

Arcade Multi-Use Trail Feasibility Study

Village of Arcade, New York



October 2023

Acknowledgments

Steering Committee

Larry Kilburn, Village of Arcade Andy Bartz, Village of Arcade Jennifer Kraft, Village of Arcade Donna Schiener, Mayor, Village of Arcade Chris Lester, Arcade & Attica Railroad Chris Edmunds, Town of Yorkshire Bob Schooley, Pioneer Hiking Club / Pioneer Central School District James Bragg, Wyoming County Planning and Development Eric Szucs, Wyoming County Tourism and Planning Lora Leon, New York State Department of Transportation Patrick Marren, New York State Department of Environmental Conservation Chris Morris, New York State Office of Parks, Recreation, and Historic Preservation Joe Bovenzi, Genesee Transportation Council

Consultant Team

Lindsay Zefting, P.E., Verity Engineering Laura Byer, Byer Planning Kaden Shea, GObike

Prepared By:



Financial assistance for the preparation of this report was provided by the Federal Highway Administration through the Genesee Transportation Council. The Village of Arcade is solely responsible for its content and the views and opinions expressed herein do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

GTC's Commitment to the Public

The Genesee Transportation Council assures that no person shall, on the grounds of race, color, national origin, disability, age, gender, or income status, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity. GTC further assures every effort will be made to ensure nondiscrimination in all of its programs and activities, whether those programs and activities are federally funded or not.

En Español

El Consejo Genesee del Transporte asegura completa implementación del Título VI de la Ley de Derechos Civiles de 1964, que prohibe la discriminación por motivo de raza, color de piel, origen nacional edad, género, discapacidad, o estado de ingresos, en la provisión de beneficios y servicios que sean resultado de programas y actividades que reciban asistencia financiera federal.

TABLE OF CONTENTS

ES	Executive Summary	i
1	Existing Conditions and Needs Assessment	1
	Introduction	.1
	Study Area	.1
	Existing and Previously Proposed Bicycle and Pedestrian Facilities	.3
	Regional Destinations and Trails	5
	Local Destinations	7
	Safety Considerations and Roadway Characteristics	9
	Right-of-Way Opportunities	13
	Environmental Considerations	.15
	Trail Usage	.17
	Previous Plans	18
2	Public Engagement	27
	Introduction	.27
	March Public Meeting	.27
	Virtual Public Engagement	.29
	Stakeholder Interviews	.33
	Slow Roll and Bike Rodeo	.34
	Interactive Map	35
	June Public Meeting	.36

3	Recommendations	37
	Introduction	37
	Facility Types	37
	Alternatives Explored	
	Priority Routes and Additional Connections	41
	Trail Elements	65
4	Implementation	71
	Phasing and Next Steps	71
	Property Needs	71
	Funding Sources	73
	Trail Maintenance	75
	Program Recommendations	77
AP	Appendices	
	A: Dublic Engagement Summary	

A: Public Engagement Summary B: Cost Estimates

C: Utility Line Corridor Drawing

Executive Summary

Introduction

The Arcade Multi-Use Trail Feasibility Study will develop a cohesive set of concept-level plans and strategies, with defined priorities, to guide the Village in improving and expanding pedestrian and bicycle access within the Village of Arcade and region. The results of this study will identify opportunities to enhance safety and accessibility for pedestrians and bicyclists in Arcade and will recommend projects and strategies based on the determination of needs of area pedestrians and cyclists. The goal is to define trail alignments that accommodate all ages and abilities and connect the various destinations within and outside the village. A loop trail around the village would be ideal.



Pedestrian bridge over Cattaraugus Creek at Sanford Ave

Study Area

The focus of the study area is the Village of Arcade; however, potential connections to local amenities and regional trails outside of the Village will be considered.

Existing and Previously Proposed Bicycle and Pedestrian Facilities

There are an estimated 11.2 miles of existing sidewalk along roads within the Village boundary. There are currently 2.1 miles of sidewalk extensions desired within the Village.

There is currently one 0.18 mile-long multiuse trail within the Village that includes ADAcompliant ramps and a pedestrian bridge that was constructed over Cattaraugus Creek in 2012 from Sanford Avenue (behind the First Baptist Church of Arcade) to Water Street. Additionally, there is a 0.27 mile-long paved driveway through the Pioneer Central School property from West Street to the Pioneer Elementary School (overlapping with the proposed Strategic Plan Downtown Trail alignment) informally used as a multi-use trail, formal trail use may be possible following collaboration with the Pioneer Central School system.

Regional Destinations and Trails

Arcade's central location between multiple existing and planned regional trail systems puts the Village in a prime position for local and regional trail development. As the crow flies, the Village is located approximately 20 miles from the existing Genesee Valley Greenway, 27 miles from the existing Groveland Secondary Trail, and 12 miles from the Southern Tier Trail.



Genesee Valley Greenway State Park in Belfast, NY Source: NYSOPRHP

Safety Considerations and Roadway Characteristics

There are 13.9 miles of roadway centerline within the Village boundary. To evaluate opportunities for improvements along the roadway and challenges for bicycle and pedestrians, traffic volumes, vehicular speed limits, and crash history were considered.

AADT

Recorded volumes on major Village roads range from 310 to 12,505 vehicles per day. As expected, Main Street (Route 39) experiences the highest traffic volumes, followed by Liberty Street (Route 98).



Example photo-simulation of what the Cascade Bridge may look like as part of the Southern Tier Trail Source: GObike

Posted Speed

According to Chapter 61: Traffic Control of the Village Laws, all roadways within the Village have a maximum posted speed of 25 MPH with the exception of:

- West Main Street 40 MPH (NYS Route 39) between the westerly fence line of St. Peter and Paul's Roman Catholic Cemetery and the west corporation line.
- The remainder of **Main Street 30 MPH** (NYS Route 39).
- All of NYS Route 98 (Liberty Street and east portion of North Street) 30 MPH.

Crashes

There were a total of 365 crashes reported within the 10-year period. Of those, 5 were bicyclist-involved crashes and 3 were pedestrian-involved crashes.

Trail Usage

In order to estimate potential trail usage or demand for any proposed trail, trail user counts from across the region, in six comparable locations, were considered. Using population density, it is assumed that the average daily trail use in Arcade would be 74 trips or 27,000 per year. If the proposed trail is approximately four miles in length, trail use would be 97 trips per day or over 35,000 trips per year.

Public Engagement

The project team completed a series of outreach activities to reach and engage the communities that would be most impacted by the proposed Arcade trail network projects. This chapter includes a summary of engagement methods, correspondence, meetings, and community engagement opportunities to ensure that community needs and concerns are identified and included in the project.

Primary public engagement activities include:

- March Public Meeting
- Virtual Public Engagement
 - » Survey
- Stakeholder Interviews
- Slow Roll & Bike Rodeo
- Interactive Map
- June Public Meeting

TOP 3 REASONS FOR TRAIL USE

Well-being





Exercise

Spending time with and fresh air family and friends



Facility Types

There are multiple types of facilities that are recommended within the Arcade Multi-Use Trail Feasibility Study. Different facilities may be considered based on the constraints within the project site, such as road width and right-ofway (ROW), or based on the current use of the roadway and daily traffic patterns.

The facility types recommended in this study include sidewalks, multi-use trail, sidepath, railwith-trail, shoulders and bike lanes, and bike boulevards.

Alternatives Explored

A number of both local and regional multi-use trail alternatives were identified and explored for the Village of Arcade Multi-Use Trail Feasibility Study.

Some of the off-road alternatives explored are included in the priority projects and described in more detail later in this document. The other off-road trails were not explored further for various reasons: the route did not meet the immediate objectives for connectivity to Arcade, lack of right of way or right of way width, involvement of a significant number of private landowners outside of the Village, or significant topography challenges. These routes can and should be explored further for future regional connections, but did not rise to the same level of priority or feasibility as the others.

The on-road routes did not immediately meet the objectives of the off-road protected network that is a goal of this study. Still, these roadway corridors are the most efficient way to connect Arcade's future trail system to the regional network. While a sidepath would be preferred, especially on higher speed and higher volume roadways, an increase in shoulder width to at least 5 feet, would accommodate most experienced long distance cyclists. The County and State should be encouraged to consider the widening of the shoulders and creation of these bicycling routes as each maintenance project is completed.



Priority Routes and Additional Connections

Following development and exploration of all alternative routes, and socializing these options with stakeholders and the general public, four priority routes were identified for progression for the Village of Arcade Multi-Use Trail Feasibility Study.

In addition to the four priority trail routes, the Study also identified three additional connections that would help create a loop trail within the Village while providing additional connections to key Village destinations. This chapter will provide detail on the following priority routes and additional connections:

Priority Routes:

- Arcade-Java Rail-with-Trail
- Utility Line Trail
- Cattaraugus Creek Trail South
- Main Street On-Road Connection

Additional Connections:

- County Line Road Connection (coupled with the Utility Line Trail)
- Clear Creek Connection (coupled with the Cattaraugus Creek Trail South)
- North Street Park Connection (coupled with the Cattaraugus Creek Trail - South)

Trail	Facility Types	Length (mi(=)	Acquisition/ Easement Needed	# of Crossings	Cost Estimate
Arcade-Java Rail- with-Trail	Rail-with-Trail	12.17	Likely	10	\$15.3M
Utility Line Trail	Multi-Use Trail and Bike Boulevard	3.66	Yes	6	\$6.9M
Cattaraugus Creek Trail - South	Rail-with-Trail, Multi-Use Trail, and Bike Boulevard	2.14	Yes	5	\$2.1M
Main Street On- Road Connection	Bike Space in Shoulder and Sidepath	3.00	No	N/A	\$6.6M*
County Line Road Connection	Sidepath	0.47	No	0	\$0.6M
Clear Creek Connection	Multi-Use Trail and Bike Boulevard	0.75	Yes	0	\$1.3M
North Street Park	Bike Boulevard	0.58	No	N/A	\$0.4M

Table i: Summary of Recommended Multi-Use Trails

*Cost estimate is only for the sidepath and does not include other roadway improvements or possible ROW acquisition

All of these trails are being recommended for development - including seeking funding to proceed with design and construction. As a whole network, the trails connect the different neighborhoods and community destinations within and outside the Village of Arcade. Each trail, segments of each trail, or combinations of portions of the trails can have their own utility and do not need to be implemented as a whole, though logical termini should be considered. The trails can also be implemented with different extents than described below - such as completing a portion of the Utility Line Trail and Clear Creek Trail to provide a park-to-park connection



Date Exported: 8/14/2023 11:54 AM

Arcade-Java Rail-with-Trail

The proposed Arcade-Java Rail-with-Trail extends 12.17 miles from the Village of Arcade to the Beaver Meadow Nature Center / Buffalo Audubon Society in North Java. The alignment within the Village of Arcade will connect to and follow the existing 0.18 mile-long multi-use trail between North Street and Main Street. The proposed Arcade-Java Rail-with-Trail would be a 10-foot-wide multi-use path located adjacent to the active Arcade and Attica rail corridor.





Arcade-Java Rail-with-Trail Photosim

This rendering illustrates a rail-with-trail. The trail surface is stone dust with grass shoulders. A split rail fence separates the trail from the railroad, although other means of separation can be used.

Utility Line Trail

The proposed Utility Line Trail extends 3.7 miles between Route 16 in Yorkshire to Liberty Street on the eastern side of the Village of Arcade. This alignment follows the existing utility line through multiple publicly- and privately-owned properties. The utility line is currently owned and maintained by the Village, which holds easements with adjacent property owners, typically 75 feet in width. If implemented, the Utility Line Trail would require amendments to existing easements to enable implementation of the proposed 10-foot-wide multi-use trail within this corridor. Most of the adjacent land is currently being used for farming. The trail can be constructed to minimize interference with current operations and crossings incorporated to access various fields.





Utility Line Trail Photosim at intersection with Park Street

This is a rendering of the proposed trail crossing at Park Street. As shown, the trail crossing will include a marked crosswalk, detectable warning strips, and crossing signage. The rendering shows an RRFB. A speed study should be conducted to determine if this additional treatment is necessary.

Cattaraugus Creek Trail - South

The proposed Cattaraugus Creek Trail extends approximately 2 miles through the Village of Arcade. On the western end, the alignment is recommended as a shared roadway for approximately 950 feet of Sawmill Drive from Main Street to the rail corridor, where the trail then transitions to a 10-foot wide rail-withtrail facility for approximately 1 mile. Here, the 10-foot-wide multi-use trail is proposed to continue along the south side of Cattaraugus Creek until its terminus at Main Street / Clear Creek.



Trail 10 ft Cattaraugus Creek Trail



Proposed Cattaraugus Creek Trail - South Plan View

This rendering displays the Cattaraugus Creek Trail - South where it transitions from a rail-with-trail to a multi-use path along the south side of Cattaraugus Creek. A fence and gates at the rail crossing are proposed to separate users from the rail corridor as needed. A trailhead is also proposed in this area to further facilitate trail access.

These sections are representative of a "typical" condition along the corridor. Widths and conditions vary that may require changes to the proposed facility, widths, or overall design treatment.

Main Street On-Road

The proposed Main Street On-Road connection extends approximately 3 miles from Route 16 in Yorkshire to Water Street, creating an important east-west connection through the Village and connecting to many amenities and businesses.

Two alternatives have been developed to accommodate all users within the roadway. Both alternatives include a 4 lane to 3 lane "road diet". This results in one travel lane in each direction and a center two-way left turn lane. The first alternative utilizes this additional space to increase the shoulder width for "bike space". The second alternative narrows the curb to curb width of the roadway and widens one of the existing sidewalks to create a sidepath that would be shared by pedestrians and cyclists along with a shoulder for cyclists that prefer to ride in the road.

Phasing and Next Steps

Any of these trail projects can be constructed individually or grouped together or even constructed in smaller segments. The important item to consider when developing segments of trails is to ensure that there are local termini.

There was no clear priority for trail construction based on public input. There was a slight preference for completing portions of the Utility Line Trail and the Clear Creek Connection to connect the two Village Parks. Based on input



Main Street On-Road Photosim

throughout the process, there is also the desire for a long distance trail, therefore prioritizing the Arcade-Java Rail with Trail. The Village should continue to pursue each trail, acquiring easements where necessary, to develop each proposed trail as funding opportunities present themselves. The following next steps are recommended:

- Funding applications that include written support or are completed jointly with the Arcade-Attica Railroad, Wyoming County, and neighboring municipalities will be favored more strongly. It is recommended that members from each of these entities meet regularly (2-4 times per year) to continue to progress this trail.
- Pursue funding to begin conceptual design for the Arcade-Java Rail with Trail. This would include wetland delineation and boundary survey, as well as preliminary grading and drainage analysis.
- Obtain easements for the Clear Creek
 Trail.
- Obtain amendments to existing Utility easements to allow future trail construction and public use.
- Obtain easements for the Cattaraugus Creek Trail.
- Continue coordination with NYSDOT for the planning and design of the Main Street Reconstruction Project.

Chapter 1

Existing Conditions and Needs Assessment

Introduction

The Arcade Multi-Use Trail Feasibility Study will develop a cohesive set of concept-level plans and strategies, with defined priorities, to guide the Village in improving and expanding pedestrian and bicycle access within the Village of Arcade and region. The results of this study will identify opportunities to enhance safety and accessibility for pedestrians and bicyclists in Arcade and will recommend projects and strategies based on the determination of needs of area pedestrians and cyclists. The goal is to define trail alignments that accommodate all ages and abilities and connect the various destinations within and outside the village. A loop trail around the village would be ideal.

Study Area

The Village of Arcade is located in the southwest corner of Wyoming County - 42 miles (50 minutes driving time) from downtown Buffalo and about 75 miles (1.5 hours driving time) from downtown Rochester. There are 2.6 square-miles (1,664 acres) of land within the Village boundary. With a local population of 2,168 residents (ACS 2021 5-year estimate), the Village has a population density of 818.3 people per square mile. The focus of the study area is the Village of Arcade; however, potential connections to local amenities and regional trails outside of the Village will be considered.



Existing multi-use path within Village on north side of Cattaraugus Creek from Sanford Ave to Water St



Pedestrian bridge over Cattaraugus Creek at Sanford Ave



Arcade Village Park Source: <u>VillageOfArcade.org</u>



New sidewalks on Main Street Source: Facebook



New streetlight installation on Main Street Source: Facebook



Arcade & Attica Railroad Station Source: Facebook

Existing and Previously Proposed Bicycle and Pedestrian Facilities

There are an estimated 11.2 miles of existing sidewalk along roads within the Village boundary. There are currently 2.1 miles of sidewalk extensions desired within the Village. These potential future sidewalks are identified on:

- Main Street: North side of Main Street from western Village boundary to the existing sidewalk just west of the rail crossing.
- Edward Street: From Main Street to Steele Avenue.
- **Steele Avenue**: From Edward Street to Main Street.
- North Street: North side of North Street from Northridge Drive west to the curve in North Street.



There is currently one 0.18 mile-long multiuse trail within the Village that includes ADAcompliant ramps and a pedestrian bridge that was constructed over Cattaraugus Creek in 2012 from Sanford Avenue (behind the First Baptist Church of Arcade) to Water Street. Additionally, there is a 0.27 mile-long paved driveway through the Pioneer Central School property from West Street to the Pioneer Elementary School (overlapping with the proposed Strategic Plan Downtown Trail alignment) informally used as a multi-use trail, formal trail use may be possible following collaboration with the Pioneer Central School system. Proposed trails identified in previous plans and initiatives include:

 Arcade-Java Rail-with-Trail: This proposed trail alignment was included in GTC's 2016 Genesee-Finger Lakes Regional Trails Initiative. If implemented, the Arcade-Java Rail-with-Trail would be an 11.4 mile stone dust multi-use trail along the active Arcade to Attica rail corridor from the Village of Arcade to the Beaver Meadow Audubon Center in Java.

Existing paved driveway from West Street to Pioneer Elementary School

- Cattaraugus Trail: Identified in the 2005 Strategic Plan for Downtown Arcade, the 1.6 mile Cattaraugus Trail would connect North Street to the Village Park by way of existing sidewalks as well as a newly constructed trail along a portion of Cattaraugus Creek. This newly constructed trail segment is proposed along the abandoned North Street rightof-way.
- Clear Creek Trail: The Village is currently working to progress a trail segment along the east side of Clear Creek south of Grove Street. Additionally, there are efforts to develop a trail bridge over Clear Creek from the end of Stuart Avenue. Easements to construct trail facilities along and over Clear Creek will depend on ongoing conversations between the Village and relevant private landowners.

*The proposed sidewalks and trails described above were included in several previous studies. Each of these studies and relevant specifics of the recommendations are summarized in the "Previous Studies" section of this chapter.



Date Exported: 3/9/2023 9:33 AM

Regional Destinations and Trails

Arcade's central location between multiple existing and planned regional trail systems puts the Village in a prime position for local and regional trail development. As the crow flies, the Village is located approximately 20 miles from the existing Genesee Valley Greenway, 27 miles from the existing Groveland Secondary Trail, and 12 miles from the Southern Tier Trail.

- Genesee Valley Greenway: "The Genesee Valley Greenway State Park is a 90-mile open space corridor that follows the route of the Genesee Valley Canal (1840-1878) and the Pennsylvania Railroad Rochester Branch (1882-1963) from the Erie Canalway Trail in Rochester's Genesee Valley Park to the Village of Cuba in Allegany County." (Source: <u>https://parks.ny.gov/parks/</u> geneseevalleygreenway/details.aspx)
- Groveland Secondary Trail: The Groveland Secondary Trail is a 20mile multi-use trail along "a portion of the abandoned right-of-way of the old Groveland Branch of the Erie Lackawanna between York and Alexander." (Source: https://www.traillink. com/trail/groveland-secondary-trail-(yorkto-alexander)/)

 Southern Tier Trail: The Southern Tier Trail is a proposed 80-mile multi-use trail along the Buffalo-Pittsburgh rail corridor between Buffalo and Hinsdale. "The proposed multi-use trail would connect 20 Western New York towns and villages, and link to the 750-mile Empire State Trail and 90-mile Genesee Valley Greenway Trail." Portions of the Southern Tier Trail, also known as the Erie Cattaraugus Rail Trail, already exist in Springville and East Concord. (Source: https://gobikebuffalo. org/project/southern-tier-trail-feasibilitystudy/)

There are a number of parks and open space opportunities in the region surrounding the Village of Arcade. These include County forests, State Forests, Wildlife Management Areas (WMA), local parks, lakes, ski resorts, golf courses, and other recreational assets. Future regional trail connections should consider the location of these open space and recreation opportunities and support improved access to these important regional destinations.



Genesee Valley Greenway State Park in Belfast, NY Source: NYSOPRHP



Example photo-simulation of what the Cascade Bridge may look like as part of the Southern Tier Trail Source: GObike



Local Destinations

There are a number of destinations within the Village that would benefit from expanded and improved bicycle and pedestrian connectivity.

Educational Facilities

Pioneer Elementary School is located in the Village downtown at the intersection of Main Street and Church Street. The Pioneer Middle and High Schools are located just outside the Village boundary between Countyline Road and Old Olean Road in Yorkshire. The Genesee Community College Arcade Campus Center, which is currently closed, is located on Edward Street.

Food Access

The Village has two grocery stores - TOPS and Arcade Market Place - located on Main Street along with a number of restaurants. Popular local restaurants within the Village that are highlighted on the map include: Beer Justice Brewing Co., Main Street Grille, Marco's Pizza and Subs, and John and Mary's.

Housing Complexes

There are a number of housing complexes within the Village. Creating safe, comfortable connections to these locations will improve access for local residents, many of whom are older adults or those with limited mobility due to physical or financial limitations. Apartment and multi-family housing complexes within the Village include:

- Garden Park Apartments
- Arcade Manor Apartments
- Arcade Country Estates
- Creekside Lane Apartments
- Northridge Homes

Other Village Amenities, Services, and Destinations

Other local amenities and service locations include the Arcade Village Park (and Cabin Site), library, main Village office, and the Arcade and Attica Railroad.



Arcade and Attica tourist railroad south of Main St



Tops plaza with utility corridor in background



Date Exported: 3/9/2023 9:33 AM

Safety Considerations and Roadway Characteristics

There are 13.9 miles of roadway centerline within the Village boundary. To evaluate opportunities for improvements along the roadway and challenges for bicycle and pedestrians, traffic volumes, vehicular speed limits, and crash history were considered.

AADT

The main roads in the Village have AADT (Annual Average Daily Traffic) values recorded and displayed in the NYSDOT Traffic Data Viewer (https://www.dot.ny.gov/tdv). The data displayed on this map are the estimated AADT values for 2019. Recorded volumes on major Village roads range from 310 to 12,505 vehicles per day. As expected, Main Street (Route 39) experiences the highest traffic volumes, followed by Liberty Street (Route 98).

Posted Speed

The main roads in the Village have posted speed limits recorded and displayed in the NYSDOT Traffic Data Viewer (<u>https://www.dot.ny.gov/tdv</u>). According to Chapter 61: Traffic Control of the Village Laws, all roadways within the Village have a maximum posted speed of 25 MPH with the exception of:

 West Main Street (NYS Route 39) between the westerly fence line of St. Peter and Paul's Roman Catholic Cemetery and the west corporation line shall have a speed limit established at forty (40) miles per hour.

- The remainder of Main Street (NYS Route 39) within the Village limits shall have a speed limit established at thirty (30) miles per hour.
- All of NYS Route 98 (Liberty Street and east portion of North Street) within the Village limits shall have a speed limit established at thirty (30) miles per hour.

Crashes

The crashes displayed on the map use crash data collected for a 10-year period from June 1, 2012 through May 31, 2022. Crash data from NYSDOT's Crash Location and Engineering Analysis Repository (CLEAR)* was analyzed (https://www.dot.ny.gov/divisions/operating/osss/ highway/crash-analysis-toolbox). These include crashes reported to police. There is a possibility the number of crashes between vulnerable users and vehicles as well as other types of crashes are underreported. There were a total of 365 crashes reported within the 10-year period. Of those, 5 were bicyclist-involved crashes and 3 were pedestrian-involved crashes.

Bicyclist-Involved Crashes Recorded Characteristics:

- Locations:
 - » 1 at intersection of Main Street and Edward Street
 - » 2 at intersection of Main Street and TOPS Plaza entrance

- » 1 at intersection of Main Street and West Street/Bixby Hill Road
- » 1 on Main Street between Sanford Street and Pearl Street
- Injuries:
 - » 1 Injury
 - » 3 Possible Injuries
 - » 1 unreported (injury data not provided)

Contributing Factors:

- » 3 Driver Inattention
- » 1 View Obstructed
- » 1 Failure to Yield Right-of-Way

Pedestrian-Involved Crashes Recorded Characteristics:

• Locations:

- » 1 on Main Street just east of West Street/Bixby Hill Road
- » 1 at intersection of Main Street and Liberty Street
- » 1 at intersection of Main Street and Clough Avenue
- Injuries:
 - » 1 Serious Injury
 - » 1 Injury
 - » 1 Possible Injury
- **Contributing Factors:**
- » 1 Driver Inattention
- » 1 View Obstructed
- » 1 listed as "Not Applicable"

*Further analysis should be performed to determine actual location, injuries, and contributing factors



Date Exported: 3/9/2023 9:34 AM



Date Exported: 3/9/2023 9:34 AM



Date Exported: 3/9/2023 9:35 AM

Right-of-Way Opportunities

To create a connected shared use path, most opportunities lie within existing linear corridors, such as roadways, railroads, utilities, and waterways.

Railroad

There are two railroad lines within the Village. The Buffalo & Pittsburgh Railroad is a freight line to the west that runs north-south. Freight lines generally offer limited opportunities for recreation such as a rail-with-trail. There is also a railroad that runs east-west and north to Java. This railroad appears to be owned by Wyoming County IDA and operated by Arcade and Attica Railroad Corporation. This railroad runs tourist trains during the summer and winter, with limited local freight operations. This line has been previously identified as a potential trail between Arcade and Java. Tourism railroad lines generally afford more flexibility for a rail with trail alternatives with less separation. Existing right-of-way (ROW) is limited for a majority of the corridor with widths varying between approximately 35 and 90 feet. Additional property acquisition could be needed for a viable rail with trail alternative.

Road Rights-of-Way (ROW)

Sidepaths may be alternatives along roadway corridors, particularly along state routes and along some local corridors. Depending on ROW width, additional ROW may be needed and would be determined during the design process.

Public Property / ROW along Creeks

Within the Village, private property is limited along the creek, especially outside of the Main St area. Flooding and wetlands, as noted under environmental considerations, are also a factor.

Utility Corridors

The Village owns and operates the electric utility within and just outside the Village limits. These transmission lines offer unique opportunities for potential trail corridors. Modifications to existing 75 foot wide easements would have to be investigated, as they were acquired specifically for the placement and maintenance of the transmission lines. A trail along these corridors would have the additional benefit for the village to more easily access lines for inspection and maintenance.



Railroad headed north out of the Village



Date Exported: 3/9/2023 9:35 AM

Environmental Considerations

As with the development of any project, it is important to avoid or mitigate environmental impacts. These can range from wetlands to archaeologically sensitive areas. An initial environmental screening did not indicate any state designated wetlands, check zones, significant natural communities, or archaeological areas.

The Clear Creek and Cattaraugus Creek are both Class C waterways, which requires a state permit for any disturbance of the bed or banks of these protected streams. Additionally, the 100 year floodway along these creeks vary between approximately 100 and over 300 feet from the center of the waterway. The floodway is a larger area to the east, where the Clear Creek and Cattaraugus Creek meet. There are several federal wetland areas located within the flood zone. Any trail development within the floodway needs to be designed to withstand any future flooding, not increase flood levels, and minimize disturbance to wetlands.



Clear Creek



Date Exported: 3/9/2023 9:35 AM

Trail Usage

In order to estimate potential trail usage or demand for any proposed trail, trail user counts from across the region, in six comparable locations, were considered. To equate these trail counts to Arcade, population density and trail length were calculated. The density of the other communities ranges from 1,084 to 2,599 people per square mile. Trail lengths range from 1.33 miles to 8.66 miles. Since the trail counts were taken at different times during the year, the average daily usage was adjusted for monthly variations to reach an annual average daily use. Trend lines were developed for the average daily trail use versus population density and average daily trail use versus trail length. Using population density, it is assumed that the average daily trail use in Arcade would be 74 trips or 27,000 per year. If the proposed trail is approximately four miles in length, trail use would be 97 trips per day or over 35,000 trips per year.

The six comparable communities and trail count locations include:

- Avon, Erie-Attica Trail
- Victor, Auburn Trail (@Rawson Rd)
- Penn Yan (2 locations), Keuka Outlet Trail (@PennYan) and Keuka Outlet Trail (@Milo Mill)
- Webster, 104 Trail (@Philips Rd)
- Waterloo, Cayuga Seneca Canal Trail



Comparable locations from GTC's count program were used to estimate potential trail usage in the Village of Arcade Source: GTC (<u>https://www.gtcmpo.org/ActiveTransportationData</u>)

Previous Studies

Several plans have been developed over the last 20 years that involve pedestrian or bicycle related recommendations within or adjacent to the Village. The plans and relevant recommendations are summarized below:

2005 Strategic Plan for Downtown Arcade

The Strategic Plan for Downtown Arcade was prepared in 2005. It involves a detailed review of the existing conditions within the Village's Main Street corridor and provides a list of action-oriented recommendations that address the challenges within the community. Thirty nine (39) specific action items were identified that outlined how to implement recommendations. Action items that include bike and pedestrian related recommendations are listed below.

A1: Church Street Improvements

- Short-term:
 - Add more pedestrian scaled lighting at Village Parking lot entrance and better signage
 - » Monitor crosswalks annually for paint wear and repair as needed
 - Replace concrete barriers (used in parking lot for pedestrians) with more attractive barriers (concrete or substantial wood planter boxes, wood posts and guide-rails)

- Long-term:
 - Reduce width of pavement on Church St. (10 ft travel lanes, 8 ft parking lanes either side).
 - Improvements pedestrian entrances and pathways through the Village parking lot
 - » Narrow crosswalks with curb bumpouts
 - » Install raised crosswalks to form speed table
 - Install curbs along the road (granite recommended for attractiveness)

A2 Church Street Intersection / A3 Liberty Street Intersection / A4 Prospect Street Intersection

- Add crosswalk to all legs (3 total) of the intersection; currently there are only two
 - » Install crossing signals
 - Reconfigure existing crossing signals to automatically activate with regular cycling of the traffic lights for vehicles, as opposed to making pedestrians push buttons to activate

A5: Pedestrian Laneway (Alley) Improvements (Publicly owned Iane between 261 - 259 Main Street)

- Remove asphalt and replace with concrete, stamped concrete, or concrete paving bricks
- Install lighting (overhead or attached to buildings on either side)
- Extend the pathway into the parking lot in the form of a raised sidewalk with pedestrian scaled lighting features, trees, and planters.
- Install wayfinding signage
- Install interpretive signage that explain the history of Arcade (especially railroad)



Pedestrian enhancements needed (alley pictured above)



Example of alley enhancements for a welcoming path Image: Barrett Alley pedestrian way, downtown Rochester, NY

A6 Cattaraugus Trail

- Develop a pedestrian trail system through the Village that can link the Village park in the east with the Garden at Main and S Water Streets, then follow Cattaraugus Creek
- Install new sidewalks in the Village to continue walking path
- Add pedestrian bridge over Clear Creek

A7 Narrowed Pedestrian Crossing Points (Curb Extensions)

• Perform detailed analysis of where curb extensions may be appropriate

(Main Street) is reconstructed

A8 Complete Key Components of the Sidewalk Network

- Sidewalks need to be completed in following locations:
 - The north side of Main Street to the west (Village line)
 - Both sides of North Street from Water Street to Cramer Drive (see also Recommendation A6 - Cattaraugus Trail)
 - » Both sides of Water Street (Route 98) from Main Street to the Arcade Fire Hall
- Install curbs along North Street for pedestrian protection



Example of proposed improvements for sidewalks with curbs and pedestrian level lighting

A9 Provide Sidewalk Connection to Tops Supermarket Plaza'

 Install a sidewalk along the east side of the existing parking lot to create a direct pedestrian connection to the public sidewalk on West Main Street.



Example of a sidewalk through a parking lot. Image: Main-Plymouth Parking lot in Rochester, NY

B4 Screen large parking areas adjacent to pedestrians

- Remove a few feet of asphalt and plant a low hedge of evergreen or perennial plants.
- More elaborate solutions can involve low brick or stone walls, low wrought iron or wooden fences, or even "false facades" of buildings.

C2-2 Proposed South Avenue

- A new street was proposed, South Avenue, that would run parallel to Main Street, but 250 to 300 feet south. South Avenue would connect the Tops Plaza to the west and Prospect St to the east, crossing Bixby Road near the electrical substation.
- South Avenue would facilitate local traffic between the two areas of the Village and would also be intended as the preferred pedestrian and bicycle route.



Example of a screened parking area to separate lots from sidewalks



Map: Parking areas adjacent to sidewalks along Main Street

2010 Main Street Corridor Study

The 2010 Main Street Corridor Study was designed to identify long-term needs within the Village of Arcade and provide opportunities for regional collaboration and coordination between public and private stakeholders. The Corridor Study, which extends Main Street between Water Street and Route 39/ Hurdville Road intersection, aims to provide a coordinated view of land use and transportation by looking at the existing conditions and conceptualizing future development, such as streetscape enhancements, traffic calming concepts, and improved bicycle and pedestrian circulation. Overall recommendations from the Study that relate to bike and pedestrian improvements are listed below.

- O-3: Develop the Cattaraugus Overlook Park and Creek Trail
- O-4: Create a "Complete Street" design hierarchy of new streets and corridors
 - » Proposed West End Connector between Steele Avenue and Edward Street
 - Proposed Main Street Bypass between Bixby Hill Road and Liberty Street (Via Haskell Avenue)
 - Proposed residential access street off both sides of West Street between Main Street and Cattaraugus Creek to access potential future residential development

- Proposed Sanford Street extension and Cattaraugus Creek bridge reconstruction with connection between Main Street and Water Street
- O-5: Southern Boulevard (Recommendation C-2 in Strategic Plan)
- O-6: Potential Roundabouts at the intersections of Main Street/Water Street and Main Street/Bixby Hill Road.
- O-8: Complete Key Components of the Sidewalk Network (Recommendation A7 and A8 in the Strategic Plan)
- O-9: Design and Install Directional "Wayfinding" Sign System

The Main Street Corridor Study also provided more specific recommendations in four areas of the corridor - called "transects".

Village Center (VC) Transect:

- VC-3: Improve the Main Street and Church Street Intersection (Recommendation A2 in the Strategic Plan).
- VC-4: Improve the Main Street and Prospect Street Intersection (Recommendation A4 in the Strategic Plan).
- VC-5: Upgrade Main Street Vehicle Alley. Add a 4 ft sidewalk to the east side.



- VC-6: Upgrade Main Street Pedestrian Alley at 259/261 Main Street (Recommendation A5 in the Strategic Plan).
- VC-7: Upgrade Main Street A&AR Alley (Recommendation A5 in the Strategic Plan).
- VC-9: Install Gateway Treatments at the East Approach to the Village Center (intersection of East Main Street and Water Street).
- VC-10: Install Streetscape Improvements on the Church Street Corridor (Recommendation A1 in the Strategic Plan).
- VC-14: Install Streetscape Improvements.

Village Residential - Commercial Transitional Area (VRCTA) Transect:

- VRCTA-1: Create the New "Prestolite Park" (Recommendation D5 from the Strategic Plan).
- VRCTA-3: Install Gateway Treatments at West Approach to Village Center.
- VRCTA-4: Install Streetscape
 Improvements on West Main Street.



Village Residential-Commercial Transitional & Highway-Commercial Area Concept Recommendations

Highway Commercial (HC) Transect:

- HC-1: Install Streetscape and Pedestrian Safety Enhancements. This includes access management and aesthetic improvements.
- HC-2: Reconfigure the Intersection of West Main Street and Tops Plaza. Reduce the number of lanes at this intersection to create pedestrian and streetscape enhancements.
- HC-3: Provide Sidewalk and Parking Connections to Private Development (Recommendation A9 in the Strategic Plan).

Business Park (BC) Transect:

- BP-1: Proposed West End Connector (Recommendation C2 in the Strategic Plan). A new public street parallel but south of Main Street - proposed as 10 ft travel lanes, bike lanes, sidewalk and green strip.
- BP-2: Install Streetscape Improvements on Edwards Street.
- BP-3: Install Streetscape Improvements on Steele Avenue.




2016 Genesee-Finger Lakes Regional Trails Initiative Update

Phase three of the Genesee Finger Lakes Regional Trails Initiative was prepared in 2016. It outlines visions and goals to provide a well-connected trail system to link all of the communities within the Finger Lakes Region. The update includes a phased network of facilities that intends to expand the existing 500+ mile trail system in an effort to not only connect the communities but enhance access to cultural destinations, improve health within the region, and provide multiple active transportation corridors.

Project Recommendations listed in the Update that include Arcade are listed below.

Wyoming County Trail Project Recommendations: Mid-term Implementation

Map ID 81 (see adjacent map)

- Arcade Java Rail-with-Trail: Develop a multi-use trail along the active Arcade to Attica real corridor from the Village of Arcade to the Beaver Meadow Audubon Center in Java.
- The trail surface type includes stone dust and the trail would span 11.4 miles through the jurisdictions of the Town of Arcade and the Town of Java.



Statewide Greenway Trails Plan

This statewide trails plan was completed in 2021 as an update to the 2010 Statewide Trails Plan. In addition to clarifying New York's vision for a network of shared use paths across the state, it identified goals, trail types, and trail benefits, incorporated public input, and inventoried existing, planned, and proposed greenway trails. Goals of the plan that specifically relate to developing trails in Arcade include:

- 3. Expand the state's greenway trails system to reach more New Yorkers in more areas.
- 6. Promote the greenway trails system as a destination for tourism, healthy recreation, and active lifestyles.
- 7. Enhance bicycle and pedestrian transportation options by connecting greenway trails and communities.

Three regional trails in the area surrounding Arcade were identified:

- Genesee Valley Greenway to the east (primarily existing)
- Southern Tier Trail to the east (existing, planned, and proposed)
- Groveland Secondary Trail to the north (existing and proposed)

The Statewide Greenway Trails Plan documents potential funding resources and completes an environmental review. The GEIS did not complete a comprehensive analysis of each program or project, but provides an environmental base for future implementation.

Statewide Comprehensive Outdoor Recreation Plan and Generic Environmental Impact Statement (2020-2025) (SCORP)

This statewide plan was completed in 2019 and is routinely updated every 5 years. The plan describes demand and supply of recreational resources, public outreach, and needs, trends and opportunities. It also establishes a planning framework and implementation program. The state's goals are:

- Goal #1: Connect children and adults with nature and recreation by improving access to outdoor recreation opportunities.
- Goal #2: Inform the public about outdoor recreation opportunities.
- Goal #3: Engage the public through programming.
- Goal #4: Reinvent and redesign the State's outdoor recreation system.
- Goal #5: Build a 21st century green and resilient outdoor recreation system; repair and green aging infrastructure and open new facilities.

- Goal #6: Expand and protect natural connections between parks and open space.
- Goal #7: Restore, conserve, and protect the State's biodiversity.
- Goal #8: Expand historic preservation efforts across the State, at the local and regional level, and cultivate pride of place.

As with the Statewide Greenways Trails Plan, the SCORP documents potential funding resources and completes an environmental review. The GEIS did not complete a comprehensive analysis of each program or project, but provides an environmental base for future implementation.

Implementing Complete Streets in the Genesee-Finger Lakes Region A Guidebook

This guidebook was finalized in 2022 with the goal of implementing a complete street policy in the nine-county region. The focus is on creating a baseline within the Genesee-Finger Lakes Region by outlining the existing state of complete streets, including the existing policies and mapping bike lanes across the region. It shares lessons learned from municipalities that have previously implemented complete streets, and outlines best practices to support communities that are getting started on developing their own complete street designs.

PAGE LEFT INTENTIONALLY BLANK

Chapter 2

Public Engagement

Introduction

The project team completed a series of outreach activities to reach and engage the communities that would be most impacted by the proposed Arcade trail network projects. This chapter includes a summary of engagement methods, correspondence, meetings, and community engagement opportunities to ensure that community needs and concerns are identified and included in the project.

Primary public engagement activities include:

- March Public Meeting
- Virtual Public Engagement
 - » Survey
- Stakeholder Interviews
- Slow Roll & Bike Rodeo
- Interactive Map
- June Public Meeting

March Public Meeting

The project team hosted an initial public meeting on the evening of Monday, March 27, 2023 at the Arcade Village Main Office. The public meeting had 38 attendees and included an overview of the feasibility study process, existing conditions, and opportunities for public engagement.

Several maps of the Village of Arcade and surrounding region were available for the public to review at the meeting. These maps including existing trails and greenways, as well as proposed routes. Community stakeholders were asked to indicate desired route options and were invited to draw on maps and make note of any comments, concerns, and desires for the area.

The project team gives a presentation at the March 27, 2023 meeting



Key Takeaways

 A majority of meeting participants prefer a shared use path over a sidepath, sidewalk/bike lanes, or sidewalk/shared roadway

Routes:

- » Deacon Drive > Park > Sullivan Ave
- » Connections to and from the cemetery
- » Bridge on 39 > Cross tracks on Sawmill Drive
- » Path between the schools
- » Use utility row
- » Route parallel to A&A Rail Road going North
- » Middle Road > Erie County Forest
- » Abandoned RR bed between Arcade and Lost Nation State Forest

• Destinations:

- » Beaver Meadow
- » Bixby Hill Snowmobile Trail
- » Beer Justice (3 Hurdville Rd, Arcade, NY 14009)
- » Holland Ravines hiking path
- » Regional connections with loop trails
- » Finger Lakes Conservation
- » Holland Willows
- » Sprague Brook & connect with Southern Tier Trail
- » Lime Lake

- » Hiram Lake
- » Bluemont property (former ski area in Yorkshire)
- Connect to kayak launches / fishing access areas (fishing derby attracts many visitors)
- » Kissing Bridge
- Additional Suggestions & Preferences:
 - » Zip line over creek
 - » Expand sidewalks south to new Dollar General
 - » History markers at Cemetery, looking down into the Village
 - » Places / benches to watch the A&A RR trains
 - » Bathrooms
 - » Plowed in winter
 - » Add a dog park / dog walking amenities to the trail, as there are none in the Village
 - » Neighborhood connections with the park
 - » Family / stroller accessibility
- Concerns:
 - » Safety cameras / blue boxes on trails would be a plus
 - » Lighting in Village is inadequate
 - » Not useful to add sidewalks on Steele / Edward
 - » Scary riding on Liberty





Meeting attendees were able to review and comments on maps of the Village

Virtual Public Engagement

A website was created to facilitate virtual public engagement activities as well as serve as a one-stop information hub for the project with regular updates to content, FAQs, and timeline.

Survey

As experts on their region, we asked Arcadearea residents and regular visitors to take a community survey focused on ordinary commutes and trail usage, the results of the which will help identify opportunities to enhance safety and accessibility for pedestrians and bicyclists in Arcade, and aid in building trails and amenities based on the needs of area residents, pedestrians, and cyclists.

The survey was promoted on the Village of Arcade's social media pages, GObike's social media pages, in local newspaper ads, and on paid/targeted social media ads directed to those living and working in the immediate Arcade area. A two-week survey station was also posted at the front desk of the Arcade Free Library, wherein patrons were entered to win a bike helmet and accessories from GObike exchange for taking a survey.

Key Findings

Through our community engagement and survey results, the following key findings emerged:

 There is a strong desire amongst Arcade residents to have safe, wellmaintained bike trails available in their town, in order to create more opportunities for exercise and wellness. Many residents would like to pursue a more active lifestyle and to travel by means other than a vehicle, but do not



Project website developed to facilitate public engagement and provide information to interested residents

currently do so, due to a lack of safe bike path connectivity.

- Pride in local assets like scenic creeks and parks, as well as historic destinations like the Arcade & Attica Railroad, is strong amongst area residents who wish for such destinations to be featured along new trails.
- A desire for better connectivity to Village amenities like Arcade Village Park and shopping districts was expressed by many survey respondents.

Promotion Methods

GObike employed the following tools to facilitate survey engagement:

- Arcade Multi-Use Trail Feasibility Study Project Website: The project website serves as a one-stop information hub for the project with project summary, survey links, partner information, and FAQs.
- **Survey Station**: Two-week survey station at the Arcade Free Library; patrons were eligible to win a bike helmet and prize basket from GObike in exchange for taking the community survey at the Library.
- Survey Data: An online survey was made available to Arcade-area residents, in addition to in-person connections during neighborhood outreach efforts. Printed copies of the survey were also made available at the Arcade Free Library.

Results

175 individuals responded to the 25 community survey questions, with **most expressing an overwhelmingly positive reaction to proposed bike trail improvements for the**

Village of Arcade. Many cite a need for improved connectivity to more easily access local business districts, natural scenic areas, and historic attributes like the Attica & Arcade Railroad. Major concerns surrounding the topic of personal safety in roadways, the lack of sidewalk connectivity, and lack of alternative mobility options in Arcade, were also addressed.

Listed below are primary desires, primary concerns, and neutral findings indicated by survey respondents. Additionally, this section include a summary of a selection of survey questions. A full report of all survey question results can be found in Appendix A.

Primary Desires:

- Improved connectivity between the Village of Arcade and local parks, scenic areas, and shopping destinations.
- **Paved loop trails** are preferred by the majority of residents, with an expressed desire for **restrooms** and **rest areas** along the route.
- Increased access to exercise and wellness activities for Arcade residents, regardless of age or physical limitations.

Primary Concerns:

- Poor connectivity from the Village to nearby amenities.
- Current lack of alternative transportation options for disabled residents, and/or those who do not or cannot drive.

Neutral Findings:

Never

18%

Infrequently, on

special occasions

43%

 Most residents are extremely proud of the amenities Arcade has to offer, and are supportive of the efforts to improve safety and connectivity through the installation of bike facilities.

How often do you access or use

existing trails in Western New

York?

Dailv

1%

Weekly

17%

Monthl

y 21% **65%**

of survey respondents access existing trails by car

22%

of survey respondents access existing trails on foot



of survey respondents access existing trails by bike

5%

of survey respondents access existing trails by another travel mode







"People need another mode of transportation other than cars. A bikefriendly Town, focused on people instead of cars, would be a boom for the area."

"I am proud that I grew up in this small community, and brought my family to experience the same small town life I had. Safety, personal connections and community events - to name a few. The scenic and beautiful elements near the park and hills of Arcade would be a great path, I wouldn't use a path if it traveled into town, or near cars. Safety is of utmost importance." "I find that it is difficult to find safe places to walk once you're away from the Main Street. I enjoy walking and jogging in the early morning, but I can't use a majority of the side streets because it is unsafe due to a lack of sidewalks OR adequate road shoulders. Adding shoulders on some roads where it is possible would help immensely, as well as adding sidewalks."

"I think the ability to connect to a neighboring town like to Java would be huge!" "The Creeks are a big part under utilized treasure of the Village, I would to see the existing trail expanded to meet with and follow along the full length of Cattaraugus Creek in both directions in the Village,one towards the Village Park and the other way as far as Hurdville/Northwoods rd which borders with Erie county. I would also like to connect with the existing trail to the Village Park. The existing trail already connects to the downtown district I just wait expanded along the creek. Create a waterfront attraction."

Stakeholder Interviews

Throughout the initial project outreach period from late March through May, GObike engaged with and developed a list of more than 75 project stakeholders, not counting property owners mailed, but without direct interaction. In addition, GObike spoke directly with 7 nearby property owners or stakeholders.

For the purposes of collecting input for the planning effort, stakeholders were considered to have two primary categories for interaction:

input stakeholders and implementation stakeholders. Stakeholders primarily providing input to the feasibility study are potential users and leaders of user groups, like walking clubs, boy and girl scouts clubs, etc. Stakeholders primarily relating to implementation include adjacent property owners, railroad and utility companies. The questions list is broken out into these two primary categories.

Input Questions

Trail Construction

- What route(s) highlights the best of your community?
- Which route has the most community support and is easiest to build?
- What routing and surface types best accommodate potential users of the trail?

Trail Use

- What routing best ensures the safety of users?
- What routing best accommodates different users of the trail?

Trail Benefits and Concerns

• Which benefit(s) of the proposed trails are MOST important to you?

Public Engagement

- Who else might we include in our contacts list to ensure people know about and have the opportunity to provide input into this process?
- Are there any local groups or outlets you recommend for us to connect with or include in our outreach?

Implementation Questions

Property

- What do you perceive as potential benefits of a trail to the greater community? To your property?
- Would you be willing to consider an easement to allow for the construction of a shared use pathway along the existing utility corridor?
- What are your three biggest concerns?

Rail / Utility

- Where space allows, would the company consider a rail with trail?
- Are there any corridors or locations where a pathway would not be allowed or permitted that we should be aware of?

Key Takeaways

The project team engaged in one-on-one calls with seven stakeholder households along Haskell and Steele Avenues, as well as owners of an active farm on West Main Street.

These residents were largely in support of trails in general, but expressed concerns about the trail running behind their properties, putting them at an increased risk of trespassers. As one resident stated: "the issue for me is not the idea of a trail, but where you want to put it." Common concerns included:

- General safety for trail users and adjacent residences
- Privacy for adjacent residences
- Cited fear of reductions in property value

At least one neighbor on Haskell was encouraged by plans to come off from the utility and RR corridors to directly connect between Sullivan Ave and Deacon Dr. Resident stakeholders also worried about on-road portions being too dangerous due to a history of drivers' reckless speeding on Haskell Avenue and nearby Liberty Street. Furthermore, the owners of the farm along West Main Street cited the generally unappealing nature of their property as a trail location; the farm's odors, noises, and general activity make it an unattractive area to bike through.

As a key stakeholder for the Arcade-Java Rail with Trail, two meetings were conducted with the Arcade & Attica Railroad Corporation. The initial discussion included an explanation of what was likely to be proposed, typical elements of rail with trails, and potential benefits for the railroad. The second meeting included discussion of the some of the concerns raised, such as liability and maintenance, details of which would be determined during the design process. The Arcade & Attica are supportive of the trail effort and are willing partners as plans proceed. The project team also completed a tour of the entire railroad line to inspect existing drainage and slope conditions.

Slow Roll and Bike Rodeo

On May 23, 2023, members of the project team participated in Arcade Elementary School's annual Slow Roll event. Children and adults gathered at the school in the evening and rode their bikes around the town center. The ride ended in the school parking lot where the project team had set up a "chaos box," wherein participating children learned agility, and also learned how much easier everyone can move without a collision when a common set of directions are followed. For instance, the crashes ceased when all riders started going in the same direction.

The project team also set up a course that invited participating children to compete in a "snail race" from one end of a line to the other, the winner being the last person to cross the finish line. By going as slowly as possible, but also not being disqualified by putting your foot on the ground at any time, children learned agility and control on their bikes.

Outside of those activities, the project team handed out small booklets that teach the rules of the road for drivers, cyclists, and pedestrians, and invited all in attendance to attend an upcoming meeting regarding trails in Arcade. The ride and subsequent rodeo lasted about two and a half hours.



Bike Rodeo held in Arcade in May 2023



Bike Rodeo held in Arcade in May 2023

Interactive Map

Following previous public engagement activities as well as reviewing existing conditions, the consultant team identified four priority trail routes and three additional trail connections throughout the Village. To gather public input on these proposed routes, a short survey and interactive map were developed to display these routes. This interactive map and survey was developed using <u>PublicInput.com</u> and was promoted through the project website, posted on social media accounts, fliers and QR codes displayed in public offices, and via email to those who have provided their contact information for updates on this project.

This interactive map and survey gave the public

the opportunity to review the proposed priority trail routes and additional connections, ranking their preferred options, as well as place points to identify potential challenges or opportunities for trail development. The web page also enabled users to provide open ended comments they had regarding this project. This public engagement tool was active from June 22, 2023 through July 13, 2023.

Key Takeaways and Results

- A total of 15 points were added to the interactive map (8 challenges and 7 opportunities)
- A total of 21 comments were submitted by respondents

- Generally, the three off-road priority trail routes - Arcade-Java Rail-with-Trail, Cattaraugus Creek Trail, and Utility Line Trail
 were preferred by respondents compared to the Main Street On-Road route
- Challenges added to the interactive map include:
 - Concerns about safety of students with the proposed Cattaraugus Creek trail behind the school
 - » Right-of-way availability along the proposed Arcade-Java Rail-with-Trail
 - » High traffic speeds on Bixby Hill Road at the intersection of the proposed Utility Line Trail
 - Safety concerns for people walking and bicycling at the intersection of Main Street and Countyline Road

Cattaraugus Creek Trail: "Any opportunity to provide additional access/exposure to our waterways should be explored - these are such an underutilized resource within this Community."

Clear Creek Connection: "Excellent trail that would further connect the Village Park to our downtown - and provide additional access to the creek/woods."

Utility Line Trail: "Love this idea - it would be an excellent trail that would allow for additional connectivity from the Village west."

Main Street On-Road: "I would like to see the wider combined walking and biking path along the Main Street trail..."



A public input map and short survey were developed to gather online input about the proposed trail routes and potential challenges and opportunities

June Public Meeting

The project team hosted an initial public meeting on the evening of Tuesday, June 27, 2023 at the Arcade Village Main Office. The public meeting had 19 attendees and included an overview of the proposed priority trail routes and additional trail connections as well as provide time for meeting participants to ask questions of the consultant team and project Steering Committee.







Flyer developed to advertise the public meeting held on June 27, 2023

Key Takeaways

The June public meeting featured a robust Q&A session, wherein town residents were encouraged to express their concerns, and the project team worked to address any issues raised. A full list of the issues addressed can be viewed in Appendix A. The primary concerns for residents related to trail safety, maintenance, and how recommended changes would impact the town's vehicular transportation overall.

Many questions pertained to who would manage maintenance, and who would patrol the trails; the management of such tasks typically falls on owning municipalities. Local police would likely be in charge of monitoring the trails, aided by safety features built into design, like bold markings at crosswalks, good lighting, blue box phones, and security cameras. Trail maintenance, likewise, would fall under the direction of municipalities' public works programs, though trail maintenance is relatively low-cost.

Other common questions related to the trail's proposed juxtaposition to private homes and to Arcade Elementary School, and how the path's presence might be a distraction or concern for students and faculty at the school. The project team explained that conversations will be held with school officials for collaboration on plans for any pathway near the school, and that measures such as using gates to lock off access to the trail portion closest to the school during school hours, are options that could be explored. Similarly, conversations with private landowners abutting the trail will take place further along in development to address concerns. Compromises like fencing, paid for through trail funding, could help solve some residents' privacy concerns.

Other residents had questions about trail access points, and how loiterers and unauthorized vehicles - like motorcycles and drag racers - would be discouraged from using the trails. The planning team explained that the presence of people walking and riding the trail is a natural deterrent, but design features like trail-end treatments to prevent vehicles and regular enforcement can also be implemented. Similar situations on other trails have shown that increased traffic by other residents and police helps deter nefarious activity or all kinds.

Many residents also had questions regarding a potential 4 to 3 lane conversion on Main Street. The project team reassured residents that the recommendation for 3 lanes may seem counterintuitive, but having two travel lanes with one center turning lane is a proven method for moving traffic more efficiently and with fewer crashes. Detailed traffic modeling at peak commute hours would be undertaken, and any new designs could potentially be tested first through temporary means.

Chapter 3

Recommendations

Introduction

This chapter includes the following sections:

- Facility Types: a description of facility types recommended for priority trail routes and connections
- Alternatives Explored: describes
 regional and local alternative multi-use
 trail opportunities that were explored
 throughout the project timeline
- Priority Routes & Connections: outlines the recommended priority routes as well as additional connections which provide multi-use trail opportunities in the Village of Arcade
- Trail Elements: a description of trail elements and amenities that can be included to enhance the trail user experience



Multi-Use Trail Source: Empire State Trail

Facility Types

There are multiple types of facilities that are recommended within the Arcade Multi-Use Trail Feasibility Study. Different facilities may be considered based on the constraints within the project site, such as road width and right-ofway (ROW), or based on the current use of the roadway and daily traffic patterns.

The facility types recommended in this study include sidewalks, multi-use trail, sidepath, railwith-trail, shoulders and bike lanes, and bike boulevards.

Sidewalks

A sidewalk is a minimum 5 foot wide space dedicated to pedestrians adjacent to and parallel to a roadway. Sidewalks are typically constructed using concrete but can also be asphalt. Within the Village of Arcade, bicyclists are allowed to ride on the sidewalk but must yield to pedestrians.

Multi-Use Trail

Also known as a "shared use path", a multi-use trail is typically a 10- to 12-foot-wide paved or stone dust (crushed stone) trail that runs within its own right-of-way, or is physically separated from motorized vehicular traffic by a buffer or barrier. It is used by pedestrians, runners, skaters and bicyclists. In winter, some are used by Nordic skiers or snowshoers.

Sidepath

Sidepaths are multi-use trails that run parallel with and immediately adjacent to roadways, frequently within the right-of-way. They are bidirectional and are typically separated from the edge of the roadway by a landscaped buffer, solid barrier, split-rail fence or some combination, providing a low-stress experience for a variety of users. One difference between multi-use trails and sidepaths is that sidepaths are typically plowed during winter months. Multiuse trails can be plowed, depending on their intended winter use.

Rail-with-Trail

A rail-with-trail is a multi-use trail that is constructed adjacent to, or within, an active railroad corridor and runs parallel to the railroad tracks. A vertical separation, such as fencing, is often constructed between the pathway and the railway to ensure pedestrian and cyclist safety.

Shoulders & Bike Lanes

A bike lane is a designated section of a road or street that is delineated from travel lanes by striping and pavement markings. Roads with bike lanes are marked with signage, as well. Bike lanes can run along the curb or edge of pavement when there is no on-street parking present, or they can run adjacent to parked cars. They generally flow in the same direction of traffic, however in some instances they can be designed as contra-flow lanes along



Erie Boulevard sidepath in Syracuse Source: Empire State Trail

one-way streets or corridors with lower traffic patterns. Roadway shoulders can also act as bike space, even if unmarked. Shoulders used as bike space or bike lanes should be at least 5 feet wide. A 6" white line, rather than the typical 4" white line, can be used to delineate this space. A striped buffer area can also be used if the width is available.

Bike Boulevard

Bike boulevards, or neighborhood greenways, are shared roadways where cyclists travel in the same lane as vehicular traffic. What differentiates a bike boulevard from just a shared roadway is the low traffic volumes, low traffic speeds and enhanced design treatments to create safer conditions for cyclists. Enhancements may include additional signage and pavement markings, green infrastructure, and speed management devices such as speed humps.



Maybrook Trailway rail-with-trail Source: Empire State Trail



Shoulder / bike lane with sidewalk Source: <u>Charlotte.Axios.com</u>



Bike boulevard Source: Empire State Trail

Alternatives Explored

A number of both local and regional multi-use trail alternatives were identified and explored for the Village of Arcade Multi-Use Trail Feasibility Study. Alternatives were explored in an effort to ensure final proposed routes meet the goals and desires of project stakeholders and the general public of creating a loop trail within the Village that connects to local destinations, as well as recommending eastwest and north-south regional connections.

The feasibility of both off-road multi-use trail development as well as on-road connections were examined. Common features that can help facilitate off-road trails include railroad corridors (active, inactive, and abandoned), utility corridors, waterways, and other public rights-of-way. On-road alternatives focused on corridors which provided direct connections to neighboring communities. These are primarily county and state routes.

Using feedback from project stakeholders and the general public, as well as reviewing feasibility of trail development and implementation, priority multi-use trail routes and connections were identified to further explore, plan, and visualize.

Off-Road Alternatives Explored:

 Previously proposed Arcade-Java Railwith-Trail along the Arcade and Attica Railroad from Arcade to North Java

- Buffalo-Pittsburgh rail corridor through the Village of Arcade
- Cattaraugus Creek within the Village of Arcade
- Abandoned railroad corridor located outside of the Village boundary connecting the Towns of Machias / Farmersville in Cattaraugus County and the Town of Eagle in Wyoming County
- Utility corridor through the Village of Arcade, extending east to the Town of Eagle in Wyoming County and extending west to the Village of Springville in Cattaraugus County

On-Road Alternatives Explored:

- Route 16 from the Town of Sardinia to the Town of Machias in Cattaraugus County; a north-south route located west of the Village of Arcade
- Buffalo Road from the Town of Freedom in Cattaraugus County to the Town of Hume in Allegany County; an east-west route located southeast of the Village of Arcade
- Route 39 from the Town of Sardinia to the Village of Springville in Cattaraugus County; an east-west route located west of the Village of Arcade
- Route 39 from the eastern boundary of the Village of Arcade to the Town of Portage / the Wyoming/Livingston County boundary; an east-west route located west of the Village of Arcade

Some of the off-road alternatives explored are included in the priority projects and described in more detail later in this document. The other off-road trails were not explored further for various reasons: the route did not meet the immediate objectives for connectivity to Arcade, lack of right of way or right of way width, involvement of a significant number of private landowners outside of the Village, or significant topography challenges. These routes can and should be explored further for future regional connections, but did not rise to the same level of priority or feasibility as the others.

The on-road routes did not immediately meet the objectives of the off-road protected network that is a goal of this study. Still, these roadway corridors are the most efficient way to connect Arcade's future trail system to the regional network, such as the Southern Tier Trail to the west or Genesee Valley Greenway to the east. While a sidepath would be preferred, especially on higher speed and higher volume roadways, an increase in shoulder width to at least 5 feet. would accommodate most experienced long distance cyclists. The County and State should be encouraged to consider the widening of the shoulders and creation of these bicycling routes as each maintenance project is completed. Sidepaths on one or more of these routes should be considered at a later date, once more of the regional trail network is completed.



Priority Routes and Additional Connections

Following development and exploration of all alternative routes, and socializing these options with stakeholders and the general public, four priority routes were identified for progression for the Village of Arcade Multi-Use Trail Feasibility Study.

In addition to the four priority trail routes, the Study also identified three additional connections that would help create a loop trail within the Village while providing additional connections to key Village destinations. This chapter will provide detail on the following priority routes and additional connections:

Priority Routes:

- Arcade-Java Rail-with-Trail
- Utility Line Trail
- Cattaraugus Creek Trail South
- Main Street On-Road Connection

Additional Connections:

- County Line Road Connection (coupled with the Utility Line Trail)
- Clear Creek Connection (coupled with the Cattaraugus Creek Trail - South)
- North Street Park Connection (coupled with the Cattaraugus Creek Trail - South)

Trail	Facility Types	Length (mi)	Acquisition/ Easement Needed	# of Crossings	Cost Estimate
Arcade-Java Rail- with-Trail	Rail-with-Trail	12.17	Likely	10	\$15.3M
Utility Line Trail	Multi-Use Trail and Bike Boulevard	3.66	Yes	6	\$6.9M
Cattaraugus Creek Trail - South	Rail-with-Trail, Multi-Use Trail, and Bike Boulevard	2.14	Yes	5	\$2.1M
Main Street On- Road Connection	Bike Space in Shoulder and Sidepath	3.00	Possible	N/A	\$6.6M
County Line Road Connection	Sidepath	0.47	No	0	\$0.6M
Clear Creek Connection	Multi-Use Trail and Bike Boulevard	0.75	Yes	0	\$1.3M
North Street Park Connection	Bike Boulevard	0.58	No	N/A	\$0.4M

Table 1: Summary of Recommended Multi-Use Trails

All of these trails are being recommended for development - including seeking funding to proceed with design and construction. As a whole network, the trails connect the different neighborhoods and community destinations within and outside the Village of Arcade. Each trail, segments of each trail, or combinations of portions of the trails can have their own utility and do not need to be implemented as a whole, though logical termini should be considered. The trails can also be implemented with different extents than described below - such as completing a portion of the Utility Line Trail and Clear Creek Trail to provide a park-to-park connection



Date Exported: 8/14/2023 11:54 AM

ARCADE-JAVA RAIL-WITH-TRAIL

Facility Types

Rail-with-Trail

Length

12.17 miles

Acquisition / Easement

Likely

Number of Crossings

10

Cost Estimate

\$15.3M

The proposed Arcade-Java Rail-with-Trail extends 12.17 miles from the Village of Arcade to the Beaver Meadow Nature Center / Buffalo Audubon Society in North Java. The alignment within the Village of Arcade will connect to and follow the existing 0.18 mile-long multi-use trail between North Street and Main Street. The proposed Arcade-Java Rail-with-Trail would be a 10-foot-wide multi-use path located adjacent to the active Arcade and Attica rail corridor. Initial conversations with the Arcade and Attica Railroad Corporation resulted in a positive reception to the idea of the Arcade-Java Rail-with-Trail. Ongoing conversations with this railroad operator will be important to the success of a future rail-with-trail between Arcade and Java.

The trail will be constructed alongside the railroad tracks. A 10-foot buffer is recommended with some vertical separation between the trail and tracks. This vertical separation varies among the many rail-with-trails across the country. In this instance, this separation may be a mix of vegetation, split rail fencing, and/or grades.

The railroad right of way varies but is typically 70 feet wide. The railroad tracks are generally located within the center of the right of way. There are drainage ways along portions of the railroad, and several areas with steep slopes on either side. Easements and acquisitions may be necessary to accommodate the rail, multi-use path, a buffer between the rail and trail, and required grading. It is anticipated that the trail will be located on the east side of the tracks in some areas and the west in others. While crossing the tracks at existing roadway crossings is the most ideal, these crossings could occur elsewhere along the corridor given the low volume and speed of trains. Given the nature of the drainage, presence of standing water, and adjacent creeks, it is recommended that a wetland delineation be completed as an initial first step. This, coupled with more accurate property boundaries, will help to determine the best location for the trail along the corridor and potential wetland and property impacts.



Arcade-Java Rail-with-Trail

These sections are representative of a "typical" condition along the corridor. Widths and conditions vary that may require changes to the proposed facility, widths, or overall design treatment.

Priority Route Recommendations: Arcade-Java Rail-with-Trail

- 💻 💻 Rail-with-Trail
- At Grade Road Crossing
- At Grade Driveway Crossing
- Bridge Road Crossing
 - Existing Trail
 - National Wetlands







Date Exported: 8/14/2023 12:27 PM



Scenic views from the Arcade and Attica railroad corridor



Arcade-Java Rail-with-Trail Photosim

This rendering illustrates a rail-with-trail. The trail surface is stone dust with grass shoulders. A split rail fence separates the trail from the railroad, although other means of separation can be used.

UTILITY LINE TRAIL

Facility Types

Multi-Use Trail and Bike Boulevard

Length

3.66 miles

Acquisition / Easement

Yes

Number of Crossings

6

Cost Estimate

\$6.9M

The proposed Utility Line Trail extends 3.7 miles between Route 16 in Yorkshire to Liberty Street on the eastern side of the Village of Arcade. This alignment follows the existing utility line through multiple publicly- and privately-owned properties. The utility line is currently owned and maintained by the Village, which holds easements with adjacent property owners, typically 75 feet in width. If implemented, the Utility Line Trail would require amendments to existing easements to enable implementation of the proposed 10-foot-wide multi-use trail within this corridor. Most of the adjacent land is currently being used for farming. The trail can be constructed to minimize interference with current operations and crossings incorporated to access various fields. A good example of a utility line trail traversing through similar surroundings is the Albany Hudson Electric Trail in northern Columbia County.

Given the rolling terrain that the utility line currently passes through, the trail will require regrading to maintain a slope of less than 5%. Several culverts will also need to be installed to allow water to pass under the proposed trail. Conceptual grading plans have been developed to confirm that an ADA compliant trail can be constructed. With further refinement, grading can be limited. These plans are included in Appendix C.

The proposed Utility Line Trail will require a railroad crossing between Carter Drive and the southern end of Edward Street. While the railroad is elevated in this location, an at-grade crossing is most feasible. This will require coordination with the Buffalo-Pittsburgh Railroad.

The western end of this proposed multi-use trail connects to the Pioneer Senior High School and Middle School. The eastern end of the alignment leaves the off-road utility line to travel along Deacon Drive and Haskell Avenue in an effort to alleviate acquisition and privacy concerns for residential properties along these streets. As low volume local roadways, it is recommended that sidewalks and shared lane markings be constructed on Deacon Drive and shared lane markings installed on Haskell Avenue to complete the trail and connection to Clear Creek. Implementation of traffic calming features on Haskell Avenue will further increase user comfort for this on-road section.



Utility Line Trail

These sections are representative of a "typical" condition along the corridor. Widths and conditions vary that may require changes to the proposed facility, widths, or overall design treatment.

Priority Route Recommendations: Utility Line Trail

- Multi-Use Trail
- Sidepath
- ••• Bike Boulevard
- At Grade Road Crossing
- \bigotimes Railroad Crossing
- Existing Trail





Date Exported: 8/14/2023 4:37 PM



Utility Line Trail Photosim at intersection with Park Street

This is a rendering of the proposed trail crossing at Park Street. As shown, the trail crossing will include a marked crosswalk, detectable warning strips, and crossing signage. The rendering shows an RRFB. A speed study should be conducted to determine if this additional treatment is necessary.



Utility Line Trail Photosim at the Pioneer High School

This is a rendering of the proposed trail crossing at Countyline Road, just east of the school. As shown, the trail crossing will include a marked crosswalk, detectable warning strips, and crossing signage. This crossing should also include an RRFB due to the higher vehicle volumes and speeds on Countyline Road.



Proposed Utility Line Trail Birds Eye View Rendering

This rendering shows the proposed Utility Line Trail between Arcade Kiwanis Mini Park to the west and Bixby Hill Road to the east. The proposed trail follows the utility corridor parallel to the railroad, crossing Park Street, adjacent to the Arcade Rural Cemetery, and then up a hill to the proposed crossing of Bixby Hill Road. From there it will continue west through several farm fields, still following the utility corridor.



Utility Line Trail Preliminary Design

Preliminary design plans, showing the trail alignment and grading have been developed to confirm the feasibility of the Utility Line Trail. The full set is included in Appendix C.

COUNTY LINE RD CONNECTION	COUNTY	LINE RD	CONNEC	TION
---------------------------	--------	----------------	--------	------

Facility Types			
Sidepath			
Length			
0.47 miles			
Acquisition / Easement			
No			
Number of Crossings			
0			
Cost Estimate			
\$0.6M			

County Line Road Connection

The 0.5-mile County Line Road Connection is proposed to complement this priority trail route to provide a connection from the proposed Utility Line Trail to Main Street. A sidepath along County Line Road would provide an important connection for the school campus as well as create a loop trail with either the proposed Cattaraugus Creek Trail or Main Street connection.

CATTARAUGUS CREEK TRAIL - SOUTH

Facility Types

Rail-with-Trail, Multi-Use Trail, and Bike Boulevard

Length

2.14 miles

Acquisition / Easement

Yes

Number of Crossings

5

Cost Estimate

\$2.1M

The proposed Cattaraugus Creek Trail extends approximately 2 miles through the Village of Arcade. On the western end, the alignment is recommended as a shared roadway for approximately 950 feet of Sawmill Drive from Main Street to the rail corridor, where the trail then transitions to a 10-foot wide rail-withtrail facility for approximately 1 mile. Here, the 10-foot-wide multi-use trail is proposed to continue along the south side of Cattaraugus Creek until its terminus at Main Street / Clear Creek.

This proposed alignment is located adjacent to the Arcade Elementary School and through the Village parking lot. Physical constraints, and its proximity to the school and school playground pose potential challenges. If this route is preferred, gates can be installed to close the portion of trail directly adjacent to the school during school hours. Two potential alternative routes have been identified which avoid the route's proximity to the school and the need to modify the Village parking lot. The first is a 520-foot-long route that would follow an existing maintenance road utilized by school facilities to connect to Main Street. The second is a 600-foot-long route that would connect to Main Street between the Arcade Free Library and the adjacent pediatric doctors office to the west of the library. Both of these routes would utilize Main Street, ideally as a sidepath, to join with the Arcade-Java Rail-with-Trail and the Clear Creek Connection.



Trail 10 ft

Cattaraugus Creek Trail

These sections are representative of a "typical" condition along the corridor. Widths and conditions vary that may require changes to the proposed facility, widths, or overall design treatment.

Priority Route Recommendations: **Cattaraugus Creek Trail - South**

- Multi-Use Trail
- Rail-with-Trail
- ••• Bike Boulevard

- Existing Trail
- At Grade Road Crossing
- At Grade Driveway Crossing

Village of Arcade

 \bigotimes Railroad Crossing

0

0.1

Miles



NORTH ST PARK CONNECTION

Facility Types

Bike Boulevard

Length

0.58 miles

Acquisition / Easement

No

Number of Crossings

N/A

Cost Estimate

\$0.4M

The North Street Park Connection is proposed to complement this priority trail route to provide a connection from the proposed Cattaraugus Creek Trail to the planned park on North Street. This 0.6-mile on-road connection connects from the intersection of West Street and the proposed Cattaraugus Creek Trail to the future park planned on North Street located 0.5 miles

west of West Street. Shared lane markings and traffic calming features are proposed for this onroad connection to encourage vehicles to travel at the speed limit along North Street. A sidewalk has previously been proposed along the north side of North Street in front of the Northridge Homes property, extending the existing sidewalk to the future planned park.



North Street - Sidewalks & Bike Boulevard

These sections are representative of a "typical" condition along the corridor. Widths and conditions vary that may require changes to the proposed facility, widths, or overall design treatment.

CLEAR CREEK CONNECTION

Facility Types

Multi-Use Trail and Bike Boulevard

Length

0.75 miles

Acquisition / Easement

Yes

Number of Crossings

0

Cost Estimate

\$1.3M

The Clear Creek Connection is a 0.75-mile proposed route along the east side of Clear Creek between Main Street and Liberty Street. This proposed route provides connections between 3 priority routes: the Cattaraugus Creek Trail, the Utility Line Trail, and the Main Street On-Road Connection. After a 1000-footlong shared roadway along Pearl Street and Grove Street, the connection transitions to a 10-foot-wide multi-use path along the east side of Clear Creek, helping to facilitate a connection to the Arcade Village Park as well as a future loop trail within the Village. The southern end of this connection will require construction of a bridge over Clear Creek to connect to Stuart Avenue / Liberty Avenue. Easements or acquisitions will be needed due to private property ownership along Clear Creek. Discussions with property owners have already begun and should continue.

The crossing of Route 98 / Liberty Street will need to be a more robust treatment to connect the Clear Creek Trail and Utility Line Trail. This crossing between Haskell Avenue and Stuart Street is exactly at the transition to a 30 mph zone and vehicles are often traveling faster as they enter or leave the Village. An RRFB should in installed in conjunction with a median island or traffic calming before and after the crosswalk.



MAIN STREET ON-ROAD

Facility Types

Bike Space in Shoulder and Sidepath

Length

3.00 miles

Acquisition / Easement

No

Number of Crossings

N/A

Cost Estimate

\$6.6M*

*Cost estimate is only for the sidepath and does not include other roadway improvements or possible ROW acquisition

The proposed Main Street On-Road connection extends approximately 3 miles from Route 16 in Yorkshire to Water Street, creating an important east-west connection through the Village and connecting to many amenities and businesses. Future opportunities exist to coordinate with neighboring communities to extend this connection further east and west. The New York State Department of Transportation (NYSDOT) is already planning a significant design and reconstruction effort for much of Main Street over the next few years. Scoping and Preliminary Engineering both obligated/commenced in 2023. Detailed design will follow. Construction funding has not yet been committed. Additional public engagement efforts will occur throughout the design process.

Main Street is classified as a Minor Rural Arterial, not part of the National Highway System. Based on NYSDOT design guidance (Highway Design Manual - Exhibit 2-4), travel lanes should have a minimum width of 11 feet. and desired width of 12 feet. A center two-way left turn lane should have a minimum width of 11 feet, and a desired width of 14 feet. Shoulders that accommodate cyclists should have a minimum width of 4 feet and a desired width of 5 feet. Two alternatives have been developed to accommodate all users within the roadway. Both alternatives include a 4 lane to 3 lane "road diet". This results in one travel lane in each direction and a center two-way left turn lane. A road diet has already been completed for a portion of Main Street at the Village center. The width of the two-way left turn lane in this section is greater than the desirable width of 14 feet. There is an opportunity to review the travel lane and two-way left turn lane widths in this area to determine if space could be reallocated to provide additional space for bicyclists. Road

diets have also been shown to reduce travel speeds and reduce crash rates.

The first alternative utilizes this additional space to increase the shoulder width for "bike space". While the roadway width varies, it is recommended that a minimum of 5 feet be allocated as bike shoulder space under this alternative. The second alternative narrows the curb to curb width of the roadway and widens one of the existing sidewalks to create a sidepath that would be shared by pedestrians and cyclists. The approximately 5-foot-wide lawn area would be maintained by moving the curb in and narrowing the roadway and travel lanes. A 4-foot shoulder should still be maintained for cyclists that prefer to ride in the road.

There are pros and cons to each of these alternatives. While the sidepath is likely to be perceived as more comfortable for a wider range of users, crossings will have to be designed with high visibility to avoid conflicts. Moving the curb and therefore impacting utilities and drainage requires more construction and funding. Bike space on the roadway is easier to implement and manage at intersections but is likely to be perceived as less comfortable, especially with the high volume of vehicles and truck traffic that currently travel on Main Street.


While this study is recommending that each of these alternatives be explored further through the scoping and design process, the sidepath alternative should be prioritized in the areas where facilities along Main Street will close the gaps between other proposed off-road trails. These sections include:

- Between County Line Road and Edward
 Street / Sawmill Drive
- Between the school maintenance facility
 entrance and Water Street

If the sidepath is not continuous, it is important to maintain sufficient bike space throughout the corridor to eliminate the need for on-road cyclists to transition to and from the sidepath.

Note that sidewalks are shown as 4 feet in the sections below, based on spot measurements. Sidewalks along the entire Main Street corridor may need to reconstructed to ensure the required minimum 5 feet width as part of the reconstruction project.

It is important that sidepath crossings be designed appropriately to provide a safe and efficient environment. It can be an unexpected condition for drivers to encounter both pedestrians and cyclists crossing in both directions at cross streets and driveways parallel to the roadway. While a sidepath should be separated from the roadway by 5 feet or more, crossings of side streets and major driveways should either occur directly adjacent to the roadway (zero separation) or at a greater distance. This "bend out" configuration is preferred. The amount of "bend out" along with other crossing treatments, such as signs, markings, roadway/crossing geometry, which can enhance visibility of users will need to be considered during the design process. It should be noted that these appropriate crossing

treatments may require additional right-of-way. Also, it is important that sidepaths have logical termini that transition smoothly to the adjoining on-street system or trail system.

Even if or where sidewalks are implemented (not the proposed sidepath), the above guidance for sidewalk crossings should be considered; especially since bicyclists are legally allowed to ride on the sidewalk within the Village of Arcade.



The pathway may need a shift in horizontal alignment in advance of the crossing to achieve desired separation distance Source: Small Town and Rural Design Guide



The pathway may need a shift in horizontal alignment in advance of the crossing to achieve desired separation distance Source: Small Town and Rural Design Guide



Main Street - Alt 2 - Sidepath

These sections are representative of a "typical" condition along the corridor. Widths and conditions vary that may require changes to the proposed facility, widths, or overall design treatment. These sections represent the possible widths according to the NYSDOT HDM. Actual dimensions will be determined during detailed design.



Main Street On-Road Photosim

A road diet is proposed, reducing travel lanes from 4 to 3 along the entire corridor. The rendering shown here is of the sidepath alternative, where this additional space would be utilized to create a multi-use trail parallel to the roadway.

Trail Elements

There are a number or trail elements to be implemented along with future multi-use trails in the Village to increase safety and enhance the trail user experience. Features include crossings, trailheads, amenities, surface type, landscaping, and lighting.

Trail Crossings

Trail crossings are important to design so that vehicles know to expect non-motorized users to be crossing the road and trail users know to expect the roadway crossing. Crossings range in their infrastructure depending on sight distance, volume of traffic, and speed of traffic. Any proposed crossing will require an engineering study to determine the appropriate treatment. The selected treatment will need to approved by the owner of the roadway, such as the County or NYSDOT. The following are types of treatments that could be considered at trail crossings:

- Crosswalk: This treatment includes a high visibility crosswalk and crosswalk signage, both at the crossing and prior to the crossing.
- **Raised Crosswalk**: These combine a marked crosswalk with a raised and wide speed table. This slows traffic, increases visibility, and increases yield compliance.
- Median Island: This treatment creates a median island in the center of the roadway to allow trail users to cross one direction of



travel at a time, reducing exposure times and increasing the number of available gaps in traffic for crossings.

- Rectangular Rapid Flashing Beacon (RRFB): RRFBs are user activated beacons mounted on the trail crossing signs on either side of the crosswalk. The beacons flash when activated by a push button or some other video or motion sensor detection. These have been shown to significantly increase yield compliance and are particularly useful when sight distance is limited.
- Half or Full Signal: This crossing treatment uses a standard traffic signal (with red, yellow, green traffic signal heads) to stop conflicting motor vehicle traffic. Similar to the RRFBs, these are often push button activated by trail users. This crossing treatment should be limited to crossings

Crosswalk Source: Empire State Trail Design Guide

where gaps in traffic for trail users would be infrequent.

Additional treatments may be added to the trail itself at these crossings to prevent unauthorized vehicles from accessing the trail. Raised splitter islands are preferred because they deter vehicles but do not create a significant obstacle for bicyclists. Their width should allow an emergency vehicle to drive over the raised island. While they can be planted with low vegetation, they are typically hardscaped. Islands should be placed at least 25 feet away from the intersection so bicyclists are not navigating around the island while also looking for on-coming traffic. Removable bollards can be used, either one placed in the center of the trail or three - one placed in the center and two on either side of the trail. There should be at least 4 feet of trail available on either side of the bollards.



Raised Crosswalk Source: Empire State Trail Design Guide



Rectangular Rapid Flashing Beacon (RRFB) Source: Empire State Trail Design Guide



Median Island Source: Empire State Trail Design Guide



Half or Full Signal Source: Empire State Trail Design Guide

Trailheads

Trailheads should be located at commonly used access points to the trail, such as the termini, roadway crossings, or park connections. Trailheads should include wayfinding signage, such as a kiosk with a trail map, seating, bike racks, and a bike repair station. Some larger trailheads should also include parking, especially at the trail termini or longer distance trails. This can be accomplished by providing a small parking area or utilizing existing public or private parking under a cooperative agreement. To avoid confusion, trailheads without parking are often referred to as "access points". The map on the adjacent page shows potential trailhead and access point locations along the proposed priority trails.

Trail Amenities

Trail amenities, such as seating, wayfinding signage, and interpretive signs, should be located along the trail. Seating should be located every half mile, ideally at an access point or scenic vista. In addition to wayfinding signs at the trailheads and access points, directional signage should be placed whenever the trail makes a turn. Confirmation wayfinding signage should be located at every crossing and at least every mile, to reassure trail users that they are on the correct route. Interpretive signage is used to highlight historic or natural features along the trail.



Trailhead Source: Empire State Trail



Trail amenities Source: Empire State Trail



Date Exported: 8/15/2023 2:16 PM

Trail Surface

There are two common types of trail surface materials in New York - Asphalt and Stonedust (crushed stone). Both are ADA compliant and accommodate all types of users. Stonedust is less expensive but requires more regular maintenance. Asphalt is more expensive to install and replace but requires less regular maintenance and will last longer than stonedust. Typically, asphalt trails are used in more urban environments and where higher use is anticipated. Stonedust is used on more rural trail corridors. Even on stone dust trails, asphalt should be used where grades exceed 2-3% and for 50 feet on either side of roadway crossings. While it is not common due to expense, trails can also be constructed using concrete, similar to most sidewalks.



Asphalt trail surface Source: Empire State Trail



Stonedust trail surface Source: Empire State Trail

Landscaping

Natural landscaping should be maintained where possible for user experience and vegetative buffers to neighboring properties. Surrounding vegetation should be cleared to maintain trail width and height clearances, and to maintain a clear line of sight for trail users. Where trees do not already exist, trees should be planted along the trail corridor wherever feasible to create shade for trail users and enhance the user experience. All plant species should be carefully selected to reduce long term maintenance of the trees and the trails, for example, fruit or nut trees that could create hazards on the trail should be avoided.

Lighting

Lighting should be considered for trails that will be used more frequently during evenings, such as those located within the village. This should be dark sky pedestrian scale lighting - limiting illumination to the trail itself as much as possible. Trail lighting can be wired or solar powered, and is typically spaced between 50 and 100 feet, depending on the type of lighting used.



Landscaped buffer Source: Empire State Trail Design Guide



Lighting Source: Stolb.com



Lighting Source: LEDsMagazine.com

Chapter 4

Implementation

Phasing and Next Steps

Any of these trail projects can be constructed individually or grouped together or even constructed in smaller segments. The important item to consider when developing segments of trails is to ensure that there are local termini.

There was no clear priority for trail construction based on public input. There was a slight preference for completing portions of the Utility Line Trail and the Clear Creek Connection to connect the two Village Parks. Based on input throughout the process, there is also the desire for a long distance trail, therefore prioritizing the Arcade-Java Rail with Trail. The Village should continue to pursue each trail, acquiring easements where necessary, to develop each proposed trail as funding opportunities present themselves. The following next steps are recommended:

- Funding applications that include written support or are completed jointly with the Arcade-Attica Railroad, Wyoming County, and neighboring municipalities will be favored more strongly. It is recommended that members from each of these entities meet regularly (2-4 times per year) to continue to progress this trail.
- Pursue funding to begin conceptual design for the Arcade-Java Rail with Trail. This would include wetland delineation and boundary survey, as well as preliminary grading and drainage analysis.

- Obtain easements for the Clear Creek Trail.
- Obtain amendments to existing Utility easements to allow future trail construction and public use.
- Obtain easements for the Cattaraugus Creek Trail.
- Continue coordination with NYSDOT for the planning and design of the Main Street Reconstruction Project.

Property Needs

As noted previously, property easements or acquisitions are needed to complete most of the priority trail projects. Typical trail easements are 50 feet in width to account for the trail, shoulders, and grading. Depending on grading and drainage needs, this width can be more or less, with exact property needs determined through the design process. Many of the private property owners were contacted through this study and are open to the idea. The Village should continue these conversations and pursue letters of commitments to demonstrate support for future grant applications.

The map on the adjacent page identifies all parcels overlapping with the off-road priority trail routes. The blue, orange, and green colors each correspond to individual priority trail routes. Darker colors represent publicly owned parcels while lighter colors correspond to privately owned parcels. See legend for a detailed outline of all colors on the map.



Date Exported: 8/2/2023 3:14 PM

Funding Sources

There are many different funding sources available for multi-use trail projects. This section describes the current funding programs available; however, it should be noted that new programs are created, renamed, and funding amounts change regularly, especially when new federal transportation bills are reauthorized. Generally, there are three types of funding available - Federal, State, and Local funding.

Federal funding can either be applied for directly under certain programs or is allocated through state agencies, such as NYS Office of Parks, Recreation, and Historic Preservation (NYS OPRHP) or NYS Department of Transportation (NYSDOT). Most federal grants require a 20% local match. These are typically highly competitive so support from local and state officials are more likely to result in a successful grant application.

State funds are typically smaller dollar amounts. Match requirements vary but can be as high as a 50% local match. Most state programs that apply to trail development and construction are offered through the State's Consolidated Funding Application, typically open mid-summer each year. Note that in some cases, state funds can be used as a match for federal funding, so it is beneficial to apply for multiple grant sources.



RAISE 2023 Awards Source: NYSDOT RAISE 2023 Fact Sheets

	Name	Description	Facilitating Agency	Website
·	RAISE: Rebuilding American Infrastructure with Sustainability and Equity	Funds multi-modal and multi-jurisdictional surface transportation projects that will provide a significant local or regional impact.	FHWA	https://www.transportation. gov/RAISEgrants
	INFRA: Infrastructure For Rebuilding America	Funds infrastructure projects that will influence economic development. Historically, there has been a specific focus on projects that addressed climate change and environmental justice.	FHWA	https://www.transportation. gov/grants/infra-grant- program
AL	CMAQ: Congestion Mitigation and Air Quality Improvement Program	Funds projects that provide an air quality benefit, including transit, bicycle, and pedestrian projects.	GTC	https://www.fhwa.dot.gov/ environment/air_quality/ cmaq/
FEDE	STBG: Surface Transportation Block Grant Program	Funds maintenance and enhancement of surface transportation, including highway, transit, intercity bus, bicycle and pedestrian projects.	GTC	https://www.fhwa.dot.gov/ specialfunding/stp
	TA: Transportation Alternatives Set-Aside	A set aside of STBG funding, these funds are specific to on and off road bicycle and pedestrian facilities.	NYSDOT	https://www.fhwa.dot. gov/environment/ transportation alternatives/overview/
	RTP: Recreational Trails Program	A set aside of TA funding, these funds are available to maintain and construct recreational motorized and non-motorized trails.	NYS OPRHP	https://www.fhwa.dot.gov/ environment/recreational_ trails/
	EPF: Environmental Protection Fund Grants Program for Parks, Preservation and Heritage	Funds planning and development of parks and recreational facilities.	NYS OPRHP	https://parks.ny.gov/grants/ grant-programs.aspx
STATE	LWRP: Local Waterfront Revitalization Program	EPF Funding is available to assist communities with implementation of an approved LWRP. CFA applications are typically July each year.	NYS DOS	https://www.dos.ny.gov/ opd/programs/lwrp.html
	CSC: Climate for Smart Communities Grant Program	Funds climate change adaptation and mitigation projects, including corridor projects that increase bicycle and pedestrian travel and reduce greenhouse gas emissions.	NYS DEC	https://www.dec.ny.gov/ energy/109181.html
	Downtown Revitalization Initiative (DRI) or NYS Forward	Funds improvements to downtowns that improve walkability, economic development, and housing diversity.	NYS DOS	https://www.ny.gov/ programs/downtown- revitalization-initiative https://www.ny.gov/ programs/ny-forward

Table 2: Federal and State Funding Sources

Trail Maintenance

Trail maintenance can be broken into two categories: routine maintenance and capital maintenance. **Routine maintenance** includes routine items such as mowing, trash removal, and clean up. Typically, routine maintenance costs \$1,000 to \$2,000 per year, depending on the type and frequency. A summary of potential routine maintenance items are included in Table 3 below.



Seasonal leaf removal Source: <u>SWSGC.com</u>



This is one of the 20+ culverts along the Arcade-Java Rail with Trail to the replaced, extended, and maintained

Table 3: Routine Maintenance Activities

Maintenance Activity	Cost per mile/year (typical)	Frequency	Notes	
Mowing	\$500	4 - 10 times	Depends on rate of growth and the desire to maintain shorter	
	+-------------	per year	grass	
Litter Clean Lin	¢50	4 - 6 times	Often accomplished through voluntaers	
Litter Clean-Op	\$50	per year		
		(Seasonal)		
Leaf Removal	\$75	2 times per	This is typically limited to asphalt and frequently used trails	
		month		
Trash Removal	\$1000	Weekly	Trash cans are typically only provided at trailheads	
			Culvert inspection and cleaning should be done at least once	
Culvert Inspection		At least 1	per year to maintain proper drainage on the trail. The amount of	
and Cleaning	Varies	time per year	culverts vary by trail however, with some having several per mile	
			and others none.	
Miscellaneous	\$100	As needed	Removal of fallen trees, replacing signs, etc.	

Capital maintenance includes items completed every few years to keep the trail in good condition. These items vary in their cost and required frequency. Table 4 summarizes these capital maintenance items.

Proper trail maintenance is important not only to maintain the trail user experience, but also to extend the life of the initial capital investment and prolong the need for more costly capital maintenance costs.



Stonedust trail in need of repairs

Maintenance Activity	Cost per mile/year (typical)	Frequency	Notes
Refresh Pavement Markings	\$100 - \$15,000	3 to 6 years	Markings on roadways need to be replaced more frequently, such as crosswalks or shared lane markings
Trail Resurfacing - Stone Dust	\$15,000 - \$50,000	2-10 years	Patching ruts or rack out the stone dust surface should be done more frequently
Trail Resurfacing - Asphalt	\$100,000 - \$200,000	20-30 years	Mill the top layer of asphalt and resurface

Table 4: Capital Maintenance Activities



Asphalt trail in poor condition and in need of repair

Program Recommendations

Slow Roll

Pioneer Arcade Elementary School has been organizing a school bike ride with students and parents for several years every spring. This event should continue as an encouragement effort and can utilize the trails proposed in this study. Given its success, the school and Village should consider also holding this same event in the fall.

Bike Rodeos

As part of this study, a bike rodeo was part of the Slow Roll in 2023. A bike rodeo is a set of activities that teach kids about safe bicycle riding in a fun environment. Activities typically include a helmet check and bike fitting, simple bike maintenance, such as checking for flats, and safe bicycle riding. Kids are taught proper hand signals, taught how to balance, stop, ride straight, and make turns.

Trail Ride Events

It is recommended that events like the slow roll be expanded to the general public in conjunction with trail development. These are typically organized by local trail groups and encourage the "interested but concerned" group of bicycle riders to experience the trail in a comfortable setting.





Slow Roll & Bike Rodeo held in Arcade in May 2023



Oktoberfest event hosted by the Columbia Friends of the Electric Trail in October 2022 Source: Columbia Friends of the Electric Trail

Slow Roll & Bike Rodeo held in Arcade in May 2023

Trail Clean up Programs

It's common for litter clean up to be performed through volunteer efforts as noted in trail maintenance. These efforts can be led by the Village or a volunteer organization that will organize trail clean up days. Earth Day in April is commonly used to start the trail season. In addition, an "adopt a trail" program can be set up, similar to "adopt a highway" programs. The Canal Corporation provides a good template for the Village to use where they provide applications and agreements (https://www. canals.ny.gov/trails/adopt.html).

Their requirements for adopters include:

- Commit to a 3-year term
- Submit volunteer registration form for each participant
- Update volunteer roster annually
- Agree to minimum requirements:
 - » Visit trail monthly (April November)
 - » Provide 4-hours (min) of service per month
 - » Host a Canal Clean Sweep Event (April)
 - » Provide activity field reports (2/year)



Members of the Columbia Friends of the Electric Trail gather to clean the Albany-Hudson Electric Trail in August 2022 Source: Columbia Friends of the Electric Trail

Appendix A

Public Engagement

Memorandum

To:	Board of Trustees, Village of Arcade, New York
Prepared by: Kaden Shea, Community Engagement Manager, GObike Buffa	
	Kaden@gobikebuffalo.org
Date:	May 3, 2023
Subject:	Arcade Multi-Use Trail Feasibility Study - Community Survey Summary

Background.

Interest in walking, hiking, and bicycling is strong within the Village of Arcade, yet there are currently no regional trails in southwestern Wyoming County.

Through the Arcade Multi-Use Trail Feasibility Study, Verity Engineering, DPC, Byer Planning, and GObike Buffalo will develop a cohesive set of concept-level plans and strategies, with defined priorities, to guide the Village in improving and expanding pedestrian and bicycle access within the Village of Arcade and region. The goal is to define trail alignments that accommodate all ages and abilities and connect the various destinations within and outside the village; a loop trail around the village would be ideal.

As experts on their region, we asked Arcade-area residents and regular visitors to take a community survey focused on ordinary commutes and trail usage, the results of the which will help identify opportunities to enhance safety and accessibility for pedestrians and bicyclists in Arcade, and aid in building trails and amenities based on the needs of area residents, pedestrians, and cyclists.

The survey was promoted on the Village of Arcade's social media pages, GObike's social media pages, in local newspaper ads, and on paid/targeted social media ads directed to those living and working in the immediate Arcade area. A two-week survey station was also posted at the front desk of the Arcade Free Library, wherein patrons were entered to win a bike helmet and accessories from GObike exchange for taking a survey.

Key Findings.

Through our community engagement and survey results, the following key findings emerged:

- 1. There is a strong desire amongst Arcade residents to have safe, well-maintained bike trails available in their town, in order to create more opportunities for exercise and wellness. Many residents would like to pursue a more active lifestyle and to travel by means other than a vehicle, but do not currently do so, due to a lack of safe bike path connectivity.
- 2. Pride in local assets like scenic creeks and parks, as well as historic destinations like the Arcade & Attica Railroad, is strong amongst area residents who wish for such destinations to be featured along new trails.
- 3. A desire for **better connectivity to Village amenities like Arcade Village Park and shopping districts** was expressed by many survey respondents.

Methods.

GObike has employed the following tools to facilitate survey engagement:

- <u>Arcade Multi-Use Trail Feasibility Study Project Website</u> The project website serves as a one-stop information hub for the project with project summary, survey links, partner information, and FAQs.
- <u>Survey Station</u> Two-week survey station at the Arcade Free Library; patrons were eligible to win a bike helmet and prize basket from GObike in exchange for taking the community survey at the Library.
- <u>Survey Data</u> An online survey was made available to Arcade-area residents, in addition to in-person connections during neighborhood outreach efforts. Printed copies of the survey were also made available at the Arcade Free Library.

Survey Summary.

175 individuals responded to the community survey, with most expressing an overwhelmingly positive reaction to proposed bike trail improvements for the Village of Arcade. Many cite a need for improved connectivity to more easily access local business districts, natural scenic areas, and historic attributes like the Attica & Arcade Railroad. Major concerns surrounding the topic of personal safety in roadways, the lack of sidewalk connectivity, and lack of alternative mobility options in Arcade, were also addressed.

Primary Desires

- Improved connectivity between the Village of Arcade and local parks, scenic areas, and shopping destinations.
- **Paved loop trails** are preferred by the majority of residents, with an expressed desire for **restrooms** and **rest areas** along the route.
- Increased **access to exercise and wellness activities** for Arcade residents, regardless of age or physical limitations.

Primary Concerns

- Poor connectivity from the Village to nearby amenities.
- Current lack of alternative transportation options for disabled residents, and/or those who do not or cannot drive.

Neutral Findings

• Most residents are extremely proud of the amenities Arcade has to offer, and are supportive of the efforts to improve safety and connectivity through the installation of bike facilities.

Relationship to Arcade & Demographics.

When asked in which ZIP code their home was located, **60.2% identified themselves as residents of the 14009 ZIP code**, in which the **Village of Arcade** and much of the surrounding area north of the Village, including portions of **Java Center**. The **second-most common ZIP Code was the 14042 area (7.9%)**, in which the town of **Delavan** and portions of **Lime Lake** are located.

ZIP Codes	Responses	Percentage
14008	1	0.66%
14009	91	60.26%
14024	2	1.32%
14030	6	3.97%
14033	1	0.66%
14042	12	7.95%
14052	3	1.99%
14065	10	6.62%
14080	4	2.65%
14082	2	1.32%
14101	3	1.99%
14113	1	0.66%
14134	1	0.66%
14141	2	1.32%
14145	1	0.66%

Table 1: COUNTA of In what ZIP code is your home located?

Grand Total	151	
14777	1	0.66%
14737	1	0.66%
14735	1	0.66%
14706	1	0.66%
14420	1	0.66%
14224	1	0.66%
14173	5	3.31%

Chart 1: In what ZIP code is your home located?



While a substantial percentage of survey respondents reported being **residents of Arcade (56.5%)**, most people surveyed claimed to **visit Arcade to shop and run errands (80%)**.

Answer Choices	Responses	Percentages
I live in Arcade.	99	56.57%
I work in Arcade.	67	38.29%
l go to school in Arcade.	11	6.29%
I shop and run errands in Arcade.	140	80.00%
I travel through Arcade to get to other parts of the region.	84	48.00%
l visit family or friends in Arcade.	71	40.57%
I come to Arcade for fun or entertainment.	63	36.00%
I come to Arcade for recreation.	55	31.43%
Other (please specify)	13	7.43%
Answered	175	
Skipped	0	

Table 2: Check any that apply to your relationship to the Village of Arcade

Chart 2: Check any that apply to your relationship to the Village of Arcade

Check any that apply to your relationship to the Village of Arcade.



Most of the respondents (64%) claim to be in Arcade 30 or more times per month; a very small percentage (2.8%) are in Arcade 5 times or fewer per month, providing evidence that the vast majority of those surveyed live or work in Arcade, or the immediate area.

Answer Choices	Responses	Percentages
0-5 times per month	5	2.89%
5+ times per month	7	4.05%
10+ times per month	21	12.14%
20+ times per month	28	16.18%
30+ times per month	112	64.74%
Answered	173	
Skipped	2	

Table 3: How often are you in the Village of Arcade?

Chart 3: How often are you in the Village of Arcade?



How often are you in the Village of Arcade?

Respondents from every age group were represented in survey data, the **highest concentration of which were in the 45-54 age range** (27.1%), followed closely by the 35-44 age range (26.4%).

 Table 4: What is your age?

Chart 4:	What is	your age?
----------	---------	-----------

Answer Choices	Responses	Percentages
Under 18	2	1.32%
18-24	3	1.99%
25-34	25	16.56%
35-44	40	26.49%
45-54	41	27.15%
55-64	23	15.23%
65-74	13	8.61%
75+	4	2.65%
Answered	151	
Skipped	24	



Current Transportation Modes & Habits.

Most of the individuals surveyed (90%) claim their primary means of transportation is to "drive alone," indicating a heavy local reliance on single-occupancy automobiles. The next most popular selection, at just 4.6% of respondents, was "carpool;" a combined 3.9% primarily walk or bike.

Answer Choices	Responses	Percentages
Drive alone	136	90.07%
Carpool / Car share / Ride hailing	7	4.64%
Motorcycle / Micro-mobility		
vehicle	0	0.00%
Bus	0	0.00%
Train / Light rail	0	0.00%
Bicycle	3	1.99%
Walk	3	1.99%
Dropped off	1	0.66%
Other	1	0.66%
Answered	151	
Skipped	24	

Table 5: What is your primary means of transportation?



Chart 5: How often do you bike per month?

Although only six people identified walking and bicycling as their primary means of transportation, there is nevertheless strong evidence that Arcade-area residents do bike and walk quite often; 24.6% reported biking or walking 21-30 times per month, 69.3% bike or walk 1-20 times per month. Only 6% reported not walking or biking at all.

Current Trail Usage & Comfort.

When asked if they "use rail-trails or multi-use trails in the Western New York or Southern Tier region," 55.3% responded "yes," affirming that more than half of those surveyed have prior experience with trails and trail systems.

Table 6: Do you use rail-trails or multi-use trails in the Western New York or Southern Tier region (i.e. Chautauqua Rails to Trails, Southern Tier Trail, Pat McGee Trail, Pop Warner Trail, Lancaster Heritage Trail, Tonawanda / North Buffalo Rail Trail, or Genesee Valley Greenway)?

Answer Choices	Responses	Percentages
Yes	93	55.36%
No	75	44.64%
Answered	168	
Skipped	7	

Chart 6: Do you use rail-trails or multi-use trails in the Western New York or Southern Tier region (i.e. Chautauqua Rails to Trails, Southern Tier Trail, Pat McGee Trail, Pop Warner Trail, Lancaster Heritage Trail, Tonawanda / North Buffalo Rail Trail, or Genesee Valley Greenway)?



Amongst those who utilize trails, at least 39% do so at least once monthly. 17.7% "never" access trail systems.

Answer Choices	Responses	Percentages
Daily	2	1.18%
Weekly	29	17.16%
Monthly	36	21.30%
Infrequently, on special occasions	72	42.60%
Never	30	17.75%
Answered	169	
Skipped	6	

Table 7: How often do you access or use existing trails in Western New York?

Chart 7: How often do you access or use existing trails in Western New York?



How often do you access or use existing trails in Western New York?

Distance covered while on trails can vary, but **the majority of respondents (50.3%) reported traveling approximately 2–5 miles per trail visit**. An ambitious **30.9% claim they would travel 5 miles or more per ride**.

Answer Choices	Responses	Percentages
Less than two miles	29	18.71%
2 miles to 5 miles	78	50.32%
5 miles to 15 miles	35	22.58%
Fifteen miles or more	13	8.39%
Answered	155	
Skipped	20	

Table 8: On a typical visit to a trail, how many miles are you likely to cover?

Chart 8: On a typical visit to a trail, how many miles are you likely to cover?



On a typical visit to a trail, how many miles are you likely to cover?

When traveling to local trail systems, users most commonly traveled by vehicle (65.3%). The next most popular mode was on foot (21.5%), with only 7.8% traveling to trails most frequently via bicycle.

Answer Choices	Responses	Percentages
By car	100	65.36%
By bike	12	7.84%
On foot	33	21.57%
Via public transit	0	0.00%
Other (please specify)	8	5.23%
Answered	153	
Skipped	22	

 Table 8: How do you access existing trails in WNY?

Chart 8: How do you access existing trails in WNY?



In terms of their comfort while traveling on different types of trails, respondents were markedly more comfortable with off-road trails as opposed to on-road trails; **78.6% are comfortable or very comfortable utilizing** <u>off-road trails</u>, whereas only **18.6% are comfortable or very comfortable utilizing** <u>off-road trails</u>, whereas only **18.6%** are comfortable or very comfortable utilizing <u>off-road trails</u>, whereas only **18.6%** are comfortable or very comfortable utilizing <u>off-road trails</u>, whereas only **18.6%** are comfortable or very comfortable utilizing <u>off-road trails</u>, whereas only **18.6%** are comfortable or very comfortable utilizing <u>off-road trails</u>, whereas only **18.6%** are comfortable or very comfortable utilizing <u>off-road trails</u>, whereas only **18.6%** are comfortable or very comfortable utilizing <u>off-road trails</u>, whereas only **18.6%** are comfortable or very comfortable utilizing <u>off-road trails</u>.

Chart 9 (left): Please rate your comfort level when utilizing off-road trails



Chart 10 (right): Please rate your comfort level when utilizing on-road trails

Not only is there a clear preference for off-road trails amongst Arcade area residents, but there is also a clear preference in trail type: **53.4% prefer loop trails, as opposed to long trails (41.1%) or short trails (5.4%).**

Answer Choices	Responses	Percentages
Short trail	8	5.48%
Long trail	60	41.10%
Loop trail	78	53.42%
Answered	146	
Skipped	29	

Table 9: Which of the following trail types most appeals to you:

Chart 11: Which of the following trail types most appeals to you:



Which of the following trail types most appeals to you:

Future Trail Envisioning.

With the majority of survey respondents having at least some experience with local trail systems, it comes as no surprise that the same group would have a solid sense of their own trail preferences when asked to envision what they'd like to experience on future trails in Arcade.

When asked for which reasons their households were most likely to utilize the trails, **91.5% claimed they'd do so for "exercise," while a** close **90.8% indicated it would be for "fresh air/well-being,"** and **62.5% said it would be to "spend time with friends and family."**

Table 10: For which reason(s) do you see you or your household using trails in Arcade? (Check all that apply.)

Answer Choices	Responses	Percentages
Getting to know my town/area/village	42	25.77%
Exercise	149	91.41%

Well-being/fresh air	148	90.80%
Spending time with family and friends	102	62.58%
Commuting to work	9	5.52%
Running errands/shopping	18	11.04%
Accessing parks	71	43.56%
None of the above	5	3.07%
Other (please specify)	10	6.13%
Answered	163	
Skipped	12	

Chart 12: For which reason(s) do you see you or your household using trails in Arcade? (Check all that apply.)



For which reason(s) do you see you or your household using trails in Arcade? (Check all that apply.)
There is also evidence to suggest that a trail would be a popular feature during all four seasons; **94%-98% of respondents said they** would use a trail in summer, fall, and spring, while **38.8%** indicated they would use a trail in winter as well.

Answer Choices	Responses	Percentages
Summer	154	98.09%
Fall	148	94.27%
Winter	61	38.85%
Spring	149	94.90%
Answered	157	
Skipped	18	

Table 11: Please select all of the seasons during which you envision using a trail in Arcade:

Chart 13: Please select all of the seasons during which you envision using a trail in Arcade:



Please select all of the seasons during which you envision using a trail in Arcade:

Responses

In keeping with respondents' strong preference toward "exercise" as a reason to utilize trails, **the most common responses to the question "how would you or those in your household like to travel on a trail in Arcade," were unsurprisingly walking (86%) and leisurely biking (76.3); other popular modes were walking with a dog (52.7%) and running or jogging (30.3),** indicating a strong desire by area residents for space to exercise in Arcade.

Answer Choices	Responses	Percentages
Bicycling – leisurely	126	76.36%
On horseback	8	4.85%
Walking	142	86.06%
Bicycling – long distance	51	30.91%
Walking – with a dog	87	52.73%
Snowshoeing or cross country skiing	41	24.85%
Running or jogging	50	30.30%
Walking – with a stroller	41	24.85%
With a skateboard or scooter	12	7.27%
With a wheelchair or other mobility device	7	4.24%
None of the above	5	3.03%
Other (please specify)	5	3.03%
Answered	165	
Skipped	10	

Table 12: How would you or those in your household like to travel on a trail in Arcade? (Check all that apply.)

Chart 14: How would you or those in your household like to travel on a trail in Arcade? (Check all that apply.)



When asked what sort of features they'd like to see on a trail in Arcade, **the most highly-demanded feature was restrooms (59.6%)**, **followed closely by seating and rest areas (55.6%)**. Other highly-rated amenities included waste receptacles and dog waste bag **dispensers (49.6%) and shaded areas (45%)**. Taken as a whole, these selections are strong indicators that visitors wish to spend extended periods of time on the trails, and seek material comforts like restroom relief, and shaded rest areas, to help them maximize their visit.

Answer Choices	Responses	Percentages
Mobile repair stands, with bike pumps and bicycle repair tools	10	6.62%
Bicycle parking	11	7.28%
Water fountains	46	30.46%
Seating and resting areas	84	55.63%
Waste receptacles and dog waste bag dispensers	75	49.67%

Table 13: What trail features are most important to you? Please check your top five (5) priorities:

Paved trails	71	47.02%
Historic site plaques	25	16.56%
Shaded areas	68	45.03%
Wayfinding or directional signs	44	29.14%
Information kiosks or maps	29	19.21%
Soft-surface trails	14	9.27%
Restrooms	90	59.60%
Trailheads or parking areas	75	49.67%
None of the above	4	2.65%
Other (please specify)	7	4.64%
Answered	151	
Skipped	24	

Chart 15: What trail features are most important to you? Please check your top five (5) priorities:



Along with identifying the features they'd like to see on future trails in Arcade, respondents were asked to reflect upon their priorities for the paths in terms of safety, economy, health and environmental equity, regional connectivity, and gap closure.

Safety was by far the highest priority, garnering support from 75.5% of respondents who believe new facilities should be focused on improving safety, with crash statistics and speed data analysis used to identify priority locations. Health and environmental equity was ranked second (52.3%), chosen by those who believe trail development should be focused on fair treatment of town residents regardless of age, ability, race, color, national origin, or income, and projects that lessen disparities of environmental and health hazards should take priority. Gap closure, or a focus on closing gaps, like spaces between trail links and "sidewalks to nowhere," was ranked third (50.3%).

Table 14: When implementing new paths and trails, which of the following do you feel should be prioritized? Please check your top three (3) priorities

Answer Choices	Responses	Percentages
Safety - New facilities should be focused on improving safety. Crash statistics and speed data analysis will be used to identify priority locations.	114	75.50%
Economy - New facilities should be focused on connecting business districts and centers of activity. Destinations sourced from the community take priority.	43	28.48%
Equity, Health & Environment - New facilities should be focused on fair treatment of town residents regardless of age, ability, race, color, national origin, or income. Projects that lessen disparities of environmental and health hazards take priority.	79	52.32%
Regional Connectivity - New facilities should be focused on connecting with regional facilities and networks. Projects that connect with existing regional facilities take priority.	51	33.77%
Gap Closure - New facilities should be focused on closing gaps, like spaces between trail links and "sidewalks to nowhere." Projects that fill gaps should take priority.	76	50.33%
Answered	151	
Skipped	24	

Chart 16: When implementing new paths and trails, which of the following do you feel should be prioritized? Please check your top three (3) priorities



When implementing new paths and trails, which of the following do you feel should be prioritized? Please check your top three (3) priorities:

Surveyants were then asked, "which of the following elements captures the primary experience or feeling you envision for a trail in Arcade: Scenic / Natural Beauty, Social / Activity, Cultural / Historical, Active Healthy Living, or Whimsical / Fun."

Scenic / Natural beauty was the most common response, with 83.4% indicating it as a high priority. 70.2% selected "active healthy living," which is very much aligned with previously established desires for exercise and wellness. A much lower 17.2% prioritized having "social / active" priorities for the trail.

Table 15: Which of the following elements captures the primary experience or feeling you envision for a trail in Arcade? Please check your top two (2) elements

Answer Choices	Responses	Percentages
Scenic / Natural Beauty	126	83.44%
Social / Activity	26	17.22%
Cultural / Historical	8	5.30%
Active Healthy Living	106	70.20%
Whimsical / Fun	15	9.93%
Other (please specify)	3	1.99%
Answered	151	
Skipped	24	

Chart 17: Which of the following elements captures the primary experience or feeling you envision for a trail in Arcade? Please check your top two (2) elements

Which of the following elements captures the primary experience or feeling you envision for a trail in Arcade? Please check your top two (2) elements:



When asked about surface type preferences, there was also a clear preference amongst respondents; **47.9% preferred paved surfaces** on trails, while the second-most preferred surface was stone dust, at a distant 16.8% of total responses. 16.2% of people had no preference.

Answer Choices	Responses	Percentages
Paved (Asphalt/Concrete)	71	47.97%
Stone Dust (Crushed Stone/Compacted Gravel)	25	16.89%
Natural/Unfinished	26	17.57%
No Preference	24	16.22%
Other (please specify)	2	1.35%
Answered	148	
Skipped	27	

Table 16: What is your preferred surface type for trails?

Chart 18: What is your preferred surface type for trails?



What is your preferred surface type for trails?

Open-Comments & Primary Concerns.

In an open-comment question, survey participants were asked, "What are you proud of in your community? What elements of your community should improved walking or bicycling paths celebrate or highlight, if it is most successful? (Ex. historic main street or buildings, scenic areas or parks, community or cultural centers).

Many people (23%) replied that Arcade's scenic areas are an important asset to feature, while 18.2% indicated that the Arcade Village **Park**, specifically, should be featured. Other suggestions included featuring historic sites like the Arcade & Attica Railroad, and the Main Street shopping district.

Table 17: What are you proud of in your community? What elements of your community should improved walking or bicycling paths celebrate or highlight, if it is most successful? (Ex. historic main street or buildings, scenic areas or parks, community or cultural centers):

Торіс	Responses	Percentages
Creeks / Water features	7	5.56%
Local Parks	23	18.25%
Railroad	10	7.94%
Main Street / Business District	12	9.52%
Fishing Access	1	0.79%
Nature/Scenic Areas	29	23.02%
Historic Sites	12	9.52%
More Connectivity	11	8.73%
Everything	4	3.17%
Community / Events	5	3.97%
Doesn't Want Trails	5	3.97%
N/A	7	5.56%
TOTAL:	126	

Chart 19: What are you proud of in your community? What elements of your community should improved walking or bicycling paths celebrate or highlight, if it is most successful? (Ex. historic main street or buildings, scenic areas or parks, community or cultural centers):



What we heard in comments to this question:

"I am proud that I grew up in this small community, and brought my family to experience the same small town life I had. Safety, personal connections and community events - to name a few. The scenic and beautiful elements near the park and hills of Arcade would be a great path, I wouldn't use a path if it traveled into town, or near cars. Safety is of utmost importance."

"The Creeks are a big part un utilized treasure of the Village, I would to see the existing trail expanded to meet with and follow along the full length of Cattaraugus Creek in both directions in the Village, one towards the Village Park and the other way as far as Hurdville/Northwoods rd which borders with Erie county. I would also like to connect with the existing trail to the Village Park...Create a waterfront attraction."

"Our little community is wonderful. We have the old arcade and Attica railroad, multiple mom and pop shops, multiple schools and other historical sites. I think this trail/trails would be very beneficial to our community."

Residents were asked to share "any other concerns or experiences with mobility or transportation in the Village of Arcade or surrounding area," in an open-comment forum; 25 individuals submitted responses, generating approximately 39 pieces of feedback, **a quantified** summary of which revealed that 25.6% of responses had to do with both accessibility and roadway connectivity. Similarly, 12.8% of overall responses dealt specifically with sidewalk and roadway conditions.

Table 18: Do you have any other concerns or experiences with mobility or transportation in the Village of Arcade or surrounding area that you would like to share with the facilitators? If applicable, please tell us about your lived experience with mobility and disability (i.e. living with a disability and/or caring for a family member or community member with a disability).

Topics

Topics	Responses	Percentage
Need for more mode options	2	5.13%
Connectivity	10	25.64%
Unsafe Roadways	5	12.82%
Sidewalks	5	12.82%
Lighting	1	2.56%
Accessibility	10	25.64%
Maintenance	2	5.13%
N/A	4	10.26%
TOTAL	39	

Chart 20: Do you have any other concerns or experiences with mobility or transportation in the Village of Arcade or surrounding area that you would like to share with the facilitators? If applicable, please tell us about your lived experience with mobility and disability (i.e. living with a disability and/or caring for a family member or community member with a disability).





What we heard in comments to this question:

"A bike lane connecting Arcade (village/downtown) to Yorkshire is needed. Students and athletes traveling from Arcade to the high school for practices have a dangerous ride with no bike path and the sidewalk does not make for an even smooth ride."

"I find that it is difficult to find safe places to walk once you're away from the Main Street. I enjoy walking and jogging in the early morning, but I can't use a majority of the side streets because it is unsafe due to a lack of sidewalks OR adequate road shoulders. Adding shoulders on some roads where it is possible would help immensely, as well as adding sidewalks."

"People with walking disabilities or in a wheelchair cannot use current road surface safely at Arcade Park. Why can't we have nice stuff to do outside like Williamsville, Amherst, etc????"

"The sidewalks aren't very well kept in winter and my boyfriend has a disability which makes it uncomfortable to have to push through the snow when walking."

Memorandum

To:	Board of Trustees, Village of Arcade, New York
Prepared by:	Kaden Shea, Community Engagement Manager, GObike Buffalo
	Kaden@gobikebuffalo.org
Date:	May 3, 2023
Subject:	Arcade Multi-Use Trail Feasibility Study - Community Survey Summary

Background.

Interest in walking, hiking, and bicycling is strong within the Village of Arcade, yet there are currently no regional trails in southwestern Wyoming County.

Through the Arcade Multi-Use Trail Feasibility Study, Verity Engineering, DPC, Byer Planning, and GObike Buffalo will develop a cohesive set of concept-level plans and strategies, with defined priorities, to guide the Village in improving and expanding pedestrian and bicycle access within the Village of Arcade and region. The goal is to define trail alignments that accommodate all ages and abilities and connect the various destinations within and outside the village; a loop trail around the village would be ideal.

As experts on their region, we asked Arcade-area residents and regular visitors to take a community survey focused on ordinary commutes and trail usage, the results of the which will help identify opportunities to enhance safety and accessibility for pedestrians and bicyclists in Arcade, and aid in building trails and amenities based on the needs of area residents, pedestrians, and cyclists.

The survey was promoted on the Village of Arcade's social media pages, GObike's social media pages, in local newspaper ads, and on paid/targeted social media ads directed to those living and working in the immediate Arcade area. A two-week survey station was also posted at the front desk of the Arcade Free Library, wherein patrons were entered to win a bike helmet and accessories from GObike exchange for taking a survey.

Memorandum

To:	Board of Trustees, Village of Arcade, New York
Prepared by:	Kaden Shea, Community Engagement Manager, GObike Buffalo
	Kaden@gobikebuffalo.org
Date:	May 3, 2023
Subject:	Arcade Multi-Use Trail Feasibility Study - Community Survey Summary

Background.

Interest in walking, hiking, and bicycling is strong within the Village of Arcade, yet there are currently no regional trails in southwestern Wyoming County.

Through the Arcade Multi-Use Trail Feasibility Study, Verity Engineering, DPC, Byer Planning, and GObike Buffalo will develop a cohesive set of concept-level plans and strategies, with defined priorities, to guide the Village in improving and expanding pedestrian and bicycle access within the Village of Arcade and region. The goal is to define trail alignments that accommodate all ages and abilities and connect the various destinations within and outside the village; a loop trail around the village would be ideal.

As experts on their region, we asked Arcade-area residents and regular visitors to take a community survey focused on ordinary commutes and trail usage, the results of the which will help identify opportunities to enhance safety and accessibility for pedestrians and bicyclists in Arcade, and aid in building trails and amenities based on the needs of area residents, pedestrians, and cyclists.

The survey was promoted on the Village of Arcade's social media pages, GObike's social media pages, in local newspaper ads, and on paid/targeted social media ads directed to those living and working in the immediate Arcade area. A two-week survey station was also posted at the front desk of the Arcade Free Library, wherein patrons were entered to win a bike helmet and accessories from GObike exchange for taking a survey.

Memorandum

Prepared For: Arcade Multi-Use Trail Feasibility Study Stakeholders

Subject: Arcade Multi-Use Trail Feasibility Study - 6/24 Public Meeting Summary

Date: June 29, 2023

Prepared by: Kaden Shea, GObike Community Engagement Manager

Project Summary.

Interest in walking, hiking, and bicycling is strong within the Village of Arcade, yet there are currently no regional trails in southwestern Wyoming County.

Through the Arcade Multi-Use Trail Feasibility Study, Verity Engineering, DPC, Byer Planning, and GObike Buffalo will develop a cohesive set of concept-level plans and strategies, with defined priorities, to guide the Village in improving and expanding pedestrian and bicycle access within the Village of Arcade and region. The goal is to define trail alignments that accommodate all ages and abilities and connect the various destinations within and outside the Village.

Meeting Date: Tuesday, June 24, 2023, 6:30 - 8:00

Attendance: 19

Agenda:

- Brief introduction by **Donna Schiener**, Mayor of the Village of Arcade.
- Powerpoint presentation by **Lindsay Zefting**, Principal Engineer & Planner for Verity Engineering, D.P.C.
- **Public review period** of several maps of the Village of Arcade, illustrating four priority trail routes and three additional trail connections:
 - Trails:
 - Arcade-Java Rail-With-Trail
 - Cattaraugus Creek South Trail
 - Transmission Line Trail
 - Main Street On-Road

- \circ Connectors:
 - County Line Road Connection
 - Clear Creek Connection
 - North Street On-Road Park Connection
- Closing call to action:
 - Project leaflets with links and QR codes leading to project site distributed to all attendees
 - Remaining leaflets and five project flyers left for distribution in Village offices.



<u>Trails:</u>

- Arcade-Java Rail-With-Trail
 - 12-13 miles long trail alongside operational railroad track
 - Heads past Java into Beaver Meadows
 - Railroad onboard with the project, willing to collaborate

• 10 ft. separation between shared use path and railroad tracks

• Cattaraugus Creek South Trail

- Trail generally follows creek, connects to rail trail
- Rail trail connects up to Main Street
- Passes school
- Transmission Line Trail
 - Utility line is owned and maintained by the Village of Arcade
 - Village has easements with adjacent property owners
 - Trail would connect with Pioneer Senior High School
 - On-road portion in front of homes to make connection out to 98

Main Street On-Road

- Utilized to make East <-> West connections
- Plan is to feature 10 ft. wide sidepath for cyclists and pedestrians
- DOT has plans to reconstruct Main Street in the next five years; getting out ahead of that project with recommendations for design and trail tie-in is crucial
 - DOT has given this recommendation their "blessing"

Connections:

• County Line Road Connection

- Connect to Rt. 16 and Wyoming/Cattaraugus county line
- Completes loops with Cattaraugus Creek South and Transmission Line Trails
- Clear Creek Connection
 - Bridge over creek
 - Heads to Village Park
 - Contains a short on-road portion

North Street On-Road Park Connection

- To be developed on abandoned right of way
- Plan to extend sidewalk where it currently terminates
- Add shared lane markings and traffic calming elements to deter speed
- "Bike boulevard" approach being taken

Resident Questions & Concerns

Questions & Concerns	Response from Verity Engineering and/or Arcade Leadership Team
When connecting to the school, will the trail be an independent path or pass through school driveways?	Independent path separate from school facilities
Who will patrol the path to ensure safety?	That varies trail to trail, based on location, but generally this falls to municipalities and local police. Safety features can also be built into design, i.e. bold markings at crosswalks, good lighting, blue box phones, cameras, etc.
Who will maintain the trails?	This also falls to municipalities, though trail maintenance is relatively low-cost; once built, most trails cost roughly \$1,00/year/mile of trailway to maintain through all seasons. Another method is a program for groups or individuals to "adopt" sections of trail for maintenance.
Where the trail abuts the elementary school, will there be fencing to block the classrooms and school grounds from school?	As that section goes into further design stages, there will be conversations with school personnel and parents surrounding this, but funding for features like fencing can be built into budgets for the project, and would not need to be paid for by the school. Another option that has been used on other trails is the usage of gates, prohibiting access to those trail sections while students are in session.
Drag racing has been an issue on some roads, like Liberty Street. How do we keep racing cars and motorcycles off trails?	The presence of people walking and riding the trail is a natural deterrent, but design features like trail-end bollards to prevent wider vehicles, and stone dust paths that discourage ATV/motorcycle usage, can also be implemented.
	This was also a concern when the Albany/Hudson Electric Trail was developed on active snowmobile/ATV paths; bollards and signage prohibiting such uses were installed and the trail has had only one recorded incident related to distributive motorized vehicles on the trail in the three years since.
Can the Village's traffic flow be managed with	It may seem counter-intuitive, but have two directional lanes with one center turning

just 3 lanes on Main street?	lane is a proven method for moving traffic more efficiently, and the remaining shoulder space for bike traffic should also help with things like blind spots when turning out of driveways, but increasing the space cars have to stick out into the roadway without impeding traffic.
People don't know how to use those lanes, how can you be sure they will work?	Detailed traffic modeling at peak commute hours will be undertaken, and any new designs can be tested first with temporary striping and bollards, to help people get used to the design before it is made permanent.
Police and delivery truck drivers park in that lane and it's unsafe.	Police park there on Sundays to help assist people walking to church, with their cars acting as a pedestrian refuge on an otherwise dangerous roadway. Solutions for truck drivers can be explored. Public education on correct roadway usage can also be shared in local papers and with the community.
In Perry, they've installed greenspace in the median; is that an option?	Green space in a median acts as a pedestrian refuge amongst traffic, and can be explored for this project.
Amish buggies, semi-trucks share the same road - can this really accommodate all safely?	Like cars, buggies will not be allowed on off-road facilities, but the 3-lane solutions for main street should help mitigate things like rear-endings with buggies, by improving sightlines and decreasing opportunities for speed.
I live near the Transmission Line and was not contacted about this project.	Letters were sent only to home owners with easements on their properties.
Re: Transmission Line properties: will the trail be in backyards or front yards, and will be detrimental to homeowners?	Intention is to be on-road for this portion on the trail, through quiet, low-volume streets. Speed can be mitigated through design features like speed humps, cushions, traffic circles, thicker lane markings, etc.
For the Clear Creek Connection, how close will the trail be to houses?	As far from houses and as close to the creek as possible.
Kids currently party where the Clear Creek Connection is planned to be placed; will trails make that worse?	No, similar situations on other trails have shown that increased traffic by other residents and police helps deter nefarious activity and loitering.

There are some crossings - like the intersection of 98 where it goes to 55 MPH - that are disconcerting. What will be done at those crossings?	Recommendations for crossing signals to bring traffic to a stop when an individual needs to cross.
Will the trails be plowed in winter?	Sometimes, but keeping them snowy for cross-country skiing is also an option.
Will horses use these trails?	While some trails do allow horses, these trails are not intended for equestrian use.
Traffic at the high school can be very congested; can we get a red light there?	The crash history of the area, combined with the presence of a high school, warrants a signal to help keep traffic moving.
Will there be a place with steps/access to the water, and will they be ADA compliant?	While we aren't at that stage of the design just yet, any features to the trails will be designed to be accessed by people of all ages and all abilities.
Bixby Hill needs a signal at the trail crossing; sight lines are very poor for oncoming traffic.	

Next Steps

- Designers to further detail existing plans, draft planning-level cost estimates
- August:
 - Report due
 - $\circ \quad {\sf Final \ presentation \ to \ Town \ Board}$
- Town to begin grant application process to help fund trail construction

Appendix B

Cost Estimates



Item Qty. Unit Unit Price Cost Trail Construction - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - - -	Site Work Arcade-Java Rail with Trail							
Trail Construction Frail (Asphalt) 57,600 LF \$ 110.00 \$ 6,336,000.00 Trail (Asphalt) 0 LF \$ 150.00 \$ - Sidepath 0 LF \$ 150.00 \$ - Sidewalk 0 LF \$ 60.00 \$ 6,336,000.00 Bridges Subtotal \$ 6,336,000.00 \$ 400,000.00 Drainage Subtotal \$ 400,000.00 \$ 400,000.00 Swales along trail 1 LF \$ 40.00 \$ 400,000.00 Box Cloverts 3 EA \$ 5,000.00 \$ 100,000.00 Box Cloverts 3 EA \$ 5,000.00 \$ 172,000.00 Sidepath Cloverts 3 EA \$ 5,000.00 \$ 172,00.00 Side protection Fencing (At" Split-Rail) 2,500 LF \$ 5,000.00 \$ 172,00.00	Item	Qty.	Unit		Unit Price		Cost	
Trail (Stonedust) 57,600 LF \$ 110.00 \$ 6,336,000.00 Trail (Asphalt) 0 LF \$ 150.00 > Stdepath 0 LF \$ 110.00 \$ - Shared Lane Markings 0 LF \$ 60.00 - Stdewalk 0 LF \$ 60.000 5 400,000.00 Drainage - Subtotal \$ 400,000.00 5 100,000.00 Drainage - - Subtotal \$ 400,000.00 Swales along trail 1 LF \$ 400,000.00 \$ 75,000.00 \$ 100,000.00 Swales along trail 1 LF \$ 400.00 \$ 10,000.00 \$ 75,000.00 \$ 100,000.00 \$ 75,000.00 \$ 100,000.00 \$ 100,000.00 \$ 100,000.00 \$ 100,000.00 \$ 100,000.00 \$ 100,000.00 \$ 110,000.00 \$ 110,000.00 \$ 110,000.00 \$ 110,000.00 \$ <td>Trail Construction</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Trail Construction							
Trail (Asphalt) 0 LF \$ 110.00 \$ Sidepath 0 LF \$ 110.00 \$ - Shared Lane Markings 0 LF \$ 150.00 \$ Sidewalk 0 LF \$ 50.00.00 \$ 6.336.000.00 Bridge #1 24' wide x 80' span) 80 LF \$ 5.000.00 \$ 400.000.00 Drainage Swales along trail 1 LF \$ 40.00 \$ 400.000.00 Swales along trail 1 LF \$ 40.00 \$ 40.000.00 Box Culverts 20 EA \$ 5.000.00 \$ 100.000.00 Box Culverts 3 EA \$ 5.000.00 \$ 110.000.00 Signega Allowance (Asigns per mile) 43 EA \$ 400.00 \$ 113.75.04.000 Site Furnature Allowance (2 structures per mile) 22 EA \$ 5.000.00 \$ 110.000.00 Rodway Crossing 8 EA \$ 5.000.00 \$ 1	Trail (Stonedust)	57,600	LF	\$	110.00	\$	6,336,000.00	
Sidepath 0 LF \$ 110.00 \$ - Shared Lane Markings 0 LF \$ 15.00 Sidewalk 0 LF \$ 60.00 Bridges 0 LF \$ 60.00 Bridge #1 (24' wide x 80' span) 80 LF \$ 5.000.00 \$ 400,000.00 Drainage Subtotal \$ 400,000.00 \$ 400,000.00 Drainage Subtotal \$ 400,000.00 \$ 400,000.00 Box Subtotal \$ 1 LF \$ 5.000.00 \$ 100,000.00 Box Culverts 3 EA \$ 25,000.00 \$ 175,000.00 Signage Allowance (4 signs per mile) 43 EA \$ 4000.00 \$ 17,200.00 Subtotal \$ 264,700.00 \$ 166,000.00 \$ 166,000.00 Informal/Farm Crossing 8 EA \$ 21,000.00 \$ 160,000.00 Partiture Allowance (2 structures per mile) 2 EA \$ 5,000.00	Trail (Asphalt)	0	LF	\$	150.00			
Shared Lane Markings 0 LF \$ 15.00 Sidewalk 0 LF \$ 60.00 Bridge Subtotal \$ 6,336,000.00 Bridge #1 (24' wide x 80' span) 80 LF \$ 5,000.00 \$ 400,000.00 Drainage Subtotal \$ 400,000.00 Subtotal \$ 400,000.00 Swales along trail 1 LF \$ 40.00 \$ 400,000.00 Swales along trail 1 LF \$ 400.00 \$ 400,000.00 Subtotal \$ 100,000.00 \$ 100,000.00 \$ 100,000.00 Bor Cluverts 20 EA \$ 5,000.00 \$ 100,000.00 Signage Allowance (4 signs per mile) 43 EA \$ 4000.00 \$ 17,200.00 Site Furature Allowance (2 structures per mile) 22 EA \$ 5,000.00 \$ 10,000.00 RrB Crossing 8 EA \$ 21,000.00 \$ 168,00.00 \$ 10,000.00 \$ 10,000.00 <td< td=""><td>Sidepath</td><td>0</td><td>LF</td><td>\$</td><td>110.00</td><td>\$</td><td>-</td></td<>	Sidepath	0	LF	\$	110.00	\$	-	
Sidewalk 0 LF \$ 60.00 Bridges Subtotal \$ 6,336,000.00 Bridge #1 (24' wide x 80' span) 80 LF \$ 5,000.00 \$ 400,000.00 Drainage Subtotal \$ 5,000.00 \$ 400,000.00 Drainage Subtotal \$ 400,000.00 \$ 400,000.00 Ocluverts 20 EA \$ 5,000.00 \$ 100,000.00 Box Culverts 20 EA \$ 5,000.00 \$ 100,000.00 Ocluverts 3 EA \$ 25,000.00 \$ 100,000.00 Signage Allowance (4 signs per mile) 4.3 EA \$ 400,000 \$ 17,200.00 Signage Allowance (2 structures per mile) 2.2 EA \$ 5,000.00 \$ 113,7500.00 Site Furnature Allowance (2 structures per mile) 2.2 EA \$ 5,000.00 \$ 110,000.00 Roadway Crossing 8 EA \$ 21,000.00 \$ 166,000.00 Informal/Farm Crossing 19 EA \$ 5,000.00 \$ 160,000.00 Driveway Crossing (signed, marked crosswalk) 1 EA \$	Shared Lane Markings	0	LF	\$	15.00			
Bridge Bridge #1 (24' wide x 80' span) 80 LF \$ 5,000.00 \$ 400,000.00 Drainage Subtoal \$ 400,000.00 Subtoal \$ 400,000.00 Drainage Subtoal 1 LF \$ 40.00 \$ 400,000.00 Drainage Subtoal 1 LF \$ 40.00 \$ 400,000.00 Calverts 20 EA \$ 5,000.00 \$ 75,000.00 Subtoal \$ 2,000.00 \$ 75,000.00 \$ 75,000.00 Step Protection Fencing (48' Split-Rail) 2,500 LF \$ 5,000.00 \$ 117,200.00 Site Funature Allowance (2 structures per mile) 43 EA \$ 400.00 \$ 110,000.00 RGP Crossing 8 EA \$ 21,000.00 \$ 116,000.00 Informal/Farm Crossing 19 EA \$ 5,000.00 \$ 10,000.00 Trailheads 1 EA \$	Sidewalk	0	LF	\$	60.00			
Bridge #1 (24' wide x 80' span) 80 LF \$ 5,000.00 \$ 400,000.00 Drainage Subtotal \$ 400,000.00 Drainage 400,000.00 Subtotal \$ 400,000.00 Swales along trail 1 LF \$ 40.00 \$ 40.00 Culverts 20 EA \$ 5,000.00 \$ 100,000.00 Box Culverts 3 EA \$ 5,000.00 \$ 100,000.00 Bracing, Furnishings and Signage Subtotal \$ 175,040.00 \$ 17,200.00 Signage Allowance (4 signs per mile) 43 EA \$ 400.00 \$ 110,000.00 Signage Allowance (2 structures per mile) 22 EA \$ 5,000.00 \$ 10,000.00 RFB Crossing 8 EA \$ 21,000.00 \$ 10,000.00 Driveway Crossing (signed, marked crosswalk) 2 EA \$ 05,000.00 \$ 10,000.00	Detdees				Subtotal	\$	6,336,000.00	
Bridge #1 (24 wide x 80 span) 60 LP \$ 5,000.00 \$ 400,000.00 Drainage Subtotal \$ 400,000.00 \$ 400,000.00 Swales along trail 1 LF \$ 400,000.00 \$ 400,000.00 Bridge All (24 wide x 80 span) 1 LF \$ 400,000.00 \$ 400,000.00 Swales along trail 1 LF \$ 5,000.00 \$ 400,000.00 Bridge All (24 wide x 80 span) 2 EA \$ 5,000.00 \$ 100,000.00 Bridge All (24 wide x 80 span) 2 EA \$ 25,000.00 \$ 17,500.00 Bridge All (24 wide x 80 span) 2,500 LF \$ 55,000 \$ 137,500.00 Side protection Fencing (48 spit-Rail) 2,500 LF \$ 50,000.00 \$ 110,000.00 Side Furnature Allowance (2 structures per mile) 42 EA \$ 21,000.00 \$ 168,000.00 RrHB Crossing 8 EA \$ 21,000.00 \$ 168,000.00 \$ 10,000.00	Bridges	00	LE	*	F 000 00	<i>•</i>	100 000 00	
Drainage Subtolal \$ 400,00.00 Swales along trail 1 LF \$ 400,00.00 \$ 400,00.00 Culverts 20 EA \$ 5,000.00 \$ 100,000.00 Box Culverts 3 EA \$ 5,000.00 \$ 100,000.00 Box Culverts 3 EA \$ 5,000.00 \$ 175,004.00 Slope Protection Fencing (48' Split-Rail) 2,500 LF \$ 5,000.00 \$ 137,500.00 Signage Allowance (2 structures per mile) 43 EA \$ 400.00 \$ 17,200.00 Site Furnature Allowance (2 structures per mile) 22 EA \$ 5,000.00 \$ 110,000.00 RRFB Crossing 8 EA \$ 21,000.00 \$ 168,000.00 Informal/Farm Crossing 19 EA \$ 5,000.00 \$ 10,000.00 Trailheads 1 EA \$ 15,000.00 \$ 15,000.00	Bridge #1 (24' wide x 80' span)	80	LF	\$	5,000.00	\$	400,000.00	
Smalage 40.00 \$ 40.00 Swales along trail 1 LF \$ 40.00 \$ 40.00 Culverts 20 EA \$ 5,000.00 \$ 100,000.00 Box Culverts 3 EA \$ 5,000.00 \$ 75,000.00 Fencing, Furnishings and Signage Subtotal \$ 175,040.00 \$ 137,500.00 Signage Allowance (4 signs per mile) 43 EA \$ 400.00 \$ 110,000.00 Site Furnature Allowance (2 structures per mile) 22 EA \$ 5,000.00 \$ 110,000.00 RR'B Crossing 8 EA \$ 21,000.00 \$ 168,000.00 Informal/Farm Crossing 19 EA \$ 5,000.00 \$ 10,000.00 Driveway Crossing (signed, marked crosswalk) 2 EA \$ 5,000.00 \$ 168,000.00 Trailheads 1 EA \$ 10,000.00 \$ 15,000.00 General C	Drainage				Subtotal	\$	400,000.00	
Calverts 20 EA \$ 5,000,00 \$ 100,000,00 Box Culverts 3 EA \$ 5,000,00 \$ 75,000,00 Box Culverts 3 EA \$ 25,000,00 \$ 75,000,00 Fencing, Furnishings and Signage Subtotal \$ 175,000,00 \$ 175,000,00 Signage Allowance (4 signs per mile) 43 EA \$ 400,00 \$ 137,500,00 Site Furnature Allowance (2 structures per mile) 22 EA \$ 5,000,00 \$ 110,000,00 Rodway Crossings RFE Crossing 8 EA \$ 264,700,00 Roff Crossing 19 EA \$ 5,000,00 \$ 10,000,00 Driveway Crossing (signed, marked crosswalk) 2 EA \$ 5,000,00 \$ 10,000,00 Trailheads 1 EA \$ 15,000,00 \$ 15,000,00 General Contingency 30% \$ 2,251,122,00 \$ \$	Swales along trail	1	LF	\$	40.00	\$	40.00	
Bar Culverts 3 EA 5 5,000.00 5 75,000.00 Box Culverts 3 EA \$ 25,000.00 \$ 75,000.00 Fencing, Furnishings and Signage Subtotal \$ 175,000.00 \$ 175,000.00 Slope Protection Fencing (48" Split-Rail) 2,500 LF \$ 55.00 \$ 137,500.00 Signage Allowance (2 structures per mile) 43 EA \$ 400.00 \$ 17,200.00 Site Furnature Allowance (2 structures per mile) 22 EA \$ 5,000.00 \$ 110,000.00 Rodway Crossings 8 EA \$ 21,000.00 \$ 168,000.00 Informal/Farm Crossing 19 EA \$ 5,000.00 \$ 10,000.00 Driveway Crossing (signed, marked crosswalk) 2 EA \$ 5,000.00 \$ 10,000.00 Trailheads 1 EA \$ 15,000.00 \$ 15,000.00 Trailheads 1 EA \$ 15,000.00 \$ 15,000.00 General Contingency 30% \$ 2,251,122.00 \$ \$ 9,754,862.00 Misc. Construction Costs 3% \$ 292,645.86 <t< td=""><td>Culverts</td><td>20</td><td>EA</td><td>φ ¢</td><td>5 000 00</td><td>\$</td><td>100 000 00</td></t<>	Culverts	20	EA	φ ¢	5 000 00	\$	100 000 00	
Bin output Image of the second se	Box Culverts	3	EA	\$	25 000 00	\$	75.000.00	
Fencing, Furnishings and Signage Interface Statume	box out of to	U U		Ψ	Subtotal	\$	175.040.00	
Slope Protection Fencing (48" Split-Rail) 2,500 LF \$ 55.00 \$ 137,500.00 Signage Allowance (4 signs per mile) 43 EA \$ 400.00 \$ 17,200.00 Site Furnature Allowance (2 structures per mile) 22 EA \$ 5,000.00 \$ 110,000.00 Rodway Crossings RRFB Crossing 8 EA \$ 21,000.00 \$ 168,000.00 Informal/Farm Crossing 19 EA \$ 5,000.00 \$ 95,000.00 Driveway Crossing (signed, marked crosswalk) 2 EA \$ 5,000.00 \$ 168,000.00 Trailheads 1 EA \$ 15,000.00 \$ 15,000.00 Trailheads 1 EA \$ 40,000.00 \$ 15,000.00 General Contingency 30% \$ 2,251,122.00 \$ \$ 9,754,862.00 Misc. Construction Costs 30% \$ 292,645.86 \$ 9,754,862.00 Mobilization 3% \$ 292,645.86 \$ 9,794,862.00 Misc. Construction Costs <td>Fencing, Furnishings and Signage</td> <td></td> <td></td> <td></td> <td></td> <td>Ŧ</td> <td></td>	Fencing, Furnishings and Signage					Ŧ		
Signage Allowance (4 signs per mile) 43 EA \$ 400.00 \$ 17,200.00 Site Furnature Allowance (2 structures per mile) 22 EA \$ 5,000.00 \$ 110,000.00 Roadway Crossings Subtotal \$ 264,700.00 \$ 264,700.00 RRFB Crossing 8 EA \$ 21,000.00 \$ 168,000.00 Informal/Farm Crossing 19 EA \$ 5,000.00 \$ 95,000.00 Driveway Crossing (signed, marked crosswalk) 2 EA \$ 5,000.00 \$ 10,000.00 Trailheads 1 EA \$ 15,000.00 \$ 15,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 General Contingency 30% \$ 2,251,122.00 \$ \$ 9,754,862.00 Misc. Construction Costs 3% \$ 2,2645.86 \$ 9,754,862.00 Misc. Construction Costs 3% \$ 29,2645.86 \$ 39,754,362.00 Misc. Construction Costs 3% \$ 292,645.	Slope Protection Fencing (48" Split-Rail)	2,500	LF	\$	55.00	\$	137,500.00	
Site Furnature Allowance (2 structures per mile) 22 EA \$ 5,000.00 \$ 110,000.00 Roadway Crossings RRFB Crossing 8 EA \$ 21,000.00 \$ 168,000.00 Informal/Farm Crossing 19 EA \$ 21,000.00 \$ 168,000.00 Driveway Crossing (signed, marked crosswalk) 2 EA \$ 5,000.00 \$ 10,000.00 Trailheads Access Points 1 EA \$ 10,000.00 \$ 10,000.00 Trailheads 1 EA \$ 15,000.00 \$ 15,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 General Contingency 30% \$ 2,251,122.00 Subtotal \$ 9,754,862.00 Misc. Construction Costs 3% \$ 292,645.86 \$ 9,754,862.00 Work Zone Traffic Control 3% \$ 292,645.86 \$ 487,743.10 Mobilization 3% \$ 292,645.86 \$ 487,743.10 Mobilization 4% \$<	Signage Allowance (4 signs per mile)	43	EA	\$	400.00	\$	17,200.00	
Rodway Crossings 8 EA \$ 21,000.00 \$ 168,000.00 Informal/Farm Crossing 19 EA \$ 5,000.00 \$ 95,000.00 Driveway Crossing (signed, marked crosswalk) 2 EA \$ 5,000.00 \$ 95,000.00 Driveway Crossing (signed, marked crosswalk) 2 EA \$ 5,000.00 \$ 273,000.00 Trailheads 1 EA \$ 15,000.00 \$ 15,000.00 Trailheads 1 EA \$ 40,000.00 \$ 15,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 Trailheads 1 EA \$ 40,000.00 \$ 55,000.00 Trailheads 1 EA \$ 40,000.00 \$ 55,000.00 General Contingency 5 306 \$ 2,251,122.00 \$ 9,754,862.00 Misc. Construction Costs \$ \$ 9,754,862.00 \$ 9,754,862.00	Site Furnature Allowance (2 structures per mile)	22	EA	\$	5,000.00	\$	110,000.00	
Roadway Crossings RRFB Crossing 8 EA \$ 21,000.00 \$ 168,000.00 Informal/Farm Crossing 19 EA \$ 5,000.00 \$ 95,000.00 Driveway Crossing (signed, marked crosswalk) 2 EA \$ 5,000.00 \$ 95,000.00 Subtotal \$ 273,000.00 Trailheads Access Points 1 EA \$ 15,000.00 \$ 15,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 General Contingency 5 Subtotal \$ 7,503,740.00 \$ 9,754,862.00 Misc. Construction Costs \$ 9,754,862.00 \$ 9,754,862.00 \$ 9,754,862.00 \$ 9,754,862.00 \$ 9,754,862.00 <t< td=""><td></td><td></td><td></td><td></td><td>Subtotal</td><td>\$</td><td>264,700.00</td></t<>					Subtotal	\$	264,700.00	
RRFB Crossing 8 EA \$ 21,000.00 \$ 168,000.00 Informal/Farm Crossing 19 EA \$ 5,000.00 \$ 95,000.00 Driveway Crossing (signed, marked crosswalk) 2 EA \$ 5,000.00 \$ 10,000.00 Subtotal \$ 273,000.00 Trailheads Access Points 1 EA \$ 15,000.00 \$ 15,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 General Contingency 1 EA \$ 40,000.00 \$ 9,754,862.00 Misc. Construction Costs 30% \$ 2,251,122.00 \$ \$ 9,754,862.00 Work Zone Traffic Control 5% \$ 487,743.10 \$ 9,754,862.00 \$ Field Change Order 5% \$ 487,743.10 \$ 390,	Roadway Crossings							
Informal/Farm Crossing 19 EA \$ 5,000.00 \$ 95,000.00 Driveway Crossing (signed, marked crosswalk) 2 EA \$ 5,000.00 \$ 10,000.00 Subtoal \$ 2773,000.00 Trailheads Access Points 1 EA \$ 15,000.00 \$ 15,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 General Contingency Total \$ 7,503,740.00 \$ 2,251,122.00 General Contingency 30% \$ 2,251,122.00 \$ \$ 9,754,862.00 Misc. Construction Costs 30% \$ 2,251,122.00 \$ \$ 9,754,862.00 \$ \$ 48,7743.10 \$ 9,754,862.00 \$ \$ 48,743.10 \$ 9,26,653.66 \$ \$ 48,7743.10 \$ 9,019,44.48 \$ <td>RRFB Crossing</td> <td>8</td> <td>EA</td> <td>\$</td> <td>21,000.00</td> <td>\$</td> <td>168,000.00</td>	RRFB Crossing	8	EA	\$	21,000.00	\$	168,000.00	
Driveway Crossing (signed, marked crosswalk) 2 EA \$ 5,000.00 \$ 10,000.00 Trailheads 3 Subtotal \$ 273,000.00 Access Points 1 EA \$ 15,000.00 \$ 15,000.00 Trailheads 1 EA \$ 15,000.00 \$ 40,000.00 \$ 40,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ \$ 55,000.00 \$ \$ 55,000.00 \$ \$ 55,000.00 \$ \$ \$ 52,251,122.00 \$ \$ \$ \$ 9,754,862.00 \$ \$ \$ 9,754,862.00 \$ \$ \$ 9,754,862.00 \$ \$ \$ \$ 1,22	Informal/Farm Crossing	19	EA	\$	5,000.00	\$	95,000.00	
Subtotal \$ 273,000.00 Trailheads Access Points 1 EA \$ 15,000.00 \$ 15,000.00 Trailheads 1 EA \$ 15,000.00 \$ 40,000.00 \$ 40,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ \$ 55,000.00 \$ \$ 55,000.00 \$ \$ 55,000.00 \$ \$ 55,000.00 \$ \$ \$ 55,000.00 \$ \$ \$ 55,000.00 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$	Driveway Crossing (signed, marked crosswalk)	2	EA	\$	5,000.00	\$	10,000.00	
Irailneads 1 EA \$ 15,000.00 \$ 15,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 Subtotal \$ 55,000.00 Subtotal \$ 7,503,740.00 Subtotal \$ 2,251,122.00 Sub Total \$ 9,754,862.00 Misc. Construction Costs Work Zone Traffic Control 3% \$ 292,645.86 Field Change Order 5% \$ 487,743.10 Mobilization 4% \$ 390,194.48 Subtotal \$ 10,925,445.44 10,925,445.44 Engineering and Survey 20% \$ 2,185,089.09 Construction Admin/Inspection 20% \$					Subtotal	\$	273,000.00	
Access Folitis 1 EA \$ 13,000.00 \$ 13,000.00 Trailheads 1 EA \$ 40,000.00 \$ 40,000.00 Subtotal \$ 55,000.00 \$ 40,000.00 \$ 40,000.00 Subtotal \$ 55,000.00 \$ \$ 55,000.00 General Contingency 30% \$ 2,251,122.00 Misc. Construction Costs 30% \$ 2,251,122.00 Work Zone Traffic Control 3% \$ 292,645.86 Field Change Order 3% \$ 292,645.86 Mobilization 4% \$ 390,194.48 Construction Admin/Inspection 20% \$ 2,185,089.09 Construction Admin/Inspection 20% \$ 2,185,089.09	I railneads	1	F۸	¢	15 000 00	¢	15 000 00	
Trainleads T LA \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 40,000.00 \$ 10,000.00 \$ 10,000.00 \$ 10,000.00 \$ 10,000.00 \$ 10,000.00 \$ 50,000.00 \$ 50,000.00 \$ 50,000.00 \$ 50,000.00 \$ 50,000.00 \$ 50,000.00 \$ 50,000.00 \$ 50,000.00 \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 50,000.00 \$ \$ 20,000.00 \$ 2,185,089.00 \$ 2,185,089.00 \$ 2,185,089.00 \$ 2,185,089.00 \$ 2,185,089.00 \$ 2,185,089.00	Trailheada	1	EA	ф ф	15,000.00	ф ф	15,000.00	
Total \$ 35,000,00 Total \$ 7,503,740.00 General Contingency 30% \$ 2,251,122.00 Sub Total \$ 9,754,862.00 Misc. Construction Costs 3% \$ 292,645.86 Field Change Order 3% \$ 292,645.86 Field Change Order 5% \$ 487,743.10 Mobilization 4% \$ 390,194.48 Engineering and Survey 20% \$ 2,185,089.09 Construction Admin/Inspection 20% \$ 2,185,089.09 Total \$ 15,295,623.62 \$ 16,295,623.62	Traineaus	1	LA	Þ	40,000.00 Subtotal	¢ ¢	40,000.00	
Total \$ 7,503,740.00 General Contingency 30% \$ 2,251,122.00 Sub Total \$ 9,754,862.00 Misc. Construction Costs \$ 9,754,862.00 Work Zone Traffic Control 3% \$ 292,645.86 Field Change Order 3% \$ 292,645.86 Mobilization 4% \$ 390,194.48 Engineering and Survey 20% \$ 2,185,089.09 Construction Admin/Inspection 20% \$ 2,185,089.09					Subtotal	φ	33,000.00	
General Contingency 30% \$ 2,251,122.00 Sub Total \$ 9,754,862.00 Misc. Construction Costs 3% \$ 292,645.86 Work Zone Traffic Control 3% \$ 292,645.86 Field Change Order 5% \$ 487,743.10 Mobilization 4% \$ 390,194.48 Engineering and Survey 20% \$ 2,185,089.09 Construction Admin/Inspection 20% \$ 2,185,089.09 Total \$ 15,295,623,62					Total	\$	7,503,740.00	
General Contingency 30% \$ 2,251,122.00 Sub Total \$ 9,754,862.00 Misc. Construction Costs Work Zone Traffic Control 3% \$ 292,645.86 Field Change Order 5% \$ 487,743.10 Mobilization 4% \$ 390,194.48 Engineering and Survey 20% \$ 10,925,445.44 Engineering and Survey 20% \$ 2,185,089.09 Construction Admin/Inspection 20% \$ 2,185,089.09							· ·	
Sub Total \$ 9,754,862.00 Misc. Construction Costs Work Zone Traffic Control 3% \$ 292,645.86 Field Change Order 5% \$ 487,743.10 Mobilization 4% \$ 390,194.48 Engineering and Survey 20% \$ 10,925,445.44 Construction Admin/Inspection 20% \$ 2,185,089.09 Construction Admin/Inspection 20% \$ 15,295,623.62	General Contingency				30%	\$	2,251,122.00	
Misc. Construction Costs 3% \$ 292,645.86 Work Zone Traffic Control 5% \$ 487,743.10 Field Change Order 5% \$ 390,194.48 Mobilization 4% \$ 390,194.48 Engineering and Survey 20% \$ 2,185,089.09 Construction Admin/Inspection 20% \$ 2,185,089.09 Total \$ 15.295,623.62					Sub Total	\$	9,754,862.00	
Work Zone Traffic Control 3% \$ 292,645.86 Field Change Order 5% \$ 487,743.10 Mobilization 4% \$ 390,194.48 Engineering and Survey 20% \$ 10,925,445.44 Construction Admin/Inspection 20% \$ 2,185,089.09 Total \$ 15,295,623.62	Misc. Construction Costs							
Field Change Order 5% \$ 487,743.10 Mobilization 4% \$ 390,194.48 Subtotal \$ 10,925,445.44 Engineering and Survey 20% \$ 2,185,089.09 Construction Admin/Inspection 20% \$ 2,185,089.09 Total \$ 15,295,623,62	Work Zone Traffic Control				3%	\$	292,645.86	
Mobilization 4% \$ 390,194.48 Subtoal \$ 10,925,445.44 Engineering and Survey 20% \$ 2,185,089.09 Construction Admin/Inspection 20% \$ 2,185,089.09 Total \$ 15,295,623,62	Field Change Order				5%	\$	487,743.10	
Subtoal \$ 10,925,445.44 Engineering and Survey 20% \$ 2,185,089.09 Construction Admin/Inspection 20% \$ 2,185,089.09 Total \$ 15,295,623,62	Mobilization				4%	\$	390,194.48	
Engineering and Survey 20% \$ 2,185,089.09 Construction Admin/Inspection 20% \$ 2,185,089.09 Total \$ 15,295,623,62					Subtotal	\$	10,925,445.44	
Construction Admin/Inspection 20% \$ 2,185,089.09 Total \$ 15,295,623,62	Engineering and Survey				20%	\$	2,185,089.09	
Total \$ 15.295.623.62	Construction Admin/Inspection				20%	\$	2,185,089.09	
					Total	\$	15,295,623.62	



С	Site Wo lear Creek (Parl	ork k Connectio	n)			
Item	Qty.	Unit		Unit Price		Cost
Trail Construction	·	•				
Trail (Stonedust)	0	LF	\$	110.00	\$	-
Trail (Asphalt)	2,700	LF	\$	150.00	\$	405,000.00
Sidepath	0	LF	\$	110.00	\$	-
Shared Lane Markings	1,300	LF	\$	15.00	\$	19,500.00
Sidewalk	0	LF	\$	60.00	\$	-
				Subtotal	\$	424,500.00
Bridges						
Bridge #1 (12' wide x 80' span)	80	LF	\$	2,000.00	\$	160,000.00
				Subtotal	\$	160,000.00
Drainage						
Swales along trail	0	LF	\$	40.00	\$	-
Culverts	0	EA	\$	5,000.00	\$	-
Box Culverts	0	EA	\$	25,000.00	\$	-
				Subtotal	\$	-
Fencing, Furnishings and Signage						
Slope Protection Fencing (48" Split-Rail)	0	LF	\$	55.00	\$	-
Signage Allowance (4 signs per mile)	3	EA	\$	400.00	\$	1,200.00
Site Furnature Allowance (2 structures per mile)	2	EA	\$	5,000.00	\$	10,000.00
				Subtotal	\$	11,200.00
Roadway Crossings						
RRFB Crossing	0	EA	\$	21,000.00	\$	-
Informal/Farm Crossing	0	EA	\$	5,000.00	\$	-
Driveway Crossing (signed, marked crosswalk)	1	EA	\$	5,000.00	\$	5,000.00
				Subtotal	\$	5,000.00
Trailheads	0					
Access Points	2	EA	\$	15,000.00	\$	30,000.00
Trailheads	0	EA	\$	40,000.00	\$	-
				Subtotal	\$	30,000.00
				m . 1		630 500 00
				Total	\$	630,700.00
Companyal Compting and an				2.00/	¢.	100 210 00
General Contingency				30%	\$	189,210.00
Miss Construction Costs				Sub lotal	\$	819,910.00
Work Zone Treffic Control				20/	¢	24 507 20
Field Change Order				5%	\$ ¢	24,597.30
Mabilization				J 70	ቅ	40,995.50
MODIFIZATION				470 Subtotal	ዋ ድ	019 200 20
Engineering and Survey				SubiOlal	ф ф	183 650 94
Construction Admin/Inspection				20%	ф ¢	183 650 94
Construction Admin/Inspection				ZU% Total	φ \$	1 285 618 88
				Total	φ	1,203,010.00
				Grand Total	\$	1.285.618.88

1,285,618.88



	Site Wo Cattaraugu	ork s Creek		
Item	Qty.	Unit	Unit Price	Cost
Trail Construction	•	•		
Trail (Stonedust)	0	LF	\$ 110.00	\$ -
Trail (Asphalt)	6,300	LF	\$ 150.00	\$ 945,000.00
Sidepath	0	LF	\$ 110.00	\$ -
Shared Lane Markings	850	LF	\$ 15.00	\$ 12,750.00
Sidewalk	0	LF	\$ 60.00	\$ -
(**no estimate provided for ex. parking lot**)			Subtotal	\$ 957,750.00
Bridges				
n/a	0	LF	\$ -	\$ -
			Subtotal	\$ -
Drainage				
Swales along trail	0	LF	\$ 40.00	\$ -
Culverts	0	EA	\$ 5,000.00	\$ -
Box Culverts	1	EA	\$ 25,000.00	\$ 25,000.00
			Subtotal	\$ 25,000.00
Fencing, Furnishings and Signage				
Slope Protection Fencing (48" Split-Rail)	300	LF	\$ 55.00	\$ 16,500.00
Signage Allowance (4 signs per mile)	3	EA	\$ 400.00	\$ 1,200.00
Site Furnature Allowance (2 structures per mile)	2	EA	\$ 5,000.00	\$ 10,000.00
			Subtotal	\$ 27,700.00
Roadway Crossings				
RRFB Crossing	0	EA	\$ 21,000.00	\$ -
Informal/Farm Crossing	0	EA	\$ 5,000.00	\$ -
Driveway Crossing (signed, marked crosswalk)	1	EA	\$ 5,000.00	\$ 5,000.00
			Subtotal	\$ 5,000.00
Trailheads				
Access Points	2	EA	\$ 15,000.00	\$ 30,000.00
Trailheads	0	EA	\$ 40,000.00	\$ -
			Subtotal	\$ 30,000.00
			Total	\$ 1,045,450.00
General Contingency			30%	\$ 313,635.00
			Sub Total	\$ 1,359,085.00
Misc. Construction Costs				
Work Zone Traffic Control			3%	\$ 40,772.55
Field Change Order			5%	\$ 67,954.25
Mobilization			4%	\$ 54,363.40
			Subtotal	\$ 1,522,175.20
Engineering and Survey			20%	\$ 304,435.04
Construction Admin/Inspection			20%	\$ 304,435.04
			 Total	\$ 2,131,045.28
			Grand Total	\$ 2,131,045.28



	Site Wo North Street (ork Connector				
Item	Qty.	Unit		Unit Price		Cost
Trail Construction						
Trail (Stonedust)	0	LF	\$	110.00	\$	-
Trail (Asphalt)	0	LF	\$	150.00	\$	-
Sidepath	0	LF	\$	110.00	\$	-
Shared Lane Markings	2,640	LF	\$	15.00	\$	39,600.00
Sidewalk	1,100	LF	\$	60.00	\$	66,000.00
				Subtotal	\$	105,600.00
Bridges						
n/a	0	LF	\$	2,000.00	\$	-
				Subtotal	\$	-
Drainage						
Swales along trail	1,100	LF	\$	40.00	\$	44,000.00
Culverts	4	EA	\$	5,000.00	\$	20,000.00
Box Culverts	0	EA	\$	25,000.00	\$	-
E				Subtotal	\$	64,000.00
Class Destantion Exprime (40% Calit Dail)	0	1.17	<i>•</i>		¢	
Siope Protection Fencing (48 Spiit-Ran)	0		Þ	55.00	¢	- 1 200 00
Signage Anowance (4 signs per linie)	3	EA EA	>	400.00 E 000.00	¢ ¢	1,200.00
Site Furnature Allowance (2 structures per mile)	2	ĽA	\$	5,000.00 Subtetal	ф ф	11 200 00
Roadway Crossings				Subtotal	Þ	11,200.00
RRFB Crossing	0	EA	\$	21 000 00	\$	-
Informal/Farm Crossing	0	EA	\$	5 000 00	\$	-
Driveway Crossing (signed marked crosswalk)	1	EA	\$	5 000 00	\$	5 000 00
Traffic Calming	2	EA	\$	10.000.00	\$	20.000.00
			Ŧ	Subtotal	\$	25,000.00
Trailheads						
Access Points	0	EA	\$	15,000.00	\$	-
Trailheads	0	EA	\$	40,000.00	\$	-
				Subtotal	\$	-
				lotal	\$	205,800.00
Conoral Contingonay				200/	¢	61 740 00
General Contingency				Sub Total	ф С	267 540 00
Misc. Construction Costs				Sub Iotai	Ψ	207,540.00
Work Zone Traffic Control				3%	\$	8.026.20
Field Change Order				5%	\$	13,377.00
Mobilization				4%	\$	10.701.60
				Subtotal	\$	299,644.80
Engineering and Survey				20%	\$	59,928.96
Construction Admin/Inspection				20%	\$	59,928.96
-				Total	\$	419,502.72
				Grand Total	\$	419,502.72



	Site Wo Main Str	ork reet		
Item	Qty.	Unit	Unit Price	Cost
Trail Construction	•			
Trail (Stonedust)	0	LF	\$ 110.00	\$ -
Trail (Asphalt)	0	LF	\$ 150.00	\$ -
Sidepath* (curb relocation, drainage, striping)	16,000	LF	\$ 200.00	\$ 3,200,000.00
Shared Lane Markings	0	LF	\$ 15.00	\$ -
Sidewalk	0	LF	\$ 60.00	\$ -
			Subtotal	\$ 3,200,000.00
Bridges				
n/a	0	LF	\$ -	\$ -
			Subtotal	\$ -
Drainage				
Swales along trail	0	LF	\$ 40.00	\$ -
Culverts	0	EA	\$ 5,000.00	\$ -
Box Culverts	0	EA	\$ 25,000.00	\$ -
			Subtotal	\$ -
Fencing, Furnishings and Signage				
Slope Protection Fencing (48" Split-Rail)	0	LF	\$ 55.00	\$ -
Signage Allowance (4 signs per mile)	12	EA	\$ 400.00	\$ 4,800.00
Site Furnature Allowance (2 structures per mile)	6	EA	\$ 5,000.00	\$ 30,000.00
			Subtotal	\$ 34,800.00
Roadway Crossings				
RRFB Crossing	0	EA	\$ 21,000.00	\$ -
Informal/Farm Crossing	0	EA	\$ 5,000.00	\$ -
Driveway Crossing (signed, marked crosswalk)	0	EA	\$ 5,000.00	\$ -
			Subtotal	\$ -
Trailheads				
Access Points	0	EA	\$ 15,000.00	\$ -
Trailheads	0	EA	\$ 40,000.00	\$ -
			Subtotal	\$ -
			Total	\$ 3,234,800.00
General Contingency			30%	\$ 970,440.00
			Sub Total	\$ 4,205,240.00
Misc. Construction Costs				
Work Zone Traffic Control			3%	\$ 126,157.20
Field Change Order			5%	\$ 210,262.00
Mobilization			4%	\$ 168,209.60
			Subtotal	\$ 4,709,868.80
Engineering and Survey			20%	\$ 941,973.76
Construction Admin/Inspection			_20%	\$ 941,973.76
			 Total	\$ 6,593,816.32
			Grand Total	\$ 6,593,816.32

This is an estimate for the construction of the sidepath and does not include potential ROW or other roadway reconstruction work, such as mill and resurface or signal work



	Site Wo Countyline	ork e Road				
Item	Qty.	Unit		Unit Price		Cost
Trail Construction						
Trail (Stonedust)	0	LF	\$	110.00	\$	-
Trail (Asphalt)	0	LF	\$	150.00	\$	-
Sidepath	2,500	LF	\$	110.00	\$	275,000.00
Shared Lane Markings	0	LF	\$	15.00	\$	-
Sidewalk	0	LF	\$	60.00	\$	
Detilizer				Subtotal	\$	275,000.00
Bridges	0	IE	<i>.</i>		¢	
n/a	0	Lſ	\$	- Cubtotol	ъ Ф	-
Drainage				Subtotal	\$	-
Swales along trail	0	LF	¢	40.00	\$	_
Culverts	0	EA	գ \$	5 000 00	\$	-
Box Culverts	0	EA	\$	25,000,00	\$	-
box our or b	-		Ψ	Subtotal	\$	-
Fencing, Furnishings and Signage				Subtotur	Ψ	
Slope Protection Fencing (48" Split-Rail)	0	LF	\$	55.00	\$	-
Signage Allowance (4 signs per mile)	2	EA	\$	400.00	\$	800.00
Site Furnature Allowance (2 structures per mile)	1	EA	\$	5,000.00	\$	5,000.00
_				Subtotal	\$	5,800.00
Roadway Crossings						
RRFB Crossing	0	EA	\$	21,000.00	\$	-
Informal/Farm Crossing	0	EA	\$	5,000.00	\$	-
Driveway Crossing (signed, marked crosswalk)	7	EA	\$	5,000.00	\$	35,000.00
				Subtotal	\$	35,000.00
Trailheads						
Access Points	0	EA	\$	15,000.00	\$	-
Trailheads	0	EA	\$	40,000.00	\$	-
				Subtotal	\$	<u> </u>
				Total	\$	315 800 00
				Totur	Ψ	515,000.00
				Site Work Total	\$	315.800.00
General Contingency				30%	\$	94.740.00
				Sub Total	\$	410,540.00
Misc. Construction Costs						
Work Zone Traffic Control				3%	\$	12,316.20
Field Change Order				5%	\$	20,527.00
Mobilization				4%	\$	16,421.60
				Subtotal	\$	459,804.80
Engineering and Survey				20%	\$	91,960.96
Construction Admin/Inspection				20%	\$	91,960.96
				Total	\$	643,726.72



	Site Wo Utility Co	ork rridor				
Item	Qty.	Unit		Unit Price		Cost
Trail Construction						
Trail (Stonedust)	0	LF	\$	110.00	\$	-
Trail (Asphalt)	17,550	LF	\$	150.00	\$	2,632,500.00
Sidepath	0	LF	\$	110.00	\$	-
Shared Lane Markings	1,850	LF	\$	15.00	\$	27,750.00
Sidewalk	1,850	LF	\$	60.00	\$	111,000.00
				Subtotal	\$	2,771,250.00
Bridges						
n/a	0	LF	\$		\$	-
Derative				Subtotal	\$	-
Drainage	F 000	ΙE	<i>•</i>	40.00	¢	200 000 00
Swales along trail	5,000		\$	40.00 5.000.00	ቅ	200,000.00
Culverts	5	EA	\$	5,000.00	ቅ ሰ	25,000.00
Box Cuiverts	Z	LA	\$	25,000.00	ъ Ф	30,000.00
Foncing Europhings and Signago				Subtotal	\$	2/5,000.00
Slope Protection Eencing (48" Split-Rail)	1 000	IF	¢	55.00	¢	55 000 00
Signage Allowance (4 signs per mile)	1,000	FΔ	ф ¢	400.00	φ \$	6 000 00
Site Eurnature Allowance (2 structures per mile)	8	FA	ф ¢	5 000 00	\$	40,000,00
Site Purnature Anowance (2 structures per inne)	0	L/1	φ	Subtotal	¢	101 000 00
Roadway Crossings				Subtotal	φ	101,000.00
RRFB Crossing	7	EA	\$	21.000.00	\$	147.000.00
Informal/Farm Crossing	5	EA	\$	5.000.00	\$	25.000.00
Driveway Crossing (signed, marked crosswalk)	1	EA	\$	5.000.00	\$	5.000.00
Railroad Crossing	1	EA	\$	20,000.00	\$	20,000.00
			,	Subtotal	\$	197,000.00
Trailheads						
Access Points	2	EA	\$	15,000.00	\$	30,000.00
Trailheads	0	EA	\$	40,000.00	\$	-
				Subtotal	\$	30,000.00
				Total	\$	3,374,250.00
				0.004		4 040 055 00
General Contingency				30%	\$	1,012,275.00
Miss Construction Costs				Sub Total	\$	4,380,525.00
Work Zono Traffic Control				30/	¢	131 505 75
Field Change Order				5%	ዋ ሮ	210 326 25
Mehilization				J 70	ዋ ድ	175 461 00
moninzation				4% Subtotal	ዋ ፍ	173,401.00 4 912 008 00
Engineering and Survey				20%	ъ Ф	982 581 60
Construction Admin/Inspection				2070	φ ¢	982 581 60
Construction Automatinspection				20% Total	ф \$	6 878 071 20
				Iotai	φ	5,070,071,20
				Grand Total	\$	6,878,071.20

Appendix C Utility Line Corridor Drawing












