

## PLAN CREATED FOR THE CITY OF HUDSON, OHIO BY OHM ADVISORS









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## **ACKNOWLEDGMENTS**

Many thanks to everyone who contributed to this plan, which will cause a significant positive impact on the community of Hudson, when it becomes a reality:

## THE CITIZENS OF HUDSON WHO PARTICIPATED IN THE PLANNING PROCESS

## STEERING COMMITTEE

HAL DeSaussure, City Council
GREG Hannan, City of Hudson
LORI McCleese, Hudson Community Foundation
ALEX Kelemen, City Council
KRIS McMaster, City of Hudson

RICK Kellar, Margaret C. Morgan Foundation

NICK Moskos, Summit Metro Parks

LIZ Murphy, Destination Hudson

**HEATHER Reidl, AMATS** 

MARK Richardson, City of Hudson

MICHAEL Ryba, Resident

THOMAS Sheridan, City of Hudson

KEITH Smith, Park Board

MIKE Spalding, Resident

TRENT Wash, City of

Hudson

## **PROJECT TEAM**

**CURTIS Baker**, AMATS

GREG Hannan, City of Hudson

MATT Hils, OHM Advisors

**NANCY Lyon Stadler, WSP** 

KRIS McMaster, City of Hudson

**HEATHER Reidl**, AMATS

MARK Richardson, City of Hudson

THOMAS Sheridan, City of Hudson

## **PLANNING TEAM**

OHM Advisors WSP



01

## INTRODUCTION

01.1 EXECUTIVE SUMMARY

01.2 PROJECT PROCESS

01.3 AMATS CONNECTING

**COMMUNITIES INITIATIVE** 

01.4 TERMINOLOGY

## 01.1 EXECUTIVE SUMMARY

In 2000, The City of Hudson completed the Hudson Parks Master Plan, which recommended implementing a network of trails to make Hudson a more cohesive and livable community, encourage economic growth, increase property values, and link it with the surrounding region. Five of the trails were designated as Priority 1, (see Figure 1, below) two of which connect in downtown Hudson, and comprise the Hudson Veterans Trail. The Veterans Trail connects downtown Hudson to the Summit Metroparks' Hike and Bike Trail, at the north and south ends of the Veterans Trail.

One of the biggest challenges was to determine how to best route the Veterans Trail through downtown Hudson in the Study Area. This was the primary goal of the Downtown Hudson Trail and Greenway (DHTG) study; other goals and parameters of the study include:

- 1. Create a complete greenway, preferably via a continuous all-purpose trail, to provide a recreational and transportation facility.
- 2. Connect the current First and Main retail area to the proposed, adjacent Downtown Phase II development.
- 3. Route the trail through downtown, to create full connectivity with the city's core amenities.
- 4. Contribute to downtown Hudson's viability by making the greenway a full amenity, unique to the City of Hudson, rather than simply an active transportation facility.

The Project Team engaged in a systematic process to assess existing conditions, develop and evaluate alternatives, and arrive at a preferred alignment that best meets the above-mentioned goals.

## South End

Early in the project, it became clear that only one alignment is viable at the south end, starting at the study terminus of the Veterans Park parking lot, on the south side of Veterans Way. The route crosses Veterans Way, heads east to State Route 91, and under the railroad bridge. See Figure 1 for a summary map of the alignment options.

## Options

At this point, two options emerged:

Option # 1: Continue north to State Route 303 and then west, parallel to 303, to opposite DO Summers Option # 2: Cross the stream, turn northwest, and run parallel to the stream, to the point opposite DO Summers.

## Option #1 is desirable, due to:

- 1. Its high visibility,
- 2. Lower installation costs (relative to Option #2,) and
- 3. Funding that the City of Hudson has secured for SR 91 and SR 303 improvements.

## Option #1 is undesirable, due to:

- 1. The six vehicular driveways it crosses (safety issue,) and
- 2. The lack of sufficient room for a full-width all-purpose trail.

## Option #2 is desirable, since:

- 1. The alignment does not cross driveways, and
- 2. The path along the stream has potential to create a visually pleasing experience for trail users.

Option #2 is undesirable, since:

- 1. There currently is little room between the parking lots and stream channel, requiring either a significant loss of parking spaces or a costly reconfiguration of most of the parking lots to minimize that loss.
- 2. Costly boardwalk(s) would also be necessary to maintain traffic flow around the neighboring businesses, and keep the trail out of the stream's floodplain.

The Planning Team also developed a matrix to evaluate factors which affect the feasibility of implementing the options; Option #1 received a slightly higher score of 200, compared to Option #2's score of 194. Based on all of the considerations listed above, the Project Team determined Option #1 was chosen as the preferred alignment.

After the trail crosses Route 303 at DO Summers, the Project Team examined two options to arrive at Village Way:

- Option #3: Head west along Route 303, cross the stream, turn northwest, proceeding within the railroad property, to turn due north, west of the Cutler Real Estate offices.
- Option #4: Proceed north along Library Street, turn west between DO Summers and the Salon building, parallel the stream, and turn west to run along the south side of Village Way.

Option #3 is desirable since it does not impact parking and could utilize stream restoration funding sources, but requires an easement and right-of-entry permit from the railroad, and necessitates the extension and realignment of the stream culvert.

Option #4 is desirable since it, too, could capitalize on stream restoration funding sources, but its significant impact on parking and its circuitous route makes it less desirable than Option #3. Based on these considerations and a feasibility matrix score of 204 for Option #3 and 194 for Option #4, Option #3 was chosen as the preferred alignment.

## North End

Only one alignment was clearly desirable, after crossing Village Way from Option #3: widen the existing library trail along the stream to 10', cross Clinton Street, continue along the stream, and turn west at Owen Brown Street, to connect to the study terminus at Owen Brown Street and Morse Road.









## Recommendations

The Greenway Plan, Figure 2, shows the recommended alignment for the downtown portion of the Veterans Trail. Recommendations beyond the trail alignment include:

- 1. As demonstrated in the options discussion above, spatial constraints exist in multiple locations along the alignment. The proper balance between trail user safety/comfort and property owners' needs will have to be studied carefully, during the future design and engineering phase.
- 2. Use pavement treatments to integrate the trail into local context and to improve safety.
- 3. Prioritize pedestrians at street crossings, for improved visibility and safety, with tabled, specialty pavement crosswalks.
- 4. Incorporate elements and unique enhancements that make the trail a true community amenity. Examples include a trailhead in the green space adjacent to Faranacci Pizza, a gathering node at the southwest corner of State Routes 303 and 91, and interpretive signage along the trail that speaks to the history of Hudson. Site furnishings, and lighting will maximize trail users' comfort and sense of security. Wayfinding signage will express the city's brand, and create clarity with trail system mapping and directions to local and regional assets.
- 5. The trail will be an opportunity to increase the City of Hudson's commitment to sustainability. Green infrastructure can neutralize the trail's increase in impervious surface, and shade trees will reduce the urban heat island effect, reduce air pollution, and increase property values. Restoring the stream where the trail runs parallel to it, to a more naturalistic condition, could help reduce downstream flooding and improve water quality.
- 6. During the future design and engineering phase, the project team must determine who will maintain the trail and related improvements, assess that entity's maintenance capacity, and design within that capacity.

## **Next Steps**

The trail can be phased in three segments, as denoted on the Downtown Hudson Veterans Trail Greenway Plan. In order to implement the recommendations of this study, the City of Hudson and Veterans Trail champions should prioritize those segments, determine the most appropriate funding sources to pursue, secure the funds, and commence the design & documentation stage, for construction.

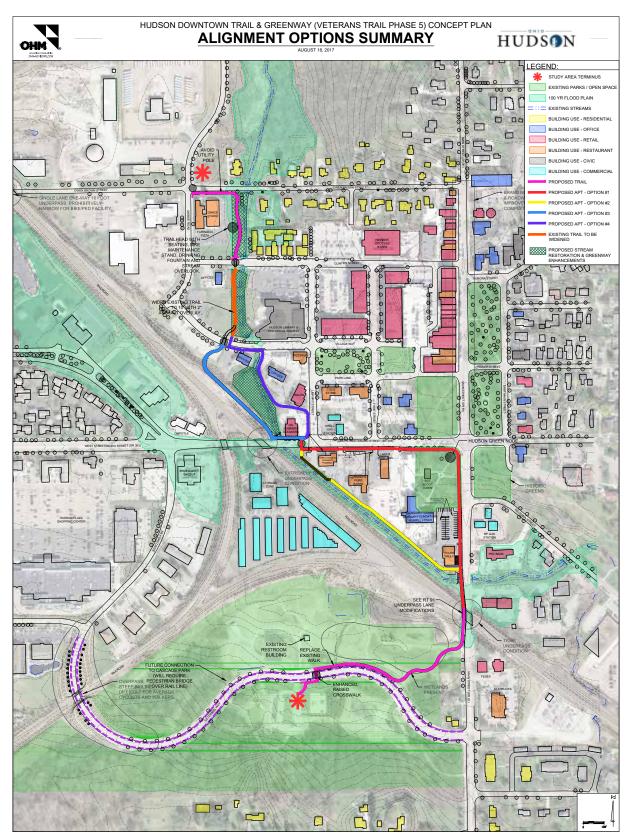


FIGURE 1: ALIGNMENT OPTIONS SUMMARY

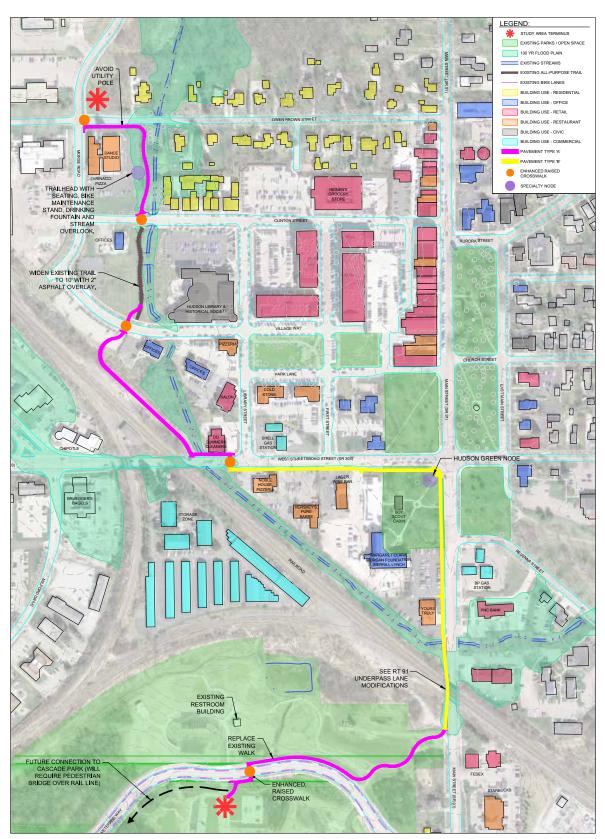


FIGURE 2: DOWNTOWN HUDSON TRAIL & GREENWAY PLAN

## **01.2 PROJECT PROCESS**

The study followed a systematic set of steps, in an attempt to incorporate all available information and input, for as comprehensive a plan as possible.



## 01.3 AMATS CONNECTING COMMUNITIES INITIATIVE

The Akron Metropolitan Area Transportation Study's Connecting Communities Initiative aims to "...encourage incremental, small-scale, and practical modifications to the way that our transportation system and our built environment interact with one another..." in order that "...communities throughout (AMATS') region will become better, more interconnected places to live." The Downtown Hudson Trail & Greenway (DHTG) study aims to meet as many of the Connecting Communities Initiative's goals as possible:

- 1. Improve pedestrian planning and facilities through targeted investments.
- 2. Improve bicycle planning and facilities through targeted investments.
- 3. Enhance public transportation systems to meet the needs of current users and be attractive to new users.
- 4. Incorporate complete streets principles into land use and transportation decisions.
- 5. Implement land use policies that improve community cohesion and reduce urban sprawl.
- 6. Integrate environmental planning into land use and transportation planning.
- 7. Improve inter-agency coordination on regional planning.

## 01.4 TERMINOLOGY

When discussing non-motorized transportation (e.g. walking, hiking, running, bicycling, skating, cross-country skiing, roller blading) it is important to understand a number of concepts:

- **All Purpose Trail (APT)** A path segregated from motorized traffic for use by all non-motorized traffic. APT's can be paved or unpaved.
- **Bike Lane** A portion of a roadway that has been designated by signing, pavement striping, and other pavement markings for the exclusive use of bicyclists.
- **Bike Route / Bikeway** Any combination of bicycle facilities which provide cyclists a designated route between destinations.
- **Buffered Bike Lane** Bike Lanes with pavement markings that denote a buffer between the bike lane and the motor vehicle parking and driving lanes.
- Facility Any built form of non-motorized transportation.
- **Right-of-Way (R.O.W.)** The area along each roadway that is publicly owned and maintained. R.O.W. widths vary widely.
- Separated Bicycle Facilities Formerly known as cycle tracks or protected bike lanes, these are exclusive bike facilities that combine the user experience of a separated path with the on-street infrastructure of a conventional bike lane. Separated bicycle facilities are physically separated from motor traffic and distinct from the sidewalk and usually are found in urban settings.
- **Sharrow** Also known as Shared Lane Markings, sharrow pavement markings indicate a shared road condition for automobiles and cyclists. Where possible, travel lanes with sharrows should be wider than the standard lane width. Also, signage stating "bikes may use full lane" further designate the shared routes.
- **Sidewalks** All walkways which run parallel to roadways and typically are within the R.O.W. serve pedestrians best (walking or running.)
- **Trail Head** A loading and unloading point along an APT, which often provides parking, information about the trail and connecting facilities, trash receptacles, and sometimes includes restrooms, water, concessions, seating and bicycle maintenance stations.

## 01.4 TERMINOLOGY

















02

**EXISTING CONDITIONS** 

02.1 Overview

## **EXISTING CONDITIONS**

## **02.1 OVERVIEW**

In order to understand the study's local and regional context, the planning team reviewed related studies and plans, within and near the city boundaries:

- Hudson Parks Master Plan, dated June, 2000
- Heights to Hudson Planning Study, 2011
- AMATS 2016 Bike Plan, dated July, 2016

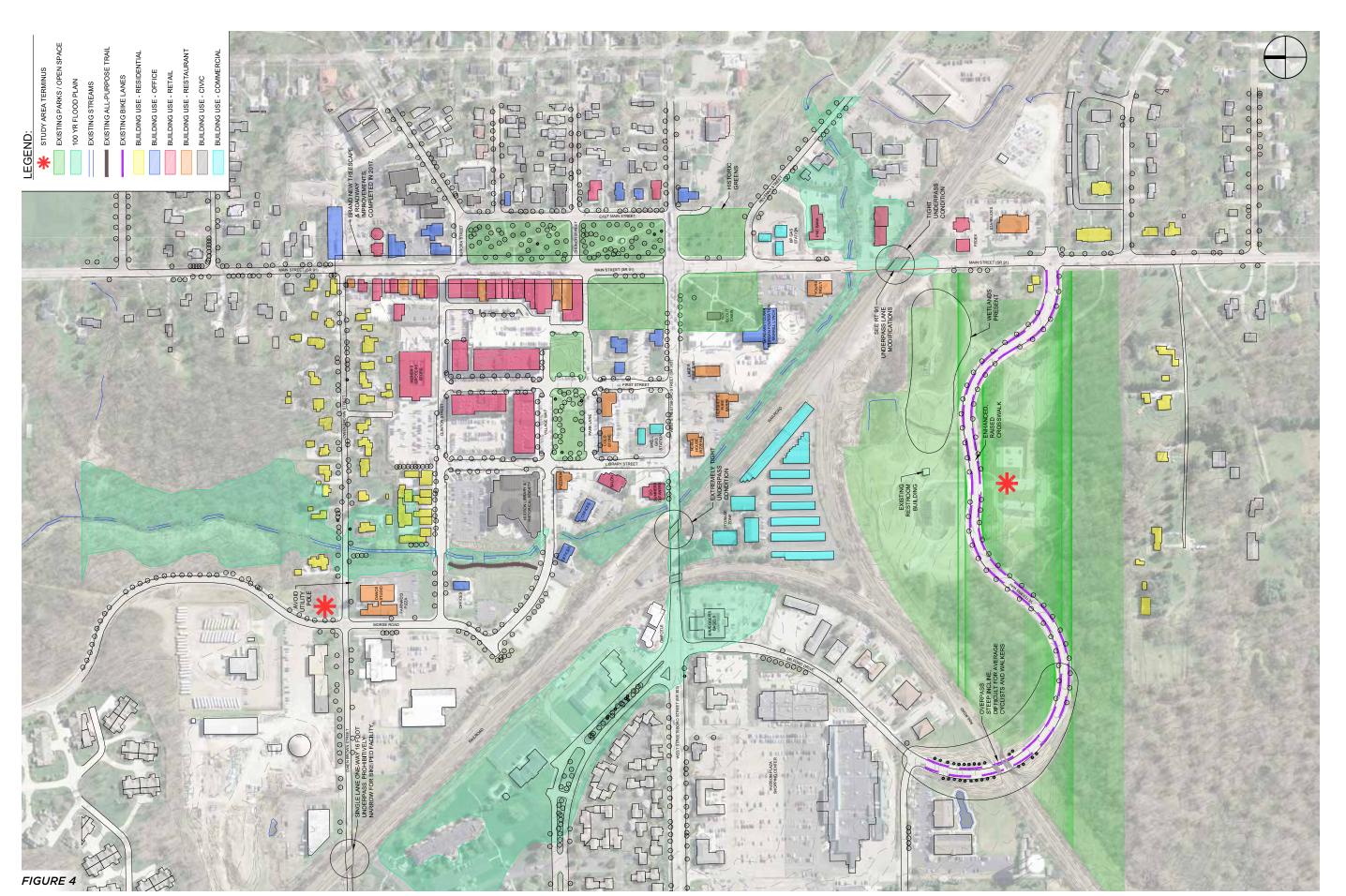
The planning team documented current conditions within the study area by compiling Geographical Information System data, performing a series of walk-, bike-, and drive-throughs of the study area, and incorporating feedback from the Project Team and Steering Committee.

From the above-mentioned inventories, several general conditions became clear:

- 1. There is a rich, full complement of community assets in the study area: library, Town Hall and administrative offices, retail, restaurants, open space, historic greens, historical society, and single family residential.
- 2. The Norfolk Southern railroad line, crossing diagonally from the northwest to the southeast, slices across the study area, and creates the most significant barrier to the greenway alignment.
- 3. The stream running through downtown could be a visual and better environmental asset, if existing vegetation were managed and the waterway's banks were restored to a more natural condition.
- 4. Flooding has been an issue. The city has implemented flood management strategies, with more under design, but the stream's floodplain must be considered, when examining trail alignment options.
- 5. While sidewalks exist along most roadways, the overall transportation infrastructure and downtown layout is dominated by and defers to motorized vehicles.
- 6. Maintaining automobile parking capacity is a high priority in the city.
- 7. The city is examining ways to optimize vehicular flow and storage, and is in the middle of several studies:
  - A. Parking inventory and study
  - B. Intelligent signalization at State Routes 91 and 303
  - C. Traffic Study for Downtown Phase 2

Several more specific conditions are noted on Figure 4.

In parallel, AMATS performed a Discovery Analysis, with similar and additional observations. A copy of the analysis is included in the appendix.



HUDSON DOWNTOWN TRAIL & GREENWAY (VETERANS TRAIL PHASE 5) CONCEPT PLAN

# **EXISTING CONDITIONS**

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## 03

## **CONCEPT DEVELOPMENT**

**03.1 GUIDELINES** 

03.2 CONCEPT DEVELOPMENT WORKSHOP

03.3 OPTION 1

**03.4 OPTION 2** 

**03.5 OPTION 3** 

03.6 OPTION 4

03.7 ROUTE 91 UNDERPASS

03.8 PUBLIC MEETING

03.9 ALIGNMENT CONCLUSIONS

## **03.1 GUIDELINES**

Per the Project Process Figure 3, the Concept Development Workshop followed the Existing Conditions assessment. Prior to discussing the workshop, however, some basic parameters must be understood.

## **FACILITY SELECTION**

Since all-purpose trails (APT) serve the widest population of potential users (the goal is to create facilities that serve all users from 8 years old to 80 years old,) APTs are the most desirable facility for bike-ped applications. APT's, however, have certain limitations, including space requirements and cost to implement.

Where there is insufficient room to build an APT, and/or the expected demand or low safety need (e.g., a low-vehicle volume street in a residential neighborhood with an existing sidewalk,) does not justify the cost to build an APT, other options can be entertained, such as bike lanes, and sharrows.

## **DESIGN STANDARDS**

Design standards are developed for the safety of the end user and those who may be affected by actions of the end user. All non-motorized facilities built with any involvement of federal dollars are required to adhere to the minimum standards set by the The Ohio Department of Transportation (ODOT) and the American Association of State Highway and Transportation Officials (AASHTO). In addition to the standards shown in Figure 5, below, and Figure 6, the following requirements exist for APT's:

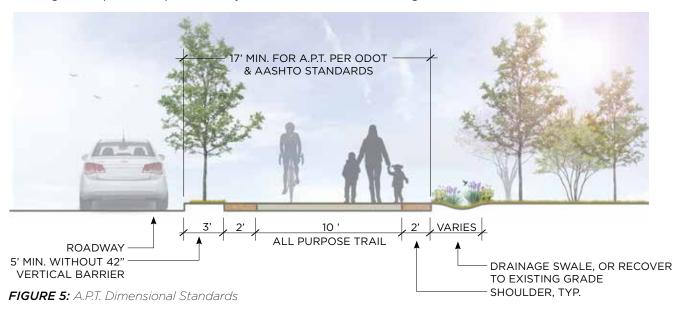
- Two-way bridge width: 14' min.
- Minimum deflection angle at 20MPH: 1°54'
- Maximum grade along APT: 5%
- Minimum side clearance: 3'

## **SIGHT DISTANCES**

In order for in-line skaters and cyclists to have a chance to see and react to the unexpected, an APT should have adequate sight stopping distances. Sight distances apply not only to horizontal and vertical curves, but also visual obstructions at intersections. APT design must consider intersections with roads, other APT's, and driveways.

## **ODOT DESIGN EXCEPTIONS**

Where existing conditions prevent the design from meeting all standards, the owner can submit a formal written Design Exception Request, with justification for not meeting the standards.



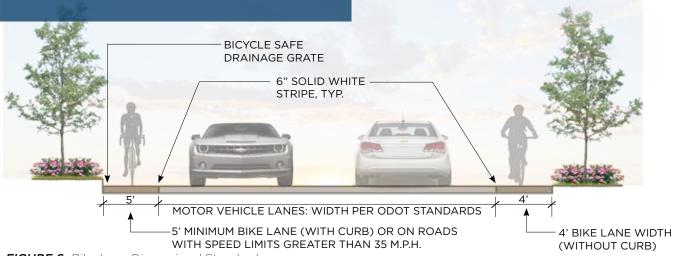


FIGURE 6: Bike Lane Dimensional Standards

A formal written Design Exception Request is required for the following conditions: APT width, bike lane width, bridge width, horizontal alignment (curve radius), grades, inadequate horizontal clearance (including lack of barrier or distance between a shared use path and a roadway), and inadequate vertical clearance.

## 03.2 CONCEPT DEVELOPMENT WORKSHOP

On July 24, 2017, the Steering Committee assembled at Town Hall, for a half-day workshop. After an introductory presentation, Active Transportation (AT) educational session, and discussion of workshop goals, the attendees split into three groups. Two groups performed a walking audit of the study area, and the other completed a biking audit of the study area, with the goal of understanding the existing conditions, and to begin discussing possible alignments.







The groups reassembled at the Town Hall, to brainstorm, vet, and map alignment options. Priorities were discussed, including the group's preference for a continuous all purpose trail, developed to a level similar to the Indianapolis Cultural Trail. Early alignment contenders included:

- 1. From the Owen Brown Street/Morse Road terminus, proceed east on Owen Brown to Route 91, and turn south on 91. The narrow Right of Way and numerous large existing trees on Owen Brown, along with just-completed new streetscape on 91 without room for an AT facility, however, make this an unfeasible option.
- 2. From the same terminus, proceed west on Owen Brown, through the existing underpass (or through a new, separate underpass,) then head south on Lennox Road, east on Atterbury Boulevard, south on Milford Drive, and east on Veterans Way. This option has low feasibility though because of the following:
  - A. It does not go through downtown.
  - B. There is not enough room for a vehicle and bicycle to fit through the existing Owen Brown railroad underpass.
  - C. A new underpass would be prohibitively expensive.
  - D. Widening sidewalks for a trail would significantly impact the East Case residential neighborhood.
  - E. The grades on the Veterans Way overpass are too steep for the average walker or cyclist to negotiate.
- 3. Everyone agreed it makes sense to travel along the stream, from Owen Brown and Morse, but when one

arrives at Village Way, several ideas emerged.

- 4. One idea navigated through the green spaces along Library Street and Park Lane to Route 91. This option however, was deemed unfeasible due to the community's sensitivity to altering the historic green at Park and 91, and workshop participants decided introducing fast-moving bicycles in the calm passive space is undesirable.
- 5. Another option looked at looping out east from Route 91, utilizing the existing Colony Park bridge. However this, as with the Milford Drive concept, takes the route outside of the downtown core thereby not connecting with downtown completely, and would also significantly impact the single family neighborhoods.
- 6. Since traveling west on Owen Brown (and therefor connecting to Veterans Park from the west) was determined unfeasible, the alignment along Route 91 south of the railroad underpass, and into Veterans Park was set.

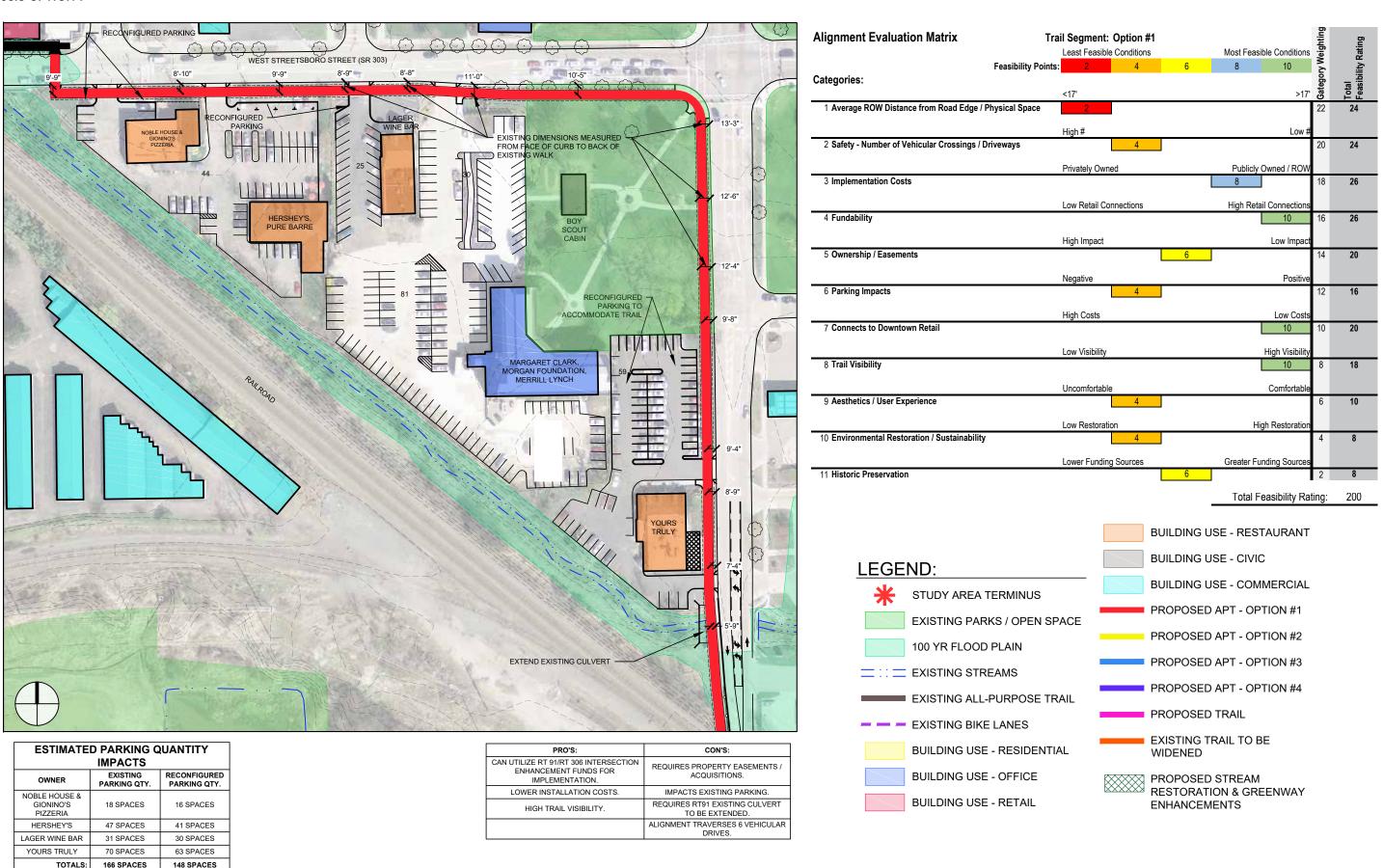
With the above considerations in mind, the Steering Committee arrived at preferred alignments for the north end, up to Route 303 and the south end, up to Route 91. Between the west end of Route 303 and the Route 91 underpass, the committee developed Options 1-4 as shown in the following exhibits.

After the workshop, the planning team analyzed the four options for their pro's and con's with a Feasibility Matrix. The matrix reviews each option by quantifying the existing conditions within criteria categories that impact APT development. The categories are sorted, and their scoring is weighted, from those with the most significant impact to least significant impact on APT development. These analyses are included with each alignment option.

Workshop discussion included:

- Discussion on continuous path and not using the Village Way overpass
- Future overpass of rail spur needed to link Cascade Park to Veterans Park
- Maps/Plans should reference this need

## **03.3 OPTION 1**



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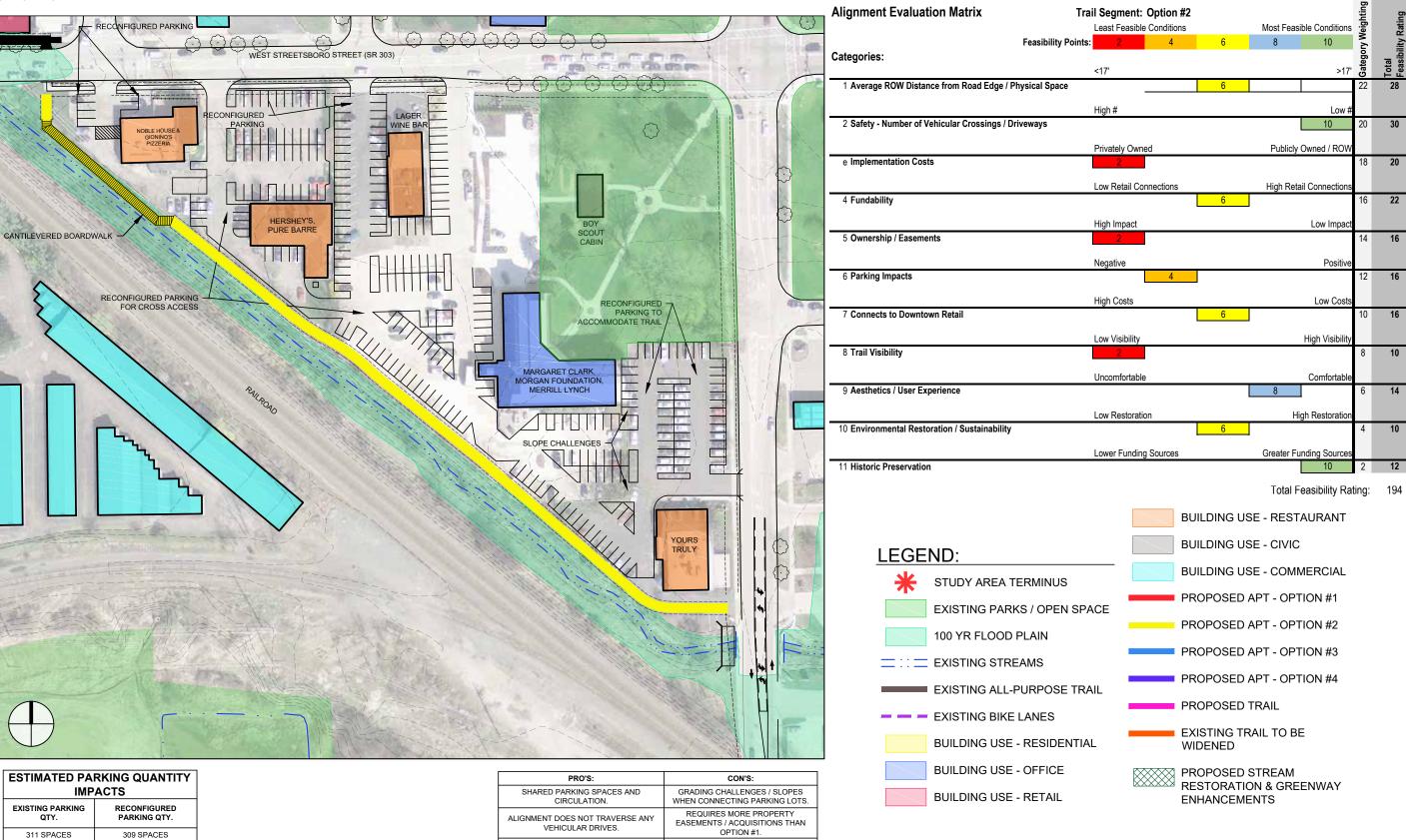
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## 03.4 OPTION 2



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IMPACTS EXISTING PARKING.

CAN UTILIZE STREAM RESTORATION FUNDING SOURCES.

<u>}</u>	Feasibility Po Categories:
	1 Average ROW Distance from Road Edge / Physical Space
·}-	2 Safety - Number of Vehicular Crossings / Driveways
	3 Implementation Costs
	4 Fundability
<i>₹;}</i>	5 Ownership / Easements
8.0	6 Parking Impacts
$\{\widehat{\cdot}\}$	7 Connects to Downtown Retail
C( ST	8 Trail Visibility
	9 Aesthetics / User Experience
	10 Environmental Restoration / Sustainability
	11 Historic Preservation
	LEGEND:
HEL STA	* STUDY AREA TERMINUS
314	EXISTING PARKS / OPEN
	100 YR FLOOD PLAIN
	☐ ∷ ☐ EXISTING STREAMS
	EXISTING ALL-PURPOSE
	EXISTING BIKE LANES
	BUILDING USE - RESIDEN
	BUILDING USE - OFFICE

Alignment Evaluation Matrix	Trail	Trail Segment: Option #3						Gategory Weighting	bu	
	_	east Feasible			0		sible Conditions	Weig	/ Rati	
Categories:	Feasibility Points:	2	4		6	8	10	gory	Feasibility Rating	
		17'					>17'	<b>22</b>	Feas	
1 Average ROW Distance from Road Edge / Ph	nysical Space	2	2						24	
2 Safety - Number of Vehicular Crossings / Dri		High #					Low #	20	30	
2 Salety - Number of Verticular Glossings / Dif								20	30	
3 Implementation Costs	Р	rivately Owne	ed		Publicly Owned / ROW 8				26	
·	1.	Low Retail Connections				High Retail Connections				
4 Fundability		OW Netall Col	IIIECUOTIS		6	riigiriXet	all Collifections	16	22	
	Н	ligh Impact					Low Impact			
5 Ownership / Easements		2						14	16	
·	N	legative					Positive			
6 Parking Impacts							10	12	22	
7 Connects to Downtown Retail	Н	High Costs 4					Low Costs	10	14	
7 Connects to Downtown Netan		<u> </u>					18 1 18 1 18	10		
8 Trail Visibility	L	Low Visibility 4					High Visibility	8	12	
	U	Uncomfortable					Comfortable			
9 Aesthetics / User Experience						8		6	14	
	L	Low Restoration				High Restoration				
10 Environmental Restoration / Sustainability						8		4	12	
11 Historic Preservation	L	Lower Funding Sources				Greater Funding Sources			12	
11 Historic Freservation							10	2	12	
				BUILDII	NG US	SE - REST	AURANT			
LEGEND:				BUILDING USE - CIVIC						
STUDY AREA T	TERMINUS	BUILDING USE - PROPOSED APT					- COMMERCIAL			
EXISTING PAR	KS / OPEN SPA						T - OPTION #1			
100 YR FLOOD	PLAIN	PROPOSED .				APT - OP				
= ∷ = EXISTING STRI	EAMS			APT - OPTION #3						
EXISTING ALL-	PURPOSE TRAI									
EXISTING BIKE	LANES					ED TRAIL				
BUILDING USE	- RESIDENTIAL	EXISTING TRAIL TO BE WIDENED								

**BUILDING USE - RETAIL** 

DOWNTOWN HUDSON TRAIL & GREENWAY PLAN

CONCEPT PLAN

2

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& GREENWAY

HUDSON DOWNTOWN TRAIL

PROPOSED STREAM
RESTORATION & GREENWAY

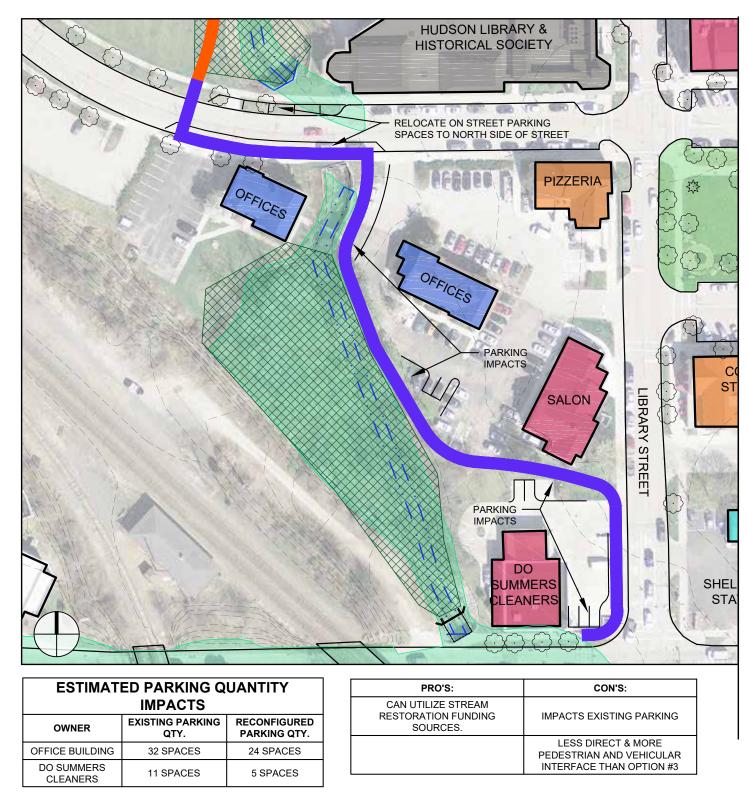
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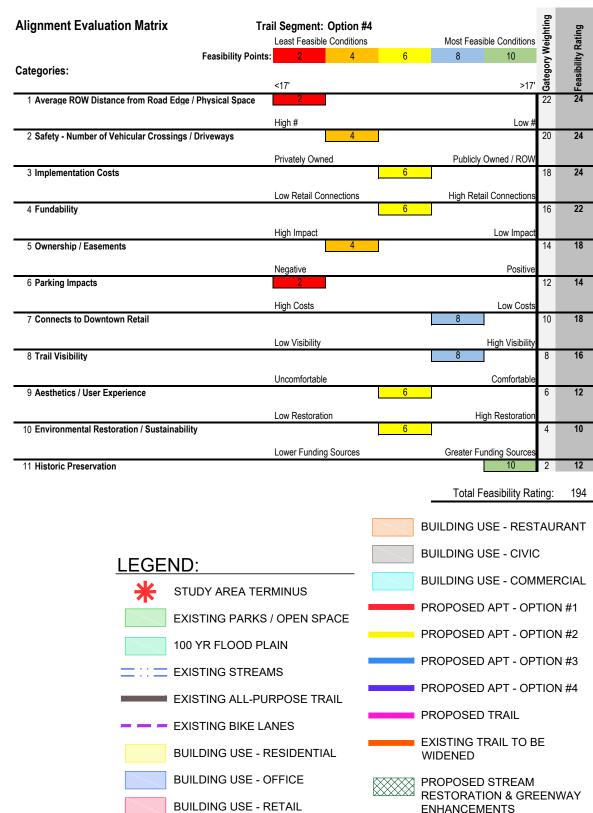
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## 03.6 OPTION 4





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CONCEPT PLAN

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## **03.7 ROUTE 91 UNDERPASS**

Multiple concepts were developed to accommodate the proposed all-purpose trail along SR 91 and under the railroad bridge. One initial concept complied with ODOT design standards, but the configuration required restriction of the Fussy Cleaners driveway access on the east side of SR91 to right in/right out only. Given the other multiple destinations served by the Fussy Cleaners driveway, the Steering Committee felt it was important to maintain full movement access.

The preferred design concept shown in Figure 7 to the right accommodates the proposed all-purpose trail along SR 91 and under the railroad bridge, but requires lane modifications. In order to maintain full movement access, design exceptions are necessary for the length of the southbound merge taper and the lane widths within the transition segment between the PNC driveway and the north edge of the railroad underpass:

- 1. Southbound merge taper length of 75 feet rather than the design standard of 125 feet.
- 2. 11 foot wide travel lanes (at their narrowest point), rather than the design standard of 12 feet.

The roadway configuration to the north and south of the transition segment complies with ODOT design standards.

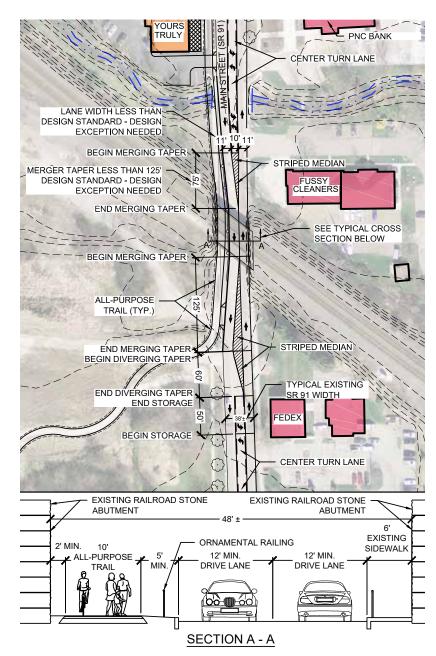
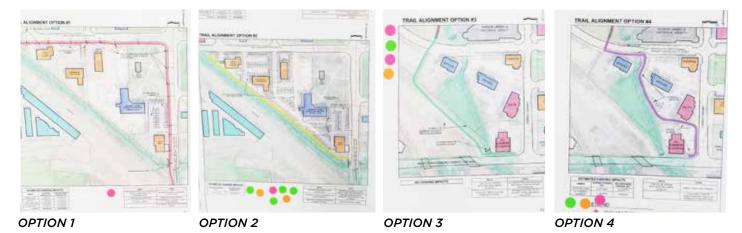


FIGURE 7: Railroad Underpass Lane Modifications

## **03.8 PUBLIC MEETING**

On August 21, 2017, the Project Team held a public meeting to present the project goals, the process completed to date, the proposed alignment options, and to request feedback. The attendees provided verbal comments, which were recorded in the meeting minutes and by using sticky dots to vote for their preferred options.



## **03.9 ALIGNMENT CONCLUSIONS**

On September 11, 2017, the Steering Committee met to review and evaluate the project progress, review and evaluate the options and provide final input on the preferred alignment.

OPTION 1 VS. 2: Based on the Pro/Con assessment, and feasibility analyses, neither alignment option appears to be a clear favorite. The recommended option is #1, due to its high visibility along State Routes 303 and 91, the opportunity to leverage funding the city secured for enhancements to the 303/91 intersection, and its interface with the fronts of the adjacent commercial and office buildings.

<u>OPTION 3 VS. 4:</u> Based on the Pro/Con assessment, parking impacts, and feasibility analyses, option 3 is the preferred alignment.



04.1 DOWNTOWN HUDSON TRAIL & GREENWAY PLAN

**04.2 RECOMMENDATIONS** 

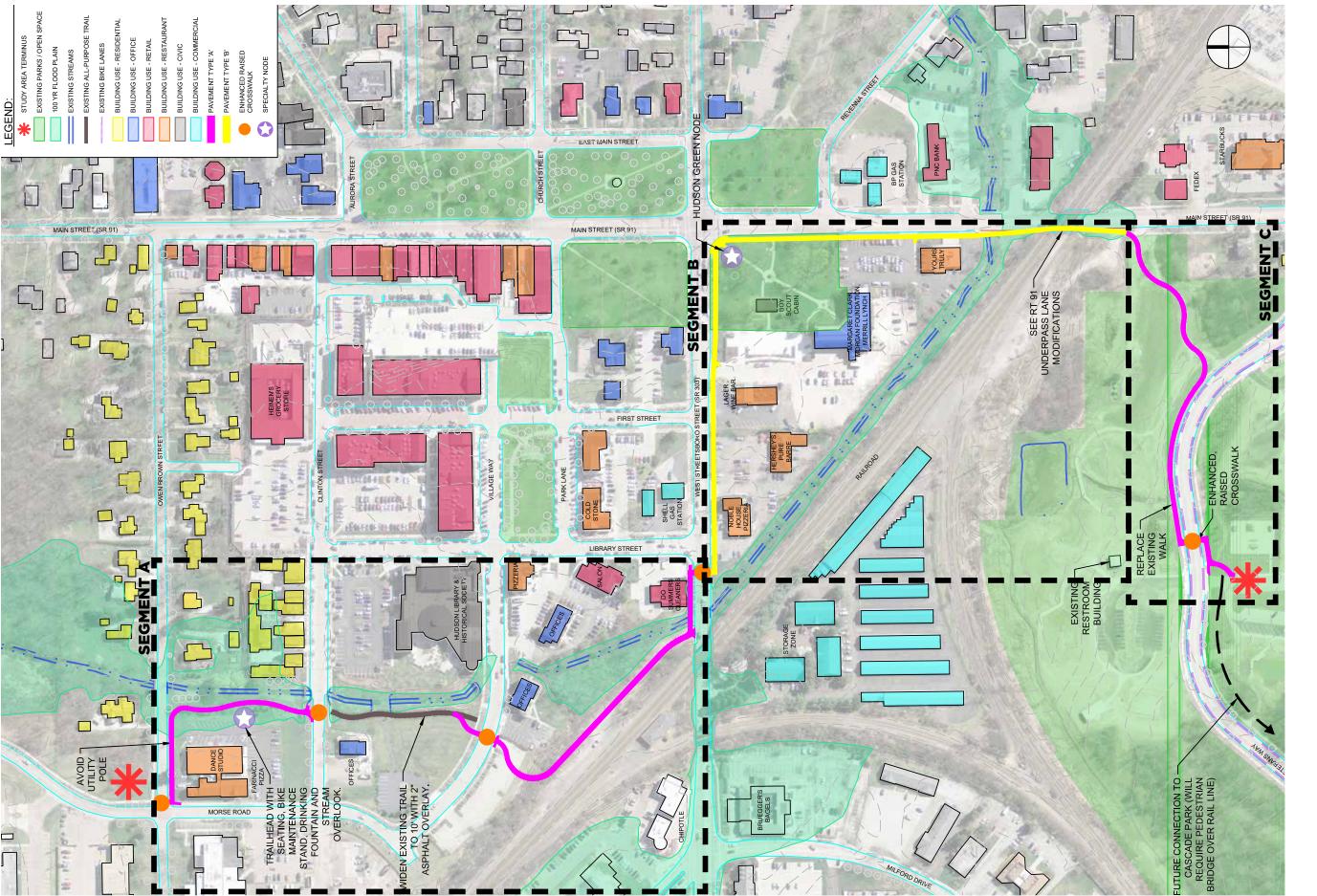


DOWNTOWN HUDSON TRAIL & GREENWAY (VETERANS TRAIL PHASE 5) CONCEPT PLAN

**GREENWAY PLAN** 

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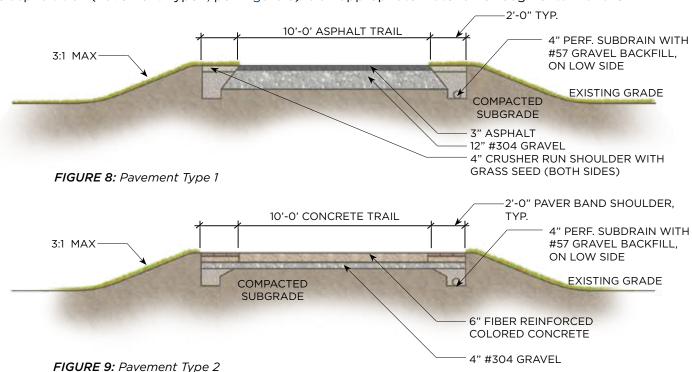
**DOWNTOWN HUDSON TRAIL** 



## 04.2 RECOMMENDATIONS

In addition to the alignment itself, there are multiple recommendations to consider, related to the greenway:

- 1. <u>RIGHT-OF-WAY:</u> Along Routes 303 and 91 (Segment B,) the trail will encroach upon several private properties which will necessitate either acquisition or easements along with the reconfiguration, and the loss of some parking spaces.
- 2. <u>PAVEMENT TREATMENTS</u>: Context-sensitive design dictates that Segment B should receive a treatment different from Segments A and C. Segments A and C move through more naturalized, open space conditions currently, and Segment B is in a more urban setting, with multiple vehicular drive crossings. Therefore, a 10' wide asphalt trail (Pavement Type 1, per Figure 8) is an appropriate material for Segments A and C.



The more visible setting of Segment B, with higher chances for mixed pedestrian and bicycle traffic, calls for a higher-end finish, and wider trail. Per the section in Figure 9 and the plan in Figure 10, Pavement Type 2 utilizes colored concrete for the 10' wide trail, with a 2'-wide brick paver band on each side, serving as the trail's shoulders. This effectively makes the trail 14' wide for mixed bike-ped traffic. This wider trail and higher pavement finish may also be appropriate for segment A, if the trail is built after the phase II development is completed.

At each vehicular drive crossing, the trail becomes a solid field of colored concrete, to raise motorists' awareness they are driving through a pedestrian zone. As one approaches the driveway crossing on the trail, perpendicular colored concrete bands notify trail users that a vehicular crossing is ahead, as indicated in Figure 10.

## 3. SEGMENT B PREFERRED

<u>DIMENSIONS</u>: Figure 11 shows the preferred dimensions for segment B. The proper balance between trail user, safety and comfort, and adjacent property owners' needs will be determined during the engineering phase.

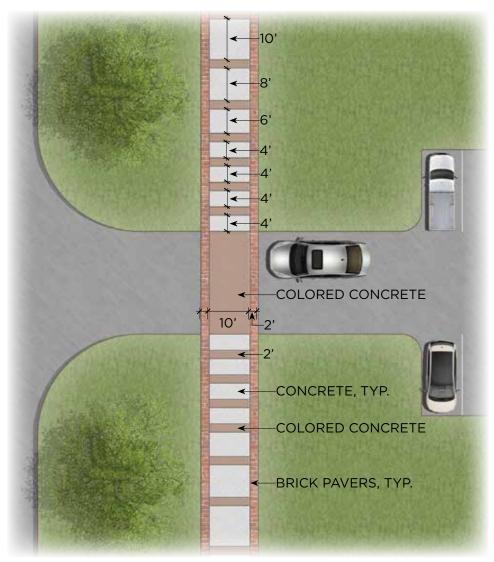
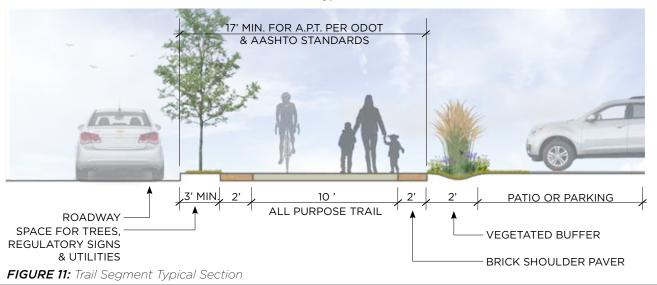


FIGURE 10: Pavement, Type 2 Plan View



## 4. NON-STANDARD IMPROVEMENTS:

- a. West of the library: Widen the existing trail to 10' (add 2' to west side, and add 2" asphalt top coat.
- b. Veterans Park: Widen the section of existing sidewalk that coincides with the trail alignment to a 10' concrete trail.
- 5. <u>STREET CROSSINGS:</u> At points where the trail crosses a street, the trail should be prioritized, through a raised, specialty pavement crosswalk.
- 6. TRAILHEAD: An opportunity exists at the open space directly east of the dance studio and Farinacci Pizza building to create a trailhead. Amenities could include a publicly-accessible restroom, water bottle filler/drinking fountain, a bike maintenance station, a kiosk with information on local bike shops, dining and other destinations, a phone charging station, and an outdoor gathering space/dining area, overlooking a restored stream.
- 7. STREAM RESTORATION: Although the proposed trail alignment parallels the existing stream for three blocks, the stream is currently ignored as a visual asset. In addition, flooding is an issue in Hudson. As such, stormwater management funding could be leveraged for trail construction funding, the city should consider integrating stormwater improvements and stream restoration in parallel with the trail implementation. The project should investigate the potential for storm detention or water quality treatment in the floodplain area northwest of DO Summers, to compensate for the impervious surface added by the trail.
- 8. <u>GREEN INFRASTRUCTURE:</u> If the stream improvements are not feasible, consider implementing bioretention for water quality control in areas adjacent to the trail.
- 9. <u>TREES:</u> Trees add property value, human comfort and environmental benefits. Install shade trees along the length of the trail, where existing trees do not exist.
- 10. <u>LIGHTING</u>: During the design stage, study the photometric need for pedestrian-scale pole lights. If necessary, specify a historic fixture, in the flavor of downtown Hudson.

















- 11. <u>HUDSON GREEN NODE</u>: The intersection of State Routes 303 and 91 is a significant point in the downtown area, but there is little signifying a sense of arrival at that location. This node could transformed into a small plaza with public art suitable for the local context, or an appropriately-scaled information kiosk for visitors to Hudson, or signage about the historic Boy Scout cabin and all of the Hudson Green quadrants.
- 12. <u>ALTERNATE ROUTE:</u> During Stakeholder Meeting #2, a participant suggested the trail could meander through the Boy Scout Cabin Green. This alternate alignment is shown in the top right image.
- 13. <u>SITE FURNISHINGS</u>: Benches, trash receptacles, and bike racks, in the same palette as the city's recently-completed Main Street streetscape, and placed in the right locations, will provide another layer of trail amenities, adding to the livability of downtown Hudson.
- 14. <u>HISTORY WALK:</u> Hudson is rich in history. Celebrate it and educate trail users with a series of mini-nodes with interpretive signs along the trail.
- 15. <u>WAYFINDING SIGNAGE</u>: A brand and logo developed for either the Veterans Trail or Hudson's overall trail system, with the related signage, would not only direct trail users to local businesses, but would also help trail users and non-users immediately identify the trail as uniquely Hudson.
- 16. <u>INFORMATION KIOSK:</u> Information kiosks can be utilized on the trail to offer maps and written directions, highlight key points of interest within the City of Hudson, including local restaurants, arts and entertainment opportunities, shopping and other integral public amenities.
- 17. <u>BIKE PARKING:</u> Opportunities exist to not only provide simple bike racks, but more architectural bike parking features in high traffic areas within the downtown fabric. Covered bike structures shelter bikes in situations of inclement weather and can be designed in such a way so as to match the preferred traditional design vernacular within the community.





















- 18. <u>PHASES:</u> The Planning Team divided the trail into three segments, based on the types of area the segments are in (less urban vs. more urban,) relative lengths, and anticipated funding sources. These can be used to break implementation down into more manageable sizes or be funded more easily, with different sources.
- 19. <u>COST ESTIMATE:</u> The figures below are a summary of schematic-level design and construction costs estimated for each trail segment. General assumptions include:
  - 1. Right of Way acquisition or unknown underground infrastructure is not included.
  - 2. General Conditions and Maintenance of Traffic are included.
  - 3. Soft costs, including design, engineering, construction administration, and construction inspection are included.

Segment A: \$1,100,000

Segment B: \$800,000

Segment C: \$600,000

20. <u>MAINTENANCE</u>: When the city moves forward with the preparation of design and construction documents, evaluate not only the cost of construction, but the project's full life cycle cost, to ensure adequate funds are set aside for regular maintenance. Maintenance includes, but is not limited to regular sweeping, repainting pavement markings, crack sealing or repaving asphalt surfaces, replacing damaged items, vegetation management, and snow removal. Based on a 2014 Rails to Trails Conservancy survey, maintenance on asphalt trails costs \$2,000 per mile.



05

## **APPENDIX**

**05.1 PROJECT MEETING SUMMARY** 

**05.2 DISCOVERY ANALYSIS** 

**05.3 IMPLEMENTATION STRATEGIES** 

### **05.1 PROJECT MEETINGS SUMMARY**

The following meetings took place, over the course of the project:

WHAT	WHEN	<u>WHO</u>
1. Kickoff Meeting	June 27, 2017	Project Team
2. Concept Development Workshop	July 24, 2017	Project Team & Steering Committee
3. Public Meeting	August 21, 2017	Project Team & General Public
4. Steering Committee Update	September 11, 2017	Project Team & Steering Committee
5. Yours Truly Owner Meeting	August 23, 2017	Art Shibley, Greg Hannan & Kris McMaster
6. Margaret Clark Morgan Foundation	August 25, 2017	Greg Hannan , Rick Kellar & Kris McMaster
7. 30 West Streetsboro Owner Meeting	September 8, 2017	Greg Hannan & Dennis Wagner

### **05.2 DISCOVERY ANALYSIS**

AMATS performed an existing condition analysis of the study area, and summarized its findings in the document below and on the following pages.

# **CONNECTING COMMUNITIES**

## 2016 Planning Grant

**Discovery Document** 

Preliminary Design for Veterans Trail - Downtown Phase

November 18, 2016



Purpose: The purpose of the discovery phase is to identify the primary needs in the Connecting Communities Planning Grant study area. This document will be used as a foundation and resource throughout the Planning Grant Process highlighting key concerns for Veterans Trail.

AMATS staff visited the study area several times in October and November, 2016 to identify and photograph concerns in the corridor.

The main issues or problems for pedestrians and bicyclists are:

- The downtown section of the study area creates obstacles to safely navigating to the trails to the north and south
- Narrow railroad underpasses on St Rt 303 and St Rt 91
- St Rt 91 and St Rt 303 have high traffic volumes
- The hill on Veterans Way at Milford has a steep incline for novice cyclists and families and includes poor visibility in several locations

## CONNECTING COMMUNITIES

### 2016 Planning Grant

### **Downtown Hudson**

Downtown Hudson has many businesses for residents to patronize, but also serves as a regional destination and employment center. Because of this, the downtown is almost always full of people and cars. With many sidewalks leading to downtown, as well as trails just on the outskirts of the downtown, there is a need to improve the existing infrastructure.

### Railroad underpasses

Although sidewalks and cars run under the railroads overhead, the sidewalks prove to be difficult to navigate for more than one person, let alone a bicyclist. There is a need to widen this path for all users, but a limit to the right of way due to the railroad bridge supports.

### High Traffic Volumes on St Rt 91 and 303

The City of Hudson has several projects ongoing to help ease the congestion of the vehicles using St Rt 91 and St Rt 303, but no improvements will be made for bicyclists and pedestrians. In order to truly make the connections to downtown for residents, these corridors must have improved infrastructure for all users.

### Veterans Way Hill

Although seasoned cyclists and pedestrians may find the hill to be an enjoyable challenge, most families see this hill as an obstacle. From St Rt 303, turning down Veterans Way is the best way to get to Veterans Park. From here, there is no way around the hill but up. Also, the top of the hill does not provide clear lines of sight, which will need to be improved if it will be the direct route for the regional trail connection.

# **CONNECTING COMMUNITIES**

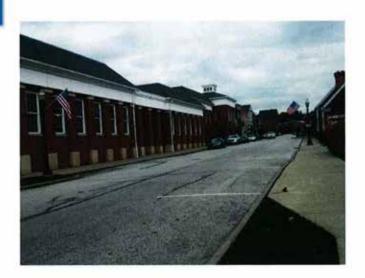
## 2016 Planning Grant

### Downtown Hudson

The top picture was taken while standing in the parking lot of a business just off of Owen Brown. The road in view is Clinton Street and the trail that picks up there connects to Village Way.

The bottom picture is the view of Village Way looking east in front of the library. On this day it was observed that there were 15 open parking spaces on the street during an afternoon.





## CONNECTING COMMUNITIES

## 2016 Planning Grant

### Obstacles in Downtown Hudson

The railroad goes over Owen Brown and causes the road to narrow here. It is difficult to get cars through at the same time. There is currently no room for pedestrians or cyclists. A signal here to allow one car to pass at a time might allow for the addition of a trail.

This is Brandywine Creek and it runs through downtown Hudson behind the dry cleaners as well as the library.

Access management and high traffic volumes make it difficult to imagine a trail successfully being constructed here.







# **CONNECTING COMMUNITIES**

2016 Planning Grant

### Rail Underpasses on St Rt 303

The rail underpasses on St Rt 303 limit the amount of right-of-way to dedicate to sidewalks. As a result, the current walkways are too narrow for two people to walk through side-by-side. This area could benefit from the turn lane for the storage business being eliminated.





# **CONNECTING COMMUNITIES**

2016 Planning Grant

### Rail Underpasses on St Rt 303

The rail underpasses on St Rt 303 limit the amount of right-of-way to dedicate to sidewalks. As a result, the current walkways are too narrow for two people to walk through side-by-side. This area could benefit from the turn lane for the storage business being eliminated.





# CONNECTING COMMUNITIES

2016 Planning Grant

### St Rt 91

The section of St Rt 91 in our study area is highly congested, with an ADT of almost 23,000 vehicles. This section of roadway has two through lanes with a turn lane for the multiple business along the way. Although this may be the best option for connecting a trail to Veterans Park, the railroad underpass and Brandywine Creek limit the right-of-way in these areas.

It is important to note that the turn lane extends the entire section of roadway, although it seems unnecessary for all of it. Also, the walkways under the railroad are present on both sides of the street. Although the railroad bridge supports themselves can't be moved, the sidewalks could be widened and the turn lane eliminated to benefit the project.







# **CONNECTING COMMUNITIES**

2016 Planning Grant

### Veterans Way hill

Veterans Way hill is a deterrent for most users coming from either the west or the east, even though there are bike lanes and sidewalks on each side of the road. The hill itself is steep to navigate and provides limited visibility.

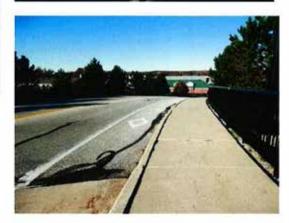
The top picture is looking up the hill from Milford Road.

The middle picture is halfway up the hill. Notice that visibility is limited due to the curve of the road.

The bottom picture was taken at the crest of the Veterans Way hill, looking toward Milford Road. The cyclists cannot see what is coming at the bottom of the hill.







# CONNECTING COMMUNITIES

2016 Planning Grant

#### Veterans Park

There are amenities here at Veterans Park for everyone. A playground, a skate park, and an exercise path are popular to the residents of Hudson. Connecting from the Veterans Trail to the north of downtown, through downtown to here would benefit the residents of the city as well as regional visitors to the trails.







### **05.3 IMPLEMENTATION STRATEGIES**

The table below summarizes the funding sources available for this type of project. The City of Hudson should also consider other funding strategies; possibilities include:

- 1. Utilizing environmental restoration/enhancement funds to cover a portion of adjacent trail development. This could apply to nearly the entire length of trail Segment A (stream and floodplain) and Segment C (wetland).
- 2. Since the trail will add value to the future Phase 2 development, requiring the development to fund a portion or all of Segment A (and possibly other segments,) as a condition of plan approval is an option.
- 3. Since the city has secured funding for improvements at State Routes 303 and 91, working within the funder's parameters and budget could allow some or all of trail Segment B to be included in the intersection improvements project.

Potential Funding Sources

Funding Source Name & Link	Eligible Applicants	Match
Advanced Transportation and Congestion Management Technologies Deployment Initiative		
https://www.grants.gov/custom/viewOppDetails.jsp?oppId=282433	Counties, Metroparks, Municipalities, Port Authorities, Sewer Districts, Transit Agencies	50%
Rural Transportation Assistance Program (5311 b3)		
https://www.ciot.state.oh.us/Divisions/Planning/Transit/Pages/Rurai.aspx_	Counties, Municipalities, Non Profits, Transit Agencies	20%-50%
TIGER		
https://www.transit.dot.gov/funding/grants/transportation-investment-generating-economic-recovery-tiger-orogram	Counties, Municipalities, Port Authorities, Transit Agencies	20%
AMATS Resurfacing Program		
	Communities within the AMATS region.	20%
Transportation Alternatives (TA Set-Aside)		
https://www.fhwa.dot.gov/environment/transportation_alternatives/	Local Governments, Regional Transportation Authorities, Transit Agencies, Natural Resource or Public Land Agencies, School Districts, Local Education Agencies or Schools, Tribal Governments, Nonprofit Entities responsible for the administration of local transportation safety programs, Other Local or Regional Governmental Entity with responsibility for or oversight of transportation or recreational trails.	O-20%
Community Facilities Direct Loan and Grant Program in Ohio		
https://www.rd.usda.gov/programs-services/community-facilities-direct-loan-grant-program/oh	Public bodies, Community- based non-profit corporations, Federally recognized Tribes	Not Provided
Connecting Communities Planning Grants	•	
http://amatsplanning.org/planning/initiatives/connecting-communities/	Local AMATS communities, regional transit authorities and county park districts.	0%
FY 2016 - FY 2019 EDA Planning Program and Local Technical Assistance Program HDQ-TA-HDQ-2016-2001759	Funding Opportunity No	. EDA-
https://www.grants.gov/web/grants/view-opportunity.html?oppid=280447	Non Profits, Institutions of higher education, County governments, City or township governments, State governments	Not Provided

FY 2017 Economic Development Assistance Programs - Application submission and program requirements Economic Adjustment Assistance programs, Funding Opportunity No. EDAP-2017	for EDA's Public	Works and
https://www.grants.gov/web/grants/view-opportunity.html?oppld=294771	County governments, Non Profits, City or Township Governments, Special District Governments, State Governments, Public and State Controlled Institutions of Higher Education	
Surface Transportation Program (includes CMAQ, TA, TLCI funds)		
	Counties, Municipalities	20%
Community Development Block Grant State Administered CDBG and the Neighborhood Stabilization Program		
https://portal.hucl.gov/hudportal/HUD?src=/program_offices/comm_planning/communitydevelopment/programs	Counties, Municipalities	Varies
Congestion Mitigation and Air Quality Improvement Program		
https://www.fhwa.dot.gov/environment/air_quality/cmaq/policy_and_guidance/2013_guidance/	Counties, Metroparks, Municipalities, Port Authorities, Transit Agencies	0%-25%
Mobility on Demand Sandbox Program	<u>'</u>	
https://www.transit.dot.gov/research-innovation/mobility-demand-mod-sandbox-program.html	Non Profits, Transit Agencies	80%
Capital Investment Grant (5309)	- speriolos	
https://www.transit.dot.gov/fund.ng/grants/capital-investment-grants-5309	Counties, Municipalities, Port Authorities, Transit Agencies	40%
Building Blocks for Sustainable Communities		•
https://www.epa.gov/smartgrowth/building-blocks-sustainable-communities	Local, county, or tribal governments, or nonprofit organizations that have the support of the local government on whose bohalf they are applying.	Not Provided
Community Development Block Public Infrastructure Grant Program		
https://development.phip.gov/cs/cs_eci.htm	Counties, Municipalities	Not Provided
Jobs & Commerce		
https://www.dot.state.oh.us/Divisions/JobsAndCommerce/Pages/default.aspx	Counties, Municipalities	Not Provided
Safety Program		
http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/Pages/LocalFundingOpportunities.aspx  Small Government Program	Municipalities	0%-20%
http://www.pwc.state.oh.us/OPWCOverview.html?mil.	Municipalities	N/A
State Capital Improvement Program-District 1 (Cuyahoga County)	Office participal	3475
http://www.countyplanning.us/services/grant-programs/state-capital-improvement-program/	Counties, Municipalities, Sewer Districts	0%-50%
Amish Buggy Program		
http://www.dot.state.oh.us/Divisions/Planning/ProgramManagement/MajorPrograms/Pages/AmishBuggy.aspx	Counties, Municipalities	20%
County Highway Safety Program		
http://www.ceao.org/aws/CEAO/pt/sp/home_page	Counties	20%
Clean Ohio Green Space Conservation Fund		

	Counties Materials	
http://www.pwc.state.oh.us/GSCdefault.html?m=	Counties, Metroparks, Municipalities, Non Profits, Port Authorities, Sewer Districts, Transit Agencies	Varios
Safe Routes to School Program		
otto://www.dot.state.oh.us/Divisions/Planning/ProgramManagement/HighwaySafety/ActiveTransportation/Pages/SRTS.asi	Municipalities, Non Profits, School Districts	0%
State Infrastructure Bank Loan and Bond Programs		
http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/Documents/ProgramResourceGuide.pdf	Any public entity, such as counties, cities, villages, townships, boards or commissions, regional transit and port authorities	N/A
Economic Development Loan and Public Infrastructure Grant Program		
https://development.chio.gov/cs/cs_edl.htm	Counties must apply on behalf of vilages and townships; counties may also apply on behalf of cities within their jurisdiction.*	Not Provided
ODNR Land and Water Conservation Fund		
http://realestate.oh.odor.gov/outdoor-recreation-facility-grants	Counties, Metroparks, Municipalities, Port Authorities	50%
ODNR Natureworks Grants		
http://realestate.phiodor.gov/outdoor-recreation-facility-grants	Counties, Municipalities	25%
ODNR Recreational Trails Program		
https://development.chio.gov/cleanohio/RecreationalTrails/	Counties, Metroparks, Municipalities, Non Profits, Port Authorities	20%
Ohlo State Infrastructure Bank (SIB)		
http://www.dot.state.oh.us/Divisions/Finance/Pages/StateInfrastructureBank.aspx	Counties, Municipalities, Port Authorities, Transit Agencies	N/A
Urban Paving Program		
http://www.dot.state.oh.us/Divisions/Planning/LocalPrograms/Documents/ProgramResourceGuide.pdf	Counties, Municipalities	20%
Clean Ohio Trails Fund		
https://development.chio.gov/cleanohio/	Counties, Metroparks, Municipalities, Non Profits, Port Authorities	25%
GAR Foundation		
http://garfoundation.org/	High-functioning organizations working at scale in the Akron Community, Programs areas Organizations or programs that benefit Akron, OH residents, and Organizations that have been recognized as tax-exempt under Section 501 c3	Not Provided
Eaton Corporation Charitable Fund		
http://www.eaton.com/ecm/groups/public/@pub/@eaton/@corp/documents/content/98065570.pdf	Communities within where the company operates.	Not Provided

Goodyear Community Support		
https://corporate.goodyear.com/en-US/responsibility/community/community-support.html	Organizations that demonstrate competency and effectiveness	N/A
Rockefeller Foundation Grants		
https://www.rockefellerfoundation.org/	Counties, Metroparks, Municipalities, Non Profits, Port Authorities, School Districts, Sewer Districts, Transit Agencies	N/A
The George Gund Foundation		
https://gundfoundation.org/	Counties, Metroparks, Non Profits, Port Authorities, School Districts, Sewer Districts, Transit Agencies	N/A
The People For Bikes Community Grant Program		
http://www.peopleforbikes.org/pages/grant-guidelines	Counties, Metroparks, Municipalities, Non Profits, Port Authorities, Sewer Districts, Transit Agencies	50%
State Farm Insurance Good Neighbor Citizenship® Company Grants		
https://www.statefarm.com/about-us/community/education-programs/grants-scholarships/company-grants	Programs conducted by Municipal, county, state or federal government entities that align with State Farm's charitable focus	Not Provided

NOTE: In addition to the above funding sources & opportunities, additional funding sources to consider from the local community are:

- The Hudson Community Foundation
- Margaret Clark Morgan Foundation
- Kiwanis
- The Rotary Clubs of Hudson.