

# CHARDON SIDEWALK CONNECTIVITY ANALYSIS

City of Chardon

Prepared by Northeast Ohio Areawide Coordinating Agency

July 2016

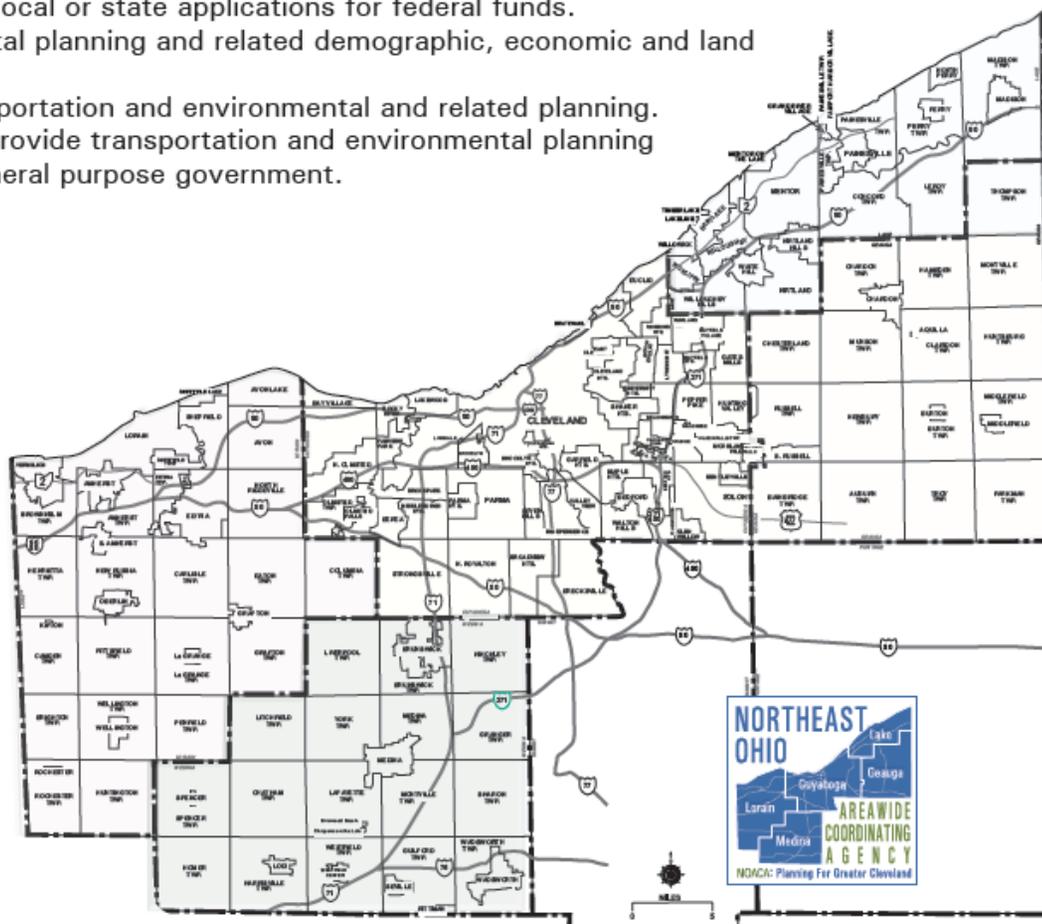


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1) Title & Subtitle Chardon Sidewalk Connectivity Analysis	2) NOACA Report No. #####
3) Author(s): Names Alison Wasserman, Ryan Noles	4) Report Date July 19, 2016
5) Performing Organization Name & Address  Northeast Ohio Areawide Coordinating Agency 1299 Superior Avenue, Cleveland, OH 44114-3204 Phone: (216) 241-2414      FAX: (216) 621-3024      Web site: www.noaca.org	6) Project Task No. ####-##
	7) NOACA Contract/Grant No. ODOT/FHWA
8) Sponsoring Agency Name & Address  City of Chardon 111 Water Street Chardon, OH	9) Type of Report & Period Covered TA 20##-20##
	10) Sponsoring Agency Code
11) Supplementary Notes	
12) Abstract: Abstract contents.	
13) Key Words & Document Analysis  A. Key word  B. Key word	
14) Availability Statement NOACA	15) No. Pages
	16) Price

# Chardon Sidewalk Connectivity Analysis

## Chardon, Ohio

July 2016



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OHIO  
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Preparation of this publication was financed by appropriations from the counties of and municipalities within Cuyahoga, Geauga, Lake, Lorain and Medina; the U.S. Environmental Protection Agency; and the U.S. Department of Transportation, Federal Transit Administration and Federal Highway Administration, in conjunction with the Ohio Department of Transportation

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## Introduction

### Study Need

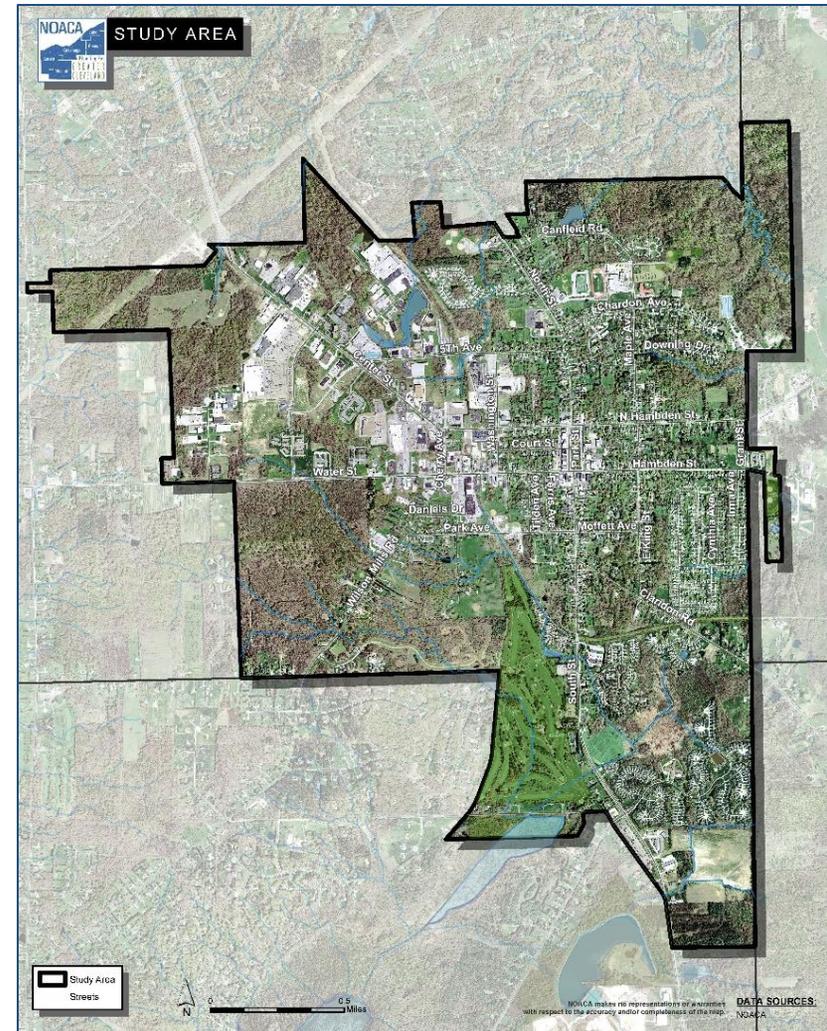
The City of Chardon seeks to make the whole city completely accessible by sidewalk. Many of the roadways that lead to key destinations in Chardon do not have sidewalks, forcing pedestrians to walk unsafe paths to access destinations. The main goal of the Chardon Sidewalk Connectivity Analysis Plan is to prioritize the missing sidewalk segments.

The other portion of the report concerns access to the Maple Highlands Trail. Currently, there are not many entrances to the Trail, which deters some residents from using it. Users may have to go far out of their way to access the Trail or resort to entering it through unofficial entrances, which can be dangerous or illegal if they are trespassing on someone else's property. The report looks into identifying alternative entrances to the Trail. The last piece of the report addresses the next phase of the expansion of the Maple Highlands Trail, from Water Street to South Street. The report gives a recommendation on the alignment of this segment of the Trail through Chardon.

### Study Area

The study area is the entire City of Chardon, shown in Figure 1.

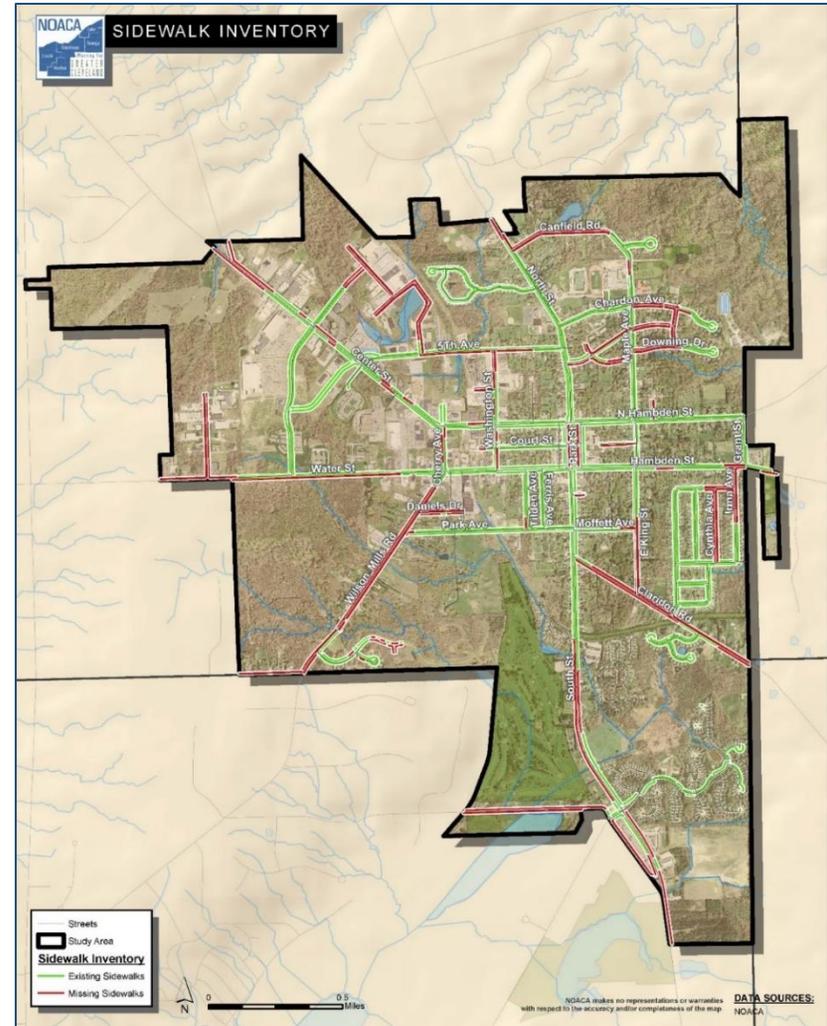
Figure 1: Study Area



### Sidewalks

As part of the City Sidewalk Program, officials in Chardon surveyed all city roadways to determine where sidewalks are currently present and where they are missing. The results are shown in Figure 2, which displays the sidewalk status of every road in Chardon. There are 88 road segments of varying lengths that are currently missing sidewalks throughout the City.

Figure 2: Sidewalk Inventory in Chardon



## Sidewalk Prioritization Methodology

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### Methodology

A quantitative scoring system and a qualitative data collection from the residents of Chardon at a public meeting were used to prioritize missing sidewalk segments. The scoring system evaluated each missing sidewalk segment on 17 different categories that affect the need for a sidewalk. The categories are:

- Proximity to Schools (30 points)
- Proximity to Parks (20 points)
- Proximity to Chardon Square (30 points)
- Proximity to Maple Highlands Trail Entrances (20 points)
- Proximity to Major Destinations (30 points)
- Land Use (25 points)
- Zoning (5 points)
- Population Density (20 points)
- Elderly Population (15 points)
- Child Population (15 points)
- Vehicle Volume (20 points)
- Speed Limit (20 points)
- Pedestrian and Bicycle Crashes (20 points)
- Vehicle Crashes (20 points)
- Sidewalk Presence Across the Street (15 points)
- Existing Surface (50 points)
- Closing a Gap (15 points)

Scores for each of the 17 categories were added to create a total score out of 370, which was then converted to be out of 100. Each of the 88 missing sidewalk segments were then ranked based on their total score. The ranking created a quantitative way to determine which missing sidewalks segments would most benefit the public. Qualitative input was then collected from residents of Chardon and used to adjust the ranking based on more real-life observations.

The following section is an overview of each of the 17 categories. It discusses what makes each criterion important for sidewalk planning and what qualified a missing sidewalk segment for a high or a low score.

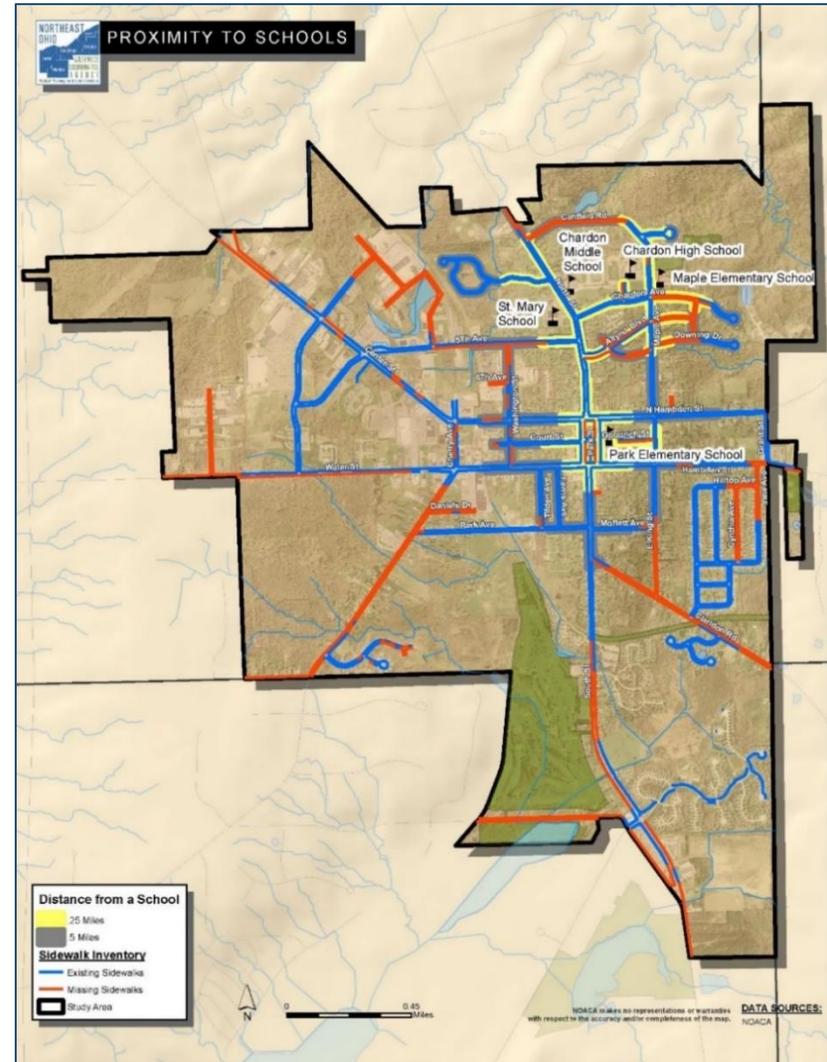
### Sidewalk Prioritization Scoring Criteria

#### Proximity to Schools

One of the most important factors in sidewalk planning is proximity to certain destinations. Because schools have a guaranteed attendance of numerous people per day, they are one of the most important destinations for a sidewalk to be located near. The abundant foot traffic at a school means the demand for a sidewalk will be high. Many of these pedestrians are children, who may be more likely to get into a dangerous situation if no proper sidewalk is provided. Figure 3 shows location of schools in Chardon.

Criterion	Description	Score Criteria	Score
Proximity to Schools	Is the segment within a certain distance of a school?	Within 1/4 Mile from School	30
		Within 1/2 Mile from School	15
		More than 1/2 Mile from School	0

Figure 3: Proximity to Schools in Chardon

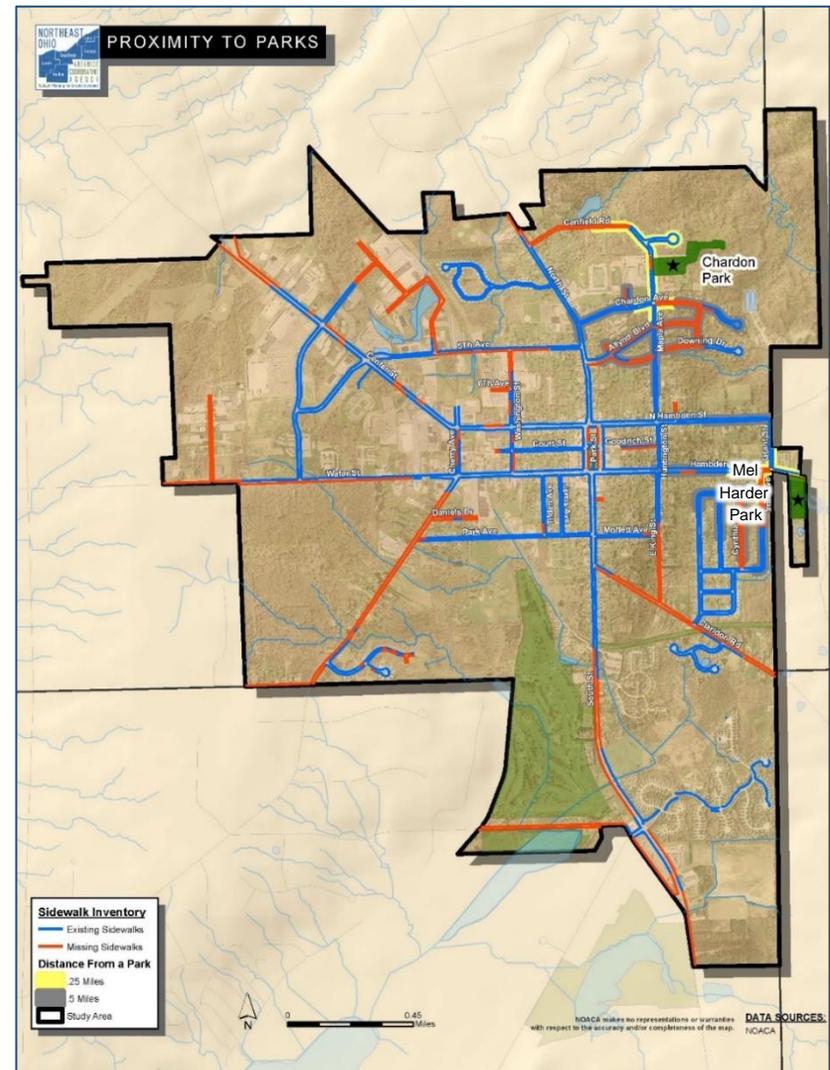


Proximity to Parks

Parks attract both residents and visitors, including children who may walk to the park because they are not old enough to drive. Chardon Park’s proximity to numerous schools at the northeast corner of Chardon makes it likely that students will walk over before, during or after school. Mel Harder Park is located near a dense residential neighborhood whose residents want easy access to the park (see Figure 4). Ensuring that these and all users have a safe path to the park via a sidewalk makes this category critical.

Criterion	Description	Score Criteria	Score
Proximity to Parks	Is the segment within a certain distance of a park?	Within ¼ Mile from a Park	20
		Within 1/2 Mile from a Park	10
		More than 1/2 Mile from a Park	0

Figure 4: Proximity to Parks

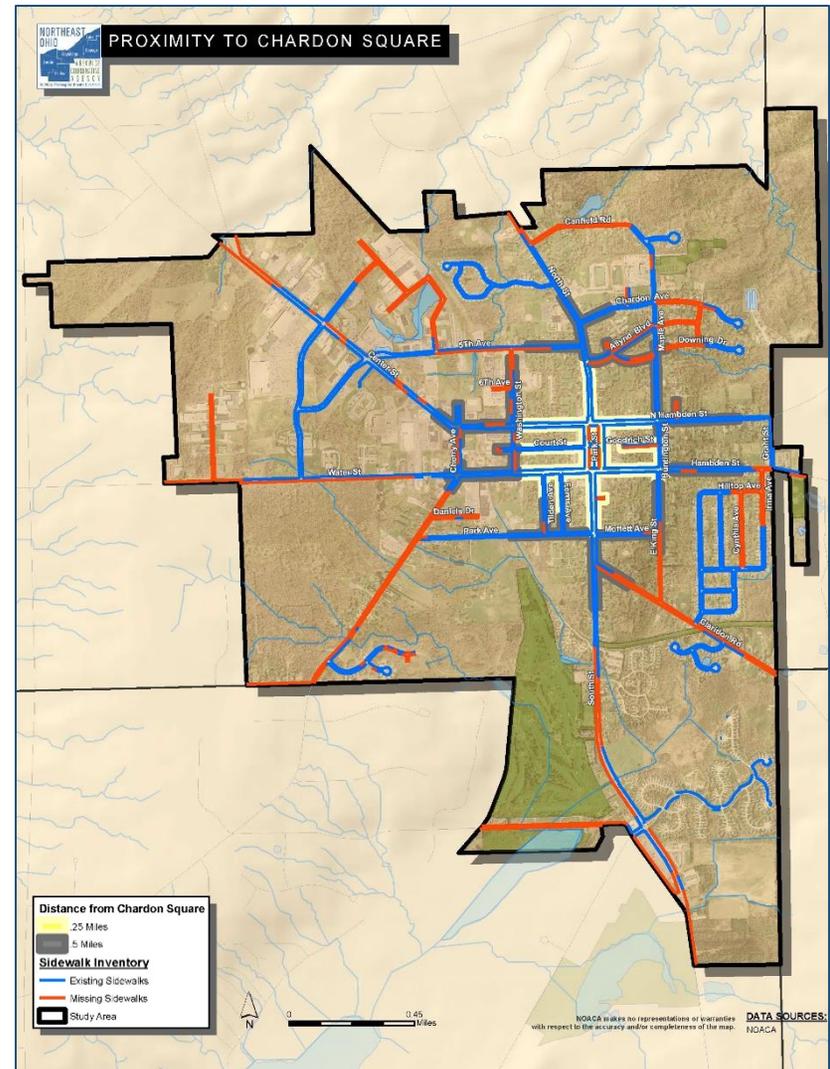


Proximity to Chardon Square

Chardon Square is the center of Chardon where many community events, recreation and gatherings occur. A sidewalk located near the square will get a significant amount of use by those walking to events, shops or offices located on the square or nearby (see Figure 5).

Criterion	Description	Score Criteria	Score
Proximity to Chardon Square	Is the segment within a certain distance of Chardon Square?	Within ¼ Mile from Chardon Square	30
		Within ½ Mile from Chardon Square	15
		More than ½ Mile from Chardon Square	0

Figure 5: Proximity to Chardon Square

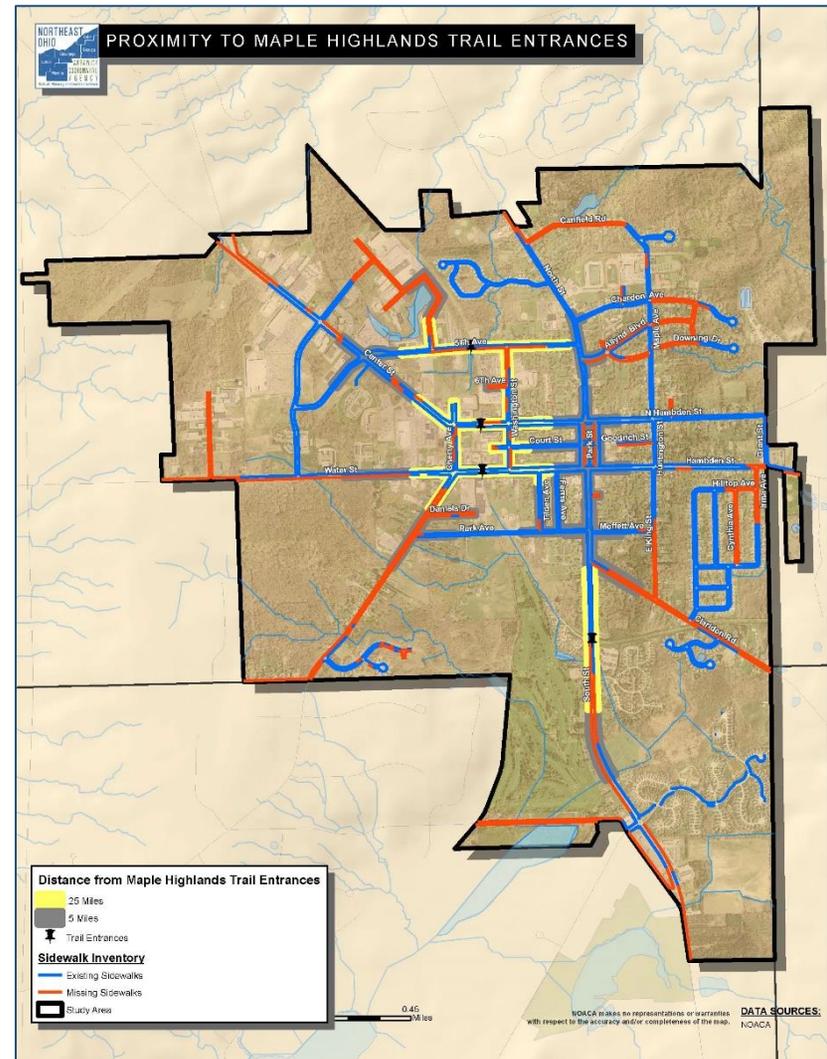


Proximity to Maple Highlands Trail Entrances

The Maple Highlands Trail has entrances on 5<sup>th</sup> Avenue, Center Street, Water Street and South Street (see Figure 6). Because the Maple Highlands Trail is a running and biking path, it is very likely that the people who use the path may walk to the entrance. This makes it important that the entrances to the Trail be accessible by sidewalk.

Criterion	Description	Score Criteria	Score
Proximity to Maple Highlands Trail	Is the segment within a certain distance of an entrance to the Maple Highlands Trail?	Within ¼ Mile from Trail	20
		Within ½ Mile from Trail	10
		More than ½ Mile from Trail	0

Figure 6: Proximity to Maple Highlands Trail Entrances

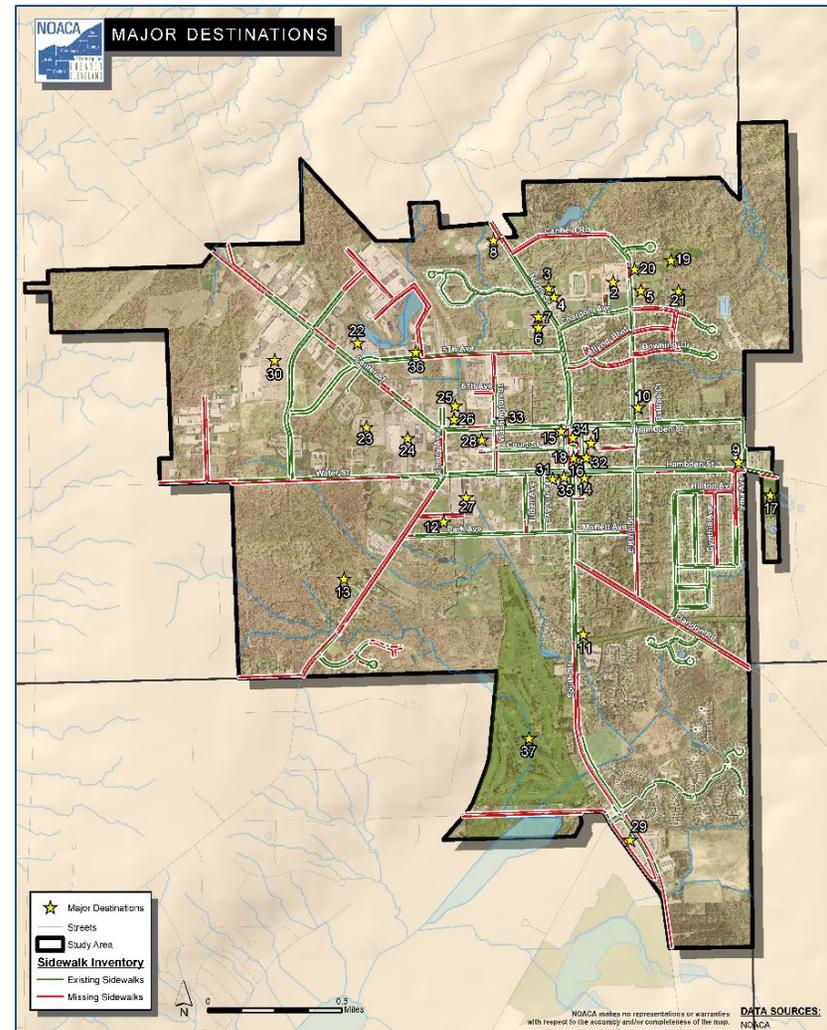


Proximity to Major Destinations

Being located near major destinations increases a sidewalk’s demand and level of use from both residents and visitors as an area with major destinations will have pedestrian activity. NOACA staff compiled a list of 37 major destinations in Chardon and scored them based on their proximity to many, some or no other major destinations to gauge the likely amount of demand for a sidewalk (see Figure 7).

Criterion	Description	Score Criteria	Score
Proximity to Major Destinations	Is the segment within a certain distance of major destinations?	Within ¼ mile of more than 5	30
		Within ¼ mile of less than 5	15
		More than ¼ mile from any	0

Figure 7: Proximity to Major Destinations

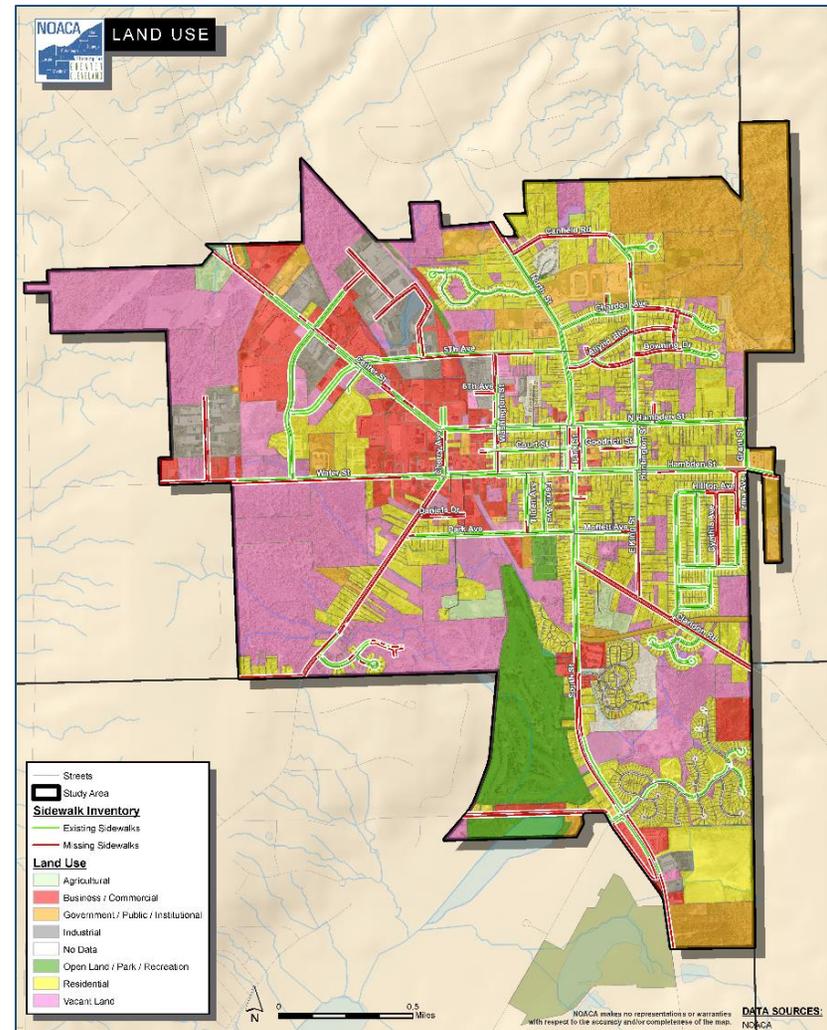


Land Use

The land use along a road affects the amount of pedestrian traffic along it. Residential and commercial land uses tend to have a lot of pedestrian traffic, as people frequently walk in their residential neighborhoods or to businesses and stores. Roads with land uses such as industrial, agricultural or vacant land are less likely to have pedestrians. Missing sidewalk segments that are located in land uses with greater pedestrian traffic were given more points in this category (see Figure 8).

Criterion	Description	Score Criteria	Score
Land Use	Will pedestrians be walking around here?	Business/Commercial, Residential, Park, Government/Public/Institutional	25
		Agricultural, Vacant, Industrial	0

Figure 8: Land Use in Chardon

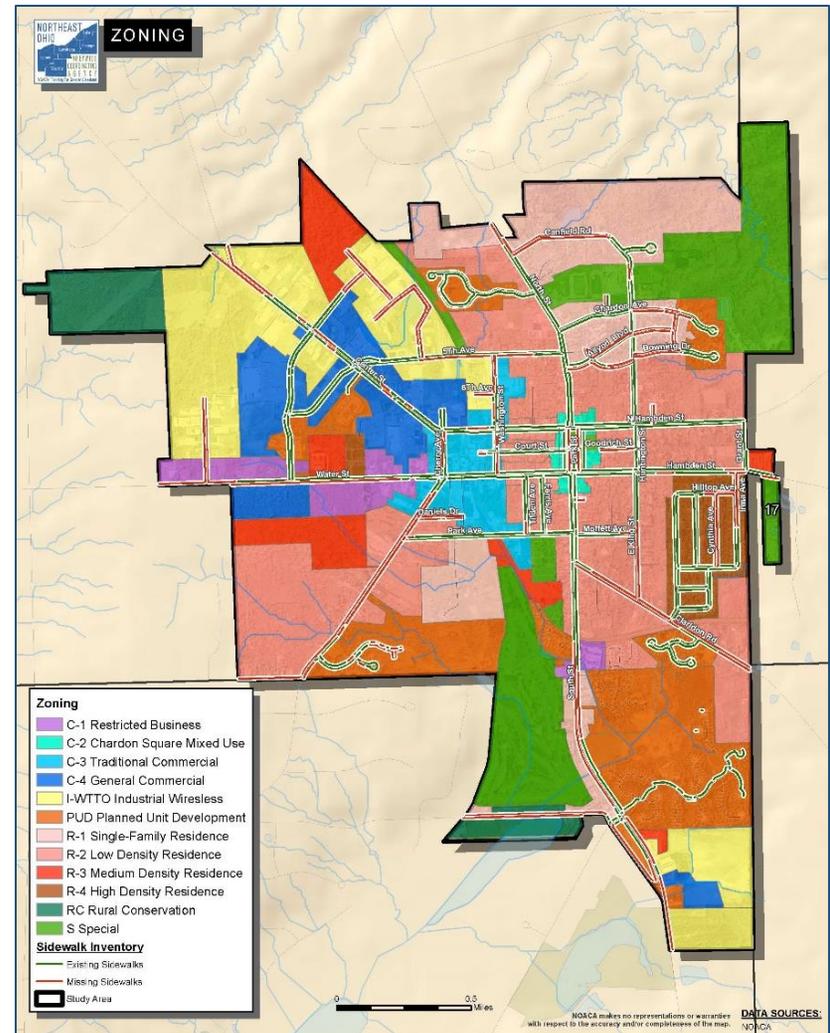


Zoning

The zoning of the land that the road passes through affects the demand of a sidewalk. If the road is zoned for a use that typically has pedestrians, it received points for this category (see Figure 9).

Criterion	Description	Score Criteria	Score
Zoning	What can be developed here?	PUD, High-Density Residence, Medium-Density Residence, Low-Density Residence, Single-Family Residence, General Commercial, Traditional Commercial, Chardon Square Mixed Use, Restricted Business	5
		Industrial, Special, Rural Conservation	0

Figure 9: Zoning

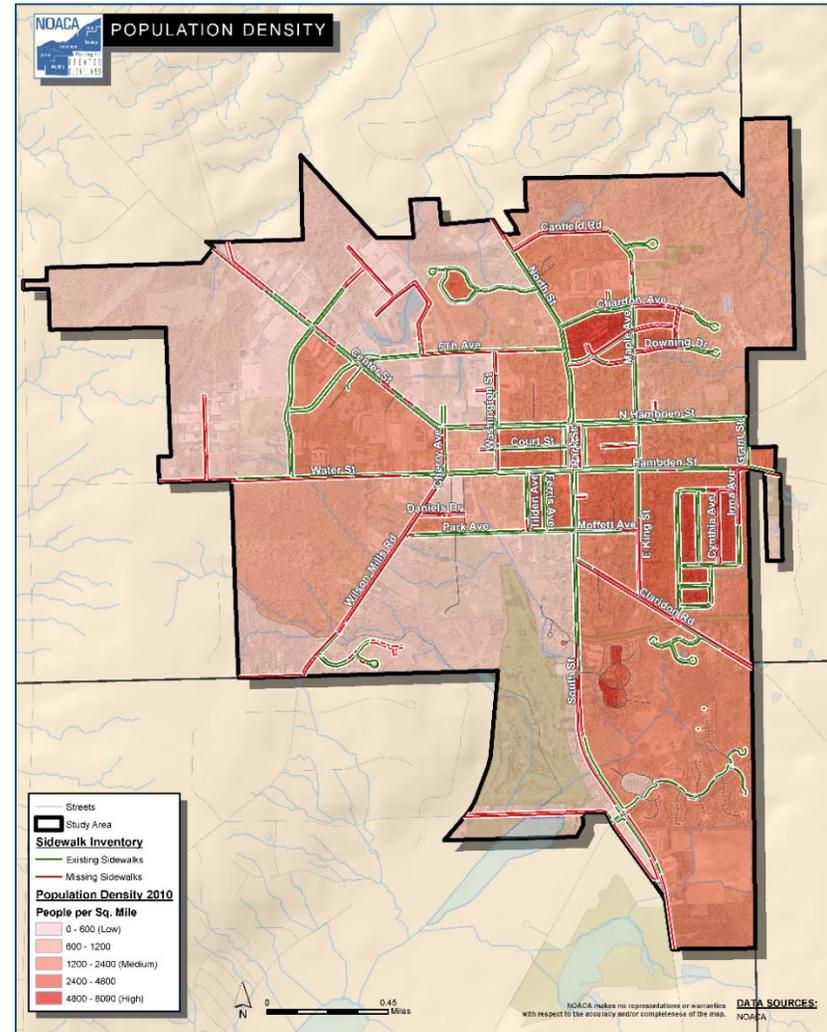


**Population Density**

Demand for sidewalks is higher near dense populations and means that the sidewalks will benefit more people. Population data was gathered from the U.S. Census Bureau using the smallest possible geographic location, Census Blocks, to determine population density in Chardon (see Figure 10).

Criterion	Description	Score Criteria	Score
Population Density	Will it serve many residents?	Density is more than 2,400 people per square mile	20
		Density is 600-2,400 people per square mile	10
		Density is less than 600 people per square mile	0

Figure 10: Population Density



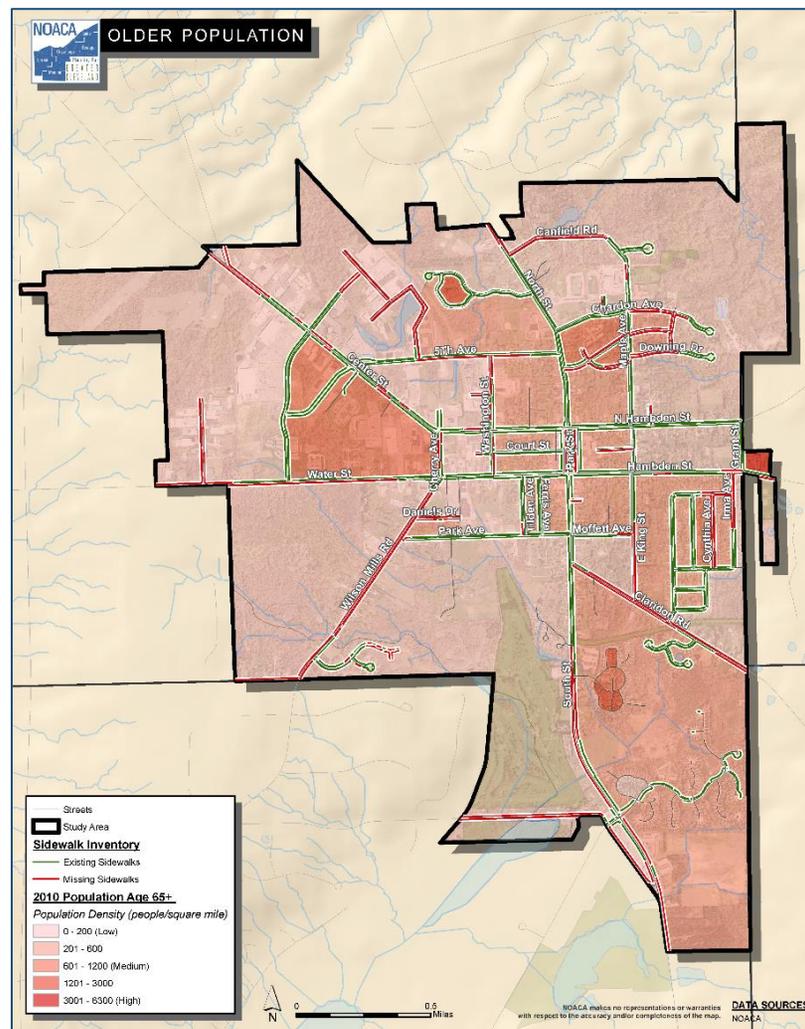
### Older Population

The population of residents 65 years and older requires special attention for sidewalk planning. Residents in this age group may have mobility impediments that make sidewalks a requirement for them to be able to navigate the City as a pedestrian. Some may be unable to drive, and some simply may be unwilling to walk on a street without sidewalks. For these reasons, this population will receive special consideration.

U.S. Census data from 2014 estimates that the population of Chardon was 5,161, of whom 16%, or 826 people, are 65 years old or older (see Figure 11). Missing sidewalk segments located near the high concentrations of older residents will receive higher priority.

Criterion	Description	Score Criteria	Score
Older Population	Will it serve many elderly residents?	Density is more than 1,200 people per square mile	15
		Density is 200-1,200 people per square mile	10
		Density is less than 200 people per square mile	0

Figure 11: Older Population





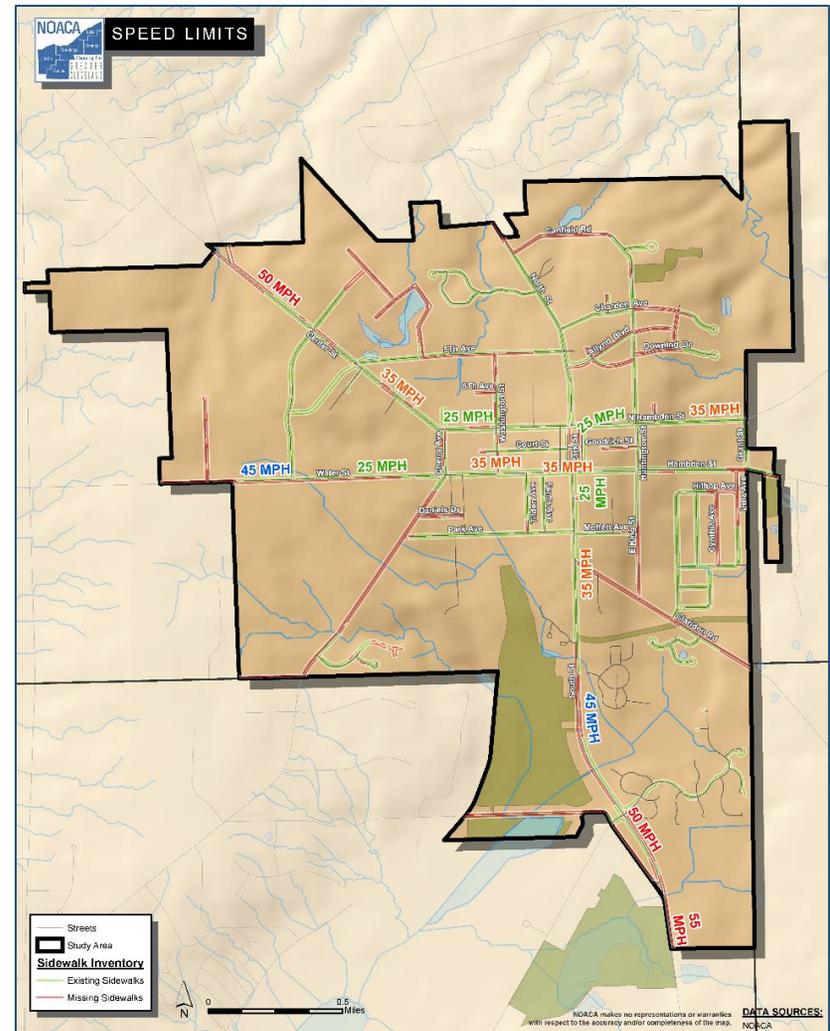


**Speed Limit**

The speed limit of a road affects a pedestrian’s safety in that a vehicle traveling at a faster speed has a greater potential to injure a pedestrian than a vehicle traveling at a slower speed. Putting sidewalks on streets that have higher speed limits increases safety. For this reason, roads with a higher speed limit will be given higher priority.

Criterion	Description	Score Criteria	Score
Speed Limit	What is the speed limit of the road?	More than 40 mph	20
		Between 25 and 40 mph	10
		25 mph or less	0

Figure 14: Speed Limits



### Vehicle Crashes

Walking on the side of a road (or in a road) that does not have a proper sidewalk can be dangerous. It can be even more dangerous along a road where many vehicle, pedestrian or bicycle crashes occur. Proximity to locations where many crashes occur will be given greater consideration when the missing sidewalk segments are prioritized, as they have a particular safety concern.

Adding sidewalks near high-crash locations will provide pedestrians with a safer place to walk along particularly dangerous roads.

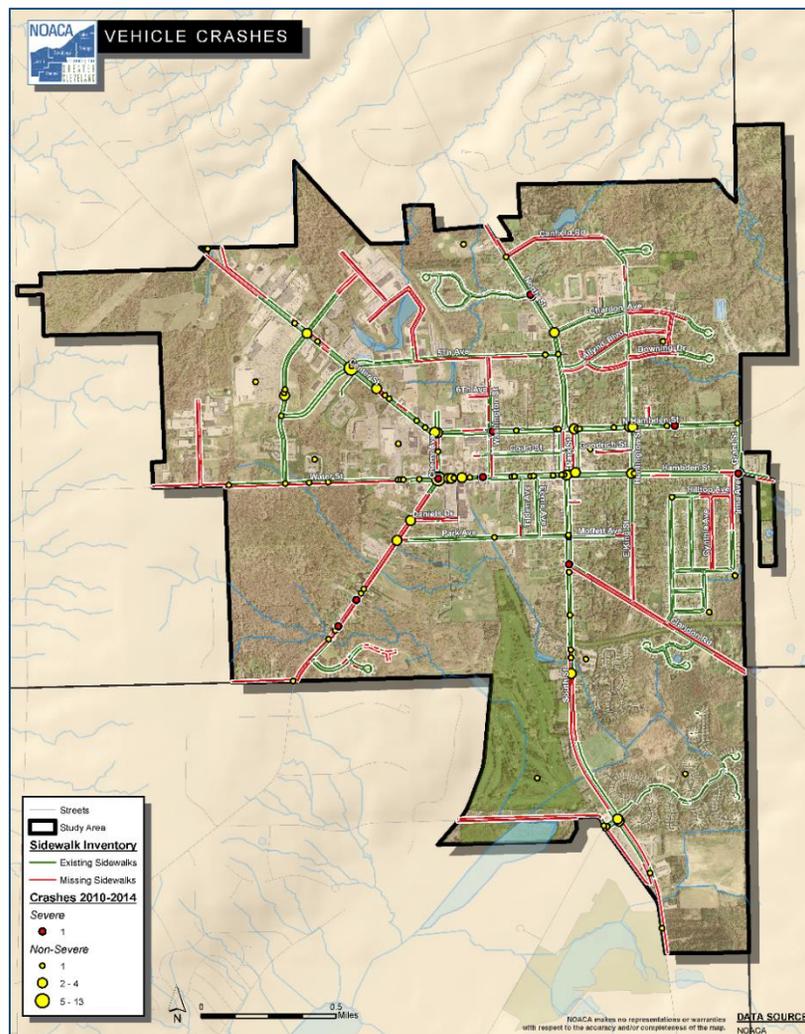
In the past five years, there were 153 vehicle crashes in Chardon. None of these crashes were fatal, but 10 caused severe injuries.

The top three locations with the most vehicle crashes in Chardon from 2010-2014 are shown in Figure 15 and were:

- The intersection of Cherry Avenue, Wilson Mills Road and Water Street/Chardon Road (14 crashes)
- The intersection of 5th Avenue and Center Street (10 crashes)
- The intersection of Washington Street and Center Street (5 crashes)

Criterion	Description	Score Criteria	Score
Vehicle Crashes	Is this a high crash area for vehicles?	Yes, more than one crash	20
		One crash	10
		Zero crashes	0

Figure 15: Vehicle Crashes



### Pedestrian and Bicycle Crashes

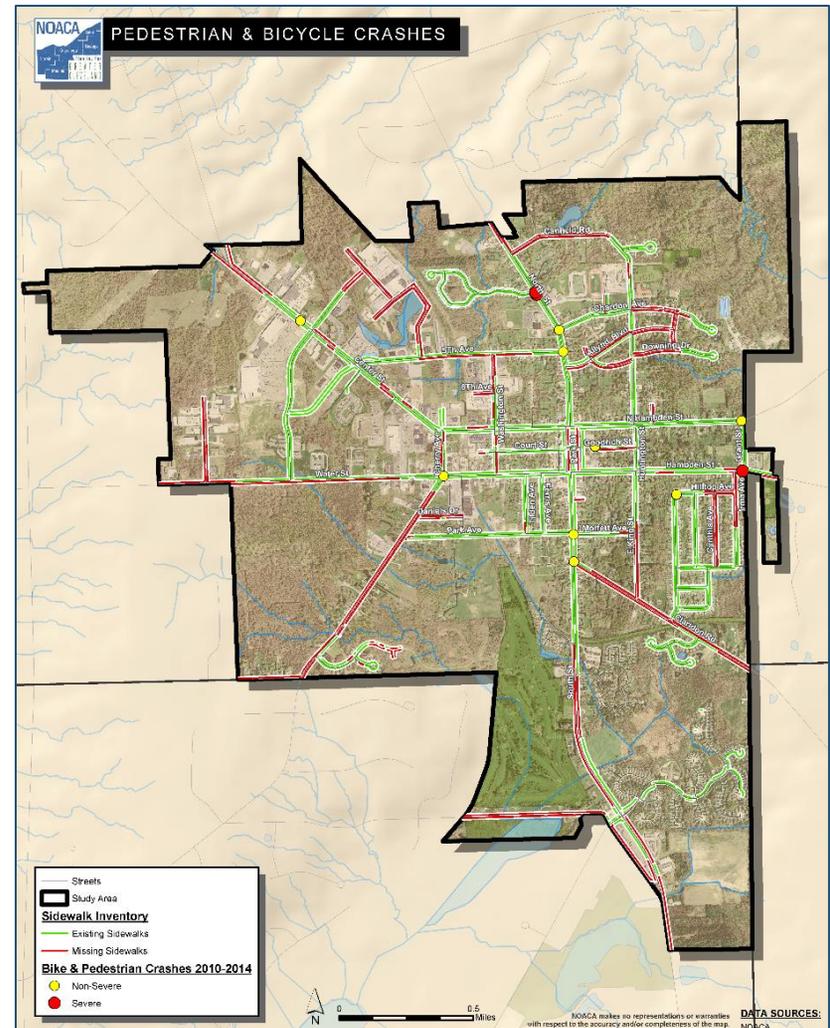
10 pedestrian crashes and two bicycle crashes have occurred in Chardon in the past 5 years (see Figure 16). Of the 10 pedestrian crashes, two were considered a severe injury. One of the two bicycle crashes was considered a severe injury.

Four of the 12 bicycle and pedestrian crashes from 2010-2014 occurred on roadways without a sidewalk.

- South Hambden Street near Grant Street
- Center Street near 7th Avenue
- Goodrich Court near Park Elementary School
- South Street and Claridon Road intersection

Criterion	Description	Score Criteria	Score
Bicycle and Pedestrian Crashes	Is this a high crash area for bicycles or pedestrians?	One or more crashes	20
		Zero crashes	0

Figure 16: Pedestrian and Bicycle Crashes



### Sidewalk on Both Sides of the Street

Many of the missing sidewalk segments have an existing sidewalk on the other side of the street. This means that although it may be in a roundabout way, a pedestrian can walk along that street on a sidewalk. Points in this category were given to missing sidewalk segments with no sidewalks on either side of the street.

Criterion	Description	Score Criteria	Score
Sidewalk on Both Sides of the Street	Is there an existing sidewalk on the other side of the street?	Yes	0
		No	15

### Existing Surface

While each of the 88 missing sidewalk segments does not have an official sidewalk, some have surfaces, such as pavement or concrete, that act as a sidewalk. While they may not actually be a sidewalk, they give pedestrians a place to walk that is not in the street. The plan maintains that a sidewalk should be constructed at every missing sidewalk segment location, but those that already have a surface that acts as a sidewalk will be given a lower priority.

Criterion	Description	Score Criteria	Score
Existing Surface	Is there already a surface acting as a sidewalk?	Yes	0
		No	50

### Closing Gaps in the Network

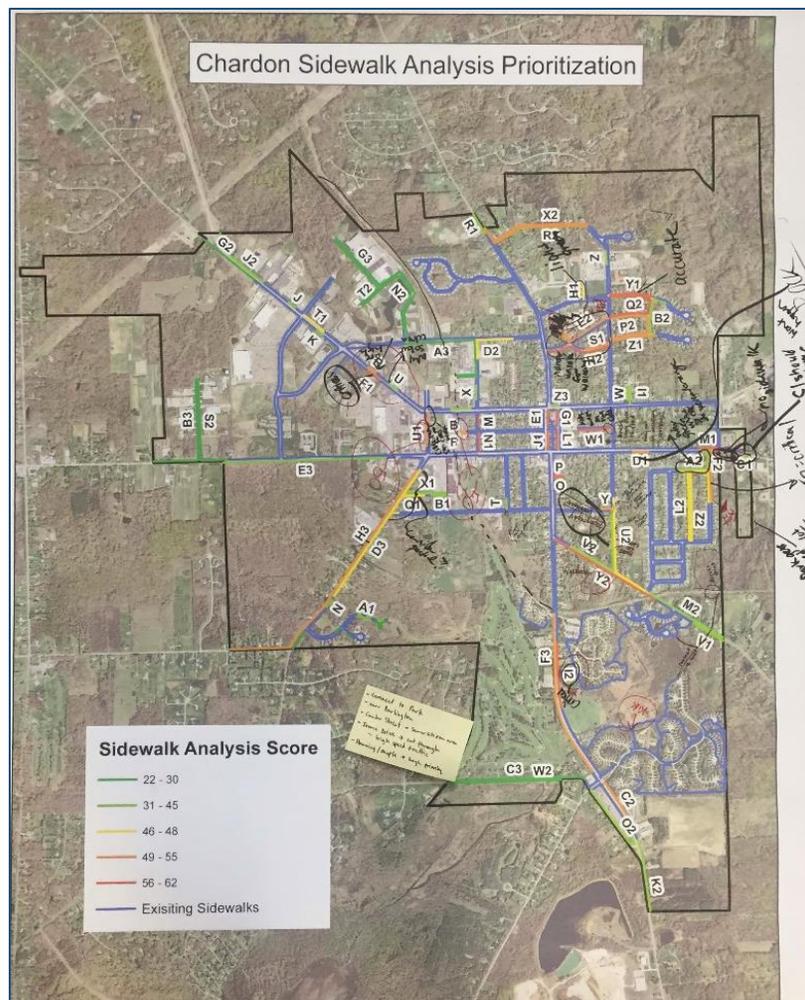
The long-term plan is to have a complete sidewalk network that allows a pedestrian to walk safely throughout the entire City of Chardon. To do that, gaps between existing sidewalks need to be filled, and new paths must be created. Points were awarded to the missing sidewalk segments that fill gaps as opposed to those that create new paths in the interest of making a more complete network. A person walking on an existing sidewalk should not be in a position where the sidewalk suddenly ends on the route they've chosen, forcing them to continue walking in the street.

Criterion	Description	Score Criteria	Score
Closing Gaps in the Network	Does this segment close a gap between existing sidewalks, or does it make a new path?	Closes a Gap	15
		Makes a New Path	0

### Public Input Process

Along with the scoring system, we also included feedback from residents of Chardon collected at multiple meetings throughout the planning process. Residents from the Stakeholder Group, the Planning Commission, the City Council and the general public were presented with the results of the scoring system and provided us with subjective information about walking patterns in Chardon including insight on danger (such as places where vehicles typically speed), popularity of certain destinations in Chardon (increasing the need for a sidewalk nearby), etc. Information was gathered from the public at a public meeting that was held on February 18, 2016, at the Heritage House in Chardon Square, where participants gave their input both verbally and by drawing directly on maps (Figure 17). The information gathered from Chardon’s residents was then factored into the ranking of the sidewalks.

Figure 17: Public Input



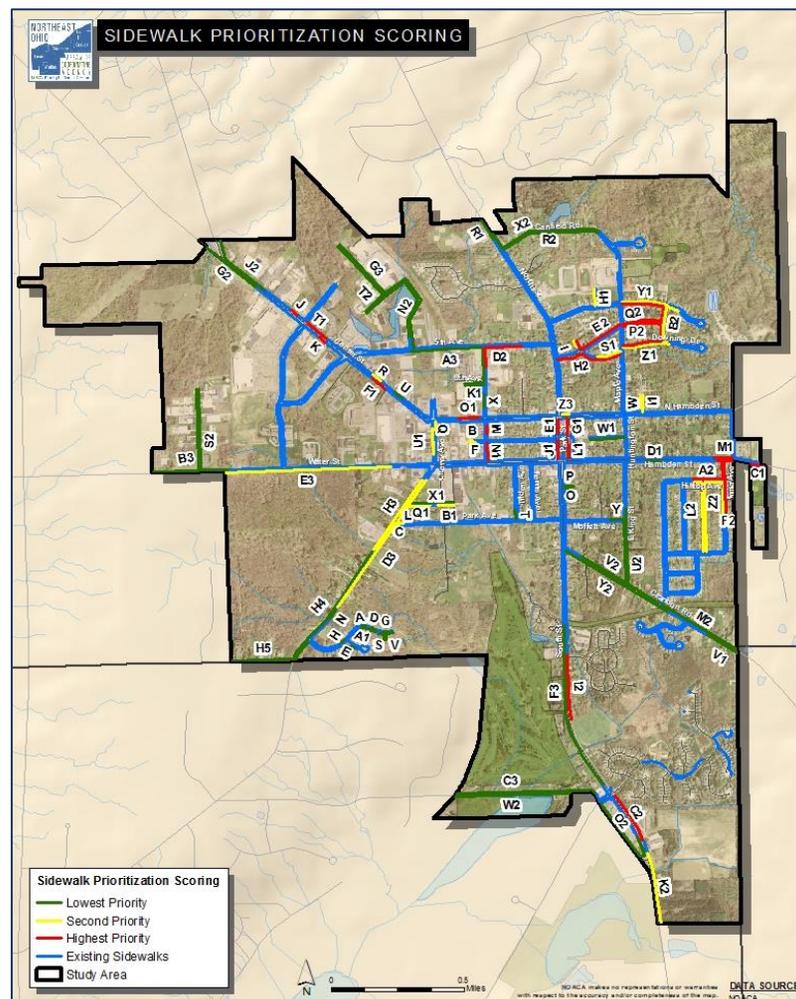
## Sidewalk Prioritization Results

### Rankings

Once missing sidewalk segments were scored in each of the 17 categories, the scores were totaled and ranked from 1 to 88. The results are displayed in the map in Figure 18, where colors represent rankings. The total scores are out of 100.

Missing sidewalk segments with the highest priority are colored in red, followed by those with the second-highest priority colored in yellow and those that scored with the lowest priority, in the bottom 50%, are colored in green.

Figure 18: Sidewalk Prioritization

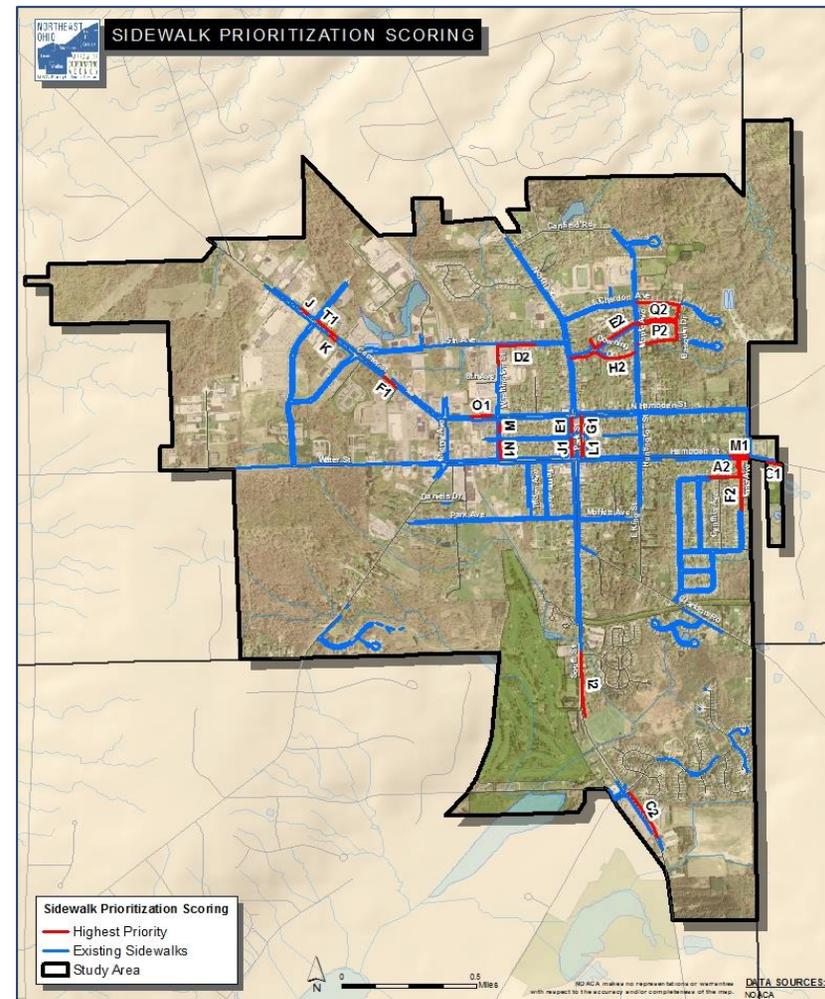


Highest Priority: Red

The top 25% of missing sidewalks segments with the highest scores were categorized as the highest priority for sidewalk construction in Chardon and are shown in Figure 19. Many are concentrated on the northeast corner of Chardon, where many of the schools are located, and near Mel Harder Park. This group also includes the four areas of Chardon Square that do not currently have sidewalks. Image 1 shows a rendering of what sidewalks in the square would look like, and Image 2 shows a rendering of what segment I2 would look like with a sidewalk. In order, the missing sidewalk segments ranked:

Priority	Segment Label	Location
1	P2	Allynd Blvd. from Maple Ave. to Basquin Dr., Basquin Dr. from Allynd Blvd. to Downing Dr., Downing Dr. from Basquin Dr. to Maple Ave.
2	H2	Downing Dr. from Maple Ave. to Allynd Blvd., Allynd Blvd. to North St.
3	D2	Washington St. empty lot to 123 5 <sup>th</sup> Ave.
4	F1	Center St. from Giant Eagle Driveway to Love Insurance
5	M1	South Hambden St. from Grant St. to 367 South Hambden St.
6	Q2	Chardon Ave. from Maple Ave. to Basquin Dr., Basquin Dr. from Chardon Ave. to Allynd Blvd., Allynd Blvd. from Basquin Dr. to Maple Ave.
7	N1	Washington St. between Court St. and Chardon Rd.
8	I2	South St. from Burlington Oval entrance to 493 South St.
9	E2	Allynd Blvd. from Maple Ave. to Downing Dr.
10	F2	Irma Dr. from South Hambden St. to 318 Irma Dr.
11	C1	Chardon-Windsor Rd. in front of Mel Harder Park
12	O1	Center St. from Washington St. to Advanced Auto Parts
13	M	Washington St. between Center St. and Court St.

Figure 19: Highest-Priority Sidewalk Segments



Priority	Segment Label	Location
14	C2	South St. from Woods of Burlington to Shiffler Equipment
15	A2	Irma Dr. from South Hambden St. to Hilltop Dr., Hilltop Dr. from Irma Dr. to 207 Hilltop Dr.
16	T1	Center St. from Heinen's driveway to 7 <sup>th</sup> Ave.
17	K	Center St. in front of Sanborn Plastics
18	J	Center St. in front of 446 Center St. (near Wendy's)
19	L1	East Park St. (southern half of Chardon Square)
20	J1	Main St. (southern half of Chardon Square)
21	G1	E. Park St. (northern half of Chardon Square)
22	E1	E. Park St. (northern half of Chardon Square)

Image 1: Rendering of sidewalk on Chardon Square



Image 2: Rendering of sidewalk segment I2

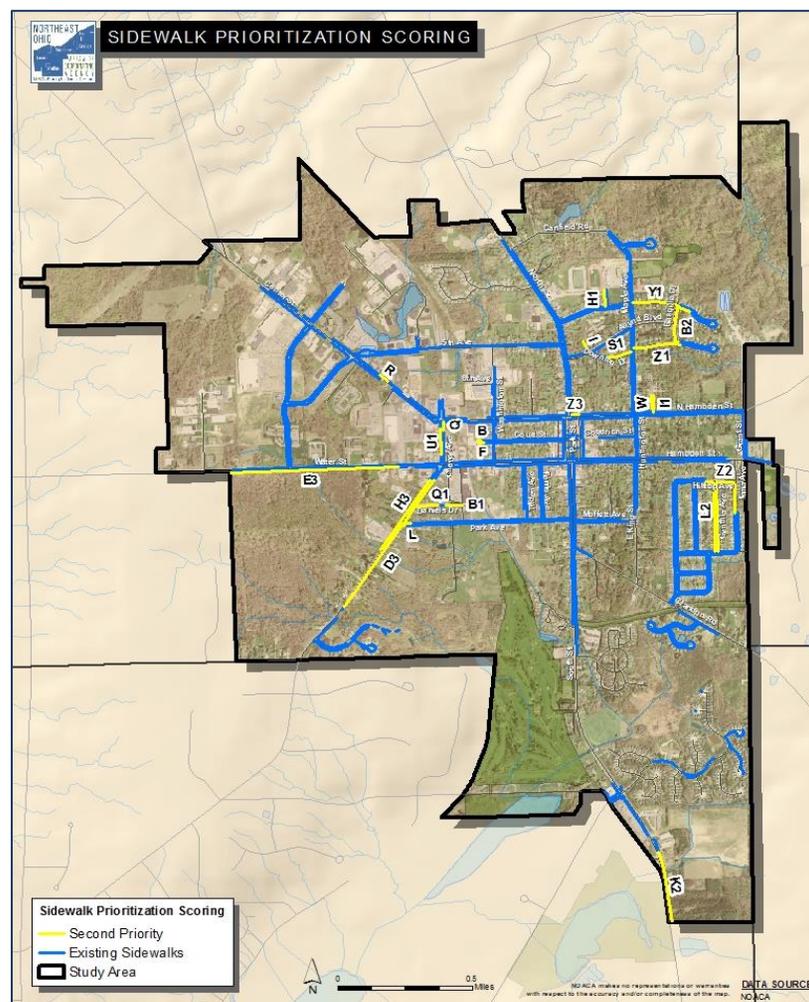


**Second Highest Priority: Yellow**

The next highest priority for sidewalk construction are the second 25%, or those shown in Figure 20. This group includes many of the segments missing sidewalks in Chardon Park Estates and many of the segments along Wilson Mills Road. In order, the missing sidewalk segments ranked:

Priority	Segment Label	Location
23	R	Center St. between Dunkin Donuts and Zappy's Auto Wash
24	Z1	Downing Dr. from Maple Ave to Basquin Dr.
25	S1	Downing Dr. from Maple Ave to 207 Downing Dr.
26	Y1	Chardon Ave. from Maple Ave. to Basquin Dr.
27	B2	Basquin Dr. from Chardon Ave. to Downing Dr.
28	Q	Cherry Ave. from Center St. to 224 Cherry Ave.
29	Z2	Irma Dr. from 316 Irma to Hilltop Ave., Hilltop Ave. from Irma Dr. to Cynthia Dr., Cynthia Dr. from Hilltop Ave. to Crickett Rd.
30	H3	Wilson Mills Rd. from Park Ave. to 317 Wilson Mills Rd.
31	L2	Hilltop Dr. from 305 Hilltop Dr. to Cynthia Dr., Cynthia Dr. from Hilltop Dr. to Crickett Rd.
32	I	The north west corner of Downing Dr. and Allynd Blvd.
33	H1	Memorial Dr. from Chardon Ave. to Chardon High School parking lot
34	D3	Wilson Mills Rd. from Dairy Queen to 390 Wilson Mills Rd.
35	Q1	Daniels Dr. from Wilson Mills Rd. to First Church-Christ Scientist
36	L	Park Ave. from Wilton Mills Rd. to 394 Park Ave.
37	Z3	N Hambden Dr. from Masters Consulting Group to North St.
38	K2	South St. from Five Star Protection to the southern border of Chardon
39	C	The southern side of the intersection of Wilson Mills Rd. and Park Ave.
40	B1	Daniels Dr. from 101 Daniels Dr. to Plaza Dr.
41	W	West side length of Battles Ct.

Figure 20: Second-Highest-Priority Sidewalk Segments



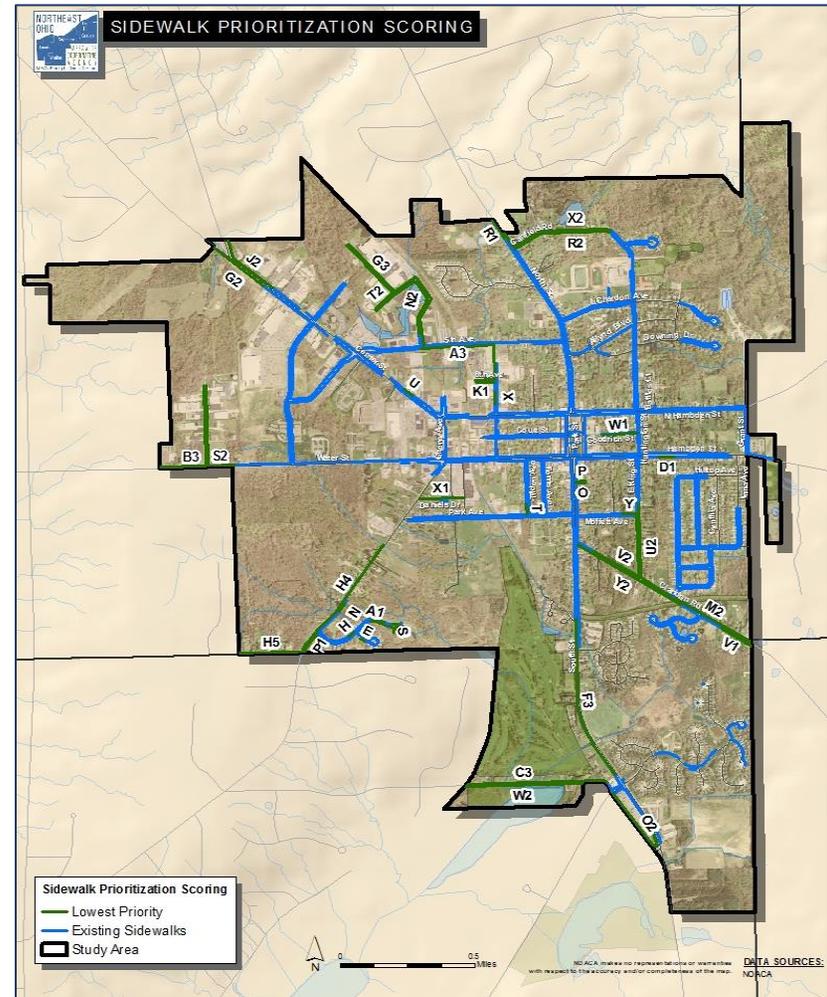
Priority	Segment Label	Location
42	U1	Cherry Ave. from Cherry Center to Taco Bell
43	I1	East side length of Battles Ct.
44	F	Court St. in front of the empty lot
45	E3	Water St. from Autozone to the western border of Chardon
46	B	Court St. in front of 210 Court St.

**Lowest Priority: Green**

The lowest priority is the bottom 50% of the missing sidewalk segments, shown in Figure 21. These segments are more spread out than the other priority groups, and are more on the outskirts of the City. This group includes segments that travel through the “Industrial” zoned areas of Chardon, where pedestrians will not likely be walking. In order, the missing sidewalk segments ranked:

Priority	Segment Label	Location
47	X2	North St. from the northern border of Chardon to Canfield Rd., Canfield Rd. from North St. to 225 Canfield Rd.
48	R2	Canifield Rd. from North St. to 225 Canfield Rd.
49	F3	South St. from Greenway Dr. to Jehovah’s Witnesses
50	Y	Moffet Ave. from 133 Moffet Ave. to E. King St.
51	V2	E. King St. from Moffet Ave. to Claridon Rd. and Claridon Rd. from E. King St. to 121 Claridon Rd.
52	H4	Wilson Mills Rd. from Thwing Rd. to 317 Wilson Mills Rd.
53	X1	Daniels Dr. from Wilson Mills Rd. to Plaza Dr.
54	R1	Ravenna Rd. from the northern border of Chardon to Chardon United Methodist Church
55	O2	Woodiebrook Rd. from Bass Lake Rd. to South St., South St. from Cleats to Woodiebrook Rd.
56	N	Wilson Mills Rd. near 382 Wilson Mills Rd.
57	W1	Goodrich Ct. from Huntington St. to Park Elementary
58	V1	Claridon Rd. from Fox Pointe to the eastern border of Chardon
59	X	Washington St. from B. Anthony’s Salon to Everybodies Gym
60	P	North side of Randall Ct.
61	O	South side of Randall Ct.
62	U	Center St. in front of Chardon Welding
63	M2	Claridon Rd. from Chardon Park Estates to the eastern border of Chardon

Figure 21: Lowest-Priority Sidewalk Segments



Priority	Segment Label	Location
64	A3	5 <sup>th</sup> Ave. from Industrial Pkwy. to Washington St., Washington St. from 5 <sup>th</sup> Ave. to 6 <sup>th</sup> Ave., north side of 6 <sup>th</sup> Ave.
65	G	Hidden Glen Trail
66	D	Hidden Glen Trail
67	A1	Hidden Glen Trail
68	A	Hidden Glen Trail
69	K1	South side of 6 <sup>th</sup> Ave.
70	D1	South Hambden St. from 306 South Hambden St. to 330 South Hambden St.
71	H5	Thwing Rd. from the western border of Chardon to Wilson Mills Rd.
72	P1	Wilson Mills Rd. from Hidden Glen Trail to the southern border of Chardon
73	V	Hidden Glen Trail
74	S2	East side of Parker Ct.
75	S	Hidden Glen Trail
76	J2	Center St. from northern border of Chardon to 470 Center Place (Geauga County Offices)
77	H	Hidden Glen Trail
78	G2	Center St. from northern border of Chardon to 473 Center St. (Chardon Rental)
79	Y2	Claridon Rd. from South St. to Fox Pointe
80	G3	Entire east side of Industrial Pkwy. and Park Dr.
81	B3	Entire west side of Parker Ct., Kirtland Chardon Rd. from Parker Ct. to western border of Chardon
82	E	Hidden Glen Trail
83	N2	Entire west side of Park Dr., Industrial Pkwy. from northern end of Park Dr.
84	W2	Woodiebrook Rd. from Jehovah's Witnesses to the border of Chardon
85	T2	Industrial Pkwy. from Park Dr to 5 <sup>th</sup> Ave.
86	C3	Woodiebrook Rd. from Jehovah's Witnesses to the border of Chardon
87	U2	E. King St. from 231 E. King St. to Claridon Rd., Claridon Rd. from E. King St. to Karen Dr.
88	T	Tilden Ave. from 128 Tilden Ave. to Park Ave.

### Cost Estimate

A planning-level cost estimate for each sidewalk segment is given based on the assumption of \$121 per foot for a five-foot-wide sidewalk. This assumption was developed in partnership with the Cuyahoga County Department of Public Works. This cost includes assumptions for the cost of concrete, erosion control, drainage, surveying and engineering, and contingency and may be lower or higher based on site characteristics and engineering development. This cost does not include right of way acquisition.

Table 1 shows each of the 88 sidewalk segments and its length in feet and cost based on length. Table 2 shows the total cost of each of the three priority groups.

Table 1: Cost estimate, with a cost per foot of \$121

Segment	Length (Feet)	Segment Cost
P2	1,879.70	\$227,444
H2	1,323.80	\$160,180
D2	1,126.31	\$136,283
F1	318.10	\$38,490
M1	378.53	\$45,802
Q2	1,905.46	\$230,560
N1	385.96	\$46,701
I2	1,325.91	\$160,435
E2	1,127.02	\$136,369
F2	1,206.45	\$145,981
C1	313.64	\$37,950
O1	397.03	\$48,040
M	174.31	\$21,092
C2	1,057.38	\$127,943
A2	1,008.59	\$122,039
T1	505.10	\$61,117
K	153.95	\$18,629
J	152.31	\$18,429
L1	373.26	\$45,164
J1	369.74	\$44,738
G1	341.60	\$41,333
E1	314.94	\$38,107
R	193.58	\$23,423
Z1	930.68	\$112,612
S1	486.37	\$58,850
Y1	908.77	\$109,961
B2	1,011.87	\$122,436
Q	186.95	\$22,621
Z2	2,370.91	\$286,880
H3	1,660.58	\$200,930
L2	1,567.37	\$189,652
I	151.63	\$18,347
H1	343.33	\$41,543
D3	3,116.17	\$377,056
Q1	440.98	\$53,359

Table 1, continued

Segment	Length (Feet)	Segment Cost
L	159.45	\$19,294
Z3	187.58	\$22,697
K2	1,449.77	\$175,422
C	65.27	\$7,897
B1	310.92	\$37,622
W	277.06	\$33,524
U1	533.91	\$64,603
I1	347.07	\$41,995
F	111.76	\$13,523
E3	3,310.28	\$400,544
B	65.13	\$7,880
X2	2,356.01	\$285,077
R2	1,978.63	\$239,414
F3	3,394.76	\$410,765
Y	281.49	\$34,060
V2	2,271.23	\$274,819
H4	2,346.14	\$283,883
X1	865.93	\$104,777
R1	462.53	\$55,966
O2	1,830.70	\$221,515
N	180.15	\$21,798
W1	703.30	\$85,100
V1	702.56	\$85,010
X	280.75	\$33,971
P	182.45	\$22,076
O	181.63	\$21,977
U	213.32	\$25,811
M2	1,747.92	\$211,498
A3	2,533.11	\$306,506
G	114.84	\$13,896
D	69.83	\$8,450
A1	307.44	\$37,200
A	59.60	\$7,212
K1	370.45	\$44,825
D1	313.78	\$37,968
H5	1,452.80	\$175,789
P1	424.50	\$51,365

Segment	Length (Feet)	Segment Cost
V	248.88	\$30,115
S2	2,174.43	\$263,106
S	210.63	\$25,486
J2	1,373.30	\$166,169
H	123.50	\$14,943
G2	1,269.62	\$153,624
Y2	2,362.11	\$285,815
G3	3,413.74	\$413,063
B3	2,543.34	\$307,745
E	94.73	\$11,462
N2	1,826.03	\$220,950
W2	2,327.56	\$281,635
T2	2,189.68	\$264,951
C3	2,766.23	\$334,714
U2	2,231.44	\$270,004
T	213.06	\$25,781
<b>Total</b>	<b>85,867.81</b>	<b>\$10,565,789</b>

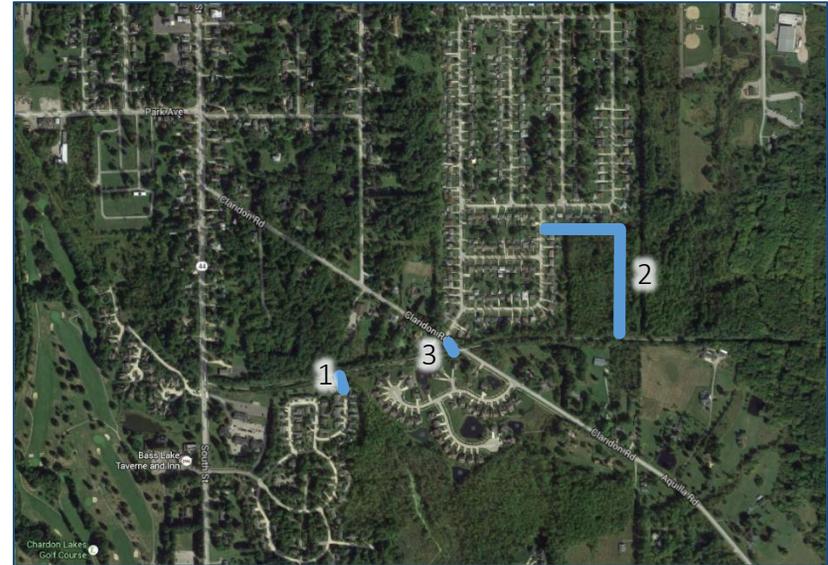
Table 2: Cost estimate by priority group, cost per foot of \$121

Priority Group	Length (Feet)	Total Cost
Red	16,139.07	\$1,952,827
Yellow	20,187.36	\$2,442,670
Green	50,994.14	\$6,170,291

## Alternative Entrances to the Maple Highlands Trail

The Maple Highlands Trail currently has four trailheads: 5<sup>th</sup> Avenue, Center Street, Water Street and South Street. While these entrances are convenient to many Chardon residents, they are not well located for all. This is a particular concern for those living in the southeast area of Chardon who are located near the southern portion of the Trail, but have to travel a roundabout way to reach the entrance on South Street. This deters people from using the Trail and causes people to access it using unofficial entrances, such as through a neighbor's backyard. The goal of creating shorter distances to the trail is to remove or shorten the trip between a residence and the Trail, especially one long enough where users feel they have to drive. We have identified three alternative entry points to the southern portion of the Maple Highlands Trail, which are all shown in Image 3.

Image 3: Three alternative entry points to the Maple Highlands Trail



### Connection 1: Burlington Oval Trail to Maple Highlands Trail

The first connection is off Brandon Court in the Burlington Oval neighborhood. There is a private trail that runs throughout this neighborhood, and a worn footpath runs from that trail to the Maple Highlands Trail (as shown in Image 5 and 6). This footpath is evidence that many people cut through from the Burlington Oval Trail on Brandon Court to the Maple Highlands Trail. Putting a path here would provide safe and direct access to people who live in Burlington Oval.

Image 4: Connection 1



Image 5: Worn footpath from Burlington Oval Trail to Maple Highlands Trail



Image 6: Worn footpath from Burlington Oval Trail to Maple Highlands Trail



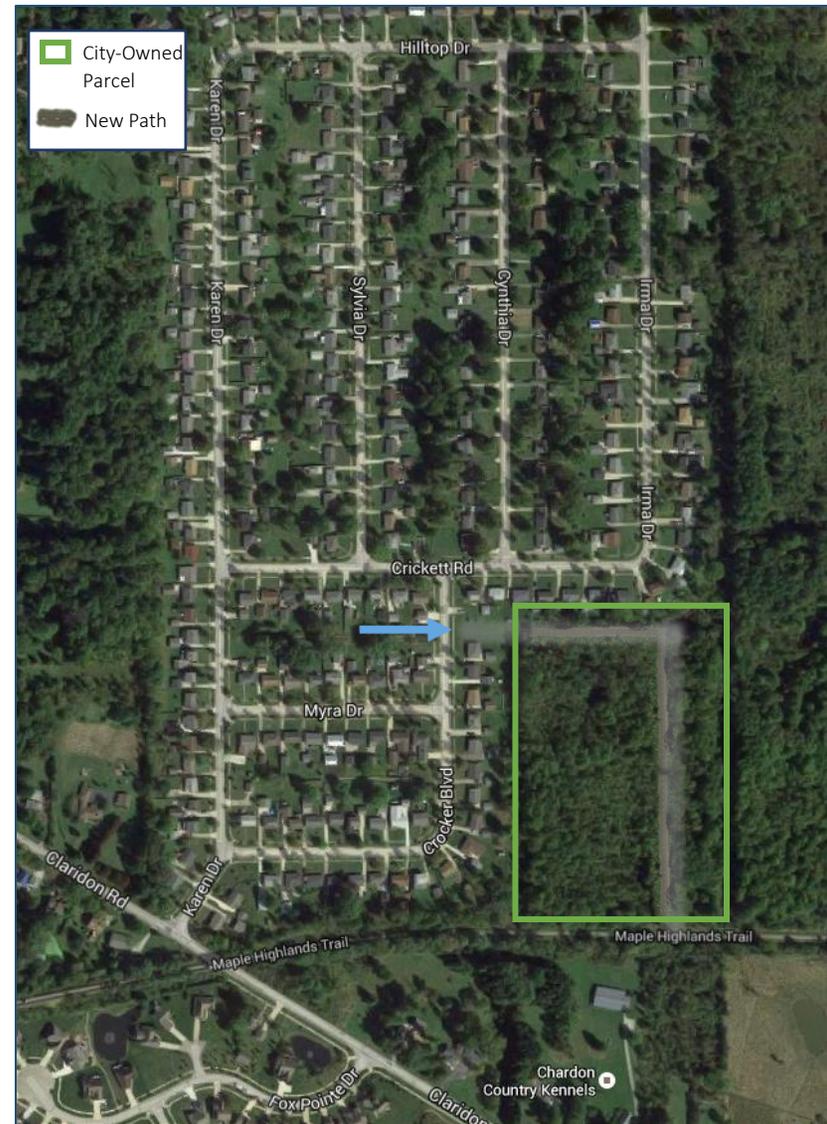
### Connection 2: Chardon Park Estates to Maple Highlands Trail

The second connection identified would provide access to the Chardon Park Estates neighborhood. A worn footpath can be seen in Image 7, traveling behind Crocker Boulevard and connecting to the Trail. This path is evidence that some people who live in Chardon Park Estates cut through the backyards of the homes on the east side of Crocker Boulevard to access the Trail rather than through the closest trailhead on South Street. To get to the South Street trailhead, residents have a nearly three-quarters-of-a-mile trip from the entrance of the neighborhood, a distance that many would consider driving rather than walking or biking. The City owns the parcel (shown in green in Image 8) through which the majority would travel.

Image 7: Worn footpath from Chardon Park Estates to the Maple Highlands Trail



Image 8: Connection 2

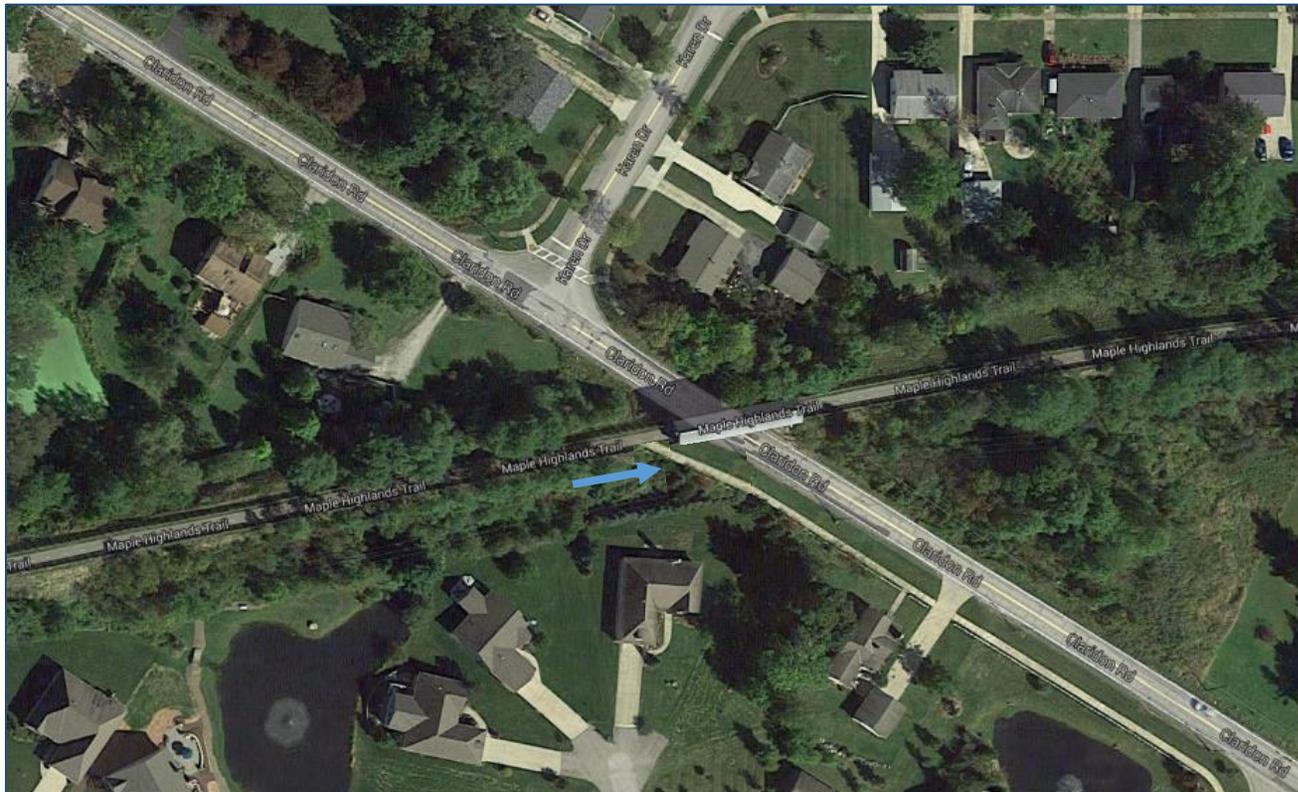


### Connection 3: Claridon Road to the Maple Highlands Trail

The third connection is on Claridon Road where it intersects with the Maple Highlands Trail. With the Fox Pointe and Chardon Park Estates neighborhood entrances nearby, this location would give residents in these neighborhoods access the trail. Currently, residents in these two neighborhoods have to travel three quarters of a mile to get to the entrance on South Street.

Where the Trail intersects with Claridon Road, there is a change in elevation as the Trail travels over Claridon Road. This elevation will be a challenge for designing an entry point, as the path will have to be on an incline, or will involve stairs.

Image 9: Connection 3



## New Maple Highlands Trail Segment Alignment

The last piece of the Maple Highlands Trail before it is fully connected through the City of Chardon is between Water Street and South Street. Two possible alignments for this segment of the Trail are proposed. Both are shown in Figure 25.

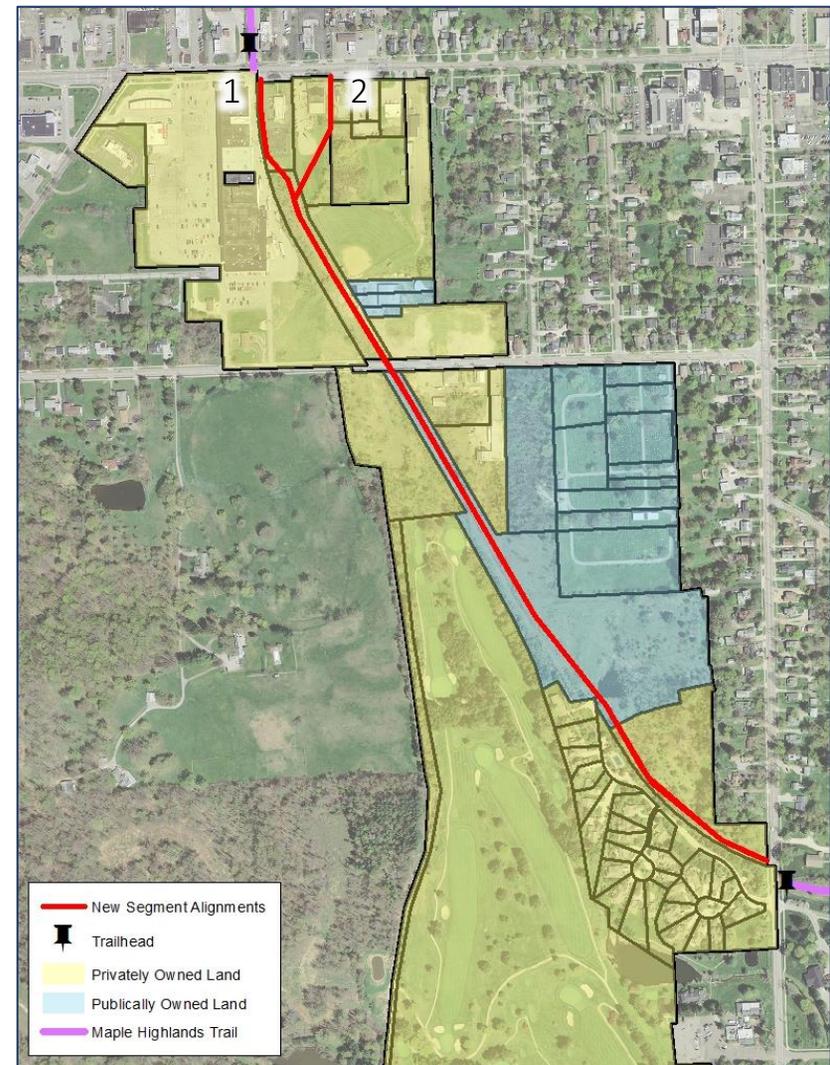
The two alignments differ in where they begin at the north end. The first alignment begins on the west side of the Arby's, where there is currently a row of parking spots that would need to be taken out. The second alignment begins on the east side of Haueter's Lawn & Sport Center, next to Premium Vapors.

Both then move south onto the CSX Transportation-owned property, which is currently vacant and travels to Park Avenue. After Park Avenue, both stay within City-owned property until the path nears the Burlington Green neighborhood. The path then leads through the large vacant parcel located east of Burlington Green that is owned by Mary and David Smith, the same owners of the two homes immediately to the north of the Burlington Green entrance.

Right-of-way acquisition must occur on three properties: the Arby's (owned by Lamendola Enterprises, Inc.) in Alignment 1 or Haueter's in Alignment 2, the property owned by CSX Transportation, Inc. and the property owned by Mary and David Smith.

This project has been added to NOACA's Long Range Transportation Plan. Alternatives will be further studied as part of the project development process.

Figure 25: Two alignments for the new segment of the Maple Highlands Trail



## Funding and Implementation

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The recommendations in this plan can be financed multiple ways. NOACA's Transportation for Livable Communities Initiative (TLCI) Implementation Grant program is available to fund (in full) some of the recommendations of the plan, such as sidewalks, paths and crosswalks that provide access to the Maple Highlands Trail. The intent of the TLCI Implementation Program is to help implement lower-cost projects from completed studies and plans, such as this one, in order to help communities improve safety and build a multimodal transportation system.

Attached is the Cuyahoga County Complete Streets Toolkit Funding Table. It includes numerous funding sources, many of which fund sidewalk construction. From the funding sources listed, the following consider sidewalks an eligible project: NOACA's Transportation Alternatives program, Safe Routes to School Program, ODOT's Safety Program, NOACA's Surface Transportation Program, the County Engineers Association's County Surface Transportation Program, NOACA's Congestion Mitigation Air Quality program, Ohio Public Works Commission's State Capital Improvement Program, Geauga County's County Permissive License Plate Fees, Local Permissive License Plate Fees and HUD's Community Development Block Grants.