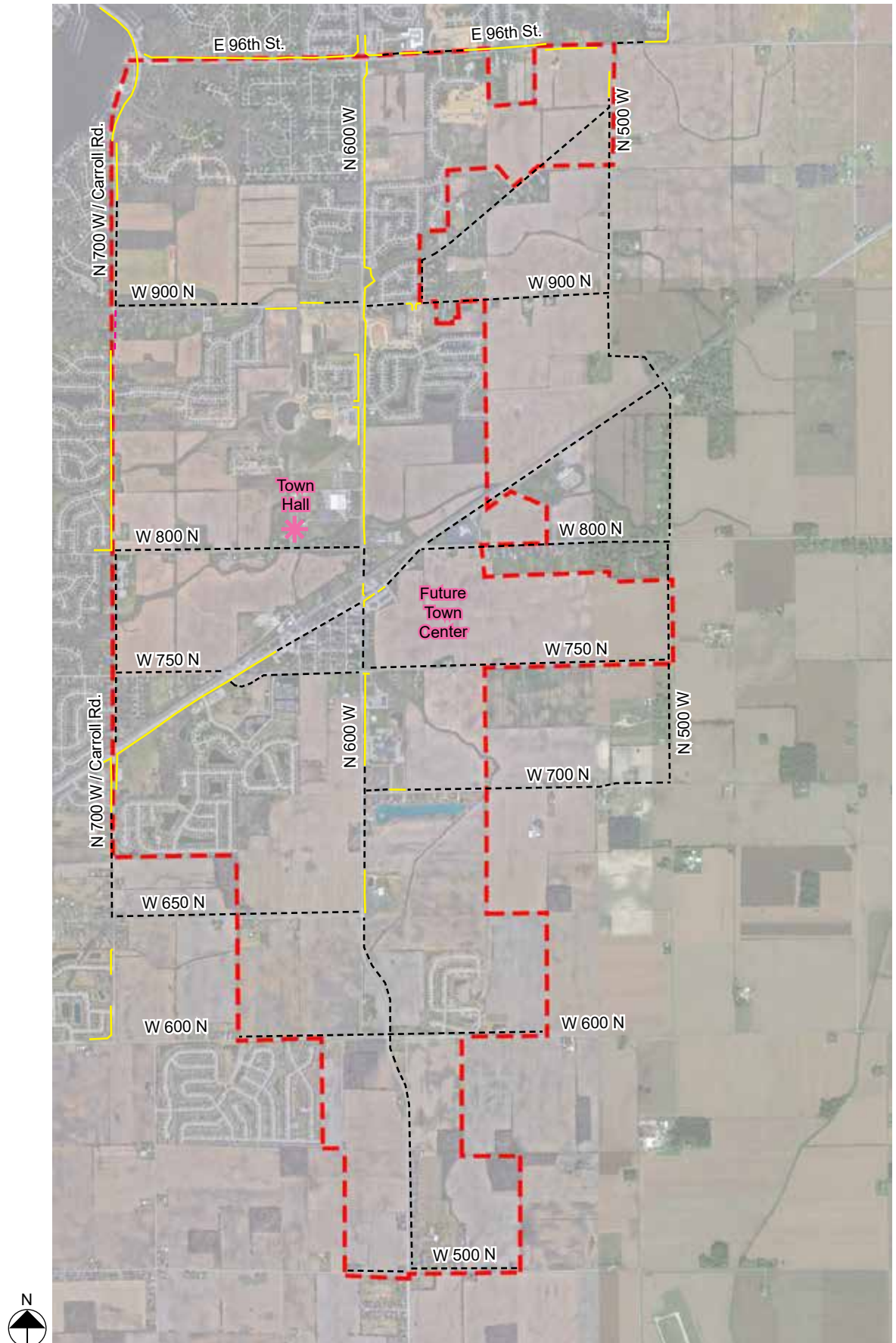
Town Map



Legend

- Existing Bike / Pedestrian Facility ———
- Proposed Bike / Pedestrian Facility - - - - -

Existing Trail and Sidewalk Facilities

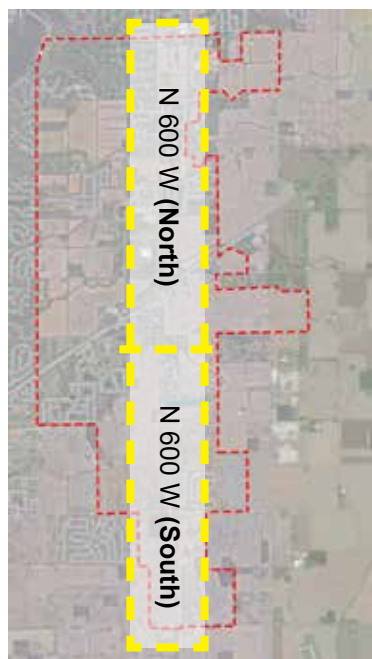


EXISTING CONDITIONS

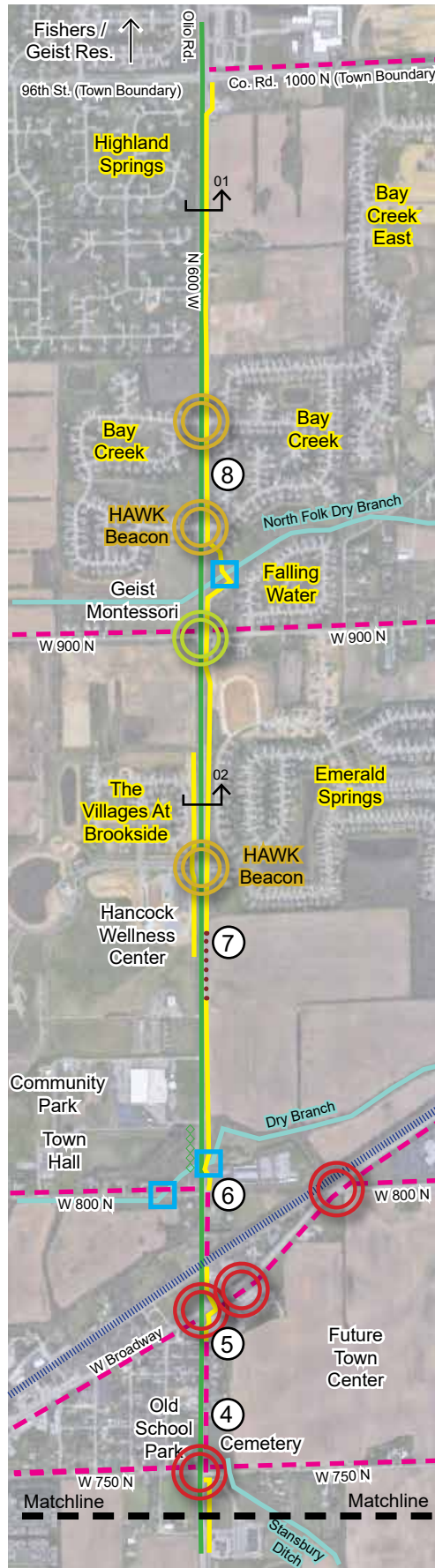
Legend

Corridor Roadway	
Intersection with crosswalks on all walkways	
Intersection with partial crosswalks	
Intersection with no crosswalks	
Path / Trail	
Sidewalk	
Protected Path	
Separated Path	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next spread)	
On-site Photo	
Topography	
Narrow R.O.W.	
Proposed Bike / Pedestrian Facility	

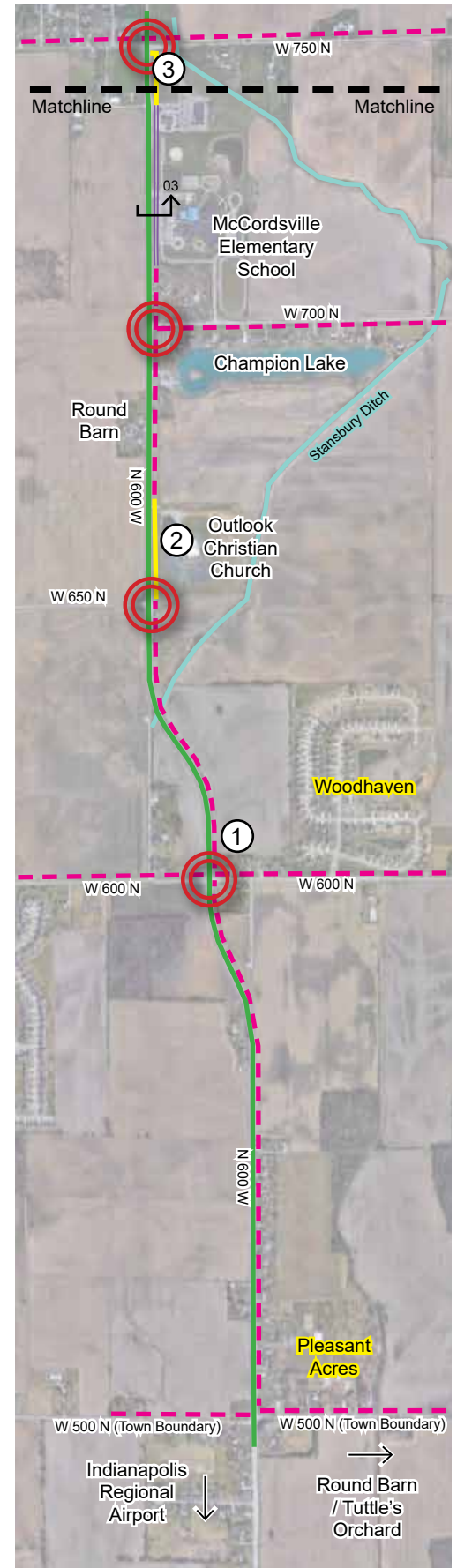
Vicinity Map



N 600 W (North)



N 600 W (South)

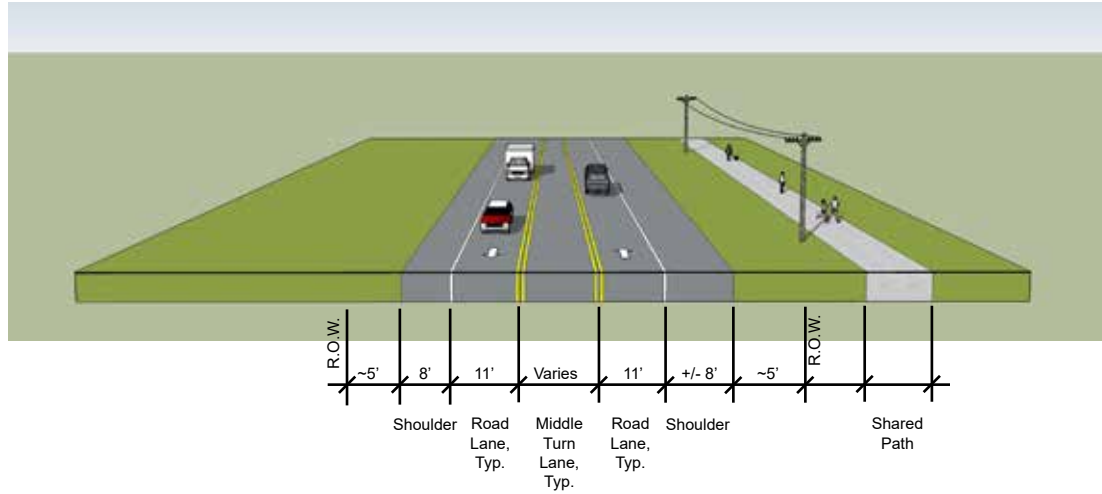




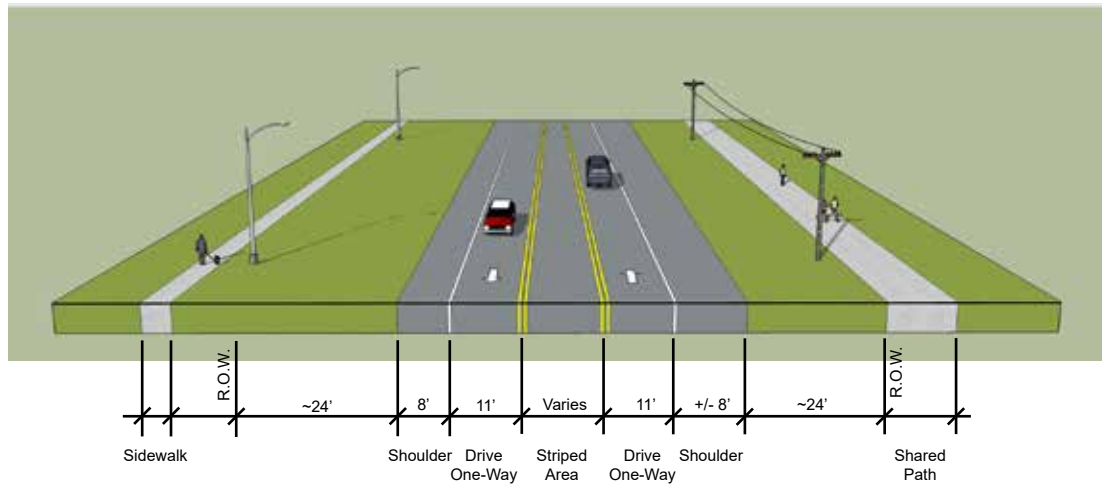
All images are oriented north.

EXISTING CONDITIONS

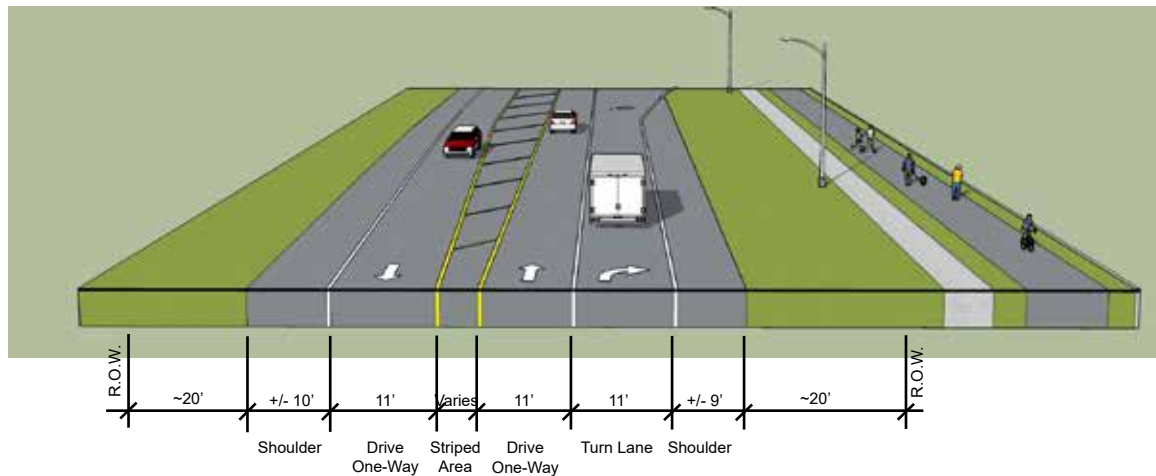
Section 01 - N 600 W (North)



Section 02 - N 600 W (North)



Section 03 - N 600 W (South)



Analysis & Summary of Findings

Speed Limits:

W 500 N - W 600 N : 55 MPH
 W 600 N - Church : 50 MPH
 Church - School : 40 MPH
 School - W 800 N : 30 MPH
 W 800 N - E 96th St. : 40 MPH

R.O.W.:

150' at N 600 W road curves south of Church
 120' at subdivisions on N 600 W (North) (see section 02 previous page)
 100' at school & wellness center (see section 03 previous page)
 80' at train tracks
 60' through rest of corridor (see section 01 previous page)
 45' at Old Town Neighborhood

Existing Street Condition

Description:

The conditions along N 600 W is a roughly 30-42' wide, two lane road (with shoulders) with a healthy amount of sidewalks, trails, and bike & pedestrian facilities.

EXISTING CONDITIONS

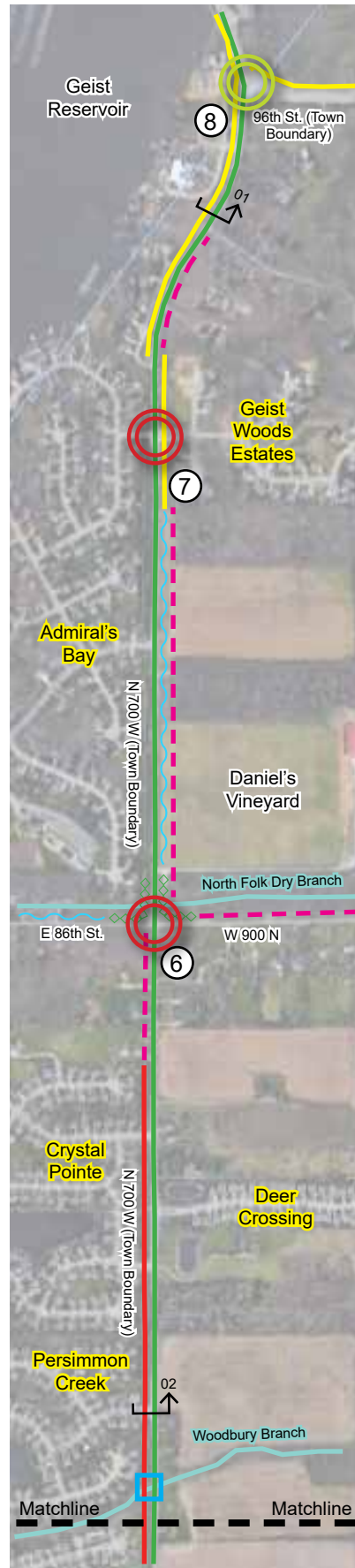
Legend

Corridor Roadway	
Intersection with crosswalks on all walkways	
Intersection with partial crosswalks	
Intersection with no crosswalks	
Path / Trail	
Sidewalk	
Protected Path	
Separated Path	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next spread)	
On-site Photo	
Topography	
Narrow R.O.W.	
Proposed Bike / Pedestrian Facility	

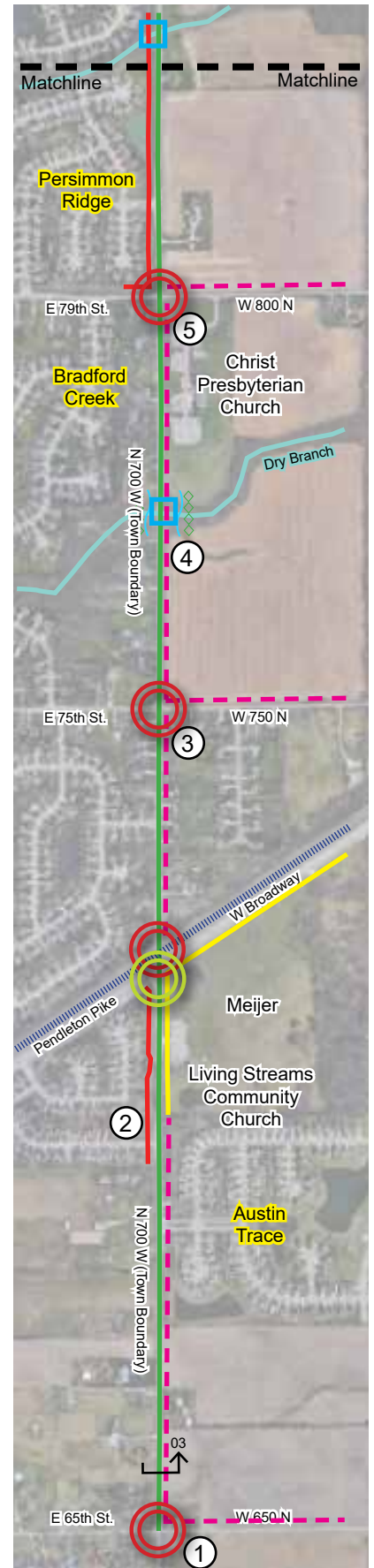
Vicinity Map



N 700 W / Carroll Rd. (North)



N 700 W / Carroll Rd. (South)

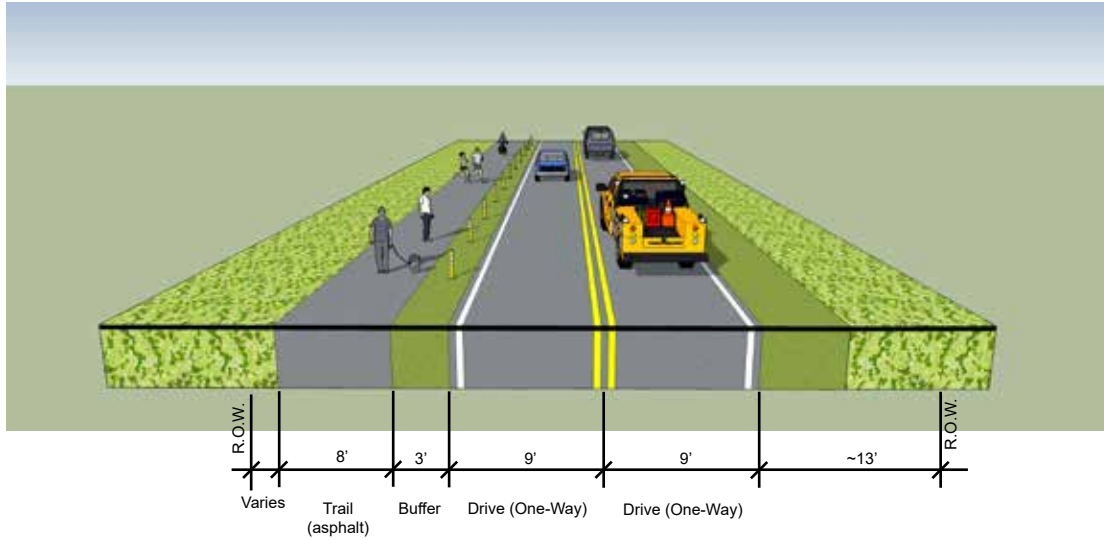




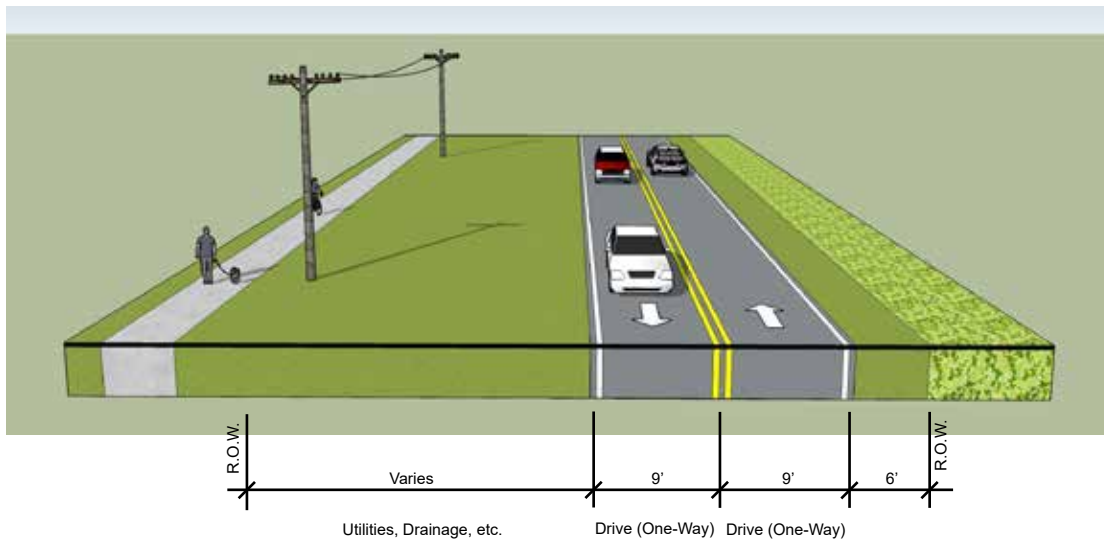
All images are oriented north.

EXISTING CONDITIONS

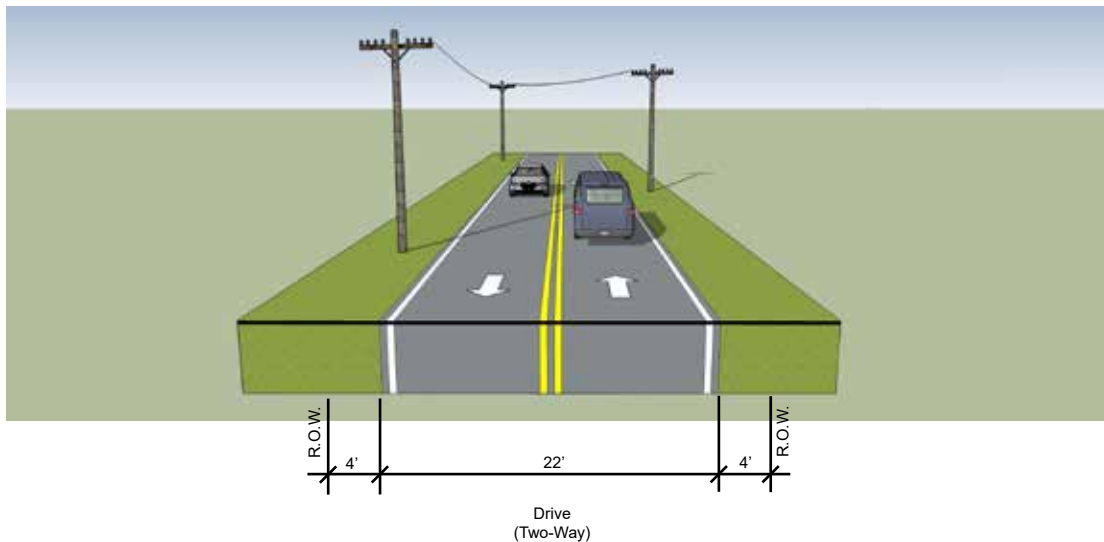
Section 01 - N 700 W



Section 02 - N 700 W



Section 03 - N 700 W



Analysis & Summary of Findings

Speed Limits:

W 650 N - E 96th St. : 40 MPH

R.O.W.:

70' at Deer Crossing

60' at Geist Woods Estates

50' at Meijer

45' at Austin Trace (see section 01 previous page)

30' through rest of corridor (see sections 02 & 03 previous page)

Existing Street Condition

Description:

The conditions along N 700 W is a roughly 22' wide, two lane road with sidewalks and trails only near the Meijer and Geist Estates / Geist Reservoir, with no other curbing, side walks, trails, or bike & pedestrian facilities.

Sidewalks exist on the west side of the road, but that does not fall within McCordsville's town boundaries.

Legend

Corridor Roadway

Intersection with
crosswalks on all
walkways

Intersection with partial crosswalks

Intersection with no crosswalks

Path / Trail

Sidewalk

Protected Path

Separated Path

Neighborhood

Bridge

Waterway

Train Tracks

Section (refer to next spread)

On-site Photo

Topography

Narrow R.O.W.

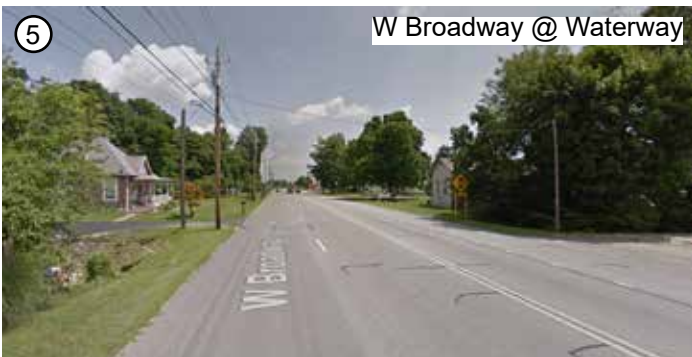
Proposed Bike /
Pedestrian Facility

W Broadway



Vicinity Map

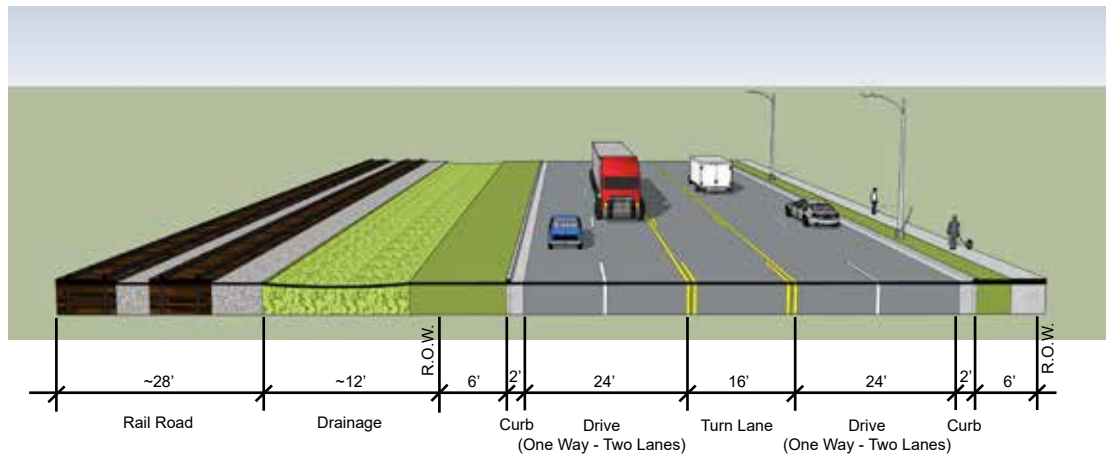




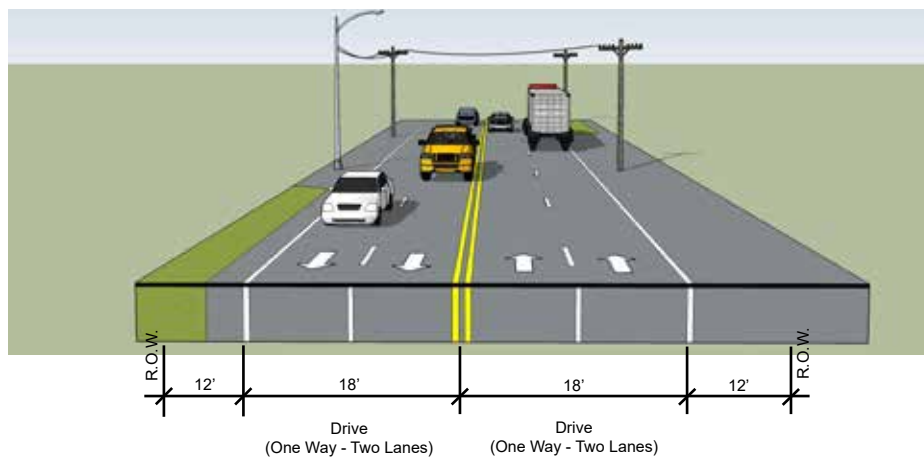
All images are oriented north-east.

EXISTING CONDITIONS

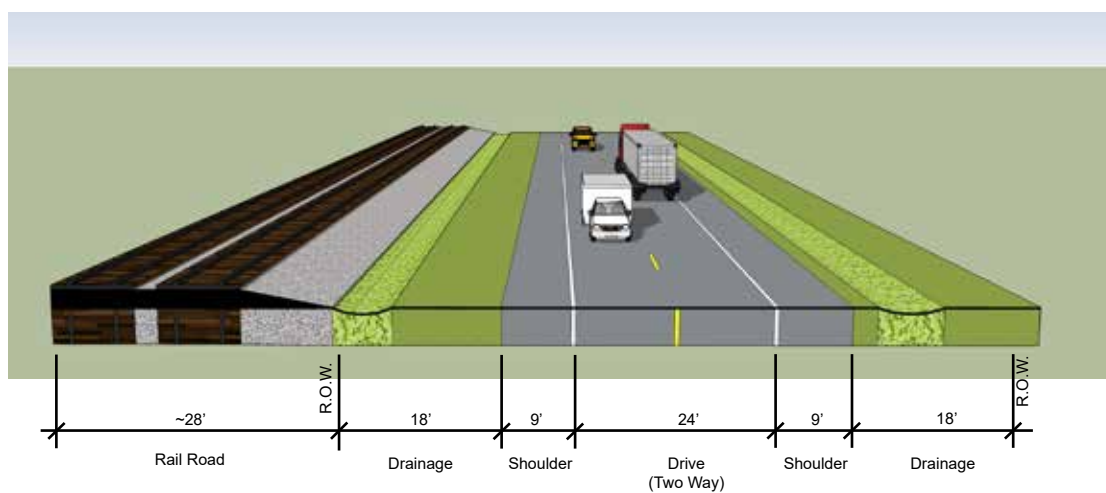
Section 01 - W Broadway



Section 02 - W Broadway



Section 03 - Main St. / 36



Analysis & Summary of Findings

Speed Limits:

Carroll Rd / N 700 W - W 750 N : 45 MPH
 W 750 N - Chevrolet Dealership : 40 MPH
 Chevrolet Dealership - N 500 W : 55 MPH

R.O.W.:

100' near PNC
 80' at Meijer (see section 01 previous page)
 80' from Chevrolet Dealership to N 500 W (see section 03 previous page)
 60' through rest of corridor (see section 02 previous page)

Existing Street Condition

Description:

The conditions along W Broadway varies between a 36-62' wide four lane (with shoulders) road and a 42' wide two lane (with shoulders) road with no sidewalks only on the south side of the road by the PNC bank and the CVS.

Certain areas of W Broadway have a center turn lane while others have no turn lane, and certain areas have a wide, accomodating shoulder while others have shoulders that are barely distinguishable from the adjacent parking lots.

EXISTING CONDITIONS

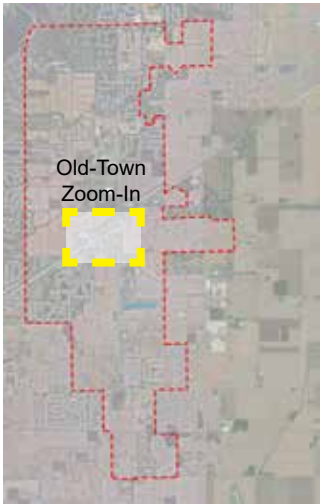
W Broadway (Old-Town Zoom-In)



Legend

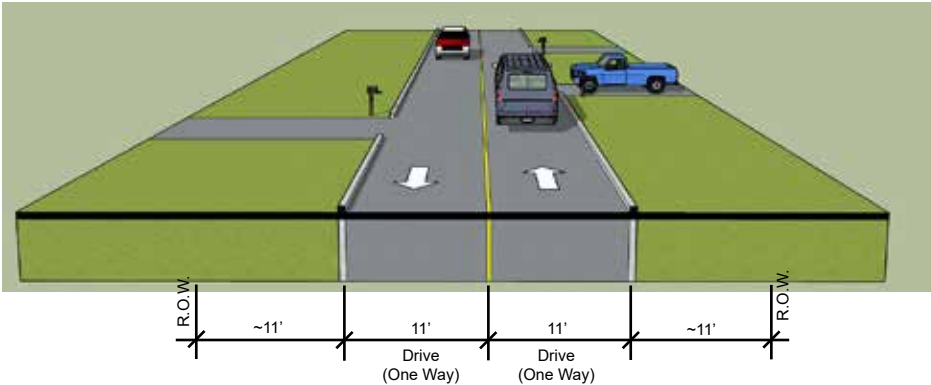
Corridor Roadway		On-site Photo	
Intersection with crosswalks on all walkways		Topography	
Intersection with partial crosswalks		Narrow R.O.W.	
Intersection with no crosswalks		Proposed Bike / Pedestrian Facility	
Path / Trail			
Sidewalk			
Protected Path			
Separated Path			
Neighborhood			
Bridge			
Waterway			
Train Tracks			
Section (refer to next page)			

Vicinity Map

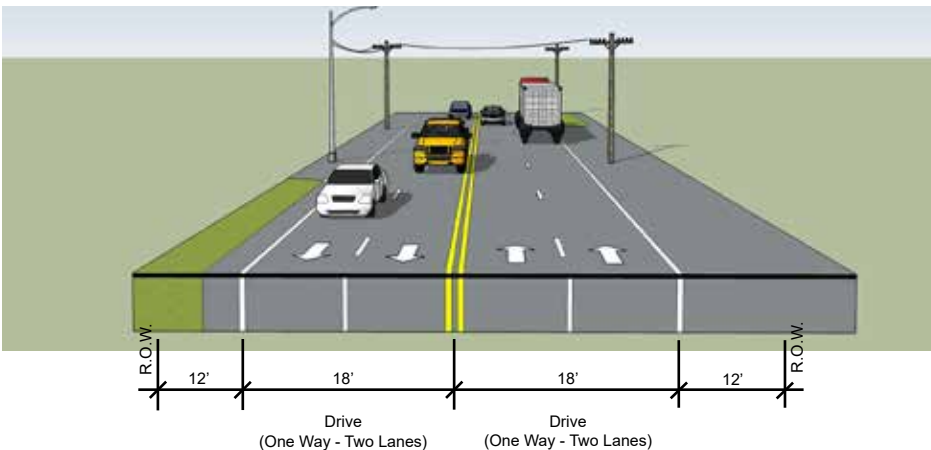




Section 01 - Neighborhood



Section 02 - W Broadway



Analysis & Summary of Findings

Speed Limits:

Side Streets (Old Town) : 30 MPH
W Broadway : 40 MPH

R.O.W.:

100' near PNC
60' through rest of corridor (see section 02 this page)
45' at Old Town Neighborhood roads (see section 01 this page)
20' at alleys

Existing Street Condition

Description:

The conditions along the streets in the old town neighborhood are roads roughly 22' wide with no curbing, side walks, trails, or other bike & pedestrian facilities.

W Broadway is a major corridor that runs through the center of the old town neighborhood, but only has side walks on the south side of the road near the PNC bank and the CVS.

EXISTING CONDITIONS

Legend

Corridor Roadway	
Intersection with crosswalks on all walkways	
Intersection with partial crosswalks	
Intersection with no crosswalks	
Path / Trail	
Sidewalk	
Protected Path	
Separated Path	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next page)	
On-site Photo	
Topography	
Narrow R.O.W.	
Proposed Bike / Pedestrian Facility	

Vicinity Map



N 500 W (North)



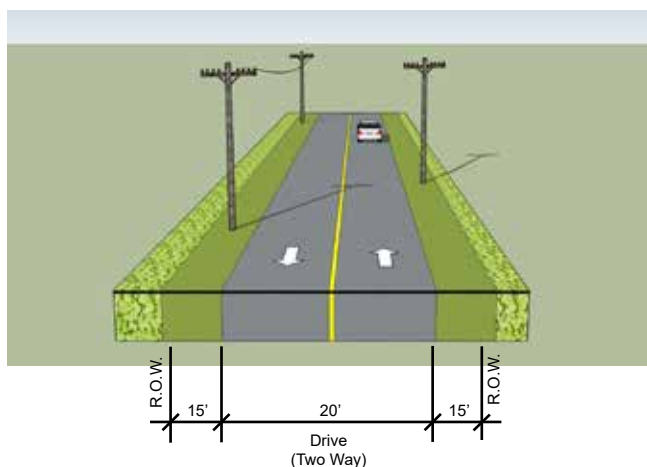
N 500 W (South)





All images are oriented north.

Section 03 - N 500 W



Analysis & Summary of Findings

Speed Limits:

W 700 N - E 96th St. : 45 MPH

R.O.W.:

30' through entire corridor (see section this page)

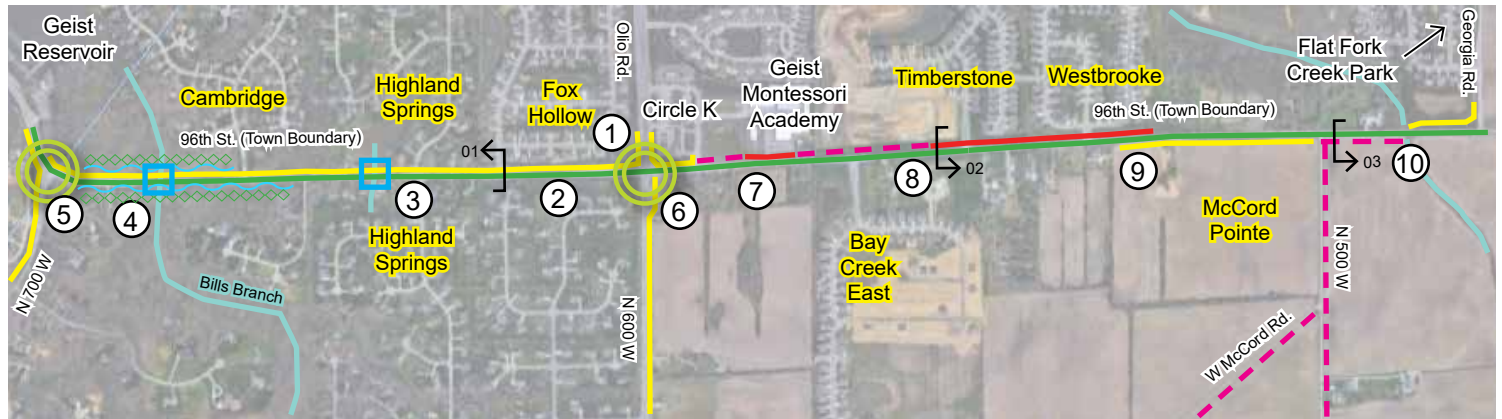
Existing Street Condition

Description:

The conditions along N 500 W is a roughly 20' wide, two lane road with no curbing, side walks, trails, or other bike & pedestrian facilities.

EXISTING CONDITIONS

E 96th St.



Legend

Corridor Roadway



Intersection with crosswalks on all walkways



Intersection with partial crosswalks



Intersection with no crosswalks



Path / Trail



Sidewalk



Protected Path



Separated Path



Neighborhood



Bridge



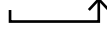
Waterway



Train Tracks



Section (refer to next spread)



On-site Photo



Topography



Narrow R.O.W.



Proposed Bike / Pedestrian Facility



Vicinity Map



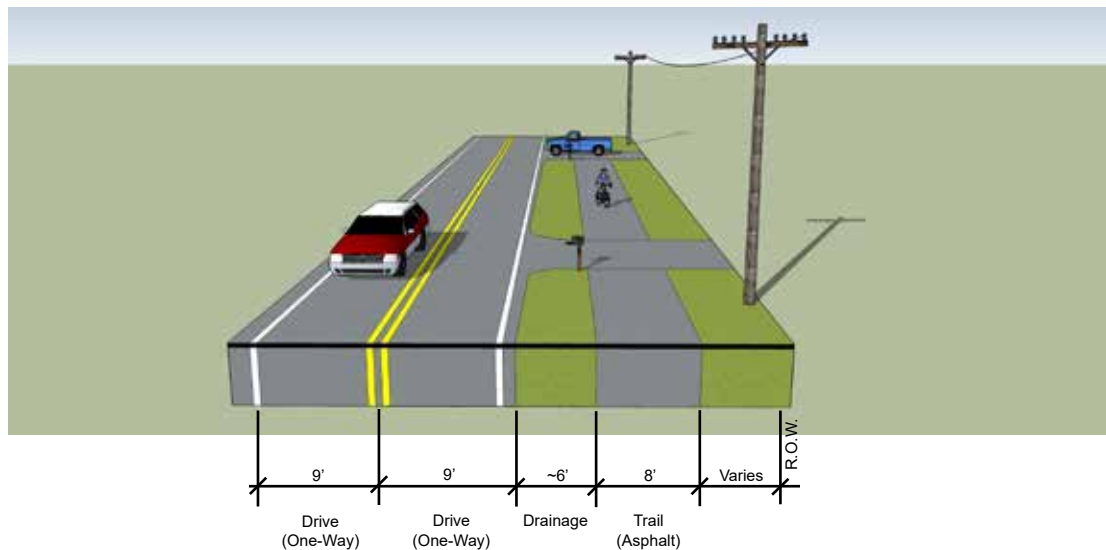


Above images are oriented west.

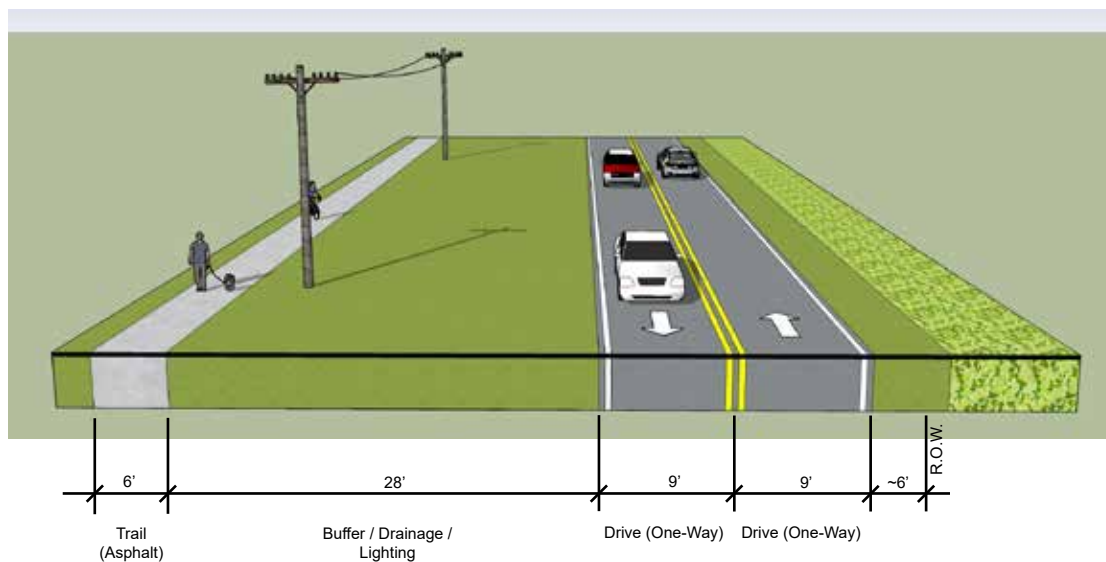
Above images are oriented east.

EXISTING CONDITIONS

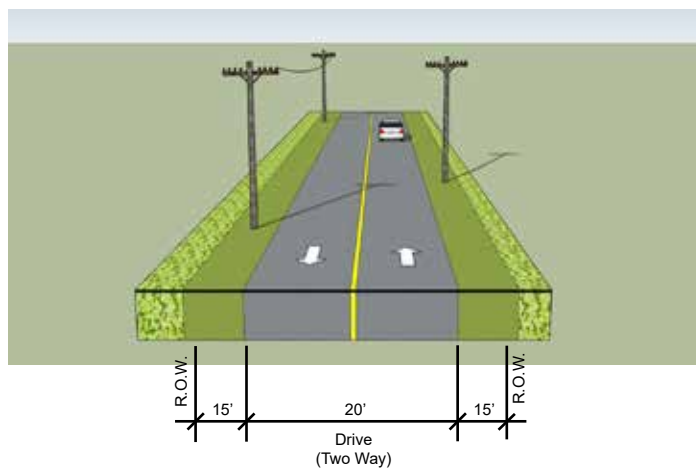
Section 01 - E 96th St.



Section 02 - E 96th St.



Section 03 - E 96th St.



Analysis & Summary of Findings

Speed Limits:

E 96th St. - N 500 W : 40 MPH

R.O.W.:

Measurements are taken from the C.L. of E 96th St. to the southern border of the R.O.W.

60' at Bay Creek East

55' at McCord Pointe

40' at residences near E 96th & N 700 W

25' through rest of corridor (see section 03 previous page)

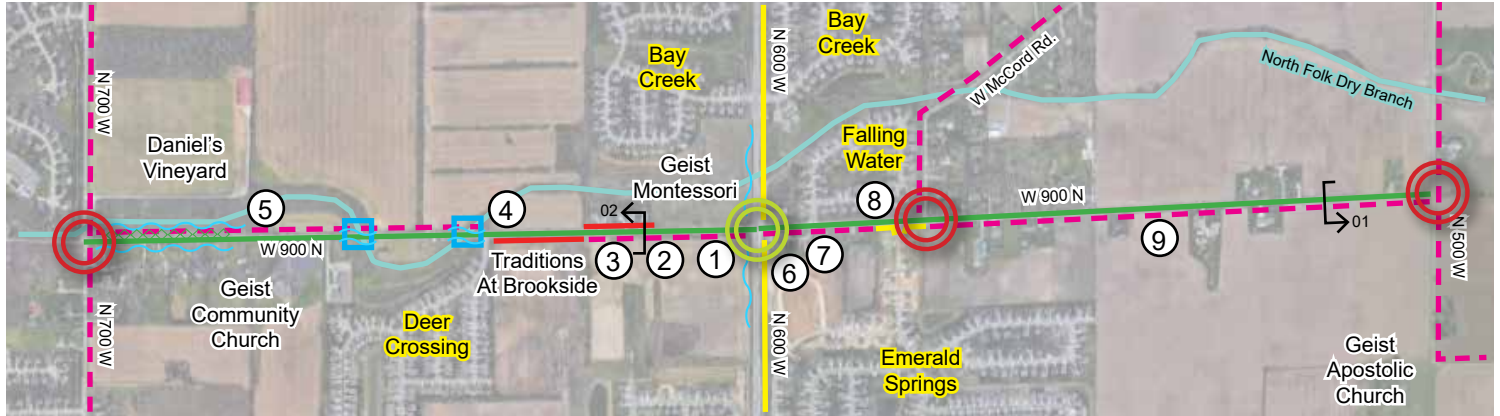
Existing Street Condition

Description:

The conditions along E 96th St. is a roughly 20' wide, two lane road with a healthy amount of existing sidewalks, trails, and curbing. There are a couple segments that lack bike / pedestrian infrastructure but they are mainly limited to the east half of the E 96th St. corridor where developments have not been established yet.

EXISTING CONDITIONS

W 900 N



Legend

Corridor Roadway



Intersection with crosswalks on all walkways



Intersection with partial crosswalks



Intersection with no crosswalks



Path / Trail



Sidewalk



Protected Path



Separated Path



Neighborhood



Bridge



Waterway



Train Tracks



Section (refer to next spread)



On-site Photo



Topography



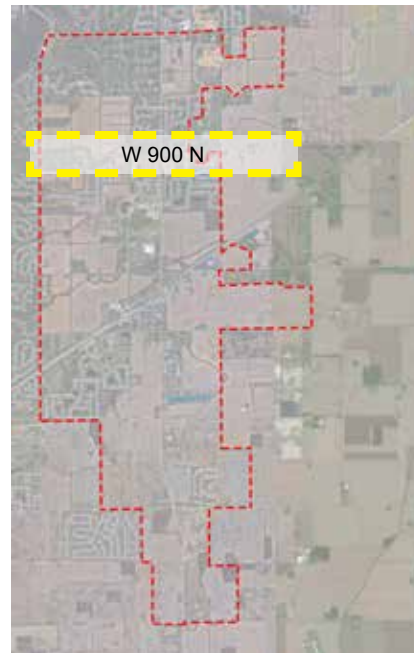
Narrow R.O.W.



Proposed Bike / Pedestrian Facility



Vicinity Map



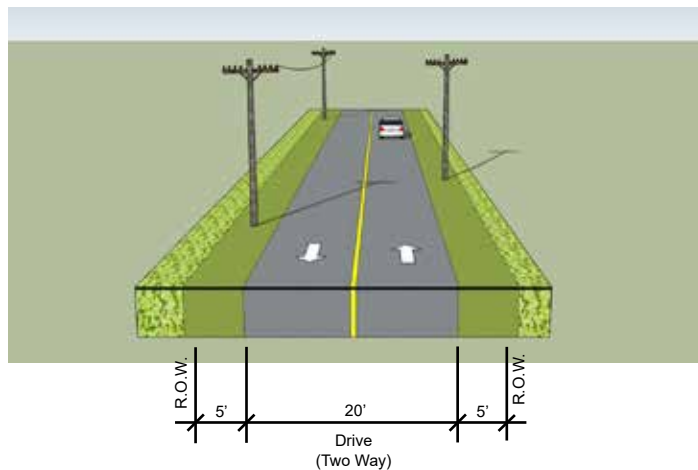


Above images are oriented east.

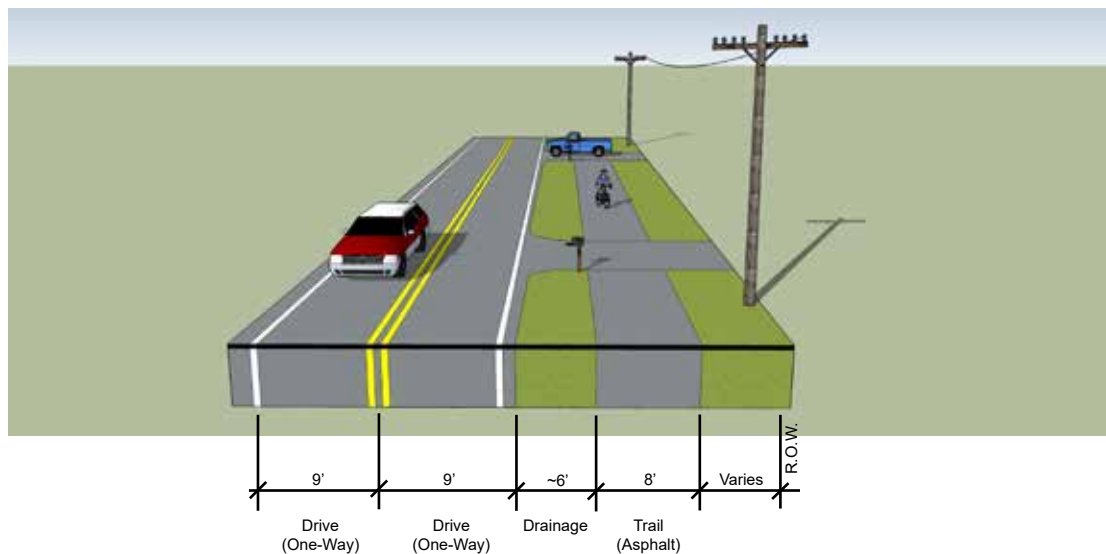
Above images are oriented west.

EXISTING CONDITIONS

Section 01 - W 900 N



Section 02 - W 900 N



Analysis & Summary of Findings

Speed Limits:

N 700 W - N 500 W: 45 MPH

R.O.W.:

80' at Traditions at Brookside
60' at Fallingwater
55' between bridges of Dry Branch
30' through rest of corridor (see sections this page).

Existing Street Condition

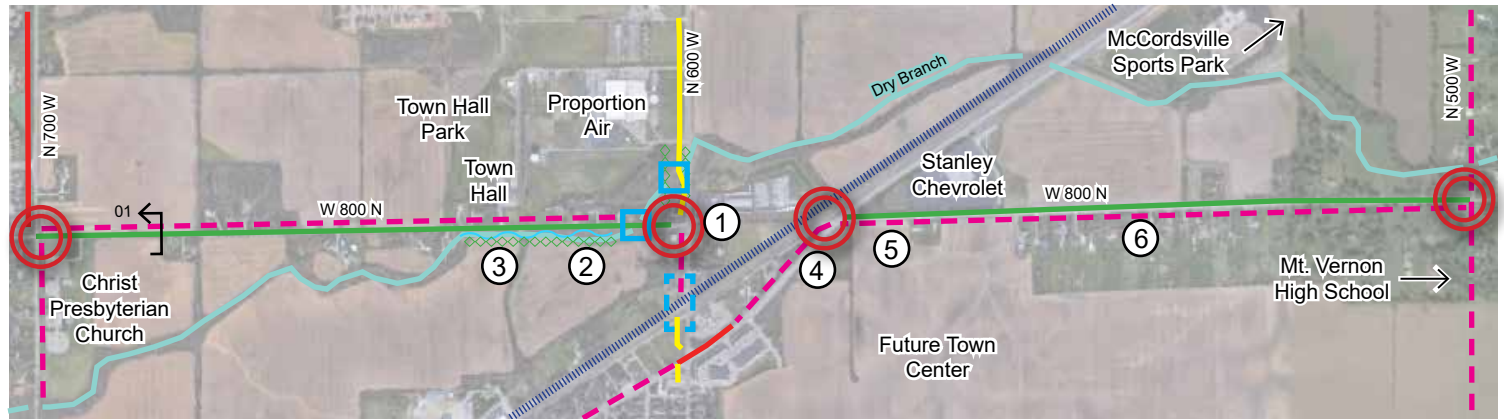
Description:

The conditions along W 900 N is a roughly 20' wide, two lane road with sidewalks existing north of Traditions at Brookside and south of Falling Water, with no other curbing, side walks, trails, or bike & pedestrian facilities.

Blank
Page

EXISTING CONDITIONS

W 800 N



Legend

Corridor Roadway



Intersection with crosswalks on all walkways



Intersection with partial crosswalks



Intersection with no crosswalks



Path / Trail



Sidewalk



Protected Path



Separated Path



Neighborhood



Bridge



Waterway



Train Tracks



Section (refer to next page)



On-site Photo



Topography



Narrow R.O.W.



Proposed Bike / Pedestrian Facility

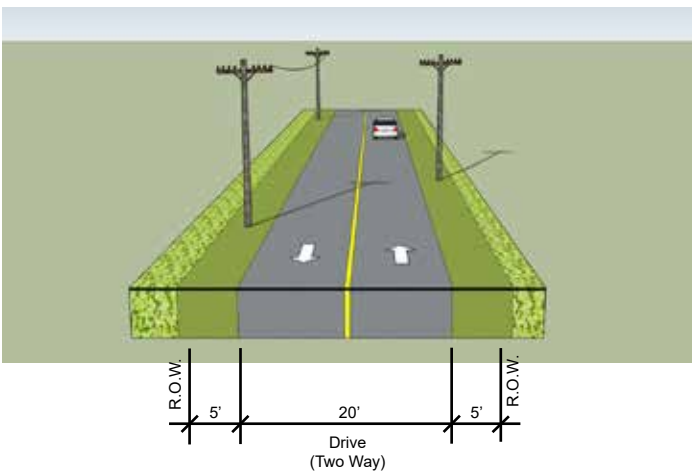


Vicinity Map





Section 01 - W 800 N



Analysis & Summary of Findings

Speed Limits:

N 700 W - N 600 W : 40 MPH
W Broadway - N 500 W : 55 MPH

R.O.W.:

75' from W Broadway - N 500 W.
30' from N 700 W to N 600 W (see section this page).

Existing Street Condition

Description:

The conditions along W 800 N is a roughly 20' wide, two lane road with no curbing, side walks, trails, or other bike & pedestrian facilities.

EXISTING CONDITIONS

W 750 N



Legend

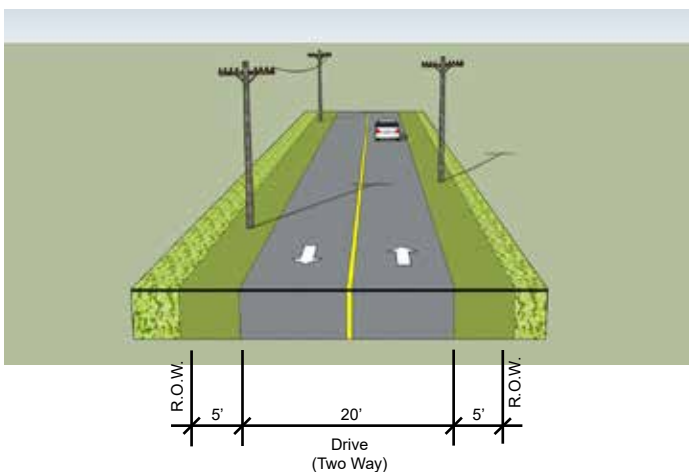
Corridor Roadway	
Intersection with crosswalks on all walkways	
Intersection with partial crosswalks	
Intersection with no crosswalks	
Path / Trail	
Sidewalk	
Protected Path	
Separated Path	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next page)	
On-site Photo	
Topography	
Narrow R.O.W.	
Proposed Bike / Pedestrian Facility	

Vicinity Map





Section 01 - W 750 N



Analysis & Summary of Findings

Speed Limits:

N 700 W - N 500 W : 30 MPH

R.O.W.:

100' near road curve at PNC bank
70' at specific residences
45' at Gateway Crossing Apartments
30' through rest of corridor (see section this page).

Existing Street Condition

Description:

The conditions along W 750 N is a roughly 20' wide, two lane road with no curbing, side walks, trails, or other bike & pedestrian facilities.

EXISTING CONDITIONS

W 700 N



Legend

Corridor Roadway



Intersection with crosswalks on all walkways



Intersection with partial crosswalks



Intersection with no crosswalks



Path / Trail



Sidewalk



Protected Path



Separated Path



Neighborhood



Bridge



Waterway



Train Tracks



Section (refer to next page)



On-site Photo



Topography



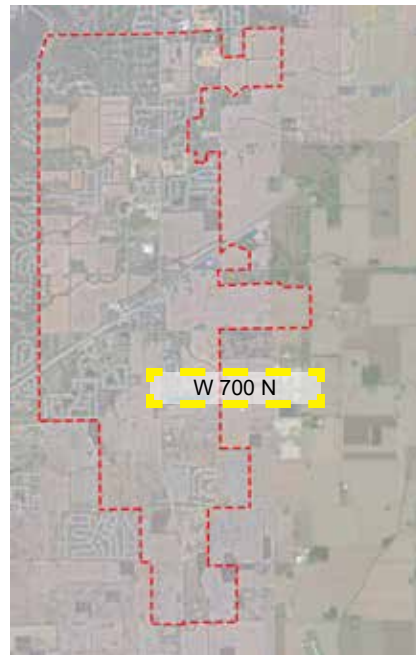
Narrow R.O.W.



Proposed Bike / Pedestrian Facility

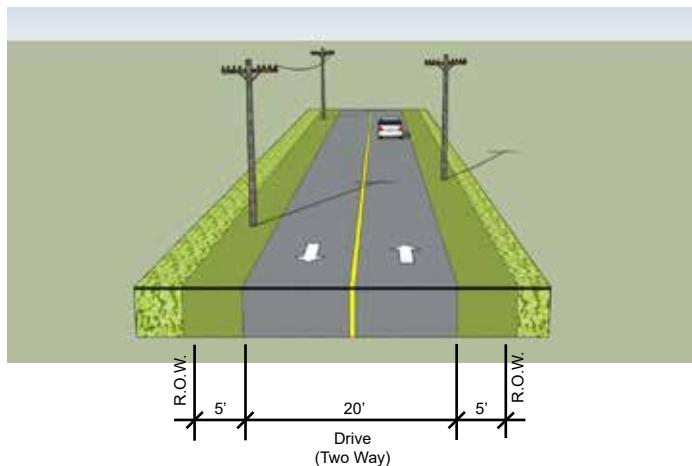


Vicinity Map





Section 01 - W 700 N



Analysis & Summary of Findings

Speed Limits:

N 600 W - School : 30 MPH
School - N 500 W : 40 MPH

R.O.W.:

45' at Champion Lake residences.
30' through rest of corridor (see section this page).

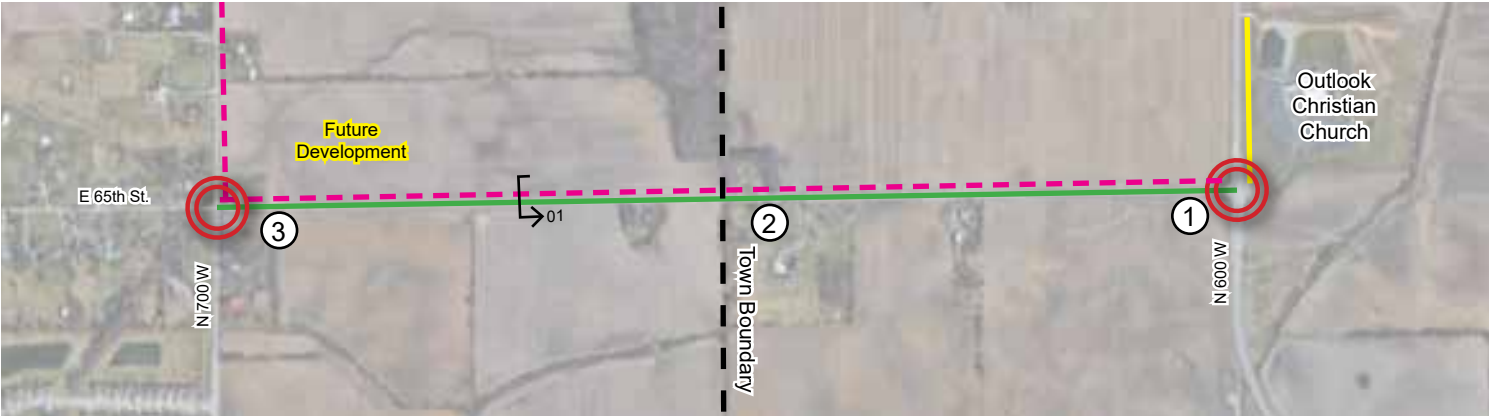
Existing Street Condition

Description:

The conditions along W 700 N is a roughly 20' wide, two lane road with a sidewalk existing directly south of McCordsville Elementary School with no other curbing, side walks, trails, or bike & pedestrian facilities.

EXISTING CONDITIONS

W 650 N



Legend

Corridor Roadway

Intersection with crosswalks on all walkways

Intersection with partial crosswalks

Intersection with no crosswalks

Path / Trail

Sidewalk

Protected Path

Separated Path

Neighborhood

Bridge

Waterway

Train Tracks

Section (refer to next page)

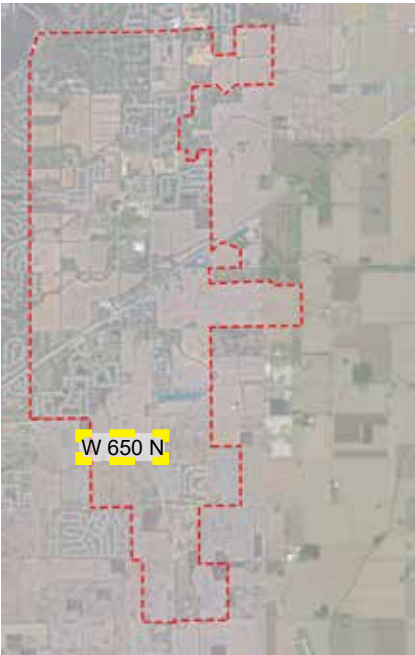
On-site Photo

Topography

Narrow R.O.W.

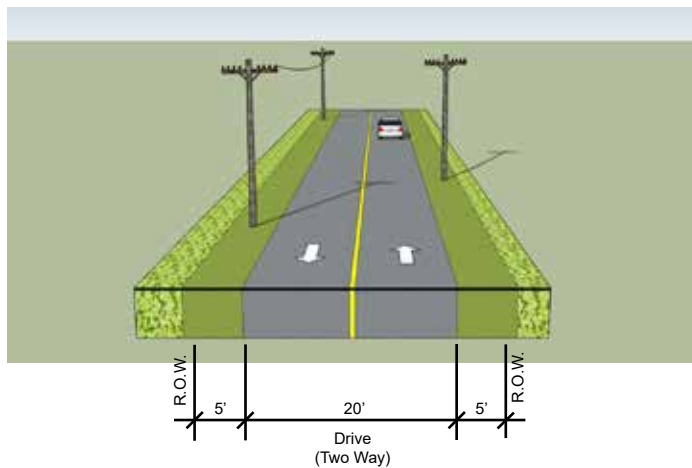
Proposed Bike / Pedestrian Facility

Vicinity Map





Section 01 - W 650 N



Analysis & Summary of Findings

Speed Limits:

N 700 W - N 600 W : UNKNOWN (Likely 30 or 40 MPH)

R.O.W.:

30' through entire corridor (see section this page).

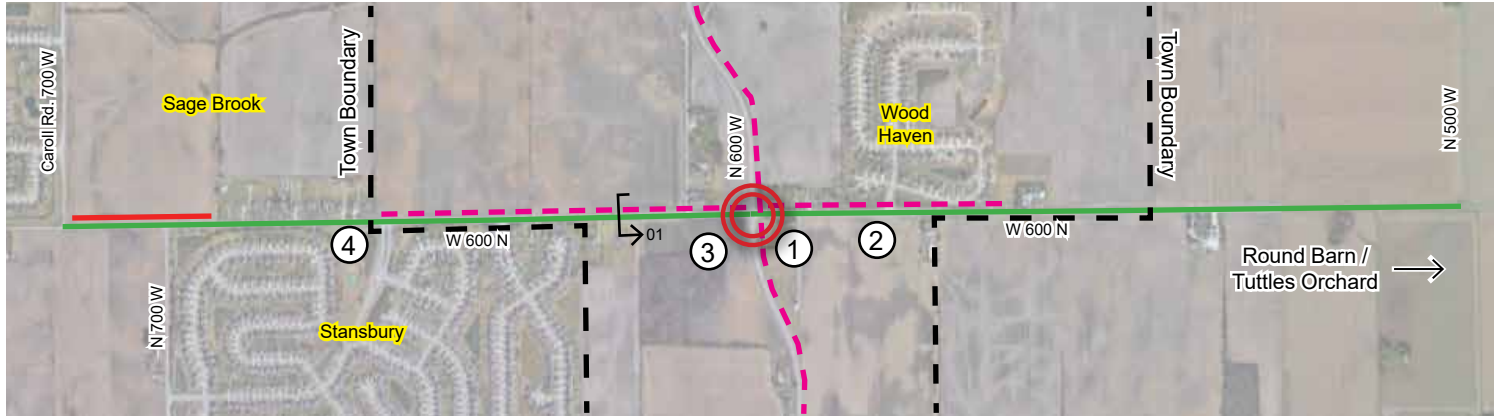
Existing Street Condition

Description:

The conditions along W 650 N is a roughly 20' wide, two lane road with no curbing, side walks, trails, or other bike & pedestrian facilities.

EXISTING CONDITIONS

W 600 N



Legend

Corridor Roadway



Intersection with crosswalks on all walkways



Intersection with partial crosswalks



Intersection with no crosswalks



Path / Trail



Sidewalk



Protected Path



Separated Path



Neighborhood



Bridge



Waterway



Train Tracks



Section (refer to next page)



On-site Photo



Topography



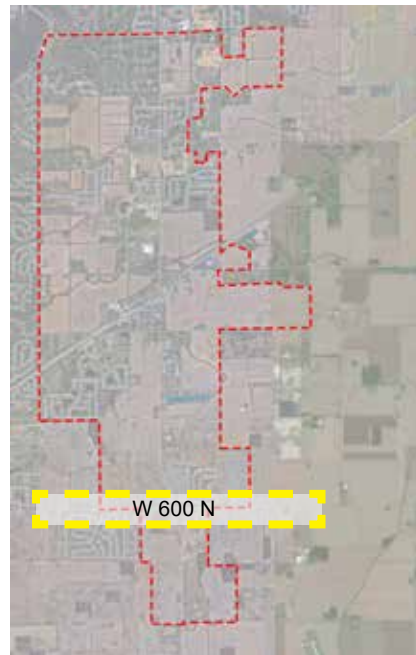
Narrow R.O.W.



Proposed Bike / Pedestrian Facility



Vicinity Map

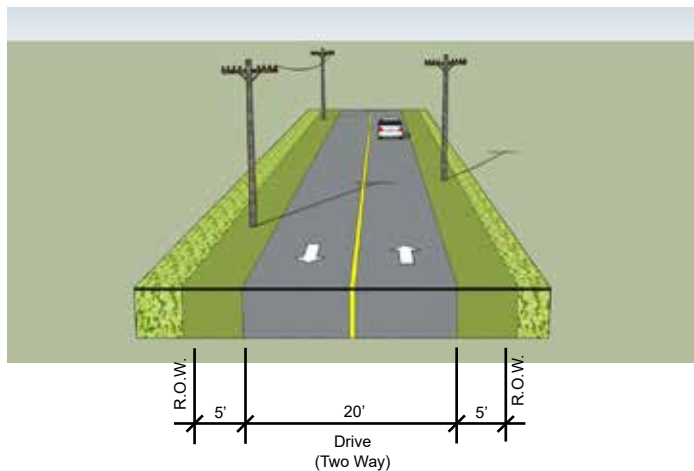




Above images are oriented east.

Above images are oriented west.

Section 01 - W 600 N



Analysis & Summary of Findings

Speed Limits:

N 700 W - N 600 W : 45 MPH
N 600 W - N 500 W : 50 MPH

R.O.W.:

55-65' at subdivisions.
30' through rest of corridor (see section this page).

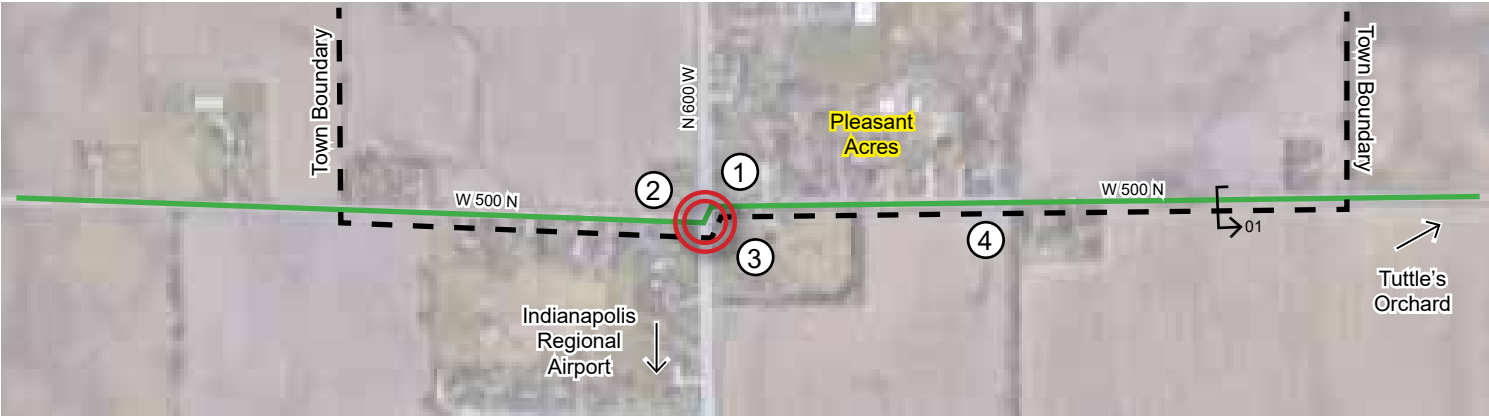
Existing Street Condition

Description:

The conditions along W 600 N is a roughly 20' wide, two lane road with a sidewalk existing directly south of Sage Brook, with no other curbing, side walks, trails, or bike & pedestrian facilities.

EXISTING CONDITIONS

W 500 N



Legend

Corridor Roadway	
Intersection with crosswalks on all walkways	
Intersection with partial crosswalks	
Intersection with no crosswalks	
Path / Trail	
Sidewalk	
Protected Path	
Separated Path	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next page)	
On-site Photo	
Topography	
Narrow R.O.W.	
Proposed Bike / Pedestrian Facility	

Vicinity Map





Above image is oriented north.

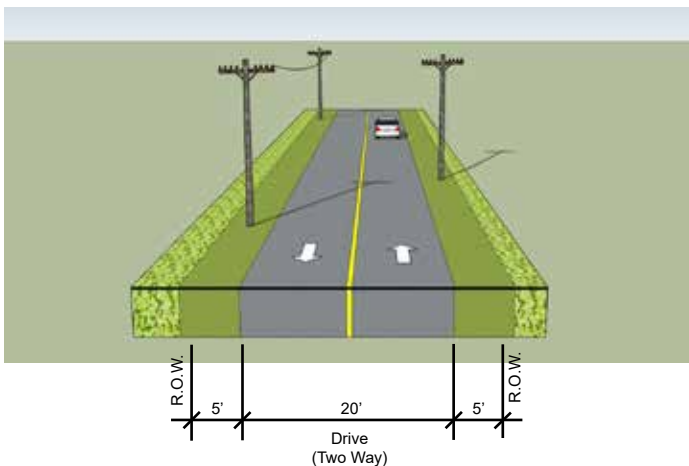


Above image is oriented west.



Above images are oriented east.

Section 01 - W 500 N



Analysis & Summary of Findings

Speed Limits:

N 700 W - N 500 W : 50 MPH

R.O.W.:

30' through entire corridor (see section this page).

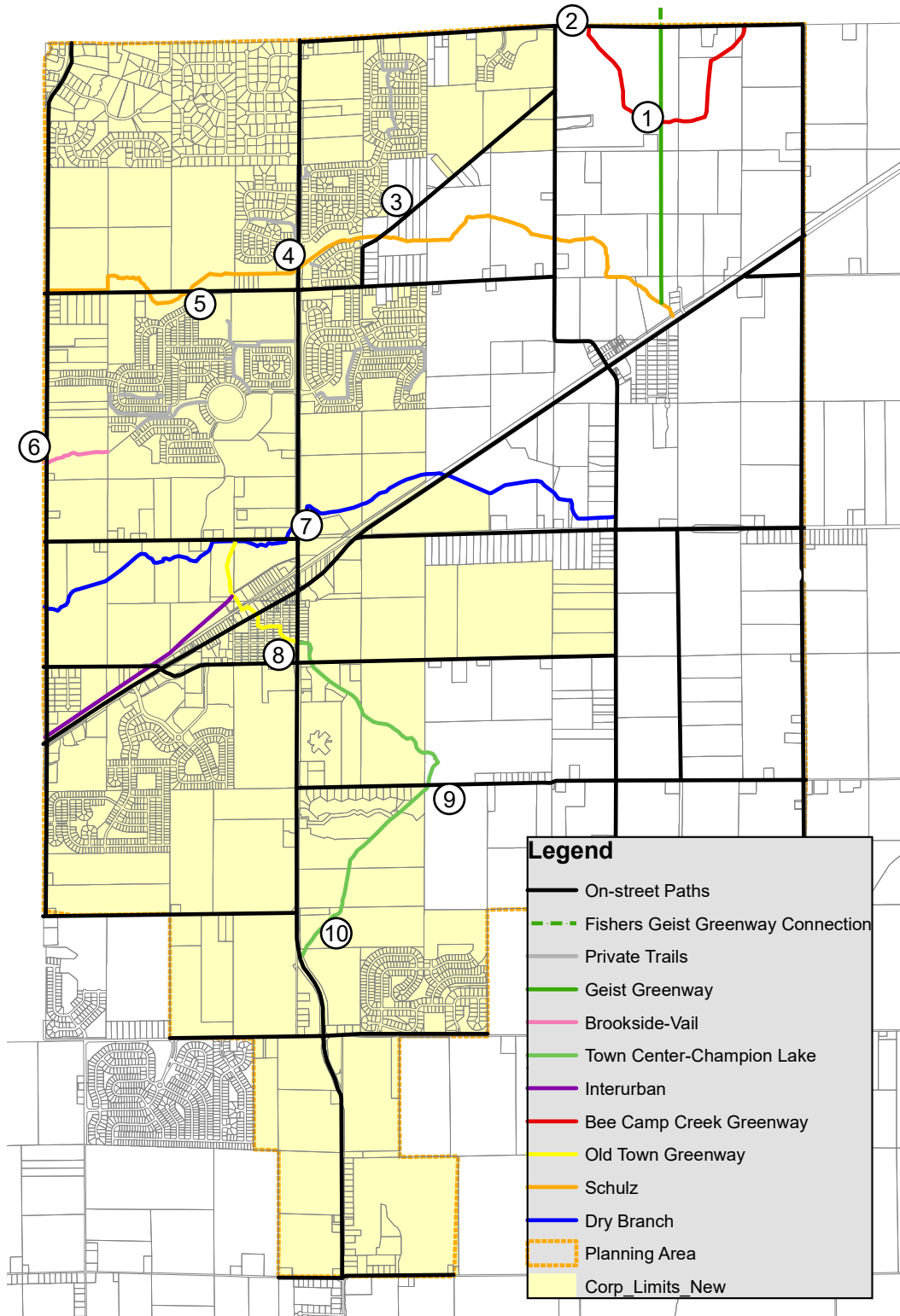
Existing Street Condition

Description:

The conditions along W 500 N is a roughly 20' wide, two lane road with no curbing, side walks, trails, or other bike & pedestrian facilities.

EXISTING CONDITIONS

Greenways



Existing Greenway Condition

Description:

The "greenways" that currently exist in McCordsville are essentially drainage ditches with little to no paths / trails along side them.

However, there are certain areas along W 900 N and W 800 N where these "greenways" interact with the roads in such a way that future "pocket parks" could fit along the roads to create nodes for bikers and pedestrians to gather & socialize.



Bee Camp Creek Greenway



Deer @ Brookside-Vail



Bee Camp Creek Greenway



N 600 W @ Dry Branch



Potential Park Space



Old Town Greenway



North of Montessori



North-East of Champion Lake



W 900 N @ Old Town Greenway



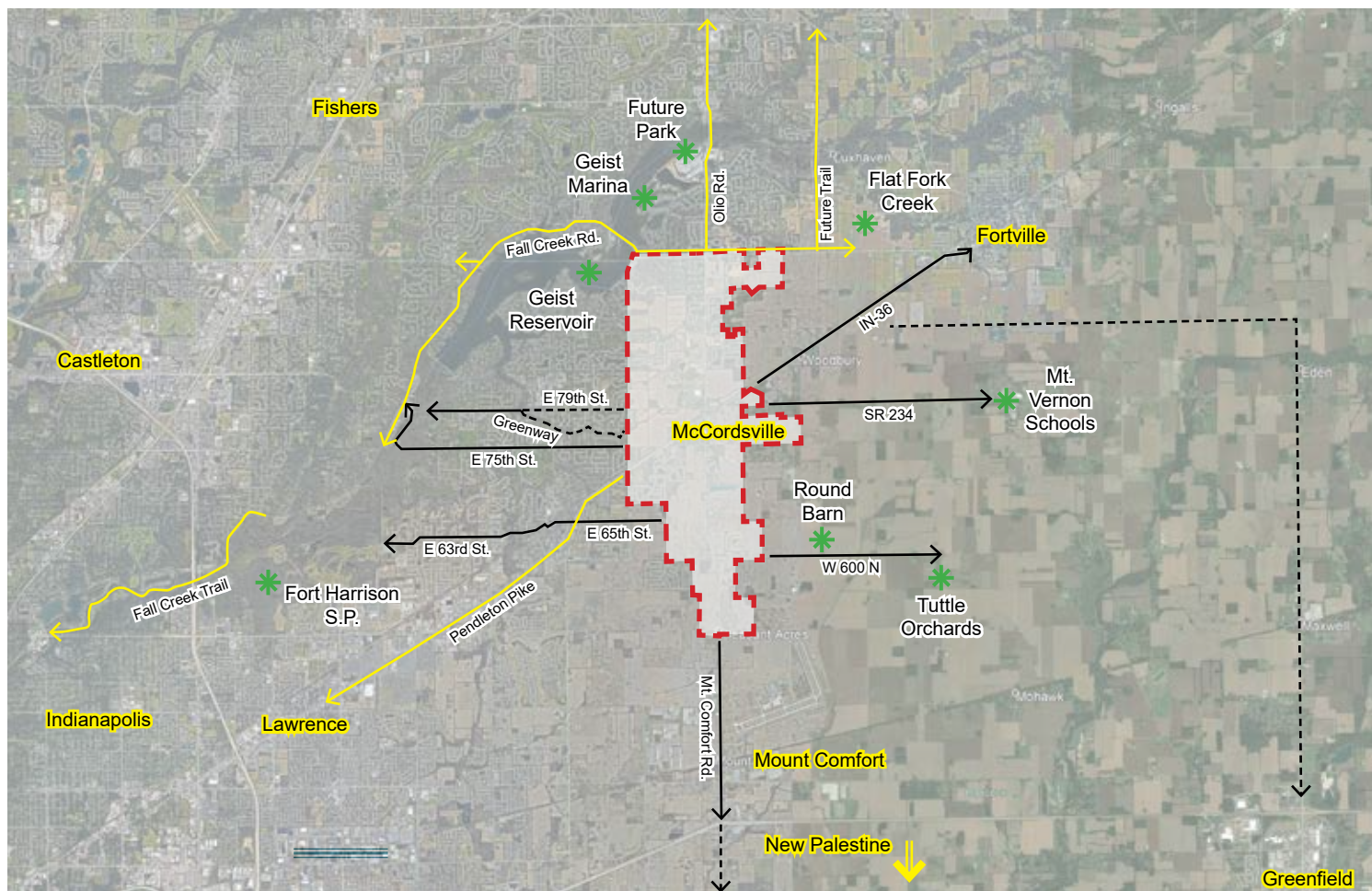
East of Church

4

PROPOSED CONDITIONS



Regional Connections Map



Legend

McCordsville Town Boundary	---
Existing Bike / Pedestrian Facility	—
Proposed Bike / Pedestrian Facility	—
Community Points of Interest	*

Description

Existing bike & pedestrian facilities currently exist along three major corridors leading in and out of the McCordsville town boundary, these are: Pendleton Pike leading south-west towards Lawrence; Olio Road leading north towards Hamilton Town Center in Noblesville; and Fall Creek leading north-west / west towards Fishers.

The proposed bike & pedestrian facilities enhancing regional connectivity along six major corridors leading in and out of the McCordsville town boundary, are: E 75th St. leading west towards Castleton; E 63rd St. leading west / south-west towards Fort Harrison State Park; Mt. Comfort Rd. leading south towards Mt. Comfort; W 600 N leading east towards the round barn & Tuttle's Orchards; SR 234 leading east towards Mt. Vernon Schools; and IN-36 leading north-east towards Fortville.

Additional consideration included connecting to the proposed the Hancock County Trails Plan, which identifies bike & pedestrian connections south-east to Greenfield and south to New Palestine.

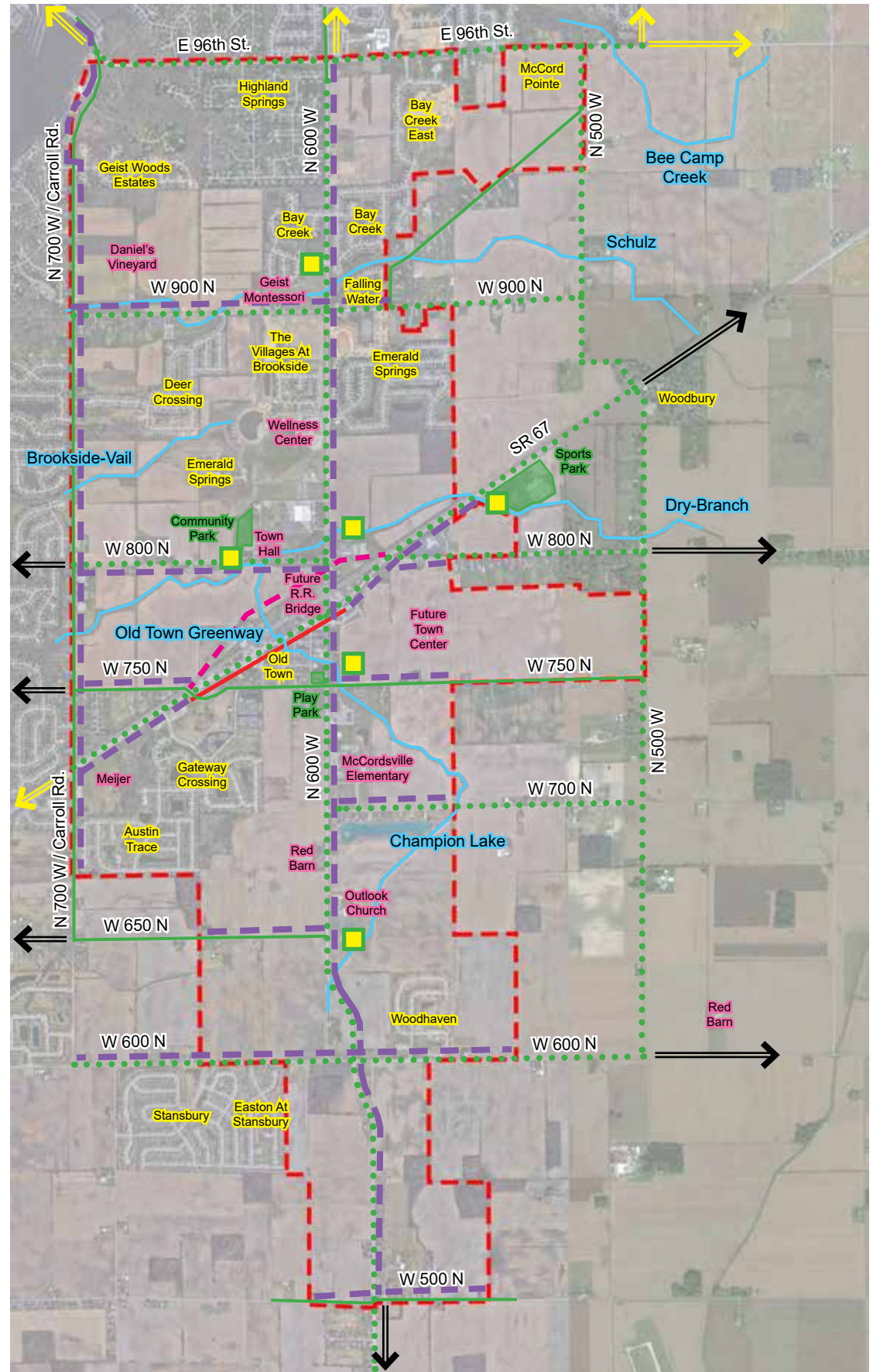
Within the town planning boundary, the proposed plan includes recommendations for improvements to 12 main corridors and proposing 6 new greenways. Specifically, the goals intended to be accomplished by the implementation of this plan are:

- Increase the number of people walking and biking for everyday transportation purposes by ensuring the trails plan connects people to destinations.
- Increase the number of people walking and biking for recreation by creating a trail plan that provides highly accessible and desirable recreation opportunities.
- Provide priorities for future bike/pedestrian projects.
- Provide feasibility of multi-use trails along riparian corridors.
- Establish safe and functional routes for bicycles and pedestrians between community destinations.
- Identify "branded" trails within the system that can have additional interest and design elements and a source of community pride.
- Recommend policy changes and action steps for a successful implementation.

Legend

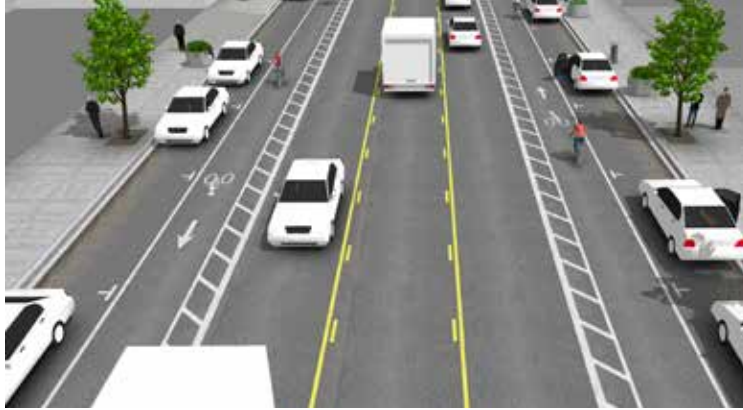
- Town Boundary ---
- Corridor Roadway —
- Roadway Bike Route ...
- Neighborhood XXX
- Destination XXX
- Waterway / Greenway —
- Proposed Path / Trail ---
- Proposed Sidewalk ---
- Proposed Protected Path ...
- Proposed Separated Path ---
- Proposed Sharrow >>>
- Trail Head ■
- Proposed Regional Connection ←
- Existing Regional Connection ←

Overall Plan



PROPOSED CONDITIONS

Buffered Bike Lanes



Description:

Buffered Bike Lanes are considered any bike lane with a designated buffer space separating the cyclist from the adjacent drive lane.

Buffered Bike Lanes are only to be used along N 600 W and old town corridors in specified areas.



Shared Paths



Description:

Shared Paths are considered any paved path that supports multiple types of transportation including walkers, bikers, roller bladers, and skateboarders but does not support motorized vehicles.

Shared Paths can be asphalt, concrete or paver surfaces and in specified areas will have signage / branding elements and amenities such as benches, litter receptacles, and decorative lighting.



Sharrows / Bike Route



Description:

Sharrows are considered any street marking combining a bicycle and an arrow that indicates in the roadway where people should preferably cycle. The use can be mainly in the old town corridors and along the rural county roads as a first phase of development prior to sidewalks and shared paths being implemented.

Bike Routes are considered signed roadways that are used by amateur cyclists and bike groups frequently. This provides for advanced riders that would not utilize the shared paths or greenways. Signage could include signs that say: "Bike Route", "Share the Road", or "Bicycles can Take the Whole Lane".

Greenways & Rail Trails



Description:

Greenways & rail trails are considered any paved path / trail that connects users to nature by giving them a biking or walking route away from roads and other types of development.

Greenways can be located along the water ways and drainage ditches that pass through the McCordsville town boundary.

Refer to the overall plan for suggested trailheads locations. Amenities can include signage, wayfinding, interpretive signage, site furnishings and naturalized plantings.

Refer to pages 93-94 for recommended alignments and proposed sections.

PROPOSED CONDITIONS

Legend

Corridor Roadway	
Roadway Bike Route	
Intersection Improvements	
Existing Bike / Pedestrian Facility	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next page)	
Proposed Path / Trail	
Proposed Sidewalk	
Proposed Protected Path	
Proposed Separated Path	
Proposed Sharrow	
Proposed Greenway	
Trail Head	

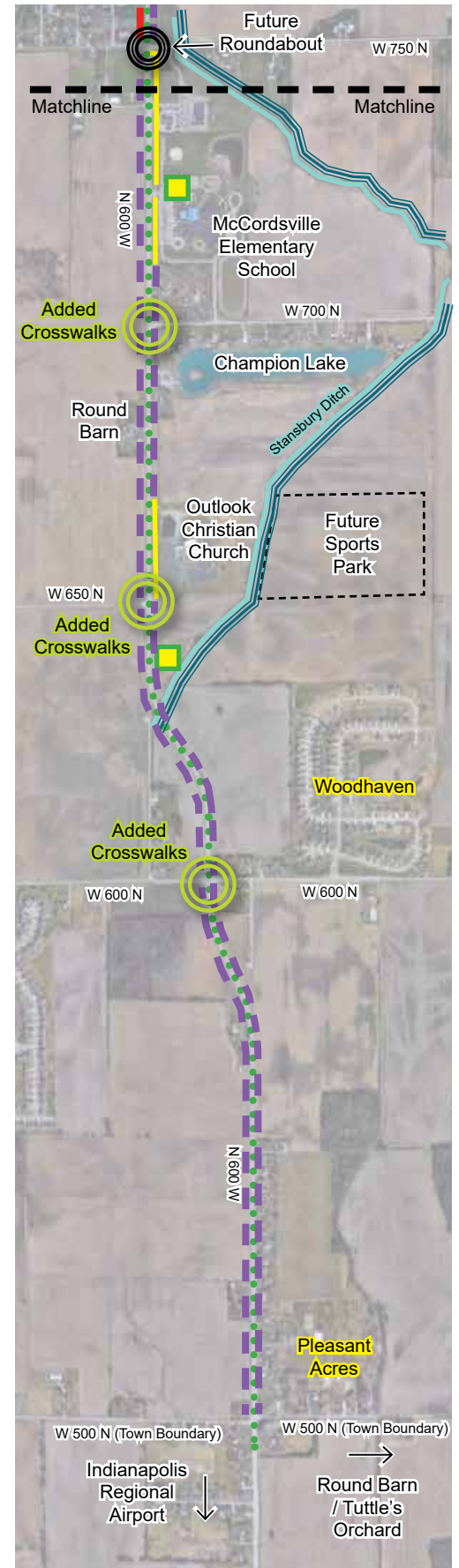
Vicinity Map



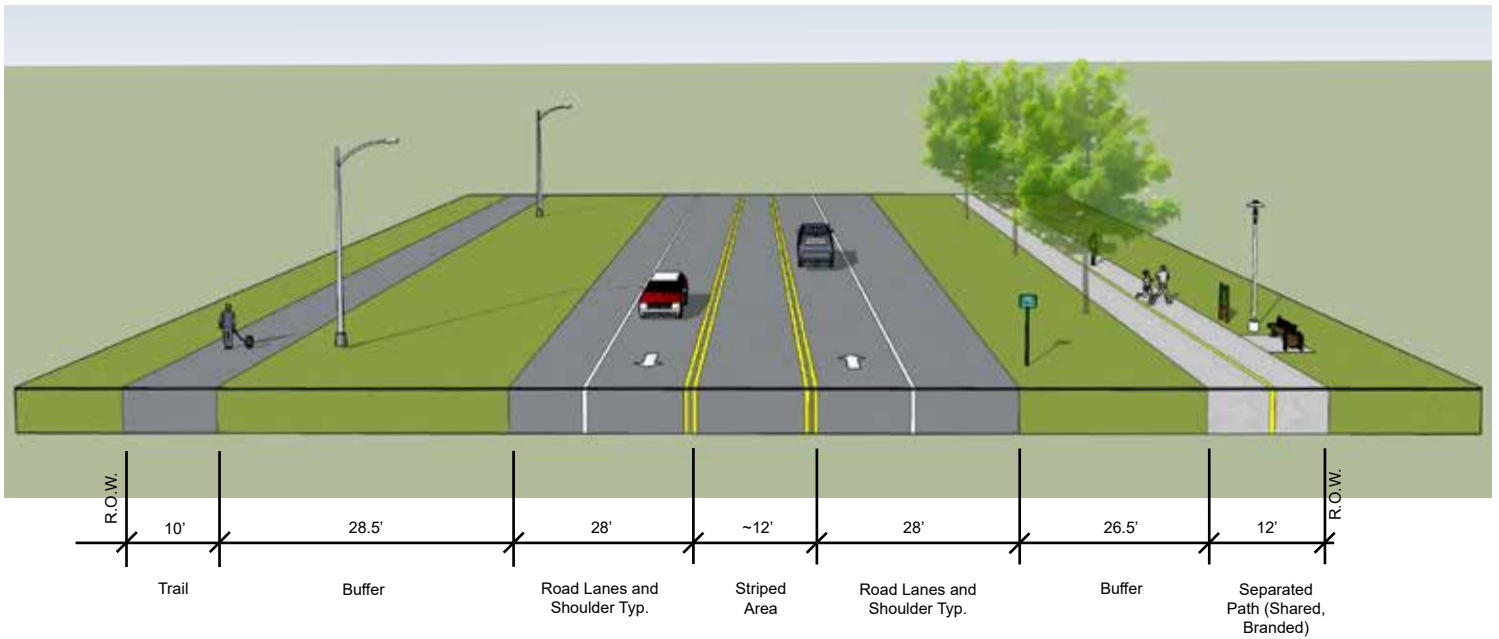
N 600 W (North)



N 600 W (South)



Proposed Section 01



Proposed Street Standard

Classification: Major Arterial

Minimum R.O.W. Dimension: 140' Total

Minimum Road Width: 4 Lanes - 68' Total

Proposed Street Condition

Description:

The conditions along N 600 W can be a combination of a 10' shared use trail on the west side of the road and a 12' shared & branded path on the east side of the road.

The 10' trail on the west side of the road can be asphalt pavement and have minimal markings and signage.

The 12' shared & branded path on the east side of the road can have decorative pavement treatment to include center line markings. Branding & identity elements such as signage elements, specialty pavements, pavement markings, and cross walk markings can all be developed to correspond with the trail's name and specific brand. Where appropriate, amenities such as: enhanced plantings, trail head nodes, interpretive areas, site furnishings, decorative lighting, shade elements, bike repair stations, and public art could add an additional level of unique identity to the trail.

The corridor is designated a high priority to provide connectivity and supply the missing segments along the corridor. An asphalt path with some upgraded site elements could be a cost effective first phase of development.

Branded Trail Precedent Imagery



PROPOSED CONDITIONS

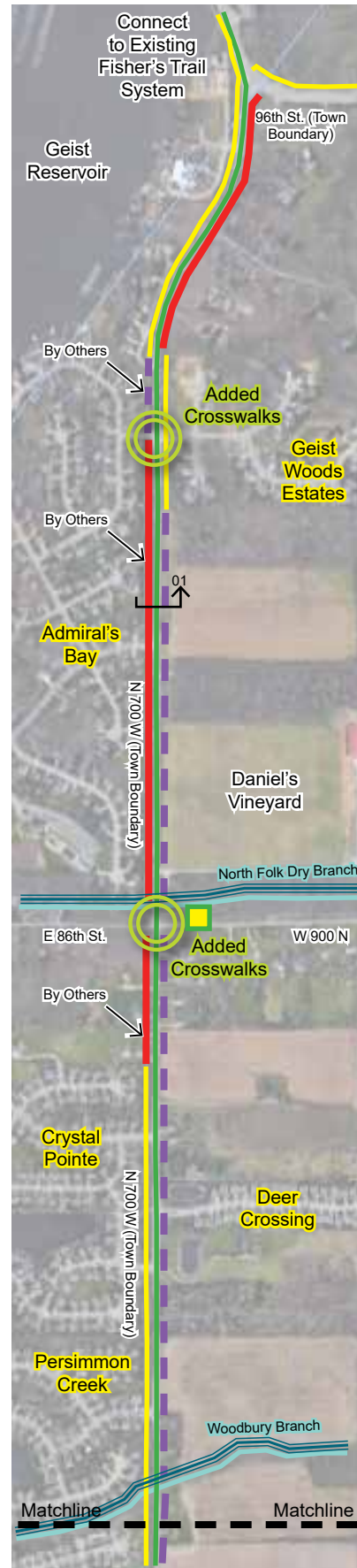
Legend

Corridor Roadway	
Roadway Bike Route	
Intersection Improvements	
Existing Bike / Pedestrian Facility	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next page)	
Proposed Path / Trail	
Proposed Sidewalk	
Proposed Protected Path	
Proposed Separated Path	
Proposed Sharrow	
Proposed Greenway	
Trail Head	

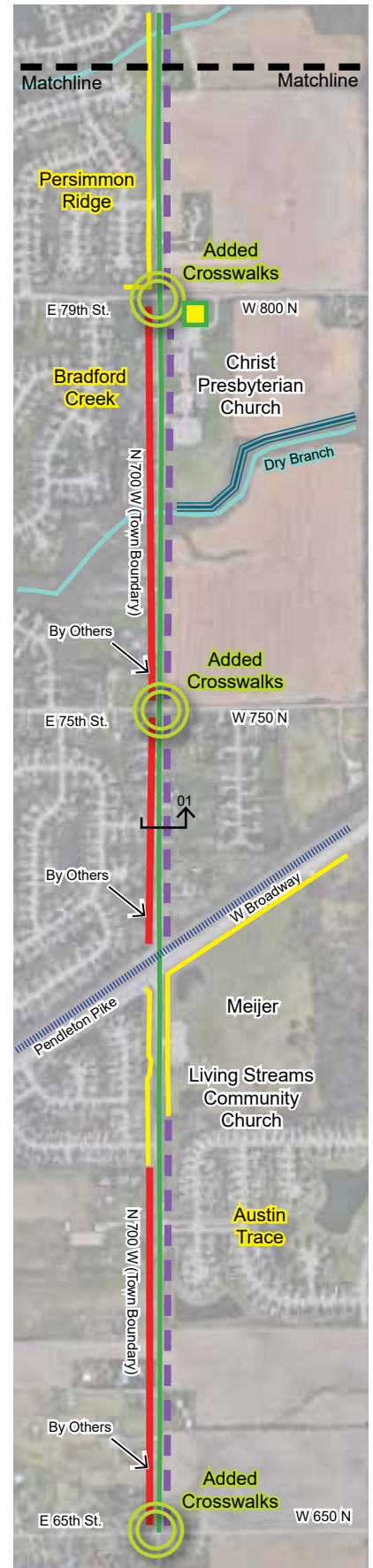
Vicinity Map



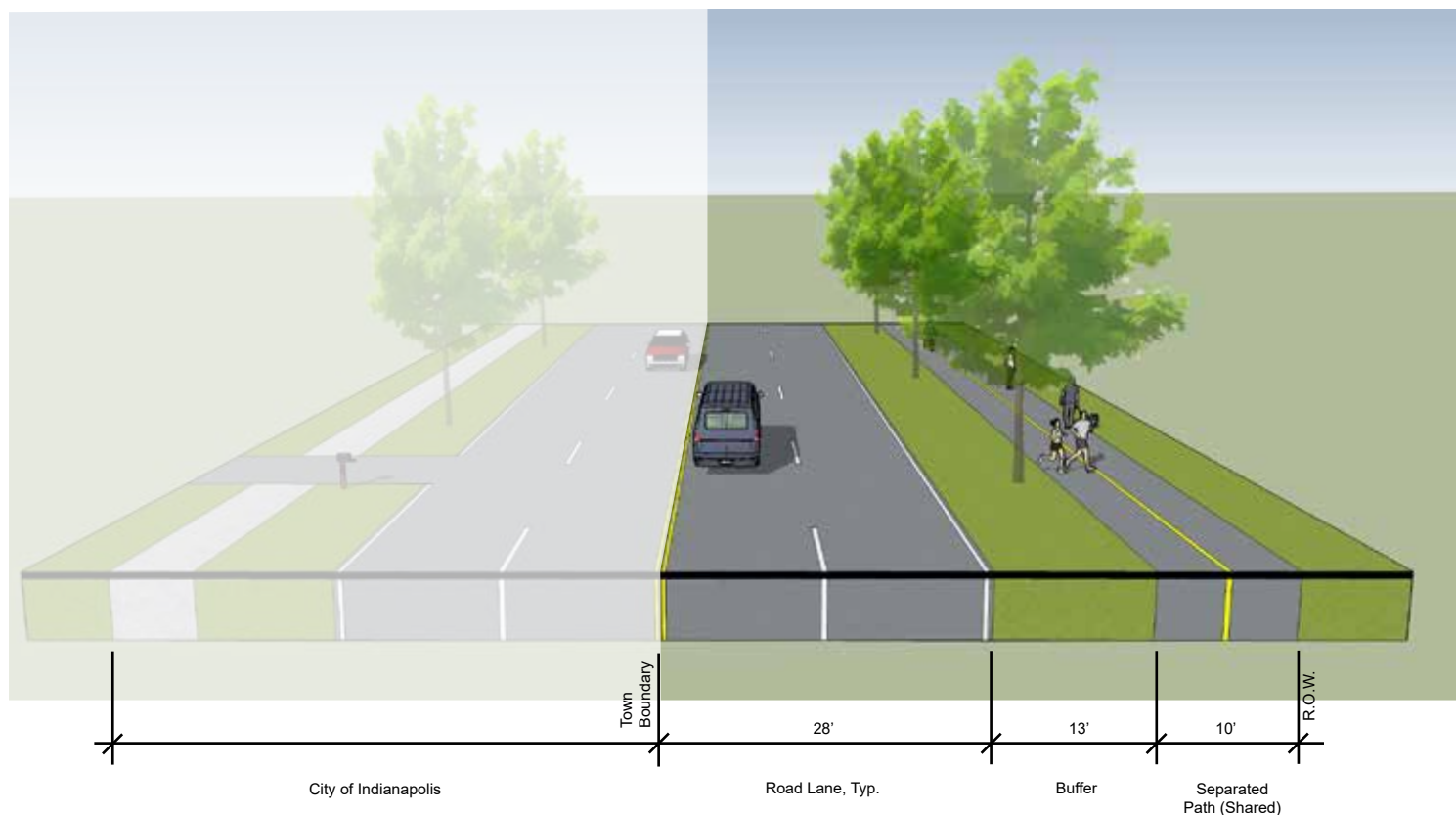
N 700 W / Carroll Rd. (North)



N 700 W / Carroll Rd. (South)



Proposed Section 01



Proposed Street Standard

Classification: Minor Arterial

Minimum R.O.W. Dimension: 97' Total

Minimum Road Width: 4 Lanes - 56' Total

Proposed Street Condition

Description:

The conditions along N 700 W / Carroll Road can be a combination of a 6' sidewalk on the west side of the road and a 10' shared path on the east side of the road.

The 6' sidewalk on the west side of the road should be by the City of Indianapolis, and is recommended to be concrete pavement and provide for crosswalk connectivity at prominent intersections.

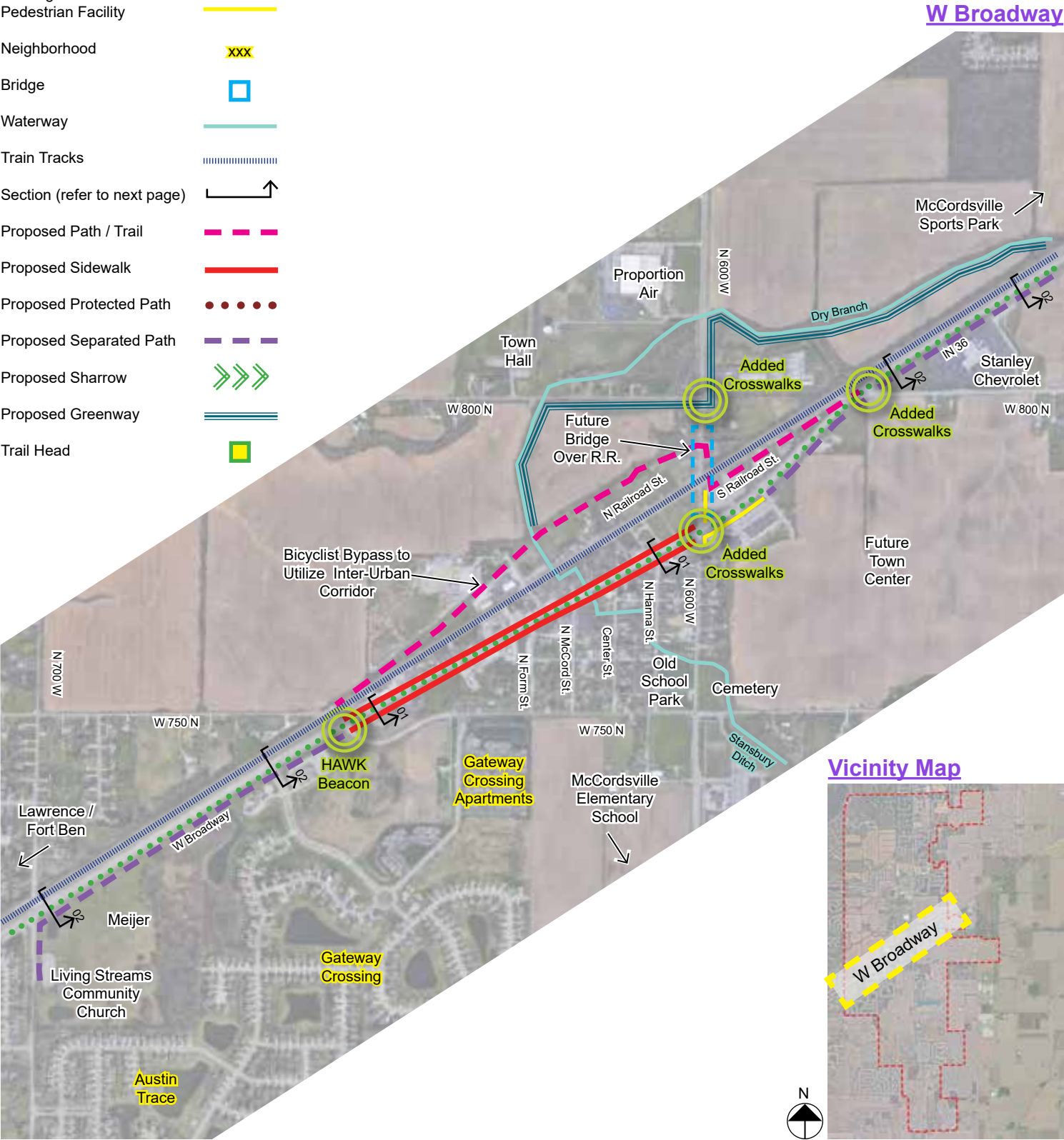
The 10' shared path on the east side of the road can be asphalt pavement include: center line markings and basic signage, wayfinding package and cross walk treatments.

Additional considerations for intersections treatments to provide some unique pavement treatments and identity elements or gateways to distinguish the McCordsville town boundary would be appropriate.

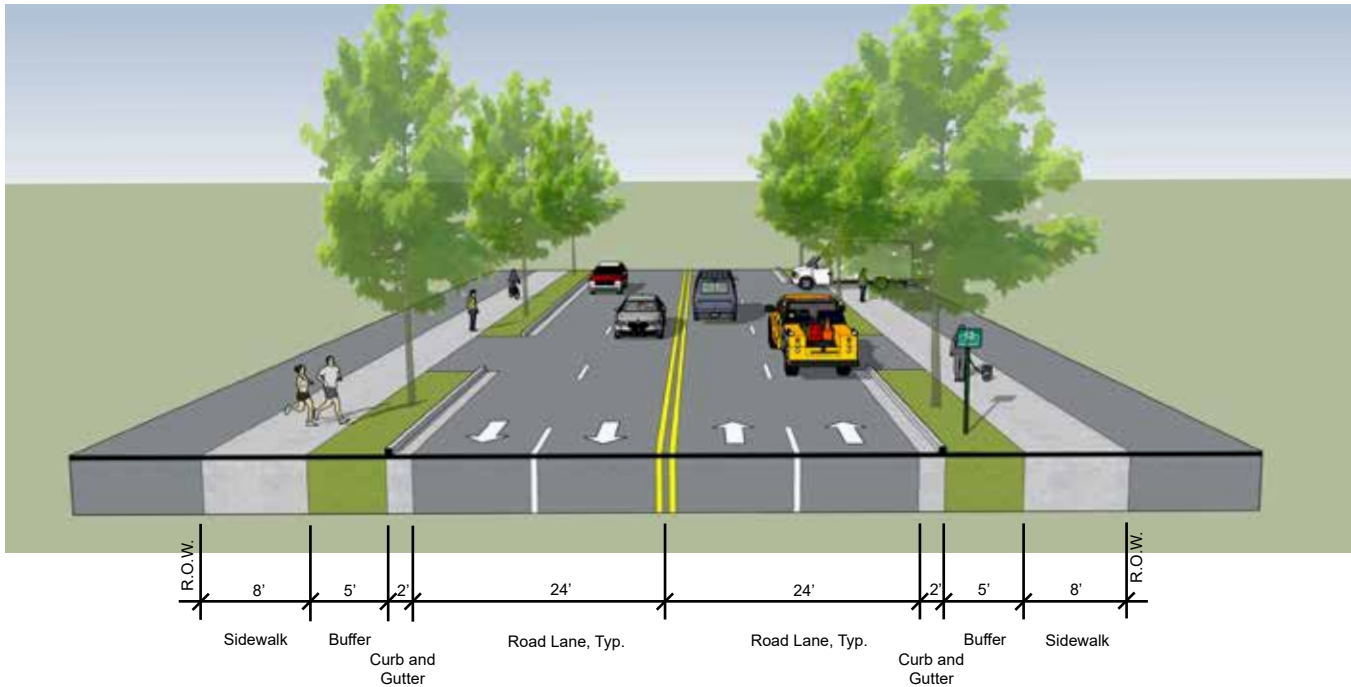
PROPOSED CONDITIONS

Legend

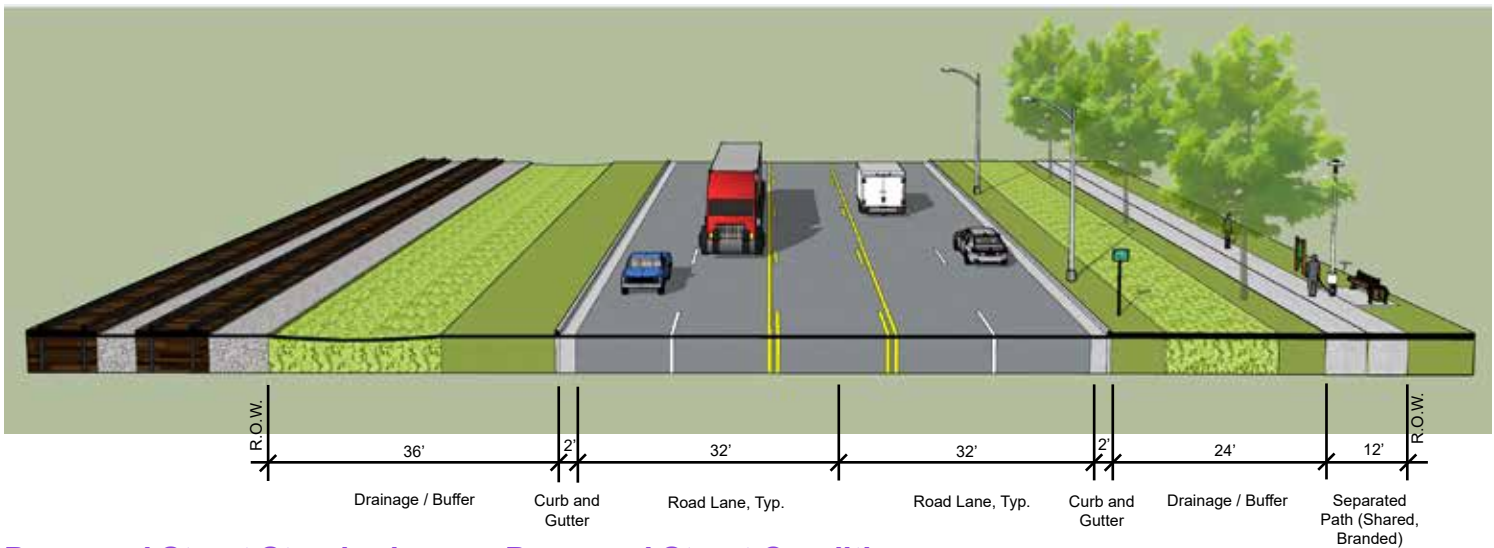
Corridor Roadway	<div></div>
Roadway Bike Route	<div></div>
Intersection Improvements	<div></div>
Existing Bike / Pedestrian Facility	<div></div>
Neighborhood	<div>xxx</div>
Bridge	<div></div>
Waterway	<div></div>
Train Tracks	<div></div>
Section (refer to next page)	<div></div>
Proposed Path / Trail	<div></div>
Proposed Sidewalk	<div></div>
Proposed Protected Path	<div></div>
Proposed Separated Path	<div></div>
Proposed Sharrow	<div></div>
Proposed Greenway	<div></div>
Trail Head	<div></div>



Proposed Section 01



Proposed Section 02



Proposed Street Standard

Classification: Major Arterial

Minimum R.O.W. Dimension: 140' Total

Minimum Road Width: 4 Lanes - 68' Total

Proposed Street Condition

Description:

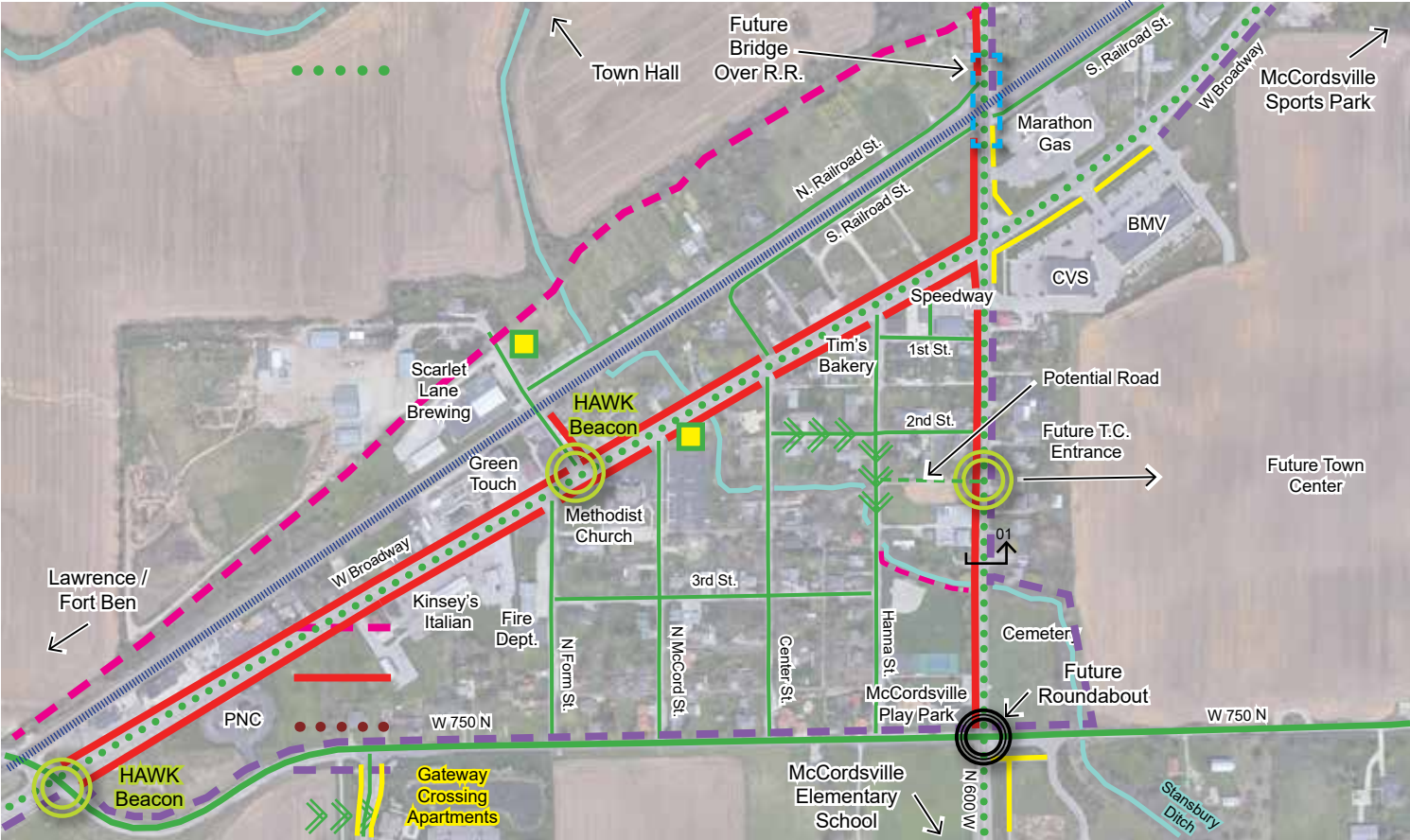
The conditions along W Broadway can be two different scenarios. On the northern and southern ends of the corridor, a 12' shared & branded path can be located on the east side of the road. In the middle of the corridor, an 8' sidewalk can be located on both sides of the road. Due to ROW constraints within Old Town, bicycle traffic would follow the former Inter-Urban Corridor to bypass Proposed Section 01 conditions

The 8' sidewalk on both sides of the road can be concrete with tree lawn or amenities area buffering sidewalk and road. Unique pavement at intersection, crosswalk treatments, decorative lighting, site furnishings, signage, wayfinding signs and enhanced plantings should be considered within this zone.

The 12' shared & branded path on the east side of the road can have decorative pavement treatment to include center line markings. Branding & identity elements such as signage elements, specialty pavements, pavement markings, and cross walk markings can all be developed to correspond with the trail's name and specific brand. Where appropriate, amenities such as: enhanced plantings, trail head nodes, interpretive areas, site furnishings, decorative lighting, shade elements, bike repair stations, and public art could add an additional level of unique identity to the trail.

PROPOSED CONDITIONS

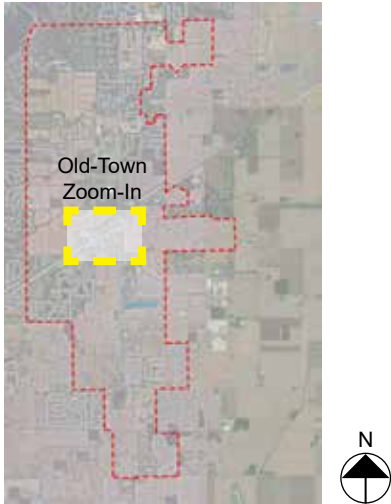
W Broadway (Old-Town Zoom-In)



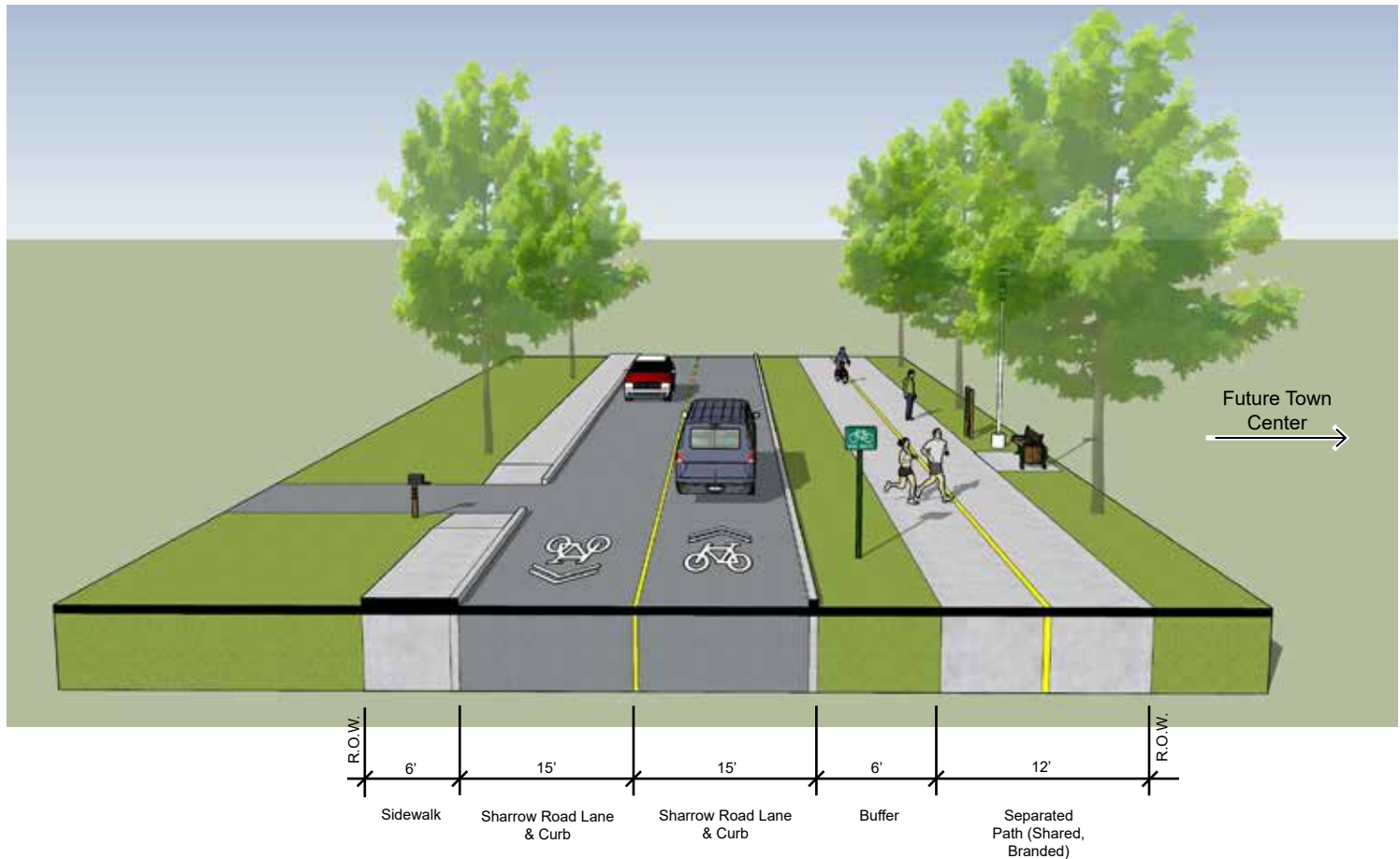
Legend

Corridor Roadway		Proposed Separated Path	
Roadway Bike Route		Proposed Sharrow	
Intersection Improvements		Proposed Greenway	
Existing Bike / Pedestrian Facility		Trail Head	
Neighborhood			
Bridge			
Waterway			
Train Tracks			
Section (refer to next page)			
Proposed Path / Trail			
Proposed Sidewalk			
Proposed Protected Path			

Vicinity Map



Proposed Section 01



Proposed Street Standard

Classification: Local Street

Minimum R.O.W. Dimension: 54' Total

Minimum Road Width: 2 Lanes - 30' Total

Proposed Street Condition

Description:

The conditions along the Old Town corridor can be a combination of a 6' concrete sidewalk on the west side of the road and a 12' shared & branded path on the east side of the road.

The 12' shared & branded path on the east side of the road can have decorative pavement treatment to include center line markings. Branding & identity elements such as signage elements, specialty pavements, pavement markings, and cross walk markings can all be developed to correspond with the trail's name and specific brand. Where appropriate, amenities such as: enhanced plantings, trail head nodes, interpretive areas, site furnishings, decorative lighting, shade elements, bike repair stations, and public art could add an additional level of unique identity to the trail.

Major road corridors would also receive bike route signage/share the road for more advanced bicyclist and biking groups traveling faster than recreational users on the shared use paths. Sharrows could be used as an inter-phase to make connections within the missing corridor segments.

Branded Trail Precedent Imagery

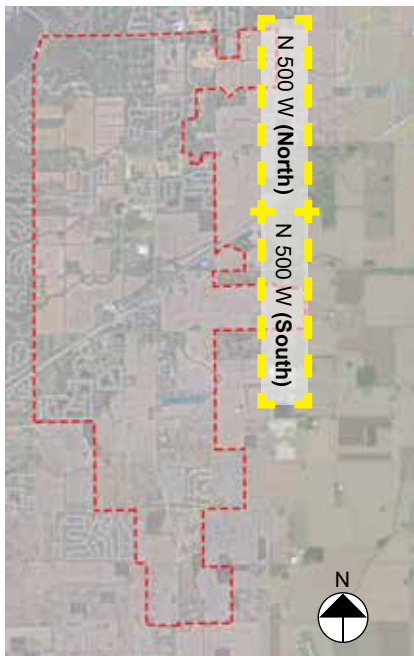


PROPOSED CONDITIONS

Legend

Corridor Roadway	
Roadway Bike Route	
Intersection Improvements	
Existing Bike / Pedestrian Facility	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next page)	
Proposed Path / Trail	
Proposed Sidewalk	
Proposed Protected Path	
Proposed Separated Path	
Proposed Sharrow	
Proposed Greenway	
Trail Head	

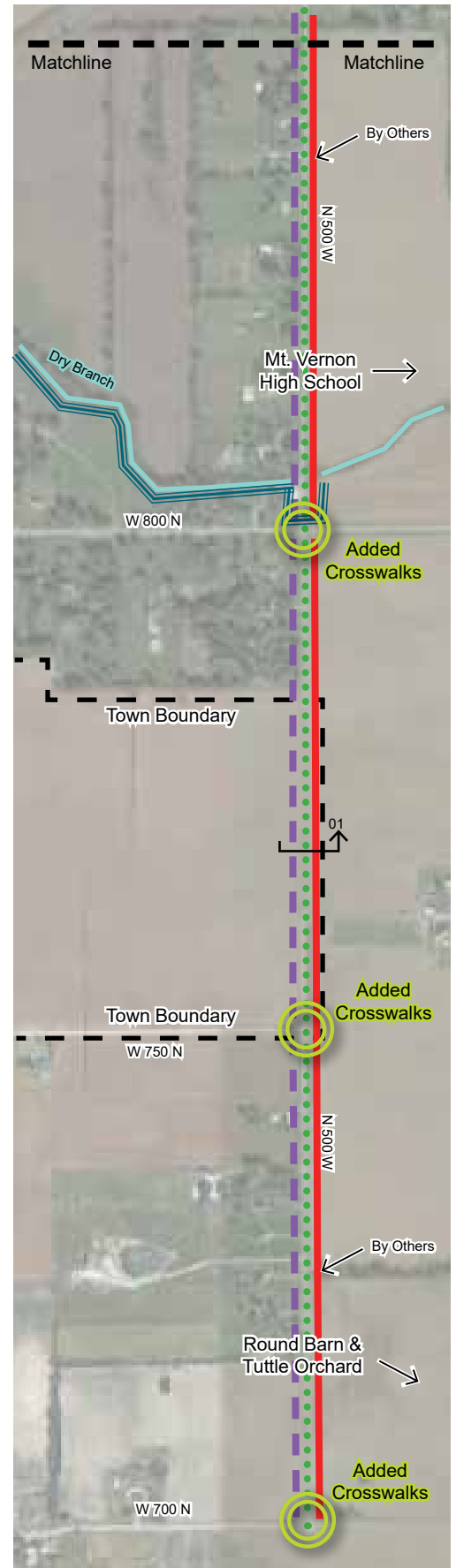
Vicinity Map



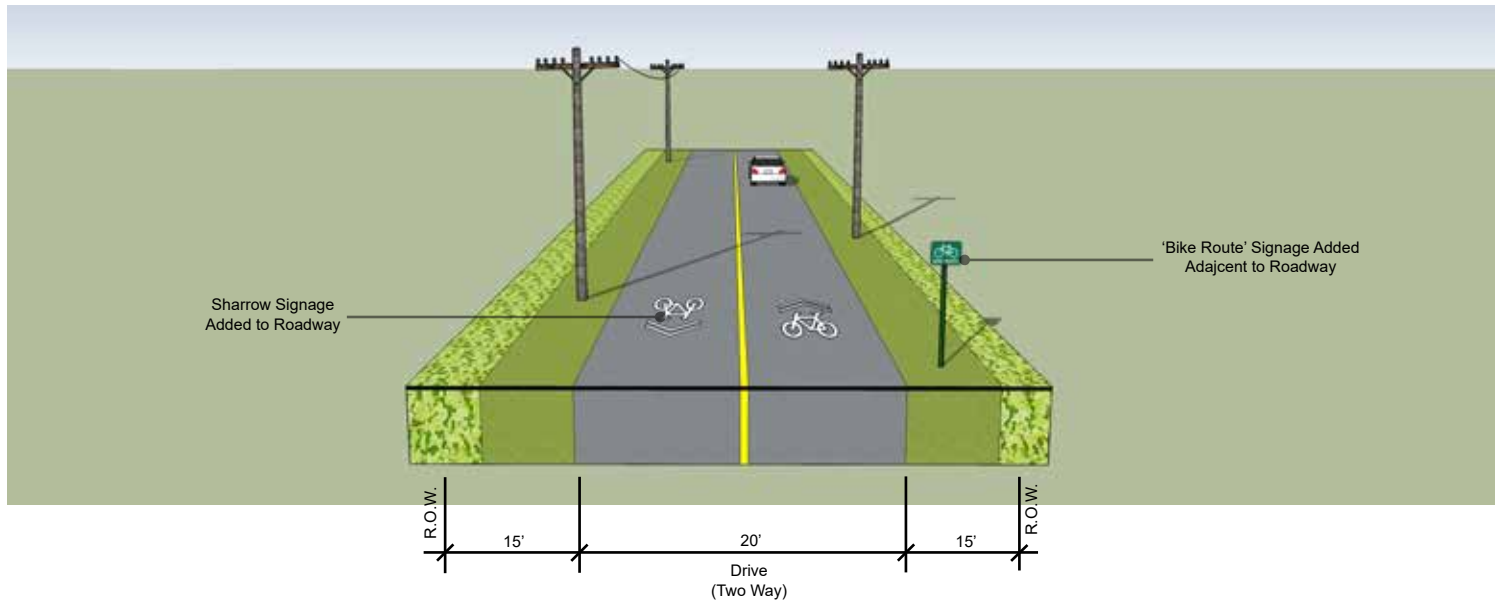
N 500 W (North)



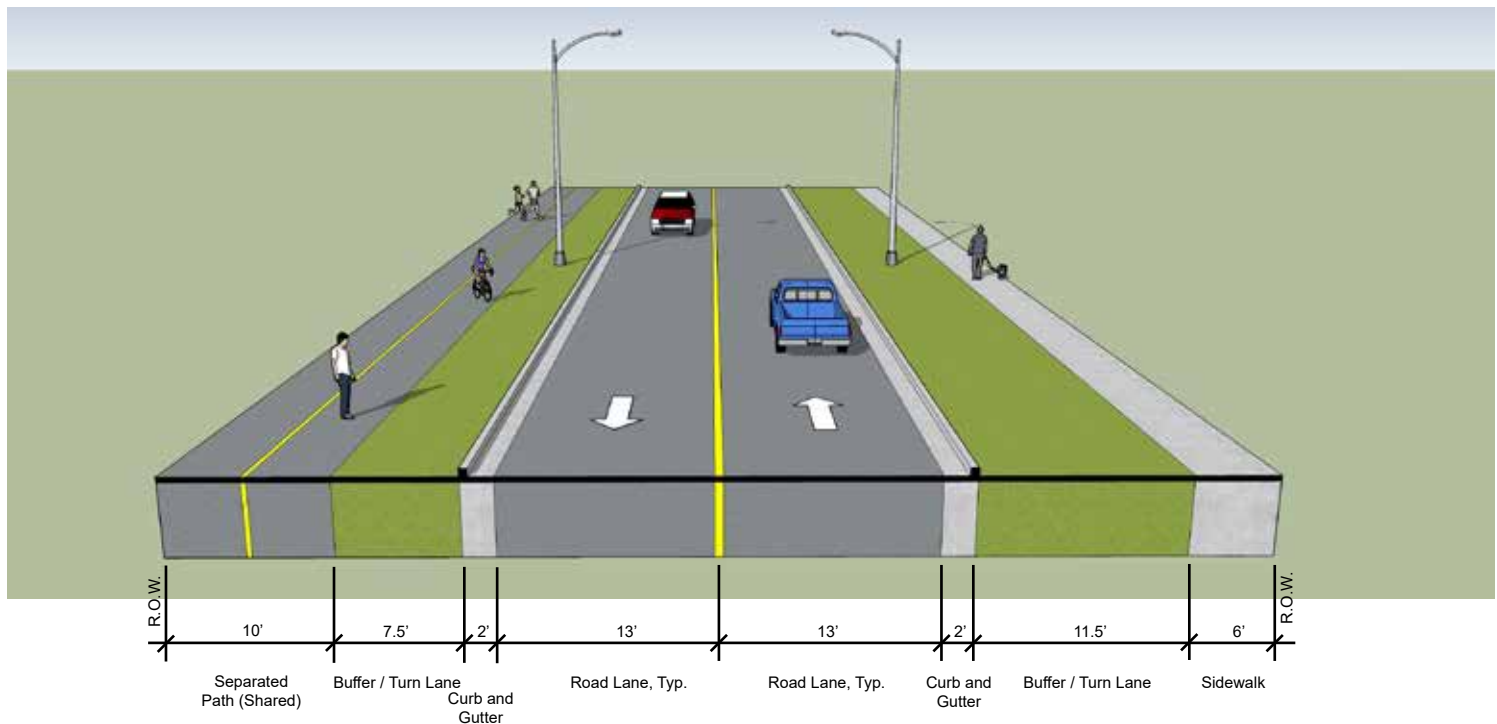
N 500 W (South)



Phase 01 - Interim Phase Conditions



Phase 02



Proposed Street Standard

Classification: Minor Collector

Minimum R.O.W. Dimension: 65' Total

Minimum Road Width: 2 Lanes - 30' Total

Proposed Street Condition

Description:

The conditions along N 500 W can be a combination of a 10' separated path on the west side of the road and a 6' concrete sidewalk on the east side of the road.

The 10' shared path on the east side of the road can be asphalt pavement and will have center line and basic signage and wayfinding.

The current corridor is largely within agricultural areas but still well traveled with bicycles. An interim phase would be to include sharrows and bike route signage until the corridor is developed.

PROPOSED CONDITIONS

E 96th St.



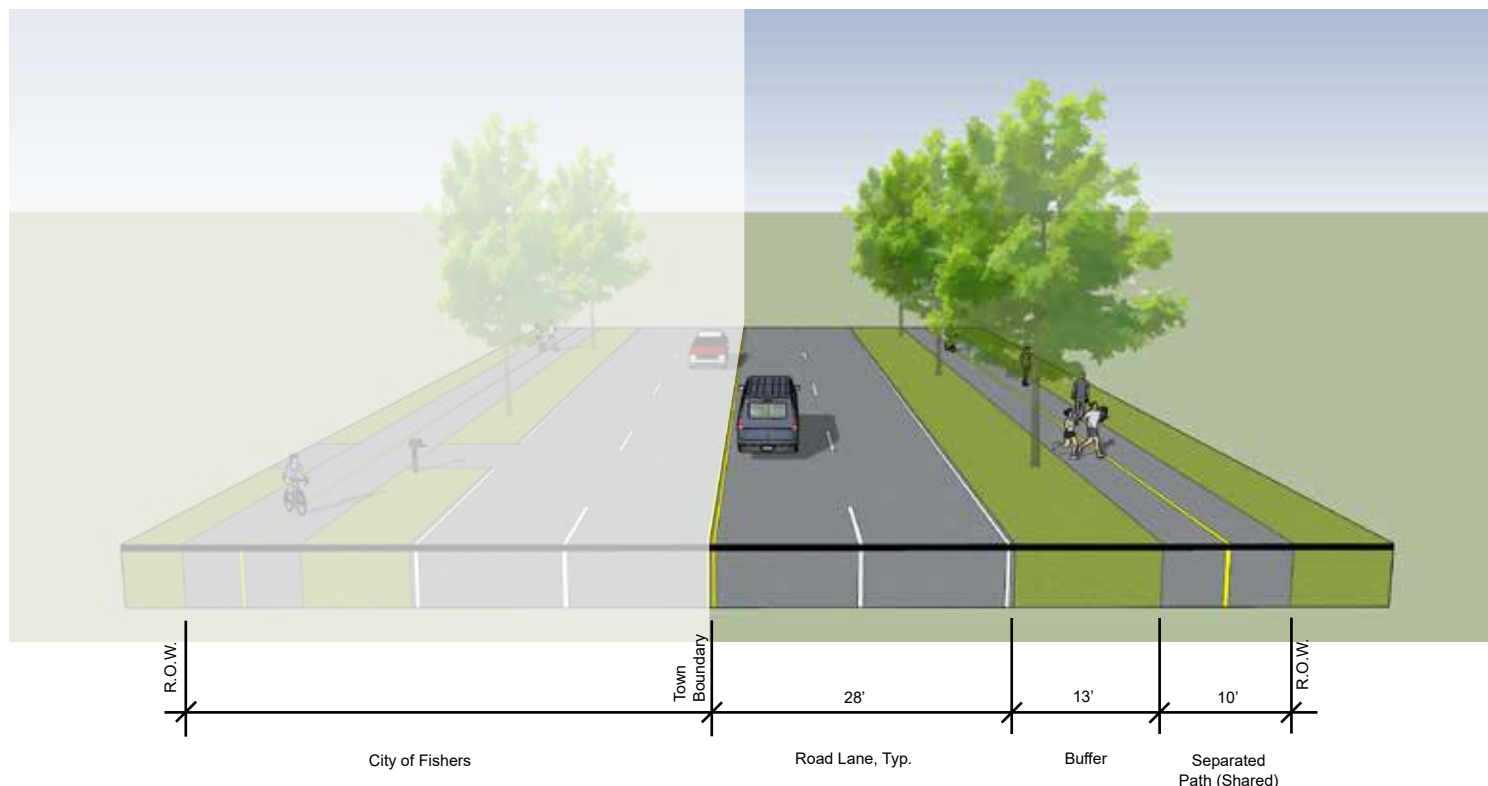
Legend

Corridor Roadway	
Roadway Bike Route	
Intersection Improvements	
Existing Bike / Pedestrian Facility	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next page)	
Proposed Path / Trail	
Proposed Sidewalk	
Proposed Protected Path	
Proposed Separated Path	
Proposed Sharrow	
Proposed Greenway	
Trail Head	

Vicinity Map



Proposed Section 01



Proposed Street Standard

Classification: Minor Arterial

Minimum R.O.W. Dimension: 97' Total

Minimum Road Width: 4 Lanes - 56' Total

Proposed Street Condition

Description:

The conditions along E 96th St. can be a combination of a 6' sidewalk on the north side of the road and a 10' shared path on the south side of the road.

The sidewalk or trail on the north side of the road should be by the City of Fishers, and is recommended to provide for crosswalk connectivity at prominent intersections.

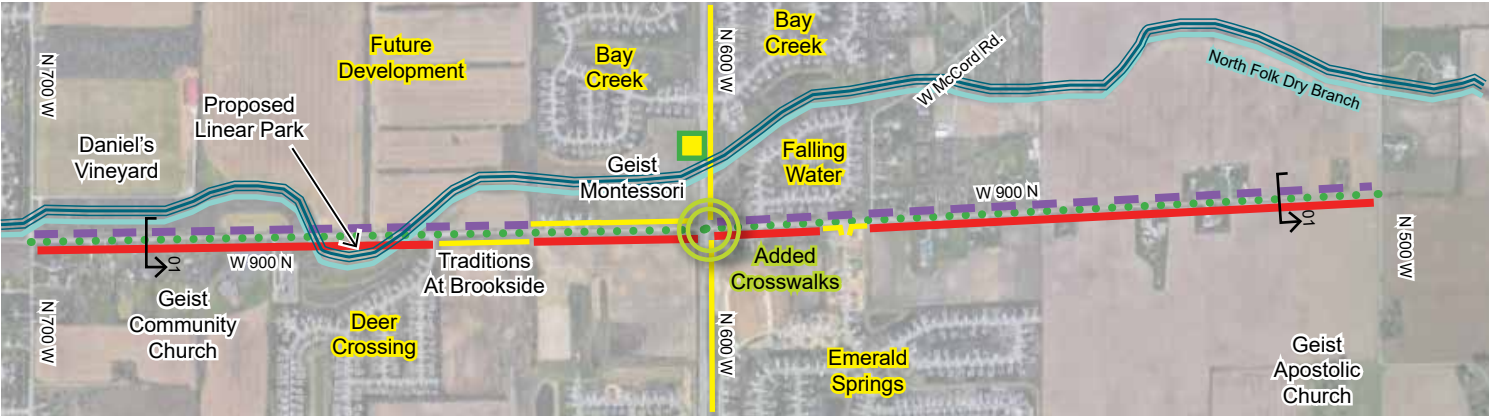
The 10' shared path on the south side of the road, east of N 600 W can be asphalt pavement include: center line markings, a basic signage and wayfinding package and cross walk treatments.

Due to grade and ROW constraints, development on the south side of the road west of N 600 W is not feasible. Provide for crosswalk connections to the north side of the street in prominent intersections.

Additional considerations for intersections treatments to provide some unique pavement treatments and identity elements or gateways to distinguish the McCordsville town boundary would be appropriate.

PROPOSED CONDITIONS

W 900 N



Legend

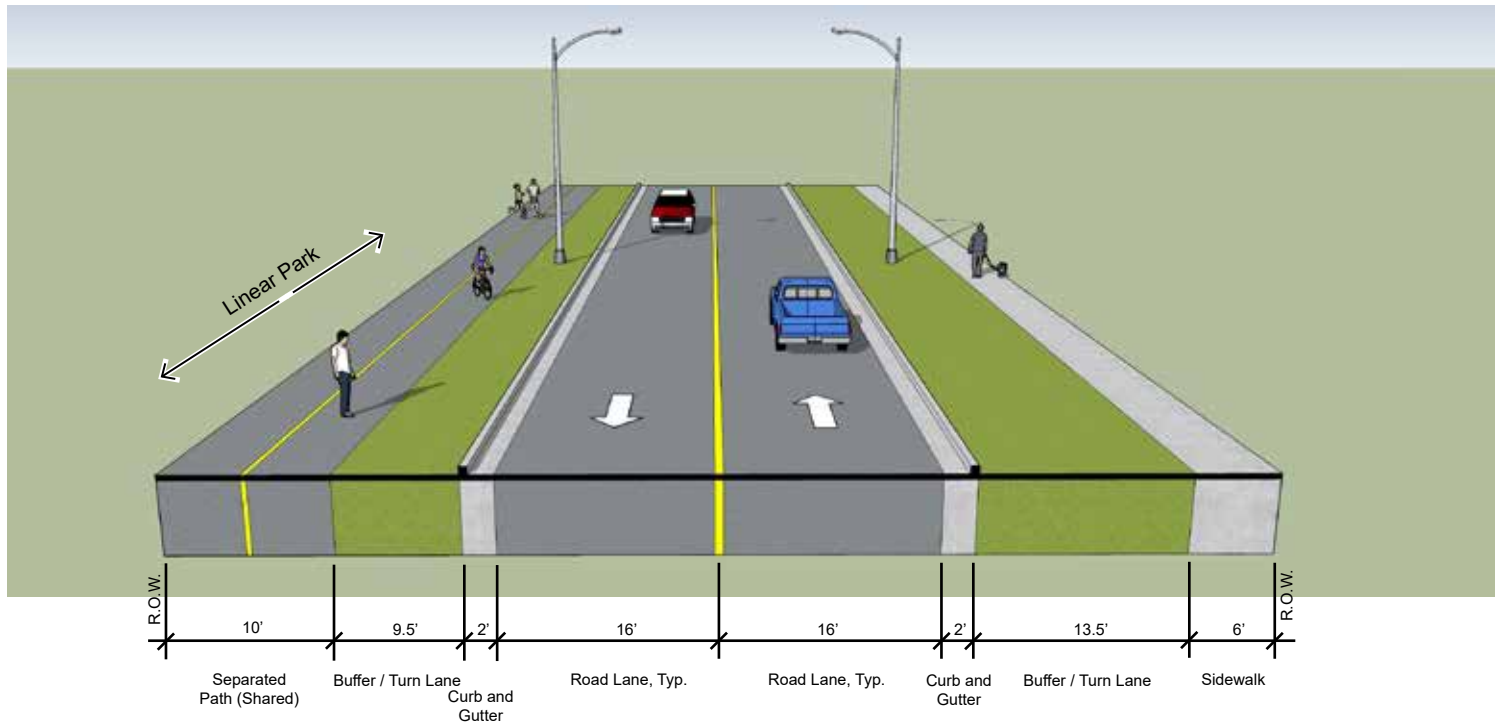
Corridor Roadway	
Roadway Bike Route	
Intersection Improvements	
Existing Bike / Pedestrian Facility	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next page)	
Proposed Path / Trail	
Proposed Sidewalk	
Proposed Protected Path	
Proposed Separated Path	
Proposed Sharrow	
Proposed Greenway	
Trail Head	

Vicinity Map



where do we
designate branded
trails

Proposed Section 01



Proposed Street Standard

Classification: Major Collector

Minimum R.O.W. Dimension: 75' Total

Minimum Road Width: 2 Lanes - 36' Total

Proposed Street Condition

Description:

The conditions along W 900 N can be a combination of a 10'-12' separated branded trail the north side of the road in between N 600 W and N 700 W, a 10' separated trail west of N 600 W., and a 6' concrete sidewalk on the south side.

The 12' shared & branded path on the north side of the road can have decorative pavement treatment to include center line markings. Branding & identity elements such as signage elements, specialty pavements, pavement markings, and cross walk markings can all be developed to correspond with the trail's name and specific brand. Where appropriate, amenities such as: enhanced plantings, trail head nodes, interpretive areas, site furnishings, decorative lighting, shade elements, bike repair stations, and public art could add an additional level of unique identity to the trail.

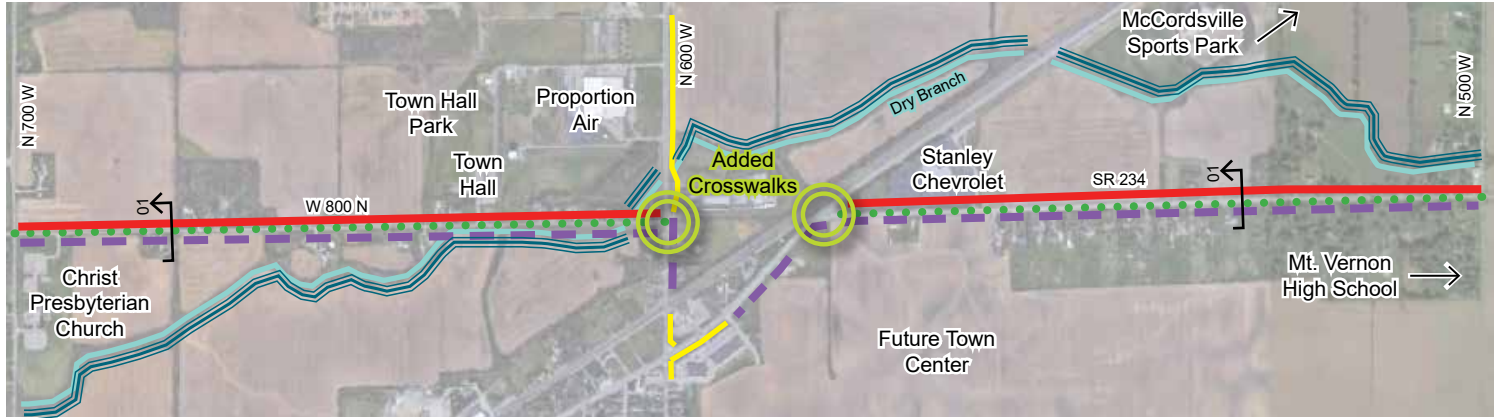
The area between between N 600 W and N 700 W has the potential to create a unique linear park that includes the combination of greenway connectivity and recreational opportunities along the corridor.

Linear Park Precedent Imagery



PROPOSED CONDITIONS

W 800 N



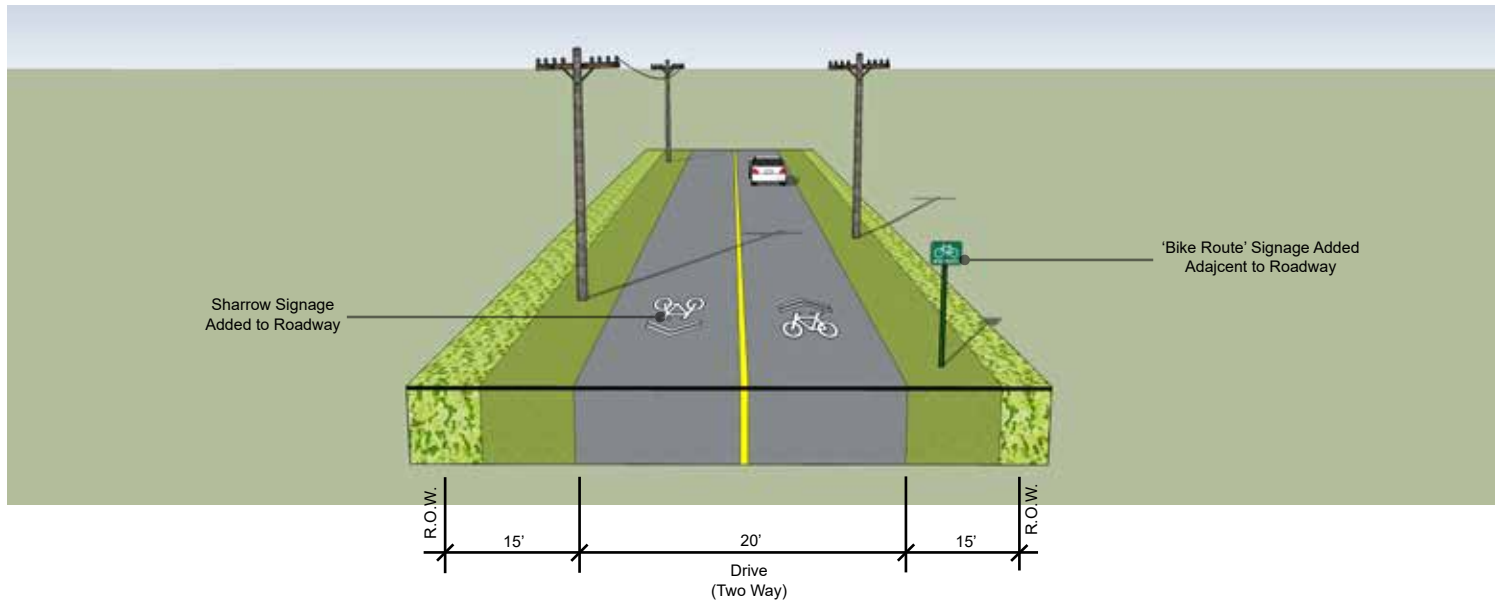
Legend

Corridor Roadway	
Roadway Bike Route	
Intersection Improvements	
Existing Bike / Pedestrian Facility	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next page)	
Proposed Path / Trail	
Proposed Sidewalk	
Proposed Protected Path	
Proposed Separated Path	
Proposed Sharrow	
Proposed Greenway	
Trail Head	

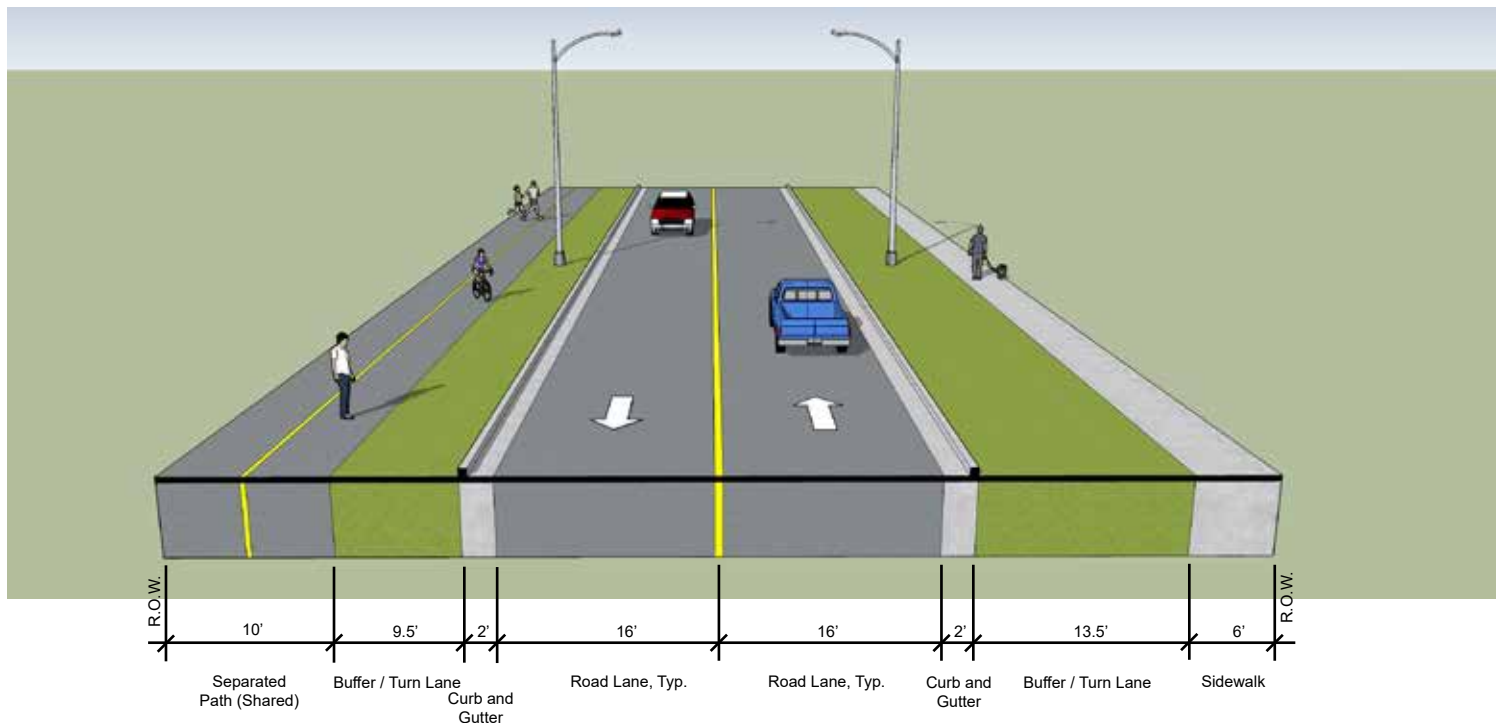
Vicinity Map



Phase 01 - Interim Phase



Phase 02



Proposed Street Standard

Classification: Major Collector

Minimum R.O.W. Dimension: 75' Total

Minimum Road Width: 2 Lanes - 36' Total

Proposed Street Condition

Description:

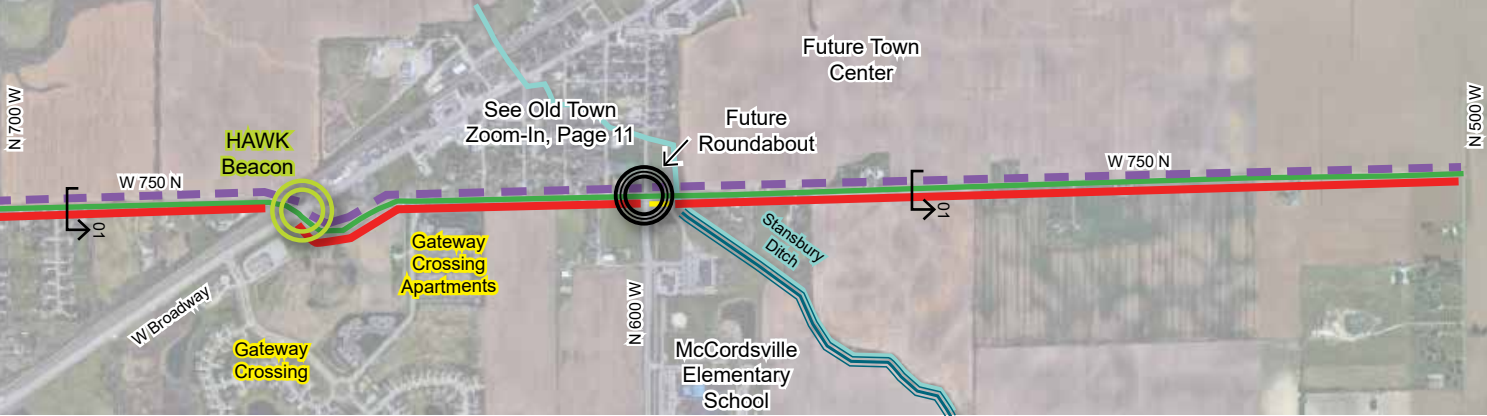
The conditions along W 800 N can be a combination of a 10' separated path on the south side of the road and a 6' concrete sidewalk on the north side of the road.

The 10' shared path on the east side of the road can be asphalt pavement include: center line markings and basic signage and wayfinding package and cross walk treatments.

The current corridor is largely within agricultural areas but still well traveled with bicycles. An interim phase would be to include sharrow and bike route signage until the corridor is developed.

PROPOSED CONDITIONS

W 750 N



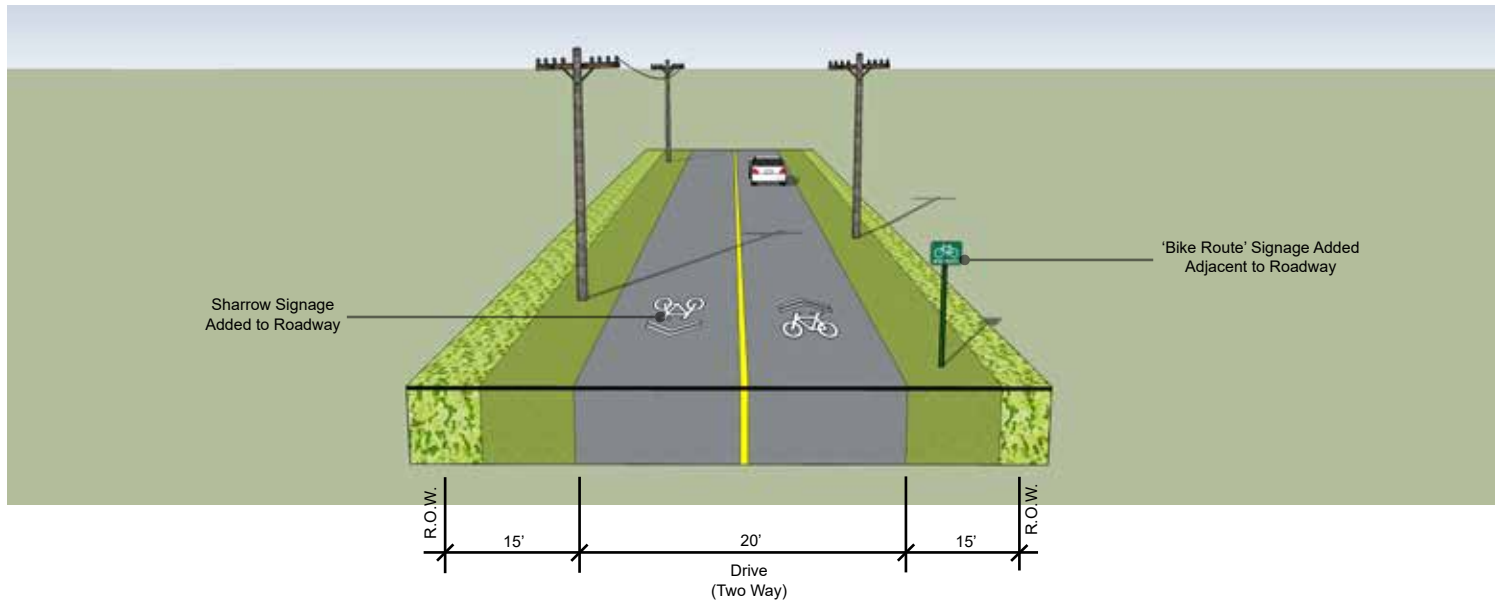
Legend

Corridor Roadway	
Roadway Bike Route	
Intersection Improvements	
Existing Bike / Pedestrian Facility	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next page)	
Proposed Path / Trail	
Proposed Sidewalk	
Proposed Protected Path	
Proposed Separated Path	
Proposed Sharrow	
Proposed Greenway	
Trail Head	

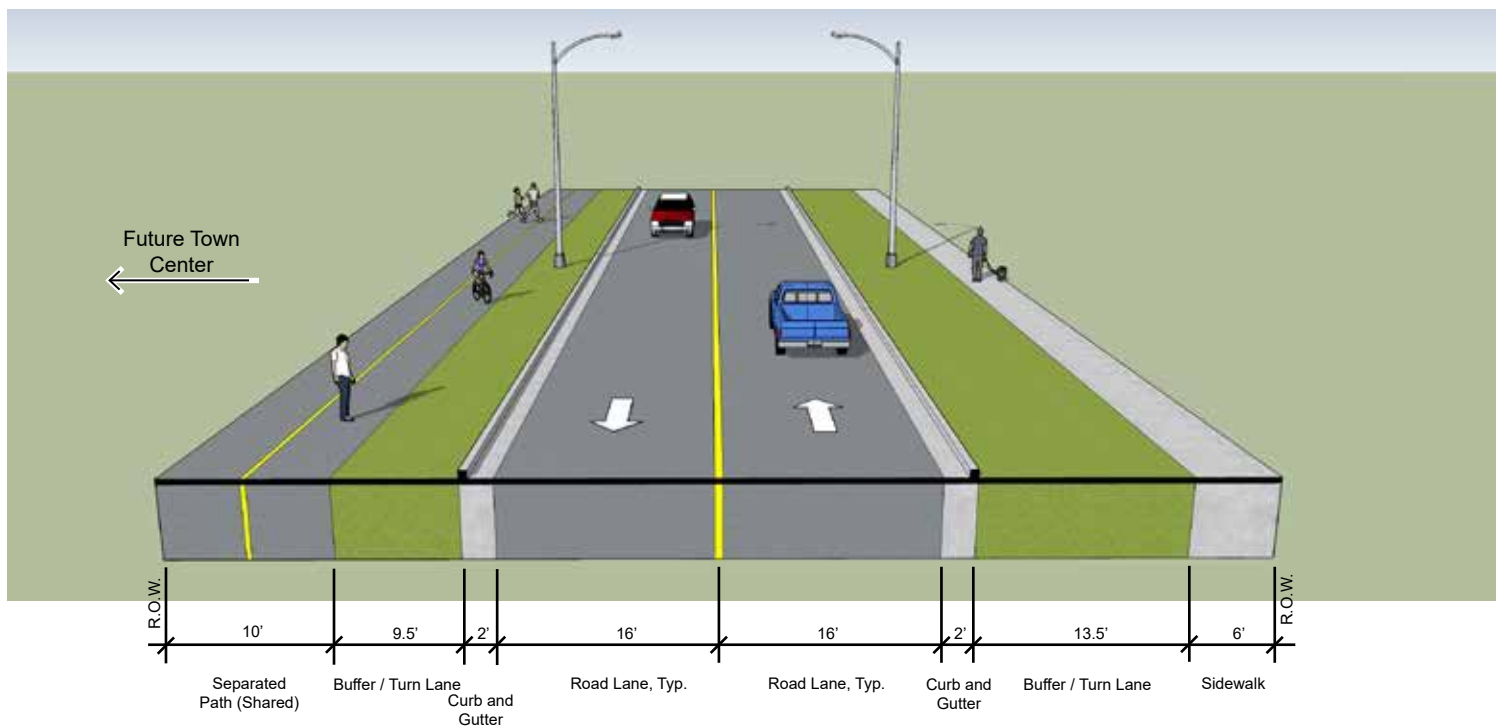
Vicinity Map



Phase 01 - Interim Phase



Phase 02



Proposed Street Standard

Classification: Major Collector

Minimum R.O.W. Dimension: 75' Total

Minimum Road Width: 2 Lanes - 36' Total

Proposed Street Condition

Description:

The conditions along W 750 N can be a combination of a 10' separated path on the north side of the road and a 6' sidewalk on the south side of the road.

The 10' shared path on the east side of the road can be asphalt pavement include: center line markings and basic signage and wayfinding package and cross walk treatments.

The current corridor is largely within agricultural areas but still well traveled with bicycles. An interim phase would be to include sharrows and bike route signage until the corridor is developed.

PROPOSED CONDITIONS

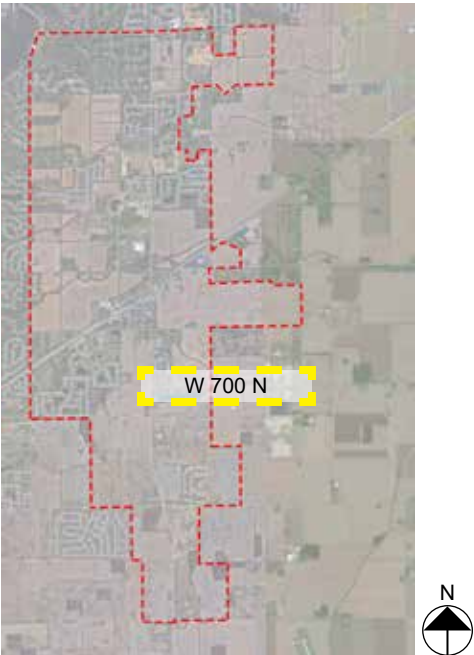
W 700 N



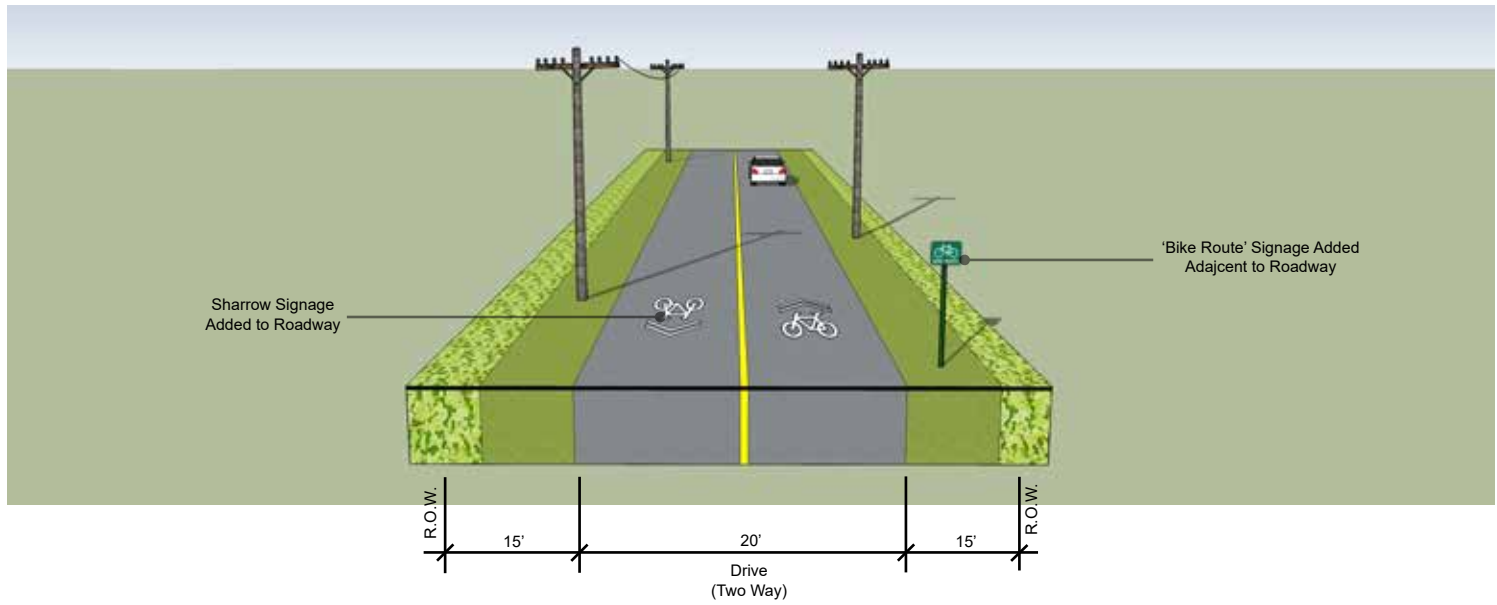
Legend

Corridor Roadway	
Roadway Bike Route	
Intersection Improvements	
Existing Bike / Pedestrian Facility	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next page)	
Proposed Path / Trail	
Proposed Sidewalk	
Proposed Protected Path	
Proposed Separated Path	
Proposed Sharrow	
Proposed Greenway	
Trail Head	

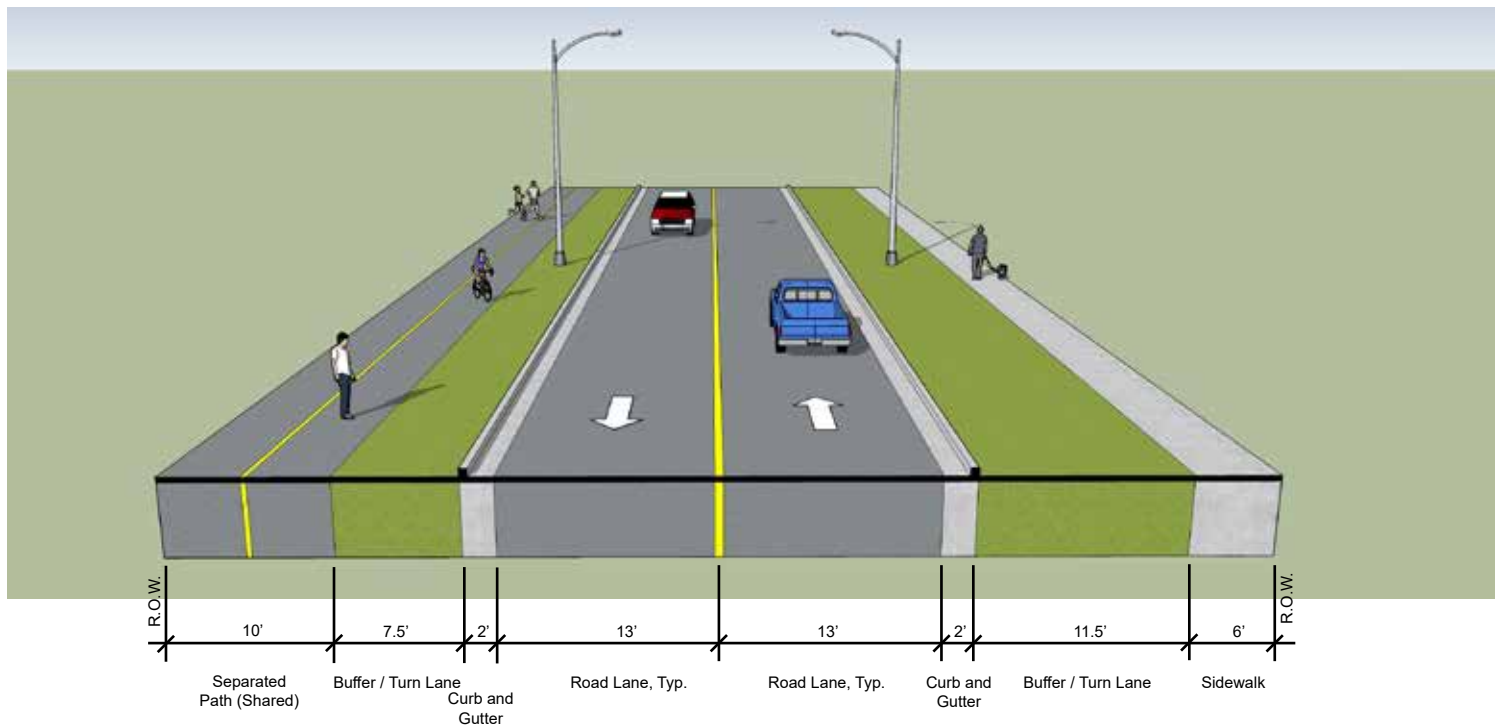
Vicinity Map



Phase 01- Interim Phase



Phase 02



Proposed Street Standard

Classification: Minor Collector

Minimum R.O.W. Dimension: 65' Total

Minimum Road Width: 2 Lanes - 30' Total

Proposed Street Condition

Description:

The conditions along W 700 N can be a combination of a 10' separated path on the north side of the road and a 6' sidewalk on the south side of the road.

The 10' shared path on the east side of the road can be asphalt pavement include: center line markings and basic signage and wayfinding package and cross walk treatments.

The current corridor is largely within agricultural areas but still well traveled with bicycles. An interim phase would be to include sharrows and bike route signage until the corridor is developed.

PROPOSED CONDITIONS

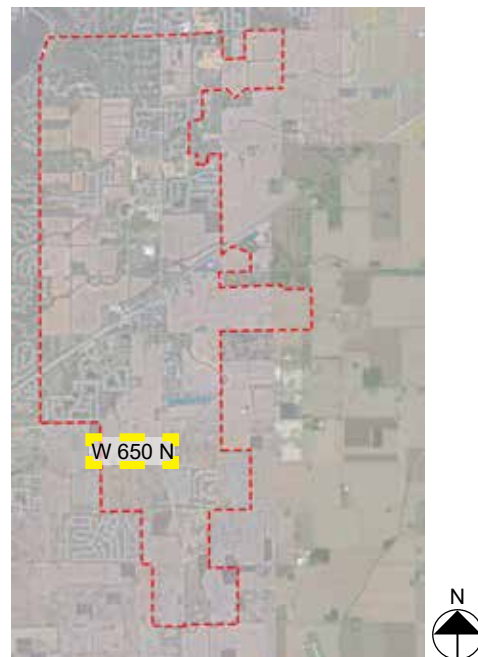
W 650 N



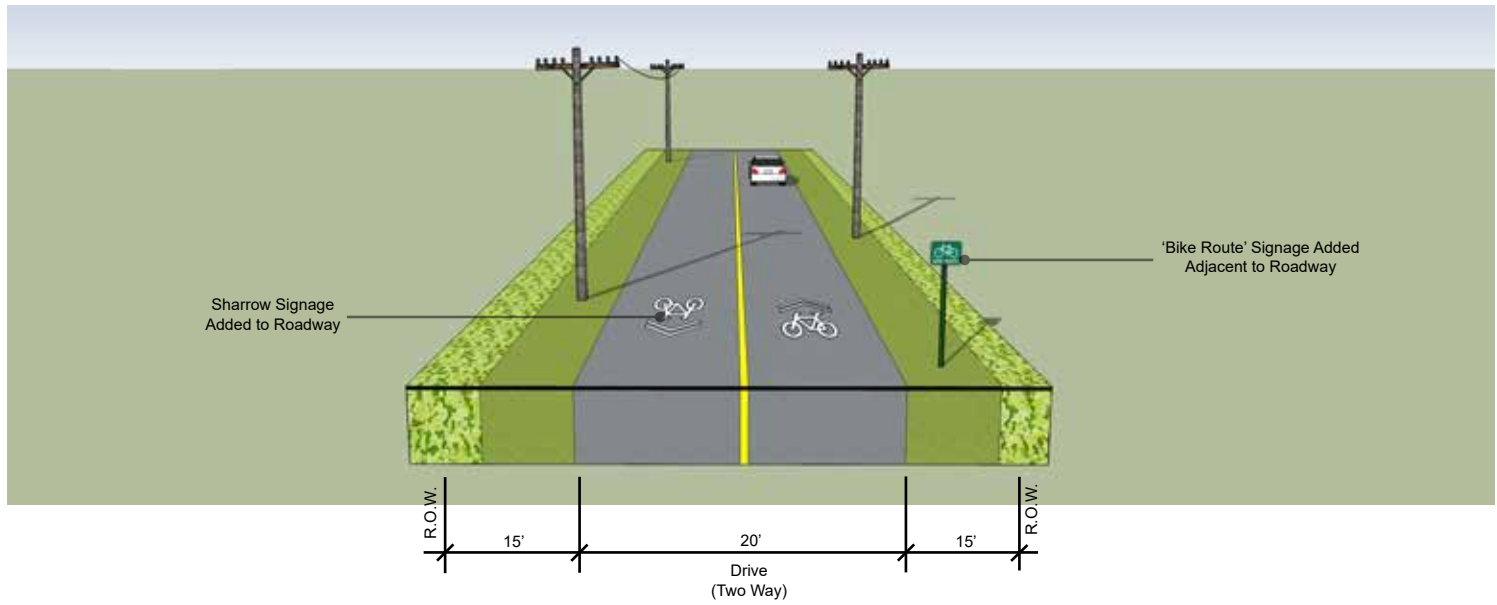
Legend

Corridor Roadway	
Roadway Bike Route	
Intersection Improvements	
Existing Bike / Pedestrian Facility	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next page)	
Proposed Path / Trail	
Proposed Sidewalk	
Proposed Protected Path	
Proposed Separated Path	
Proposed Sharrow	
Proposed Greenway	
Trail Head	

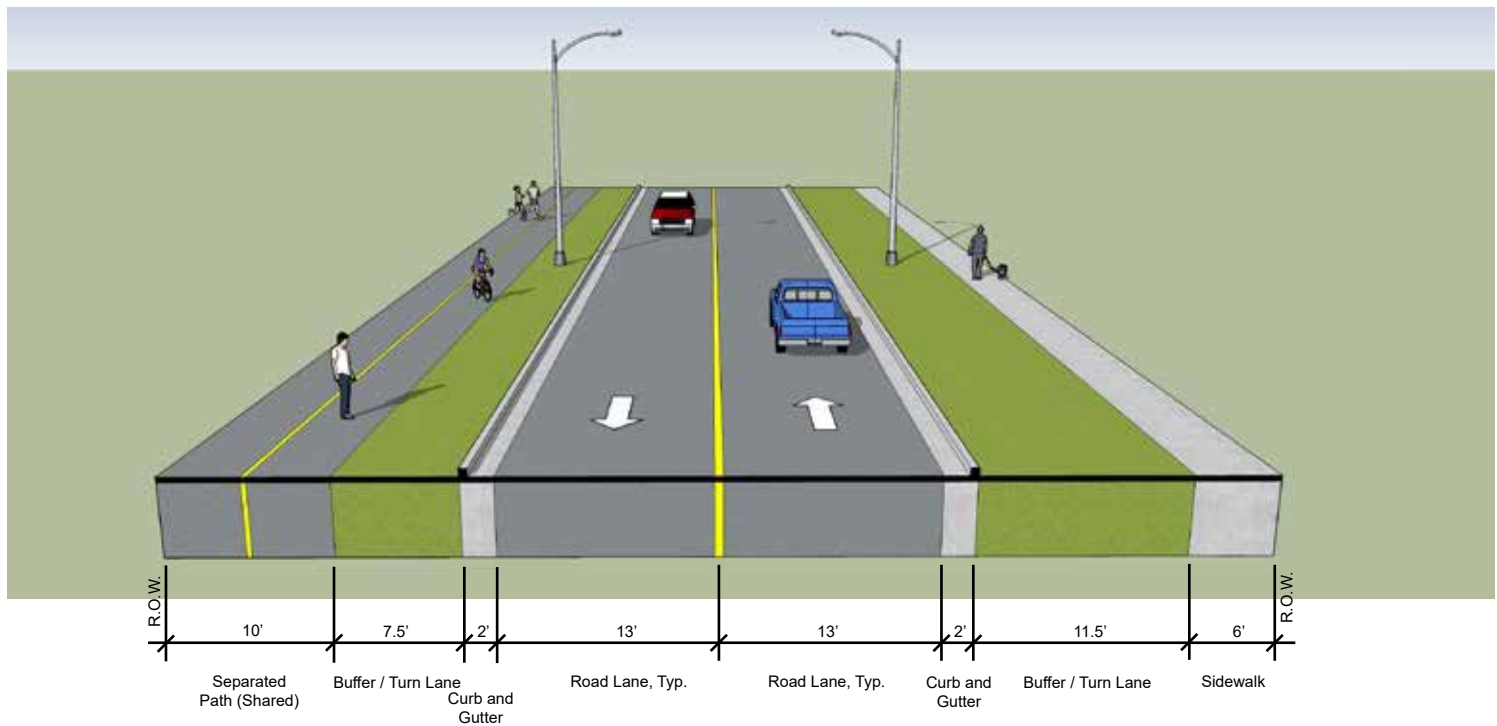
Vicinity Map



Phase 01- Interim Phase



Phase 02



Proposed Street Standard

Classification:

Minor Collector

Minimum R.O.W. Dimension:

65' Total

Minimum Road Width:

2 Lanes - 30' Total

Proposed Street Condition

Description:

The conditions along W 650 N can be a combination of a 10' separated path on the north side of the road and a 6' sidewalk on the south side of the road.

The 10' shared path on the north side of the road can be asphalt pavement and will have a yellow C.L. but no signage, branding, or amenities.

















The 6' sidewalk on the south side of the road shall be concrete pavement and have no markings, signage, branding, or amenities.

PROPOSED CONDITIONS

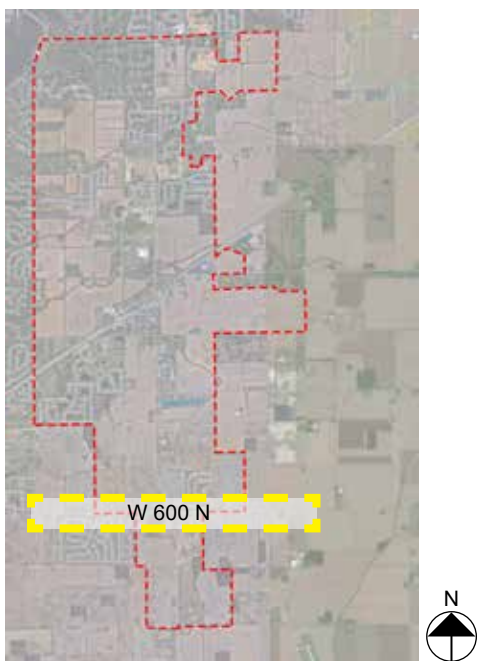
W 600 N



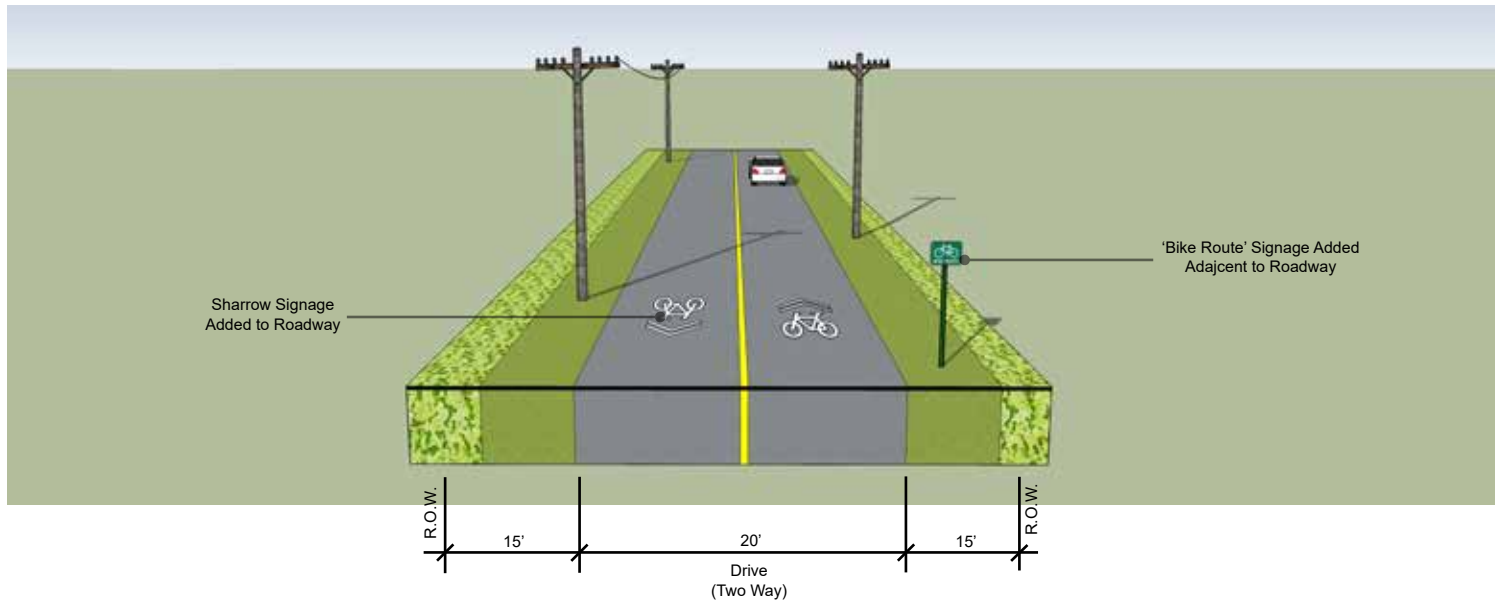
Legend

Corridor Roadway	
Roadway Bike Route	
Intersection Improvements	
Existing Bike / Pedestrian Facility	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next page)	
Proposed Path / Trail	
Proposed Sidewalk	
Proposed Protected Path	
Proposed Separated Path	
Proposed Sharrow	
Proposed Greenway	
Trail Head	

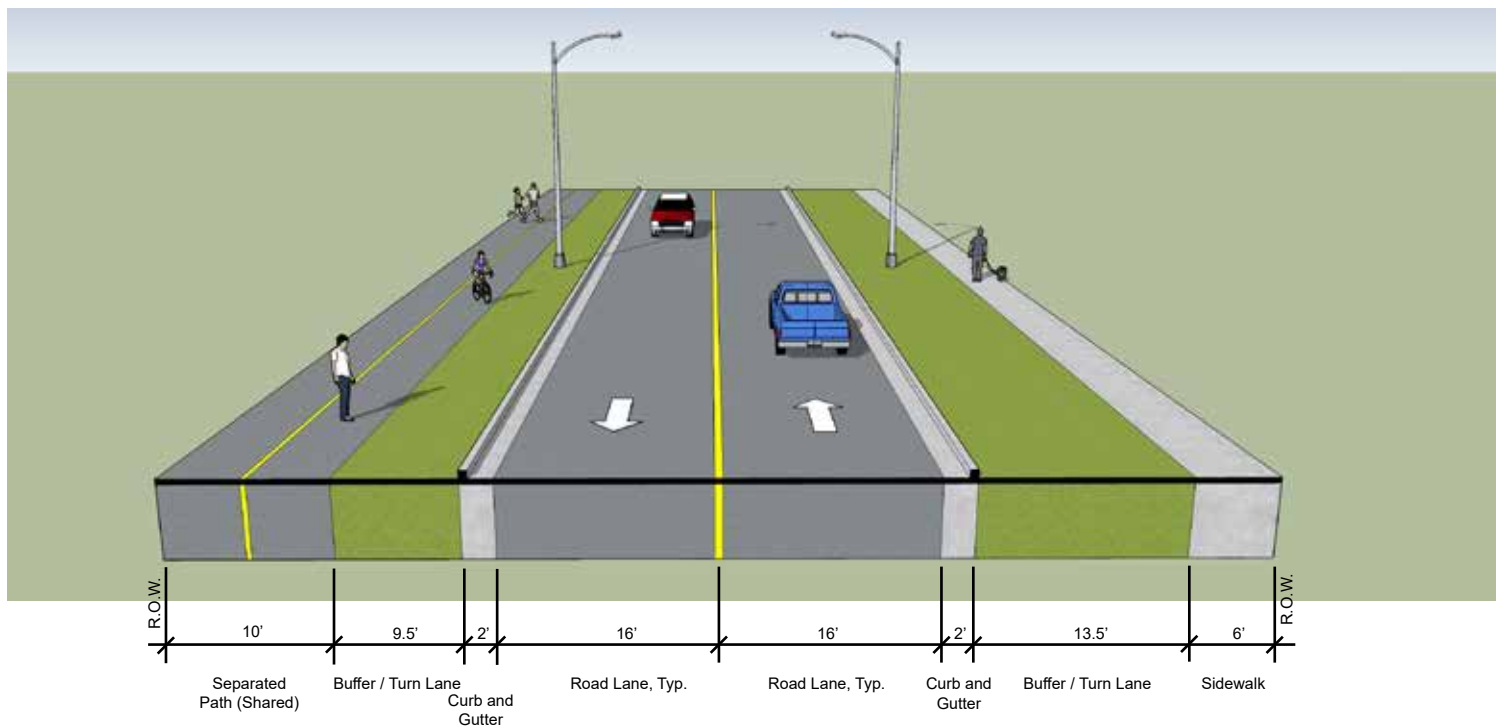
Vicinity Map



Phase 01- Interim Phase



Phase 02



Proposed Street Standard

Classification: Major Collector

Minimum R.O.W. Dimension: 75' Total

Minimum Road Width: 2 Lanes - 36' Total

Proposed Street Condition

Description:

The conditions along W 600 N can be a combination of a 10' separated path on the north side of the road and a 6' sidewalk on the south side of the road.

The 10' shared path on the east side of the road can be asphalt pavement include: center line markings and basic signage and way finding package and cross walk treatments.

The current corridor is largely within agricultural areas but still well traveled with bicycles. An interim phase would be to include sharrows and bike route signage until the corridor is developed.

PROPOSED CONDITIONS

W 500 N



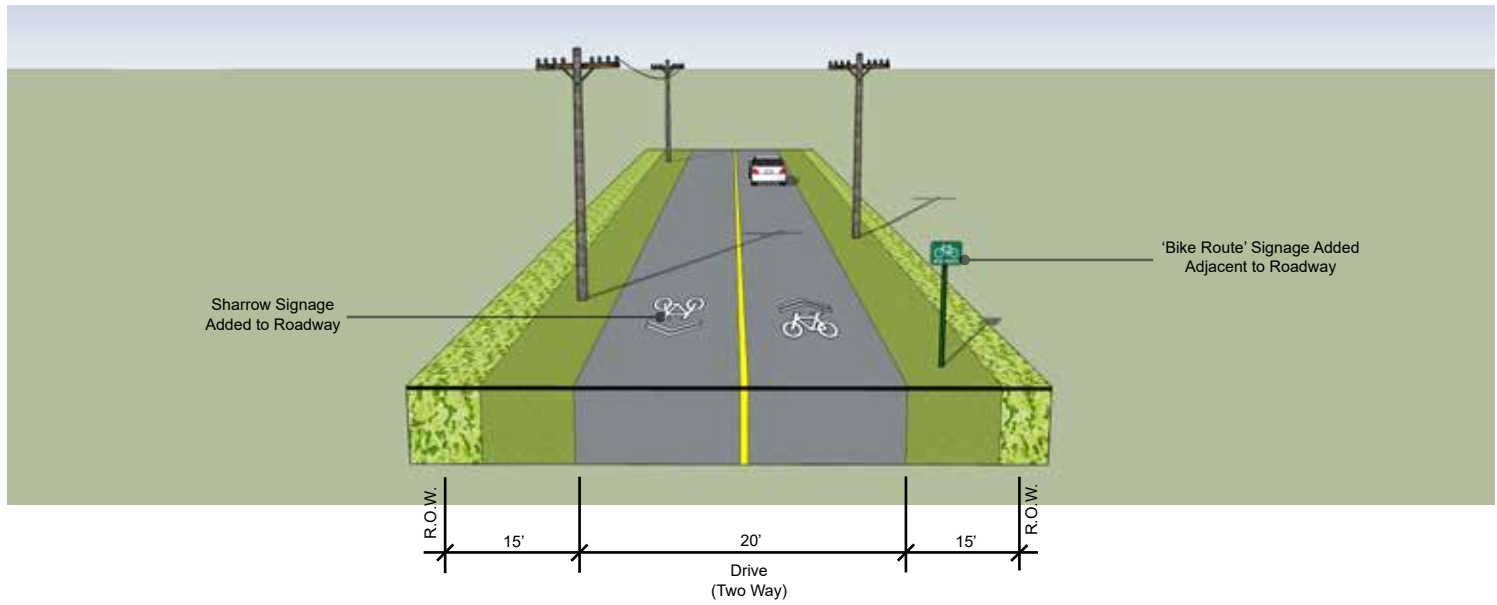
Legend

Corridor Roadway	
Roadway Bike Route	
Intersection Improvements	
Existing Bike / Pedestrian Facility	
Neighborhood	
Bridge	
Waterway	
Train Tracks	
Section (refer to next page)	
Proposed Path / Trail	
Proposed Sidewalk	
Proposed Protected Path	
Proposed Separated Path	
Proposed Sharrow	
Proposed Greenway	
Trail Head	

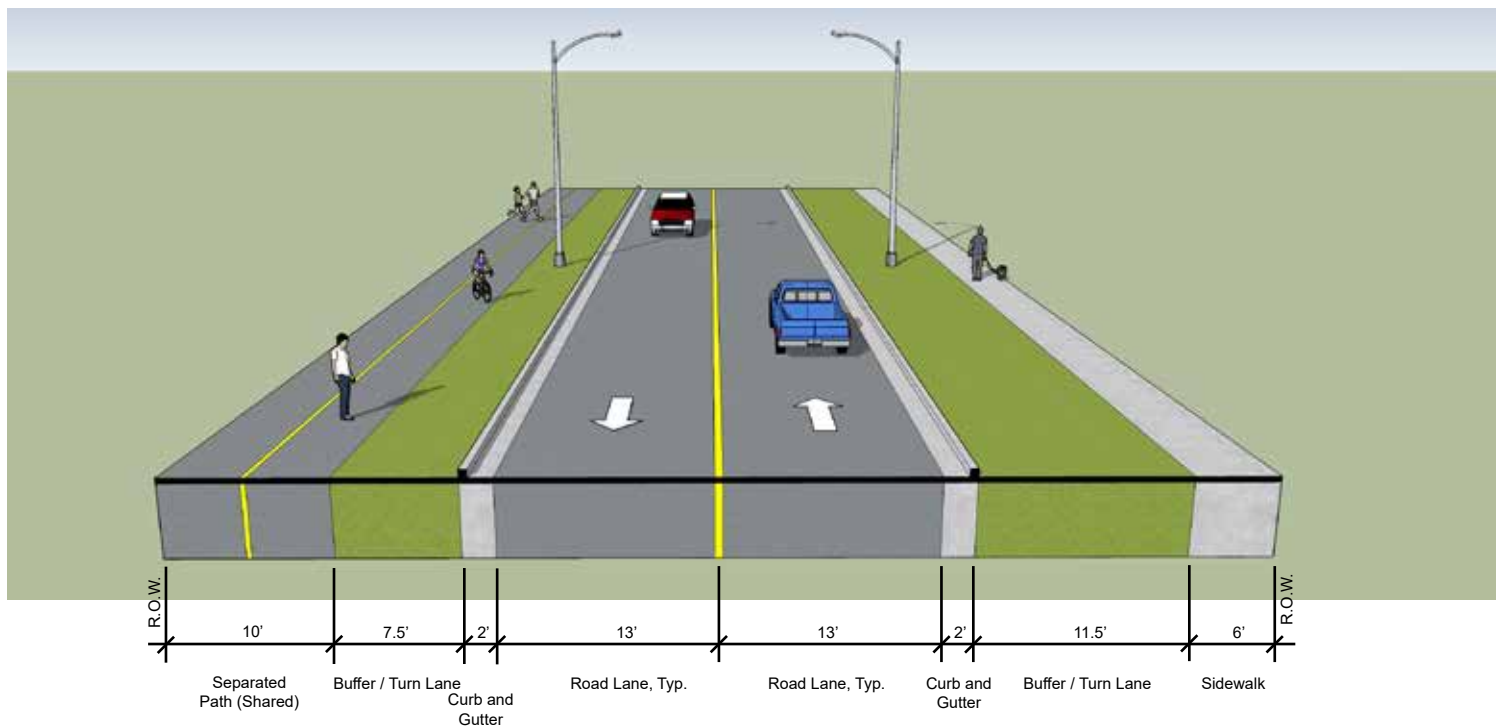
Vicinity Map



Phase 01 - Interim Phase



Phase 02



Proposed Street Standard

Classification: Minor Collector

Minimum R.O.W. Dimension: 65' Total

Minimum Road Width: 2 Lanes - 30' Total

Proposed Street Condition

Description:

The conditions along W 500 N can be a combination of a 10' separated path on the north side of the road and a 6' sidewalk on the south side of the road.

The 10' shared path on the east side of the road can be asphalt pavement include: center line markings and basic signage and wayfinding package and cross walk treatments.

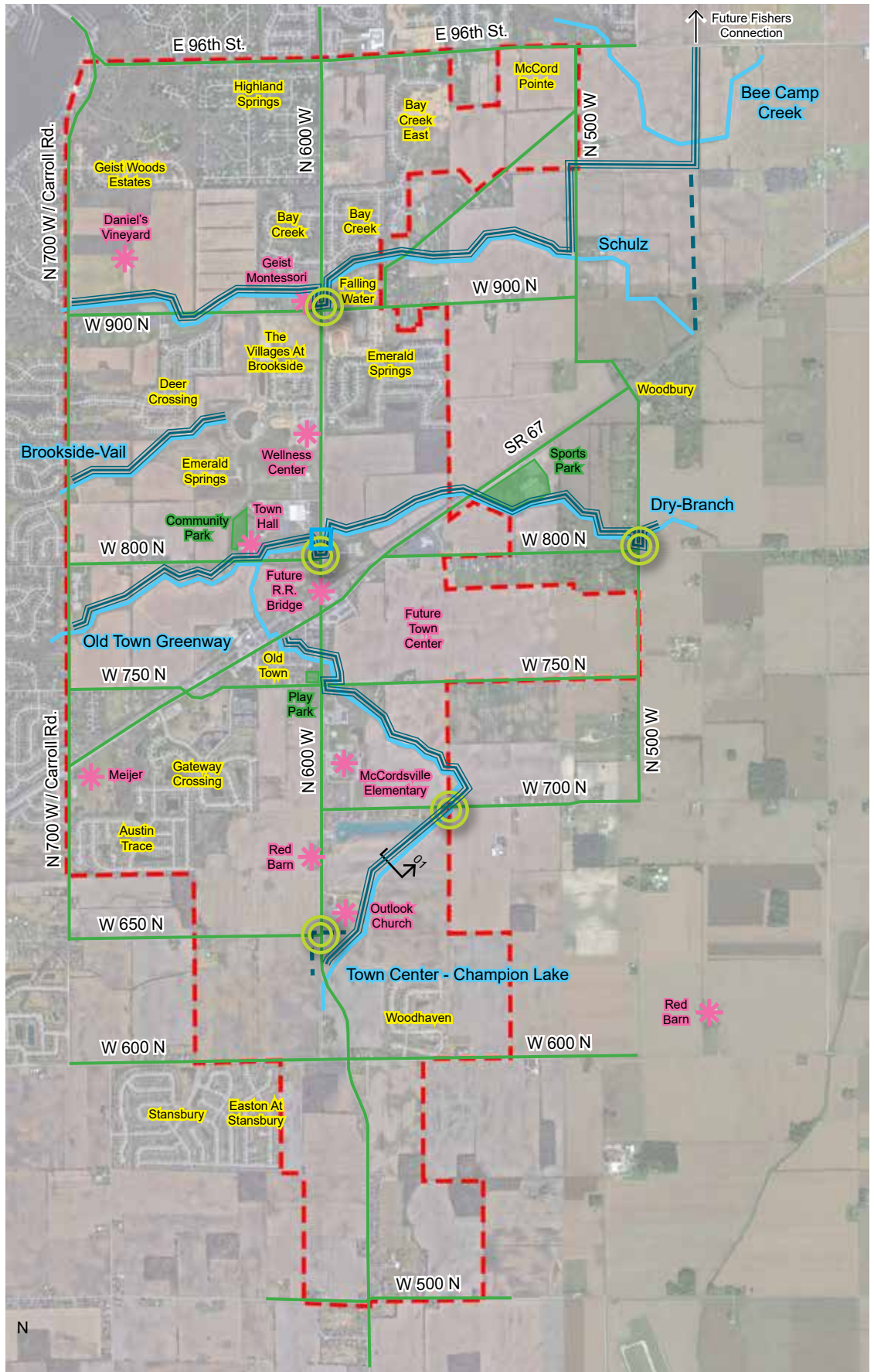
The current corridor is largely within agricultural areas but still well traveled with bicycles. An interim phase would be to include sharrows and bike route signage until the corridor is developed.

PROPOSED CONDITIONS

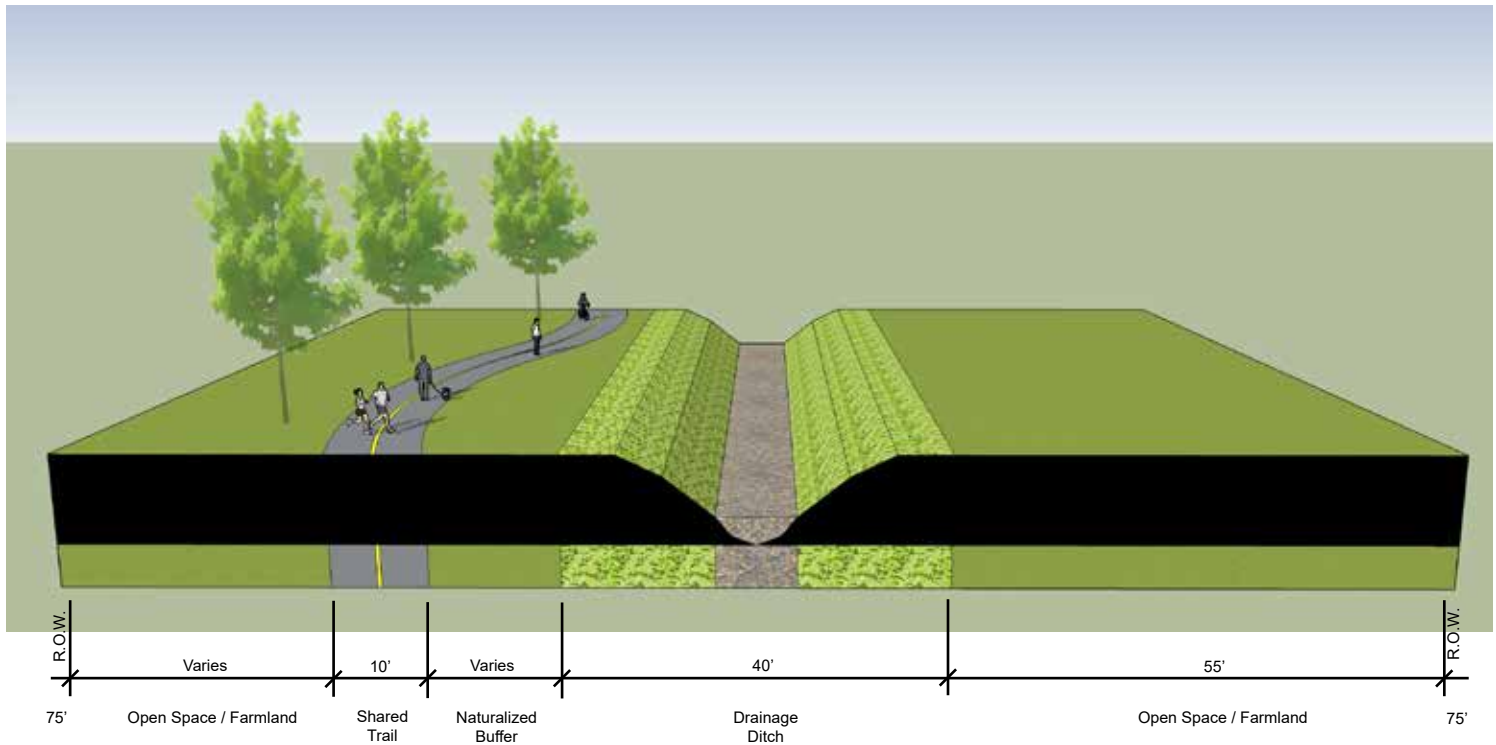
Legend

Corridor Roadway	
Waterway	
Public park	
Town Boundary	
Area of Interest	
Neighborhood	
Proposed Greenway	
Optional Greenway	
Bridges	
Crossing	

Greenways



Proposed Section 01



Proposed Street Condition

Description:

Greenways & rail trails can be a 10' shared path, made of asphalt pavement, that meanders along the drainage corridor and can include: trail head locations, interpretation nodes, signage, way finding, site furnishings and naturalized plantings.

PROPOSED CONDITIONS

Branded Trails Examples



Description:

Branded Trails are considered any trail or separated path that is accompanied by a family of branding and identity elements to create a unique experience that is celebrated within the community. These family of elements can include: gateway elements, unique signage, specialty pavements, enhanced pavement markings, cross walk markings enhanced plantings, trail head nodes, interpretive areas, site furnishings, decorative lighting, shade elements, bike repair stations, and public art. These elements could add an additional level of unique identity to the trail.

These elements should be developed per branded corridor during scoping and design development efforts of the corridor. The identity element while could be stand alone and unique, should be a compliment to the town's overall branding, identity, signage and system graphical standards.



Trail Signage Families Examples



Description:

A family of signage and way finding signage standards shall be developed to create a consistent identity and application within the system. The family of the signs can include kiosk, overall way finding maps, directional signs, landmark signs, areas of interest, interpretive signs, and distance markers. The entire family of signs should reflect and mimic the town's overall graphical and identity standards.

PROPOSED CONDITIONS

Crossing Signals - HAWK



Description:

HAWK Beacon Definition:

A HAWK beacon (**H**igh-Intensity **A**ctivated cross**W**alk beacon) is a traffic control device used to stop road traffic and allow pedestrians to cross safely. It is officially known as a Pedestrian Hybrid Beacon (PHB). The purpose of a HAWK beacon is to allow protected pedestrian crossings, stopping road traffic only as needed. They are a combination of signage, flashing lights, and cross-walk striping.



Rail Road Crossings



Description:

See images above and to the left for examples of good rail road crossings for bikers & pedestrians in Normal, IL. These images contain the following best practices:

1. A crossing arm designed specifically for pedestrians/bicyclists along the 8 foot wide sidewalk
2. Truncated domes prior to the pedestrian crossing arm
3. 36 inch fencing that prevents bikes/peds from the railroad tracks other than as designated along the 8-foot sidewalk
4. Approach signage warning bicyclist/peds about the rail crossing
5. Rail tracks that are flush to ground to ease crossing path for bikes, strollers, etc.



Trailheads



Description:

Trail heads are considered the point at which a trail begins / ends and prominent cross sections of corridors or areas of interest.

Trail heads can have a hierarchy of application from providing a visual marking of the start of the trail and arrival for the pedestrian and bike user to a larger facility that may include vehicular parking and restrooms.

To create a unique identity or punctuation, trail head elements can include: gateway elements, unique signage, specialty pavements, enhanced pavement markings, enhanced plantings, interpretive areas, site furnishings, decorative lighting, shade elements, bike repair stations, and public art.

5

IMPLEMENTATION



Overview

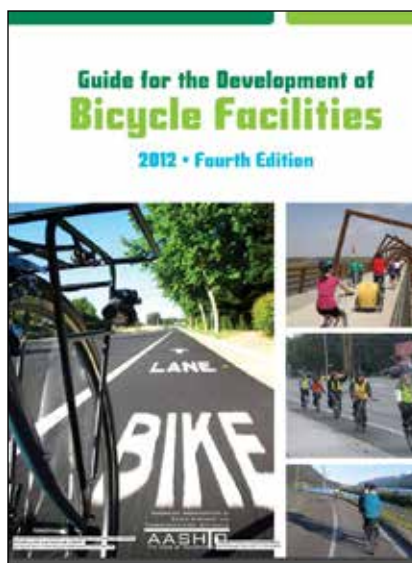
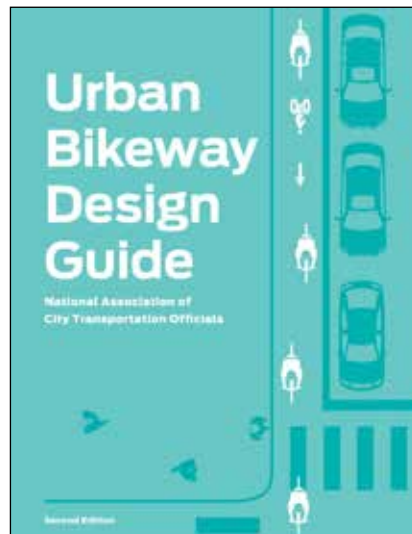
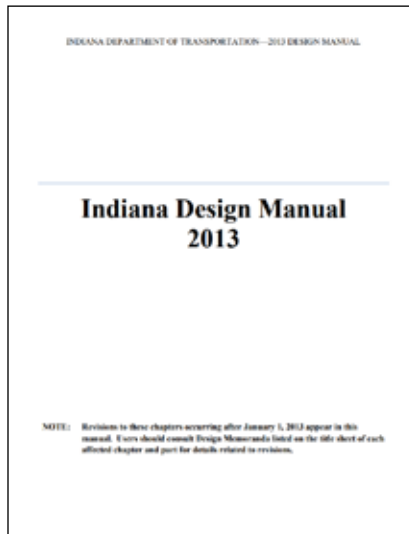
XXX

XXX

XXX

XXX

in progress



Design Guidelines - Reference

Above left: INDOT 2013 Design Manual

Above: Urban Bikeway Design Guide / NACTO

Left: Guide for Development of Bicycle Facilities / AASHTO

Design Guidelines - Shared Use Paths

Path Width and Profiles

Bike Path Width and Lateral Clearance

Guide for Development of Bicycle Facilities / AASHTO - 10 feet minimum; 8 feet in specified circumstances; 11 to 14 feet when high level of pedestrians served

INDOT 2013 Design Manual - 10 feet width recommended (Up to 14 feet if heavy pedestrian use expected); 8 feet minimum. 3 foot clear width from poles, trees, fences recommended

Minimum Clear Graded Shoulder

INDOT 2013 Design Manual - 2 feet on both sides with max 6:1 slope

Vertical Clearance

INDOT 2013 Design Manual - 8 feet min for cyclists; 10 feet if emergency vehicles will use the tunnel

Profile Grade

Guide for Development of Bicycle Facilities / AASHTO - 5% max but generally match roadway

INDOT 2013 Design Manual - As minimal as possible to a max of 5%

Stopping Sight Distances

INDOT 2013 Design Manual - Variable; See Figure 51-7L

Cross Slope

Guide for Development of Bicycle Facilities / AASHTO - 1% recommended

INDOT 2013 Design Manual - 2% for drainage and pedal clearance on curves

Separation from Roadway with No Curb

INDOT 2013 Design Manual - 10 feet for bike lane; between bike lane and road buffer based on roadway design speed (45 mph or under 10 ft min, 20 ft recommended from BOC; 50 mph and above, 24 to 35 feet from BOC); clearance to posts, curbs/gutters, or fences is 3 to 6 feet. (Figure 51-7C)

Separation from Roadway with Curb

INDOT 2013 Design Manual - 10 feet for bike lane; between bike lane and road buffer based on roadway design speed (under 30 mph, 5 feet min or 3 feet if parking permitted; 35-40 mph, 5 ft min; 45 mph and above, 10 ft min); clearance to posts, curbs/gutters, or fences is 2 feet min. (Figure 51-7D)

Physical Features

Roadway Intersection Treatments

INDOT 2013 Design Manual - See Figure 51-7-O; Standards based on Roadway type, # of Lanes, and ADT's. Treatments increase as lanes and ADT's increase.

Drainage Grates

INDOT 2013 Design Manual - Sufficiently narrow and short to prevent bicycle or wheelchair tires from dropping into it regardless of the direction of travel

Culverts

INDOT 2013 Design Manual - 15 inches min

Bike Path Surfaces

Guide for Development of Bicycle Facilities / AASHTO - Hard, all-weather pavement surfaces are preferred over crushed aggregate, sand, clay, or stabilized earth; Unpaved surfaces may be appropriate on rural paths.

Intersection Treatments

Guide for Development of Bicycle Facilities / AASHTO - The opening of a shared use path at the roadway should be at least the same width as the shared use path itself. Curb ramps, if provided, should be the full width of the path, not including any flared sides. Detectable warnings should be placed across the full width of the ramp.

Design Guidelines - Buffered Bike Lanes

Bike Lanes

Bike Lane Width (Travel Area)

Guide for Development of Bicycle Facilities / AASHTO - 5 feet minimum

Combined Width of Bike Lane and Buffers

Urban Bikeway Design Guide / NATCO - 5 to 7 feet

At Intersection Approaches With Right Turn Only Lanes

Urban Bikeway Design Guide / NATCO - Bike lane to transition to through bike lane to left of right turn only lane or a combined bike lane/turn lane

Guide for Development of Bicycle Facilities / AASHTO - Standard width of 5-6 feet (4 in constrained locations)

At Intersection Approaches With No Right Turn Lane

Urban Bikeway Design Guide / NATCO - Markings should transition to conventional dashed line

At Intersection Approaches Where Through Lane Becomes Right Turn Lane (drop lane)

Guide for Development of Bicycle Facilities / AASHTO - No dotted line; Bike Lane dropped before merging area. Shared lane markings may be used.

Markings and Physical Features

Buffer Area between Bike Travel Lane and Vehicle Lane

Urban Bikeway Design Guide / NATCO - Two solid white lines; Minimum buffer width: 18 inches; Cross hatching of buffer area if 3 feet wide or greater

Guide for Development of Bicycle Facilities / AASHTO - Two feet wide minimum; Cross hatching if buffer is 3 feet in wide or greater

“Bicycle lane” Word or Symbol With Arrow To Designate Bike Lane

Urban Bikeway Design Guide / NATCO - MUTCD standard (Figure 9C-3)

Traffic Merging Areas

Urban Bikeway Design Guide / NATCO - Dotted Line at signalized intersection

Solid White Line Separating Bike Lane From Vehicle Lane

Urban Bikeway Design Guide / NATCO - 6 to 8 inches

Reduce Vehicle Door Zone Conflicts

Urban Bikeway Design Guide / NATCO - Separation between bike lane striping and parking boundary marking

Minimize Parked Cars Encroaching Into Bike Lane

Urban Bikeway Design Guide / NATCO - Mark boundary between parking lane and bike lane with 4 inch solid white line

Guide for Development of Bicycle Facilities / AASHTO - 4-6 inch white line

Drain Grates

Guide for Development of Bicycle Facilities / AASHTO - Should be Bike-Compatible

Gutter Seams, Drain Inlets, and Utility Covers

Urban Bikeway Design Guide / NATCO - Flush with ground to prevent conflicts with bike tires

Guide for Development of Bicycle Facilities / AASHTO - Flush with ground to prevent conflicts with bike tires; bike compatible grate (Section 4.12.8); adjust width if bike travel lane falls below 4 feet

Additional Recommendations

Use of Color for Bike Lane

Urban Bikeway Design Guide / NATCO - To discourage motorists from entering Bike Lane

Guide for Development of Bicycle Facilities / AASHTO - In conflict areas to promote visibility of cyclists

Alternate Paving Materials for the Bike Lane

Urban Bikeway Design Guide / NATCO - Avoid textured materials

Design Guidelines - Conventional Bike Lanes

Bike Lanes

Bike Lane Width (Curbed Street)

Urban Bikeway Design Guide / NATCO - 6 feet

Guide for Development of Bicycle Facilities / AASHTO - 5 feet; 6 feet if gutter is +2 feet wide

Bike Lane Width (Non-Curbed Street)

Urban Bikeway Design Guide / NATCO - 4 feet desirable; 3 feet minimum

Guide for Development of Bicycle Facilities / AASHTO - 4 feet min

Bike Lane Width (When Bike Lane Adj to Parking Lane)

Urban Bikeway Design Guide / NATCO - 5 feet minimum

Guide for Development of Bicycle Facilities / AASHTO - 5-7 feet; Maximum of 7 feet to discourage vehicles from using bike lane

Total Lane Width (When Bike Lane Adj to Parking Lane)

Urban Bikeway Design Guide / NATCO - 14.5 feet preferred, 12 feet minimum as measured from BOC to Bike Lane Edge Adj to Road

Guide for Development of Bicycle Facilities / AASHTO - 14.5 feet preferred, 12 feet minimum as measured from BOC to Bike Lane Edge Adj to Road

Bike Lane Width (When Adj to Guardrail / Physical Barrier)

Urban Bikeway Design Guide / NATCO - Bike Lane Width Plus 2 Feet

Guide for Development of Bicycle Facilities / AASHTO - 42 inch high min railing or barrier; 48 inches high at curves; 5 ft Bike Lane min

Through Bike Lane at Right Turn Only Vehicle Lane

Urban Bikeway Design Guide / NATCO - Not allowed unless a split-phase signal timing is used; See "bike turn lanes" in UBDG

Guide for Development of Bicycle Facilities / AASHTO - Shift to dashed line through right turn lane merge area (Page 4-24)

Through Bike Lane at Left Turn Only Vehicle Lane

Urban Bikeway Design Guide / NATCO - Not allowed unless a split-phase signal timing is used; See "bike turn lanes" in UBDG

Guide for Development of Bicycle Facilities / AASHTO - Shift to dashed line through right turn lane merge area (Page 4-27)

Vehicle Lanes

Vehicle Travel Lane Width Less Than 13 Feet Wide

Guide for Development of Bicycle Facilities / AASHTO - Vehicles will encroach into adj lane to pass cyclist

Vehicle Travel Lane Width Greater Than 14 Feet Wide

Guide for Development of Bicycle Facilities / AASHTO - Vehicles will NOT encroach into adj vehicle lane to pass cyclist

Markings and Physical Features

"Bicycle Lane" Word or Symbol With Arrow To Designate Bike Lane

Urban Bikeway Design Guide / NATCO - MUTCD standard (Figure 9C-3)

"Bicycle Lane" Word or Symbol With Arrow Outside Vehicle Tread Path

Urban Bikeway Design Guide / NATCO - At intersections, driveways, merging areas to minimize wear on markings

Solid White Line Separating Bike Lane From Vehicle Lane

Urban Bikeway Design Guide / NATCO - 6 to 8 inches

Guide for Development of Bicycle Facilities / AASHTO - Required

Dotted Line At Signalized Intersection

Guide for Development of Bicycle Facilities / AASHTO - 50-200 feet prior to intersection

Minimize Parked Cars Encroaching Into Bike Lane

Urban Bikeway Design Guide / NATCO - Mark boundary between parking lane and bike lane with 4 inch solid white line

Guide for Development of Bicycle Facilities / AASHTO - 4-6 inch white line

High Traffic Merging Areas

Urban Bikeway Design Guide / NATCO - Dashed lane striping

Drain Grates

Guide for Development of Bicycle Facilities / AASHTO - Should be Bike-Compatible

Gutter Seams, Drain Inlets, and Utility Covers

Urban Bikeway Design Guide / NATCO - Flush with ground to prevent conflicts with bike tires

Guide for Development of Bicycle Facilities / AASHTO - Flush with ground to prevent conflicts with bike tires; bike compatible grate (Section 4.12.8); adjust width if bike travel lane falls below 4 feet

IMPLEMENTATION

Design Guidelines - Conventional Bike Lanes.

Additional Recommendations

Bike Lanes Allowing For Side-by-side Biking

Urban Bikeway Design Guide / NATCO - Exceed minimum bike lane widths of 5 feet as much as possible

Guide for Development of Bicycle Facilities / AASHTO - 6-8 feet if no on street parking

Reduce Vehicle Door Zone Conflicts

Urban Bikeway Design Guide / NATCO - Make separation between bike lane striping and parking boundary marking as wide as feasible

Guide for Development of Bicycle Facilities / AASHTO - Optional; Also, 45 degree diagonal markings for no parking areas can be used

Increase Separation Between Vehicle Travel Lane

Urban Bikeway Design Guide / NATCO - Increase travel side buffer/space between bike lane and travel lane

Unpaved Drives Meeting Roadway or Pathway

Guide for Development of Bicycle Facilities / AASHTO - Pave driveway 10 feet from drive connection to road

Rumble Strips

Guide for Development of Bicycle Facilities / AASHTO - 4 foot clear path from rumble strip

Bike Lane Signs (MUTCD R3-17)

Urban Bikeway Design Guide / NATCO - Follow Indiana State Law

Guide for Development of Bicycle Facilities / AASHTO - "Share the Road" (W16-1P)

Reference Resources

Design Guidelines

The design team utilized several sources for best practices and design standards to put together the charts located in this section. These charts provide best practices and guidelines for conventional bike lanes, buffered bike lanes and shared use paths (SUP). Sources of this information include the NACTO (National Association of City Transportation Officials) Urban Bikeway Design Guide, the AASHTO (American Association of State Highway and Transportation Officials) Guide for the Development of Bicycle Facilities and the INDOT (Indiana Department of Transportation) 2013 Design Manual, Chapter 51.

Urban Bikeway Design Guide

<https://nacto.org/publication/urban-bikeway-design-guide/>

Guide for the Development of Bicycle Facilities

https://safety.fhwa.dot.gov/ped_bike/docs/b_aashtobik.pdf

Indiana Department of Transportation Design Manual

https://www.in.gov/indot/design_manual/

These best practices and design guidelines latest editions could be utilized as the Town of McCordsville prepares to add facilities to the streets or corridors within the community. Additionally, engineering judgment should be utilized regarding specific situations in the Town of McCordsville. It should be noted that NACTO guidelines do change based on best practices throughout the country. The INDOT design manual receives updates as well.

Intersection Crossing Treatments

The NACTO best practices for bicycle crossings at intersections are included in their guide "Don't Give Up at the Intersection: Designing all ages and abilities bicycle crossings." The USDOT publishes the "Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations" that can be utilized to determine which crossing types are best used in specific situations. In addition, FHWA's Safety Program includes recommendations for Pedestrian Hybrid Beacons in their Guidance Manual. Note that this guidance refers to the MUTCD (Manual on Uniform Traffic Control Devices), but Indiana has their own version called the IN-MUTCD. FHWA also provides guidance on the usage of Rectangular Rapid Flashing Beacons (RRFB).

Don't Give Up at the Intersection

<https://nacto.org/publication/urban-bikeway-design-guide/dont-give-up-at-the-intersection/>

Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations

https://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/STEP-field-guide.pdf

Pedestrian Hybrid Beacon Guide – Recommendations and Case Study

https://safety.fhwa.dot.gov/ped_bike/tools_solve/fhwasa14014/

Indiana Manual On Uniform Traffic Control Devices

<https://www.in.gov/dot/div/contracts/design/mutcd/mutcd.html>

Rectangular Rapid Flash Beacon (RRFB)

https://safety.fhwa.dot.gov/intersection/conventional/unsignalized/tech_sum/fhwasa09009/

These best practices and guidance can be utilized as the Town of McCordsville prepares to add crossing facilities to the streets within the community. Additionally, other guidance or engineering judgment should be utilized regarding specific situations in the Town of McCordsville.

ADA & PROWAG

The Americans with Disabilities Act, Title II applies to State and local government entities and protects individuals with disabilities from discrimination. As such, the United States Access Board has produced Public Rights-of-Way Guidelines (PROWAG). In addition, INDOT has specific guidelines for the design of pedestrian facilities.

About the Rule-making on Public Rights-of-Way

<https://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way>

ADA requirements shall be met for all new facilities. ADA compliance for retro-fit areas shall be discussed with the Town of McCordsville or the funding agency prior to beginning design.

Cost Methodology

Below is a break down of costs for acreage, bike / pedestrian facilities, and maintenance for the master plan.

2019 COSTS

Property costs in McCordsville

acres		list price	location	type	\$/acre	\$/sft
15	\$	936,000	corner of 900N at 700W	wooded	\$ 62,400	\$ 1.43
95.73	\$	4,615,000	corner 600w at 750N	farmland	\$ 48,209	\$ 1.11
68.34	\$	2,992,000	650N east of 700W	farmland	\$ 43,781	\$ 1.01
142	\$	4,989,825	62nd St east of 800W	farmland	\$ 35,140	\$ 0.81
80	\$	3,040,000	700N between 600W & 500W	farm+house	\$ 38,000	\$ 0.87
80	\$	2,640,000	corner of 500W at 700N	farm	\$ 33,000	\$ 0.76
averages:						
					\$ 43,422	\$ 1.00

RRFB

Avg cost = \$ 22,500 in 2018 (depends on location)

HAWK

Avg cost = \$ 112,500 in 2013 (depends on location)

Piano Key Crosswalk

10' wide \$ 7 per lft of marking
markings spaced 3'
so 10' x \$7 = \$70/5ft
so \$14 per lft of crossing

Sharrows

Avg cost = \$ 420 per each

Bike lane striping

Avg cost = \$ 1 per lft

Trail
new, separate alignment SUP
includes signage

\$ 981,750 per mile

\$775,000 in 2011 \$

Bridge - trail type, steel

\$ 150 per sqft

\$50-\$150 - short is more \$ per sqft

Surveying & engineering

\$ 196,350 per mile

use 20% of construction cost if federally funded

\$ 117,810 per mile

use 12% of construction cost if locally funded

Maintenance

\$ 145,680 per mile

\$115,000 in 2011 \$

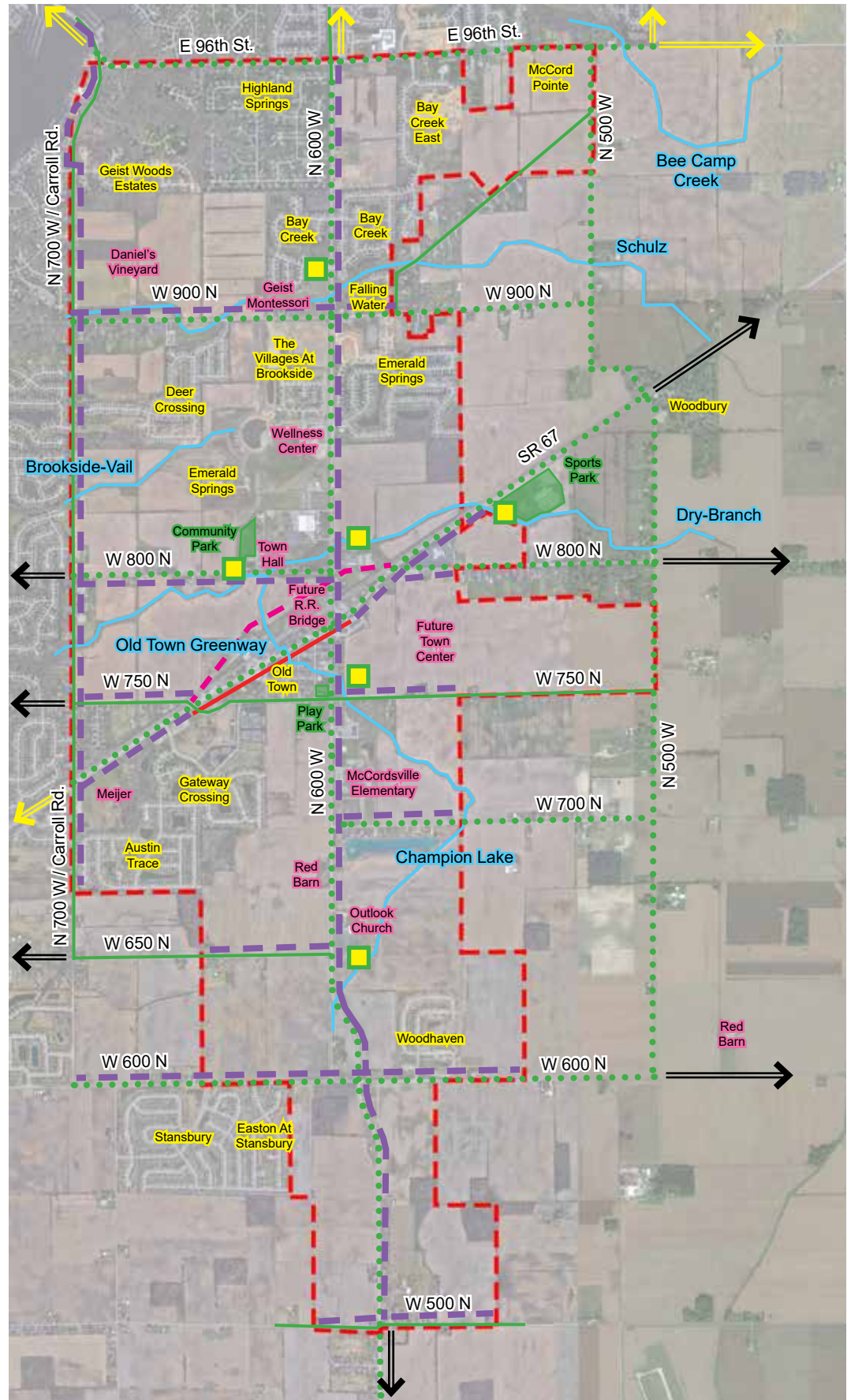
mowing, edging, landscaping
trash/debris & graffiti removal
signage, gate, fencing
lighting?
drainage areas
seasonal care - snow removal

IMPLEMENTATION

Legend

Town Boundary	---
Corridor Roadway	—
Roadway Bike Route	...
Neighborhood	XXX
Destination	XXX
Waterway / Greenway	—
Proposed Path / Trail	---
Proposed Sidewalk	---
Proposed Protected Path	...
Proposed Separated Path	---
Proposed Sharrow	>>>
Trail Head	■
Proposed Regional Connection	←
Existing Regional Connection	←

Overall Plan



Legend

High Priority	
Medium Priority	
Low Priority	

Description

High Priority

N 600 W (North) - Between 96th St./1000 N and W 750 N

N 600 W (South) - Between 750 N and W 500 N

N 700 W (North) - Between 96th St. and W 900 N

W Broadway - Between N 700 W and Dry Branch (East Crossing)

W 900 N - Between N 700 W and N 500 W

W 600 N (West) - Between N 700 W/Carroll Rd. and N 600 W

Medium Priority

N 700 W (South) - Between W 900 N and W 650 N

E 96th St. - Between N 600 W and Georgia Rd.

Low Priority

N 500 W (North) - Between 96th St. and South of Main St.

N 500 W (South) - Between South of Main St. and W 700 N

W 800 N - Between N 700 W and N 500 W

W 750 N - Between N 700 W and N 500 W

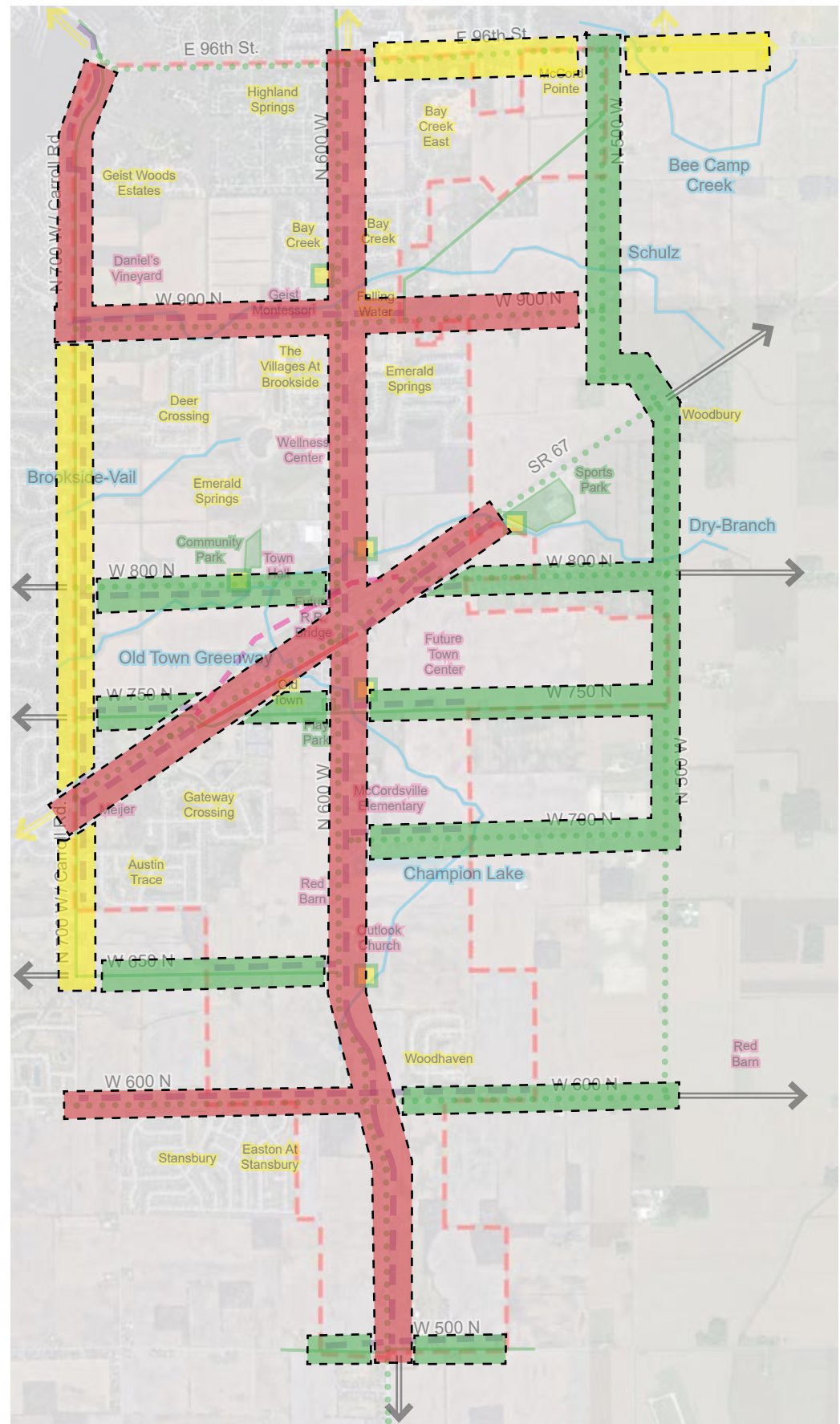
W 700 N - Between N 600 W and N 500 W

W 650 N - Between N 700 W and N 600 W

W 600 N (East) - Between N 600 W and N 500 W

W 500 N - From 2695 ft left of N 600 W to 3174 ft right of N 600 W

Hierarchy of Priorities



IMPLEMENTATION

Costs Per Corridor

The numbers below include approximate surveying & engineering fees.

Numbers in **red** include surveying & engineering being 20% of construction costs if federally funded.

Numbers in **blue** include surveying & engineering being 12% of construction costs if locally funded.

Detailed breakdowns are within the appendix.

N 600 W

(North) - \$4,605,400 / \$4,298,400
(South) - \$5,985,600 / \$5,586,600

N 700 W

(North) - \$884,800 / \$825,800
(South) - \$3,536,400 / \$3,300,700

W Broadway

\$3,273,500 / \$3,055,300

N 500 W

(North) - \$2,600,100 / \$2,426,800
(South) - \$2,227,100 / \$2,078,700

E 96th St.

\$997,400 / \$930,900

W 900 N

\$3,666,600 / \$3,422,200

W 800 N

\$3,151,400 / \$2,941,300

W 750 N

\$4,277,300 / \$3,992,200

W 700 N

\$1,253,000 / \$1,169,400

W 650 N

\$1,157,100 / \$1,080,000

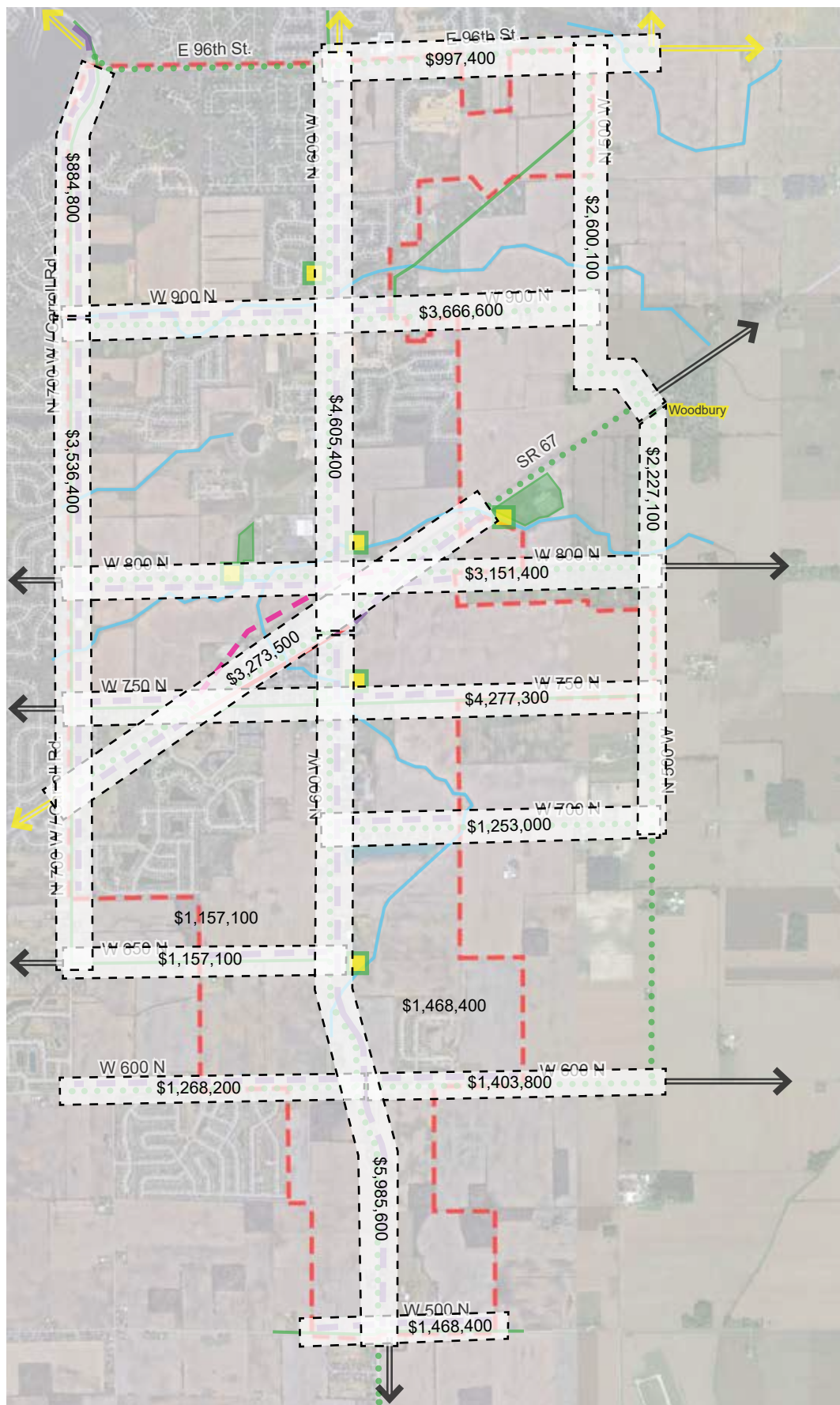
W 600 N

(West) - \$1,268,200 / \$1,183,700
(East) - \$1,403,800 / \$1,310,200

W 500 N

\$1,468,400 / \$1,370,500

Overall Map



Map above shows 20% costs

Costs Per Greenway

The numbers below include approximate surveying & engineering fees.

Numbers in **red** include surveying & engineering being 20% of construction costs if federally funded.

Numbers in **blue** include surveying & engineering being 12% of construction costs if locally funded.

Detailed breakdowns are within the appendix.

North Folk Dry Branch / Schulz

\$5,498,800 / \$5,132,200

Dry Branch

\$4,246,500 / \$3,963,400

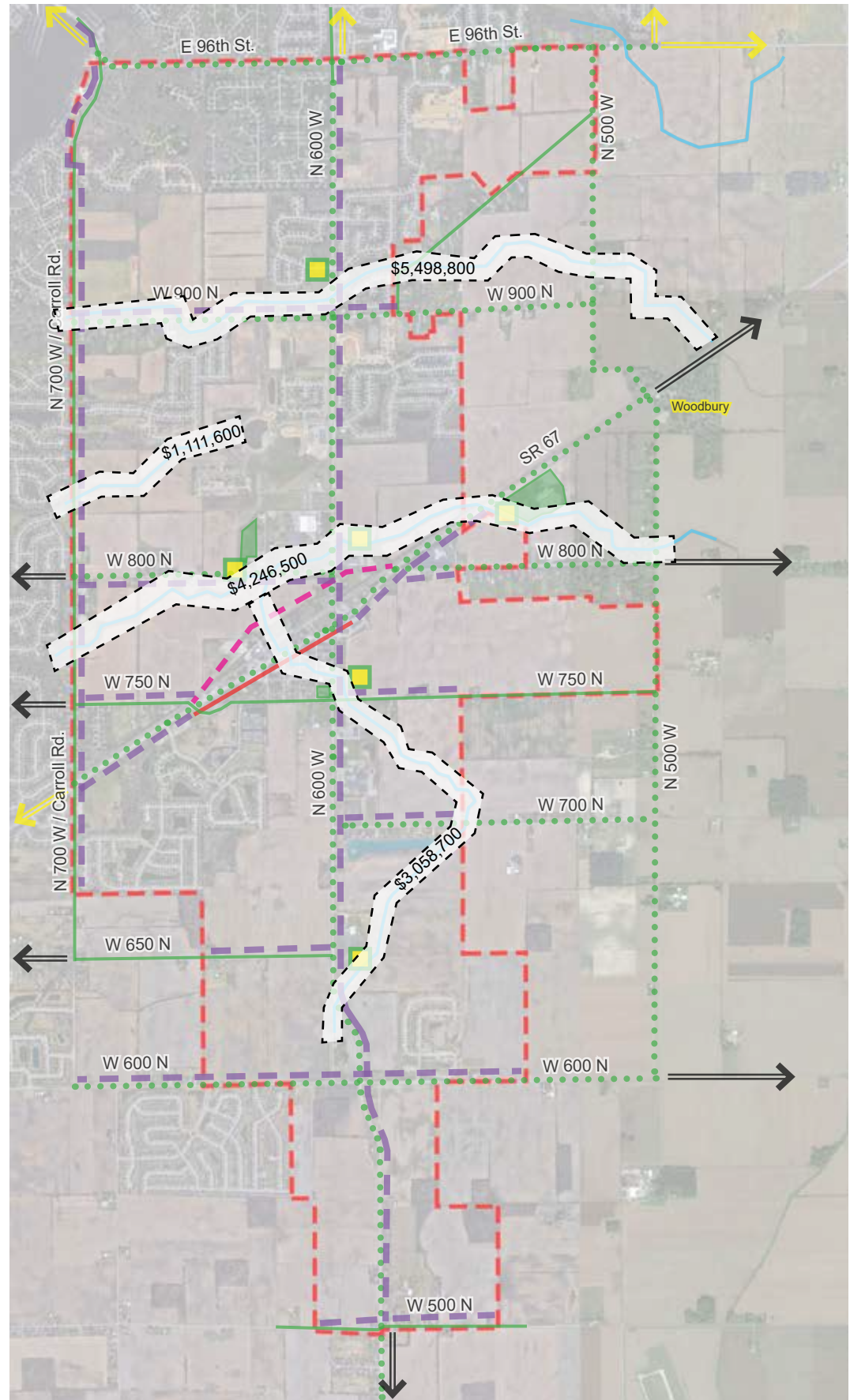
Town Center - Champion Lake

\$3,058,700 / \$2,854,800

Brookside Vail

\$1,111,600 / \$1,037,500

Overall Map



Map above shows 20% costs

IMPLEMENTATION

Funding Opportunities

Pedestrian and bicycle Funding Opportunities

U.S. Department of Transportation Transit, Highway, and Safety Funds

This table indicates potential eligibility for pedestrian and bicycle projects under U.S. Department of Transportation surface transportation funding programs. Additional restrictions may apply. See notes and basic program requirements below, and see program guidance for detailed requirements. Project sponsors should fully integrate nonmotorized accommodation into surface transportation projects. Section 1404 of the Fixing America's Surface Transportation (FAST) Act modified 23 U.S.C. 109 to require federally-funded projects on the National Highway System to consider access for other modes of transportation, and provides greater design flexibility to do so.

Key: \$ = Funds may be used for this activity (restrictions may apply). ~\$ = Eligible, but not competitive unless part of a larger project. \$* = See program-specific notes for restrictions.																
Activity or Project Type	Pedestrian and Bicycle Funding Opportunities U.S. Department of Transportation Transit, Highway, and Safety Funds															
	BUILD	INFRA	TIFIA	FTA	ATI	CMAQ	HSIP	NHPP	STBG	TA	RTP	SRTS	PLAN	NHTSA 402	NHTSA 405	FLTP
Access enhancements to public transportation (includes benches, bus pads)	\$	~\$	\$	\$	\$	\$		\$	\$	\$						\$
ADA/504 Self Evaluation / Transition Plan									\$	\$	\$		\$			\$
Bicycle plans				\$					\$	\$		\$	\$			\$
Bicycle helmets (project or training related)									\$	\$SRTS		\$		\$*		
Bicycle helmets (safety promotion)									\$	\$SRTS		\$				
Bicycle lanes on road	\$	~\$	\$	\$	\$	\$	\$	\$	\$	\$		\$				\$
Bicycle parking	~\$	~\$	~\$	\$	\$	\$		\$	\$	\$	\$	\$				\$
Bike racks on transit	\$	~\$	\$	\$	\$	\$			\$	\$						\$
Bicycle repair station (air pump, simple tools)	~\$	~\$	~\$	\$	\$	\$			\$	\$						\$
Bicycle share (capital and equipment; not operations)	\$	~\$	\$	\$	\$	\$		\$	\$	\$						\$
Bicycle storage or service centers (example: at transit hubs)	~\$	~\$	~\$	\$	\$	\$			\$	\$						\$
Bridges / overcrossings for pedestrians and/or bicyclists	\$	~\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$	\$				\$
Bus shelters and benches	\$	~\$	\$	\$	\$	\$		\$	\$	\$						\$
Coordinator positions (State or local)						\$ 1 per State			\$	\$SRTS		\$				
Crosswalks (new or retrofit)	\$	~\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$	\$				\$
Curb cuts and ramps	\$	~\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$	\$				\$
Counting equipment				\$	\$		\$	\$	\$	\$	\$	\$	\$*			\$
Data collection and monitoring for pedestrians and/or bicyclists				\$	\$		\$	\$	\$	\$	\$	\$	\$*			\$
Historic preservation (pedestrian and bicycle and transit facilities)	\$	~\$	\$	\$	\$				\$	\$						\$
Landscaping, streetscaping (pedestrian and/or bicycle route; transit access); related amenities (benches, water fountains); generally as part of a larger project	~\$	~\$	~\$	\$	\$			\$	\$	\$						\$
Lighting (pedestrian and bicyclist scale associated with pedestrian/bicyclist project)	\$	~\$	\$	\$	\$		\$	\$	\$	\$	\$	\$				\$
Maps (for pedestrians and/or bicyclists)				\$	\$	\$			\$	\$		\$	\$*			
Paved shoulders for pedestrian and/or bicyclist use	\$	~\$	\$			\$*	\$	\$	\$	\$		\$				\$
Pedestrian plans				\$					\$	\$		\$	\$			\$
Recreational trails	~\$	~\$	~\$						\$	\$	\$					\$
Road Diets (pedestrian and bicycle portions)	\$	~\$	\$				\$	\$	\$	\$						\$
Road Safety Assessment for pedestrians and bicyclists							\$		\$	\$			\$			\$
Safety education and awareness activities and programs to inform pedestrians, bicyclists, and motorists on ped/bike safety									\$SRTS	\$SRTS		\$	\$*	\$*	\$*	
Safety education positions									\$SRTS	\$SRTS		\$		\$*		
Safety enforcement (including police patrols)									\$SRTS	\$SRTS		\$		\$*	\$*	
Safety program technical assessment (for peds/bicyclists)									\$SRTS	\$SRTS		\$	\$*	\$		
Separated bicycle lanes	\$	~\$	\$	\$	\$	\$	\$	\$	\$	\$		\$				\$
Shared use paths / transportation trails	\$	~\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$	\$				\$
Sidewalks (new or retrofit)	\$	~\$	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$				\$
Signs / signals / signal improvements	\$	~\$	\$	\$	\$	\$		\$	\$	\$		\$				\$
Signed pedestrian or bicycle routes	\$	~\$	\$	\$	\$	\$		\$	\$	\$		\$				\$
Spot improvement programs	\$	~\$	\$	\$			\$	\$	\$	\$	\$	\$				\$
Stormwater impacts related to pedestrian and bicycle projects	\$	~\$	\$	\$	\$		\$	\$	\$	\$	\$	\$				\$
Traffic calming	\$	~\$	\$	\$			\$	\$	\$	\$		\$				\$
Trail bridges	\$	~\$	\$			\$*	\$	\$	\$	\$	\$	\$				\$
Trail construction and maintenance equipment									\$RTP	\$RTP	\$					
Trail/highway intersections	\$	~\$	\$			\$*	\$	\$	\$	\$	\$	\$				\$
Trailside and trailhead facilities (includes restrooms and water, but not general park amenities; see program guidance)	~\$*	~\$*	~\$*						\$*	\$*	\$*					\$
Training						\$	\$		\$	\$	\$	\$	\$*	\$*		
Training for law enforcement on ped/bicyclist safety laws									\$SRTS	\$SRTS		\$			\$*	
Tunnels / undercrossings for pedestrians and/or bicyclists	\$	~\$	\$	\$	\$	\$*	\$	\$	\$	\$	\$	\$				\$

Funding Opportunities

Abbreviations

ADA/504: Americans with Disabilities Act of 1990 / Section 504 of the Rehabilitation Act of 1973

BUILD: Better Utilizing Investments to Leverage Development Transportation Discretionary Grants

INFRA: Infrastructure for Rebuilding America Discretionary Grant Program

TIFIA: Transportation Infrastructure Finance and Innovation Act (loans)

FTA: Federal Transit Administration Capital Funds

ATI: Associated Transit Improvement (1% set-aside of FTA)

CMAQ: Congestion Mitigation and Air Quality Improvement Program

HSIP: Highway Safety Improvement Program

NHPP: National Highway Performance Program

STBG: Surface Transportation Block Grant Program

TA: Transportation Alternatives Set-Aside (formerly Transportation Alternatives Program)

RTP: Recreational Trails Program

SRTS: Safe Routes to School Program / Activities

PLAN: Statewide Planning and Research (SPR) or Metropolitan Planning funds

NHTSA 402: State and Community Highway Safety Grant Program

NHTSA 405: National Priority Safety Programs (Nonmotorized safety)

FLTTP: Federal Lands and Tribal Transportation Programs (Federal Lands Access Program, Federal Lands Transportation Program, Tribal Transportation Program, Nationally Significant Federal Lands and Tribal Projects)

IMPLEMENTATION

Trail Maintenance and Operation Costs

During the construction and design phase for trails, multi-use paths, and sidewalks, it is recommended that planning for annual and long-term operations and maintenance (O&M) costs occurs to enable elected and appointed officials to budget for these costs once the facility is open to the public.

While O&M costs for bike and ped facilities will represent a new expenditure in the McCordsville annual budget, a well-maintained system will significantly extend the life of these facilities at a fraction of their original cost.

O&M costs can be variable due to factors such as geography, weather, regional economy, and labor costs. However, studies documenting typical expenditures in other Midwestern states are useful in anticipating what is most likely to occur in McCordsville. This report utilizes a 2014 study conducted by Purdue University/Indiana LTAP in conjunction with the Ohio River Greenway Development Commission titled Best Practices in Trail Maintenance.*1* Costs cited in this study have been adjusted to 2019 dollars using a 3% annual inflation rate.

Table 1 - Trail Maintenance

Task	Task Type	Recommended Frequency	Cost
Mowing	Routine	On-Going	\$2,400 per mile (amount covers all items listed to left)
Edging	Routine	On-Going	
Landscaping and Tree/Brush Clearing	Routine	On-Going	
Trash/Debris Removal	Routine	On-Going	
Graffiti Removal	Minor Repairs	As needed	

Table 2 – Trail Amenity Maintenance/Repair

Task	Task Type	Recommended Frequency	Cost
Wayfinding Signage	Minor Repairs	Ongoing As Needed	\$480 per mile (amount covers all items listed to left)
Gates and Fencing	Minor Repairs	Ongoing As Needed	
Lighting	Minor Repairs	Ongoing As Needed	
Drainage and Rip-Rap	Minor Repairs	Ongoing As Needed	
Benches	Minor Repairs	Ongoing As Needed	
Picnic Areas	Minor Repairs	Ongoing As Needed	
Garbage Cans	Minor Repairs	Ongoing As Needed	
Seasonal Care (Snow Removal, Flooding, etc)	Minor Repairs	Ongoing As Needed	
Amenity Replacement	Minor Repairs	As needed	On par with original costs

The \$480 per mile amount assumes that trail maintenance personnel will allocate 80% of their time on tasks listed in Table 1, and 20% of their time on tasks listed in Table 2.

1 - LTAP, Indiana and Development Commission, Ohio River Greenway, "Best Practices in Trail Maintenance" (2014). Indiana Local Technical Assistance Program (LTAP) Publications. Paper 8.
<http://docs.lib.purdue.edu/intlappubs/8>

Table 3 – Trails (Asphalt)

Task	Task Type	Recommended Frequency	Cost
Wayfinding Signage	Minor Repairs	Ongoing As Needed	\$480 per mile (amount covers all items listed to left)
Gates and Fencing	Minor Repairs	Ongoing As Needed	
Lighting	Minor Repairs	Ongoing As Needed	
Drainage and Rip-Rap	Minor Repairs	Ongoing As Needed	
Benches	Minor Repairs	Ongoing As Needed	
Picnic Areas	Minor Repairs	Ongoing As Needed	
Garbage Cans	Minor Repairs	Ongoing As Needed	
Seasonal Care (Snow Removal, Flooding, etc)	Minor Repairs	Ongoing As Needed	
Amenity Replacement	Minor Repairs	As needed	On par with original costs

Table 4 - Bridges

Task	Task Type	Recommended Frequency	Cost
Bridge Deck Sealing	Minor Repairs	6 years	\$1 per square foot of bridge surface
Joint Repair to Integral			
Abutments	Minor Repair	6 years	\$1 linear foot
Bridge Painting (incl. cleaning)	Minor Repairs	12 years	\$19 per square foot
Deck Overlay	Minor Reconstruction	12 years	\$234 per square yard
Substructure repair	Major Reconstruction	20 years	On par with original costs

Table 4 addresses bridges that may be along greenbelt trails or multi-use paths separated from a bridge which serves automobile traffic.

The Best Practices in Trail Maintenance study (See Page 10 in Appendix) also provides a cost per mile amount for a variety of trail types. While the study does not clarify how bridge costs in Table 4 are addressed, it does state that an annual average cost between \$1,200 ("absolute minimum") and \$2,525 per mile (2007 dollars) is typical. Adjusted for inflation in 2019 dollars at a 3% annual increase, this range would be between \$1,700 and \$3,600 dollars per mile.

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Action Item Matrix

ACTION ITEMS

2020

- ☐ Approve and adopt the McCordsville Bike and Pedestrian Plan.
- ☐ Work with Town Council to communicate the plan and priorities.
- ☐ Explore creation of a trails advisory board by identifying and engaging with local foundations, interest groups, officials, community groups and citizens.
- ☐ Work with currently proposed community developments to include facilities that align with the plan.
- ☐ Identify funding strategies for plan development. Work with town council to develop future budget allocations.
- ☐ Issue RFQ/RFP to begin Project Scoping and Conceptual Design of high priority corridors to identify refined costs and phasing plans.
- ☐ Issue RFQ/RFP to create signage standards that would closely relate to design development of high priority corridors.

1-3 YEARS

- ☐ Continue to mentor and develop the trails advisory group to become the dominant lead and point of contact for private fundraising initiatives and design guidance.
- ☐ Pursue public and private grants for implementation
- ☐ Issue RFQ/RFP to begin construction drawings of a Phase One project identified within the Scoping Project
- ☐ Continue to work with private developers to implement new segments of facilities in proposed developments.
- ☐ Release Phase One for bidding and start construction, if funded.
- ☐ Issue RFQ/RFP to begin construction drawing of a Phase Two project identified within the Scoping Project.

3-8 YEARS

- ☐ Construction completed and grand opening of Phase One.
- ☐ Evaluate previous implementation progress, identify needs, and adjust priority of action items accordingly.
- ☐ Continue to mentor and develop the trails advisory group to become the dominant lead and point of contact for private fundraising initiatives and design guidance.
- ☐ Continue to pursue public and private grants for implementation.
- ☐ Continue to work with private developers to implement new segments of facilities in proposed developments.
- ☐ Release phase two for bidding and start construction.
- ☐ Issue RFQ/RFP to begin construction drawing of a Phase 3 project identified within the Scoping Report.

8+ YEARS

- ☐ Construction completed and grand opening of Phase Two.
- ☐ Release Phase Three for bidding and start construction.
- ☐ Construction completed and grand opening of Phase Three.
- ☐ Reevaluate the Bike and Pedestrian's Plan's priorities and the Scoping Report to remain current with market changes and community's needs.
- ☐ Continue to mentor and develop the trails advisory group to become the dominant lead and point of contact for private fundraising initiatives and design guidance.
- ☐ Continue to work with private developers to implement new segments of facilities in proposed developments.

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APPENDIX



Table of contents for appendix

Meeting Sign-In Sheets



SIGN-IN SHEET | STAKEHOLDER MEETING #1

DATE: July 23, 2019

PROJECT NAME: McCordsville Bike & Pedestrian Master Plan

Name: Phone: Email:

Anna Bergmann	317-250-2313	Indianna.writer@gmail.com
Jon Higginbotham	317-327-7587	jen.higginbotham@indympo.org
Christin Owens	317-894-6202	Cowens@town-cumberland.com
Maria Bond	317-485-3100	maria.bond@mvesc.k12.in.us
Adam Zaklikowski	317-485-4044 x105	azak@fortvilleindiana.org
Joe Mitchell	317 438-8429	j.mitchell@outlookchurch.org
Susan Bodkin	317-477-1150	sbodkin@hancockcoia.gov.org
Joseph Milbrath	317-335-3150	tgalarait@mcCORDSVILLE.ORG
ALETHA DUNSTON	317.377.3406	adunston@fhra.org
RANDY SORRELL	317-250-6673	RSORRELL@HANCOCKENC.COM



SIGN-IN SHEET | STEERING COMMITTEE MEETING #2

DATE: August 15th, 2019

PROJECT NAME: McCordsville Bike & Pedestrian Master Plan

Name:

Phone:

Email:

Ann KIOC	6704394	akIOC@bhhsin.com
Brianne Schnuckenberger	(812) 243-4048	bristeppe@gmail.com
AMANDA EVERIDGE	(317) 318-8867	aeveridge@hancockregional.org
MARK WITSMAN	(317) 491-2591	mwitsman@mccordsville.org
Ron Crider	(317) 538-4408	rcrider@mccordsville.org
Ryan Cunn	335-3604	rcunn@mccordsville.org
Jeff Gilbarr	317-335-3151	tgilbarr@mccordsville.org

PEOPLE+LAND

Context Design | 12 S Main St. Ste 200 | Fortville, IN 46040 | 317-485-6900 | www.context-design.com

Meeting Sign-In Sheets

Survey Write-Ins

APPENDIX

Detailed Cost Breakdown

N 600 W (North)

Between 96th St/1000 N and W 750 N

HIGH PRIORITY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Separated path	FT	2182	\$ 186	\$ 405,800	
Trail	FT	11113	\$ 186	\$ 2,067,100	
Bridge, trail type, steel	SQFT	1800	\$ 150	\$ 270,000	
ADA ramps:					
ramp	SYD	126	\$ 212	\$ 26,800	
detectable warning	SYD	28	\$ 145	\$ 4,100	
remove & replace curb	LFT	280	\$ 40	\$ 11,200	
piano key crosswalk	LFT	301	\$ 14	\$ 4,300	
ROW costs	SQFT	823440	\$ 1	\$ 823,500	
HAWK Beacon	EACH	2	\$ 112,500	\$ 225,000	
Construction Cost:				\$ 3,837,800	
Surveying & engineering (20%)				\$ 767,600	\$ 4,605,400
Surveying & engineering (12%)				\$ 460,600	\$ 4,298,400
Maintenance - Years 1-5	MILE	2.59	\$ 145,680	\$ 376,900	
Minor Repairs - Year 5	MILE	2.59	\$ 9,300	\$ 24,100	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Sidewalks are assumed concrete
5. Trails and separate paths pricing includes signage and assumes asphalt
6. Trails and separate paths assumed 10' wide
7. Piano key crosswalks are assumed 10' wide
8. Excludes roadway improvement costs
9. Excludes lighting
10. Sidewalk pricing excludes signage
11. Excludes trash cans/benches/street trees
12. Excludes easements and drive aprons for trail/sidewalk crossings
13. All new trail, sidewalk, and separate path
14. Surveying & engineering is 20% of construction cost if federally funded
15. Surveying & engineering is 12% of construction cost if locally funded
16. See "ROW widths" spreadsheet for ROW cost calculations
17. 4 trail stream crossing included in cost estimate
18. Excludes cost of trail crossing rail road tracks
19. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
20. Minor Repairs include sealcoating for 10' asphalt paths

N 600 W (South)

Between W 750 N and W 500 N

HIGH PRIORITY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Separated path	FT	10252.3	\$ 186	\$ 1,907,000	
Trail	FT	12619.2	\$ 186	\$ 2,347,200	
Bridge, trail type, steel	SQFT	690	\$ 150	\$ 103,500	
ADA ramps:					
ramp	SYD	81	\$ 212	\$ 17,200	
detectable warning	SYD	18	\$ 145	\$ 2,700	
remove & replace curb	LFT	180	\$ 40	\$ 7,200	
piano key crosswalk	LFT	242	\$ 14	\$ 3,400	
ROW costs	SQFT	599754	\$ 1	\$ 599,800	
Construction Cost:				\$ 4,988,000	
Surveying & engineering (20%)				\$ 997,600	\$ 5,985,600
Surveying & engineering (12%)				\$ 598,600	\$ 5,586,600
Maintenance - Years 1-5	MILE	2.39	\$ 145,680	\$ 348,200	
Minor Repairs - Year 5	MILE	2.39	\$ 9,300	\$ 22,300	

Assumptions:

1. 9 SYD ramp per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Sidewalks are assumed concrete
5. Trails and separate paths pricing includes signage and assumes asphalt
6. Trails and separate paths assumed 10' wide
7. Piano key crosswalks are assumed 10' wide
8. Excludes roadway improvement costs
9. Excludes lighting
10. Sidewalk pricing excludes signage
11. Excludes trash cans/benches/street trees
12. Excludes easements and drive aprons for trail/sidewalk crossings
13. All new trail, sidewalk, and separate path
14. Surveying & engineering is 20% of construction cost if federally funded
15. Surveying & engineering is 12% of construction cost if locally funded
16. See "ROW widths" spreadsheet for ROW cost calculations
17. 2 trail stream crossing included in cost estimate
18. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
19. Minor Repairs include sealcoating for 10' asphalt paths

Detailed Cost Breakdown

N 700 W (North)

Between 96th St and W 900 N

HIGH PRIORITY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Separated path	FT	2640	\$ 186	\$ 491,100	
Sidewalk (6' wide)	FT	1895	\$ 60.00	\$ 113,700	
Bridge, trail type, steel	SQFT	260	\$ 150.00	\$ 39,000	
ADA ramps:					
ramp	SYD	9	\$ 212	\$ 2,000	
detectable warning	SYD	6	\$ 145	\$ 900	
remove & replace curb	LFT	20	\$ 40	\$ 800	
piano key crosswalk	LFT	26	\$ 14	\$ 400	
ROW costs	SQFT	89311	\$ 1	\$ 89,400	
Construction Cost:				\$ 737,300	
Surveying & engineering (20%)				\$ 147,500	\$ 884,800
Surveying & engineering (12%)				\$ 88,500	\$ 825,800
Maintenance - Years 1-5	MILE	0.50	\$ 145,680	\$ 72,900	
Minor Repairs - Year 5	MILE	0.5	\$ 9,300	\$ 4,700	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Sidewalks are assumed concrete
5. Trails and separate paths pricing includes signage and assumes asphalt
6. Trails and separate paths assumed 10' wide
7. Piano key crosswalks are assumed 10' wide
8. **West side of roadway completed by others**
9. Excludes roadway improvement costs
10. Excludes lighting
11. Sidewalk pricing excludes signage
12. Excludes trash cans/benches/street trees
13. Excludes easements and drive aprons for trail/sidewalk crossings
14. All new trail, sidewalk, and separate path
15. Surveying & engineering is 20% of construction cost if federally funded
16. Surveying & engineering is 12% of construction cost if locally funded
17. See "ROW widths" spreadsheet for ROW cost calculations
18. 1 trail stream crossing included in cost estimate
19. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
20. Minor Repairs include sealcoating for 10' asphalt paths

N 700 W (South)

W 900 N and W 650 N

MEDIUM PRIORITY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Separated path	FT	12243.0	\$ 186	\$ 2,277,200	
Bridge, trail type, steel	SQFT	920	\$ 150	\$ 138,000	
ADA ramps:					
ramp	SYD	54	\$ 212	\$ 11,500	
detectable warning	SYD	12	\$ 145	\$ 1,800	
remove & replace curb	LFT	120	\$ 40	\$ 4,800	
piano key crosswalk	LFT	65	\$ 14	\$ 1,000	
ROW costs	SQFT	512625	\$ 1	\$ 512,700	
Construction Cost:				\$ 2,947,000	
Surveying & engineering (20%)				\$ 589,400	\$ 3,536,400
Surveying & engineering (12%)				\$ 353,700	\$ 3,300,700
Maintenance - Years 1-5	MILE	2.50	\$ 145,680	\$ 364,200	
Minor Repairs - Year 5	MILE	2.5	\$ 9,300	\$ 23,300	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Sidewalks are assumed concrete
5. Trails and separate paths pricing includes signage and assumes asphalt
6. Trails and separate paths assumed 10' wide
7. Piano key crosswalks are assumed 10' wide
8. Excludes roadway improvement costs
9. **West side of roadway completed by others**
10. Excludes lighting
11. Sidewalk pricing excludes signage
12. Excludes trash cans/benches/street trees
13. Excludes easements and drive aprons for trail/sidewalk crossings
14. All new trail, sidewalk, and separate path
15. Surveying & engineering is 20% of construction cost if federally funded
16. Surveying & engineering is 12% of construction cost if locally funded
17. See "ROW widths" spreadsheet for ROW cost calculations
18. 2 trail stream crossings included in cost estimate
19. Excludes cost of trail crossing rail road tracks
20. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
21. Minor Repairs include sealcoating for 10' asphalt paths

APPENDIX

Detailed Cost Breakdown

N 500 W (North)

Between 96th St and South of Main St

ASSUMED LOW PRIORITY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Separated path	FT	8761.4	\$ 186	\$ 1,629,700	
Sidewalk (5' wide)	FT	2531	\$ 50	\$ 126,600	
Bridge, trail type, steel	SQFT	560	\$ 150	\$ 84,000	
ADA ramps:					
ramp	SYD	54	\$ 212	\$ 11,500	
detectable warning	SYD	12	\$ 145	\$ 1,800	
remove & replace curb	LFT	120	\$ 40	\$ 4,800	
piano key crosswalk	LFT	113	\$ 14	\$ 1,600	
ROW costs	SQFT	306635	\$ 1	\$ 306,700	
Construction Cost:				\$ 2,166,700	
Surveying & engineering (20%)				\$ 433,400	\$ 2,600,100
Surveying & engineering (12%)				\$ 260,100	\$ 2,426,800
Maintenance - Years 1-5	MILE	1.66	\$ 145,680	\$ 241,900	
Minor Repairs - Year 5	MILE	1.66	\$ 9,300	\$ 15,500	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Sidewalks are assumed concrete
5. Trails and separate paths pricing includes signage and assumes asphalt
6. Trails and separate paths assumed 10' wide
7. Piano key crosswalks are assumed 10' wide
8. Excludes roadway improvement costs
9. **Portions of the East side of roadway completed by others**
10. Excludes lighting
11. Sidewalk pricing excludes signage
12. Excludes trash cans/benches/street trees
13. Excludes easements and drive aprons for trail/sidewalk crossings
14. All new trail, sidewalk, and separate path
15. Surveying & engineering is 20% of construction cost if federally funded
16. Surveying & engineering is 12% of construction cost if locally funded
17. See "ROW widths" spreadsheet for ROW cost calculations
18. 2 trail stream crossings included in cost estimate
19. Excludes cost of trail crossing rail road tracks
20. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
21. Minor Repairs include sealcoating for 10' asphalt paths

N 500 W (South)

Between South of Main St and W 700 N

ASSUMED LOW PRIORITY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Separated path	FT	7910	\$ 186	\$ 1,471,300	
Sidewalk (5' wide)	FT	1826	\$ 50	\$ 91,300	
ADA ramps:					
ramp	SYD	45	\$ 212	\$ 9,600	
detectable warning	SYD	10	\$ 145	\$ 1,500	
remove & replace curb	LFT	100	\$ 40	\$ 4,000	
piano key crosswalk	LFT	88	\$ 14	\$ 1,300	
ROW costs	SQFT	276850	\$ 1	\$ 276,900	
Construction Cost:				\$ 1,855,900	
Surveying & engineering (20%)				\$ 371,200	\$ 2,227,100
Surveying & engineering (12%)				\$ 222,800	\$ 2,078,700
Maintenance - Years 1-5	MILE	1.50	\$ 145,680	\$ 218,600	
Minor Repairs - Year 5	MILE	1.5	\$ 9,300	\$ 14,000	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Sidewalks are assumed concrete
5. Trails and separate paths pricing includes signage and assumes asphalt
6. Trails and separate paths assumed 10' wide
7. Piano key crosswalks are assumed 10' wide
8. Excludes roadway improvement costs
9. **Portions of the East side of roadway completed by others**
10. Excludes lighting
11. Sidewalk pricing excludes signage
12. Excludes trash cans/benches/street trees
13. Excludes easements and drive aprons for trail/sidewalk crossings
14. All new trail, sidewalk, and separate path
15. Surveying & engineering is 20% of construction cost if federally funded
16. Surveying & engineering is 12% of construction cost if locally funded
17. See "ROW widths" spreadsheet for ROW cost calculations
18. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
19. Minor Repairs include sealcoating for 10' asphalt paths

Detailed Cost Breakdown

W Broadway

Between N 700 W and Dry Branch (East Crossing)

HIGH PRIORITY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Separated path	FT	6373	\$ 186	\$ 1,185,400	
Sidewalk (8' wide)	FT	6570	\$ 80.00	\$ 525,600	
Sidewalk (6' wide)	FT	4093	\$ 60.00	\$ 245,600	
Bridge, trail type, steel	SQFT	616	\$ 150.00	\$ 92,400	
ADA ramps:					
ramp	SYD	72	\$ 212	\$ 15,300	
detectable warning	SYD	16	\$ 145	\$ 2,400	
remove & replace curb	LFT	160	\$ 40	\$ 6,400	
piano key crosswalk	LFT	281	\$ 14	\$ 4,000	
ROW costs	SQFT	425739	\$ 1	\$ 425,800	
HAWK Beacon	EACH	2	\$ 112,500	\$ 225,000	
Construction Cost:				\$ 2,727,900	
Surveying & engineering (20%)				\$ 545,600	\$ 3,273,500
Surveying & engineering (12%)				\$ 327,400	\$ 3,055,300
Maintenance - Years 1-5	MILE	1.94	\$ 145,680	\$ 282,700	
Minor Repairs - Year 5	MILE	1.94	\$ 9,300	\$ 18,100	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Sidewalks are assumed concrete
5. Trails and separate paths pricing includes signage and assumes asphalt
6. Trails and separate paths assumed 10' wide
7. Piano key crosswalks are assumed 10' wide
8. Excludes roadway improvement costs
9. Excludes lighting
10. Sidewalk pricing excludes signage
11. Excludes trash cans/benches/street trees
12. Excludes easements and drive aprons for trail/sidewalk crossings
13. All new trail, sidewalk, and separate path
14. Surveying & engineering is 20% of construction cost if federally funded
15. Surveying & engineering is 12% of construction cost if locally funded
16. See "ROW widths" spreadsheet for ROW cost calculations
17. 2 sidewalk stream crossings included in cost estimate
18. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
19. Minor Repairs include sealcoating for 10' asphalt paths

E 96th St

Between N 600 W and Georgia Rd

MEDIUM PRIORITY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Separated path	FT	4397	\$ 186	\$ 817,900	
ADA ramps:					
ramp	SYD	36	\$ 212	\$ 7,700	
detectable warning	SYD	8	\$ 145	\$ 1,200	
remove & replace curb	LFT	80	\$ 40	\$ 3,200	
piano key crosswalk	LFT	154	\$ 7	\$ 1,100	
ROW costs	SQFT	*	\$ 1	\$ -	
Construction Cost:				\$ 831,100	
Surveying & engineering (20%)				\$ 166,300	\$ 997,400
Surveying & engineering (12%)				\$ 99,800	\$ 930,900
Maintenance - Years 1-5	MILE	0.83	\$ 145,680	\$ 121,000	
Minor Repairs - Year 5	MILE	0.83	\$ 9,300	\$ 7,800	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Sidewalks are assumed concrete
5. Trails and separate paths pricing includes signage and assumes asphalt
6. Trails and separate paths assumed 10' wide
7. Piano key crosswalks are assumed 10' wide
8. Excludes roadway improvement costs
9. **North side of roadway completed by others**
10. Excludes lighting
11. Sidewalk pricing excludes signage
12. Excludes trash cans/benches/street trees
13. Excludes easements and drive aprons for trail/sidewalk crossings
14. All new trail, sidewalk, and separate path
15. Surveying & engineering is 20% of construction cost if federally funded
16. Surveying & engineering is 12% of construction cost if locally funded
- 17.* Sufficient ROW observed, no additional ROW needed for improvements
18. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
19. Minor Repairs include sealcoating for 10' asphalt paths

APPENDIX

Detailed Cost Breakdown

W 900 N

Between N 700 W and N 500 W

HIGH PRIORITY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Separated path	FT	10243.4	\$ 186	\$ 1,905,300	
Sidewalk (5' wide)	FT	9891	\$ 50	\$ 494,600	
Bridge, trail type, steel	SQFT	1060	\$ 150	\$ 159,000	
ADA ramps:					
ramp	SYD	36	\$ 212	\$ 7,700	
detectable warning	SYD	8	\$ 145	\$ 1,200	
remove & replace curb	LFT	80	\$ 40	\$ 3,200	
piano key crosswalk	LFT	154	\$ 7	\$ 1,100	
ROW costs	SQFT	483345	\$ 1	\$ 483,400	
Construction Cost:				\$ 3,055,500	
Surveying & engineering (20%)				\$ 611,100	\$ 3,666,600
Surveying & engineering (12%)				\$ 366,700	\$ 3,422,200
Maintenance - Years 1-5	MILE	2.04	\$ 145,680	\$ 297,200	
Minor Repairs - Year 5	MILE	2.04	\$ 9,300	\$ 19,000	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Sidewalks are assumed concrete
5. Trails and separate paths pricing includes signage and assumes asphalt
6. Trails and separate paths assumed 10' wide
7. Piano key crosswalks are assumed 10' wide
8. Excludes roadway improvement costs
9. Excludes lighting
10. Sidewalk pricing excludes signage
11. Excludes trash cans/benches/street trees
12. Excludes easements and drive aprons for trail/sidewalk crossings
13. All new trail, sidewalk, and separate path
14. Surveying & engineering is 20% of construction cost if federally funded
15. Surveying & engineering is 12% of construction cost if locally funded
16. See "ROW widths" spreadsheet for ROW cost calculations
17. 2 trail stream crossings included in cost estimate
18. 2 sidewalk stream crossings included in cost estimate
19. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
20. Minor Repairs include sealcoating for 10' asphalt paths

W 800 N

Between N 700 W and N 500 W

ASSUMED LOW PRIORITY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Separated path	FT	10718	\$ 186	\$ 1,993,700	
Sidewalk (5' wide)	FT	10613	\$ 50	\$ 530,700	
Bridge, trail type, steel	SQFT	545	\$ 150	\$ 81,800	
ADA ramps:					
ramp	SYD	54	\$ 212	\$ 11,500	
detectable warning	SYD	12	\$ 145	\$ 1,800	
remove & replace curb	LFT	120	\$ 40	\$ 4,800	
piano key crosswalk	LFT	254	\$ 7	\$ 1,800	
ROW costs	SQFT	*	\$ 1	\$ -	
Construction Cost:				\$ 2,626,100	
Surveying & engineering (20%)				\$ 525,300	\$ 3,151,400
Surveying & engineering (12%)				\$ 315,200	\$ 2,941,300
Maintenance - Years 1-5	MILE	2.03	\$ 145,680	\$ 295,800	
Minor Repairs - Year 5	MILE	2.03	\$ 9,300	\$ 18,900	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Sidewalks are assumed concrete
5. Trails and separate paths pricing includes signage and assumes asphalt
6. Trails and separate paths assumed 10' wide
7. Piano key crosswalks are assumed 10' wide
8. Excludes roadway improvement costs
9. Excludes lighting
10. Sidewalk pricing excludes signage
11. Excludes trash cans/benches/street trees
12. Excludes easements and drive aprons for trail/sidewalk crossings
13. All new trail, sidewalk, and separate path
14. Surveying & engineering is 20% of construction cost if federally funded
15. Surveying & engineering is 12% of construction cost if locally funded
- 16.* Sufficient ROW observed, no additional ROW needed for improvements
17. 1 trail stream crossing included in cost estimate
18. 1 sidewalk stream crossing included in cost estimate
19. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
20. Minor Repairs include sealcoating for 10' asphalt paths

APPENDIX

Detailed Cost Breakdown

W 650 N

Between N 700 W and N 600 W

LOW PRIORITY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Separated path	FT	2674	\$ 186	\$ 497,400	
Sidewalk (5' wide)	FT	5333	\$ 50	\$ 266,700	
ADA ramps:					
ramp	SYD	36	\$ 212	\$ 7,700	
detectable warning	SYD	8	\$ 145	\$ 1,200	
remove & replace curb	LFT	80	\$ 40	\$ 3,200	
piano key crosswalk	LFT	174	\$ 7	\$ 1,300	
ROW costs	SQFT	186655	\$ 1	\$ 186,700	
Construction Cost:				\$ 964,200	
Surveying & engineering (20%)				\$ 192,900	\$ 1,157,100
Surveying & engineering (12%)				\$ 115,800	\$ 1,080,000
Maintenance - Years 1-5	MILE	1.01	\$ 145,680	\$ 147,200	
Minor Repairs - Year 5	MILE	1.01	\$ 9,300	\$ 9,400	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Sidewalks are assumed concrete
5. Trails and separate paths pricing includes signage and assumes asphalt
6. Trails and separate paths assumed 10' wide
7. Piano key crosswalks are assumed 10' wide
8. Excludes roadway improvement costs
9. Excludes lighting
10. Sidewalk pricing excludes signage
11. Excludes trash cans/benches/street trees
12. Excludes easements and drive aprons for trail/sidewalk crossings
13. All new trail, sidewalk, and separate path
14. Surveying & engineering is 20% of construction cost if federally funded
15. Surveying & engineering is 12% of construction cost if locally funded
16. See "ROW widths" spreadsheet for ROW cost calculations
17. From town boundary to N 700 W, separated path built by others
18. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
19. Minor Repairs include sealcoating for 10' asphalt paths

W 500 N

From 2695 ft left of N 600 W to 3174 ft right of N 600 W

LOW PRIORITY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Separated path	FT	3810	\$ 186	\$ 708,700	
Sidewalk (5' wide)	FT	5869	\$ 50	\$ 293,500	
ADA ramps:					
ramp	SYD	36	\$ 212	\$ 7,700	
detectable warning	SYD	8	\$ 145	\$ 1,200	
remove & replace curb	LFT	80	\$ 40	\$ 3,200	
piano key crosswalk	LFT	158	\$ 14	\$ 2,300	
ROW costs	SQFT	206976	\$ 1	\$ 207,000	
Construction Cost:				\$ 1,223,600	
Surveying & engineering (20%)				\$ 244,800	\$ 1,468,400
Surveying & engineering (12%)				\$ 146,900	\$ 1,370,500
Maintenance - Years 1-5	MILE	1.12	\$ 145,680	\$ 163,200	
Minor Repairs - Year 5	MILE	1.12	\$ 9,300	\$ 10,500	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Sidewalks are assumed concrete
5. Trails and separate paths pricing includes signage and assumes asphalt
6. Trails and separate paths assumed 10' wide
7. Piano key crosswalks are assumed 10' wide
8. **North side of roadway to the East and West of town boundary completed by others**
9. Excludes roadway improvement costs
10. Excludes lighting
11. Sidewalk pricing excludes signage
12. Excludes trash cans/benches/street trees
13. Excludes easements and drive aprons for trail/sidewalk crossings
14. All new trail, sidewalk, and separate path
15. Surveying & engineering is 20% of construction cost if federally funded
16. Surveying & engineering is 12% of construction cost if locally funded
17. See "ROW widths" spreadsheet for ROW cost calculations
18. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
19. Minor Repairs include sealcoating for 10' asphalt paths

Detailed Cost Breakdown

W 600 N (East)

Between N 600 W and N 500 W

LOW PRIORITY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Separated path	FT	3432	\$ 186	\$ 638,400	
Sidewalk (5' wide)	FT	6125	\$ 50	\$ 306,300	
ADA ramps:					
ramp	SYD	36	\$ 212	\$ 7,700	
detectable warning	SYD	8	\$ 145	\$ 1,200	
remove & replace curb	LFT	80	\$ 40	\$ 3,200	
piano key crosswalk	LFT	162	\$ 14	\$ 2,300	
ROW costs	SQFT	210680	\$ 1	\$ 210,700	
Construction Cost:				\$ 1,169,800	
Surveying & engineering (20%)				\$ 234,000	\$ 1,403,800
Surveying & engineering (12%)				\$ 140,400	\$ 1,310,200
Maintenance - Years 1-5	MILE	1.16	\$ 145,680	\$ 169,000	
Minor Repairs - Year 5	MILE	1.16	\$ 9,300	\$ 10,800	

Assumptions:

1. 9 SYD per ADA ramp for sidewalk
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Sidewalks are assumed concrete
5. Trails and separate paths pricing includes signage and assumes asphalt
6. Trails and separate paths assumed 10' wide
7. Piano key crosswalks are assumed 10' wide
8. **North side of roadway to the East and West of town boundary completed by others**
9. Excludes roadway improvement costs
10. Excludes lighting
11. Sidewalk pricing excludes signage
12. Excludes trash cans/benches/street trees
13. Excludes easements and drive aprons for trail/sidewalk crossings
14. All new trail, sidewalk, and separate path
15. Surveying & engineering is 20% of construction cost if federally funded
16. Surveying & engineering is 12% of construction cost if locally funded
17. See "ROW widths" spreadsheet for ROW cost calculations
18. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
19. Minor Repairs include sealcoating for 10' asphalt paths

W 600 N (West)

Between N 700 W/Carroll Rd and N 600 W

[illegible]

Assumptions:

1. 9 SYD per ADA ramp for sidewalk
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Sidewalks are assumed concrete
5. Trails and separate paths pricing includes signage and assumes asphalt
6. Trails and separate paths assumed 10' wide
7. Piano key crosswalks are assumed 10' wide
8. **North side of roadway to the East and West of town boundary completed by others**
9. Excludes roadway improvement costs
10. Excludes lighting
11. Sidewalk pricing excludes signage
12. Excludes trash cans/benches/street trees
13. Excludes easements and drive aprons for trail/sidewalk crossings
14. All new trail, sidewalk, and separate path
15. Surveying & engineering is 20% of construction cost if federally funded
16. Surveying & engineering is 12% of construction cost if locally funded
17. See "ROW widths" spreadsheet for ROW cost calculations
18. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
19. Minor Repairs include sealcoating for 10' asphalt paths

APPENDIX

Detailed Cost Breakdown

North Fork Dry Branch/Schulz

Between N 700 W/Carroll Rd and E 96th St/1000 N

GREENWAY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Trail	FT	18902	\$ 186	\$ 3,515,900	
Linear grading	LFT	18902	\$ 50	\$ 945,200	
Bridge, trail type, steel	SQFT	590	\$ 150	\$ 88,500	
ADA ramps:				\$ -	
ramp	SYD	90	\$ 212	\$ 19,100	
detectable warning	SYD	20	\$ 145	\$ 2,900	
remove & replace curb	LFT	200	\$ 40	\$ 8,000	
piano key crosswalk	LFT	186	\$ 14	\$ 2,700	
Construction Cost:				\$ 4,582,300	
Surveying & engineering (20%)				\$ 916,500	\$ 5,498,800
Surveying & engineering (12%)				\$ 549,900	\$ 5,132,200
Maintenance - Years 1-5	MILE	3.58	\$ 145,680	\$ 521,600	
Minor Repairs - Year 5	MILE	3.58	\$ 9,300	\$ 33,300	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Trails pricing includes signage and assumes asphalt
5. Trails assumed 10' wide
6. Piano key crosswalks proposed at every roadway crossing and are assumed 10' wide
7. Excludes roadway improvement costs
8. Excludes lighting
9. Excludes trash cans/benches/street trees
10. Excludes easements and drive aprons for trail crossings
11. All new trail
12. Surveying & engineering is 20% of construction cost if federally funded
13. Surveying & engineering is 12% of construction cost if locally funded
14. Greenways are within a pedestrian and/or floodplain easement; therefore, no acquisition costs
15. 1 stream crossing included in cost estimate
16. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
17. Minor Repairs include sealcoating for 10' asphalt paths

Town Center - Champion Lake

Between W Broadway and N 600 W

GREENWAY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Trail	FT	10666	\$ 186	\$ 1,983,900	
Linear grading	LFT	10666	\$ 50	\$ 533,300	
ADA ramps:					
ramp	SYD	90	\$ 212	\$ 19,100	
detectable warning	SYD	20	\$ 145	\$ 2,900	
remove & replace curb	LFT	200	\$ 40	\$ 8,000	
piano key crosswalk	LFT	115	\$ 14	\$ 1,700	
Construction Cost:				\$ 2,548,900	
Surveying & engineering (20%)				\$ 509,800	\$ 3,058,700
Surveying & engineering (12%)				\$ 305,900	\$ 2,854,800
Maintenance - Years 1-5	MILE	2.02	\$ 145,680	\$ 294,300	
Minor Repairs - Year 5	MILE	2.02	\$ 9,300	\$ 18,800	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Trails pricing includes signage and assumes asphalt
5. Trails assumed 10' wide
6. Piano key crosswalks proposed at every roadway crossing and are assumed 10' wide
7. Excludes roadway improvement costs
8. Excludes lighting
9. Excludes trash cans/benches/street trees
10. Excludes easements and drive aprons for trail crossings
11. All new trail
12. Surveying & engineering is 20% of construction cost if federally funded
13. Surveying & engineering is 12% of construction cost if locally funded
14. Greenways are within a pedestrian and/or floodplain easement; therefore, no acquisition costs
15. Assume greenway starts South of railroad
16. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
17. Minor Repairs include sealcoating for 10' asphalt paths

Detailed Cost Breakdown

Dry Branch

Between N 700 W/Carroll Rd and N 500 W

GREENWAY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Trail	FT	14045	\$ 186	\$ 2,612,400	
Linear grading	LFT	14045	\$ 50	\$ 702,300	
Bridge, trail type, steel	SQFT	1320	\$ 150	\$ 198,000	
ADA ramps:					
ramp	SYD	72	\$ 212	\$ 15,300	
detectable warning	SYD	16	\$ 145	\$ 2,400	
remove & replace curb	LFT	160	\$ 40	\$ 6,400	
piano key crosswalk	LFT	131	\$ 14	\$ 1,900	
Construction Cost:				\$ 3,538,700	
Surveying & engineering (20%)				\$ 707,800	\$ 4,246,500
Surveying & engineering (12%)				\$ 424,700	\$ 3,963,400
Maintenance - Years 1-5	MILE	2.66	\$ 145,680	\$ 387,600	
Minor Repairs - Year 5	MILE	2.66	\$ 9,300	\$ 24,800	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Trails pricing includes signage and assumes asphalt
5. Trails assumed 10' wide
6. Piano key crosswalks proposed at every roadway crossing and are assumed 10' wide
7. Excludes roadway improvement costs
8. Excludes lighting
9. Excludes trash cans/benches/street trees
10. Excludes easements and drive aprons for trail crossings
11. All new trail
12. Surveying & engineering is 20% of construction cost if federally funded
13. Surveying & engineering is 12% of construction cost if locally funded
14. Greenways are within a pedestrian and/or floodplain easement; therefore, no acquisition costs
15. 1 stream crossing included in cost estimate
16. Excludes cost of trail crossing rail road tracks
17. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
18. Minor Repairs include sealcoating for 10' asphalt paths

Brookside-Vail

Between Carroll Road and Tanglewood Circle

GREENWAY					
	UNIT	QUANTITY	UNIT COST	TOTAL	
Trail	FT	3870	\$ 186	\$ 719,900	
Linear grading	LFT	3870	\$ 50	\$ 193,500	
ADA ramps:					
ramp	SYD	36	\$ 212	\$ 7,700	
detectable warning	SYD	8	\$ 145	\$ 1,200	
remove & replace curb	LFT	80	\$ 40	\$ 3,200	
piano key crosswalk	LFT	57	\$ 14	\$ 800	
Construction Cost:				\$ 926,300	
Surveying & engineering (20%)				\$ 185,300	\$ 1,111,600
Surveying & engineering (12%)				\$ 111,200	\$ 1,037,500
Maintenance - Years 1-5	MILE	0.73	\$ 145,680	\$ 106,800	
Minor Repairs - Year 5	MILE	0.73	\$ 9,300	\$ 6,900	

Assumptions:

1. 9 SYD per ADA ramp
2. 2 SYD detectable warning per ADA ramp
3. 20 LFT curb remove and replace per ADA ramp
4. Trails pricing includes signage and assumes asphalt
5. Trails assumed 10' wide
6. Piano key crosswalks proposed at every roadway crossing and are assumed 10' wide
7. Excludes roadway improvement costs
8. Excludes lighting
9. Excludes trash cans/benches/street trees
10. Excludes easements and drive aprons for trail crossings
11. All new trail
12. Surveying & engineering is 20% of construction cost if federally funded
13. Surveying & engineering is 12% of construction cost if locally funded
14. Greenways are within a pedestrian and/or floodplain easement; therefore, no acquisition costs
16. Maintenance includes:
 - mowing, edging, landscaping
 - trash/debris & graffiti removal
 - signage, gate, fencing
 - drainage areas
 - seasonal care - snow removal
17. Minor Repairs include sealcoating for 10' asphalt paths