



**HAM-LMST to Ranchvale
Little Miami Scenic Trail Extension
PID 113602/115291**

Feasibility Study

December 15, 2021

Prepared for:

Ohio Department of Transportation
District 8
505 South SR 741
Lebanon, Ohio 45036

Prepared by:

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1.0 INTRODUCTION

Anderson Township and the City of Cincinnati, in cooperation with the Ohio Department of Transportation (ODOT), are proposing a new shared-use path connection from the Little Miami Scenic Trail (LMST) at the northwest quadrant of the SR 32/SR 125 interchange to Elstun Road and a separated sidepath along SR 125 between Elstun Road and Ranchvale Drive. The proposed project, HAM-LMST Ext to Ranchvale, is located in Anderson Township and the City of Cincinnati in southeast Hamilton County (See **Figure 1**, Project Location Map). Because this project extends between two separate jurisdictions, it is divided into two separate contiguous sections for funding purposes. However, these sections will be evaluated as one project in engineering and environmental studies following ODOT's Project Development Process (PDP). These sections are, from west to east: a new shared-use path extension from the SR 32/SR125 interchange to Elstun Road and to the bus stop along SR 125 (PID 113602), which is sponsored by Anderson Township; and a separated sidepath along the south side of SR 125 between Elstun Road and Ranchvale Drive (PID 115291), which is sponsored by the City of Cincinnati. This project includes four of 68 concepts within the Eastern Corridor Segments II and III study area which were identified in the *Conceptual Alternatives Implementation Plan for Segment II/III of the Eastern Corridor Study (PID 86462)*. These improvements address pedestrian and bicyclist safety and connectivity along SR 125. This Feasibility Study was prepared as part of ODOT's PDP to document the process used to select the preferred alternative for the HAM LMST Ext to Ranchvale project.

1.1 PROJECT HISTORY

In 2017 ODOT prepared a *Transportation Needs Analysis* for Segments II and III (PID 86462) of the Eastern Corridor Program, a multi-modal transportation improvement program extending from downtown Cincinnati and communities through eastern Hamilton County and into western Clermont County, Ohio. The Eastern Corridor Program is a coordinated series of regional transportation improvement studies and projects in varying stages of planning, construction, and completion. The Segments II and III study area extends between the Red Bank Corridor (Segment I) and the I-275/SR 32 interchange in the Eastgate Area of Clermont County (Segment IV) encompassing key routes through this area including SR 125 (Beechmont Avenue) in Anderson Township. Transportation needs in the Segments II and III study area were identified through technical studies and confirmed and refined through community and stakeholder input. The project team conducted extensive public and stakeholder outreach to learn how communities prioritized transportation needs with respect to community goals, objectives, and ongoing planning. The need for pedestrian and bicycle connectivity from Elstun Road to the LMST and the need for pedestrian connectivity between rental properties on Elstun Road and bus stops along SR 125 were identified as secondary needs. Excerpts from the Transportation Needs Analysis relevant to this project can be found in **Attachment A**.

ODOT began to develop solutions for the transportation needs identified in the Needs Analysis in the Fall of 2017. Solutions were developed through extensive input from five Advisory Committees comprised of stakeholders from six focus areas identified within the Segments II and III study area. Advisory Committee



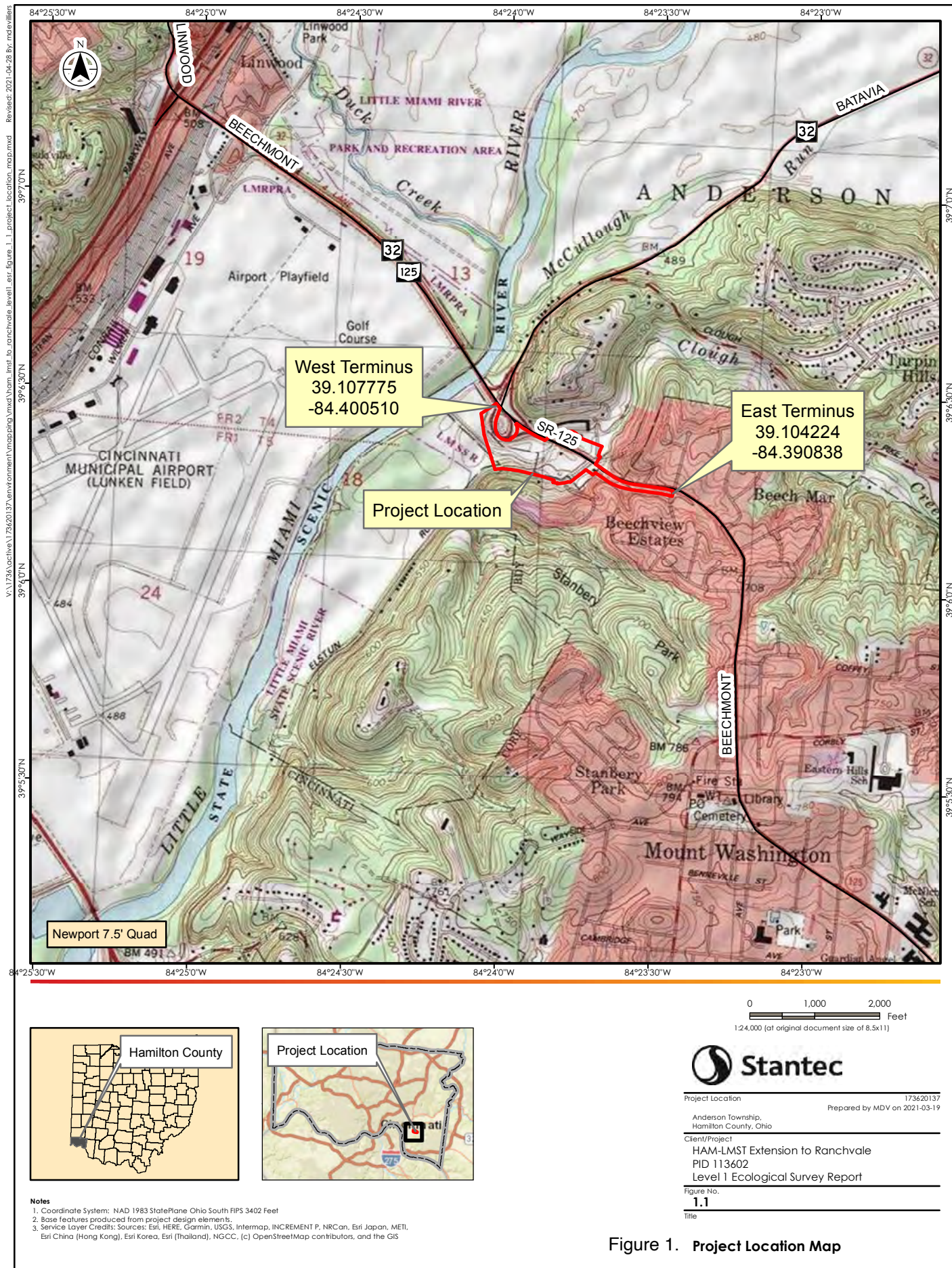


Figure 1. Project Location Map

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members included elected officials, transportation planning professionals, and community and interest group representatives. Advisory Committee members assisted with identifying, evaluating, and prioritizing recommended solutions for transportation needs within their assigned focus area, as well as developing strategies for implementation. Each Advisory Committee convened for four work sessions throughout this process for a combined total of 20 meetings. Two public meetings were also held throughout the development and refinement of the transportation concepts. Through this process, 68 transportation concepts were recommended for the Segments II and III study area and are identified in the *Conceptual Alternatives Implementation Plan* dated June 21, 2019. Excerpts from the *Conceptual Implementation Plan* relevant to this project can be found in **Attachment B**. The Implementation Plan identified four concepts to improve pedestrian and bicycle connectivity along SR 125. These concepts included:

- Add a sidewalk along Elstun Road to connect the Metro bus stop on SR 125 with rental properties on Spindlehill Drive and Reserve Circle (Concept A3)
- Add a shared-use path along SR 125 Between Elstun and Ranchvale (Concept A4)
- Connect the SR 125 walk at Elstun Road to the LMST with a shared-use path along SR 125, utilizing a new bridge over Clough Creek and passing behind United Dairy Farmers (UDF) (Concept A5)
- Connect the SR 125 walk at Elstun Road to the LMST with a shared-use path on new alignment south from SR 32 ramps, on a new bridge over Clough Creek, and tying into Elstun Road. Pedestrians and cyclists would share the vehicular traveled way along Elstun Road from the tie-in location to SR 125. (Concept A6)

In addition to the planning efforts that have occurred as part of the Eastern Corridor Program, this project is consistent with local planning efforts including Anderson Township's 2016 Comprehensive Plan (adopted 2017), Anderson Trails 2018 Update (adopted June 2018) and the City of Cincinnati's Bicycle Transportation Plan (adopted June 2010).

In 2020, Anderson Township prepared a Transportation Alternatives (TA) Grant Application for federal aid funding to construct a multi-use trail to extend between the SR 125 Bridge, which is currently under construction to include a shared-use path to connect to the LMST, and Elstun Road. As part of the TA, this project received the support of the City of Cincinnati, Mt. Washington Community Council, Great Parks of Hamilton County, and Tri-State Trails.

At this time, the construction of the shared-use path between Elstun Road and Ranchvale is in the City of Cincinnati's long-term plans, however, the City has not yet pursued funding for this project.

This Feasibility Study provides a more detailed evaluation of the trail alternatives identified in the Implementation Plan, as well as other trail concepts that were identified through discussions with Anderson Township, the City of Cincinnati, and other project stakeholders. The Feasibility Study summarizes the results of the engineering and environmental studies conducted to date based on engineering and environmental criteria. This information has been shared with the public in a Virtual Public Involvement



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Open House held in September-October 2021. A preferred alternative has been selected for both connections based on engineering and environmental studies and public input received through this feasibility study process.

2.0 PURPOSE AND NEED

2.1 PROJECT PURPOSE

The purpose of the proposed project is to address pedestrian and bicycle connectivity issues along SR 125 between the terminus at the SR 32/SR 125 Interchange and Ranchvale Drive.

2.2 NEED ELEMENTS

2.2.1 Pedestrian and Bicycle Connectivity

Connectivity Between Residential Areas and the LMST and Regional Trail System

There is a need to improve pedestrian and bicycle connectivity between neighborhoods in Anderson Township and the Mt. Washington community in the City of Cincinnati and the LMST. This link is needed to provide a vital connection from residential areas to several regional trails, including the LMST, the Lunken Airport Trail, the Otto Armleder Memorial Park Trail and the Ohio River Trail, in addition to destinations associated with those trails.

There are several existing and proposed residential areas in Anderson Township that currently do not have connectivity to the regional trail system. These include the existing greyfield site known as the Skytop Shopping Center, which is being redeveloped into approximately 246 apartments. In addition, there are approximately 425 households within $\frac{3}{4}$ of a mile of SR 125 and in the surrounding neighborhoods and several condominium/apartment complexes. The surrounding neighborhoods include Beechview Estates, Wasigo Trails, and Wayside Village (Anderson Township, 2020).

Currently, the LMST/SR 125 Bridge widening project (PID 107295) is underway, which will provide a new designated shared-use path on the south side of the SR 125 Bridge that separates pedestrians and cyclists from traffic by a concrete barrier. This bridge provides a link between the LMST and the Lunken Airport trail across the Little Miami Scenic River and the Ohio River Trail to downtown Cincinnati. However, after completion of the LMST SR 125 Bridge project, there will be no logical way for cyclists or pedestrians in Mt. Washington, or at the Skytop site in Anderson Township, to access any of the regional trails' network, other than travel along SR 125 and through the SR 125/SR 32 interchange, which would be a safety concern.



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Connectivity Along SR 125 From Elstun Road to Mt. Washington

There is also a need to improve connectivity along SR 125 for bicyclists and pedestrians who are traveling from the apartments along Elstun Road east to Mt. Washington. Currently there is a sidewalk on the northside of SR 125 between Elstun and Ranchvale but there is not a separated bicycle/pedestrian path on the south side of the road. Having a dedicated bike/pedestrian path would improve safety for bicyclists and pedestrians traveling east up the SR 125 hill towards Mt. Washington.

Connectivity From Apartments Along Elstun to Bus Stops on SR 125

In addition, there is a need to improve pedestrian access from the apartments along Spindlehill Drive and Reserve Drive to bus stops along SR 125. Currently, there is not a sidewalk along Elstun Avenue for residents of Deer Hill and Copper Hill Apartments along Elstun Road to use when walking to the Metro bus stops at the Elstun Road/SR 125 intersection. Individuals currently walking to the bus stops from the apartments must walk on or along Elstun Road, a narrow two-lane road without shoulders. A sidewalk or shared-use path is needed in this area to improve safety for pedestrians.

3.0 ALTERNATIVES

3.1 NO BUILD ALTERNATIVE

Under the No Build Alternative, there would be no improvement in pedestrian and bicycle connectivity along SR 125 between the LMST and Ranchvale Drive. Bicyclists and pedestrians traveling to the LMST from the surrounding neighborhoods in Anderson would have to travel along SR 125 and through the SR 125/SR 32 interchange area, which would be a safety concern. In addition, bicyclists and pedestrians traveling along the south side of SR 125 east towards Mt. Washington would continue to use the existing designated bike lane up the SR 125 hill to Ranchvale instead of having a safer shared-use path which would be separated from traffic. Also, under the No Build Alternative, there would be no sidewalk or shared-use path for residents of the apartments along Elstun Road to use to access the Metro bus stops at the intersection of Elstun Road/SR 125. They would continue to walk on or along Elstun Road, which is a safety concern.

3.2 BUILD ALTERNATIVES

As mentioned in the introduction, this project is divided into two contiguous sections for funding purposes. The western section is the Elstun Connection (PID 113602) between the SR 32/SR 125 Interchange and Elstun Road, which is within Anderson Township. To the east is the Ranchvale Connection (PID 115291) between Elstun Road and Ranchvale Drive, which is within the City of Cincinnati. These sections will be discussed separately throughout the remainder of the Feasibility Study Report.

Elstun Connection (PID 113602), Anderson Township



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The Elstun Connection includes a pedestrian connection along Elstun Road to connect the Metro bus stop on SR 125 with rental properties on Spindlehill Drive and Reserve Circle, as well as a pedestrian/bicycle connection between the LMST at the SR 32/SR 125 interchange and Elstun Road. Several alternatives were developed for these connections to address the needs previously identified by the 2017 Needs Analysis and discussed in Section 2.2. The alternatives considered for these connections are discussed below.

Pedestrian Connection Along Elstun Road Between Spindlehill Drive and SR 125: One alternative was identified in the 2019 *Conceptual Alternatives Implementation Plan* to provide pedestrian connectivity along Elstun Road between the apartments on Spindlehill Drive and Reserve Circle and the Metro bus stops on SR 125. This alternative was:

1. Alternative A3: Add a sidewalk/shared-use path along the east side of Elstun Road to connect rental properties on Spindlehill Drive and Reserve Circle with the Metro bus stop on SR 125

During the Feasibility Study, the Project Team (ODOT, Anderson Township, and Stantec) decided not to advance a sidewalk/shared-use path on the east side of Elstun Road due to the high cost associated with the retaining wall that would be required for this alternative. Instead, a separated shared-use path along the west side of Elstun Road would be incorporated into Alternatives 3 and 4A developed for the connection between the SR32/SR 125 interchange and Elstun Road, which are discussed below.

Bicycle/Pedestrian Connection Between SR 32/SR 125 Interchange and Elstun Road: Three alternatives were investigated to address pedestrian and bicycle connectivity between the SR 32/SR 125 interchange and Elstun Road as part of the *Conceptual Alternatives Implementation Plan*. These alternatives, which were developed to address the needs previously identified by the 2017 Needs Analysis and discussed in Section 2.2, include:

1. Alternative A5: Connection of the LMST to the SR 125 sidewalk with a shared-use path utilizing a new bridge over Clough Creek.
2. Alternative A6: Connection of the LMST to the SR 125 sidewalk at Elstun Road with a new shared-use path on new alignment south from SR 32 ramps, on new bridge over Clough Creek, and tying to Elstun Road.
3. Alternative 125-4: Connection of the SR 125 sidewalk at Elstun Road to the LMST with a shared-use path utilizing the existing bridges over Clough Creek by modifying the ramp from SR 32 to eastbound SR 125.

Of the three alternatives investigated, Alternatives A5 and A6 were recommended for further study in the *Conceptual Alternatives Implementation Plan*. Alternative 125-4 was dropped from further consideration because Anderson Township felt it was preferable to redirect bikes and pedestrians away from SR 125 traffic for safety and keep the path behind the UDF fueling station. **Table 1** provides a decision matrix that shows the decision criteria used to evaluate each of the preliminary alternatives and No Build Alternative. Further information about all four preliminary alternatives is provided in **Attachment B**.



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Table 1: Preliminary Alternatives Comparison Matrix

	Safety	Traffic Operations	Constructability Issues	Construction Cost	R/W Impacts	Environmental/Community Impacts	Supports and/or Facilitates Multi-Modal	Improve Regional Connectivity	Improve Local Access	Recommendation
1. No Build Alternative	Neutral	Neutral	N/A	\$0	None	None	Neutral	Neutral	Neutral	Not Recommended
3. Alternative A5: Shared-Use Path Along SR125 from LMST to Elstun	Improves	Neutral	Minimal	\$770,000 to \$1.2M	Property Takes	Moderate	Improves	Improves	Improves	Advance/High Priority
3. Alternative A6: Shared-Use Path Along SR125 from LMST to Elstun, Tying to Elstun Rd	Improves	Neutral	Minimal	\$360,000 to \$550,000	Property Takes	Moderate	Improves	Improves	Improves	Advance/High Priority
4. Alternative 125-4: Shared-Use Path Along SR125 Utilizing Existing SR125 Bridge Over Clough Creek	Improves	Degrades	Minimal	\$400,000 to \$590,000	Property Takes	Moderate	Improves	Improves	Improves	No Further Study

At the initiation of the Feasibility Study several additional alternatives were conceptualized by the project team (ODOT, Anderson Township, and Stantec) to anticipate various concerns of project stakeholders with the preliminary alternatives developed in the *Conceptual Alternatives Implementation Plan*. These alternatives included:

- Alternative 1: A new alternative suggested by Anderson Township to eliminate the need to construct a new bridge over Clough Creek by constructing the shared-use path under the SR 125 bridge, providing direct access to the Skytop multi-use development. As part of the development at Skytop, a new “trailhead” will be installed by the developer along Skytop’s eastern driveway to connect the shared-use path to SR 125.
- Alternative 2: A new alternative developed by the project team to avoid a Metropolitan Sewer District of Greater Cincinnati (MSD) combined sewer overflow outlet location.
 - Alternatives 2A and 2B provide different options for crossing property held by UDF.
- Alternative 3: Same as A6 in the Conceptual Alternatives Implementation Plan
- Alternative 4: Same as A5 in the Conceptual Alternatives Implementation Plan
 - Alternatives 4A and 4B provide different options for crossing property held by UDF.

Figure C-1 in **Attachment C** identifies all concepts that were developed.

After the full list of alternatives was developed, six project stakeholder meetings were conducted between May 20, 2021 and July 12, 2021 to discuss the feasibility of each of the alternatives. ODOT, Anderson Township, and Stantec participated in each of the stakeholder meetings. The Hamilton County Engineer’s Office (HCEO) and UDF each participated in at least one of the meetings. Based on these meetings, it was decided that Alternatives 1, 3, and 4A would be fully developed and evaluated in the Feasibility Study.



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Additionally, Alternative 3 would be modified to include a dedicated shared-use path along the west side of Elstun Road from Alternative 3 to SR 125. Alternatives 2A and 2B were eliminated from further consideration based on right-of-way impacts and Alternative 4B was eliminated based on safety concerns of having the shared-use path too close to SR 125.

Ranchvale Connection (PID 115291), City of Cincinnati

At the initiation of the Feasibility Study, the project team (ODOT, City of Cincinnati, and Stantec) discussed two build alternatives for the Ranchvale Connection. These were:

- Alternative 1: Retain the existing bike lane on eastbound SR 125 and construct a shared-use path outside the existing curb line.
- Alternative 2: Eliminate the existing bike lane on eastbound SR 125 and replace the existing curb line closer to the centerline of SR 125 to reduce impacts of the shared-use path construction.

Figure C-2 in Attachment C displays both concepts that were developed.

The City of Cincinnati decided to develop Alternative 2 in this feasibility study. To improve safety of this alternative, it was modified to include a five-foot buffer between the roadway and the shared-use path throughout the length of the project.

4.0 KEY ISSUES

This section summarizes the technical studies and information that were considered as part of the evaluation and selection of a preferred alternative.

4.1 SAFETY ANALYSIS

4.1.1 No Build Alternative

Without construction of the proposed project, there would be no improvement in bicycle and pedestrian facilities between the LMST and Ranchvale Drive. After the construction of the SR 125 bridge widening project, the LMST will terminate in the northwest quadrant of the SR 32/SR 125 interchange. No bicycle or pedestrian facilities exist to connect the LMST to the residential and retail land uses along SR 125 between the SR 32 interchange and Elstun Road. East of Elstun Road, eastbound bicyclists on SR 125 have an on-street bicycle lane and westbound bicyclists share the outside lane of SR 125. There is a sidewalk on the north side of SR 125 connecting the Elstun Road intersection to the Ranchvale Drive intersection.

Five years of bicycle and pedestrian crash data were compiled from January 1, 2016 through December 31, 2020 using ODOT's GIS Crash Analysis Tool (GCAT). The area from the project terminus at the SR 32/SR 125 interchange to Ranchvale Drive was reviewed. No bicycle or pedestrian crashes were reported. Evaluating safety from a qualitative standpoint, bicycles and pedestrians must use the shoulder of the



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ramps and road to go between the LMST and the SR 125/Elstun Road intersection. This results in bicycles/pedestrians crossing or traveling next to vehicular traffic, creating conflicts with vehicular traffic and putting bicycles and pedestrians at greater risk compared to dedicated bicycle and pedestrian facilities which are physically separated from roadways. Requiring westbound bicycles to share the outside lane on SR 125 between Ranchvale Drive and Elstun Road also creates potential safety issues with bicycles and vehicles sharing the same space due to their significantly different speeds. This stretch of SR 125 has a high Average Daily Traffic, ranging between 23,183 and 42,182 daily trips, with a posted speed limit of 45 MPH, creating a dangerous environment for pedestrians and bicyclists. (Anderson Township, 2020)

4.1.2 Build Alternatives

Each of the Build Alternatives include the construction of a shared-use path which is physically separated from vehicular traffic. These alternatives provide a safer alternative for bicycles and pedestrians compared to travelling next to or as part of the vehicular traffic flow. The Build Alternatives evaluated for the Elstun Connection (PID 113602) include Alternatives 1, 3, and 4A, which are identified on **Figure C.3**. The only Build Alternative being evaluated for the Ranchvale Connection (PID 115291) is Alternative 2, which is shown on **Figure C.4**.

4.2 SHARED-USE PATH DESIGN ISSUES

This section discusses design issues which were important considerations in the evaluation of the shared-use path alternatives that were carried forward for evaluation in the Feasibility Study.

Elstun Connection (PID 113602)

Alternative 1: Of all the build alternatives for the Elstun Connection, Alternative 1 is anticipated to be the most difficult to construct. Though Alternative 1 does not require a new bridge over Clough Creek, it does require five retaining walls due to significant changes in grade and steep side slopes over the course of the alignment. As Alternative 1 rounds the SR 32 ramps towards SR 125, the existing embankment would need to be widened to accommodate the trail. The embankment would be extended by cutting benches into the existing embankment to stabilize the widened fill. A cast in place concrete retaining wall would be required at one location to support the trail and protect the slope from erosion by Clough Creek. A soil nail wall would be required in front of the west abutment of the SR 125 bridge over Clough Creek to fit the shared-use path between the west abutment and the west bridge pier. Immediately north of the SR 125 bridge the profile grade of the shared-use path increases to 5% for a length of 300 ft. In order to comply with American Disabilities Act (ADA) guidelines, which is required in order to receive federal funding, trails must not exceed a 5% slope (AASHTO, 2012)¹. Retaining walls would be required on both sides of the shared-use path along portions of this steep grade. A drilled shaft retaining wall on the north side would be necessary to

¹ There are some instances where slopes greater than 5% can be provided on trails depending on what the impacts would be to meet the 5%. However, these exceptions would be considered as a last resort option.



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prevent the shared-use path from undermining the existing Skytop detention basin, as the path is located several feet lower than the bottom elevation of the existing basin. A drilled shaft retaining wall would be required on the south side of the shared-use path to support the trail, minimize impacts to Clough Creek, and to protect the path from erosion. This wall would also eliminate the need for the existing concrete slope protection. Both the north and south walls would need to be detailed to accommodate the overflow from the detention basin. The existing retaining wall on the south side of the shared-use path would need to be modified to match the profile of the new path. The significant length of walls on this alternative could create personal security issues. ODOT's *Location & Design (L&D) Volume 1* states in Section 702.2.1 "It is not desirable to place the pathway in a narrow corridor between two fences for long distances, as this creates personal security issues, prevents users who need help from being seen, prevents path users from leaving the path in an emergency, and impedes emergency response." Horizontal curves and vertical grades would limit the stopping sight distance to a design speed of 16 mph near the SR 125 bridge over Clough Creek. The width of Alternative 1 is 12 ft from the beginning of the project to the SR 125 bridge at which point the width is reduced to 10 ft for the remaining length to Elstun Road.

Alternative 3: As Alternative 3 rounds the SR 32 ramps towards SR 125, the existing embankment would need to be widened to accommodate the trail. The embankment would be extended by cutting benches into the existing embankment to stabilize the widened fill. This alternative requires the construction of a new bridge over Clough Creek. The length of the bridge would be determined by beginning the fill embankment at the limits of the 100-year floodway and extending 2:1 slopes up to the abutments. The profile of the bridge would be set such that the bridge superstructure would clear the 100-year flood elevation. Based on these concepts, this bridge would likely be a three-span bridge that is approximately 210 ft long. Curves in the trail alignment would fall on each end of the structure and preclude the use of a single span pre-fabricated bridge. Approximately 150 ft, of the shared-use path on the west side of the proposed bridge would have a maximum grade of 5%. As noted with Alternative 1, 5% is the maximum allowable slope to meet ADA guidelines.

Alternative 4A: This alternative also requires the construction of a new bridge over Clough Creek. The length of the bridge would be determined by beginning the fill embankment at the limits of the 100-year floodway and extending 2:1 slopes up to the abutments. The profile of the bridge would be set such that the bridge superstructure would clear the 100-year flood elevation. Based on these concepts, this bridge would likely be a three-span bridge that is approximately 150 ft long. A single-span pre-fabricated bridge was considered, but was determined to be more expensive than a conventional three-span bridge. To minimize private property impacts to UDF property, two horizontal curves with a design speed of 13 mph would be constructed to wrap around UDF's proposed fueling station redevelopment. This design speed would be lower than either of the other two build alternatives being considered. Since the proposed shared-use path would likely be constructed before both the fueling station redevelopment and any other developments on UDF property, additional coordination with UDF would be required to determine the appropriate elevation of the shared-use path on UDF property to minimize temporary and permanent grading impacts.



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Ranchvale Connection (PID 115291)

Alternative 2: There are no significant design issues with the shared-use path designed for Alternative 2. A 100' long drilled shaft retaining wall would be required to prevent significant grading and property impacts near the west end of the project. Although the grade of the shared-use path would exceed 5%, this would be allowed as an exception to the ADA because the alignment is adjacent to a roadway, which also exceeds 5%, and is not in independent right-of-way (2021, ODOT).

4.3 MAINTENANCE OF TRAFFIC (MOT)

4.3.1 No Build Alternative

There would be no MOT impacts under the No Build Alternative.

4.3.2 Build Alternatives

It is not anticipated that maintenance of traffic (MOT), would be a differentiator between the various build alternatives for the Elstun connections. It is anticipated that all of the build alternatives for the Elstun Connection and Alternative 2 for the Ranchvale Connection could be constructed with minimal MOT impacts. It is anticipated that single lane closures on SR 125 and/or Elstun Road would be required for all alternatives except for Alternative 1 of the Elstun Connection. It is not anticipated that any road or ramp closures would be required for any of the build alternatives.

4.4 RIGHT-OF-WAY REQUIREMENTS

4.4.1 No Build Alternative

There would be no right-of-way impacts under the No Build Alternative.

4.4.2 Build Alternatives

Elstun Connection (PID 113602)

While the exact amount of right-of-way required for each build alternative has not been determined at this time, estimations of new permanent and/or temporary right-of-way for the build alternatives have been determined as follows:

Alternative 1: Approximately 0.7 acre of new permanent right-of-way would be required from the Skytop property.

Alternative 3: Approximately 0.5 acre of new permanent and/or temporary right-of-way would be required from the UDF property.



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Alternative 4A: Approximately 1.3 acres of new permanent and/or temporary right-of-way would be required from the UDF property.

Ranchvale Connection (PID 115291)

Alternative 2: While the exact amount of right-of-way required for the build alternative has not been determined at this time, it is anticipated that some new permanent and/or temporary right-of-way would be required from approximately 3 parcels.

4.5 UTILITY ISSUES

Preliminary utility coordination has been conducted as a part of this Feasibility Study. This coordination has included: placing a design request with OHIO811, reaching out to the Metropolitan Sewer District of Greater Cincinnati (MSD) for combined sewer overflow facility information, and creating a utility basemap to locate known utilities and evaluate impacts to known utilities. Based on utility coordination through OHIO811, Duke Energy has aerial electric lines and underground gas lines in the project area. There are also aerial communication lines in the project area owned by Cincinnati Bell and Charter Communications. Greater Cincinnati Water Works owns water distribution lines in the area. MSD owns sanitary and combined sewer facilities in the project area. The Cincinnati Stormwater Management Utility owns storm sewers in the project area. ODOT owns storm sewers along with underground and overhead traffic signal equipment in the project area and HCEO owns storm sewers along Elstun Road. Further coordination with the utility providers will occur throughout project development.

4.5.1 No Build Alternative

There would be no impacts to utilities as a result of the No Build Alternative.

4.5.2 Build Alternatives

Elstun Connection (PID 113602)

Alternatives 1, 3, & 4A: Embankment would be necessary to construct the shared-use path around the SR 32/ SR 125 interchange ramp which would add fill to the existing electric transmission poles located within this area. It is anticipated that these poles may need to be replaced along with approximately 600 ft of electric transmission lines. It is anticipated that this relocation work would be a reimbursable project expense since the poles are in an independent right-of-way.

Alternatives 1 & 4A: Several MSD manholes and appurtenances associated with the combined sewer overflow (CSO) 476, near the SR 125 bridge over Clough Creek, would need to be adjusted to grade. It is not anticipated that either of these alternatives would require relocation or modification of the CSO.



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Ranchvale Connection (PID 115291)

Alternative 2: The alternative would relocate the existing eastbound curb line towards the centerline of SR 125, requiring that several storm sewer catch basins and manholes along the length of the alternative be replaced. It is not anticipated that there would be any additional utility impacts with this alternative. Electric, communication, gas, and water utilities are located on the north side of SR 125 in this area and would not be impacted.

4.6 ENVIRONMENTAL ANALYSIS

The following is a summary of the environmental resources within the project area and the anticipated involvement with those resources with the implementation of the alternatives for the Elstun Connection segment (PID 113602) and the Ranchvale Connection segment (PID 115291). Information for environmental features in the study area was obtained from secondary sources as well as a field survey of the project area conducted by Stantec, which is documented in the Environmental Resources Technical Memorandum (See **Attachment E**). Environmental maps and other information referenced in this section are included in **Attachment D**.

4.6.1 No Build Alternatives

There would be no impacts to ecological features (rivers, streams, wetlands, and habitat), Section 4(f)/6(f) resources, cultural resources, regulated materials, or underserved populations as a result of the No Build Alternative.

4.6.2 Build Alternatives

The potential impacts of each Build Alternative are described below by resource category.

Rivers, Streams, and Wetlands: The proposed project is located within the Clough Creek-Little Miami River watershed (HUC-12 050902021406) and within an Ohio Environmental Protection Agency (OEPA) Nationwide Permit “Possibly Eligible” area. The project area contains seven (7) potentially jurisdictional streams – Stream 1 (Clough Creek), Stream 2, Stream 3, Stream 4, Stream 5, Stream 6, and Stream 7 (See **Attachment D.1**). In addition, eight (8) wetlands were delineated within the project area – Wetland A (forested), Wetland B (forested), Wetland C (emergent), Wetland D (emergent), Wetland E (emergent), Wetland F (emergent), Wetland G (emergent), and Wetland H (scrub-shrub). Wetlands D, F, and G are potentially isolated. Based on National Wetland Inventory mapping, Stream 1 (Clough Creek) is a riverine habitat classified as a R2UBH wetland (See **Attachment D.2**). Clough Creek is also designated by OEPA as a warmwater habitat (WWH). The project area in total contains 4,220 linear feet (lf) of streams and 1.016 acres (ac) of wetlands (0.87 ac forested, 0.002 ac scrub-shrub, 0.144 ac emergent). Additional information regarding the ecological features in the study area and photographs of these features are provided in the Ecological Resources Technical Memorandum included in **Attachment E**. The potential impacts under each alternative are described below:



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Elstun Connection (PID 113602)

Alternative 1: The construction limits for Alternative 1 are expected to impact approximately 301 lf of streams (288 lf of Stream 1 and 13 lf of Stream 2) and 0.014 ac of wetlands (0.01 ac of Wetland D and 0.004 ac of Wetland E).

Alternative 3: The construction limits for Alternative 3 are expected to impact approximately 273 lf of streams (66 lf of Stream 1, 83 lf of Stream 2, 28 lf of Stream 3, 75 lf of Stream 4, and 21 lf of Stream 5) and 0.398 ac of wetlands (0.004 ac of Wetland A, 0.37 ac of Wetland B, and 0.024 ac of Wetland C).

Alternative 4A: The construction limits for Alternative 4A are expected to impact approximately 75 lf of streams (62 lf of Stream 1 and 13 lf of Stream 2) and 0.021 ac of wetlands (0.011 ac of Wetland D and 0.01 ac of Wetland F).

Ranchvale Connection (PID 115291)

Alternative 2: The construction limits for Alternative 2 are expected to impact approximately 329 lf of Stream 6. There would be no wetlands impacts.

Floodplain: The western portion of the project area falls within the 100-year floodplain of Clough Creek. (See **Attachment D.3**). A limited hydraulic analysis has been performed to ensure structures designed with this project will be located out of the floodway for Clough Creek. A detailed hydraulic study will be performed during final design of the preferred alternative to determine floodplain impacts. Within the project area the base flood elevation is controlled by backwater from the Ohio River and it is not anticipated that the construction of this project will have any adverse effects on floodplain elevations. The potential floodplain impacts of each alternative are described in terms of acres of encroachment to the 100-year floodplain as described below.

Elstun Connection (PID 113602)

Alternative 1: This alternative would result in an expected 2.53 ac of encroachment of the 100-year floodplain of Clough Creek and an additional 0.18 acre of encroachment to the 100-year floodway of Clough Creek.

Alternative 3: There is an expected 2.41 ac of encroachment of the 100-year floodplain of Clough Creek and an additional 0.215 acre of encroachment to the 100-year floodway of Clough Creek under this alternative.

Alternative 4A: There is an expected 3.1 ac of encroachment of the 100-year floodplain of Clough Creek and an additional 0.32 acre of encroachment to the 100-year floodway of Clough Creek under this alternative.

Ranchvale Connection (PID 115291)

Alternative 2: Alternative 2 is not expected to impact the 100-year floodplain of Clough Creek.



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Threatened and Endangered Species: The project is located within Hamilton County, Ohio. Hamilton County is within the known habitat ranges of the Indiana bat and northern long-eared bat, running buffalo clover, the bald eagle, and fanshell, rayed bean, sheepsnose, snuffbox, and pink mucket pearly mussels. Suitable habitat for running buffalo clover and the federally listed mussel species was found within the project area. There is approximately 7.25 acres of suitable wooded habitat (SWH) for the federal endangered Indiana bat (*Myotis sodalis*) and federal threatened northern long-eared bat (*Myotis septentrionalis*), in the form of scrubby Upland Forest (UF), Floodplain Forest (FF) adjacent to Clough Creek, and Forested Wetland (FW), located within the project survey area (See **Attachment D.4**). Approximately 4.65 acres of SWH occurs within 100 feet of existing edge of pavement, encompassing habitat from all three types mentioned above. No records of Indiana bat or northern long-eared bat captures or hibernacula were found within a 1-mile radius of the project area and a field survey found no potential maternity roost trees beyond 100 feet of existing edge of pavement or suitable winter habitat within the project area. While running buffalo clover had been found adjacent to the project area (See **Attachment D.4**), a field survey found no individuals or populations within the project area. No bald eagle nests were observed within the project area. A mussel reconnaissance survey found no evidence of mussels within the project area (no living or freshly dead shells).

A species records check found four state-listed species within a 1-mile buffer of the project area: loggerhead shrike (*Lanius ludovicianus*), mountain madtom (*Noturus eleutherus*), blue sucker (*Cycleptus elongatus*), and wartyback (*Cyclonaias nodulata*) (See **Attachment D.4**). Suitable habitat for the loggerhead shrike (in semi-open scrub/shrub habitat) and the mountain madtom (Stream 1) is found within the project area. There is no suitable habitat for the blue sucker and wartyback within the project area. Additional information regarding potential impacts to threatened and endangered species is included in the Tech Memo included in **Attachment E**. The potential impacts under each alternative are described below:

Elstun Connection (PID 113602)

Alternative 1: The construction limits for Alternative 1 are expected to impact approximately 0.21 ac of suitable wooded habitat as well as suitable habitat for the loggerhead shrike and limited suitable habitat for the mountain madtom.

Alternative 3: The construction limits for Alternative 3 are expected to impact approximately 1.0 ac of suitable wooded habitat as well as suitable habitat for the loggerhead shrike and the mountain madtom.

Alternative 4A: The construction limits for Alternative 4A are expected to impact approximately 1.45 ac of suitable wooded habitat as well as suitable habitat for the loggerhead shrike and the mountain madtom.

Ranchvale Connection (PID 115291)

Alternative 2: The construction limits for Alternative 2 are expected to impact approximately 0.37 ac of suitable wooded habitat as well as limited suitable habitat for the loggerhead shrike.

Cultural Resources: A Section 106 Scoping Request Form was completed for this Feasibility Study. Based on a review of the State Historic Preservation Office's online mapping, the western portion of the project



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area is located within the Clough Creek and Sand Ridge Archaeological District, which is listed on the National Register of Historic Places (NRHP). No other cultural resources were found within the project area (See **Attachment D.5**). The potential impacts under each alternative are described below:

Elstun Connection (PID 113602)

Alternative 1: The construction limits for Alternative 1 fall within the boundary of the Clough Creek and Sand Ridge Archaeological District.

Alternative 3: The construction limits for Alternative 3 fall within the boundary of the Clough Creek and Sand Ridge Archaeological District.

Alternative 4A: The construction limits for Alternative 4A fall within the boundary of the Clough Creek and Sand Ridge Archaeological District.

Ranchvale Connection (PID 115291)

Alternative 2: The construction limits for Alternative 2 are not expected to impact any cultural resources.

Section 4(f)/6(f): Section 4(f)/6(f) properties include publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites. The only Section 4(f) property within the study area is the LMST, which is located at the western terminus of the study area. There are no Section 6(f) properties in the project area. The potential 4(f) impacts are described below:

Elstun Connection (PID 113602)

Each of the Build Alternatives of the Elstun Connection (PID 113602) would connect to the LMST at the SR 125/SR 32 interchange where a shared-use path is being constructed on the SR 125 bridge over the Little Miami River to connect to the Lunken Trail and subsequently the Ohio River Trail. Section 4(f) coordination would be required for this project.

Ranchvale Connection (PID 115291)

There are no Section 4(f)/6(f) properties (publicly owned parks, recreational areas, wildlife and waterfowl refuges, or public and private historical sites) that would be impacted by the Ranchvale Connection (PID 115291).

Air and Noise Quality: There would be no adverse air and noise quality impacts associated with this project. The project would have an overall positive impact on air and noise quality as a result of individuals biking and walking instead of driving. Overall emissions would decrease and traffic noise would be reduced.

Drinking Water Resources: The Elstun Connection (PID 113602) project is partially located within the boundaries of a designated sole source aquifer and a water well is located within the Elstun Connection project area (See **Attachment D.6**). The proximity of the project to a sole source aquifer would require a plan note to be included in the project's construction plans in accordance with ODOT's *Standard Operating*



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Procedure for Drinking Water Resources. The plan note would include an environmental commitment to ensure that contractors employ basic protective measures, such as avoiding refueling and maintenance activities in environmentally sensitive areas to minimize the potential for contamination (ODOT, 2005).

The Ranchvale Connection is not located within the boundaries of the sole source aquifer so there would be no impacts to drinking water resources from this project.

Farmland: The project is located entirely within an urbanized area and would not require coordination under the Farmland Protection Policy Act (See **Attachment D.7**).

Regulated Materials: A Regulated Materials Review (RMR) Screening was conducted as part of the Feasibility Study. Based on this screening, there are a total of 36 regulated material (RM) sites within the project area as mapped by the Ohio Regulated Properties Search (ORPS) Tool (See **Attachment D.8**). These include two Resource Conservation and Recovery Act (RCRA) sites, 27 underground storage tank (UST) locations, 6 leaking underground storage tank (LUST) locations, and one spill site. Based on coordination of the RMR with ODOT, there would be no additional regulated materials investigations required for this project unless additional right-of-way and/or deep excavation is required (ODOT, 2021a).

Underserved Populations: U.S. Census data provided on ODOT's TIMS mapping and USEPA EJSCREENER was used to identify underserved populations in the project area. This data is summarized in **Table 2**. The proposed project would not result in residential or business displacements and there would be no adverse impacts to underserved populations as a result of the proposed project (See **Attachment D.9-D.11**). The project would provide benefits for low-income and elderly residents by providing pedestrian and bicycle access to the Mt. Washington Business District, the LMST and other regional trails, as well as other recreational amenities accessed by the LMST including Stanberry Park, the Otto Armleder Park, Lunken Airport Playfield and Recplex, Clear Creek Park and Soccer Complex, Robert Short Park, and the Main Street Business District in the Village of Newtown (Anderson Township, 2020)



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Table 2: Percent Underserved Population HAM-LMST Extension to Ranchvale Project Area					
	Minority	Low-Income	Limited English Proficiency	Elderly	Disabled
<i>Hamilton County</i>	34.5	32.5	1.4	14.7	12.4
<i>Block Group 390610046042</i>	30.5	17.6	0.0	7.5	13.8
<i>Block Group 390610046051</i>	29.3	27.6	1.7	10.2	10.5

Source: ODOT Transportation Information Mapping System (TIMS) and US Environmental Protection Agency (USEPA) EJSCREENER, accessed June 30, 2021.

Public Involvement: As discussed in Section 1.1, Project History, the need for improvements to pedestrian and bicycle connectivity between the LMST and Ranchvale Drive was identified in the *Eastern Corridor Segments II and III (PID 86462) Transportation Needs Analysis*, which was prepared in July 2017. This study was followed by the *Conceptual Alternatives Implementation Plan for Eastern Corridor Segments II and III (PID 86462)*, prepared in 2019, which identified the proposed pedestrian improvements along Elstun Road and the proposed shared-use path between the SR 125 walk at Elstun to the Little Miami Scenic Trail as four of 68 projects that should be prioritized for implementation. The public involvement process for each of these studies is detailed in the reports cited above and summarized briefly as follows.

Transportation Needs Analysis: During the Needs Analysis study, stakeholder input was gathered through an Eastern Corridor Development Team (ECDT) meeting, which included Eastern Corridor Partners, community representatives, and leadership of the Eastern Corridor communities, business associations, and other stakeholder groups that have an interest in the Eastern Corridor Program. In addition, a series of Focus Area Workshops were held for smaller geographic areas within the Eastern Corridor area to gather public input regarding community values and priorities and the transportation needs of the focus areas. To reach all residents within the Eastern Corridor area, an online interactive survey was conducted which solicited information from residents and commuters about transportation issues in Segments II and III of the Eastern Corridor. ODOT also held a Public Open House to update the public on the Eastern Corridor Segments II and III Transportation Needs Analysis Study and provide an opportunity for the public to provide comments on the needs identified for the six focus areas.



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Conceptual Alternatives Implementation Plan: As part of the development of the Implementation Plan, Advisory Committees were established for the six Focus Areas within Segments II and III. These committees included elected officials, transportation planning professionals, and community and interest group representatives, including representatives of the Sierra Club, Tri-State Trails/Green Umbrella, and the Ohio-Kentucky-Indiana (OKI) Regional Council of Governments. Each Focus Group held four meetings with ODOT over the course of the study to further refine transportation needs in the Focus Areas and assist with developing solution concepts. Two Public Open House Meetings also were held throughout the development and refinement of the transportation concepts to ensure that the public had an opportunity to provide input at key decision points.

HAM-LMST Ext. to Ranchvale Feasibility Study: As part of the Feasibility Study, the study team held several meetings with stakeholders to discuss possible shared-use path alignments between LMST and Elstun. A Virtual Public Open House was held in September-October 2021 to provide the public with the opportunity to comment on the alternative alignments for both the Elstun Connection (PID 113602) and Ranchvale Connection (PID 115291). Comments received from the public are included in a Virtual Public Open House Summary Report (**Attachment F**). Public sentiment about the proposed alternatives was an important component in the selection of the Preferred Alternative.

4.7 COST ESTIMATE

A preliminary construction cost estimate for each Build Alternative has been developed as a part of this study. The preliminary cost estimates are provided in **Attachment G**. More detailed construction costs will be developed during development of the Preferred Alternative.

5.0 COMPARISON OF ALTERNATIVES

Detailed evaluation matrices, which summarize purpose and need, environmental, engineering, traffic, and public input evaluation criteria for the Elstun Connection (PID 113602) and Ranchvale Connection (PID 115291) alternatives are provided as **Tables 3 and 4**.



Table 3: Evaluation Matrix Elstun Connection				
Feature/Consideration	Preliminary Alternatives			
	No Build Alternative	Alternative 1	Alternative 3	Alternative 4A
Purpose and Need				
Improve pedestrian and bicycle connectivity along SR 125 between the Little Miami Scenic Trail and Ranchvale Dr.	No	Yes	Yes	Yes
Cultural Resources				
NRHP-Listed Sites	No impact	Expected impact to Clough Creek and Sand Ridge Archaeological District	Expected impact to Clough Creek and Sand Ridge Archaeological District	Expected impact to Clough Creek and Sand Ridge Archaeological District
Section 4(f)/6(f) Sites	No impact	Minimal impact	Minimal impact	Minimal impact
Ecological Resources				
Streams	No impact	Expected impact of 301 lf to potentially jurisdictional streams	Expected impact of 273 lf to potentially jurisdictional streams	Expected impact of 75 lf to potentially jurisdictional streams
Wetlands	No impact	Expected impact of 0.011 acre to Wetland D (potentially isolated) and 0.004 acre to Wetland E	Expected impact of 0.374 acre to Wetland A and Wetland B (Palustrine Forested) and 0.024 acre to Wetland C (potentially isolated)	Expected impact of 0.011 acre to Wetland D (potentially isolated) and 0.01 acre to Wetland F (potentially isolated)
Jurisdictional Ditches	No impact	None	None	None
Threatened & Endangered Species	No impact.	Potential bat habitat	Potential bat habitat	Potential bat habitat
100-Year Floodplain				
100-Year Floodplain Encroachment	No impact	Expected 2.53 acres encroachment	Expected 2.41 acres encroachment	Expected 3.1 acres encroachment
100-Year Floodway Encroachment	No impact	Expected 0.18 acre encroachment	Expected 0.215 acre encroachment	Expected 0.32 acre encroachment
Frequency of Flooding on Shared-Use Path	N/A	Flooding on the proposed trail is largely controlled by backwater flooding from the Ohio River. A 3 year recurrence backwater elevation from the Ohio River will overtop the proposed Trail. The trail will flood at the same time the LMST floods.	Flooding on the proposed trail is largely controlled by backwater flooding from the Ohio River. A 3 year recurrence backwater elevation from the Ohio River will overtop the proposed Trail. The trail will flood at the same time the LMST floods.	Flooding on the proposed trail is largely controlled by backwater flooding from the Ohio River. A 3 year recurrence backwater elevation from the Ohio River will overtop the proposed Trail. The trail will flood at the same time the LMST floods.
Hazardous Materials				
Regulated Materials Review	No impact	No impact	No impact	No impact
Drinking Water Resources				
Sole-Source Aquifer	No impact	No impact and minimal encroachment	No impact and minimal encroachment	No impact and minimal encroachment
Source Water Protection Area	No impact	No impact	No impact	No impact
Air Quality and Noise				
Air Quality	No impact	Slight Improvement in Air Quality due to Reduced Emissions	Slight Improvement in Air Quality due to Reduced Emissions	Slight Improvement in Air Quality due to Reduced Emissions
Noise	No impact	No Impact to Slight Improvement due to Reduced Traffic	No Impact to Slight Improvement due to Reduced Traffic	No Impact to Slight Improvement due to Reduced Traffic
Community and Land Use				
Relocations	None	None	None	None
Right-of-Way	No impact	0.7 acres of new permanent and/or temporary ROW required from 1 owner.	0.5 acres of new permanent and/or temporary ROW required from 1 owner.	1.3 acres of new permanent and/or temporary ROW required from 1 owner.
Traditionally Underserved Populations (TUP)	No impact	Improves Bike/Pedestrian Connectivity for Low Income/Elderly Residents	Improves Bike/Pedestrian Connectivity for Low Income/Elderly Residents	Improves Bike/Pedestrian Connectivity for Low Income/Elderly Residents

Table 3: Evaluation Matrix Elstun Connection				
Feature/Consideration	Preliminary Alternatives			
	No Build Alternative	Alternative 1	Alternative 3	Alternative 4A
Engineering Considerations				
Length of Shared Use Path	N/A	2400'	2400'	2400'
Width of Shared Used Path	N/A	10' and 12'	12'	12'
Design Speed	N/A	16 mph	20 mph	13 mph
Safety Analysis	Bicycle and pedestrians must use the shoulder of the ramps and road to go between the Little Miami Scenic Trail and the Beechmont/Elstun intersection. This results in bicycle/pedestrians crossing or traveling next to vehicular traffic.	Two bicycle/pedestrian conflicts with vehicular traffic. The alignment is separated from the roadway, but has a mid-block crossing on the Skytop Shopping Center Driveway. The mid-block crossing crosses a low volume, low speed roadway. The second crossing is at the signalized intersection of SR 125 and Elstun Rd.	One bicycle/pedestrian conflict with vehicular traffic at the signalized intersection of SR 125 and Elstun Road. The entire alignment is separated from the roadway.	One bicycle/pedestrian conflict with vehicular traffic at signalized intersection at the intersection of SR 125 and Elstun Road. The entire alignment is separated from the roadway.
Roadway Design Issues	The existing roadway has deficient pedestrian facilities.	Maximum grade of 5% for 300'. Path is in a narrow corridor between retaining walls and steep slopes for a length of 600'. This can create personal security issues. Limited stopping sight distance near the SR 125 bridge has lowered the design speed to 16 mph.	Maximum grade of 5% for 150'	Tight curves have been designed to minimize private property impacts. The design speed is listed as 13 mph as a result of these tight curves.
Structural Design Issues	Existing concrete bank stabilization is deteriorating along Clough Creek just north of SR 125	Requires 5 separate retaining walls. The total length of retaining walls is 650'	Requires a 210', 3 span bridge over Clough Creek	Requires a 150', 3 span bridge over Clough Creek. Requires 50' long retaining wall
Utility Relocations and/or Issues	No impact	Some electric line relocations may be required	Some electric line relocations may be required	Some electric line relocations may be required
Preliminary Cost Estimates				
Preliminary Construction Costs ₁	\$0.00	\$3,047,882.98	\$1,646,624.36	\$2,019,045.53
Preliminary Right-of-Way Costs	\$0.00	\$164,000.00	\$102,000.00	\$281,000.00
Total Costs	\$0.00	\$3,211,882.98	\$1,748,624.36	\$2,300,045.53
Conclusion				
Recommended as Preferred Alternative?	No	No	Yes	No

Table 4: Evaluation Matrix Ranchvale Connection		
Feature/Consideration	Preliminary Alternatives	
	No Build Alternative	Alternative 2
Purpose and Need		
Improve pedestrian and bicycle connectivity along SR 125 between the Little Miami Scenic Trail and Ranchvale Dr.	No	Yes
Cultural Resources		
NRHP-Listed Sites	No impact	No impact or minimal impact
Section 4(f)/6(f) Sites	No impact	No impact or minimal impact
Ecological Resources		
Streams	No impact	Expected impact of 329 feet to potentially jurisdictional streams
Wetlands	No impact	No impact or minimal impact
Jurisdictional Ditches	No impact	No impact or minimal impact
Threatened & Endangered Species	No impact	Potential bat habitat
100-Year Floodplain		
100-Year Floodplain Encroachment	No impact	No impact or minimal impact
100-Year Floodway Encroachment	No impact	No impact or minimal impact
Frequency of Flooding on Shared-Use Path	N/A	N/A
Hazardous Materials		
Regulated Materials Review	No impact	No impact
Drinking Water Resources		
Sole-Source Aquifer	No impact	No impact
Source Water Protection Area	No impact	No impact
Air Quality and Noise		
Air Quality	No impact	Slight Improvement in Air Quality due to Reduced Emissions
Traffic Noise	No impact	Slight Improvement in Traffic Noise due to Reduced Autos
Community and Land Use		
Relocations	None	None
Right-of-Way	No impact	New permanent and/or temporary ROW required from 3 parcels
Traditionally Underserved Populations (TUP)	No impact	Improves Bike/Pedestrian Connectivity
Engineering Considerations		
Length of Shared Use Path	N/A	1400'
Width of Shared Use Path	N/A	12'
Safety Analysis	Eastbound bicyclists have an on-street bicycle lane and westbound bicyclists share the outside lane of SR 125. This results in bicycles traveling next to or as part of vehicular traffic. Pedestrians must cross SR 125 at the signalized Elstun Road and Ranchvale Drive intersections to use the sidewalk on the north side of SR 125 or walk in the bicycle lane/grass on the south side of SR 125 to avoid crossing SR 125.	No bicycle/pedestrian conflicts with vehicular traffic. The shared use path is separated from the roadway.
Roadway Design Issues	No roadway design issues	No roadway design issues
Structural Design Issues	No structural deficiency issues	Requires 100' drilled shaft retaining wall
Utilities	No impact	No impact or minimal impact

Table 4: Evaluation Matrix Ranchvale Connection		
Feature/Consideration	Preliminary Alternatives	
	No Build Alternative	Alternative 2
Preliminary Cost Estimates		
Preliminary Construction Costs ₁	\$0.00	\$552,232.06
Preliminary Right-of-Way Costs	\$0.00	\$34,100.00
Total Cost	\$0.00	\$586,332.06
Conclusion		
Recommended as Preferred Alternative?	No	Yes

1) Inflation contingency is based on construction during 2024/2025

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6.0 PREFERRED ALTERNATIVE/NEXT STEPS

6.1 ELSTUN CONNECTION (PID 113602)

Alternative B was selected as the Preferred Alternative for the Elstun Connection (PID 113602) by Anderson Township based on the results of engineering and environmental studies contained herein, as well as the public comments received at the Public Open House. ODOT will continue to work with Anderson Township to identify funding, complete the design of the preferred alternative, and construct the project.

6.2 RANCHVALE CONNECTION (PID 115291)

Alternative 2, the build alternative, was selected as the Preferred Alternative for the Ranchvale Connection (PID 115291) by the City of Cincinnati. This decision was based on the results of the engineering and environmental studies contained herein, as well as the public comments received at the Public Open House. Currently, the City of Cincinnati does not have funding to advance this project. When the City decides to move forward with this project and secures construction funding, the preferred alternative can be advanced into final design.



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7.0 REFERENCES

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