



Mariemont Connector Shared-Use Path Feasibility Study

March 16, 2023 Report



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Section 1: Introduction & Background

April 23, 2023 marks the 100th anniversary of the Village of Mariemont. The town's benefactor, Mary Emery, dreamt of a community where renters and homeowners—people from across socioeconomic conditions—could escape the tenements of the inner city and enjoy a healthy life with outdoor recreation and amenities. One of the nation's premier city planners and a pioneer in the field of landscape architecture, John Nolen, was hired to develop the plan of this model town to be a "national exemplar."

The town plan embraced the American "garden city" movement and included over 100 acres of parks and green spaces, a tennis facility, a 9-hole golf course (which proved short-lived as it was built in a floodplain), athletic fields, fieldhouse (never constructed), consignment gardens, a recreation center (which became inviable in the 1950s and is now a church), a lagoon for boating and ice skating (discontinued in the 1950s). Today's planned communities often include shared use paths for the purpose of recreation, exercise, or local commute trips.

A brief history of the region's growing trail network begins with the Little Miami Scenic Trail (LMST). This immensely popular shared-use path was one of the first rails-to-trails projects in the United States when it opened in 1980. Currently the path extends to Xenia, Yellow Springs, and connects to the Ohio to Erie path which goes to Cleveland, Ohio.

In 2001 Fairfax constructed the Murray Trail between Red Bank Road and Settle Street. Meanwhile, planning was underway for the Wasson Way, beginning with a rail corridor along Wasson Road in Hyde Park/Oakley.

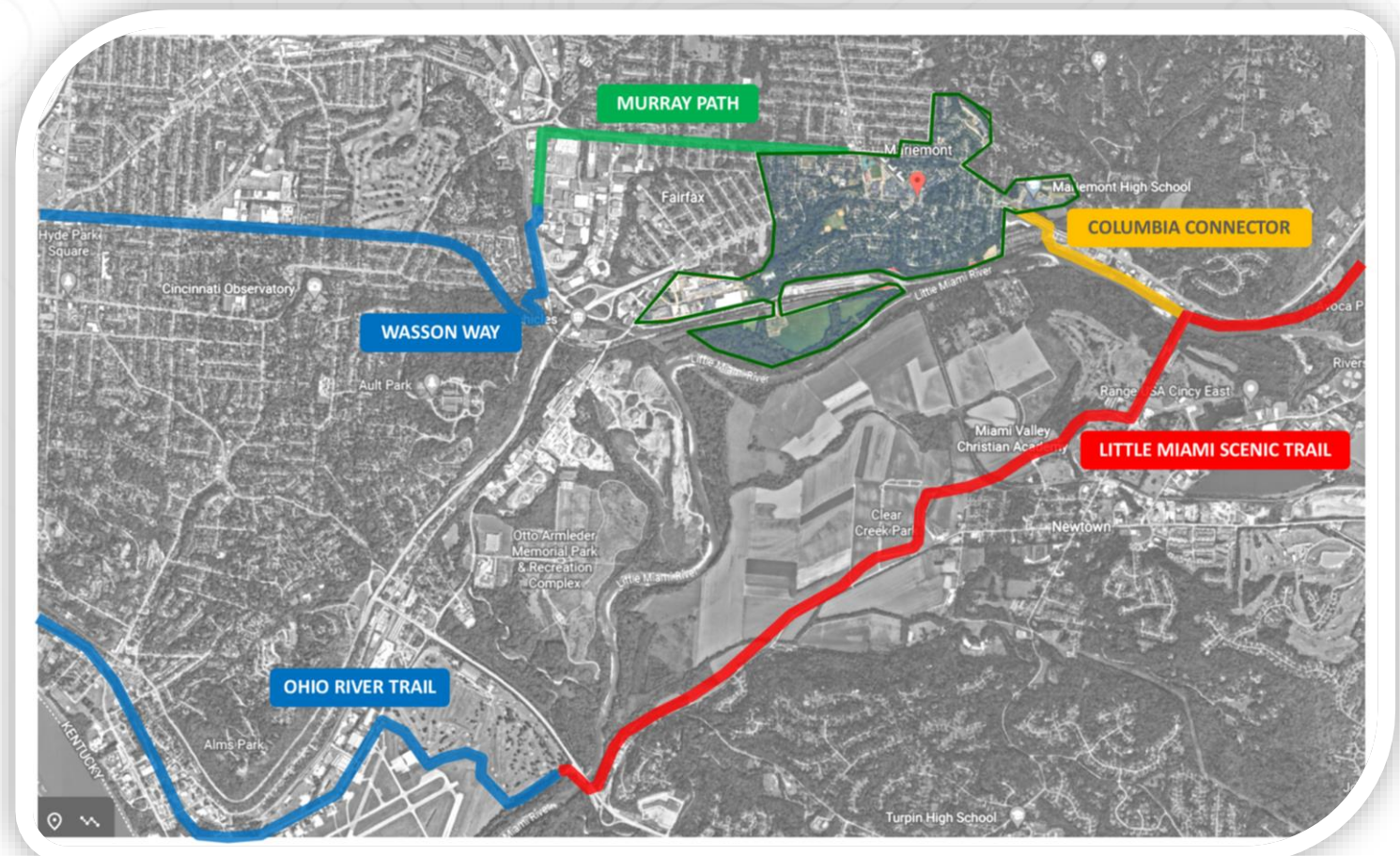
In 2015, Tri-State Trails created the plan for the CROWN (Cincinnati Riding Or Walking Network), a 34-mile urban trail loop to connect the LMST, Wasson Way, Ohio River Trail, and Mill Creek Greenway. A shared-use path connecting Fairfax's Murray Trail to the Little Miami Scenic Trail was identified as a key opportunity to connect the CROWN to the LMST.

In 2019, Phase 5 of the Wasson Way project completed a connection to the Murray Trail via Old Red Bank Road. In 2021 Mariemont added one segment with the construction of Murray Path, a 1/3 mile-long trail connecting to Fairfax's Murray Trail.

Recently the Beechmont Connector was opened south of Mariemont extending the Little Miami scenic Trail to the Lunken Loop and connecting to the Ohio River Trail. Ultimately, the Ohio River Trail will connect to Downtown Cincinnati. Many area communities are pursuing shared-use paths because of the many known public health, economic, social and equity benefits.

In 2020 Great Parks and Columbia Township added a trail spur from the LMST westward to Walton Creek (terminating behind Fifty West Brewing) called the Columbia Connector. A feasibility study is complete for the next phase which will extend the Columbia Connector further west past the Mariemont Library terminating at Pocahontas Avenue. A map of the Columbia Connector alternatives is included in Appendix A of this report. Once completed, a gap of less than one mile will exist to connect the Murray Path to the Columbia Connector through the Village of Mariemont.

This feasibility study was commissioned by the Village to gather public feedback and study alternatives for connecting the Murray Path to the Columbia Connector. This report refers to the connecting path as the "Mariemont Connector". The Kleingers Group was chosen to administer the study. This report outlines the process, findings, and conclusions of the study.



Section 2: Process

A planning meeting occurred with the project core team on Wednesday, June 29, 2022 to discuss the steps for the study and a preliminary schedule. The core team included Dave Meyer (Kleingers), Chris Ertel (Village Engineer), Mayor Bill Brown, Councilman Randy York, and resident Matt Ayer. Based on discussion from that meeting, the process outlined below was performed.

- Kleingers led an initial public meeting with the purpose of introducing the project to Mariemont residents and gather high level feedback regarding the desire for a pathway. Ideas for path routing and path types were also solicited from residents.
- Kleingers' presentation in the first public meeting was video recorded and posted to a webpage linked from the main Mariemont Village homepage. The Mariemont Connector webpage also included a digital survey feedback form.
- Feedback from the first public survey was used to determine two primary alternatives to be studied in more detail. This refined analysis included field review of practicality, focus group feedback, cost estimating, and economic benefit analysis.
 - Field review of practicality included GIS and aerial mapping, site visits and perspective renderings.
 - Four focus groups included: Public Safety and Administration, Resident Group adjacent to utility corridor pathway, Parks and Recreation Group (including schools), and a Mariemont Business Group.
 - Kleingers developed planning level construction and design cost estimates for various parts of each primary alternative.
 - UC Economics Center prepared an economic benefit report that can be used for applying for federal and state level funding.
- A second public meeting was held to present the results of the analysis of the primary alternatives. Additional feedback was solicited in a second public survey.

The following is a timeline of events for record.

- August 1, 2022 – First Public Meeting
- August 8, 2022 – Webpage live with video presentation and online survey
- August 29, 2022 – First public survey closed
- September 19, 2022 – Safety & Administration Focus Group
- September 26, 2022 – Parks and Recreation Focus Group
- October 5, 2022 – Adjacent Resident Focus Group
- October 11, 2022 – Mariemont Business Focus Group
- November 10, 2022 – Second Public Meeting
- November 18, 2022 – Webpage live with video presentation and online survey
- January 23, 2023 – Second public survey closed



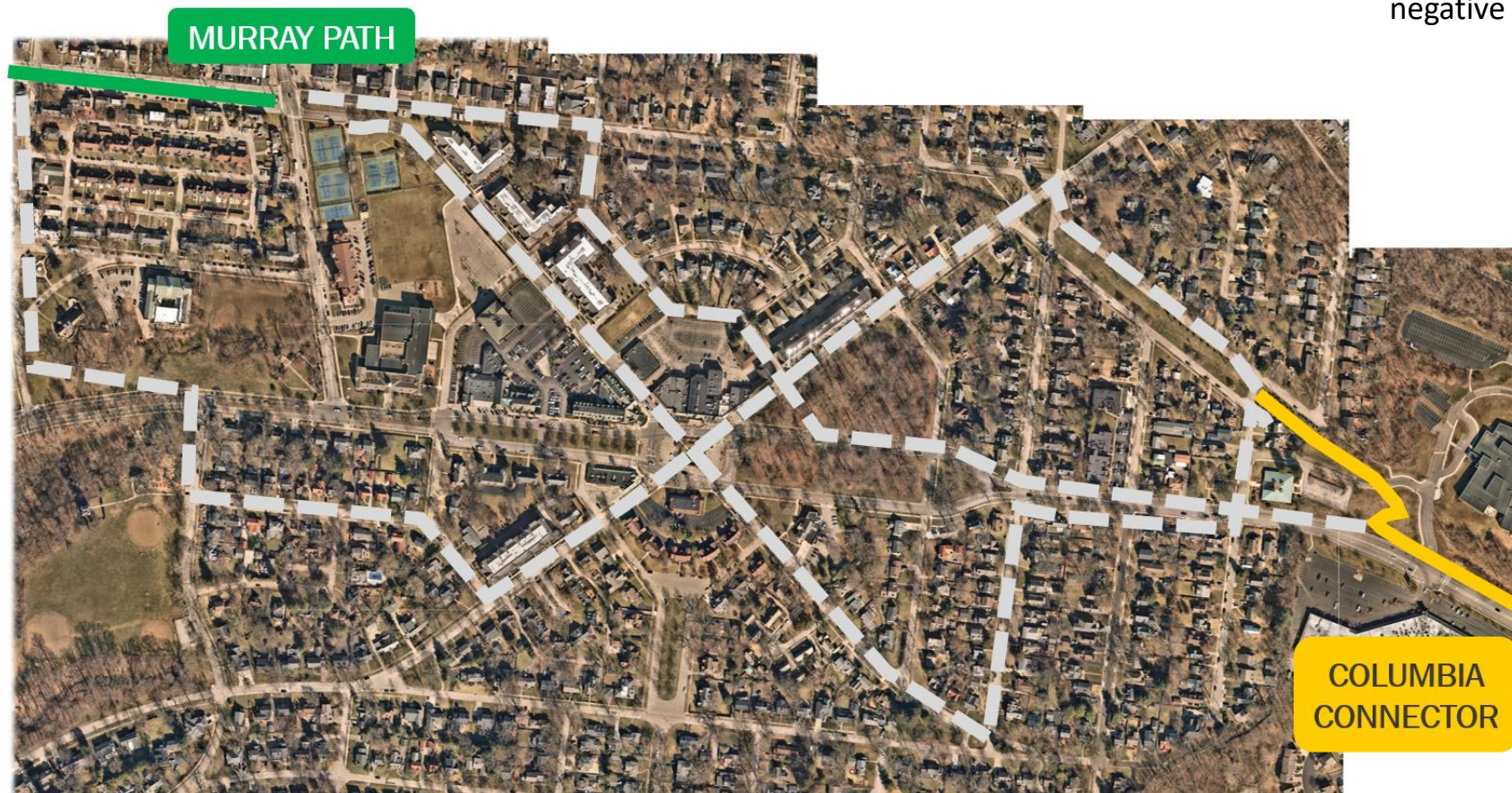
Section 3: First Public Meeting & Feedback Survey

The first public involvement meeting for the study was held in the cafeteria of the Mariemont Elementary School on August 1, 2022. Approximately 1,200 flyers were distributed throughout the Village by volunteers more than a week in advance of the meeting – the flyer is included in Appendix A of this report. Approximately 90 people attended the meeting. A presentation was prepared by the Kleingers Group to introduce the project to the Mariemont residents. Presentation slides and sign in sheets are included in Appendix A. The presentation was captured on video for posting online. A brief question and answer session followed the presentation.

Attendees were then invited to provide thoughts and ideas for potential path routes through the Village. Five maps of the Village were placed on tables and ideas and comments were written directly on the maps and on post it notes. Pictures of the five maps are included in Appendix B. Feedback on the maps varied in perspective, but a few items of feedback stood out.

- Multiple comments to avoid the 6-way intersection (Murray/Plainville/Madisonville)
- Multiple comments about opportunity to revitalize Old Town
- Some comments highlighting the Murray/Hiwatha utility corridor with an off-street path
- A competing comment said to completely avoid the northern utility corridor
- A comment mentioned using Miami Bluff (however highlighted Mt Vernon) for the path
- A comment of a path though Village Square with protected cycle track was given
- A winding path using Thorndike, Madisonville, and Chestnut was highlighted
- Connections to schools – particularly the High School was mentioned a couple times
- A safety concern of crossing Miami Road at Murray Avenue was highlighted

A feedback survey was prepared by the core team prior to the first public meeting. The survey was available in paper form at the meeting and then in digital form on the webpage after the public meeting. The feedback survey is included in Appendix A of this report. The intent was to get responses on a variety of topics and allow residents to express both positive and negative feedback as desired.





Section 4: First Public Survey Results

Approximately 290 total responses were received from people living, working or owning property within Mariemont – 60 paper responses from the public meeting and 230 from the online form. Additionally, 30 responses were received from people outside of Mariemont – those responses are presented separately. Actual survey forms are included in Appendix B of this report. Note that information regarding the creation of the survey is provided in the previous section of the report: First Public Meeting & Feedback Survey.

A summary of feedback survey results from respondents within Mariemont is included in Appendix C.

Overall, the responses indicated a strong majority (82%) favoring a pathway connection through the Village. Respondents indicated a desire to use the potential pathway often and predominantly for recreational purposes. There was a mixed response with many being comfortable with a small amount of interaction with cars, but also a concern with car interaction in certain locations and congested situations. Connecting to regional paths was the most popular perceived benefit of a shared use path through the Village. A small number of responses indicated that no pathway is desired through the Village.

A summary of the survey responses from those outside Mariemont are included separately in Appendix C. In general, the responses tracked similarly to those from within the Village.

The feedback from the public meeting and the survey was used by the core group to determine the primary alternative that would be studied further. Key takeaways include the following:

- **Northern route with separated path was the most popular. Protected path through the Village Center was the next most popular. Southern route and/or shared route on neighborhood streets was the least popular. A significant gap existed between each tier.**
- **Many responded that they would be willing to be near automobile traffic for either a short distance or if there was barrier protection. However, written responses clearly cited the 6-way intersection and crossing Miami Road as a safety concern – to be avoided if possible.**
- **Connecting to Old Town was mentioned as an opportunity. Also, a general desire to be connected to the path was expressed in the survey.**

Other considerations discussed in the core group included:

- Potential path distance – the northern route would be approximately 4,250 feet, a protected path through the Village Square would be approximately 4,500 feet, and a southern route along Mt Vernon Ave would be approximately 6,900 feet.
- There is likely a desire (and potential economic benefit) to connect through the Village Square – both the northern and southern route would by-pass the Square.

Ultimately, it was decided to analyze the northern Utility Corridor Route with a separated path and the protected path through the Village Center route in more detail as the primary alternatives.

Section 5: Primary Alternatives Overview

Cincinnati Area Geographical Information System (CAGIS) map information was used to create detailed mapping of the two primary alternatives. The aerial mapping was reviewed with the core team for feasibility and practicality discussion.

Village Center Path

Old Town Route

Initially, a route through Old Town and along Wooster Pike was chosen based on the feedback from residents. However, it was discovered that connecting through Old Town would be undesirable for multiple reasons. From site visits it was determined that a path along Oak Street would need to be shared with cars on a narrow street with on-street parking that could not be removed. A route along Chestnut Street would similarly share the street with cars or impact a significant amount of old growth trees and would need to navigate among Waldorf School traffic on school days. A path to the south of Mariemont Chapel could impact historic structures and require significant grading and impact to trees. Additionally, the section along Wooster Pike between West Street and Madisonville Road would require two crossings of westbound US 50, and either a route through the median or the removal of a lane of traffic on westbound US 50. All of these obstacles resulted in the decision to eliminate an Old Town path option and focus on Madisonville Road as the potential route for the Village Center option.

Madisonville Road Route

Figures 5A and 5B in this section of the report present the Village Center option via Madisonville Road. Beginning at the Murray Path, the Mariemont Connector would head east from Plainville Road on the north side of Madisonville Road as a separated, shared-use path. Soon after the bend a protected cycle track would be constructed along the northeast side of Madisonville Road, removing one lane from Madisonville Road. Pedestrians would use the sidewalk while wheeled users would use the cycle track. A point of view rendering of Madisonville Road with the cycle track is shown in Figure 5C. At the corner of Madisonville Road and Wooster Pike the cycle track would re-join with the sidewalk to create and shared use pathway and head east in front of the Mariemont Theatre. The shared use path would cross at the Miami Road signal and then split again into a cycle track on Wooster Pike and a sidewalk. The protected cycle track would continue east past Indianview Avenue, Petoskey Avenue, and Pocahontas Avenue in the northernmost lane of Wooster Pike. A point of view rendering of Wooster Pike with the cycle track is shown in Figure 5D. At the Mariemont library the cycle track would leave the roadway onto a shared use path to connect with the proposed Columbia Connector.



Northern Utility Corridor Path

Figures 5E and 5F present the northern Utility Corridor route option. From Plainville Road the path would head east along the south side of Murray Avenue past Thorndike Road. A point of view rendering of Murray Avenue just east of Thorndike Road is shown in Figure 5G. Note that existing parking spaces (i.e., the parking pads in front of some of the apartment buildings) along Murray Avenue have a greater depth than necessary. The depth would need to be reduced to accommodate the proposed pathway. At Grove Ave the shared use path would continue through the break in Murray Ave replacing the existing sidewalk. The path would continue east through the utility corridor crossing Miami Avenue and travelling between Rembold Avenue and Hiawatha Avenue. A point of view rendering of Rembold Avenue at Indianview Avenue is shown in Figure 5H. The path would connect with the proposed Columbia Connector at Pocahontas Avenue.







Figure 5C

MADISONVILLE RD. - PROPOSED DESIGN
MARIEMONT TRAIL STUDY PERSPECTIVES

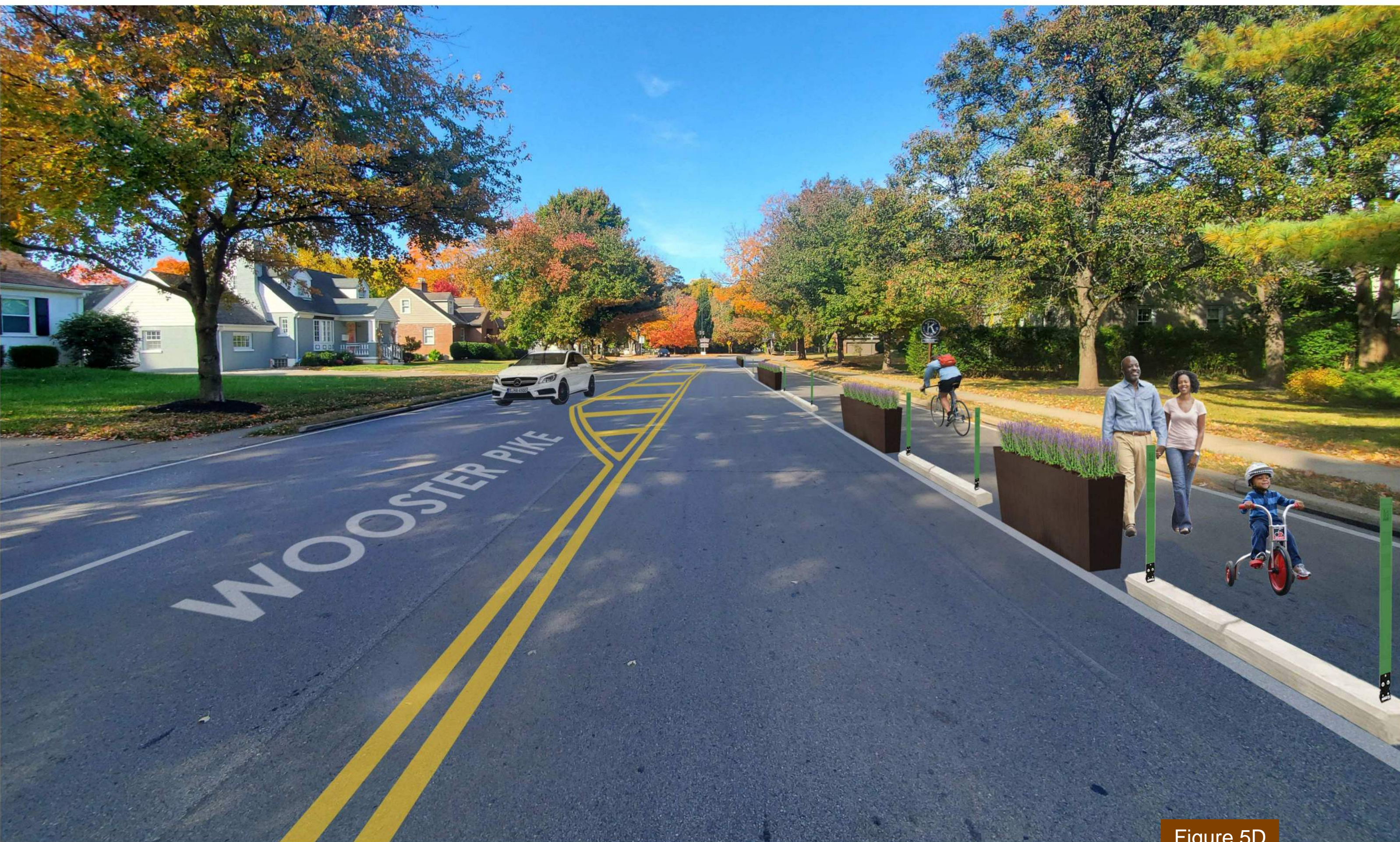


Figure 5D

WOOSTER PIKE - PROPOSED DESIGN
MARIEMONT TRAIL STUDY PERSPECTIVES







Figure 5G

MURRAY AVE. - PROPOSED DESIGN

MARIEMONT TRAIL STUDY PERSPECTIVES



Figure 5H

INDIANVIEW AVE. - PROPOSED DESIGN
MARIEMONT TRAIL STUDY PERSPECTIVES



Section 6: Focus Groups

Four focus groups were assembled to get targeted feedback on preliminary mapping for the two primary alternatives. Preliminary mapping for each alternative that was used in the focus group discussions is provided in Appendix D of this report. Before each focus group Kleingers gave a quick presentation of the alternatives describing benefits and challenges of each option.

Additionally, concepts were developed for potential changes at the 6-way (Plainville/Murray/Madisonville) intersection and the Miami Road intersection with Murray/Indianview/Lytle Woods. Initially a concept limiting the south leg of Plainville Road to a northbound left turn only was presented. Further iterations of improvements to that intersection are discussed in the following section of the report (Key Locations/Intersections).

Two options were developed for the crossing of Miami Road – a median protected mid-block crossing south of Rembold and a crossing at an all-way stop at Murray/Indianview/Lytle Woods.

Note that a plan for removing Indianview Avenue between Hiawatha Avenue and Rembold Avenue was also considered. The following are summaries of each focus group.

Group 1: Public Safety and Administration

Representatives from Village Police, Fire, Service Department, Village Engineer and Mayor attended the first focus group meeting on September 19, 2022. Feedback from the meeting included the following:

Village Center Option

- Further discussion regarding Oak Street with the consensus that a route through Old Town was not feasible.
- A route along Plainville Road has merit and connections to the Mariemont Elementary and possibly Dogwood Park would be good assets.
- Lots of concern expressed for routing along Wooster Pike including safety, comfort, and the likelihood of significant congestion on US 50 if a lane was taken.
- A desire to connect with the Village Square was expressed.
- An alternative along Madisonville Road and Miami Road was discussed for further exploration.

Utility Corridor Option

- Generally viewed as safer than the Village Center Option – with the key exceptions of crossing Plainville Road and Miami Road.
- Felt that initial idea for 6-way intersection needs more study.
- Police Chief had significant concerns about crossing Miami Avenue. Felt vehicles needed to be slowed down in some way. Speed cushions and warning flashers were discussed as options.
- Closing off Indianview Avenue between Hiawatha Avenue and Rembold Avenue was universally liked.

Group 2: Parks and Recreation Group (including Schools)

Representatives from Village Recreation, Mariemont School, Hamilton County Parks, and the biking community were convened on a virtual meeting on September 26, 2022.

Hamilton County parks gave an update on the status of the Columbia Connector project. Feedback from the meeting on the primary alternatives included the following:

Village Center Option

- Mariemont schools did not have concerns about shared path in front of Elementary School. Would be in favor of the connection.
- Some concern about potential congestion on Madisonville Road if lane is removed – particularly during school peak times.
- Some hesitancy expressed regarding transitioning between cycle track and shared path multiple times.
- Overall, not much feedback.

Utility Corridor Option

- Viewed as the preferred option.
- Still concerned about 6-way intersection. Traffic signal was discussed.
- Biking community did not like the crossing of Miami Road at Rembold Avenue. Did not like the meandering pathway and generally prefer a straight path with the shortest possible route.



Section 6: Focus Groups (continued)

- All expressed concerns about crossing Miami Avenue. Felt vehicles needed to be slowed down in some way. Felt the all-way stop is the best method to maximize safety.
- Mariemont schools is in favor of connecting to High School. Overall in favor of any safe alternative transportation connections to schools.

Group 3: Resident Group adjacent to utility corridor pathway

A small group of five residents or property managers/owners of properties along Murray Avenue met at the Mariemont Community Church on October 5, 2022 to discuss the perspectives of potential adjacent property owners if a pathway were constructed. Feedback from the meeting included the following:

Village Center Option

Not much feedback given regarding the Village Center option. Some were not sure how the path in front of the Mariemont Theater would work. Also were not sure if parking blocks would be sufficient to buffer traffic on Wooster Pike.

Utility Corridor Option

- Residents expressed many concerns regarding a pathway being constructed adjacent to their homes/properties.
- Some stated that they were in favor of shared-use pathways, but felt that constructing so close to their homes would hurt their property values. Felt that crime would increase due to the presence of the pathway.
- The amount of cut through traffic from Murray Avenue to Rowan Hill was mentioned as a significant safety issue. Backing out of driveways is currently difficult. Adding the pathway would make it much harder and less safe. Concerned about liability of hitting a pedestrian (child) while driving across the path.
- Concerned about losing parking along Murray Avenue east of Rowan Hill Drive. Only parking for visitors in the vicinity.
- Concerned that reducing the parking space depth along Murray Avenue will prevent vehicles from passing each other between Thorndike Road and Grove Avenue.

- Concerned that existing parking along Murray Avenue would be used as trailhead parking.
- Concerned about loss of green space.
- Developer of Livingood Condos shared a sketch of how the path could be built while minimizing the impact to landscaping adjacent to the condos.

Group 4: Business Owners Group

A small group of five Mariemont business owners met at the Mariemont Community Church on October 11, 2022 to discuss the perspectives of business owners in the Village. Feedback from the meeting included the following:

Overall, the business owners were interested in connecting the pathway to the Village Square in some manner to drive traffic to businesses. There was an acknowledgement that only a limited number of current businesses would be expected to attract trail use traffic.

Village Center Option

- Concerns about the pathway impacting driveway access along Madisonville Road, especially during peak times.
- Significant concerns with bicycles mixing with pedestrians on the stretch between Madisonville Road and Miami Road at peak pedestrian times in front of the movie theater.
- Significant concerns about the drop-off zone in front of the Mariemont Theater. It gets a lot of use for business deliveries and also for pedestrian drop off during peak activity times. Relocating to the east on Wooster Pike or onto Miami Road would greatly degrade the usefulness of a drop zone.
- Liked the route along Miami Road up to Rembold.

Utility Corridor Option

- Felt that a connection to the business district is important if this option is chosen.
- Offered an alternative route. Starting at Plainville Road travelling along Madisonville Road to West Street to Thorndike Road to Millard Rogers Lane to Miami Road to Rembold Avenue.

Section 7: Key Locations/Intersections

The 6-way intersection of Plainville Road, Murray Avenue, and Madisonville Road and the 5-way intersection of Miami Road, Murray Avenue, Indianview Avenue and Lyle Woods Place were consistently mentioned as safety concerns with respect to increased pedestrian and bicycle traffic related to the Mariemont Connector. Various alternatives were explored to improve safety and operations at each location.

6-way Intersection – Plainville at Murray/Madisonville

The 6-way intersection is a large all-way stop intersection. Because of its size, awkward interactions frequently occur with drivers unsure of when it's their turn to proceed. Also, multiple drivers entering the intersection simultaneously conflict with each other. A previous attempt in 2013 to improve operations at the intersection evaluated two options: a roundabout intersection and re-routing the Madisonville Road alignment. Both of these options are presented in graphics in Appendix E of this report. Both options have merit for simplifying the intersection, improving traffic flows, and improving pedestrian crossings. However, both alternatives are likely to be very expensive (in roadway costs, right-of-way acquisition costs, and in utility relocation costs) and both plans appear to eliminate a significant amount of parking with no clear way of how to replace the parking. It is assumed that these options did not advance because of these two significant challenges.

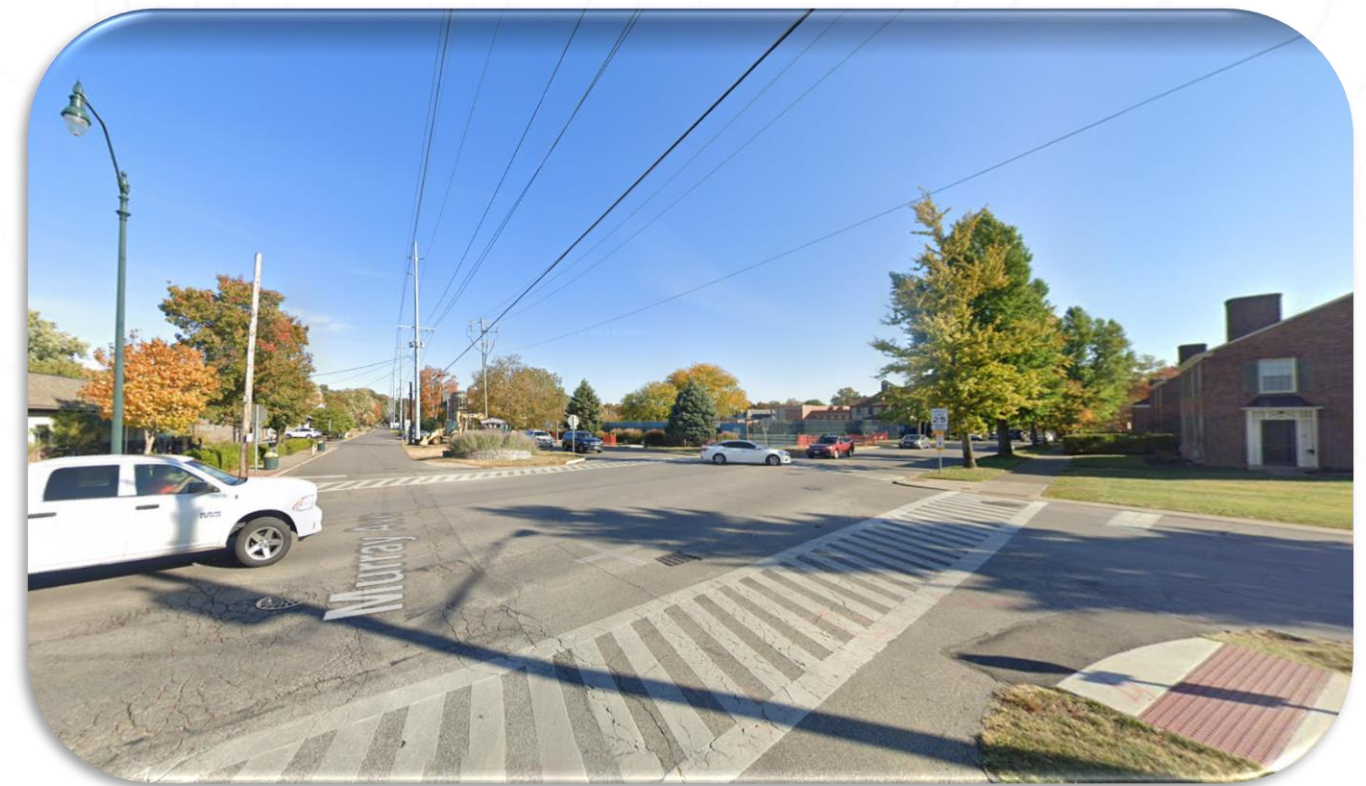
Kleingers developed an alternative shared amongst the focus groups that would restrict access to and from the south leg of Plainville Road at the intersection. This would allow the intersection to operate as a four-way stop. Traffic counts were collected at the intersection – included in the next section of the report (Engineering Analysis) – which show that traffic volumes to and from the south leg of Plainville Road are substantial. Restricting movements to and from that leg would require significant re-routing that is not feasible.

A further alternative developed by Kleingers turned Madisonville Road and Murray Avenue east of Plainville Road into a one-way couplet. A diagram of this option is included in Appendix E. This iteration also creates a four-way stop intersection but allows for all movements on Plainville Road. The intersection would become a bit smaller as well. However, the pedestrian and shared-use path crossing of Plainville Road would still occur through the center of the intersection which is not desirable.

Note that coordination with Columbia Township will be necessary for any planned changes.

6-way intersection Preferred Alternative

Through collaboration with Martin Koepke another alternative was developed which is the current preferred alternative. Figure 7A shows a diagram of this option. In this option the two-way portion of Murray Avenue west of Plainville Road re-routes to the south to align with Madisonville Road. Murray Avenue to the east of Plainville Road becomes right-turn only on its approach to Plainville Road. Other movements on this approach are relatively low volume and reasonable alternate routes are available. With this configuration the intersection becomes a typical four-way stop intersection in size and geometry. Also, the trail crossing becomes a typical crosswalk on the north leg of a four-way stop intersection. This alternative requires less roadway construction compared to previous alternatives and preserves all but one or two existing parking spaces.



Section 7: Key Locations/Intersections (continued)

5-way intersection – Miami Road at Murray/Lytle Woods/Indianview

The most common concern about the 5-way intersection on Miami Road at Murray Avenue is vehicle speed. Southbound Miami Road traffic is coming down a large hill approaching Mariemont, and even though a sharp turn is present north of Rowan Hill Drive vehicle speed and momentum remain high. The soft left turn from southbound Miami Road onto Indianview Avenue allows many drivers to maintain high speeds as they use Hiawatha Avenue, Rembold Avenue, and Pocahontas Avenue to access Wooster Pike. Additionally, Hiawatha Avenue, Murray Avenue, and Rowan Hill Drive form a common “cut-through” route for drivers wanting to travel east and west in the area while avoiding the higher volumes and congestion of driving through the Village Square. Clearly these streets were never designed to accommodate through traffic. The cut-through results in an unsafe situation on these neighborhood streets, most of which do not have sidewalks. Residents, including children, are walking in or on the edge of the roadway.

A couple of options were initially proposed to address the unsafe speeds around the 5-way intersection. Indianview Avenue was proposed to be removed between Hiawatha Avenue and Rembold Avenue. An all-way stop was proposed for the 5-way intersection on Miami Avenue. These options are presented in the last graphic of Appendix D of this report. While helpful in many ways, the all-way stop would be a large intersection with awkward geometry and poor visibility. Also, the cut-through traffic would not be discouraged and the conditions could even be worsened by the all-way stop. Two additional options were developed – one that proposes a dead end to Murray Avenue, and one that proposes a dead end to Lytle Woods Place. These options are shown in Appendix E.

5-way intersection Preferred Alternative

Through further discussion with residents along Murray Avenue and Lytle Woods Place a preferred alternative was developed, shown in Figure 7B. This option creates a dead end of Murray Avenue where access for residents in those homes is only provided via Lytle Woods Place and Haines Street. To eliminate cut-through traffic, Rowan Hill Drive will be blockaded just north of Haines Street (south of Cambridge Avenue). This closure can be accomplished by replacing roadway in the center with landscaping, with paths for pedestrians and bicycles on either side. An example is shown in the picture to the right.

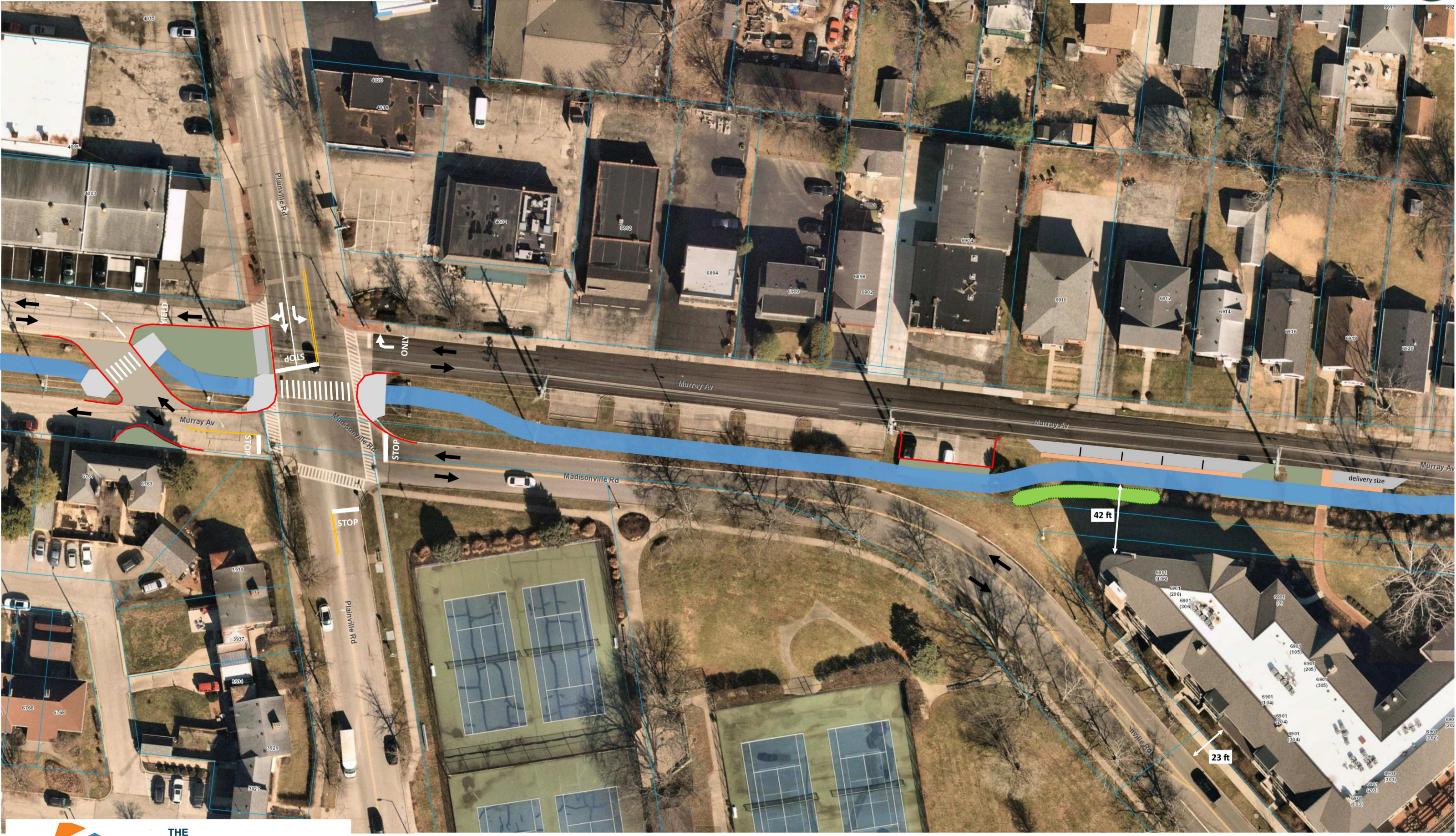
Alternatively, large concrete potted planters and removable bollards could be installed more quickly and economically to accomplish similar results.



The sample median shown here was used as a place for community gardens. A landscaped median would block Rowan Hill Drive where shown on Figure J. More attractive landscaping could be provided if desired.



- 1) Retain existing turnaround.
- 2) Vegetative screening and/or fence (if requested by adjacent residents)
- 3) Turnaround pad so cars exiting driveway are facing forward
- 4) Existing parking pads retained.
- 5) Retain trees if possible.
- 6) Thicket brush and/or walkway could be removed to enhance park.
- 7) Dead-end Murray Avenue.
- 8) Potential location for trolley-themed playset or other park enhancement
- 9) Close Rowan Hill just north of Haines Street
- 10) Eliminate Indianview "cut through" – calms traffic, increases green space





Section 8: Engineering Analysis

The primary alternatives were evaluated on an engineering planning level for cost of implementation and operational feasibility. For the planning level cost of implementation, both primary alternatives were broken into parts for preparation of engineer's cost estimates. Figure 8A presents a map of the parts and their associated estimated cost. Item breakdowns for each of the parts are included in Appendix F of this report. Note that inflation estimates are included based on a June 2026 construction date. Right-of-way acquisition costs are added where anticipated, but the actual purchase of right-of-way is not included. Design and engineering fees are included as well.

Based on this analysis, the planning level estimated cost for the Village Center route – along Madisonville Road and Wooster Pike is:

Village Center Route = \$1,870,000

Note that the alternate route via Miami Road and Hiawatha/Rembold is anticipated to be similar cost.

Based on this analysis, the planning level estimated cost for the Utility Corridor route – along Murray Avenue is:

Utility Corridor Route = \$1,630,000

While the Village Center Route is expected to be the more expensive option, the cost difference is not significant enough to strongly sway or eliminate it as an option. Based on this analysis, the preferred option should be decided based on the merits of the route with only minimal consideration for overall cost.

Trail use data from Wasson Way at the train trestle bridge at Ault park was obtained to help understand what activity may be expected on a newly opened pathway through Mariemont. The trail use data is included in Appendix I. According to the data Wasson Way gets 50% greater use on the weekends versus the weekdays. Wasson Way also gets more than twice as many pedestrians as bicyclists. Additionally, reported counts for Murray Path indicate more than 80% pedestrian use. Based on the feedback survey results, similar use of the Mariemont connector is expected.

Traffic Count data was collected at four key locations in Mariemont to help analyze the operational feasibility of some of the proposed changes. The counts were collected during the morning and afternoon peak periods of a typical weekday. Traffic count summary tables and a peak hour counted traffic volumes figure are included in Appendix F of this report. The following evaluations were made based on the collected traffic count volumes.

- The south leg of Plainville Road at the 6-way intersection (Murray & Madisonville) has significant approach and departure volumes during both peak hours – about 200 or more in each direction. Therefore, it is not feasible to restrict this leg of the intersection and re-route the traffic elsewhere.
- The east leg of Murray Avenue at the 6-way intersection (Plainville Road) has meaningful but relatively low approach and departure volumes during both peak hours. It would not be reasonable to eliminate the connection of Murray Avenue to either Plainville Road or Madisonville Road but restricting a select few movements would be feasible.
- Based on the traffic volumes counted along Madisonville Road it could reasonably function as a two-lane roadway, eliminating the left turn lanes, and likely not result in excessive delays. However, the southbound approach to Wooster Pike has significant volumes and limited signal green time. Therefore, it may not function adequately with one approach lane and a more detailed analysis would be needed to assess the impact of a lane reduction.
- Wooster Pike east of Madisonville Road has significantly large traffic volumes in each direction during the peak hours. Reducing Wooster Pike to one lane in each direction with left turn lanes at signalized intersections would likely result in over capacity conditions during peak times. More detailed analysis would be necessary to estimate the anticipated delay and queues. Previous observations with eastbound Wooster Pike reduced to one through lane at the Pocahontas Avenue signal resulted in excessive delays. The traffic counts suggest that the same results would be expected if implemented today.

Section 8: Engineering Analysis (continued)

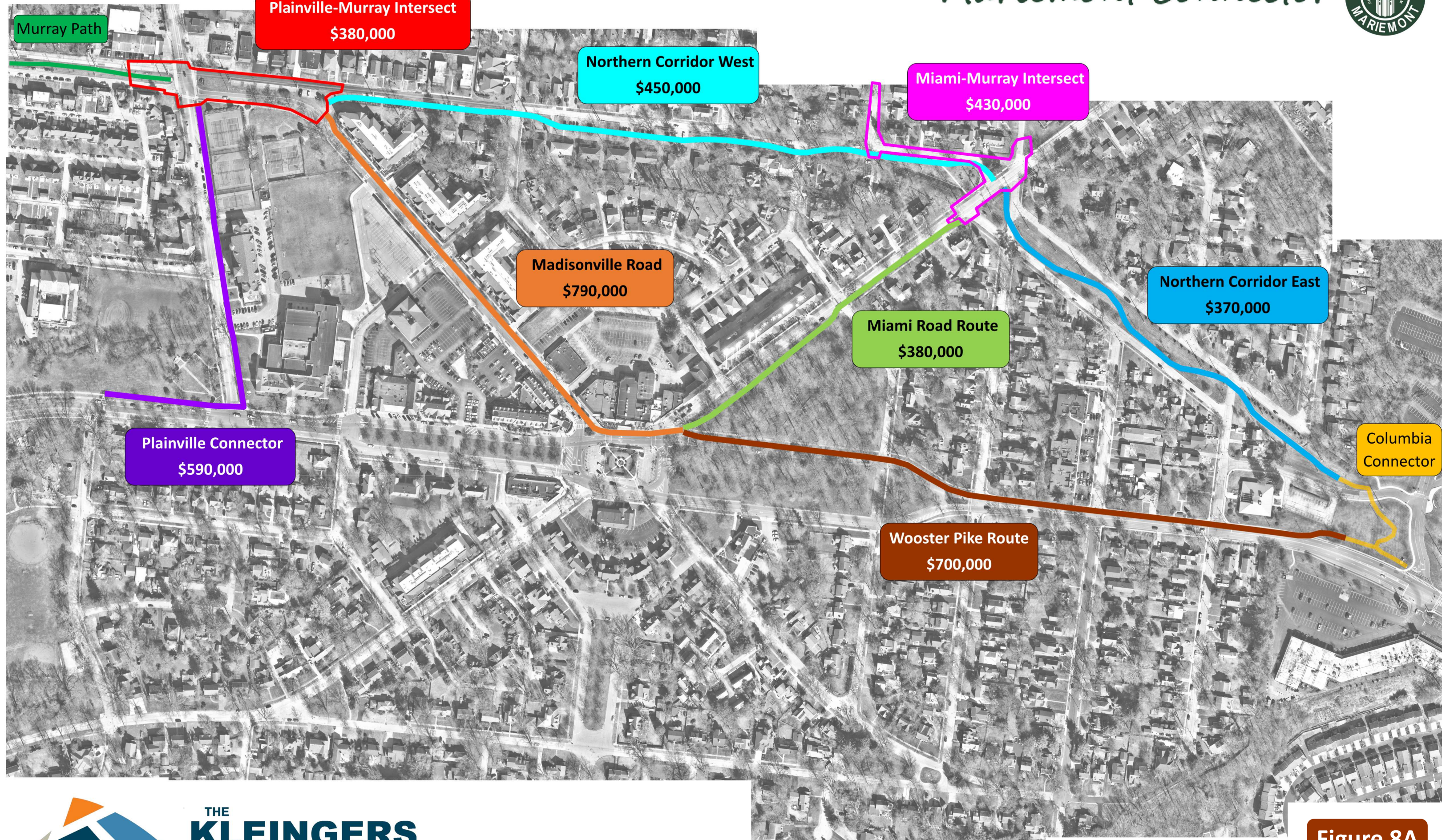
A known flooding problem is located along the south side of Rembold Avenue between Indianview Avenue and Petoskey Avenue. The sidewalk is in a low spot and previous evaluations show that there is not proper slope to provide a working drainage structure for relief. A mitigation option was discussed with the Village Engineer whereby the shared use pathway could be constructed on the north side of Rembold Avenue in this area and it could serve to replace the existing sidewalk on the south side of Rembold for pedestrian infrastructure. Then a drainage swale could be constructed in place of the sidewalk to connect to an existing storm drain and properly drain the south side of Rembold Avenue.



Another opportunity for drainage improvement is located near Murray Avenue just west of Miami Road. Drainage of this area should be included in the design phase for this section of a shared-use path.



Mariemont Connector





Section 9: UC Economics Analysis

UC Economics Analysis

The University of Cincinnati Department of Economics was hired to complete an economic benefit study for the two primary alternatives. This study is meant to provide information regarding the benefit that a shared use path through Mariemont could provide the Village and to show if one route may be more favorable than the other. The economic analysis report is included in Appendix G.

The study follows methodologies outlined by the National Cooperative Highway Research Program (NCHRP) in estimating new users of a potential pathway and quantifying (in dollars) the expected benefits of those additional users. The benefits are compared to the anticipated implementation cost of the pathway to determine a benefit-cost ratio. In the study, the Village Center route is defined as Alternative B and the Utility Corridor route is defined as Alternative C. Table 1 from the report outlines the results of the analysis. According to the results, either option provides a net positive benefit-cost ratio. The Utility Corridor route has a slightly better ratio than the Village Center route. Because the study follows NCHRP methodologies it can be used for state and federal funding applications.

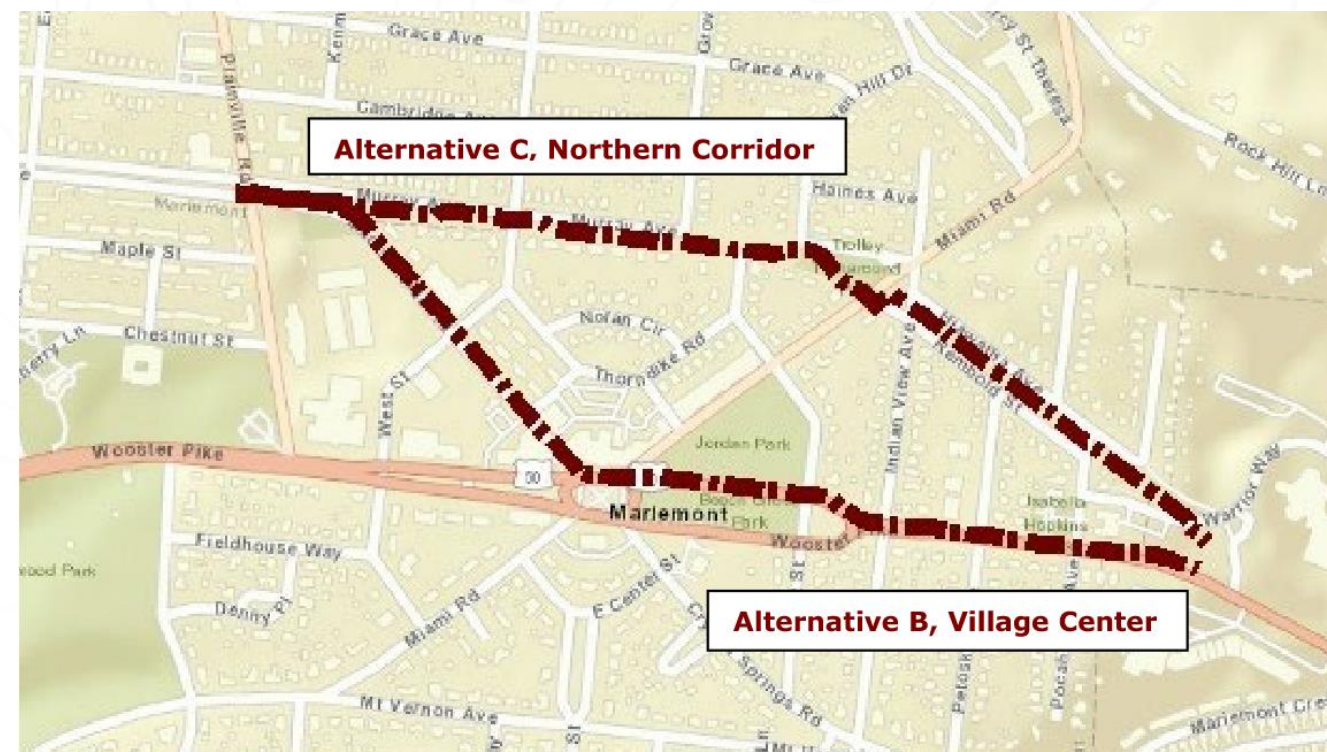
Note that the report does not include direct economic activity benefits for Mariemont businesses in its calculations for a benefit-cost ratio. This was discussed with the UC Economics Center. They contend that the overwhelming majority of pathway trips to Mariemont businesses will be replacement trips and not newly generated trips. Similarly, the report does not include any benefits for pedestrian traffic on the pathway despite the anticipation that most of path users will be pedestrians. Again, UC Economics contends that the vast majority of pedestrian trips on the pathway will be residents using the pathway as a replacement for their existing walking trip as opposed to generating new walking trips.

Also note that the construction cost estimates for the two primary alternatives are different in the UC Economics report compared to the estimates in Section 8 of the report. The UC Economics analysis was completed prior to the final alternative of the 6-way intersection improvement (Plainville/Murray/Madisonville). The final 6-way intersection improvement is expected to be cheaper than previous alternatives.

Table 1: Benefit Cost Analysis Summary (2022\$)

Category	Net Benefits	Local Costs	Benefit-Cost Ratio
Alternative B Undiscounted	\$1,244,984	\$497,500	2.50
Alternative C Undiscounted	\$1,248,242	\$437,500	2.85
Alternative B at 3.0%	\$920,483	\$483,010	1.91
Alternative C at 3.0%	\$922,139	\$424,757	2.17
Alternative B at 7.0%	\$644,775	\$464,953	1.39
Alternative C at 7.0%	\$645,184	\$408,879	1.58

Source: Economics Center calculations.





Section 10: Other Alternatives

Six additional alternatives were considered with less detailed analysis than the primary alternatives.

No-Build Alternative

The no-build alternative is a part of all feasibility studies. In this case, Murray Path and Columbia Connector users will want to connect from one facility to the other. Roadways and sidewalks currently exist where users can make the connection; however, the existing infrastructure is far from ideal. Dangerous crossings of busy roads exist between the Murray Path and the future Columbia Connector. Sidewalks will not be adequate for bicyclists and other wheeled users. Wayfinding is currently very poor. The Village could do a minimal option by improving the dangerous road crossings, connecting the Murray Avenue gap with a shared use path that replaces the sidewalk, and adding significant wayfinding signs and roadway striping. The minimal option would have substantial associated cost - \$250,000 to \$850,000 depending on options chosen – but it would be significantly less costly than either primary alternative.

Old Town Route

This alternative was discussed in Section 5 and Section 6 of the report. Ultimately, it was determined that this alternative is not feasible as a primary route through the Village. Village residents may choose to use Oak Street to connect to whichever primary route is constructed.

Southern Route along Mount Vernon Avenue

This alternative was evaluated after the first public meeting and feedback survey discussed in Section 4 of this report. This route is over 50% longer than the two primary alternatives and would require travelling a significant distance south of Wooster Pike before returning north to Wooster Pike. This route would need to traverse the difficult section of Wooster Pike between Petoskey Avenue and Mariemont Way, and would also require construction along Plainville Road since the Old Town Route is not feasible. Therefore, this alternative is not likely to be significantly cheaper than the primary alternatives. For these reasons, the Southern Route was considered impractical and was dropped from further consideration.

Plainville Road Route

The Plainville Road alternative was explored as part of the southern shared street alternative (along Mount Vernon Avenue) and also as part of the Village Center alternative. A shared use path would be constructed along the east side of Plainville Road between Madisonville Road and Wooster Pike. Some parking would be eliminated along Plainville Road and the curb line would be relocated in front of Mariemont Church. A shared use path would be constructed along the south side of Dale Park before ending at Pleasant Street. This option was eliminated from the Village Center alternative because the Wooster Pike stretch between Plainville Road and Madisonville Road is not feasible. Instead, the Plainville Road alternative could be considered to provide connection between Dogwood Park, Mariemont Elementary, and either of the primary alternative routes at the 6-way intersection.





Section 10: Other Alternatives (continued)

Miami Road Route

The Miami Road route was developed as an option for the Village Center alternative to avoid the difficult section of Wooster Pike section between Miami Road and Warrior Way. From the intersection of Miami Road with Wooster Pike the trail would travel north along the east side of Miami Road to Rembold Avenue. A separated path would be constructed along Jordan Park. Then a protected cycle track would be constructed on the east side of Miami Road from East Street to Rembold Avenue. The path would then travel the Rembold/Hiawatha corridor to connect with the future Columbia Connector at Pocahontas Avenue. Note that this option is expected to be approximately the same cost as a pathway along the north side of Wooster Pike between Miami Avenue and Warrior Way. Note that this alternative would add approximately 800 feet to the primary Village Center alternative.

Thorndike Road Route

The Thorndike Road route was discussed during the Mariemont business focus group and also brought up at the second public meeting. This alternative would include construction of the Rembold/Hiawatha corridor path and also a path along Madisonville Road ending at West Street or Hank Kleinfeldt Lane. Thorndike Road would be used to connect between Madisonville Road and Miami Road. This would avoid the difficult section of Wooster Pike along the Village Square. The various options for this alternative are depicted in Figure 10A of this report. This alternative is likely to be cheaper than the primary alternatives. However, crossing Madisonville Road and Miami Road may be challenging for trail users. Constructability along Madisonville Road would likely have challenges unless a lane is removed. And wayfinding will be challenging for path users because of the many turns and change of facility types.





Section 11: Second Public Meeting & Feedback Survey

The second public involvement meeting for the study was held in the auditorium of the Mariemont Elementary School on November 10, 2022. In preparation for this meeting a full page flyer insert (included in Appendix H) was added to the Mariemont Town Crier in addition to a posting on the Mariemont website to advertise for the meeting. Approximately 70 people attended the meeting. The Kleingers Group prepared and delivered a presentation covering much of the work done prior to November. Presentation slides and sign in sheets are included in Appendix H. Once again, the presentation was captured on video for posting online. The presentation included the following:

- Summary of the results from the first public meeting feedback survey
- Summary of the focus groups
- Explanation of the two primary options with graphics and renderings
- Explanation of options for the 6-way (Plainville/Murray) and 5-way (Miami/Murray) locations
- Overview of implementation cost for various alternatives

A question and answer session followed the presentation in the auditorium. About half of the attendees had significant concerns with the alternatives as presented and also with the process of the study. Some attendees felt that there was not enough opportunity given for feedback or that they hadn't yet heard about the study and, therefore, hadn't been given the chance to provide input. The following is a summary of the concerns with the alternatives as presented.

1. The number of responses to the first feedback survey are not enough to adequately represent the views of the Village.
2. Why aren't any other routes being studied?
3. The pathway is much too close to the Livingood Condominium building and will have a major impact to privacy and safety.
4. A pathway along the utility corridor will dramatically change the environment for adjacent residences. The plan as presented does not adequately address concerns expressed in the residents focus group.
5. A proposed shared use path will negatively impact property values adjacent to the path in a significant way. Has that been studied?
6. A major concern was expressed about removing the connection between Lytle Woods Place and Miami Road with regards to emergency response.

There were also positive comments about the study process and in support of the alignments and changes proposed. Some residents spoke out defending the project in reference to the negative feedback.

Brief response to concerns expressed at the meeting:

1. We endeavored to receive as wide a response as possible to the feedback survey. The calculated margin of error from a survey with 290 responses in a population of 3,445 is about 5.4%, which is sufficient for determining overall trends.
2. The study has a limited scope and unfortunately not all alternatives could be analyzed in depth. The two primary alternatives were chosen based upon clear feedback from the first feedback survey.

Section 12 of the report discusses concerns #3, #4, and #5 concerning impacts to properties adjacent to the pathway. Although only a handful of residents could be engaged in a small group, additional personal meetings were conducted with residents of Livingood Park; owners of the six apartment buildings on Murray Avenue; and residents of Murray, Rowan Hill, Lytle Woods, and Haines impacted by the existing cut-through. These meetings were conducted by resident volunteer Matt Ayer under the supervision of Village Engineer Chris Ertel and Mayor Bill Brown.

6. The preferred alternative for crossing Miami Road has been changed to remove the connection between Murray Avenue and Miami Road.



Section 11: Second Public Meeting & Feedback Survey (continued)

After the question and answer session attendees were invited into the Mariemont Elementary cafeteria to view large board print outs of the primary alternatives along with the perspective view renderings. Discussions continued on a smaller scale regarding how close the pathway would be to residences and the impacts to property values. Positive feedback was received regarding the improvement to the 6-way intersection and to the proposed four-way stop on Miami Road at Murray Avenue. Questions were asked about the cost of the project and where the funding might come from.

A second feedback survey was developed with the core team. The survey is included in Appendix H of this report. The survey re-asked whether a formal connection through Mariemont is desired. It then asked specific opinions regarding improvement options and pathway diagrams. The second feedback survey was also posted online for continued participation. Feedback survey response forms are included in Appendix I of this report.

Second Feedback Survey Results

Over 400 total responses were received for the second feedback survey. Approximately 280 responses came from people living, working or owning property within Mariemont – 15 paper responses from the public meeting and the rest from the online form. A summary of feedback survey results from respondents within Mariemont is included in Appendix J.

Overall, the responses significantly favor constructing a pathway connection through the Village. The proposed changes to the 6-way intersection (Plainville Road) and at the 5-way intersection (Miami Road) seem to be well received and are anticipated to inspire confidence in many of the respondents. Respondents lean towards wanting to cross busy roads at an all-way stop location. The northern Utility Corridor route is the most preferred option by a large margin. Feedback indicates that the direct route along Wooster Pike causes the most concern amongst the respondents. Finally, responses were mixed for the pathway between Hiawatha Avenue and Rembold Avenue. Most wanted a meandering path preserving green space, but a significant number wanted a pathway straight down the middle. Further engagement may be necessary to determine the preferred design in the Rembold/Hiawatha corridor.



Section 12: Adjacent Property Impacts

During the resident focus group and during the second public meeting many concerns were voiced regarding perceived impacts to properties adjacent to the proposed shared use path – particularly along the northern Utility Corridor alternative. The following is a listing of the concerns expressed to The Kleingers Group along with the associated research and responses.

- Property values of homes adjacent to the path will be negatively impacted.
 - The Kleingers group researched studies related to crime and property values adjacent to multi-use pathways. Study information is included in Appendix K.
 - A University of Cincinnati study used a hedonic method of valuation to analyze property values around the Little Miami Scenic Trail. The study found that every foot the home was further away from the trail devalued the home by \$3.98.
 - The Burke-Gilman Trail Study in Seattle, WA interviewed property owners, real estate agents, and police officers. According to real estate agents property near, but not immediately adjacent to the trail is significantly easier to sell. However, property immediately adjacent to the trail is only slightly easier to sell.
 - According to a review by the Belmont Community Path Advisory Committee, eight available studies reported a uniformly positive correlation between house prices and proximity to a trail while three studies reported mixed results.
 - A comprehensive trail safety report was issued by the Rails-To-Trails-Conservancy in 1998. Of 372 trails surveyed in the study, only three percent experienced any kind of major crime and crime rates were lower than common places such as parking lots, on the street, and in your home.
 - A letter was provided by the City Manager of Loveland, Ohio and is included in Appendix K. The letter summarizes the many benefits of the LMST to their City and states that they have never experienced an uptick in crime near the trail. Also note that he describes new residential developments occurring adjacent to the trail indicating that prospective residents are not deterred by the LMST.
 - Mariemont is a planned community where almost every residence is located within 50 feet of a public street or roadway with many residences located about 30 feet from the curb or edge of pavement. Sidewalks are then located a bit closer to the edge of the home. Therefore, the construction of a multi-use path between 30 and 50 feet from the nearest face of residential buildings is not out of character for Mariemont.
- A concern for backing out of driveways crossing the proposed pathway would result in a safety issue for the path users and a liability issue for the driver.
 - Since higher speed users (bicyclists, etc.) will be present, the crossing concern is legitimate. Preserving and maximizing sight distance is key for trail users to avoid collision. Providing the opportunity for drivers to be facing forward when crossing the pathway is key for drivers to avoid collision.
- A concern for privacy was voiced by residents in the Livingood Park. A space on Mariemont property but close to the building had previously been allocated by the developer for a shared use path.
 - As preferred by the condo owners, an alternative was developed placing the path further from the building and behind existing landscaping. Existing parking pads on Murray Avenue would be replaced by new parallel type parking spaces along Murray Avenue. This alternative is depicted in Figure 7A of this report.



Section 13: Conclusions and Recommendation

This feasibility study evaluated the potential connection of the existing Murray Path with the recently funded Columbia Connector Path through the Village of Mariemont. Many routes were discussed and evaluated on a high level and two routes – the northern Utility Corridor Route and the Village Center Route – were evaluated more extensively. Community engagement was a large component of this study. The following is a summary of the advantages and disadvantages (pros and cons) of each alternative.

No Build Alternative

The Village has the opportunity to do nothing, which has the advantage of being the cheapest option. The Murray Path currently ends at Plainville Road and the Columbia Connector is planned to end at Pocahontas Avenue. Pedestrians could use sidewalks (to the extent that they exist) and bicyclists can use existing roads to connect between the two paths. Safety concerns at Plainville Road and Miami Road would not be addressed and wayfinding, which is not intuitive in this case, would be very poor. The two shared-use pathways would connect to the edge of Mariemont but lack good connection to anything else. Strong preference for a true protected connection between the shared-use pathways was expressed by most residents.

Minimal Alternative

This alternative involves addressing safety issues at Plainville Road and at Miami Road and also providing wayfinding and gap connection between the Murray Path and the future Columbia Connector. The proposed 6-way intersection fix discussed in Section 7 of the report could be constructed, and a 5-way stop could be installed at the Miami Road/Murray Avenue intersection with a crosswalk. A shared use path could replace the sidewalk between the gap in Murray Avenue and wayfinding signs could be installed. Hiawatha Avenue and Murray Avenue are low volume neighborhood streets, but they are narrow and occasionally experience higher traffic volumes. Also, Murray Avenue and Hiawatha Avenue are lacking sidewalks and the Rembold Avenue sidewalk is sometimes in poor traversable condition. Note that most trail users are often observed to be pedestrians. This alternative could be significantly cheaper than the primary alternatives, but if sidewalks are added where missing the cost could begin to escalate. Because this alternative does not construct a protected or separated pathway it would have reduced funding opportunities. This option would involve long stretches of interaction with vehicular traffic which was viewed as unsafe by survey respondents.

Village Center Alternative (primary alternative)

This alternative was evaluated in depth and is discussed in Sections 5 through 9 of the report. A protected cycle track along the east side of Madisonville Road and the north side of Wooster Pike would connect the Murray Path to the future Columbia Connector. This alternative connects the path directly to the Village Square which is generally viewed as a positive by residents and business owners. However, the UC Economics department contends that the proposed path will not be a significant generator of business activity. Based on the analysis, this alternative will require lane removal on Madisonville Road and Wooster Pike which will cause significant traffic congestion. Additionally, this alternative will have impacts to the north side of the Village Square including the removal of an important drop off area. If this alternative results in significant added congestion to US 50, as it likely would based on experience, it may require removal by ODOT. This alternative is also the most expensive, but not a lot more expensive than the Utility Corridor alternative. This alternative typically received the second most positive responses in the feedback surveys.

Utility Corridor Alternative (primary alternative)

This alternative was also evaluated in depth and is discussed in Sections 5 through 9 of the report. A separated shared use path would be constructed along the Murray Avenue utility corridor on Village owned property. Dangerous crossings of Plainville Road and Miami Road would need to be addressed as outlined in Section 7 of the report. Residents of properties adjacent to the Utility Corridor alignment expressed significant safety and property value concerns. Research indicates that property values are not expected to decline and are likely to increase – even adjacent to the trail. Operational concerns, especially regarding driveway crossings of the trail, should be addressed through collaboration with residents during the design phase. This alternative would result in the simplest and clearest wayfinding for a path through Mariemont and is the shortest pathway connecting the Murray Path to the future Columbia Connector. Also, according to the UC Economic Impact report this alternative has a greater return on investment compared to the Village Center option. This alternative typically received the most positive responses in the feedback surveys.



Section 13: Conclusions and Recommendation (continued)

Southern Route along Mount Vernon Avenue

This route would traverse along Plainville Road south from the Murray Path and cross Wooster Pike to get to Mount Vernon Avenue. The path would head east along Mount Vernon Avenue before connecting to the future Columbia Connector via the south side of Wooster Pike. This route would be over 50% longer than either primary alternative and involve directional backtracking. It would also require a lane reduction on Wooster Pike resulting in significant roadway congestion. This alternative would involve a shared use path along Plainville Road and in Dogwood Park and a protected cycle track on Wooster Road. Therefore, it is not expected to be significantly less expensive than the primary alternatives. This alternative typically received the least responses in the feedback surveys.

Thorndike Road Route

This alternative was discussed a few times during the process but was never included in feedback surveys or formal analysis. This route would involve a pathway of some type along Madisonville Road before connecting to Thorndike Road and then connecting to Miami Road. From Miami Road the path would travel the Remold/Hiawatha corridor to connect to the future Columbia Connector. This alternative is likely to be cheaper than the primary alternatives. However, because this alternative does not construct a protected or separated pathway it would have reduced funding opportunities. However, crossing Madisonville Road and Miami Road may be challenging for trail users. Constructability along Madisonville Road would likely have challenges unless a lane is removed. Wayfinding will be challenging for path users because of the many turns and change of facility types. This route could continue to be evaluated further.

Miami Road Route

This alternative is a combination of the two primary alternatives. From Plainville Road the path would follow the Village Center Route to the intersection of Wooster Pike and Miami Road. The path would then traverse through Jordan Park along Miami Road to East street where it would convert to a protected cycle track on Miami Road to Rembold Avenue. The path would then traverse the Rembold/Hiawatha Corridor. This route was preferred over a route along Wooster Pike in the second public feedback survey. It is estimated to be a similar cost as the Village Center alternative. This route could continue to be evaluated further.

RECOMMENDATION

Based on the overall feedback and analysis the collective preferred alternative is the Utility Corridor Route. The route is the most direct connection, and improving the safety and operation of two critical locations (Plainville Road 6-way and Miami Road 5-way intersections) is included in the cost of implementation. A 10 to 12-foot wide path is recommended to allow space for all trail user types to share the path. If implemented, close coordination with residents adjacent to the path will be necessary to mitigate safety, operational, and privacy concerns with crossing the path.

The Village should pursue opportunities to design and construct the northern Utility Corridor Route. The route can be constructed in segments that match available grant types and funding cycles.

Feedback varied regarding the alignment of a pathway in the section between Hiawatha and Rembold Avenues – some wanted a meandering path while some wanted a direct straight path. The recommended alignment is depicted in Figure 13A based on the following.

- Ideal place to cross Pocahontas Avenue is at stopped condition at Hiawatha Avenue
- Continuing along Hiawatha Avenue would connect to housing along that stretch and Petoskey Avenue.
- The path would switch to the Rembold Avenue side to provide a walkway between Petoskey Avenue and Indianview Avenue. This would allow the Rembold Avenue sidewalk in that area to be converted to a swale directing stormwater to existing drains.
- This alignment preserves large areas of open green space that can be used by residents and trail users.

The Plainville Road spur as a supplement to the preferred alternative should be considered for implementation for its valuable connection to Mariemont Elementary School, Dogwood Park, and residents on the south side of Wooster Pike. Additionally, wayfinding on Thorndike Road could be considered to provide connection to the business district if the Utility Corridor Route is implemented.



- 1) Parking depth lessened. Must retain depth to allow 2-way passing on Murray Ave
- 2) Privacy fence and/or landscaping screening as directed by residents
- 3) Turnaround must remain. Tight space for trail.
- 4) Possible barrier closure to street
- 5) Provide turnaround so that cars can face pathway on approach.
- 6) Eliminate Indianview "cut through" – calms traffic to/from Miami. Adds green space
- 7) Drainage fix opportunity for Village
- 8) Recommended alignment preserves green space, and provides for walk along Hiawatha where there is none, and provides for a walk along Rembold to allow for a possible drainage fix.
- 9) New 4-way STOP

Columbia Connector