

APPENDIX A

A.2 ANCOR/SR 32 HILL FOCUS AREA

EASTERN CORRIDOR SEGMENTS II AND III (PID 86462)
ANCOR/SR 32 HILL FOCUS AREA
ADVISORY COMMITTEE MEETING NOTES

Meeting Dates

February 15, 2018
May 16, 2018
September 5, 2018
December 10, 2018



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Meeting Overview Notes



EASTERN CORRIDOR SEGMENTS II AND III (PID 86462) ANCOR/SR 32 HILL FOCUS AREA ADVISORY COMMITTEE MEETING NOTES



EASTERN CORRIDOR SEGMENTS II AND III (PID 86462)
ANCOR/SR 32 HILL FOCUS AREA
ADVISORY COMMITTEE MEETING #1
ANDERSON CENTER • FEB. 15, 2018
9:30 a.m. – 11:30 a.m.

Last summer, the Ohio Department of Transportation (ODOT) completed a Transportation Needs Analysis for Segments II and III of the Eastern Corridor. Developed in coordination with local communities and interest groups, the analysis identified and prioritized transportation issues that need to be addressed throughout the Segments II and III study area. During the next phase of planning, ODOT will use information from the analysis to develop recommended solutions for the Primary Needs identified in the report. Secondary Needs will be addressed as opportunity and funding allow.

To help guide its planning efforts, ODOT has formed Advisory Committees based on Segments II and III's six focus areas (see the attached Focus Area map). Each focus area has its own Advisory Committee, with the exception of the Linwood/Eastern Interchange and US 50 Red Bank Focus Areas, which are represented by one committee. Advisory Committee members include elected officials, transportation planning professionals, and community and interest group representatives. Committee members will assist with identifying, evaluating, and prioritizing recommended solutions for transportation needs within their assigned Focus Area(s), as well as developing strategies for implementation.

Advisory Committees will convene for four work sessions throughout this process. Recommendations from the Advisory Committee meetings will be presented at a public meeting to be held later this year at which time the general public will have an opportunity to review and provide input on the recommendations before they are finalized.

The meeting held on Thursday, Feb. 15, 2018 was the first meeting of the ANCOR/SR 32 Hill Focus Area Advisory Committee.

MEETING NOTES

MEETING OBJECTIVES

The objectives for this Advisory Committee meeting were to:

- Review transportation needs identified for the ANCOR/SR 32 Hill Focus Area [as presented in the [Eastern Corridor Segments II and III Transportation Needs Analysis Final Report \(July 2017\)](#)]
- Identify evaluation criteria
- Brainstorm preliminary concepts/solutions to be explored

WELCOME AND INTRODUCTIONS

Tom Arnold, ODOT project manager for Eastern Corridor Segments II and III, opened the Advisory Committee meeting by welcoming participants and thanking them for their participation. He outlined the structure of the meeting and emphasized that these meetings are intended to be collaborative working sessions. Advisory Committee members should feel comfortable asking questions or commenting at any point during the presentation or workshop portion of the meeting. Additional questions may be submitted to ODOT by email following the meeting. Mr. Arnold then invited participants to introduce

themselves and the organizations they represented. A list of meeting participants is provided with these notes.

PRESENTATION SUMMARY

Using a PowerPoint presentation, Mr. Arnold provided a brief overview of the Eastern Corridor Program and its component projects, as well as the evolution of Eastern Corridor Segments II and III. He reviewed tasks that were recently completed and used to develop the [Eastern Corridor Segments II and III Transportation Needs Analysis report](#). He then reviewed the role of the Advisory Committees prior to discussing how roadway management responsibilities are coordinated between ODOT and local jurisdictions. Mr. Arnold also provided an overview of ODOT's Project Development Process (noting that Segments II and III are currently in the planning phase), reviewed capital projects already being planned within the Segments II and III study area and briefly discussed possible funding avenues. Key points from Mr. Arnold's presentation included:

- The Eastern Corridor is not just a single project. Instead, it is a program of many projects and investments in our regional transportation network that are in various stages of completion. Much work has already been completed in Eastern Corridor Segments IV and IVa (Eastgate to Batavia) and the new Duck Creek Connector, a component of Segment I (Red Bank Corridor), opened in late 2017.
- Previously, ODOT evaluated the proposed realignment of SR 32 through Segments II and III (Red Bank Corridor to I-275/SR 32). ODOT determined that this option is not feasible due to potentially significant environmental impacts and construction costs. Instead, the project has changed course to focus on making improvements to the existing roadway network.
- Transportation needs in Segments II and III were identified based on the results of updated technical studies and comprehensive public outreach efforts. Public input was gathered through six focus area workshops (approximately 100 participants), a regional online survey (approximately 1,200 responses), a public meeting (approximately 100 attendees) and comments submitted online. At the same time, technical data – including traffic counts, an analysis of travel times and travel patterns, roadway geometry analyses and crash data – were revisited and updated.
- The role of the Advisory Committees is to guide the development, evaluation and refinement of recommended solutions to address Primary Transportation Needs that have been identified within Segments II and III. Committee members are to represent their communities/organizations, share information with them and bring their concerns back to the planning table. The Committees' role is not to make decisions; their involvement is one part of a process that also will require looking at integration into the broader transportation system and impacts, coordinating with local governments and Native American tribal communities, and seeking further public input. Rather, the Committee's role is to help guide the process, represent local interests and provide recommendations regarding which concepts should be advanced through the solution development process.
- Ohio is a "home rule" state. This means that ODOT maintains interstates and U.S. routes outside of municipalities. Individual municipalities themselves are responsible for local routes and designated U.S. and state routes. ODOT values its relationships with local agencies and partners with them on the development and implementation of transportation projects. Because many of

the roads within Segments II and III are under local jurisdiction, funding for such projects will likely come from a variety of local and regional sources, supplemented by state and federal funds.

- Every potential project involving federal monies must go through the ODOT Project Development Process, which consists of five phases: planning, preliminary engineering, environmental engineering, final engineering and construction. The speed at which projects move through this process depends on their complexity. A simple project may move through the process in a year or two; projects that require right-of-way acquisition may take between three and five years; complex projects, such as highway interchanges, often take between five and seven years. We are currently in the planning phase for transportation improvements in Eastern Corridor Segments II and III.
- Currently, funding exists just for the early stages of project development. Ninety percent of ODOT's funding goes toward taking care of the current network of roadways and bridges. ODOT also has funding for projects that improve safety and ensure safe routes to schools. TRAC funding is available for larger projects (generally \$12 million or more). Most projects require multiple funding sources. We are fortunate to have OKI (Ohio-Kentucky-Indiana Regional Council of Governments) in our region to serve as a conduit for federal transportation funds. OKI is responsible for approving every project needing federal transportation dollars in our area. Transportation funding is highly competitive, and decisions are typically data-based to ensure the best of the best projects rise to the top.
- ODOT District 8 operates according to a six-year work plan that is updated annually. Most of these projects involve roadway resurfacing and minor bridge rehabilitation. There are a number of capital projects within this focus area that already have been approved and funded, including:
 - 2018 – Intersection improvements at Bells Lane and SR 32 in Clermont County. In addition to upgrades to the intersection of SR 32 with Mt. Carmel Tobasco Road/Bells Lane and SR 32 with Old SR 74, the project will address pedestrian access needs identified for this area, including the addition of sidewalks on Mt. Carmel Tobasco Road and a pedestrian signal to cross SR 32 from Bells Lane.
 - 2019 – Pavement repair along US 50 from Fairfax through Mariemont to Terrace Park. ODOT will restripe US 50 eastbound to create a bike lane.
 - 2021 – Bikeways connector project that will link the Lunken Trail with the Little Miami Scenic Trail
 - 2022 – Resurfacing of SR 32 between Newtown's eastern limits and Eight Mile Road
 - 2023 – Preventative maintenance work along SR 32 between SR 125 and Eastgate
 - 2024 – Bridge repair on SR 32, over Dry Run Creek, just east of Burger Farm
 - Dynamic Messaging – ODOT will be installing a dynamic message board (electronic signage) on I-275 at the SR 32 interchange and on SR-32 west of Glen Este Withamsville. Signage will provide real-time travel time estimates to downtown from that location.

ODOT also received funding to research the effectiveness of providing travel time on non-freeway routes.

ODOT will consider these planned projects as opportunities for broader coordination with potential Eastern Corridor initiatives.

WORKSHOP SESSION

Following the presentation, the meeting shifted to a guided conversation about the transportation needs identified within the Focus Area and possible solutions to be further studied. To facilitate the conversation, these needs were organized into four main themes:

- Theme #1: SR 32 – Little Dry Run to Eight Mile Road
- Theme #2: SR 32 – Eight Mile Road and SR 32 Hill
- Theme #3: Connectivity between SR 32 and ANCOR
- Theme #4: SR 32 – Beechwood Road to Bells Lane

Advisory committee members were provided with a worksheet summarizing the identified needs pertaining to each theme and draft evaluation criteria. Preliminary concepts for possible solutions were also provided to help jumpstart discussion. Committee members were asked to provide feedback on the concepts shared to help the planning team further develop the concepts or eliminate them as options, if needed. Members were also invited to brainstorm additional concepts that weren't already on the list. A copy of the worksheets provided to Committee members, along with notes made at the meeting, is attached. Summaries of the discussions held for each theme are presented below.

THEME #1: SR 32 – LITTLE DRY RUN TO EIGHT MILE ROAD

The committee reviewed the Primary and Secondary Needs identified for this area and discussed potential concepts to address the needs. All concepts outlined on the worksheet were accepted for further consideration. A few additional ideas were added to the list; these new ideas are noted below and have been added in red on the attached worksheet. All concepts listed for Theme #1 will undergo preliminary analysis (performed by Stantec) to determine their potential viability and impacts. Results will be shared with the Advisory Committee at the next meeting, currently scheduled for later this spring.

Discussion points for Theme #1:

- The Village of Newtown appears to be eligible for traffic signal controller and GPS clock upgrades under an ODOT program with no local cost match, which could be beneficial to traffic flow through the community by allowing for better signal timing and signal coordination.
- As referenced on the list of concepts, there are opportunities to add additional lanes on SR 32. Those options will be considered, but it's important to note that doing so is expensive.
- The Committee discussed issues and ideas for the Little Dry Run/SR 32 intersection:
 - One concept discussed is to install a Green T intersection. A Green T intersection would establish a free flow permanent through lane on westbound SR 32 at the intersection with Little Dry Run plus a dedicated left-hand turn lane onto Little Dry Run.
 - One of the problems at this intersection is that you can't see the traffic signal as you approach on Little Dry Run due to trees. Several committee members suggested removing one or more of the trees.

- Committee members discussed possibly lowering the speed limits on SR 32 as it approaches the intersection to help improve safety. ODOT will look at the option to determine if lowering posted travel speeds is warranted. Speed limits are set by law, so lowering a speed limit requires a speed study. At the Advisory Committee for the Village of Newtown Focus Area, ODOT advised the Village to move forward with a speed study if the Village would like to pursue a speed limit reduction.
- Committee members discussed modifying the roadway in a manner that would reduce travel speeds, e.g., adding a median island.
- One committee member suggested the possibility of buying the land on the southwest corner of the intersection (where the former Dry Run Beverage is located) and using the space to straighten the roadway. ODOT said that is something to consider, but studies would have to show that the land is needed for the project. ODOT is limited in the amount of land it can acquire and typically may not purchase any more land than necessary.
- The SR 32/Hickory Creek intersection has a history of rear-end crashes. ODOT wants to investigate ways to alleviate that safety issue, perhaps through the addition of a left-turn lane.

Additional Concepts To Be Evaluated for Theme #1:

- Need speed study on SR 32 at Little Dry Run to consider lower legal speed.

The committee did not review the draft Evaluation Criteria outlined on the worksheet. ***Committee members are asked to review the criteria and provide feedback to ODOT by Monday, March 19.***

THEME #2: SR 32 – EIGHT MILE ROAD AND SR 32 HILL

The committee reviewed the Primary and Secondary Needs identified for this area and discussed potential concepts to address the needs. All concepts outlined on the worksheet were accepted for further consideration. A few additional ideas were added to the list; these new ideas are noted below and have been added in red on the attached worksheet. All concepts listed for Theme #2 will undergo preliminary analysis (performed by Stantec) to determine their potential viability and impacts. Results will be shared with the Advisory Committee at the next meeting, currently scheduled for later this spring.

Discussion points for Theme #2:

- The SR 32/Eight Mile Road intersection is currently the only one in the corridor study area that has been designated as a high priority, high crash location as ranked statewide by ODOT.
- Multiple low-cost improvements have been made over the years to address problems in this area, including striping changes and signage improvements.
- Crash data suggests that cars sometimes run off the road as they go up the SR 32 hill. Committee members suggested that this may be due to slippery road surfaces caused by poor drainage, freezing roads and steep grades. Some vehicles speed up at the top and then go through the guardrail when trying to turn. ODOT will look into pavement surfaces that improve friction in this area.

- Steve Shadix, Stantec, reported that during the AM rush hour, there are 120 left-hand turns from Eight Mile to SR 32 and 170 right-hand turns. During the PM peak, there are 40 left-hand turns to SR 32 and 250 right-hand turns. One committee member noted that the low number of left-hand turns during the afternoon is likely because drivers are too scared to make left-hand turns there.
- It was noted that there are also a number of rear-end crashes going down the hill.
- The angle of the turn to southbound Eight Mile from SR 32 westbound is too sharp. It's a difficult turn to make, especially when traffic is coming up the hill traveling at 55 mph.
- Eight Mile Road backs up for drivers getting onto SR 32, which also causes problems. Committee members indicated that Eight Mile is "something to avoid" in the afternoon.
- People often stop when turning right from Eight Mile to SR 32, even though it is a continuous right-hand turn. This may be because motorists don't understand the traffic pattern, are confused by the stop sign at the intersection, miss the continuous right turn sign, or all these. Some committee members also noted that it is a safety risk to make a continuous right turn, so drivers may be choosing not to do so.
- There used to be two lanes going onto the hill which was a significant help for heavy trucks.
- Committee members discussed signalizing the intersection. Although it is an option, there are concerns with the idea. A new signal may result in more crashes. A light at this location could surprise drivers traveling downhill and be particularly difficult for truck drivers with heavy loads. As a result, drivers may inadvertently run the light which poses a new safety issue.
- Adding lanes going downhill would require a geometry change along the roadway.
- The grade of the hill is an issue.
 - The grade on the hill is currently 8 percent. This is the maximum grade in ODOT design standards. It is only recommended for short distances.
 - From a truck perspective, going downhill is not good, but going uphill is much worse.
 - A potential solution would be to reduce the grade. Doing so, however, would make a project bigger and much more expensive.
 - A committee member noted that the problem is not just the grade of the hill; it's the curves as well
- One of the proposed concepts is a new alignment and grade separation of eastbound SR 32 over Eight Mile and the creation of a signalized green T intersection at Eight Mile Road and westbound SR 32. SR 32 would be raised with two lanes (including a truck climbing lane) over the top of Eight Mile Road and then tying back in on the hill. This has the potential to improve the grade of a significant portion of SR 32. Then, construction would bring Eight Mile Road without conflict into the middle, lower-speed intersection with only traffic traveling to and from Eight Mile. A photo of a rough sketch created during this discussion is included at the end of these minutes.
 - If SR 32 is moved or regraded (lowered) in the hill area, the intersection of Beechwood and Old SR 74 may need to become an overpass. The access point perhaps could move to Moran with ramps.
- The Committee discussed the possibility of installing a roundabout at SR 32 and Eight Mile Road. Benefits of roundabouts are that they are the safest intersection and serve to reduce

the speed of traveling vehicles. But, they are also expensive, require a lot of space and need to be constructed on flat ground.

- A committee member mentioned that all solutions developed for this area need to consider the access needs of Ambassador's Pointe Community Church, located on the north side of SR 32 at the bottom of the hill. The driveway to the church is right off SR 32 and is busy on Sunday mornings. Of particular concern is people leaving the church and having to cross in front of vehicles speeding down the SR 32 hill.
- The Committee discussed the challenges of the current Eight Mile Road intersection with SR 32 and brainstormed additional solutions:
 - Shift both east and westbound traffic to the same side of SR 32. Use the other side for an extended Eight Mile Rd.
 - Add an interchange at SR 32 eastbound and Eight Mile.
 - Relocate the Eight Mile Road intersection with SR 32 further west to eliminate the existing hairpin turn.
 - Make the Eight Mile/SR 32 intersection into a right-turn only option. Would need to provide a U-turn location for those who want to go left (SR 32 westbound).
 - Realign Eight Mile at the SR 32 intersection so that Eight Mile joins SR 32 at a 90-degree angle. This option would require more right of way but could also be configured to move the intersection to a flatter area. This modification could also support a new roundabout. Some concern was expressed however that trucks using the roundabout would then have to accelerate when going uphill which could be a difficult maneuver.
 - ODOT safety funding can potentially be used to help fund improvement projects in this area. However, safety funding is typically capped at \$5 million per project. Improvements in this area would likely need that maximum allocation, plus more from other sources.
- Vehicles coming up hill on eastbound SR 32 stop to make a left turn onto Moran, which can be dangerous. It was suggested that ODOT look at reconfiguring this area to prohibit that turning movement.
- A committee member asked why we should spend money at this time on smaller projects if future larger-scale improvements will undo them. ODOT responded that as part of this planning process, they consider long-term goals and plan a phased improvement approach. Improvements made over time would build upon each other for maximum long-term benefit. However, there are some low cost improvements that could be implemented in the short term that would provide some benefit that would be OK to take out later (such as pavement restriping); other more expensive improvements would have to be part of a larger plan (such as installing a roundabout).

Additional Concepts To Be Evaluated for Theme #2:

- Add warning signs about lane drop on westbound SR 32.
- Add friction pavement surface on SR 32.
- Investigate issue with illegal left turns at Moran.
- Relocate 8-mile intersection to the west to get away from the hill. Possibly align the intersection with the church's driveway to assist with access issues.

The committee did not review the draft Evaluation Criteria outlined on the worksheet. *Committee members are asked to review the criteria and provide feedback to ODOT by Monday, March 19.*

THEME #3: CONNECTIVITY BETWEEN SR 32 AND ANCOR

The committee reviewed the Primary and Secondary Needs identified for this area (no changes were suggested) and discussed potential concepts to address the needs. All but one of the concepts outlined on the worksheet were accepted for further consideration: the concept to improve both horizontal and vertical deficiencies east of Broadwell Road was determined to be a secondary need that would not be studied at this time. A few additional ideas were added to the list; these new ideas are noted below and have been added in red on the attached worksheet. All concepts listed for Theme #3 will undergo preliminary analysis (performed by Stantec) to determine their potential viability and impacts. Results will be shared with the Advisory Committee at the next meeting, currently scheduled for later this spring.

Discussion points for Theme #3:

- The ANCOR area offers tremendous development opportunity and Anderson Township would like to see it move forward. Plans for installing the necessary utilities are already in place. Now, they just need to improve access.
- Martin Marietta owns land in the vicinity of Round Bottom Road (to the west), Broadwell Road (to the north), railroad tracks (to the west) and Edwards Road (to the south). The company intends to mine this area beginning 400 feet below surface. It's not yet known when mining will begin – the company is currently in the process of obtaining the necessary permits. Once mining begins, truck traffic on nearby roads will significantly increase, especially on the SR 32 hill at Eight Mile. Also, the City of Milford is currently working to enact an ordinance that will prevent trucks coming in from Round Bottom Road and off Milford Parkway.
- The Village of Newtown master plan features Lake Barber (the lake nearest the intersection of Round Bottom Road and SR 32) and developing it further for public use. As such, nothing can go over the lake.
- Round Bottom Road in this area seems to be a connector/attractor for cyclists. The road is attractive and scenic, but also dangerous due to the high volume of trucks and curves.
- Clermont County Parks wants to connect their bike paths (including the path around East Fork Lake) to the Little Miami Scenic Bike trail. It would be good if the road improvements we are discussing for this Focus Area could help facilitate those connections.
- ODOT noted that the last concept listed for Theme #3 on the Worksheet (improve both horizontal and vertical roadway deficiencies east of Broadwell Road) applies more to addressing the one Secondary Need identified for this area: address roadway grade deficiency at Round Bottom Road and Broadwell Road. For now, this committee will be focusing its attention on addressing Primary Needs.
- There was some discussion about the possibility of establishing a new connection east of Little Dry Run and the railroad tracks. ODOT responded that the steep grade of the terrain past the rail tracks is the primary issue. The group discussed the possibility of following the

base of the hill and wrapping around the eastern-most industrial building on the south side of Broadwell Road (SESCO building/Gymnastics Central, which has a large and growing clientele of young gymnasts and their families), but the general concept moving forward is to stay along the east side of the railroad out to Broadwell.

Additional Concepts To Be Evaluated for Theme #3:

- Add access road from Newtown east corp. line to Broadwell Road. Consider the following alignments:
 - Cross railroad, running between lakes with intersection on western end of Broadwell
 - Stay along east side of railroad with intersection near railroad crossing on Broadwell (will require building take).
- Consider including bike trail with access road as start to possible future bike connections headed east.

The committee did not review the draft Evaluation Criteria outlined on the worksheet. ***Committee members are asked to review the criteria and provide feedback to ODOT by Monday, March 19.***

THEME #4: BEECHWOOD ROAD TO BELLS LANE

The committee reviewed the Primary and Secondary Needs identified for this area. All concepts outlined on the worksheet were accepted for further consideration and no additional ideas were added.

- Mr. Shadix mentioned that several of the primary needs on the list (namely, addressing capacity issues at the westbound left turn at Bells Lane and accommodating observed pedestrian traffic) are already being addressed by a Clermont County project, CLE-32-0.63. Construction is scheduled to begin this summer (2018).
- ODOT mentioned that they are reviewing the signal timing in the SR 32/I-275 interchange area, which is just east of this study area.

The committee did not review the draft Evaluation Criteria outlined on the worksheet. ***Committee members are asked to review the criteria and provide feedback to ODOT by Monday, March 19.***

CLOSING AND NEXT STEPS

The meeting ended at 11:00 a.m. Mr. Arnold thanked participants for their time and contributions. He noted that presentation materials and a meeting summary would be posted to the Segments II and III Advisory Committee page of the Eastern Corridor website (<http://easterncorridor.org/projects/red-bank-to-i275-sr32-segments-ii-and-iii/advisory-committee/>).

Committee members are invited to submit additional feedback and comments until Monday, March 19, 2018 (two weeks following the distribution of meeting minutes).

Stantec will evaluate the concepts discussed/suggested at today's session and share their results at the next Advisory Committee meeting.

MEETING PARTICIPANTS

Caroline Ammerman, Stantec
Jacque Annarino, ODOT OES
Tom Arnold, ODOT
Tim Brandstetter, Village of Newtown Engineer
Ken Burger, Burger Farm
Don Carroll, Village of Newtown
Tom Caruso, Anderson Township
Josh Gerth, Anderson Township
Wade Johnston, Green Umbrella
Bob Koehler, OKI

Ken Kushner, Anderson Parks District
Heather McColeman, ODOT OES
Zach Peterson, Evans Landscaping
Richard Porter, Forest Hills School District
Charles Rowe, ODOT
Steve Shadix, Stantec
Christa Skiles, Rasor Marketing Communications
Jerry Thamann, Village of Newtown
Jeff Uckotter, Miami Township
Laura Whitman, Rasor Marketing Communications



Concept sketched for SR 32 and Eight Mile intersection.

The environmental review, consultation, and other actions required by applicable Federal environmental laws for this project are being, or have been, carried-out by ODOT pursuant to 23 U.S.C. 327 and a Memorandum of Understanding dated December 11, 2015, and executed by FHWA and ODOT.

ANCOR FOCUS AREA WORKSHEET

Red text represents edits made at Advisory Committee Meeting #1 held on 2/15/2018.

Theme #1: SR 32 - Little Dry Run to Eight Mile Road

| Needs | Evaluation Criteria | Concepts |
|---|---|--|
| <u>Primary</u> <ul style="list-style-type: none">Address capacity issues on SR 32 and Little Dry Run.Address rear end crashes on SR 32 related to left turns onto Hickory Creek Drive.Address westbound AM peak-hour delays.Address congestion issues due to slow moving trucks and turning vehicles. <u>Secondary</u> <ul style="list-style-type: none">Address deficient sight distance on Little Dry Run Rd approach to SR 32.Address roadway grade deficiencies at six locations. | <ul style="list-style-type: none">Provide more efficient travel patterns and destination linkages.Augment capacity and provide congestion relief.Reduce travel times and delays.Improve vehicular, bicycle, and pedestrian safety.Improve movement of freight, goods, and services.Improve regional connectivity and accessibility to regional destinations including the airport, downtown Cincinnati, and Kenwood.Support and facilitate bus, rail, and TSM investments.Support existing and planned land use.Minimize environmental and community impacts. | <ul style="list-style-type: none">Lengthen storage lanes along SR 32 westbound and Little Dry Run Road northbound.Add EB right lane on SR 32. (adjacent property is vacant)Improve signal timing.Add EB/WB through lanes on SR 32.Install a continuous green tee intersection at Little Dry Run.Improve sight distance problem by improving horizontal curve along Little Dry Run just south of SR 32.Add WB left turn lane at Hickory Creek Drive.Add center turn lane.Need speed study on SR 32 at Little Dry Run to consider lower legal speed. |

ANCOR FOCUS AREA WORKSHEET

Red text represents edits made at Advisory Committee Meeting #1 held on 2/15/2018.

Theme #2: SR 32 - Eight Mile Road and SR 32 Hill

| Needs | Evaluation Criteria | Concepts |
|--|---|---|
| <u>Primary</u> <ul style="list-style-type: none">Address capacity issues on Eight Mile Road.Address safety issues for vehicles turning at Eight Mile Road.Address deficient sight distance and roadway grade issues.Address crash trends on the SR 32 hill.Address roadway grade deficiencies on the SR 32 hill to improve truck mobility.Address roadway curve deficiencies on the SR 32 hill. <u>Secondary</u> <ul style="list-style-type: none">None | <ul style="list-style-type: none">Provide more efficient travel patterns and destination linkages.Augment capacity and provide congestion relief.Reduce travel times and delays.Improve vehicular, bicycle, and pedestrian safety.Improve movement of freight, goods, and services.Improve regional connectivity and accessibility to regional destinations including the airport, downtown Cincinnati, and Kenwood.Support and facilitate bus, rail, and TSM investments.Support existing and planned land use.Minimize environmental and community impacts. | <ul style="list-style-type: none">Lengthen left turn storage on Eight Mile Road.Install a signalized continuous green tee intersection at Eight Mile Rd.Install a roundabout at Eight Mile Rd.New alignment and grade separation of SR 32 over Eight Mile, improving grade for truck traffic on SR 32.New alignment and grade separation of eastbound SR 32 over Eight Mile; signalized continuous green tee intersection at Eight Mile and westbound SR 32.Raise Eight Mile intersection to solve deficient sight distance and to eliminate steep grade at intersection.Construct truck climbing lane.Realign curve on eastbound SR 32 hill.Relocate eastbound SR 32 to the current westbound alignment with widening (only need 1 lane WB and 2 lanes EB). Use existing eastbound SR 32 as extension of Eight Mile to new intersection at top of hill (with improved connection at Eight Mile).Add warning signs about lane drop on westbound SR 32.Add friction pavement surface on SR 32.Issue with illegal left turns at Moran to be investigated.Relocate 8-mile intersection to the west to get away from hill. Possibly align with church drive to assist with access issues. |

ANCOR FOCUS AREA WORKSHEET

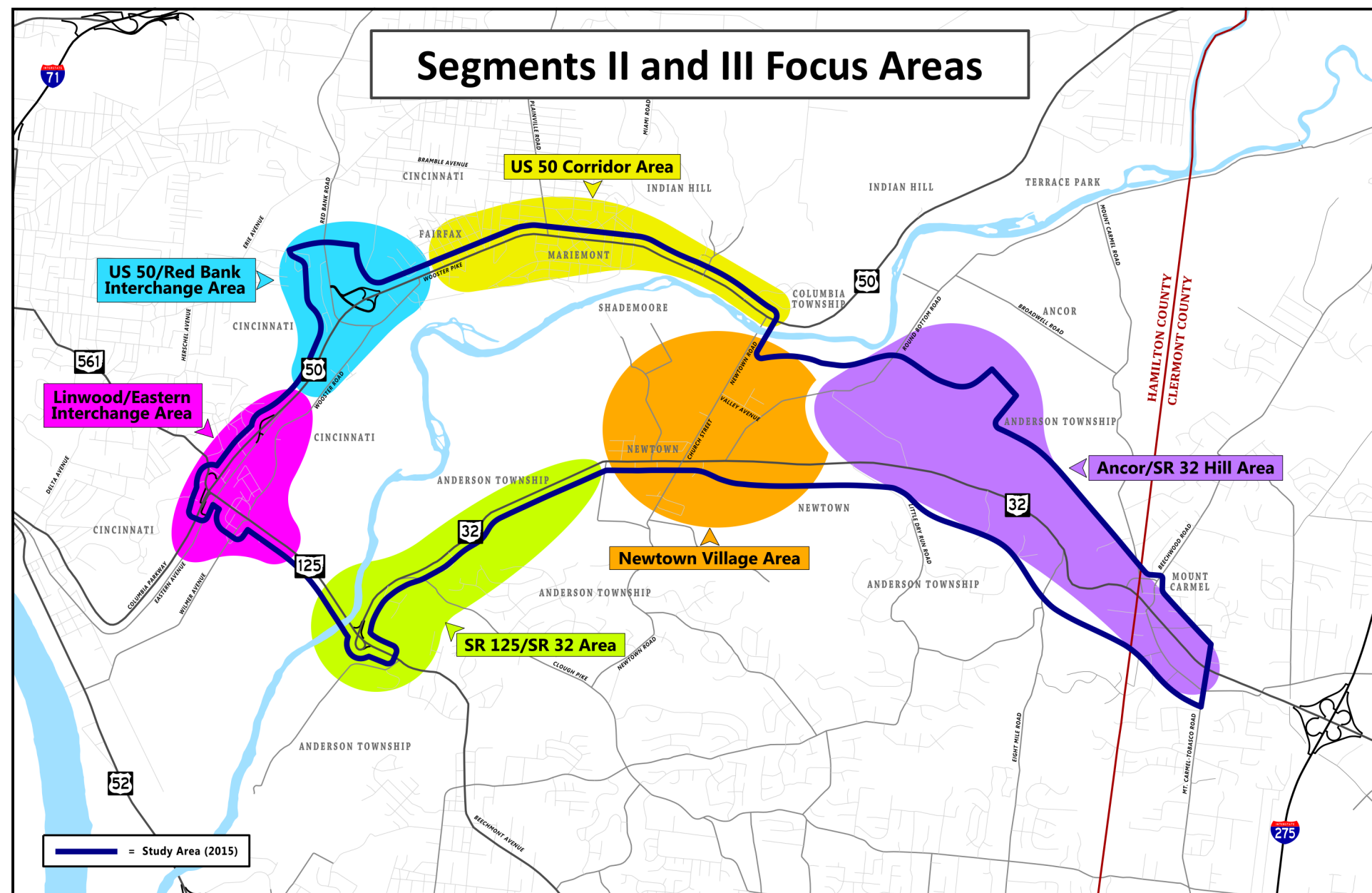
Red text represents edits made at Advisory Committee Meeting #1 held on 2/15/2018.

| Theme #3: Connectivity between SR 32 and ANCOR | | |
|--|---|---|
| Needs | Evaluation Criteria | Concepts |
| <div><div>Primary</div><ul style="list-style-type: none">Improve freight connections between ANCOR and SR 32/I-275 due to constraints on Mt. Carmel Rd, Round Bottom Rd, and SR 32, to support local economic development plans.<div>Secondary</div><ul style="list-style-type: none">Address roadway grade deficiency at Round Bottom Rd and Broadwell Rd</div> | <ul style="list-style-type: none">Provide more efficient travel patterns and destination linkages.Augment capacity and provide congestion relief.Reduce travel times and delays.Improve vehicular, bicycle, and pedestrian safety.Improve movement of freight, goods, and services.Improve regional connectivity and accessibility to regional destinations including the airport, downtown Cincinnati, and Kenwood.Support and facilitate bus, rail, and TSM investments.Support existing and planned land use.Minimize environmental and community impacts. | <ul style="list-style-type: none">Add access road from Newtown east corporation line to Broadwell Road. Consider following alignments:<ul style="list-style-type: none">Cross railroad, running between lakes with intersection on western end of BroadwellStay along east side of railroad with intersection near railroad crossing on Broadwell. (will require building take)Add access road from Little Dry Run to Round Bottom Road connecting at Newtown north corporation limits along Round Bottom.Improve both horizontal and vertical roadway deficiencies east of Broadwell Road. [Secondary needs will typically be addressed only if there is opportunity to address with a primary need.]Consider including bike trail with access road as start to possible future bike connections headed east. |

ANCOR FOCUS AREA WORKSHEET

No edits made at Advisory Committee Meeting #1 held on 2/15/2018.

| Theme #4: SR 32 - Beechwood Road to Bells Lane | | |
|---|---|---|
| Needs | Evaluation Criteria | Concepts |
| <div><div>Primary</div><ul style="list-style-type: none">Address capacity issues on eastbound SR 32 and southbound Beechwood.Address safety issues at Beechwood intersection.Address westbound PM peak-hour delays.Address capacity issue for westbound left turn at Bells Ln.*Accommodate observed pedestrian traffic.*<div>Secondary</div><ul style="list-style-type: none">None<div><p>*Note: These needs have been already addressed in project CLE-32-0.63, which is scheduled for construction summer 2018.</p></div></div> | <ul style="list-style-type: none">Provide more efficient travel patterns and destination linkages.Augment capacity and provide congestion relief.Reduce travel times and delays.Improve vehicular, bicycle, and pedestrian safety.Improve movement of freight, goods, and services.Improve regional connectivity and accessibility to regional destinations including the airport, downtown Cincinnati, and Kenwood.Support and facilitate bus, rail, and TSM investments.Support existing and planned land use.Minimize environmental and community impacts. | <ul style="list-style-type: none">Improve signal timing.Lengthen NB, SB and EB left turn lanes at Beechwood intersection.New alignment grade separation at Beechwood/Old SR 74 with access road on both sides of new SR 32 alignment. |





MEETING #2 NOTES

Meeting Date

May 16, 2018

Meeting Location

Anderson Center

Meeting Objectives

- Review concepts developed for Focus Area based on discussions held during Meeting #1
- Review drawings and results of preliminary evaluations for each concept
- Discuss recommendations for concepts and/or refinements to be made

Meeting Summary

Tommy Arnold, ODOT, opened the meeting and discussed the following:

- This is the second in a series of four Advisory Committee meetings for the ANCOR/SR 32 Hill Focus Area.
- This meeting is intended to be a working meeting. It will focus on reviewing the results of the preliminary studies completed for each concept discussed at the first Advisory Committee meeting; discussing possible refinements to be made to the concepts; and determining whether or not to advance each concept for further study.
- The concepts that the group will review today are not final.
- Following today's meeting, the consultant team will conduct more in-depth analysis on each concept the group advances for further study. The results will be shared at the third Advisory Committee meeting, which will be scheduled for sometime later this summer (likely August). At that meeting, the group will review the results, note any additional refinements to be made and determine which concepts to continue advancing.
- After the third Advisory Committee meeting, the recommended concepts will be presented to the public for review and input.

ODOT is currently planning to hold the community meeting in September.

- Using input received from the Advisory Committee and from the public at the community meeting, ODOT and its consultant team will make any necessary final refinements. ODOT will then meet one last time with the Advisory Committee to review the final concepts and begin prioritizing them. The final recommended projects will then be compiled into an Implementation Plan to be shared with local jurisdictions.

Mr. Arnold noted that no money has been set aside for projects yet because the team is still working to develop and refine project concepts. Some projects could potentially be implemented by ODOT; however, many will likely fall under the jurisdiction of Hamilton County, Clermont County, the City of Cincinnati and/or respective local townships and villages. Funding sources have yet to be identified.

Mr. Arnold also noted that all project concepts are being developed using the NEPA project development process. Some projects that have very little environmental impact (such as signal timing adjustments) will likely advance through the process very quickly and can be implemented once funding is secured. Implementation will likely take longer for larger, more impactful projects.

Additional points that were made in response to Committee member discussion include:

- All NEPA-based projects are subject to Section 106, which requires federal agencies to take into account the effects of their undertakings on historic properties and allow the Advisory Council on Historic Preservation a reasonable opportunity to comment.
- Shared-use paths would be included as part of any new connections for ANCOR Connector alignments developed for this Focus Area.

Discussion notes for each concept are documented on the following pages.

MEETING PARTICIPANTS

Nathan Alley, Sierra Club

Caroline Ammerman, Stantec

Tom Arnold, ODOT

Tim Brandstetter, Village of Newtown Engineer

Don Carroll, Village of Newtown

Tom Caruso, Anderson Township

Matt Crim, Stantec

Josh Gerth, Anderson Township

Tim Hill, ODOT OES

Ken Kushner, Anderson Parks District

Zach Peterson, Evans Landscaping

Steve Shadix, Stantec

Christa Skiles, Rasor Marketing Communications

Laura Whitman, Rasor Marketing Communications



EASTERN CORRIDOR SEGMENTS II AND III (PID 86462) ANCOR/SR 32 HILL FOCUS AREA ADVISORY COMMITTEE MEETING NOTES

MEETING #3 NOTES

Meeting Date

Sept. 5, 2018

Meeting Location

Anderson Center

Meeting Objectives

- Review analyses of Focus Area concepts advanced for further consideration following Meeting #2
- Discuss which proposed concepts to recommend including in the Implementation Plan and which to refine or remove from consideration
- Discuss plan for sharing recommendations with the public and gathering public input

Meeting Summary

Tommy Arnold, ODOT, opened the meeting and shared the following:

- This is the third in a series of four Advisory Committee meetings for the ANCOR/SR 32 Hill Focus Area.
- This meeting will focus on reviewing the additional studies completed for each concept advanced following the Advisory Committee meeting held in May. We will determine which concepts warrant further consideration, need further refinement or will no longer be studied.
- Concepts recommended for advancement will be presented to the public for review and input at public meetings to be held this fall, likely late October.
- The fourth and final Advisory Committee meeting will be held following the public open houses. The purpose of this meeting is to: review input received at the public open houses; discuss any last refinements to concepts and final recommendations;

identify implementation priorities; and identify possible project sponsors.

- Final recommendations will be assembled into an Implementation Plan that will be shared with local jurisdictions and used to help guide future project planning efforts. The goal is to complete the Implementation Plan by the end of the year.

Discussion notes for each concept are documented on the following pages.

MEETING PARTICIPANTS

Nathan Alley, Sierra Club
Caroline Ammerman, Stantec
Tom Arnold, ODOT
Bruce Brandstetter, Village of Newtown
Ken Burger, Burger Farm
Don Carroll, Village of Newtown
Tom Caruso, Anderson Township
Matt Crim, Stantec
Josh Gerth, Anderson Township
Tim Hill, ODOT OES
Ken Kushner, Anderson Parks District
Heather McColeman, ODOT OES
Anthony Pankala, ODOT
Zach Peterson, Evans Landscaping
Steve Shadix, Stantec
Christa Skiles, Rasor Marketing Communications
Stefan Spinosa, ODOT



EASTERN CORRIDOR SEGMENTS II AND III (PID 86462) ANCOR/SR 32 HILL FOCUS AREA ADVISORY COMMITTEE MEETING NOTES

MEETING #4 NOTES

Meeting Date

Dec. 10, 2018

Meeting Location

Anderson Center

Meeting Objectives

- Review results of the signal timing improvements made along SR 32 and US 50 within the Segments II and III study area and in the Village of Newtown.
- Review feedback received from the public at the Oct. 24 and 25 Open House meetings and during the subsequent public comment period.
- Discuss:
 - Possible refinements to alternatives based on feedback received and determine which, if any, alternatives should be removed from further consideration.
 - Prioritization preferences for remaining alternatives.
 - Possible funding sources.
- Discuss ODOT's Implementation Plan strategy and next steps.

Meeting Summary

Tommy Arnold, ODOT, opened the meeting and shared the following:

- This is the fourth and final Advisory Committee meeting for this focus area. Thank you to all who have invested many hours over the past year to discuss transportation needs, develop possible solutions, review and discuss concept evaluation results, and provide input that will be used to help inform the development of the Implementation Plan.
- The Implementation Plan will identify the projects ODOT recommends for future development and construction. Projects will be designated as high, medium or low priorities. Possible project sponsors and potential funding options will also be identified in the plan.
- While ODOT may be able to assist with the funding and implementation of some of the projects, it is anticipated that the

responsibility for many projects will fall under the purview of local jurisdictions. The Implementation Plan will serve as a tool that jurisdictions can use to assist with their planning efforts.

- ODOT and its consultant team will be developing the Implementation Plan during the upcoming weeks and expects to have a draft completed in early 2019.
- It was noted later in the meeting that all projects in the Implementation Plan can be phased in different ways, depending on available funding. It was also noted that, currently, no funding has been identified for projects. ODOT will incorporate its recommendations into the Implementation Plan, designate priorities and discuss funding package preparation with the jurisdictions.

Matt Crim, Stantec, shared Signal Timing Study updates and discussed how traffic flow has been affected since signal timing adjustments were completed in October and November. The information shared is summarized on the Signal Timing Study (STS) pages of these notes.

Steve Shadix, Stantec, distributed a packet of concept comparison matrices for each of the proposed concepts. Copies of each matrix is provided with the discussion notes for each concept on the following pages. He also passed out copies of a draft report that summarized input received on the improvement concepts proposed for this focus area and were presented to the public at the Oct. 24 and 25 Open House meetings. The content of the report was reviewed as part of the meeting's subsequent discussion of concepts. Mr. Shadix also shared the following introductory comments:

- A total of 175 people signed in at the Open Houses. However, because some people opted not to sign in, the total number of attendees was slightly higher.
- 125 people submitted comment forms. Approximately 54% of the comment forms were submitted at the Open House meetings or sent in via email after the meetings had concluded. The remaining 46% were submitted online using a digital version of the comment form (links to the online comment form were provided on the project website, in meeting materials and email notices). All responses received at the Open Houses and via mail or email were entered into the online comment form database to facilitate analysis.
- Approximately 52% of respondents (64 people) said they lived in either the 45227 (Mariemont, Fairfax, Madisonville; 26%) or 45244 (Newtown, Anderson Township, Union Township; 26%) zip codes.
- When asked how they heard about the Open House meetings, emails from Eastern Corridor, Facebook and "Other" were most frequently

reported as sources. Emails from community councils and/or community representatives, friends/relatives, the Nextdoor community-based social network and a local bike shop were most frequently cited as information sources for "Other." Mr. Shadix thanked Advisory Committee members for assisting with getting the word out to their constituents about the public Open Houses.

- The comment form asked respondents to indicate the degree to which they support each proposed concept using a five point scale (strongly support, like, neutral, dislike and strongly oppose). The summary report focuses on the distribution of responses received for each concept.
- Respondents were also invited to share any comments they may have regarding the proposed concepts. Comments received on the forms, as well as any submitted separately via email and mail, were recorded and are included in the summary report.

Discussion notes for each proposed concept in this focus area are documented on the following pages.

MEETING PARTICIPANTS

Nathan Alley, Sierra Club
Caroline Ammerman, Stantec
Tom Arnold, ODOT
Brittnay Bell, Rasor Marketing Communications
Brad Bowers, Anderson Township
Ken Burger, Burger Farms
Matt Crim, Stantec
Todd Gadbury, Hamilton County Engineer's Office
PJ Ginty, Anderson Township
Mark Kobasuk, Village of Newtown
Ken Kushner, Anderson Parks District
Charlie Rowe, ODOT
Steve Shadix, Stantec
Laura Whitman, Rasor Marketing Communications



Concept Discussion Notes & Exhibits



Eastern Corridor Segments II and III

ANCOR/SR 32 Hill Focus Area

Theme

SR 32 - LITTLE DRY RUN TO EIGHT MILE ROAD

Primary Needs identified for this theme:

- P1) Address capacity issues on SR 32 and Little Dry Run.
- P2) Address rear-end crashes on SR 32 related to left turns onto Hickory Creek Drive.
- P3) Address westbound AM peak-hour delays.
- P4) Address congestion issues due to slow moving trucks and turning vehicles.

Secondary Needs identified for this theme:

- S1) Address deficient sight distance on Little Dry Run approach to SR 32.
- S2) Address roadway grade deficiencies at six locations.

Concept not drawn.

DESCRIPTION

- Improve signal timing.

NEEDS ADDRESSED

- P1) Address capacity issues on SR 32 and Little Dry Run.
- P3) Address westbound AM peak-hour delays.

5/16 MEETING DISCUSSION AND COMMENTS

- A draft signal study has been completed for the Segments II and III study area.
- Individual municipalities are currently in the process of completing paperwork to facilitate installation of new traffic signal controllers and GPS clocks. These modifications will be funded by ODOT.
- Work is expected to be completed sometime this fall.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- Signal timing improvements are underway throughout the corridor along SR 32, US 50 and at the Church/Valley intersection in Newtown. New controllers were installed the week of Aug. 13.
- Continued evaluation is necessary to tweak improvements. There is more traffic in the area now, likely the result of seasonal fluctuations (back to school), construction on I-275 and the closure of a portion of Wooster Pike.
- Stantec recommends additional upgrades to provide advanced detection and wireless signal interconnects; these details for the entire corridor are included in the concepts outlined for the Village of Newtown Focus Area.
- No additional comments were received following the 9/5 meeting.

12/12 MEETING DISCUSSION AND COMMENTS

- Matt Crim, Stantec, shared Signal Timing Study updates and discussed how traffic flow has been affected since signal timing adjustments were completed in October and November:
- Earlier this year, Stantec, ODOT’s consultant team, conducted a Signal Timing Study within the Segments II and III study area along the SR 32 and US 50 corridors and in the Village of Newtown (from Newtown Road to Valley Avenue to Round Bottom Road).

- A “before study” was conducted in March and, following comprehensive analysis, a series of timing adjustments were implemented in August and September. Additional fine-tuning adjustments were made in October and November. An “after study” was completed in November.
- Stantec compared data from the “after study” with data from the “before study.” Results included the following:
 - US 50 Corridor: Overall, travel time decreased by 9%, vehicle delays decreased by 32%, stop delays decreased by 42% and the average number of stops decreased by 33%. The average travel speed increased by 13%. Using ODOT’s evaluation metrics, benefits of these improvements were determined to be:
 - Benefit/Cost Ratio: 26:1
 - Delay savings: 49,564 hours /\$1,014,262
 - Emission savings: 2.9 kg / \$10,221
 - Crash Reductions: 5 crashes / \$121,800
 - Fuel Savings: 20,623 gallons / \$45,061

Travel in both east and west directions improved during the morning, mid-afternoon and evening peak travel times.

- Village of Newtown: Overall, travel time decreased by 11%, vehicle delays decreased by 33%, stop delays decreased by 37% and the average number of stops decreased by 33%. The average travel speed increased by 13%. Using ODOT’s evaluation metrics, benefits of these improvements were determined to be:
 - Benefit/Cost Ratio: 51:1
 - Delay savings: 22,868 hours / \$486,045
 - Emission savings: 0.8 kg / \$2,736
 - Crash Reductions: 1 crash / \$13,938
 - Fuel Savings: 3,298 gallons / \$7,205

Travel in both east and west directions improved during the morning, mid-afternoon and evening peak travel times.

- SR 32 Corridor: Overall, travel time decreased by 10%, vehicle delays decreased by 38%, stop delays decreased by 51% and the average number of stops decreased by 45%. The average travel speed increased by 9%. Using ODOT’s evaluation metrics, benefits of these improvements were determined to be:
 - Benefit/Cost Ratio: 28:1
 - Delay savings: 21,901 hours / \$490,201
 - Emission savings: 0.03 kg / \$2,820
 - Crash Reductions: 2 crashes / \$53,205
 - Fuel Savings: 6,484 gallons / \$14,166

Travel in both east and west directions improved during the

morning, mid-afternoon and evening peak travel times. However, westbound traffic (in the off-peak direction) has experienced slight increases in travel time and vehicle delays during evening peak period. These increases were intentional to improve travel in the peak direction.

- ODOT suggested that additional benefit can be gained by installing additional detection and modems in controllers to allow the lights to be interconnected and adaptive. With this technology, the lights would be better able to respond to variable traffic conditions and would automatically switch to different timing plans to help improve traffic flow.
 - This recommendation is being considered for implementation along with adding additional directional signage.
 - This project’s safety scores are high, which increases the likelihood for securing funding.
 - Funding will likely be sought in 2019.
- ODOT also recommended adding right-turn signal heads at the intersections of Valley and Round Bottom and Valley and Church. Newtown is currently looking at advancing this signal improvement.

NEXT STEPS/RECOMMENDATION

- Include in Implementation Plan as a high priority.
- Enhance signals to provide advanced detection and wireless signal interconnect. High priority. Can be packaged with similar signal upgrades on SR 32 and near Red Bank interchange.
- Combine with additional signal backplates on US 50, wayfinding signage at Beechmont Circle and Red Bank, and advanced warning signage on US 50 eastbound.
- Add right-turn signal heads at Valley and Round Bottom and valley and Church.
- Possible HSIP funding.

US-50
Pre-Study vs Optimized Timings
Peak Hour Analysis

| Timing | Direction | Travel Time (sec) | Vehicle Delay (sec) | Stopped Delay (sec) | Stops | Average Speed (mph) |
|-------------|-----------|-------------------|---------------------|---------------------|-------|---------------------|
| CUMULATIVE | | | | | | |
| Pre-Study | | 382 | 102 | 66 | 3.0 | 23.2 |
| Optimized | | 349 | 69 | 38 | 2.0 | 26.3 |
| % Change | | -9% | -32% | -42% | -33% | 13% |
| AM Peak | | | | | | |
| Pre-Study | EB | 336 | 51 | 31 | 1.8 | 26.2 |
| Optimized | EB | 312 | 27 | 29 | 1.2 | 28.3 |
| EB % Change | | -7% | -47% | -6% | -33% | 8% |
| Pre-Study | WB | 426 | 150 | 97 | 4.2 | 21.1 |
| Optimized | WB | 347 | 71 | 50 | 1.8 | 25.5 |
| WB % Change | | -19% | -53% | -48% | -57% | 21% |
| MIDDAY Peak | | | | | | |
| Pre-Study | EB | 376 | 91 | 63 | 3.2 | 23.5 |
| Optimized | EB | 318 | 33 | 24 | 1.6 | 27.7 |
| EB % Change | | -15% | -64% | -62% | -50% | 18% |
| Pre-Study | WB | 385 | 109 | 62 | 3.8 | 22.8 |
| Optimized | WB | 397 | 121 | 38 | 1.4 | 27.3 |
| WB % Change | | 3% | 11% | -39% | -63% | 20% |
| PM Peak | | | | | | |
| Pre-Study | EB | 390 | 106 | 74 | 4.2 | 22.7 |
| Optimized | EB | 380 | 95 | 56 | 1.6 | 23.5 |
| EB % Change | | -3% | -10% | -24% | -62% | 4% |
| Pre-Study | WB | 380 | 104 | 68 | 3.5 | 23.1 |
| Optimized | WB | 342 | 66 | 31 | 1.6 | 25.6 |
| WB % Change | | -10% | -37% | -54% | -54% | 11% |

(Note: in the case of average speed, green means an increase in overall travel speed, whereas red means a reduction in overall travel speed)

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|---|--------------------------|-------------|--|----------------------|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | | | | | | | | \$80K to \$120K (includes signal at Little Dry Run) | 0 | \$0 | C1 | No Impacts | Neutral | Neutral | Neutral |



Estimated Annual Signal Retiming Benefits

Corridor: US-50

Delay Savings

49,564 Hours
\$1,014,262

Crash Reductions

5 Crashes
\$121,800

Emissions Savings

2.9 kg
\$10,221

Fuel Savings

20,623 Gallons
\$45,061

Benefit Cost Ratio

26:1

Newtown (Newtown Rd/Valley Ave/Round Bottom Rd)
Pre-Study vs Optimized Timings
Peak Hour Analysis

| Timing | Direction | Travel Time (sec) | Vehicle Delay (sec) | Stopped Delay (sec) | Stops | Average Speed (mph) |
|-------------|-----------|-------------------|---------------------|---------------------|-------|---------------------|
| CUMULATIVE | | | | | | |
| Pre-Study | | 236 | 80 | 76 | 3.0 | 19.3 |
| Optimized | | 211 | 54 | 48 | 2.0 | 21.8 |
| % Change | | -11% | -33% | -37% | -33% | 13% |
| AM Peak | | | | | | |
| Pre-Study | NB | 237 | 63 | 70 | 2.6 | 19.2 |
| Optimized | NB | 234 | 60 | 62 | 2.0 | 19.1 |
| NB % Change | | -1% | -5% | -11% | -23% | -1% |
| Pre-Study | SB | 273 | 134 | 114 | 3.1 | 16.5 |
| Optimized | SB | 216 | 76 | 59 | 1.6 | 21.5 |
| SB % Change | | -21% | -43% | -48% | -48% | 30% |
| MIDDAY Peak | | | | | | |
| Pre-Study | NB | 203 | 28 | 39 | 2.7 | 21.9 |
| Optimized | NB | 193 | 19 | 39 | 2.1 | 23.3 |
| NB % Change | | -5% | -32% | 0% | -22% | 6% |
| Pre-Study | SB | 209 | 70 | 48 | 1.9 | 21.5 |
| Optimized | SB | 191 | 52 | 33 | 1.4 | 23.8 |
| SB % Change | | -9% | -26% | -31% | -26% | 11% |
| PM Peak | | | | | | |
| Pre-Study | NB | 214 | 40 | 57 | 2.0 | 20.7 |
| Optimized | NB | 187 | 12 | 30 | 1.6 | 24 |
| NB % Change | | -13% | -70% | -47% | -20% | 16% |
| Pre-Study | SB | 281 | 142 | 126 | 3.5 | 16.1 |
| Optimized | SB | 242 | 102 | 65 | 2.2 | 19.2 |
| SB % Change | | -14% | -28% | -48% | -37% | 19% |

Reduction

No Change

Increase



Estimated Annual Signal Retiming Benefits
Corridor: Newtown Rd/Valley Ave/Round Bottom Rd



SR-32
Pre-Study vs Optimized Timings
Peak Hour Analysis

| Timing | Direction | Travel Time (sec) | Vehicle Delay (sec) | Stopped Delay (sec) | Stops | Average Speed (mph) |
|-------------|-----------|-------------------|---------------------|---------------------|-------|---------------------|
| CUMULATIVE | | | | | | |
| Pre-Study | | 172 | 45 | 39 | 1.1 | 24.7 |
| Optimized | | 155 | 28 | 19 | 0.6 | 26.8 |
| % Change | | -10% | -38% | -51% | -45% | 9% |
| AM Peak | | | | | | |
| Pre-Study | EB | 139 | 26 | 11 | 0.4 | 29.0 |
| Optimized | EB | 139 | 26 | 11 | 0.4 | 29.1 |
| EB % Change | | 0% | 0% | -1% | -6% | 0% |
| Pre-Study | WB | 203 | 62 | 50 | 1.2 | 21.0 |
| Optimized | WB | 182 | 42 | 29 | 1.0 | 22.9 |
| WB % Change | | -10% | -32% | -42% | -17% | 9% |
| MIDDAY Peak | | | | | | |
| Pre-Study | EB | 142 | 29 | 15 | 0.8 | 28.3 |
| Optimized | EB | 129 | 16 | 0 | 0 | 30.7 |
| EB % Change | | -9% | -45% | -100% | -100% | 8% |
| Pre-Study | WB | 170 | 29 | 45 | 1.3 | 23.8 |
| Optimized | WB | 148 | 7 | 18 | 1.0 | 27.6 |
| WB % Change | | -13% | -76% | -60% | -23% | 16% |
| PM Peak | | | | | | |
| Pre-Study | EB | 210 | 98 | 71 | 1.8 | 20.1 |
| Optimized | EB | 156 | 43 | 13 | 0.5 | 25.9 |
| EB % Change | | -26% | -56% | -82% | -72% | 29% |
| Pre-Study | WB | 167 | 26 | 44 | 1.0 | 25.9 |
| Optimized | WB | 174 | 33 | 44 | 1.0 | 24.7 |
| WB % Change | | 4% | 27% | 1% | 0% | -5% |

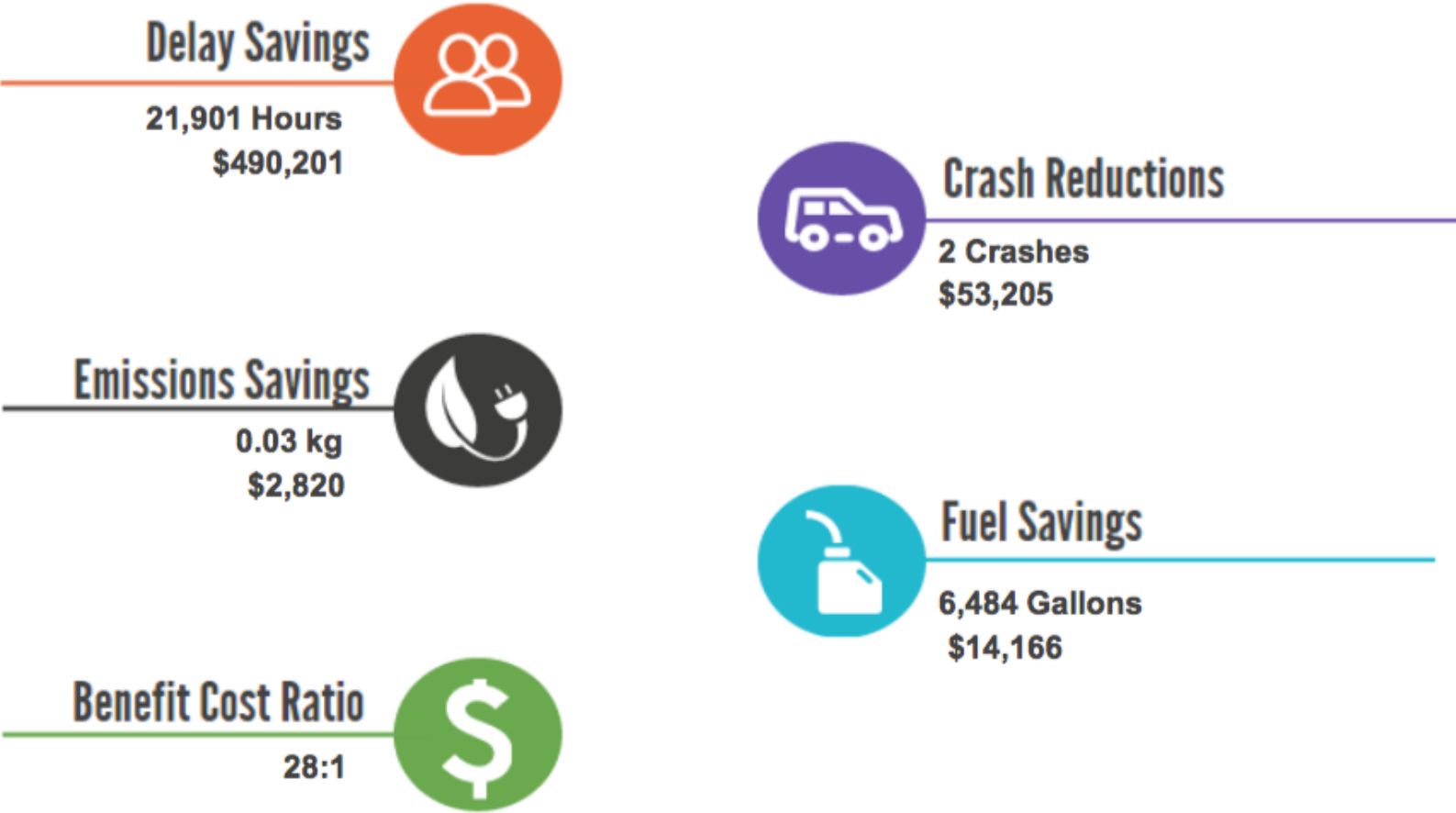
Reduction

No Change

Increase



Estimated Annual Signal Retiming Benefits
Corridor: SR-32



Concept drawings are presented with Concept I-4b.

DESCRIPTION

- Lengthen storage lanes (turn lanes) along SR 32 westbound and Little Dry Run Road northbound.
- Improve sight distance problems by improving the horizontal curve along Little Dry Run just south of SR 32.

NEEDS ADDRESSED

- P1) Address capacity issues on SR 32 and Little Dry Run.
- P3) Address westbound AM peak-hour delays.
- P4) Address congestion issues due to slow moving trucks and turning vehicles.
-
- S1) Address deficient sight distance on Little Dry Run approach to SR 32.

12/10 MEETING DISCUSSION AND COMMENTS

- The Advisory Committee noted that feedback from the public was supportive with only 6% of respondents strongly opposing (3%) or disliking (3%) this option (see Public Feedback Ratings Summary, next page).
- Further discussion is noted under concept I-4c (C1).

NEXT STEPS/RECOMMENDATION

- Include project in Implementation Plan as a high priority, advancing with either I-51 (B2) or 32-9 (C3).

5/16 MEETING DISCUSSION AND COMMENTS

- Concept may have impacts on creek running parallel to SR 32.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- Adjusting the curve provides better sight distance as drivers approach the signal at Little Dry Run and SR 32.
- No additional comments were received following the 9/5 meeting.

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|--|--------------------------|---------------------------------------|--|---|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | | | | | | | | \$1.6M to \$2.4M (includes I-4b) | 0 | \$80K to \$160K (includes I-4b) | C2 | R/W, Potential T&E, ESA Issues | Neutral | Neutral | Neutral |

Concept drawings are presented on the following pages.
Concept is also shown with Concept I-4a.

DESCRIPTION

- Add eastbound right lane on SR 32 at Little Dry Run Intersection (adjacent property is vacant).

- flow. This will also improve safety by protecting turning traffic.
- No additional comments were received following the 9/5 meeting.

NEEDS ADDRESSED

- P1) Address capacity issues on SR 32 and Little Dry Run.
- P4) Address congestion issues due to slow moving trucks and turning vehicles.
- S1) Address deficient sight distance on Little Dry Run approach to SR 32.

5/16 MEETING DISCUSSION AND COMMENTS

- This concept would result in a slight realignment at the intersection.
- No additional comment received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- This concept results in an improvement to PM peak traffic, reducing delays by 45 percent as compared to the No Build option; there is no improvement to AM peak traffic.
- The proposed dedicated right turn lane adds efficiency and reduces congestion by removing the turning traffic from the through traffic

12/10 MEETING DISCUSSION AND COMMENTS

- This concept was presented as C1 at the October Open House meetings.*
- The Advisory Committee noted that feedback from the public was supportive with only 6% respondents strongly opposing (3%) or disliking (3%) this option (see Public Feedback Ratings Summary, next page).

NEXT STEPS/RECOMMENDATION

- The addition of a right turn lane could be included in concept I-5a (B2), which addresses the intersection of SR 32 and Round Bottom Road and includes an additional eastbound lane that ends as a right turn at Little Dry Run.
- Include project in Implementation Plan as a high priority, advancing with either 1-5a (B2) or 32-9 (C3).

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|--|--------------------------|---------------------------------------|---|--|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environment al Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | AM | 47.2 | D | 0% | | | | \$1.6M to \$2.4M (includes I-4a) | 0 | \$80K to \$160K (includes I-4a) | C2 | R/W, Stream Impact, Waterway Permit, Potential T&E, ESA Issues | Neutral | Neutral | Neutral |
| | PM | 33.0 | C | 45% | | | | | | | | | | | |

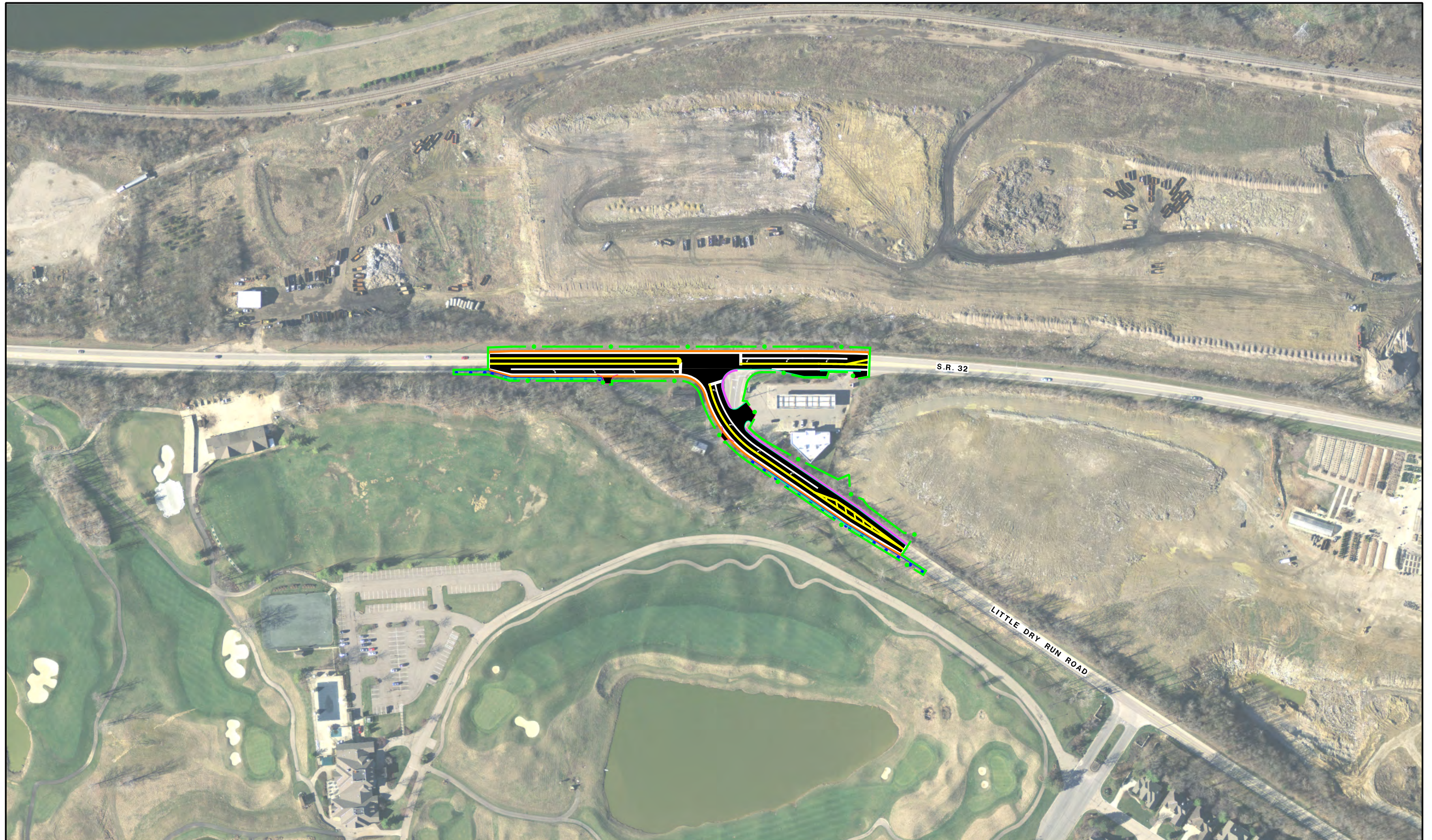


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May 2018



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure I-4A and I-4B
EXTEND STORAGE LENGTH AT THE INTERSECTION
OF S.R. 32 AND LITTLE DRY RUN ROAD



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FEET
September 2018



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure I-4A and I-4B
EXTEND LEFT TURN STORAGE LENGTHS AND
ADD RIGHT TURN LANE AT THE INTERSECTION
OF S.R. 32 AND LITTLE DRY RUN ROAD

Drawing was presented at the October 24 & 25 Open House meetings.



SR 32 and Little Dry Run Intersection Improvements

- \$1.6M to \$2.4M construction cost
- New R/W needed from 5 parcels; no buildings impacted
- Reduce delay during PM peak by approximately 45%
- Modify curve on Little Dry Run to improve visibility at intersection
- Walls required along SR 32 to protect creek

PUBLIC FEEDBACK RATINGS SUMMARY

| Strongly Oppose | Dislike | Neutral | Like | Strongly Support |
|-----------------|---------|---------|------|------------------|
| 3% | 3% | 35% | 26% | 32% |

(percentages have been rounded)

DESCRIPTION

- Install a continuous Green Tee intersection at Little Dry Run. This would allow traffic continuing in the westbound lane to flow continuously and bypass the signal.

NEEDS ADDRESSED

- P1) Address capacity issues on SR 32 and Little Dry Run.
- P3) Address westbound AM peak-hour delays.
- P4) Address congestion issues due to slow moving trucks and turning vehicles.
-
- S1) Address deficient sight distance on Little Dry Run approach to SR 32.

5/16 MEETING DISCUSSION AND COMMENTS

- This concept combines elements of Concepts I-4a and I-4b.
- Initial analysis suggests implementation of the Green Tee intersection would dramatically improve westbound AM peak-hour delays.
- The impact of implementing this concept for traffic signals farther west on SR 32 will need to be evaluated. Currently, there is no coordination between these signals.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- Considered on its own, this concept works well, resulting in an improvement to AM and PM peak traffic, reducing delays by 91 percent (AM) and 48 percent (PM) as compared to the No Build option.
- TransModeler simulations take downstream traffic into effect, assuming signal timing improvements at intersections of SR 32 with Church Street, Round Bottom Road and Ivy Hills Place but no other capacity improvements. Those show a 46 percent decrease in AM peak delays and 58 percent PM delay decrease.
- The Committee expressed concerns that traffic delays encountered farther west (e.g., at intersections of SR 32 with Church, Round Bottom and Ivy Hills, as well as the intersection of Church and Valley Ave.) will impact how much benefit this improvement provides.
- This is why it will be important to prioritize improvements throughout the corridor. For example, it may be more valuable to address issues at Round Bottom or Church and SR 32, which consider westbound AM traffic delays, prior to considering improvements at Little Dry Run.
- No additional comments were received following the 9/5 meeting.

12/10 MEETING DISCUSSION AND COMMENTS

This concept was presented as C2 at the October Open House meetings.

- The Advisory Committee noted that feedback from the public was generally supportive with 32% of respondents strongly supporting and 32% liking this option (see Public Feedback Ratings Summary, next page).
- The committee reviewed comments submitted from the public and noted the accuracy of one comment that stated the volume of traffic on westbound SR 32 would make it difficult for motorists attempting

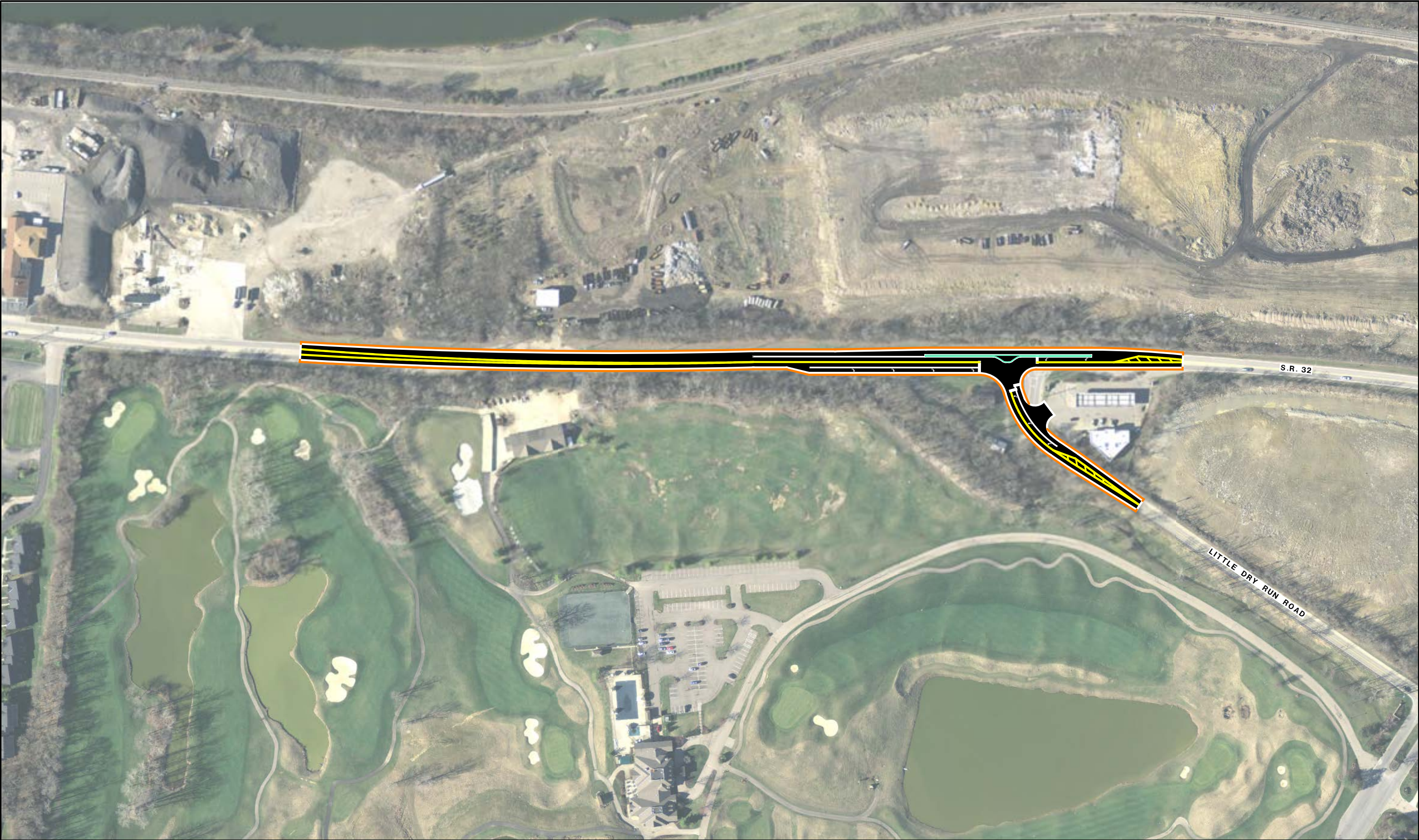
Concept drawings are presented on the following pages.

- to turn onto SR 32 from Little Dry Run during peak travel times.
- ODOT/Stantec suggested not pursuing this option until improvements in Newtown are complete.

NEXT STEPS/RECOMMENDATION

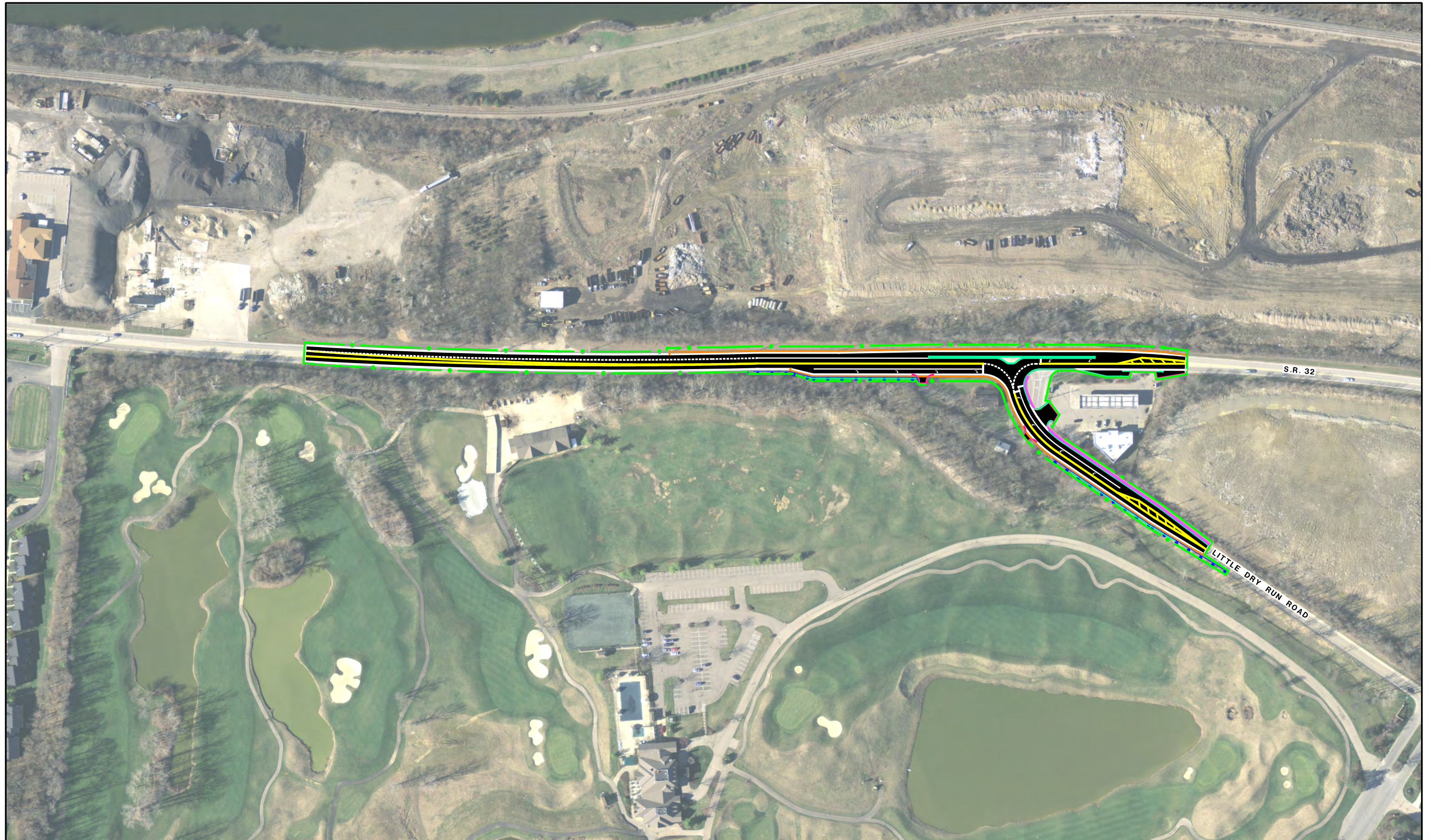
- Advance this option, but reevaluate and construct only after congestion issues on westbound SR 32 further west have been addressed by B2.
- Include project in Implementation Plan as a low priority.

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|----------------------|--------------------------|--------------------|--|--|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | AM | 4.3 | A | 91% | 7.9 | A | 46% | \$1.9M to \$2.8M | 0 | \$50K to \$100K | C2 | R/W, Stream Impact, Waterway Permit, Potential T&E, ESA Issues | Neutral | Neutral | Neutral |
| | PM | 31.6 | C | 48% | 16.8 | B | 58% | | | | | | | | |



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure I-4C
CONTINUOUS GREEN TEE INTERSECTION AT
LITTLE DRY RUN ROAD



0 100 200 FEET 400
September 2018



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure I-4C
CONTINUOUS GREEN TEE INTERSECTION AT
LITTLE DRY RUN ROAD

Drawing was presented at the October 24 & 25 Open House meetings.



Signalized Green Tee Intersection at SR 32 and Little Dry Run

- \$1.9M to \$2.8M construction cost
- New R/W needed from 5 parcels; no buildings impacted
- Reduce delay during AM peak by approximately 90%; PM peak by approximately 50%
- Westbound thru movement bypasses traffic signal
- Modify curve on Little Dry Run to improve visibility at intersection
- Wall required along SR 32 to protect creek

PUBLIC FEEDBACK RATINGS SUMMARY

| Strongly Oppose | Dislike | Neutral | Like | Strongly Support |
|-----------------|---------|---------|------|------------------|
| 5% | 11% | 20% | 32% | 32% |

(percentages have been rounded)

Concept not drawn.

DESCRIPTION

- Need speed study on SR 32 at Little Dry Run to consider lower legal speed.

NEEDS ADDRESSED

None identified.

5/16 MEETING DISCUSSION AND COMMENTS

- Concept was not discussed at the meeting.
- No additional comments were received following 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- A speed reduction on SR 32 between Ivy Hills Place and the eastern corp. limit was approved. Speed was reduced from 50 to 45 m.p.h.
- At the 9/5 meeting, representatives of the Village of Newtown inquired as to when speed limit signs would be adjusted. Tom Arnold will follow up with timing details.
- No additional comments were received following the 9/5 meeting.

12/10 MEETING DISCUSSION AND COMMENTS

- Newtown has completed the speed reduction study and reducing the speed from 50 mph to 45 mph has been approved. ODOT is currently preparing to install new speed limit signs.

NEXT STEPS/RECOMMENDATIONS

- ODOT to install new speed limit signs soon based on results of speed study.

| 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 |
|--------|--------------------|-------------------------|---|-------------|-----------------------------------|---|-------------------------------|----------------------|----------------------|
| | | | Village of Newtown to advance this concept. | | | | | | NEWTOWN WILL ADVANCE |

COMPLETE

Concept drawing is presented on the following page.

DESCRIPTION

- Add center turn lane from Little Dry Run to Newtown’s east corp. limit.

NEEDS ADDRESSED

- P1) Address capacity issues on SR 32 and Little Dry Run.
- P3) Address westbound AM peak-hour delays.
- P4) Address congestion issues due to slow moving trucks and turning vehicles.

5/16 MEETING DISCUSSION AND COMMENTS

- Concept was not discussed at the meeting.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- Village of Newtown has been investigating this concept with Brandstetter Carroll.
- Center turn lane would be beneficial to business and residents east of Little Dry Run.
- Brandstetter Carroll to share work to date with Stantec/ODOT.
- No additional comments were received following the 9/5 meeting.

12/10 MEETING DISCUSSION AND COMMENTS

- This concept was presented as C3 at the October Open House meetings.*
- The committee noted that this project was received favorably by the public; 35% Strongly Support, 27% Like. (see Public Feedback Ratings Summary, next page).
 - There may also be benefit to building this project in conjunction with the proposed ANCOR connector which would provide a new link between SR 32 and Broadwell [see concepts A-1 (C10) and A-2 (C11)].
 - ODOT noted that the left-turn lane created by this project would complement the ANCOR connector project.
 - This option could logically be bundled with concept I-5a (B2), which addresses the intersection of SR 32 and Round Bottom Road and includes an additional eastbound lane that ends as a right turn at Little Dry Run. Other modifications could be considered from 4a (C1) or I-4b (C1) as funding allows.
 - It was noted that the Village of Newtown is to receive funding to complete a storm water replacement project but it may be waiting to see what will happen with this project before proceeding.
 - If the storm water project is subject to a funding time limit, it may be possible to coordinate the completion of that project with this one. The Village would prefer not to “move dirt” twice.
 - The storm water project will benefit Burger Farm’s plans for developing its 80 acres, and Burger is ready to proceed with their plans.
 - Access to the Burger development would remain through the main entrance of SR 32. There also is a potential second entrance point on Little Dry Run that will allow access to the future wedding event center, sports complex parking lot and other development components such as condos.
 - Mr. Burger noted that there would likely be little interest in a shared-use path along the west side of Little Dry Run leading to SR 32 because the area will be developed for ‘agri-tourism’ and ‘agri-tainment’ and will need to include a parking lot for 700-800 cars.

NEXT STEPS/RECOMMENDATIONS

- Include project in the Implementation Plan as a high priority.
- Considering including a sidewalk or shared-use path with the project as outlined in concept 32-7 (B6).
- Possible HSIP funding.

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|----------------------|--------------------------|----------|--|----------------------|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| 0.3 | | | | | | | | \$1.0M to \$1.5M | | | | | Neutral | Neutral | Improves |

PRIORITY: HIGH

Drawing was presented at the October 24 & 25 Open House meetings.



SR 32 Widening for Center Turn Lane

- \$1.0M to \$1.5M construction cost
- Little Dry Run to east corp. limit
- Possible new R/W needed; no buildings impacted
- Being developed by Village of Newtown

PUBLIC FEEDBACK RATINGS SUMMARY

| Strongly Oppose | Dislike | Neutral | Like | Strongly Support |
|-----------------|---------|---------|------|------------------|
| 2% | 11% | 26% | 27% | 35% |

(percentages have been rounded)

Concept drawings are presented on the following pages.

DESCRIPTION

- Add westbound left turn lane at Hickory Creek Drive.
- as a high-crash location by ODOT.
 - No additional comments were received following the 9/5 meeting.

NEEDS ADDRESSED

- P2) Address rear-end crashes on SR 32 related to left turns onto Hickory Creek Drive.
- P3) Address westbound AM peak-hour delays.
- P4) Address congestion issues due to slow moving trucks and turning vehicles.

5/16 MEETING DISCUSSION AND COMMENTS

- Concept would help address rear-end crashes at this intersection.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- Because of the volume of traffic on SR 32, there are few gaps for drivers attempting to turn left onto Hickory Creek Drive, which provides access to a small subdivision.
- It’s possible this project could be addressed with safety funding; that would require a more detailed cost/benefit analysis.
- While there are rear-end crashes at this intersection, it is not ranked

12/10 MEETING DISCUSSION AND COMMENTS

This concept was presented as C4 at the October Open House meetings.

- The Advisory Committee noted that feedback from the public tended toward neutral, with 44% people giving the project a neutral rating (see Public Feedback Ratings Summary, next page). It was also noted that there are only 10-12 residential properties in the affected area and most survey respondents probably do not live there.
- The committee agreed to designate this concept as a low priority in the Implementation Plan because of the low impact this project would have.
- This project does not currently qualify for ODOT safety funds, nor is it is expected to attract other funding sources.

NEXT STEPS/RECOMMENDATION

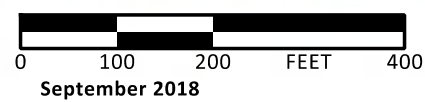
- Include project in Implementation Plan as a low priority.

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|----------------------|--------------------------|--------------|--|---|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | | | | | | | | \$1.3M to \$1.9M | 0 | \$0 to \$30K | C2 | R/W, Stream Impact, Waterway Permit, Potential T&E | Neutral | Neutral | Improves |

PRIORITY: LOW



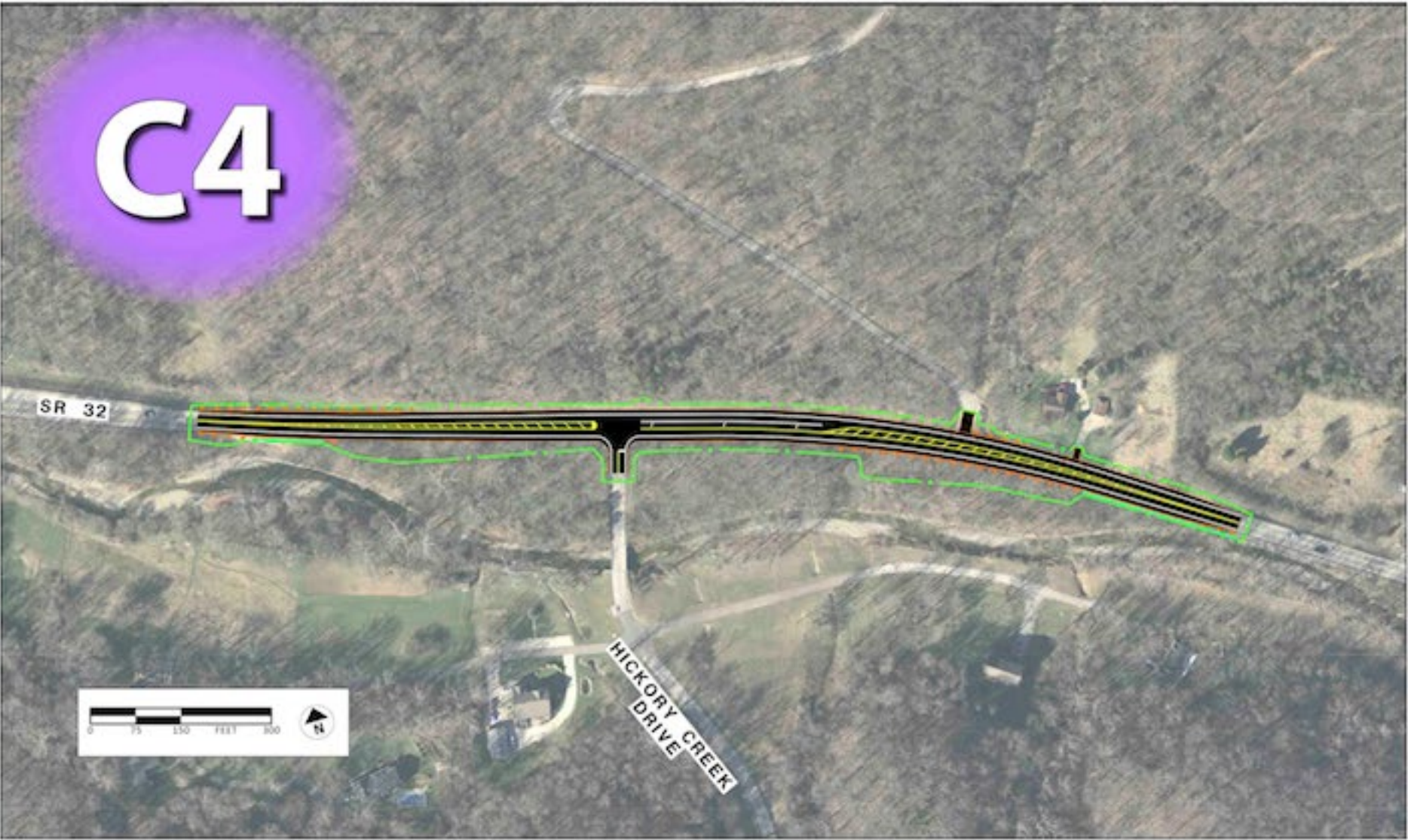
| | | | |
|---|---|---|---|
|  <p>0 100 200 FEET 400</p> <p>MARCH 2018</p>  |  <p>Stantec</p> | <p>Concept Drawing Eastern Corridor Projects Segment II-III (S.R. 32 Corridor) HAM-32F-0.00; PID 86462</p> | <p>Figure 32-10 S.R. 32 WESTBOUND TURN LANE AT HICKORY CREEK</p> |
|---|---|---|---|



Concept Drawing
 Eastern Corridor Projects
 Segment II-III (S.R. 32 Corridor)
 HAM-32F-0.00; PID 86462

Figure 32-10
 S.R. 32 WESTBOUND TURN LANE AT HICKORY CREEK

Drawing was presented at the October 24 & 25 Open House meetings.



Left Turn Lane at Hickory Creek

- \$1.3M to \$1.9M construction cost
- New R/W needed from 8 parcels; no buildings impacted
- Addresses rear-end crashes and morning congestion
- Requires one retaining wall

PUBLIC FEEDBACK RATINGS SUMMARY

| Strongly Oppose | Dislike | Neutral | Like | Strongly Support |
|-----------------|---------|---------|------|------------------|
| 5% | 11% | 44% | 20% | 20% |

(percentages have been rounded)



Eastern Corridor Segments II and III ANCOR/SR 32 Hill Focus Area

Theme

SR 32 – EIGHT MILE ROAD AND SR 32 HILL

Primary Needs identified for this theme:

- P5) Address capacity issues on Eight Mile Road.
- P6) Address safety issues for vehicles turning at Eight Mile Road.
- P7) Address deficient sight distance and roadway grade issues.
- P8) Address crash trends on the SR 32 hill.
- P9) Address roadway grade deficiencies on the SR 32 hill to improve truck mobility.
- P10) Address roadway curve deficiencies on the SR 32 hill.

Secondary Needs identified for this theme:

None.

Concept drawing is presented on the following page.

DESCRIPTION

- Lengthen left turn lane from Eight Mile Road to SR 32.
- Raise Eight Mile approach to SR 32 to eliminate steep grade at intersection.

NEEDS ADDRESSED

- P5) Address capacity issues on Eight Mile Road.
- P6) Address safety issues for vehicles turning at Eight Mile Road.

5/16 MEETING DISCUSSION AND COMMENTS

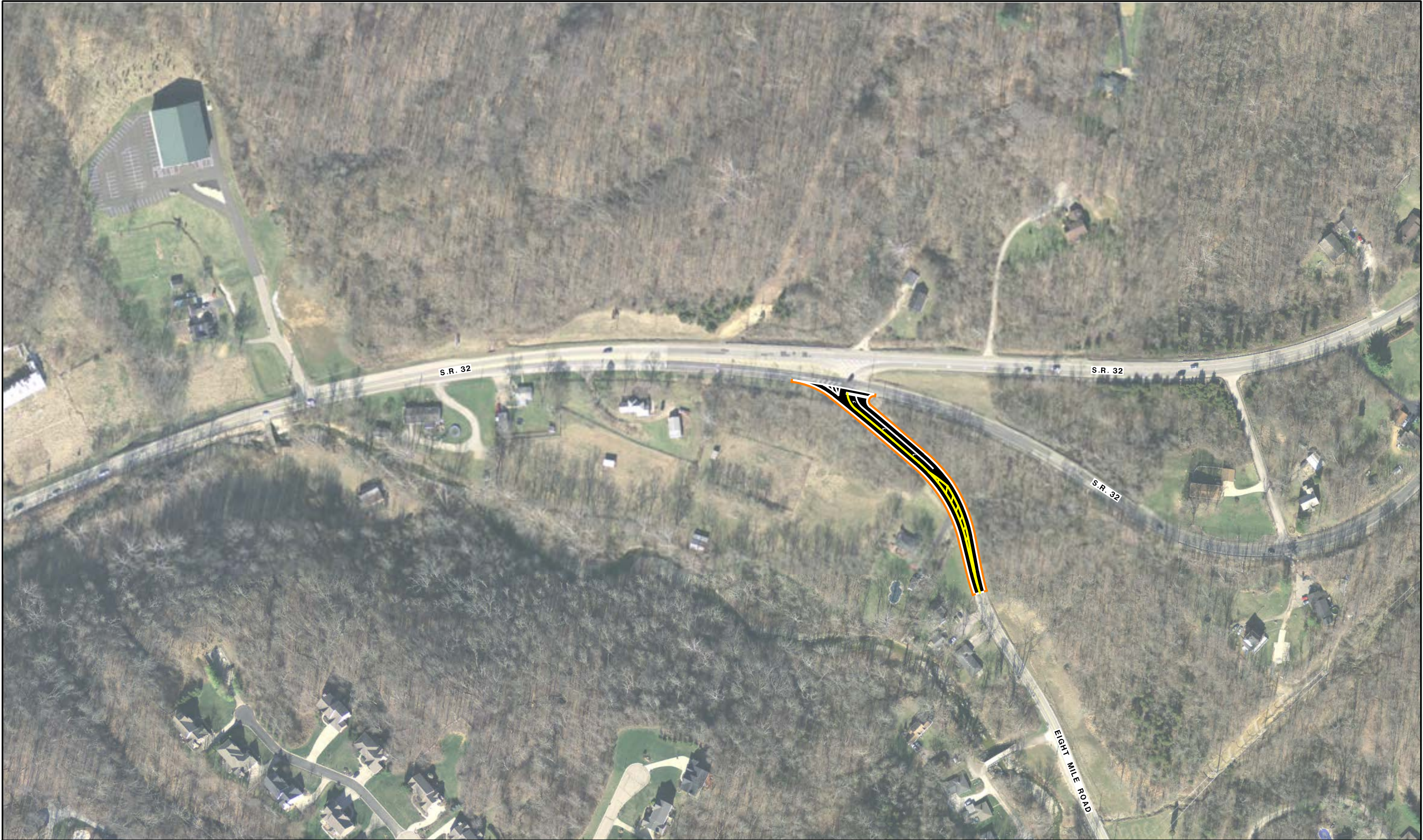
- The concept does not address primary needs in the area.
- The cost of this concept would be significant, but the project does not appear to offer significant benefit as currently proposed.
- Right of way or easements would be needed to modify the SR 32/Eight Mile intersection.
- This concept has a low anticipated cost/benefit ratio. It doesn't fully address needs on SR 32 in the intersection.
- No additional comments were received 5/16 meeting.

NEXT STEPS/RECOMMENDATION

- No further study. This concept is not being advanced due to the anticipated low cost/benefit ratio of this improvement solely on Eight Mile. It does not fully address needs on SR 32 at the intersection.

| 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 |
|----------|--------------------|-------------------------|-------------------|----------------|-----------------------------------|---|-------------------------------|----------------------|------------------|
| IMPROVES | NEUTRAL | COMPLEX | ?? | PROPERTY TAKES | MINIMAL (D1/D2) | NEUTRAL | NEUTRAL | NEUTRAL | NO FURTHER STUDY |

RECOMMENDATION: NO FURTHER STUDY



| | | | |
|--|--|--|--|
| <div data-bbox="139 1814 528 1905"><p>0 100 200 FEET 400</p></div> <div data-bbox="543 1804 652 1905"></div> | <div data-bbox="714 1814 1056 1905"></div> | <div data-bbox="1554 1804 1926 1905"><p>Concept Drawing Eastern Corridor Multi-Modal Projects Segment II-III (SR 32 Corridor) HAM-32F-0.00; PID 86462</p></div> | <div data-bbox="2439 1814 2874 1905"><p>Figure I-3A EIGHT MILE ROAD LEFT TURN LANE EXTENSION AND GRADE IMPROVEMENTS</p></div> |
|--|--|--|--|

Concept drawings are presented on the following pages.

DESCRIPTION

- Install a signalized continuous Green Tee intersection at Eight Mile Road.
 - Signal would manage flow through the SR 32/Eight Mile intersection and control left-hand turns onto Eight Mile from westbound SR 32.
 - A dedicated westbound lane on SR 32 would allow westbound traffic to flow continuously through the SR 32 and Eight Mile intersection; no stopping needed.

NEEDS ADDRESSED

- P5) Address capacity issues on Eight Mile Road.
- P6) Address safety issues for vehicles turning at Eight Mile Road.
- P7) Address deficient sight distance and roadway grade issues.

5/16 MEETING DISCUSSION AND COMMENTS

- Right of way or easements would be needed to modify the SR 32/Eight Mile intersection.
- This concept could be a first step leading toward the future construction of Concept 1-3e.
- This concept would address grade issues on Eight Mile but not on the SR 32 hill.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- This concept doesn’t provide vertical grade correction of the SR 32 hill.
- Slow traffic heading up the hill could be an issue for heavily loaded trucks; however, because the concept provides two lanes up the hill, trucks would be able to move into the right lane instead of being forced into the left lane as they are today.
- This alternative will provide a protected left turn onto Eight Mile from westbound SR 32 which will improve safety at the intersection. Congestion also will be reduced by providing a turn lane to facilitate left turns without slowing down the flow of traffic.
- No additional comments were received following the 9/5 meeting.

12/10 MEETING DISCUSSION AND COMMENTS

This concept was presented as C5 at the October Open House meetings.

- The right turning movement from northbound Eight Mile Road to eastbound SR 32 should be studied further to account for trucks that turn wide and encroach into the opposite lane.
- This intersection ranks on ODOT’s statewide crash list. The committee agreed that this high crash rate makes implementing this concept a high priority.
- This concept should include the additional warning signs, as outlined in concept 32-16, to alert drivers that the left lane is ending at Eight Mile.

NEXT STEPS/RECOMMENDATION

- Include project in Implementation Plan as a high priority.
- Consider including advanced signing as outlined in 32-16.
- This concept could function as Phase 1 of concept C6.
- HSIP and STP funding could be used on this project.
- Reevaluate the right turn from Eight Mile to eastbound SR 32 to see if minor realignment can improve acute angle.

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|----------------------|--------------------------|---------------------|--|---|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| -0.5 | AM | 8.8 | A | 79% | | | | \$2.0M to \$3.1M | 0 | \$100K to \$200K | C2 | R/W, Stream Impact, Waterway Permit, Potential T&E | Neutral | Neutral | Neutral |
| | PM | 19.3 | B | 71% | | | | | | | | | | | |



Concept Drawing
Eastern Corridor Multi-Modal Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure I-3B
SIGNALIZED GREEN TEE INTERSECTION AT
S.R. 32 AND EIGHT MILE ROAD



0 100 200 FEET 400
September 2018



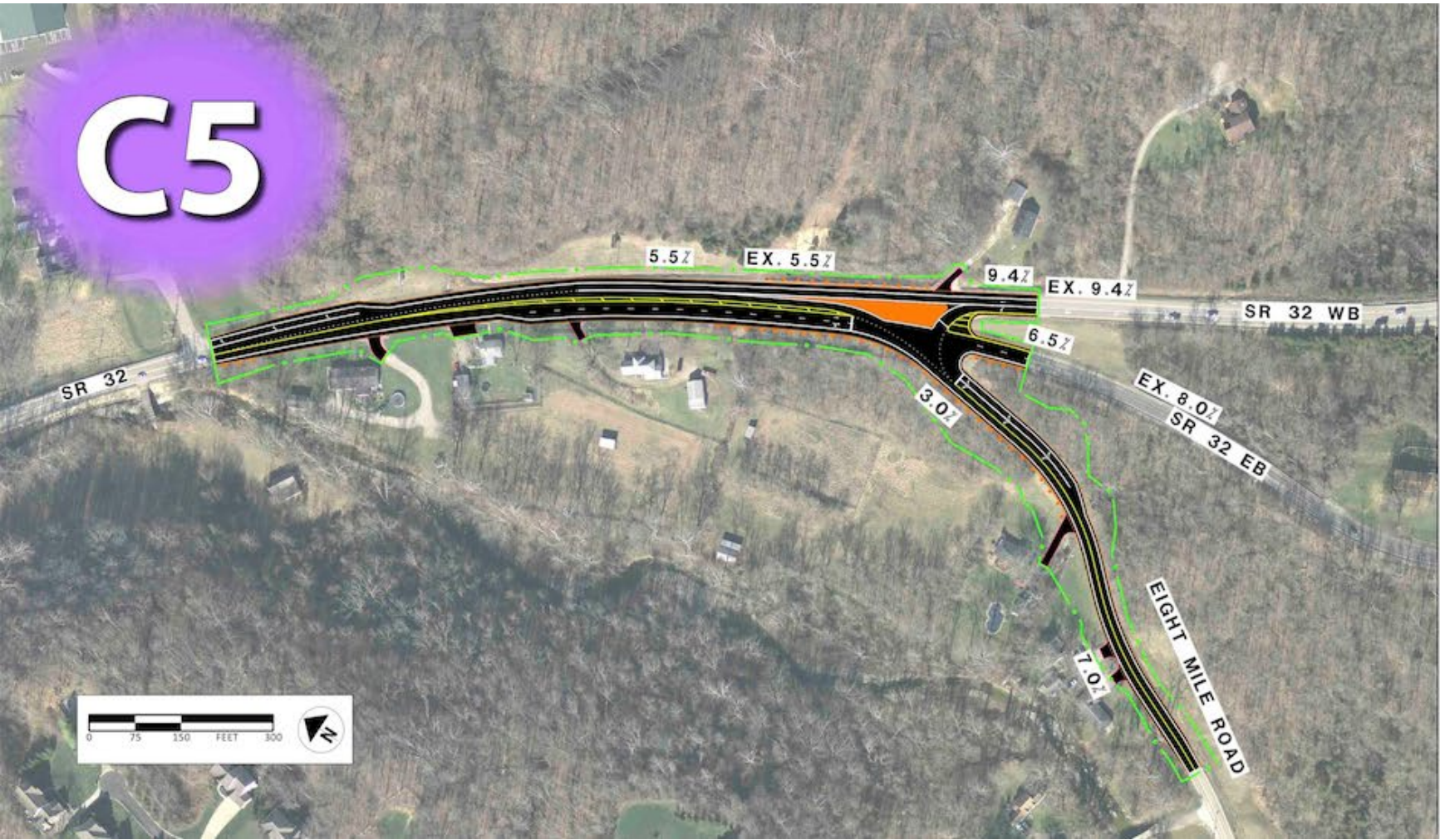
Concept Drawing

Eastern Corridor Multi-Modal Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure I-3B

SIGNALIZED GREEN TEE INTERSECTION AT
S.R. 32 AND EIGHT MILE ROAD

Drawing was presented at the October 24 & 25 Open House meetings.



Signalized Green Tee Intersection at SR 32 and Eight Mile

- \$2.0M to \$3.1M construction cost
- New R/W needed from 11 parcels; no buildings impacted
- Reduce delay by approximately 75%
- New traffic signal
- Westbound thru movement bypasses signal
- Improves grade on Eight Mile; no grade changes on SR 32
- Reduces the likelihood of severe crashes

PUBLIC FEEDBACK RATINGS SUMMARY

| Strongly Oppose | Dislike | Neutral | Like | Strongly Support |
|-----------------|---------|---------|------|------------------|
| 8% | 10% | 33% | 19% | 30% |

(percentages have been rounded)

Concept drawing is presented on the following page.

DESCRIPTION

- Install a roundabout at Eight Mile Road.

NEEDS ADDRESSED

- P5) Address capacity issues on Eight Mile Road.
- P6) Address safety issues for vehicles turning at Eight Mile Road.

5/16 MEETING DISCUSSION AND COMMENTS

- Installing a roundabout at this location will be challenging due to topography.
- As drawn, the movement from SR 32 eastbound to Eight Mile would be difficult due to the slight shift in roadway alignment as it enters the roundabout.
- It may be difficult for vehicles, especially trucks, traveling at 60 mph or above to slow down for the roundabout. However, one of the benefits of a roundabout is to slow down traffic while allowing it to flow continuously.
- The financial costs of installing a roundabout at this location may exceed benefit offered.
- No additional comments were received following the 5/16 meeting.

NEXT STEPS/RECOMMENDATION

- No further study due to the concern of having a roundabout at the base of the steep portion of the hill, which would require vehicles coming down the hill to decelerate before getting to the roundabout.

| 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 |
|---------|--------------------|-------------------------|-------------------|----------------|-----------------------------------|---|-------------------------------|----------------------|------------------|
| NEUTRAL | IMPROVES | COMPLEX | < \$5 MILLION | PROPERTY TAKES | MODERATE | NEUTRAL | NEUTRAL | NEUTRAL | NO FURTHER STUDY |

RECOMMENDATION: NO FURTHER STUDY



Concept Drawing
Eastern Corridor Projects
Segment II-III (S.R. 32 Corridor)
HAM-32F-0.00; PID 86462

Figure I-3C
ROUNDBOUT AT EIGHT MILE ROAD
AND S.R. 32 INTERSECTION

Concept drawing is presented on the following page.

DESCRIPTION

- New alignment and grade separation of SR 32 over Eight Mile, using ramps, improving grade for truck traffic on SR 32.
 - Reconstruct the SR 32/Eight Mile intersection.
 - Grade separate the two roads; SR 32 would travel over Eight Mile.
 - Construct ramps that would provide access from Eight Mile to SR 32.
 - Reduce the grade on SR 32.

NEEDS ADDRESSED

- P5) Address capacity issues on Eight Mile Road.
- P6) Address safety issues for vehicles turning at Eight Mile Road.
- P7) Address deficient sight distance and roadway grade issues.
- P10) Address roadway curve deficiencies on the SR 32 hill.

5/16 MEETING DISCUSSION AND COMMENTS

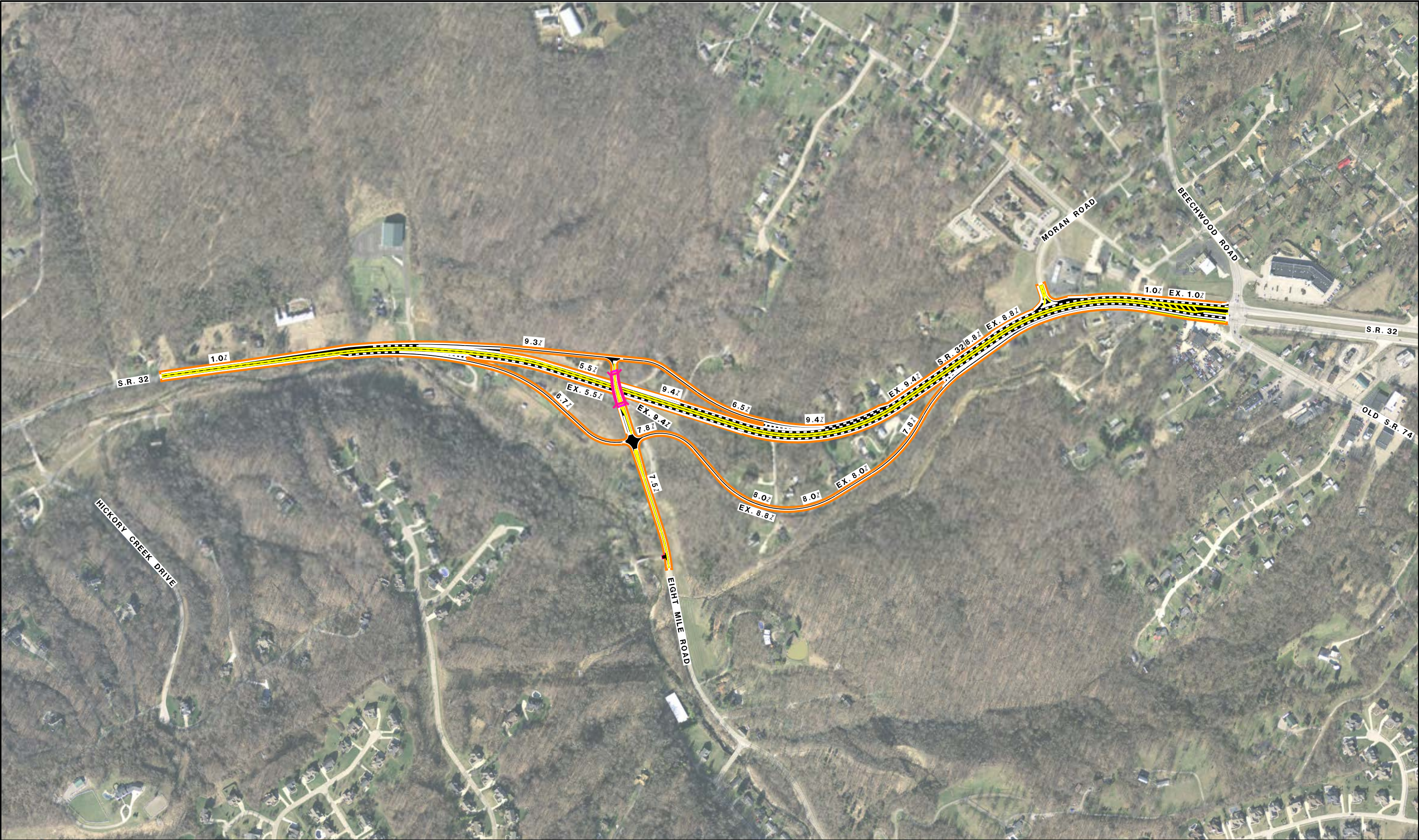
- Grade on the steepest part of the SR 32 hill would remain the same as it is today.
- Concept would be very expensive to construct.
- Preliminary analysis indicates that costs would likely far exceed benefits.
- Other concepts appear to work better.
- No additional comments were received following the 5/16 meeting.

NEXT STEPS/RECOMMENDATION

- No further study. SR 32 does not need high speed (interstate-like) ramp terminals given added cost and impacts.

| 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 |
|----------|--------------------|-------------------------|-------------------|-------------|-----------------------------------|---|-------------------------------|----------------------|------------------|
| IMPROVES | IMPROVES | COMPLEX | > \$10 MILLION | RELOCATIONS | MODERATE (C1/C2) | NEUTRAL | NEUTRAL | NEUTRAL | NO FURTHER STUDY |

RECOMMENDATION: NO FURTHER STUDY



Concept Drawing
Eastern Corridor Projects
Segment II-III (S.R. 32 Corridor)
HAM-32F-0.00; PID 86462

Figure I-3D-1
S.R. 32 GRADE SEPARATED INTERCHANGE AT EIGHT MILE ROAD

Concept drawing is presented on the following page.

DESCRIPTION

- Relocate Eight Mile/SR 32 intersection to the west to move away from the hill using a signalized Green Tee.
- Possibly align with Ambassador’s Pointe Community Church drive to assist with access issues.

NEEDS ADDRESSED

- P5) Address capacity issues on Eight Mile Road.
- P6) Address safety issues for vehicles turning at Eight Mile Road.
- P7) Address deficient sight distance and roadway grade issues.

5/16 MEETING DISCUSSION AND COMMENTS

- Concept moves the intersection away from the steepest part of the SR 32 hill.
- This shift reduces the need for eastbound vehicles to slow down on the hill to make room for vehicles turning onto SR 32 from Eight Mile (it can be difficult for larger vehicles to regain a normal traveling speed on this hill due to its steep grade).
- A new Green Tee intersection would allow westbound traffic to flow continuously through the intersection. However, this may have an impact on vehicles turning into and out of Ambassador’s Pointe Community Church.
- Concept would require acquiring several residential properties.
- No additional comments were received following the 5/16 meeting.

NEXT STEPS/RECOMMENDATION

- No further study. Not advanced due to access issues it would create with adjacent properties.

| 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 |
|---------|--------------------|-------------------------|-------------------|-------------|-----------------------------------|---|-------------------------------|----------------------|------------------|
| NEUTRAL | IMPROVES | MODERATE | \$5-10 MILLION | RELOCATIONS | MODERATE (C1/C2) | NEUTRAL | NEUTRAL | DEGRADES | NO FURTHER STUDY |

RECOMMENDATION: NO FURTHER STUDY



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure I-3G
RELOCATE S.R. 32 AND EIGHT MILE ROAD INTERSECTION
AND CHANGE TO A SIGNALIZED GREEN TEE

Concept drawings are presented on the following pages.

DESCRIPTION

- Relocate Eight Mile/SR 32 intersection to the west to get away from SR 32 hill.
- Replace intersection with a roundabout.
- Possibly align roundabout with church driveway to assist with access issues.

NEEDS ADDRESSED

- P5) Address capacity issues on Eight Mile Road.
- P6) Address safety issues for vehicles turning at Eight Mile Road.
- P7) Address deficient sight distance and roadway grade issues.

9/5 MEETING DISCUSSION AND COMMENTS

- This concept doesn’t provide vertical grade correction of the SR 32 hill.
- When this concept was evaluated in TransModeler simulations, it demonstrated significant delays, particularly for traffic eastbound on SR 32 during PM peak hours.
- The concept would require four residential relocations.
- No additional comments were received following the 5/16 meeting.

NEXT STEPS/RECOMMENDATIONS

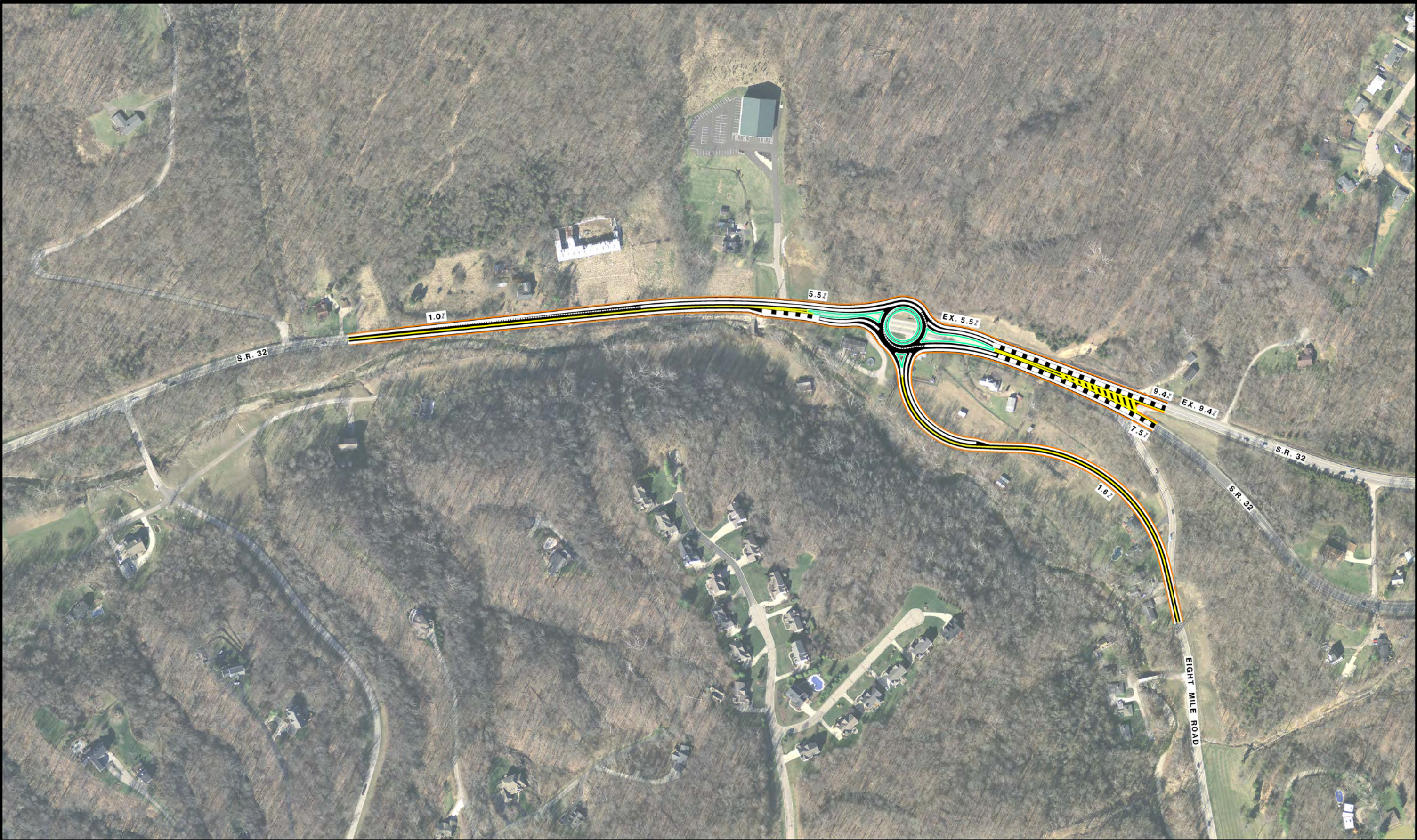
- No further study due to projected increased delays.

5/16 MEETING DISCUSSION AND COMMENTS

- Roundabouts tend to be safer and allow for continuous traffic flow.
 - A roundabout would slow down westbound traffic.
 - Roundabouts can be designed to accommodate freight traffic.
 - Islands where roads enter the roundabout can be raised to help ensure vehicles stay in their intended lanes.
- Proposed placement of the roundabout is intended to avoid the creek located on the south side of SR 32.
- Concept would require right-of-way or easement acquisitions, possibly property acquisitions.
- Concept does not address concerns related to the steep grade of the SR 32 hill.
- No additional comments were received following the 5/16 meeting.

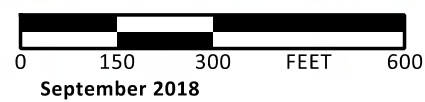
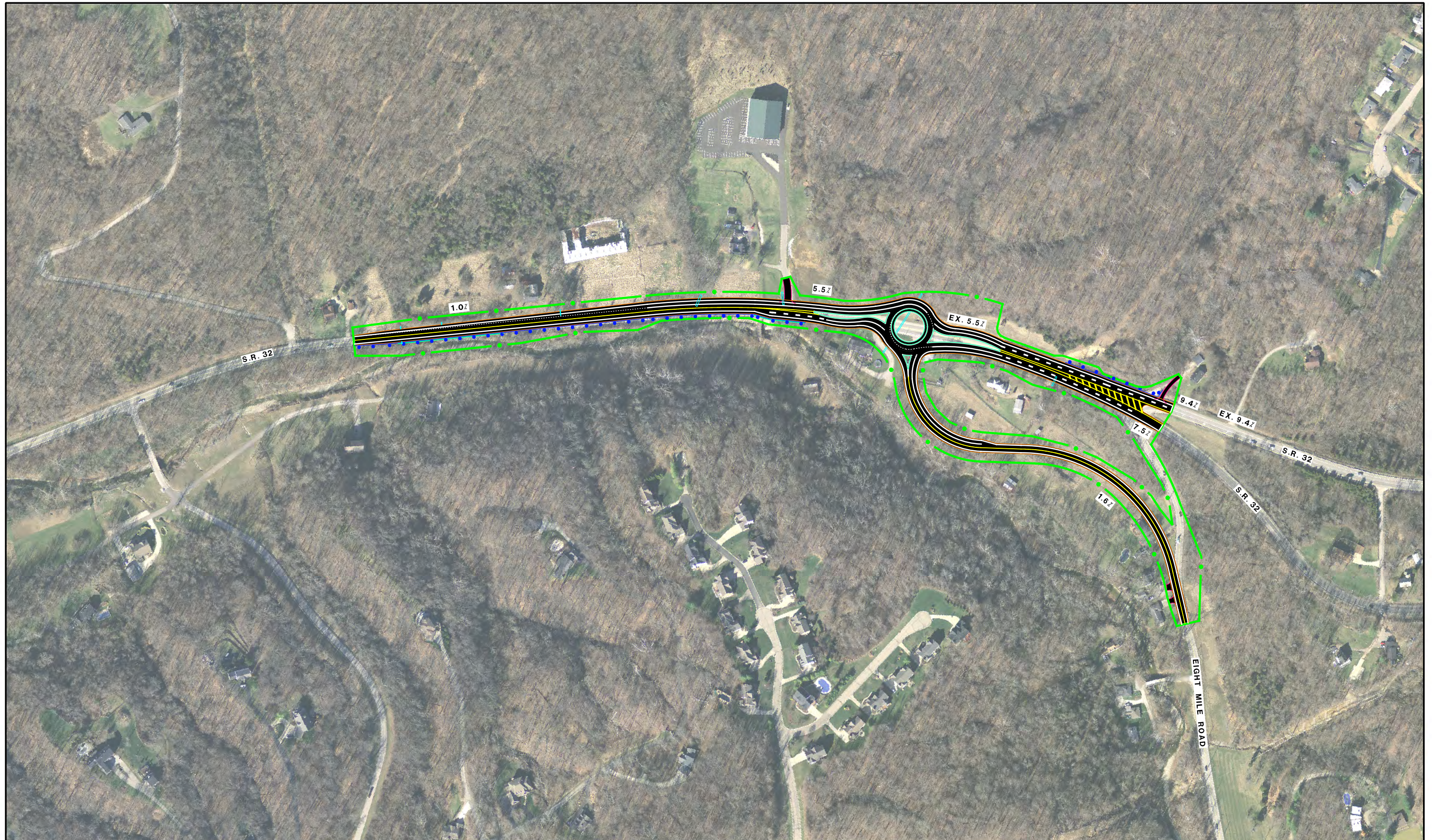
| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------|--------------------|----------------------|----------|---------------------------|----------------------|----------|---------------------------|-------------------|-----------------------|------------------|------------------------------------|-------------------|---------------------------------------|-------------------------------|----------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| 0.0 | AM | 9.7 | A | 76% | 19.7 | C | -68% | \$3.3M to \$4.9M | 4 residential | \$725K to \$1.5M | D2 | R/W, relocations | Neutral | Neutral | Neutral |
| | PM | 14.4 | B | 65% | 64.0 | F | 24% | | | | | | | | |

RECOMMENDATION: NO FURTHER STUDY



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure I-3H
RELOCATE S.R. 32 AND EIGHT MILE ROAD INTERSECTION
AND CHANGE TO A ROUNDABOUT



Concept Drawing
 Eastern Corridor Projects
 Segment II-III (SR 32 Corridor)
 HAM-32F-0.00; PID 86462

Figure I-3H
 RELOCATE S.R. 32 AND EIGHT MILE ROAD INTERSECTION
 AND CHANGE TO A ROUNDABOUT

Concept drawings are presented on the following pages.

DESCRIPTION

- New alignment and grade separation of SR 32 over Eight Mile, using right in right out intersections, improving grade for truck traffic on SR 32.
 - Reconstruct alignment of SR 32 between Eight Mile and Beechwood Road to bring east and westbound lanes back together.
 - Reconstruct the SR 32/Eight Mile intersection to allow SR 32 to travel over Eight Mile.
 - Construct a new entry point on the north side of SR 32 to connect Eight Mile to SR 32; construct new exit point from SR 32 to Eight Mile on south side of SR 32.

NEEDS ADDRESSED

- P4) Address congestion issues due to slow moving trucks and turning vehicles.
- P5) Address capacity issues on Eight Mile Road.
- P6) Address safety issues for vehicles turning at Eight Mile Road.
- P7) Address deficient sight distance and roadway grade issues.
- P10) Address roadway curve deficiencies on the SR 32 hill.

5/16 MEETING DISCUSSION AND COMMENTS

- Concept would bring the east and westbound lanes of SR 32 back together (eliminate the split between the two). The current eastbound lanes of SR 32 between Eight Mile and Moran Road could be used for residential access.
- Concept would require acquiring right-of-way and/or easements to construct new access points to and from SR 32.
- Concept might help reduce crashes in the area.
- The design of this concept may reduce concerns related to the steep grade of SR 32 in this area.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

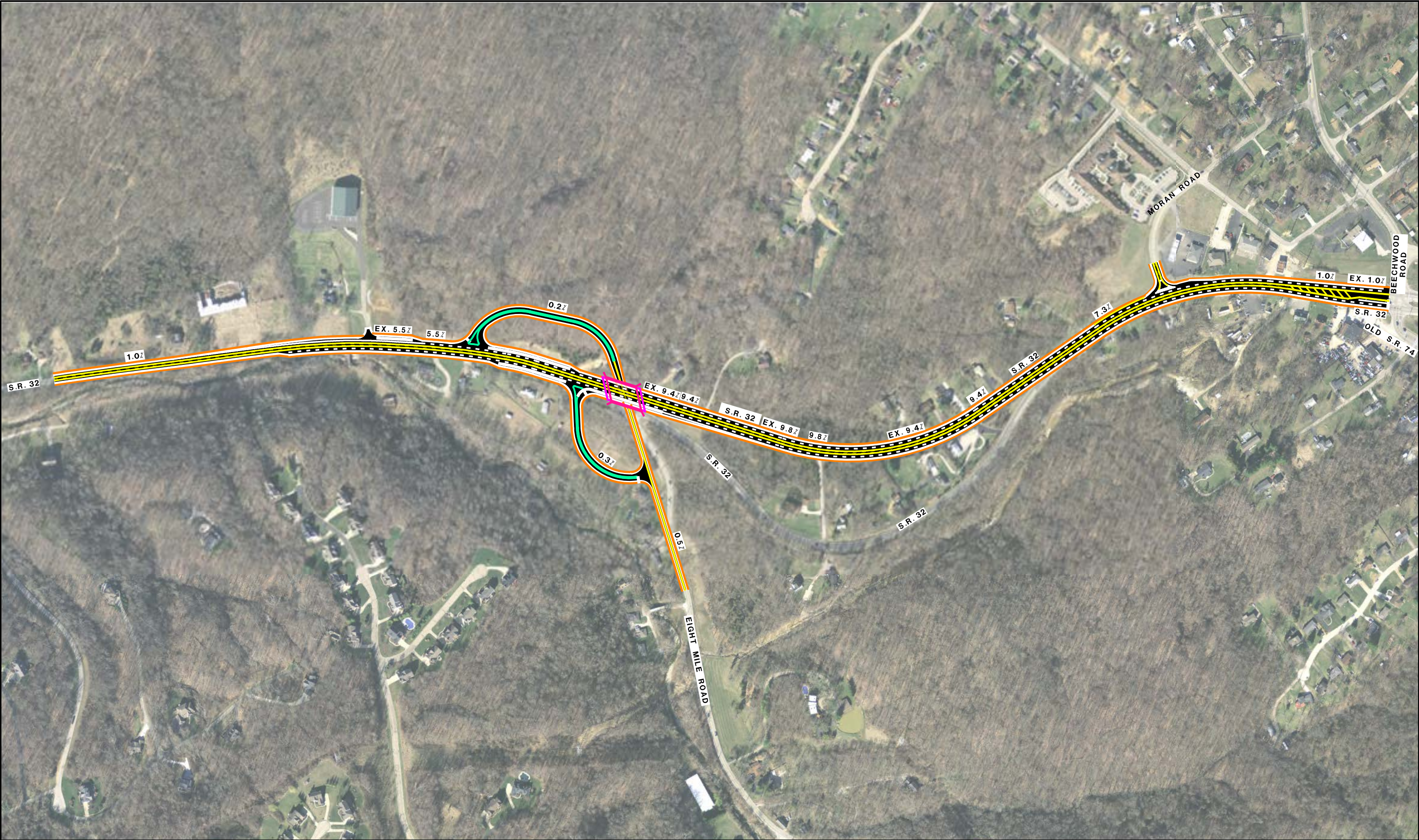
- This concept actually increases the eastbound grade on the eastbound SR 32 hill.
- The cost/benefit analysis for this option is not favorable.
- This concept would result in five residential relocations.
- No additional comments were received following the 9/5 meeting.




NEXT STEPS/RECOMMENDATION

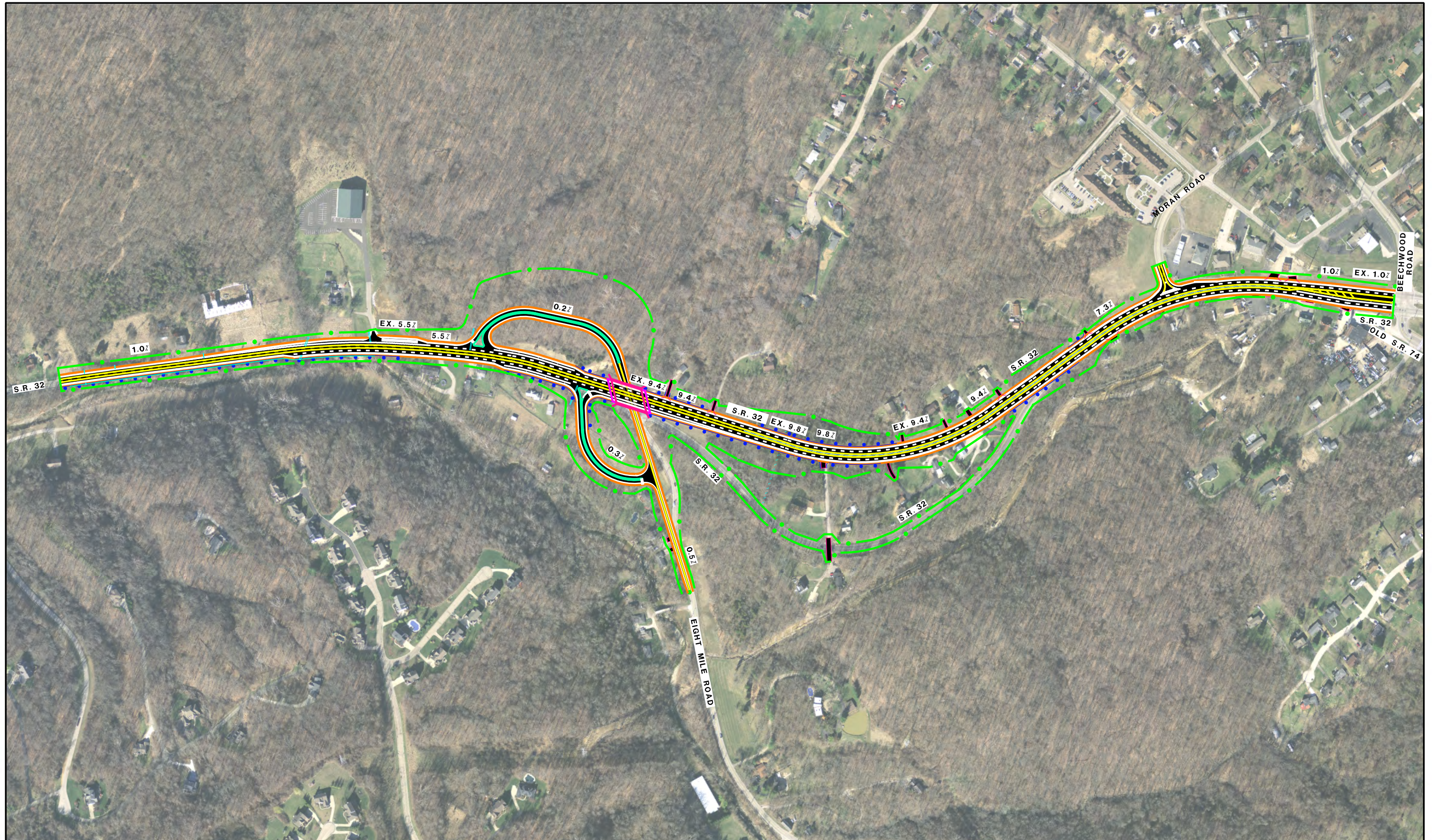
- No further study due to the anticipated low cost/benefit ratio and because the eastbound grade of SR 32 hill is worsened.

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|-----------------------|--------------------------|---------------------|--|----------------------|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | AM | 2.5 | A | 94% | | | | \$15.8M to \$23.7M | 5 residential | \$1.3M to \$2.6M | D2 | R/W, relocations | Neutral | Neutral | Neutral |
| | PM | 4.4 | A | 93% | | | | | | | | | | | |

RECOMMENDATION: NO FURTHER STUDY



| | | | |
|---|---|---|---|
|  <p>0 200 400 FEET 800</p> <p>MARCH 2018</p>  |  <p>Stantec</p> | <p>Concept Drawing Eastern Corridor Projects Segment II-III (S.R. 32 Corridor) HAM-32F-0.00; PID 86462</p> | <p>Figure I-3D-2 NEW S.R. 32 ALIGNMENT AND GRADE SEPARATION AT EIGHT MILE ROAD</p> |
|---|---|---|---|



0 200 400 FEET 800
September 2018



Concept Drawing
Eastern Corridor Projects
Segment II-III (S.R. 32 Corridor)
HAM-32F-0.00; PID 86462

Figure I-3D-2 (Overall View)
NEW S.R. 32 ALIGNMENT AND GRADE SEPARATION
AT EIGHT MILE ROAD

Concept drawings are presented on the following pages.

DESCRIPTION

- New alignment and grade separation of eastbound SR 32 over Eight Mile; signalized continuous Green Tee intersection at Eight Mile and westbound SR 32.
 - Incorporates Concept I-3b (signalized Green Tee intersection).
 - Eastbound SR 32 traffic would travel on new bridge over Eight Mile Road.
 - A new traffic signal would direct traffic entering SR 32 from Eight Mile Road.

NEEDS ADDRESSED

- P4) Address congestion issues due to slow moving trucks and turning vehicles.
- P5) Address capacity issues on Eight Mile Road.
- P6) Address safety issues for vehicles turning at Eight Mile Road.
- P7) Address deficient sight distance and roadway grade issues.
- P8) Address crash trends on the SR 32 hill.
- P10) Address roadway curve deficiencies on the SR 32 hill.

5/16 MEETING DISCUSSION AND COMMENTS

- Primary concerns in this area relate to travel speed and the grade of the road.
 - Currently, it can be difficult for drivers of large vehicles and trucks to reach 50 - 55 mph when traveling eastbound.

- Concerns regarding grade are tied directly to the movement of freight along SR 32.
- The new eastbound SR 32 alignment would reduce the grade on the SR 32 hill to 7.5%. A 6% grade is considered the desired maximum.
- Concept would eliminate the “S” curve on the SR 32 hill, a documented crash location.
- Concept would use as much existing pavement as possible but would require right-of-way and/or easement acquisitions for widening portions of SR 32.
- Construction of new alignment may require acquiring several residential properties.
- No changes would be made to westbound SR 32.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- This concept shows improvement to traffic flow and improves the grade on the eastbound portion of the SR 32 hill where it ties into the new alignment. Grade decreases from the current 8 percent to 5.7 percent.
- This concept could be phased as the second portion of the Green Tee intersection (Concept I-3b).
- Trucks traveling up the hill could use the right lane instead of being forced into the left lane as they are today.
- This concept requires the acquisition of six residences.
- No additional comments were received following the 9/5 meeting.

12/10 MEETING DISCUSSION AND COMMENTS

- This concept was presented as C6 at the October Open House meetings.*
- It was noted that this project would solve half of the hill’s steep grade issue, which could be favorable to trucks.
 - A written comment received from the public noted that this proposed new alignment would impact designated green space, which is protected by Anderson Township. Anderson Township will look into this in more detail. If confirmed, then the green space may be an obstacle to completing the project. Mitigation may be necessary if the project were to advance.
 - This project would impact residents in the area. If it were to move forward, more public involvement would be needed.
 - The estimated cost for the project is high. Transportation Review Advisory Council (TRAC) funding may be necessary, as well as other funding sources.
 - The committee discussed building concept I-3b (C5) first, then reassessing the need for concept I-3e (C6).

NEXT STEPS/RECOMMENDATION

- Include project in Implementation Plan as a medium priority.
- Consider including advanced signing as outlined in 32-16.
- Could be phased by building I-3b (C5) first and adding new eastbound lanes at a later date.

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|-----------------------|--------------------------|---------------------|--|--------------------------------------|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| 0.0 | AM | 1.5 | A | 96% | 2.6 | A | 78% | \$11.7M to \$17.5M | 6 residential | \$1.9M to \$3.7M | D2 | R/W, relocations, Section 4(f) | Neutral | Neutral | Neutral |
| | PM | 2.5 | A | 96% | 3.4 | A | 96% | | | | | | | | |

PRIORITY: MEDIUM



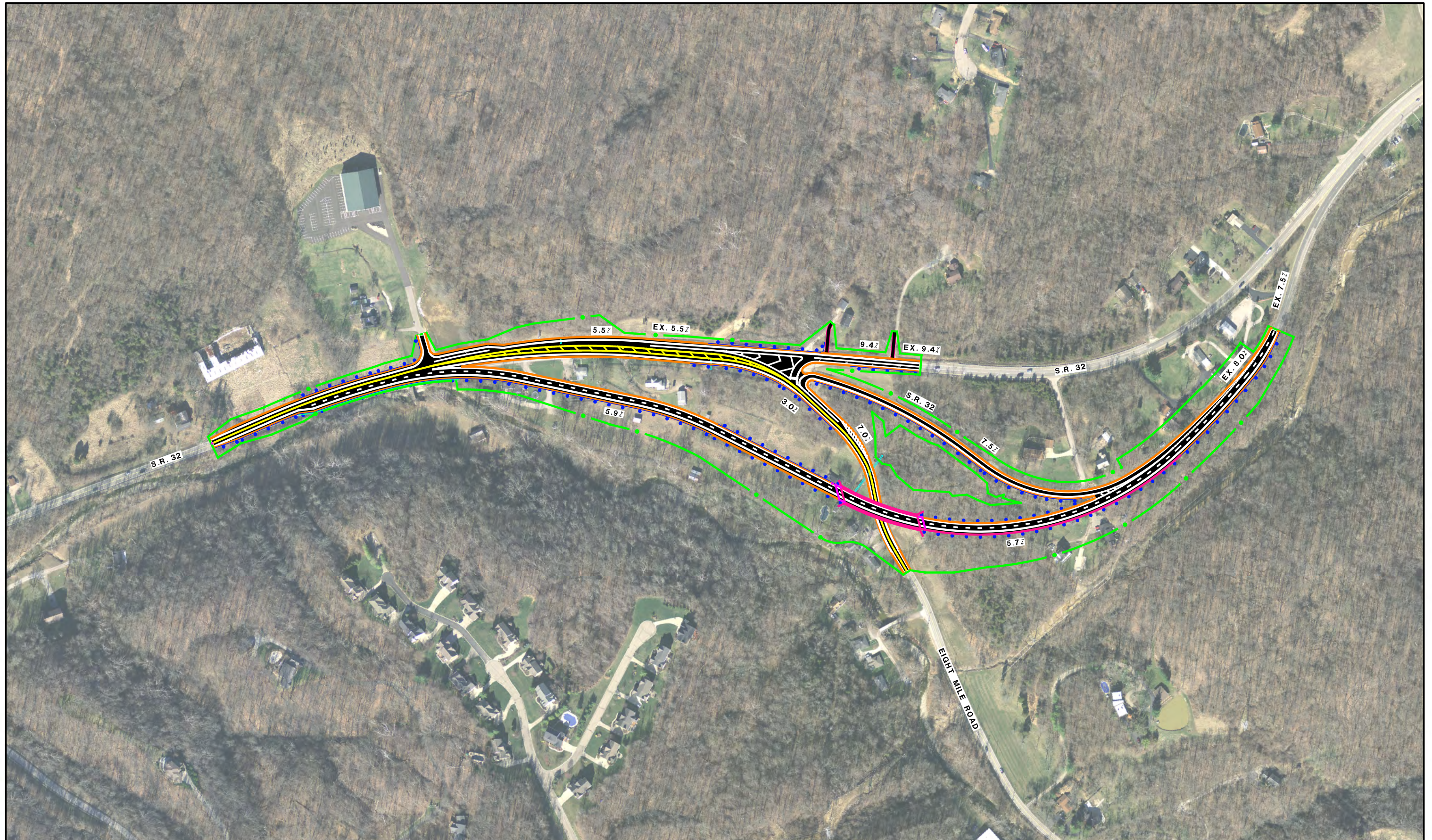
Stantec

Concept Drawing

Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure I-3E

**NEW S.R. 32 EASTBOUND ALIGNMENT AND GRADE
SEPARATION OVER EIGHT MILE ROAD**



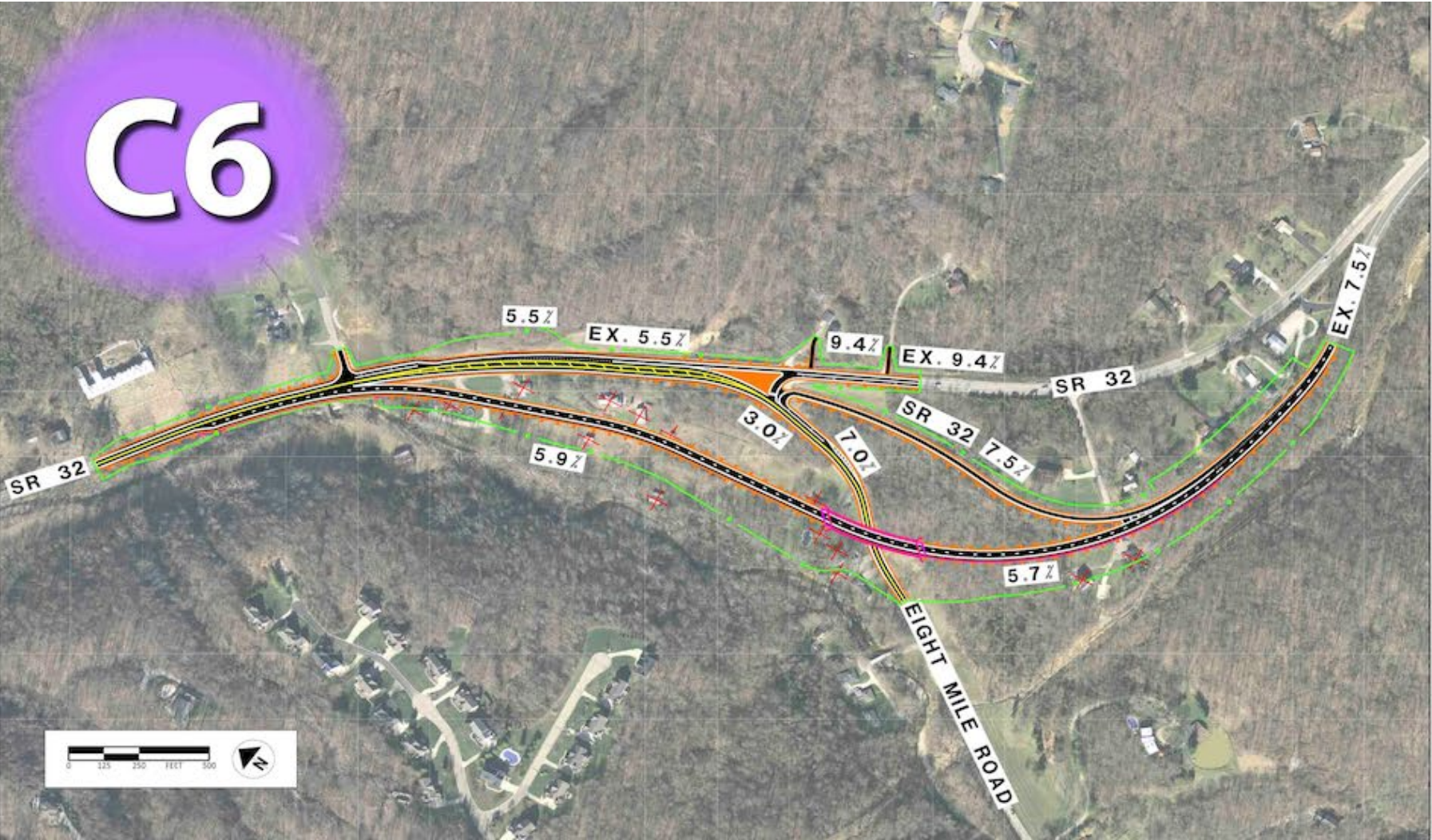
0 150 300 600
FEET
September 2018



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure I-3E
NEW S.R. 32 EASTBOUND ALIGNMENT AND GRADE
SEPARATION OVER EIGHT MILE ROAD

Drawing was presented at the October 24 & 25 Open House meetings.



New SR 32 Eastbound Alignment and Grade Separation over Eight Mile

- \$11.7M to \$17.5M construction cost
- New R/W needed from 26 parcels; including 9 residential relocations
- Reduce delay by approximately 90%
- Improves eastbound grade of SR 32
- Improves grade of Eight Mile
- No signal needed at SR 32 and Eight Mile
- Reduces likelihood of severe crashes

PUBLIC FEEDBACK RATINGS SUMMARY

| Strongly Oppose | Dislike | Neutral | Like | Strongly Support |
|-----------------|---------|---------|------|------------------|
| 10% | 8% | 30% | 31% | 21% |

(percentages have been rounded)

Concept drawing is presented on the following page.

DESCRIPTION

- Reduce grade on SR 32 hill by grade separating the Beechwood/Old SR 74 and Eight Mile intersections. Includes:
 - Constructing one-way frontage roads on both sides of new SR 32 alignment
 - Constructing high speed ramp connections

NEEDS ADDRESSED

- P9) Address roadway grade deficiencies on the SR 32 hill to improve truck mobility.
- P12) Address capacity issues on eastbound SR 32 and southbound Beechwood.
- P13) Address safety issues at Beechwood intersection.
- P14) Address westbound PM peak-hour delays.

5/16 MEETING DISCUSSION AND COMMENTS

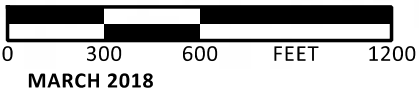
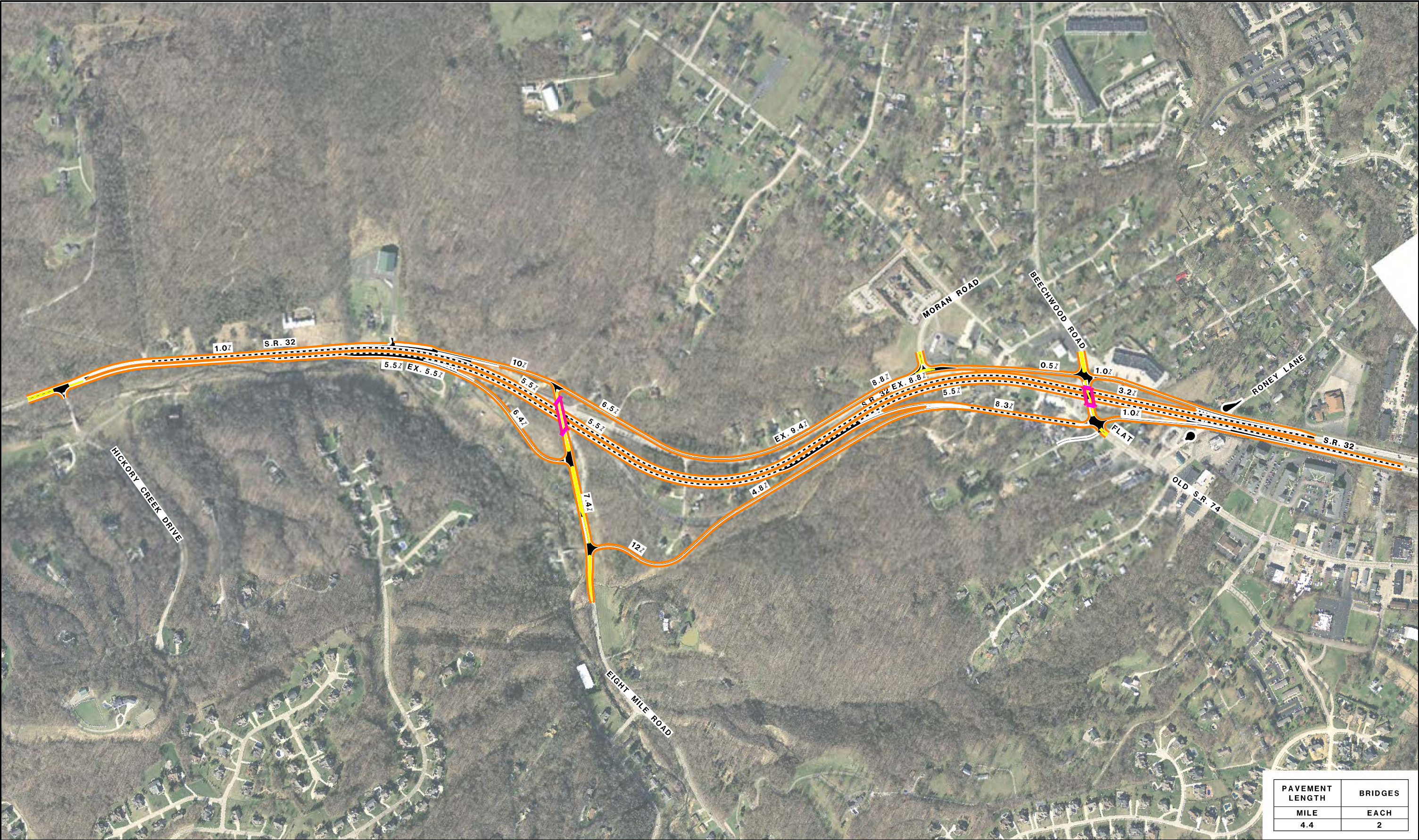
- Concept would adjust the grade on the SR 32 hill to a maximum of 5.5%.
- Concept would create two grade-separated interchanges (one at Beechwood, the other at Eight Mile) with ramps to access SR 32.
- Concept would require the acquisition of private property.
- Concept would impact access to businesses on the north side of SR 32 at the top of the hill.
- No additional comments were received following the 5/16 meeting.

NEXT STEPS/RECOMMENDATION

- No further study. Concept is not recommended for advancement due to high costs and anticipated impacts.

| 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 |
|----------|--------------------|-------------------------|-------------------|-------------|-----------------------------------|---|-------------------------------|----------------------|------------------|
| IMPROVES | IMPROVES | COMPLEX | >\$10 MILLION | RELOCATIONS | HIGH (C3 OR GREATER) | NEUTRAL | IMPROVES | DEGRADES | NO FURTHER STUDY |

RECOMMENDATION: NO FURTHER STUDY



Concept Drawing
Eastern Corridor Projects
Segment II-III (S.R. 32 Corridor)
HAM-32F-0.00; PID 86462

Figure 32-18-1
NEW S.R. 32 ALIGNMENT TO ACHIEVE 6% GRADE
GRADE SEPARATED INTERCHANGES AT EIGHT MILE ROAD
& BEECHWOOD ROAD

Concept drawing is presented on the following page.

DESCRIPTION

- Reduce grade on SR 32 hill by grade separating the Beechwood/Old SR 74 and Eight Mile intersections. Includes:
 - Constructing a new, one-way frontage road on north side of new SR 32 alignment
 - Constructing new low speed connections at Eight Mile and a roundabout interchange at Beechwood.

NEXT STEPS/RECOMMENDATION

- No further study. Concept is not recommended for advancement due to anticipated high costs and construction impacts. In addition, this concept provides a one-way frontage road, which would not operate as well as the two-way frontage road included in concept 32-18-3.

NEEDS ADDRESSED

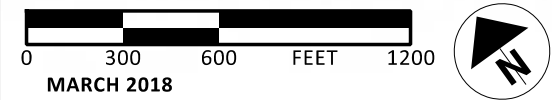
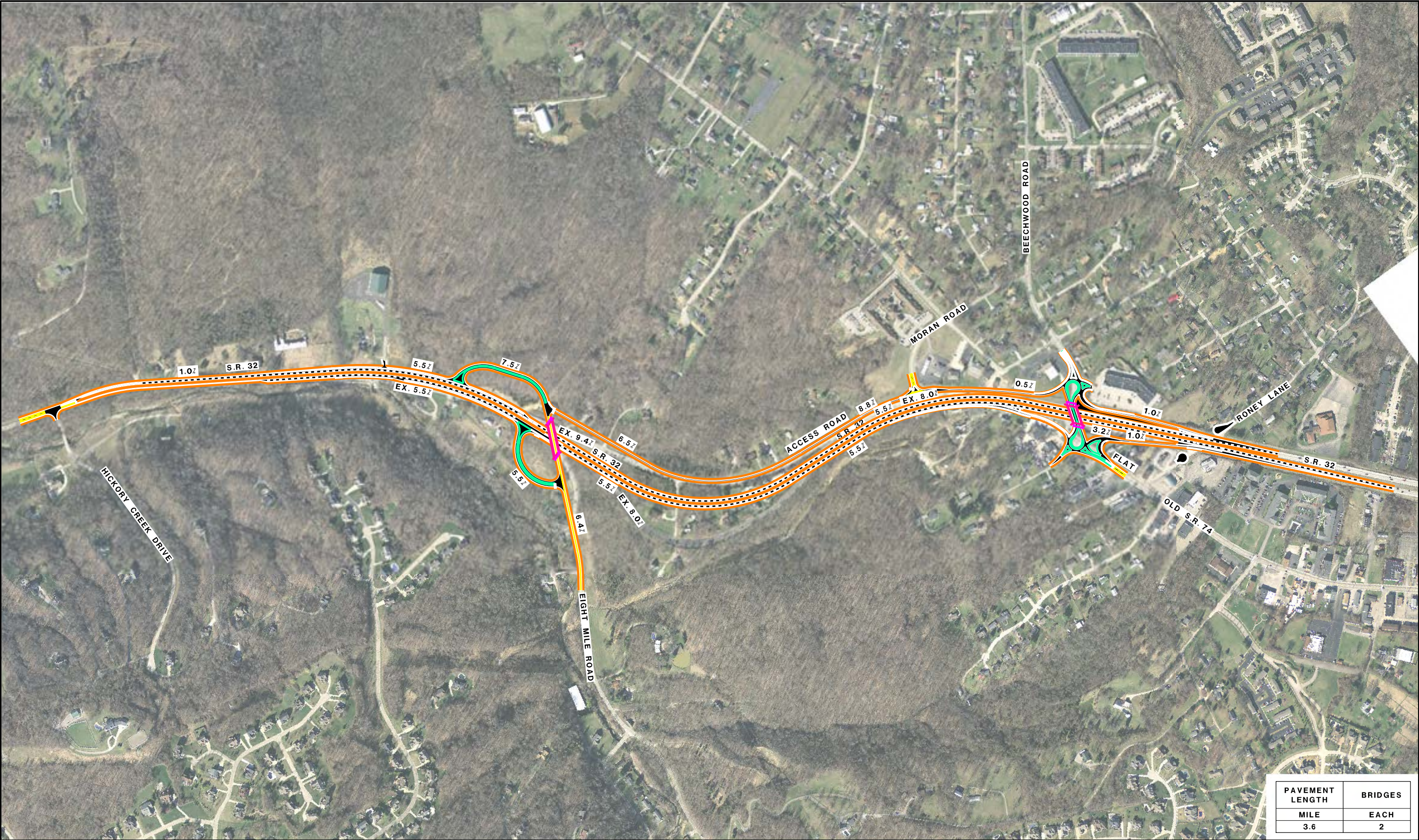
- P9) Address roadway grade deficiencies on the SR 32 hill to improve truck mobility.
- P12) Address capacity issues on eastbound SR 32 and southbound Beechwood.
- P13) Address safety issues at Beechwood intersection.
- P14) Address westbound PM peak-hour delays.

5/16 MEETING DISCUSSION AND COMMENTS

- Concept would adjust the grade on the SR 32 hill to a maximum of 5.5%.
- Concept would create two grade-separated interchanges at which SR 32 would travel under Eight Mile Road and Beechmont Road
 - At-grade access from Eight Mile to SR 32 would shift to the west.
 - An interchange with roundabouts would connect SR 32 with Beechwood Road and Old 74.
- Concept would require the acquisition of private property.
- Concept would impact access to businesses on the south side of SR 32 at the top of the hill.
- No comments received following the 5/16 meeting.

| 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 |
|----------|--------------------|-------------------------|-------------------|-------------|-----------------------------------|---|-------------------------------|----------------------|------------------|
| IMPROVES | IMPROVES | COMPLEX | >\$10 MILLION | RELOCATIONS | HIGH (C3 OR GREATER) | NEUTRAL | IMPROVES | DEGRADES | NO FURTHER STUDY |

RECOMMENDATION: NO FURTHER STUDY



Concept Drawing
Eastern Corridor Projects
Segment II-III (S.R. 32 Corridor)
HAM-32F-0.00; PID 86462

Figure 32-18-2
NEW S.R. 32 ALIGNMENT TO ACHIEVE 6% GRADE
GRADE SEPARATED INTERCHANGES AT EIGHT MILE ROAD
& BEECHWOOD ROAD

Concept drawings are presented on the following page.

DESCRIPTION

- Reduce grade on SR 32 hill by grade separating the Beechwood/Old SR 74 and Eight Mile intersections. Includes:
 - Constructing a two-way frontage road on north side of new SR 32 alignment
 - Constructing low speed connections at Eight Mile and a new roundabout interchange at Beechwood.

NEEDS ADDRESSED

- P4) Address congestion issues due to slow moving trucks and turning vehicles.
- P5) Address capacity issues on Eight Mile Road.
- P6) Address safety issues for vehicles turning at Eight Mile Road.
- P7) Address deficient sight distance and roadway grade issues.
- P8) Address crash trends on the SR 32 hill.
- P9) Address roadway grade deficiencies on the SR 32 hill to improve truck mobility.
- P10) Address roadway curve deficiencies on the SR 32 hill.
- P12) Address capacity issues on eastbound SR 32 and southbound Beechwood.
- P13) Address safety issues at Beechwood intersection.
- P14) Address westbound PM peak-hour delays.

5/16 MEETING DISCUSSION AND COMMENTS

- Concept would adjust the grade on the SR 32 hill to a maximum of

5.5%.

- Concept would create two grade-separated interchanges at which SR 32 would travel under Eight Mile Road and Beechmont Road
 - Access from Eight Mile to/from eastbound SR 32 would shift to the west, while connections to/from westbound SR 32 would shift east.
 - A grade-separated interchange with roundabouts at the ramp terminals (where the ramps meet the roadways) would connect SR 32 with Beechwood Road and Old 74.
- Concept would require acquiring private property.
- Concept would impact access to businesses on the south side of SR 32 at the top of the hill.
- Eight Mile Road would travel on new alignment along the north side of SR 32 and terminate in an intersection with Beechwood Road.
- Project costs are expected to be very high.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- This is the only concept that provides full grade improvements on the SR 32 hill, reducing the grade from 8 percent to preferred design standards of 5.5 percent.
- It would not be possible to phase this concept.
- The Committee asked how much grade correction of the hill should be prioritized when evaluating alternatives. The steepness of the existing hill grade is an issue for trucks as well as a safety consideration. The goal, however, is not to try to design to textbook standards but to make practical improvements that address identified needs.

- No additional comments were received following the 9/5 meeting.

12/10 MEETING DISCUSSION AND COMMENTS

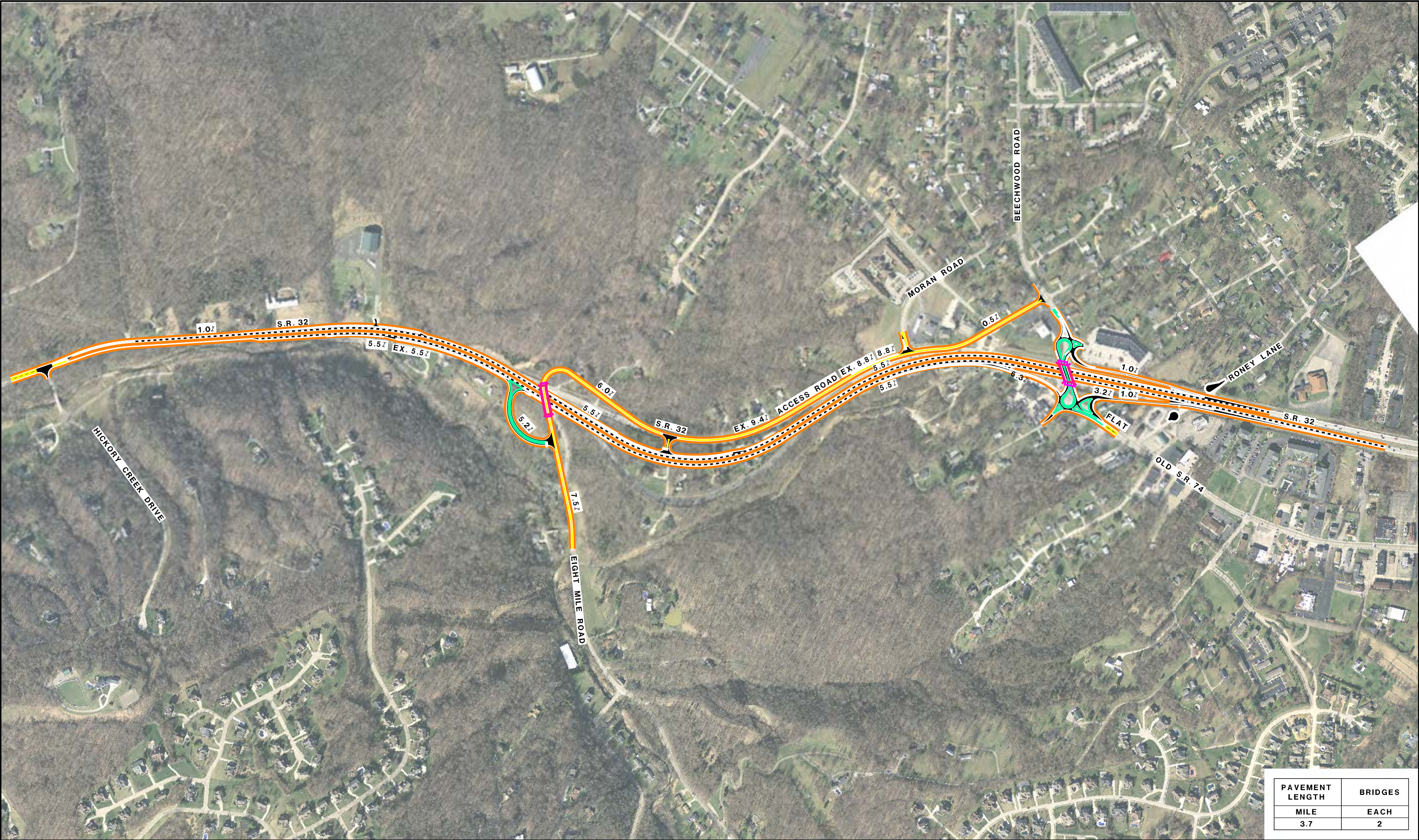
This concept was presented as C7 at the October Open House meetings.

- This concept would reduce the grade on the SR 32 hill from 8% to a maximum of 5.5%.
- The committee discussed building concept I-3b (C5) first, then reassessing the need for concept I-3e (C6) but not pursuing this concept [32-18-2 (C7)].
 - Reducing the grade of this hill would be a massive project and very expensive to complete.
- Committee members expressed concern with slowing the momentum of trucks on the hill. Other projects would create a climbing lane which would help trucks maintain their climbing speed.
- The committee also discussed the need for drivers to stay in their lanes. Perhaps people would stay in their travel lanes more often if the turning radius in increased or a wider right lane is provided.
- The committee agreed that this project should be a low priority due to large impacts and high costs.

NEXT STEPS/RECOMMENDATION

- Include project in Implementation Plan as a low priority.

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|-----------------------|-------------------------------|---------------------|--|----------------------|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | AM | 7.5 | A | 82% | | | | \$37.4M to \$56.1M | 6 residential 6 commercial | \$2.4M to \$4.8M | D3 or higher | R/W, relocations | Neutral | Improves | Degrades |
| | PM | 6.0 | A | 91% | | | | | | | | | | | |



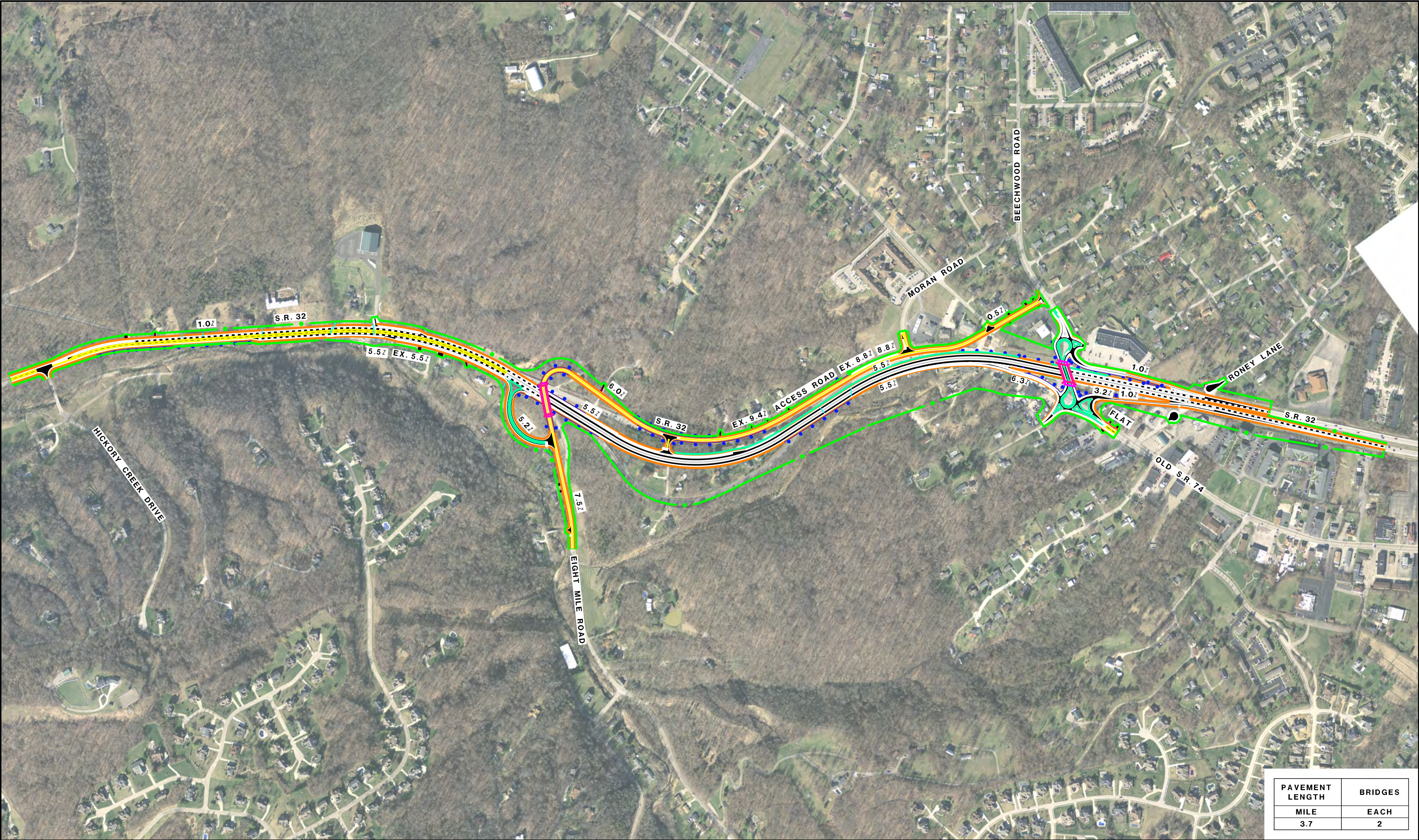
| PAVEMENT LENGTH | BRIDGES |
|--------------------|---------|
| MILE | EACH |
| 3.7 | 2 |

0 300 600 FEET 1200
MARCH 2018

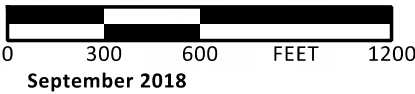


Concept Drawing
Eastern Corridor Projects
Segment II-III (S.R. 32 Corridor)
HAM-32F-0.00; PID 86462

Figure 32-18-3
NEW S.R. 32 ALIGNMENT TO ACHIEVE 6% GRADE
GRADE SEPARATED INTERCHANGES AT EIGHT MILE ROAD
& BEECHWOOD ROAD



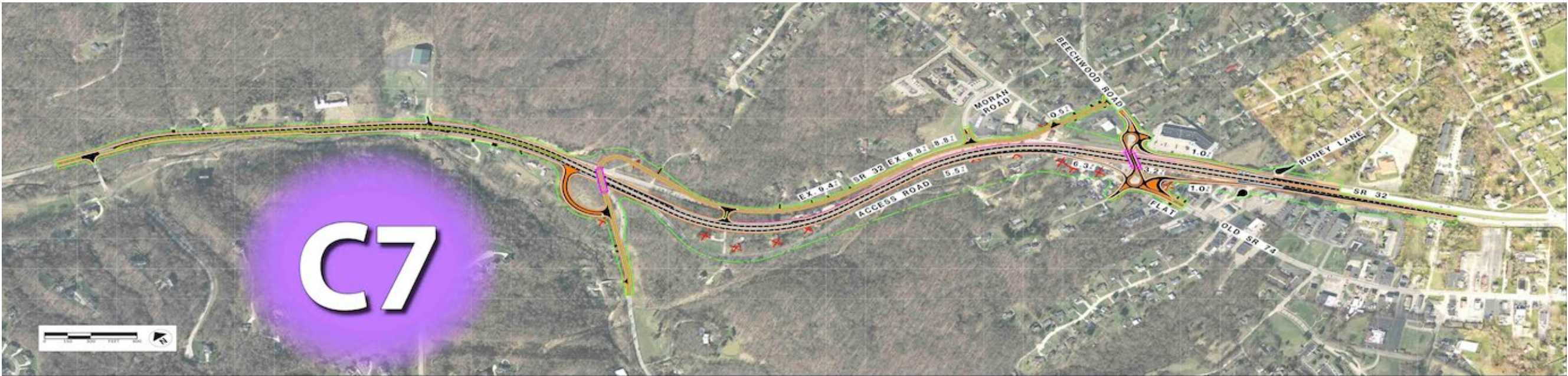
| PAVEMENT LENGTH | BRIDGES |
|-----------------|---------|
| MILE | EACH |
| 3.7 | 2 |



Concept Drawing
Eastern Corridor Projects
Segment II-III (S.R. 32 Corridor)
HAM-32F-0.00; PID 86462

Figure 32-18-3 (Overall View)
NEW S.R. 32 ALIGNMENT TO ACHIEVE 6% GRADE
GRADE SEPARATED INTERCHANGES AT EIGHT MILE ROAD
& BEECHWOOD ROAD

Drawing was presented at the October 24 & 25 Open House meetings.



New SR 32 Alignment to Create Grade Separated Interchanges

- \$37.4M to \$56.1M construction cost
- New R/W needed from 55 parcels, including 9 residential and 6 commercial relocations
- Reduce delay by approximately 85%
- Improves grade of SR 32 to a maximum of 5.5%
- Adds interchanges at Beechwood and Eight Mile
- Extends Eight Mile to Beechwood

PUBLIC FEEDBACK RATINGS SUMMARY

| Strongly Oppose | Dislike | Neutral | Like | Strongly Support |
|-----------------|---------|---------|------|------------------|
| 15% | 12% | 30% | 22% | 22% |

(percentages have been rounded)

Concept not drawn.

DESCRIPTION

- Realign curve on eastbound SR 32 hill.

NEEDS ADDRESSED

- P8) Address crash trends on the SR 32 hill.
- P10) Address roadway curve deficiencies on the SR 32 hill.

5/16 MEETING DISCUSSION AND COMMENTS

- Concept has not been drawn as the curve correction is best accomplished through other proposed concepts that modify SR 32’s alignment/profile.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- Discussed and evaluated with other concepts.
- No additional comments were received following the 9/5 meeting.

12/10 MEETING DISCUSSION AND COMMENTS

- No discussion held.

NEXT STEPS/RECOMMENDATION

- Advance with concepts I-3e (C6) and 32-18-3 (C7).

| 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 |
|--------|--------------------|--|-------------------|-------------|-----------------------------------|---|-------------------------------|----------------------|--|
| | | Concept to be evaluated as part of Concepts I-3d, I-3e, and 32-18. | | | | | | | ADVANCING WITH CONCEPTS I-3d, I-3e and 32-18 |

RECOMMENDATION: ADVANCE WITH CONCEPTS I-3e (C6) and 32-18-3 (C7)

Concept drawing is presented on the following page.

DESCRIPTION

- Investigate removing vegetation to improve sight distance at intersection of SR 32 and Eight Mile Road.

NEXT STEPS/RECOMMENDATION

- Include in the Implementation Plan as a high priority.

NEEDS ADDRESSED

P7) Address deficient sight distance and roadway grade issues.

5/16 MEETING DISCUSSION AND COMMENTS

- None discussed.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

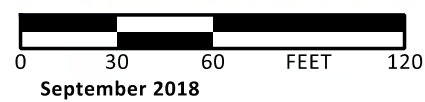
- Vegetation will be trimmed to improve sight distance for drivers turning left.
- A comment was made as to whether the cut area could be seeded for pollinator habitat.
- No additional comments were received following the 9/5 meeting.

12/10 MEETING DISCUSSION AND COMMENTS

- This project has been added to ODOT’s 2019 pruning contract (PID 101383).

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|----------------------|--------------------------|----------|--|----------------------|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | | | | | | | | \$15K to \$22.5K | 0 | \$0 | C1 | None | Neutral | Neutral | Neutral |

PRIORITY: HIGH



Concept Drawing
 Eastern Corridor Projects
 Segment II-III (SR 32 Corridor)
 HAM-32F-0.00; PID 86462

Figure I-3F

**VEGETATION REMOVAL ALONG S.R. 32 TO IMPROVE
 INTERSECTION SIGHT DISTANCE AT EIGHT MILE ROAD**

Concept not drawn.

DESCRIPTION

- Relocate eastbound SR 32 to the current westbound alignment and widen the roadway (only one westbound lane and two eastbound lanes are needed).
- Use the existing eastbound SR 32 as an extension of Eight Mile to a new intersection to be located at the top of the SR 32 hill (with improved connection at Eight Mile).

NEEDS ADDRESSED

- P5) Address capacity issues on Eight Mile Road.
- P6) Address safety issues for vehicles turning at Eight Mile Road.

5/16 MEETING DISCUSSION AND COMMENTS

- Moving the Eight Mile/SR 32 intersection to the top of the hill shifts the problem to a different location and creates two closely spaced intersections.
- No additional comments were received following the 5/16 meeting.

NEXT STEPS/RECOMMENDATION

- No further study. Instead, incorporate concept of combining eastbound and westbound onto same alignment into I-3d and 32-18 alternatives.

| 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 |
|--------|--------------------|-------------------------|-------------------|--------------------|-----------------------------------|---|-------------------------------|----------------------|------------------|
| | | | Concept | was not evaluated. | | | | | NO FURTHER STUDY |

RECOMMENDATION: NO FURTHER STUDY

Concept not drawn.

DESCRIPTION

- Construct truck climbing lane.

NEEDS ADDRESSED

P5) Address capacity issues on Eight Mile Road.

5/16 MEETING DISCUSSION AND COMMENTS

- None discussed.
- No additional comments were received following the 5/16 meeting.

NEXT STEPS/RECOMMENDATION

- No further study. Addition of third lane for truck climbing not recommended when possible improvements at Eight Mile intersection allow for existing second lane to be extended west to serve as a truck climbing lane while also addressing safety issues.

| 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 |
|----------|--------------------|-------------------------|-------------------|----------------|-----------------------------------|---|-------------------------------|----------------------|------------------|
| IMPROVES | IMPROVES | SIMPLE | <\$5 MILLION | PROPERTY TAKES | MODERATE (C1/C2) | NEUTRAL | NEUTRAL | NEUTRAL | NO FURTHER STUDY |

RECOMMENDATION: NO FURTHER STUDY

Concept not drawn.

DESCRIPTION

- Add friction pavement to the surface of SR 32.
 - Friction pavement is a texturized surface treatment that will allow tire treads to better grip the road.

(PIC 107133) that will take place in the spring/summer of 2019.

NEXT STEPS/RECOMMENDATION

- Include in Implementation Plan as a high priority. Advance to construction as part of ODOT project PID 107133.

NEEDS ADDRESSED

P8) Address crash trends on the SR 32 hill.

5/16 MEETING DISCUSSION AND COMMENTS

- ODOT conducted pavement tests in Spring 2018 and determined that friction pavement course was warranted.
- Implementation of this concept will be completed as part of an upcoming ODOT project (PID 107133). Work will begin in spring/summer 2019.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- This project is funded and advancing as part of ODOT project PID 107133 next spring/summer.
- No additional comments were received following the 9/5 meeting.

12/10 MEETING DISCUSSION AND COMMENTS

- This project will be included as part of a planned spot safety project

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|----------------------|--------------------------|----------|--|----------------------|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | | | | | | | | | 0 | \$0 | C1 | None | Neutral | Neutral | Neutral |

PRIORITY: HIGH

Concept drawing is presented on the following page.

DESCRIPTION

- Keep drainage from crossing eastbound lanes on SR 32 hill.

NEEDS ADDRESSED

P8) Address crash trends on the SR 32 hill.

NEXT STEPS/RECOMMENDATION

- No further study because the concept would not completely fix drainage issues. The addition of friction pavement (concept 32-13) is a better solution to address crash trends. The application of friction pavement is being advanced to construction under ODOT PID 107133.

5/16 MEETING DISCUSSION AND COMMENTS

- There is no ditch on the east side of the SR 32 hill.
- Consultant is currently working to determine if there is a concentrated flow area during wet weather that is causing the problem. Depending on what they find, the fix could require minor effort.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- This concept would not provide a complete fix for the drainage issues and would provide only minor benefits.
- Because of the pavement cross slope and because the grade on the hill is so steep, water flows straight down the roadway into oncoming traffic. Even if a gutter were installed on the left side of the eastbound lanes, a great deal of water would not reach the gutter. The addition of friction pavement is a better solution to address crash trends.
- No additional comments were received following the 9/5 meeting.

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|-----------------------|--------------------------|----------|--|----------------------|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | | | | | | | | \$12.2K to \$18.3K | 0 | \$0 | C1 | None | Neutral | Neutral | Neutral |

RECOMMENDATION: NO FURTHER STUDY



0 50 100 FEET 200
September 2018



Concept Drawing
Eastern Corridor Multi-Modal Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure 32-14
GUTTER ALONG S.R. 32

Concept drawing is presented on the following page.

DESCRIPTION

- Add warning signs about lane reduction on westbound SR 32.

NEEDS ADDRESSED

P8) Address crash trends on the SR 32 hill.

NEXT STEPS/RECOMMENDATION

- Include project with concepts I-3b (C5) or I-3e (C6) or with another low cost project bundle.
- Highway Safety Improvement Program (HSIP) funding could possible be used for this project.

5/16 MEETING DISCUSSION AND COMMENTS

- Propose additional ground mounted signs to warn motorists of the drop lane near or before the top of the hill.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

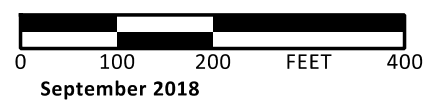
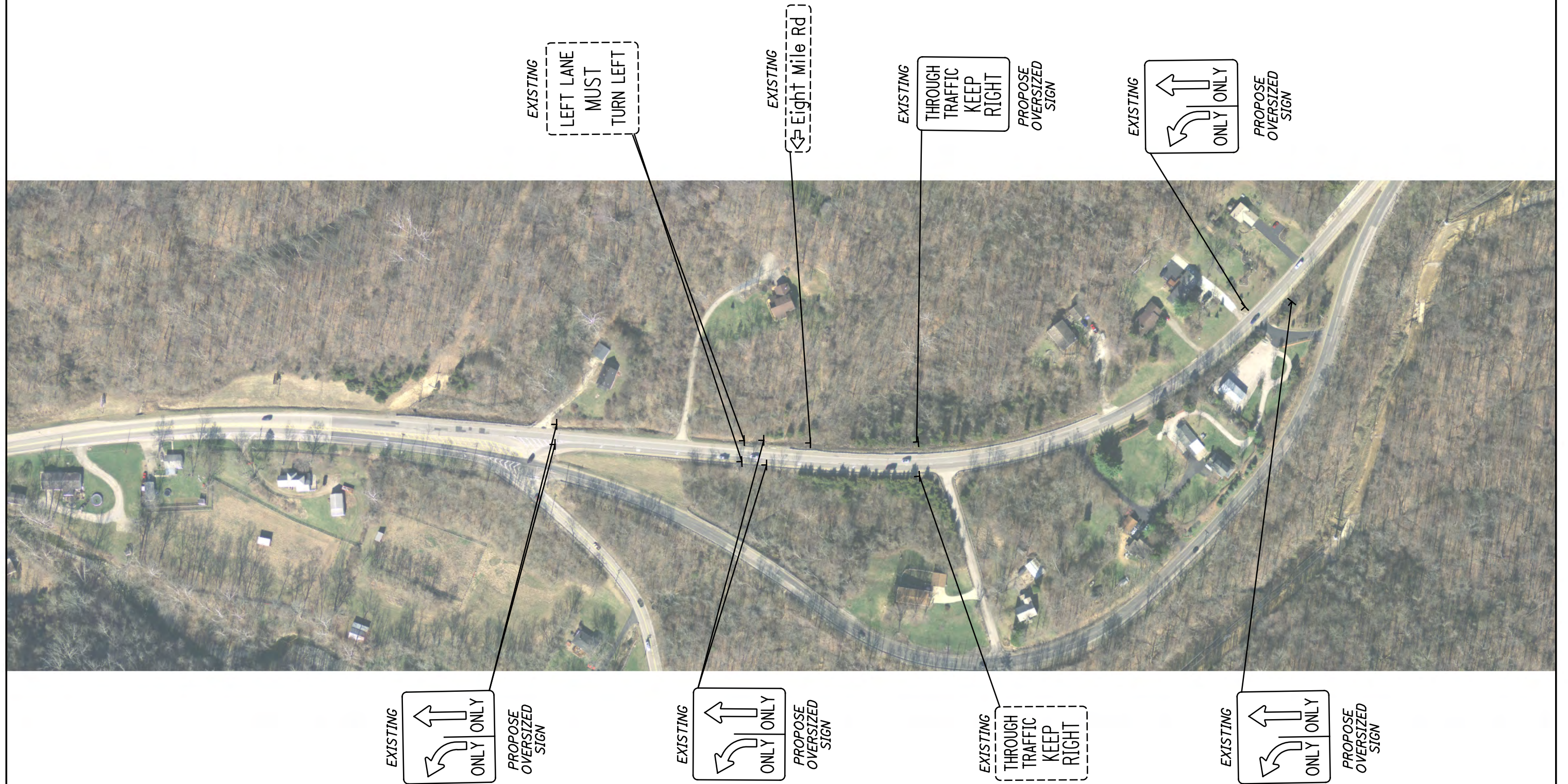
- While there are existing signs today indicating that the left lane must turn left, given the speed here these signs could be larger. Consultant proposes the addition of oversized signs.
- ODOT is advancing this project.
- No additional comments were received following the 9/5 meeting.

12/10 MEETING DISCUSSION AND COMMENTS

- This project could be included with concepts I-3b (C5) or I-3e (C6) or could be bundled with other low cost projects like signal improvements.

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------|--------------------|----------------------|----------|---------------------------|----------------------|----------|---------------------------|-------------------|-----------------------|----------|------------------------------------|-------------------|---------------------------------------|-------------------------------|----------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | | | | | | | | \$9.5K to \$14.3K | 0 | \$0 | C1 | None | Neutral | Neutral | Neutral |

PRIORITY: HIGH



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure 32-16
S.R. 32 WESTBOUND LANE DROP SIGNING

Concept drawing is presented on the following page.

DESCRIPTION

- Modify Moran Road intersection with SR 32 to prevent illegal left turns onto SR 32.
 - Enlarge island at intersection.

NEEDS ADDRESSED

P8) Address crash trends on the SR 32 hill.

5/16 MEETING DISCUSSION AND COMMENTS

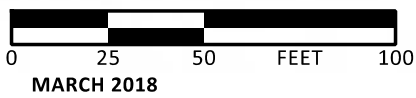
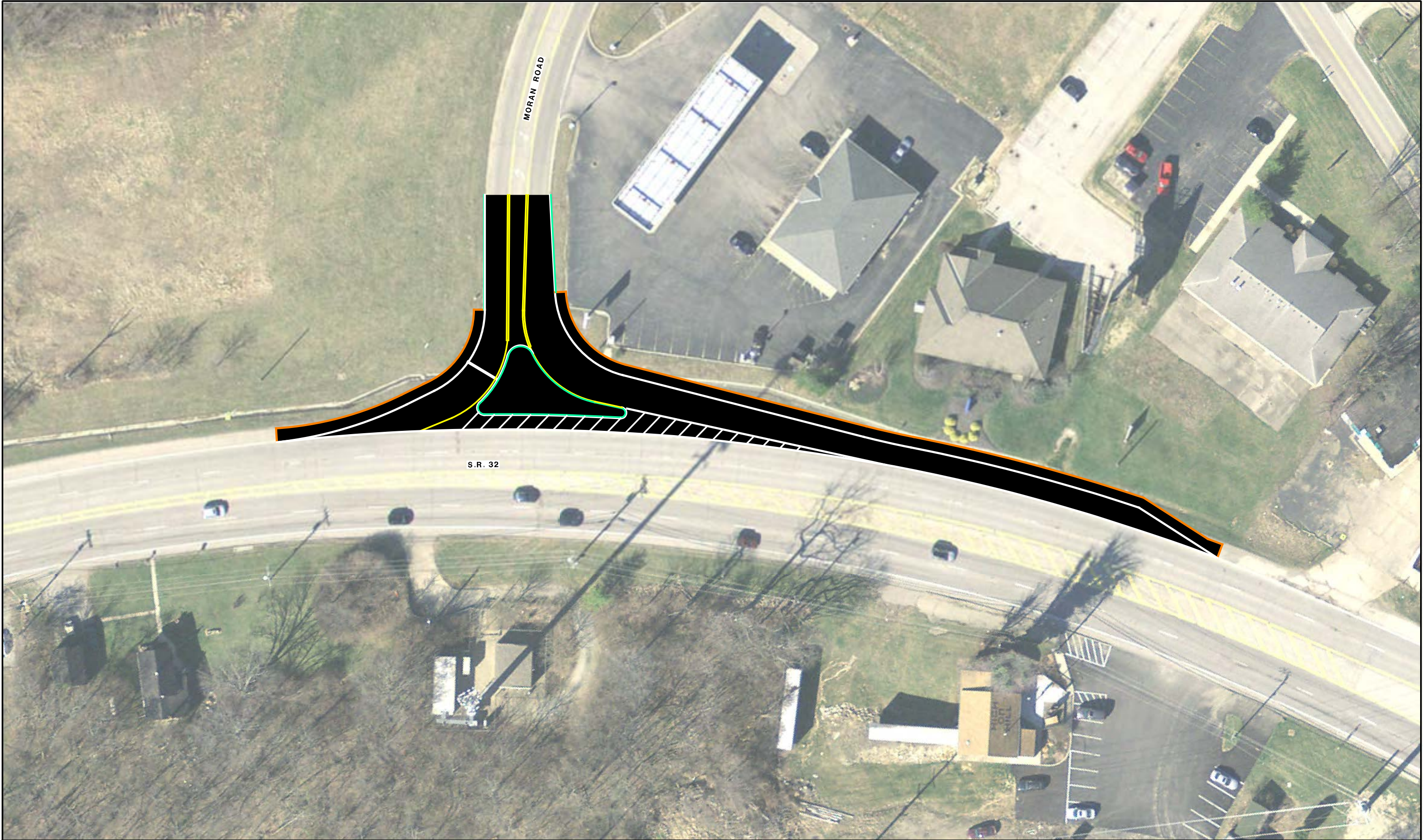
- Even though left turns are not currently permitted, there are a number of drivers who make the turns anyway. A larger raised island may help discourage these movements.
- No additional comments were received following the 5/16 meeting.

NEXT STEPS/RECOMMENDATION

- No further study. No significant crash trend related to illegal left turns identified. Improvements may further discourage left turns but are unlikely to eliminate them.

| 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 |
|----------|--------------------|-------------------------|-------------------|-------------|-----------------------------------|---|-------------------------------|----------------------|------------------|
| IMPROVES | NEUTRAL | SIMPLE | <\$5 MILLION | NONE | MINIMAL (D1/D2) | NEUTRAL | NEUTRAL | NEUTRAL | NO FURTHER STUDY |

RECOMMENDATION: NO FURTHER STUDY



Concept Drawing
Eastern Corridor Projects
Segment II-III (S.R. 32 Corridor)
HAM-32F-0.00; PID 86462

Figure 32-17
MODIFICATIONS AT MORAN ROAD TO PREVENT
ILLEGAL LEFT TURNS



Eastern Corridor Segments II and III ANCOR/SR 32 Hill Focus Area

Theme

SR 32 - BEECHWOOD ROAD TO BELLS LANE

Primary Needs identified for this theme:

- P12) Address capacity issues on eastbound SR 32 and southbound Beechwood.
- P13) Address safety issues at Beechwood intersection.
- P14) Address westbound PM peak-hour delays.
- P15) Address capacity issue for westbound left turn at Bells Ln.*
- P16) Accommodate observed pedestrian traffic.*

Secondary Needs identified for this theme:

None.

**Note: These needs already have been addressed in project CLE 32-0.63, which is scheduled for construction in summer 2018.*

Concept not drawn.

DESCRIPTION

- Improve signal timing.
- ODOT is planning a study to reevaluate the signals on SR 32 between I-275 to Glen-Este once construction at those intersections is completed.

NEEDS ADDRESSED

- P12) Address capacity issues on eastbound SR 32 and southbound Beechwood.
- P14) Address westbound PM peak-hour delays.

NEXT STEPS/RECOMMENDATION

- ODOT to conduct signal retiming study with the signals to the east at Mount Carmel Tobasco/Bells Lane and Old SR 74, once construction at those intersections is completed.
- Include project in Implementation Plan as a high priority.

5/16 MEETING DISCUSSION AND COMMENTS

- This intersection is not part of the corridor signal timing study since it is remote to the other signals; however, signal timing upgrades will be evaluated.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- Committee members indicated it is difficult to turn left from Beechwood onto eastbound SR 32 as drivers do not receive an arrow there. ODOT’s consultant will review this issue.
- No additional comments were received following the 9/5 meeting.

12/10 MEETING DISCUSSION AND COMMENTS

- Stantec noted that traffic signals in the area should be coordinated with signals east of Bells Lane, moving toward I-275. These signals are being replaced as a part of a project to be completed in 2019.

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|----------------------|--------------------------|----------|--|----------------------|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | AM | 23.5 | C | 10% | | | | | | | | | Neutral | Neutral | Neutral |
| | PM | 29.6 | C | 5% | | | | | | | | | | | |

PRIORITY: HIGH

Concept drawings are presented on the following pages.

DESCRIPTION

- Lengthen northbound, southbound and eastbound left turn lanes at Beechwood intersection.
- Adjust approach curve on Old SR 74 to improve sight distance.

NEEDS ADDRESSED

- P12) Address capacity issues on eastbound SR 32 and southbound Beechwood.
- P13) Address safety issues at Beechwood intersection.

5/16 MEETING DISCUSSION AND COMMENTS

- Concept provides additional dedicated space for vehicles to wait (queue) for a turn signal; would improve the flow for cars continuing straight.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- A member of the Committee asked whether it would be possible to consider straightening the approach from Old SR 74 to SR 32 to alleviate sight issues for drivers turning left. ODOT’s consultant will look into this idea.
- No additional comments were received following the 9/5 meeting.

12/10 MEETING DISCUSSION AND COMMENTS

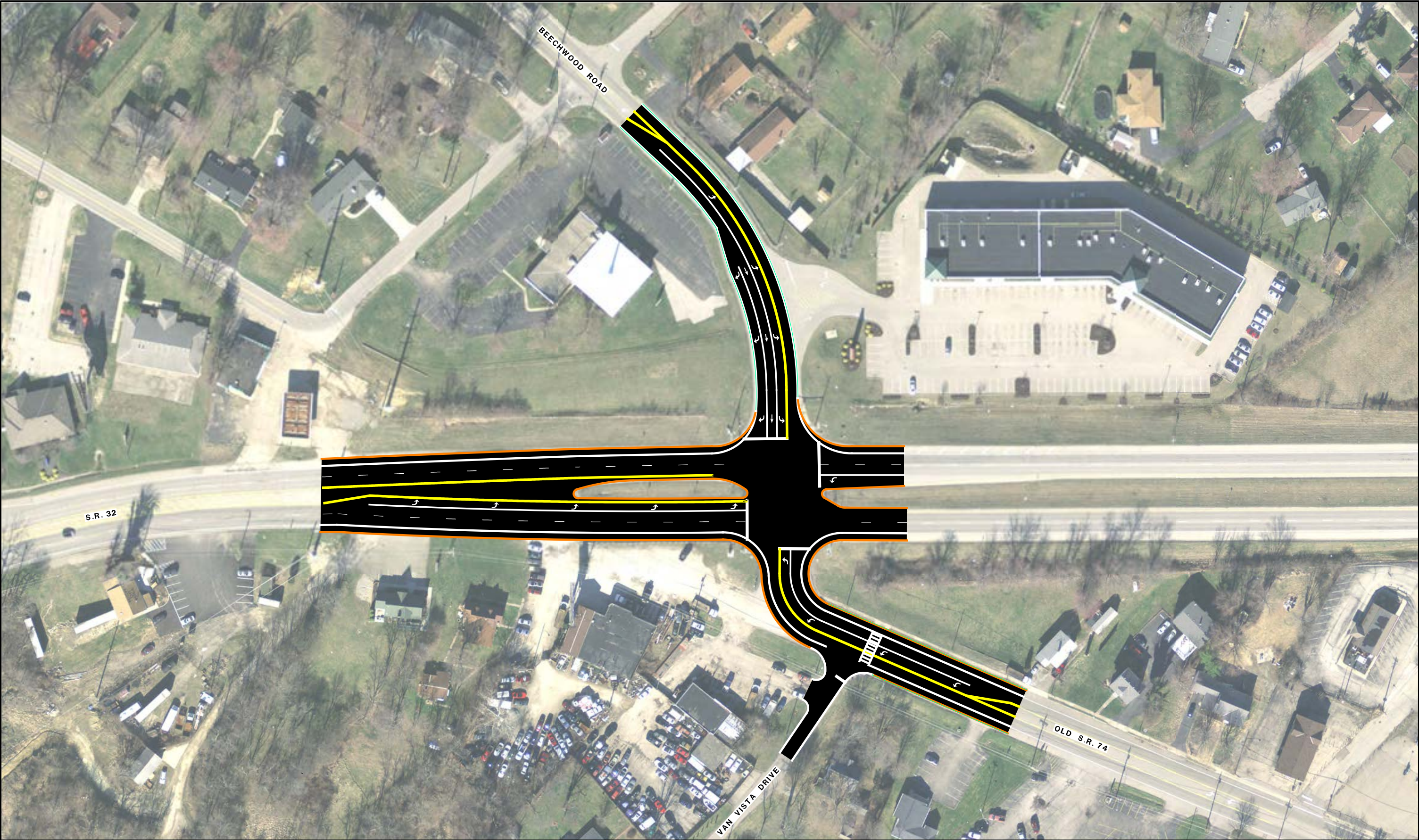
- This concept was presented as C8 at the October Open House meetings.*
- Public feedback received for this project tended to be neutral (40%) to favorable (25% Like, 15% Strongly Support). See Public Feedback Ratings Summary, next page.
 - The committee agreed to designate this project as a low priority because this is not a high accident area.
 - A committee member asked about the crash rate at next intersection (SR 32 and Moran Rd). ODOT replied that there is no crash data available for that intersection.
 - The committee noted that, earlier in the project development process, consideration had been given to adding medians and other demarcations to assist turns, but these options were eliminated throughout the course of this study process.

NEXT STEPS/RECOMMENDATION

- Include project in Implementation Plan as a low priority.

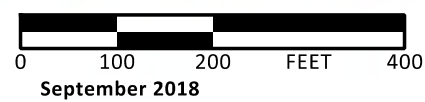
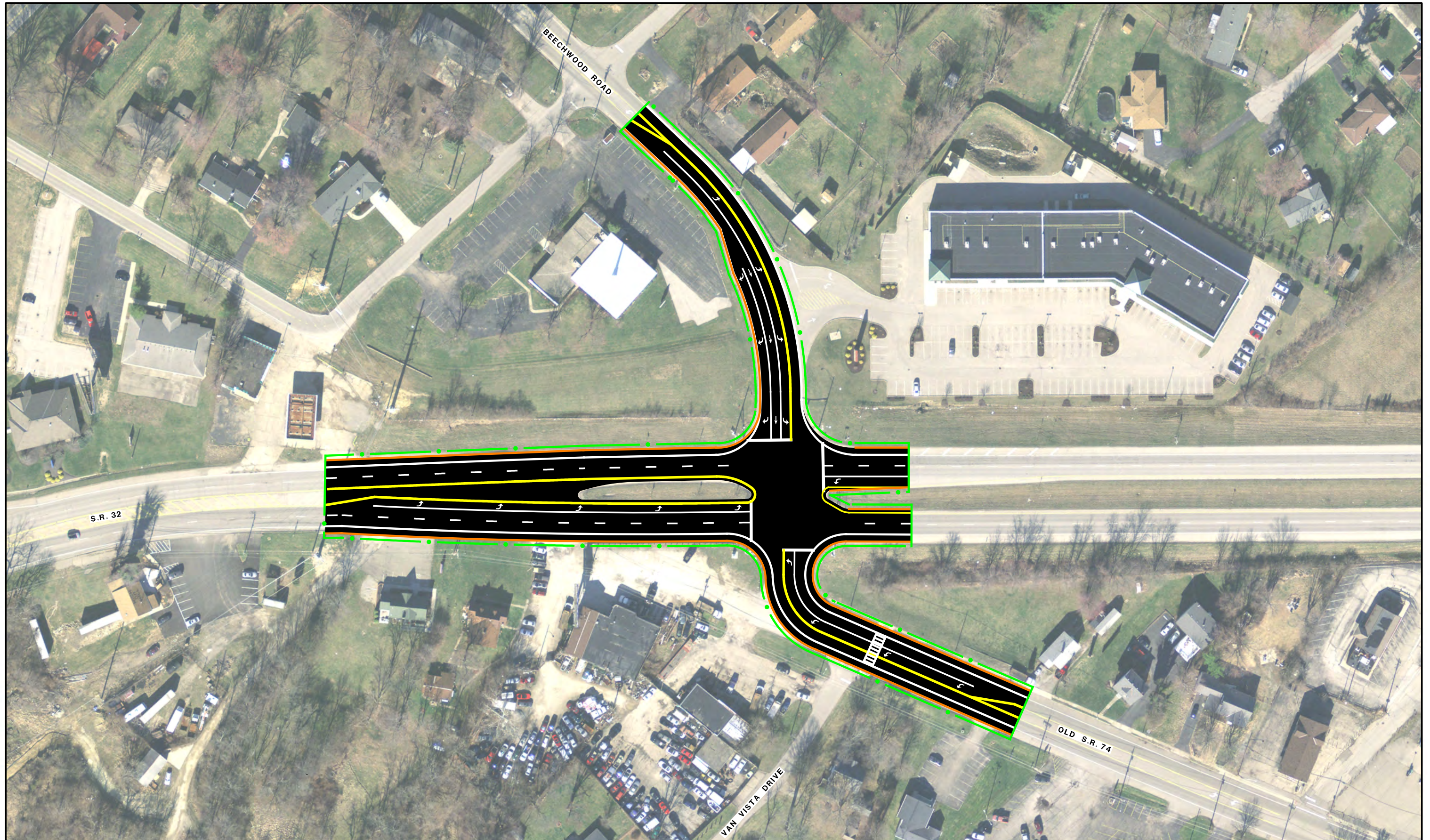
| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------|--------------------|----------------------|----------|---------------------------|----------------------|----------|---------------------------|-------------------|-----------------------|----------|------------------------------------|-------------------|---------------------------------------|-------------------------------|----------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | | | | | | | | \$280K to \$420K | 0 | \$0 | D2 | Section 4(f) | Neutral | Neutral | Neutral |

PRIORITY: LOW



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

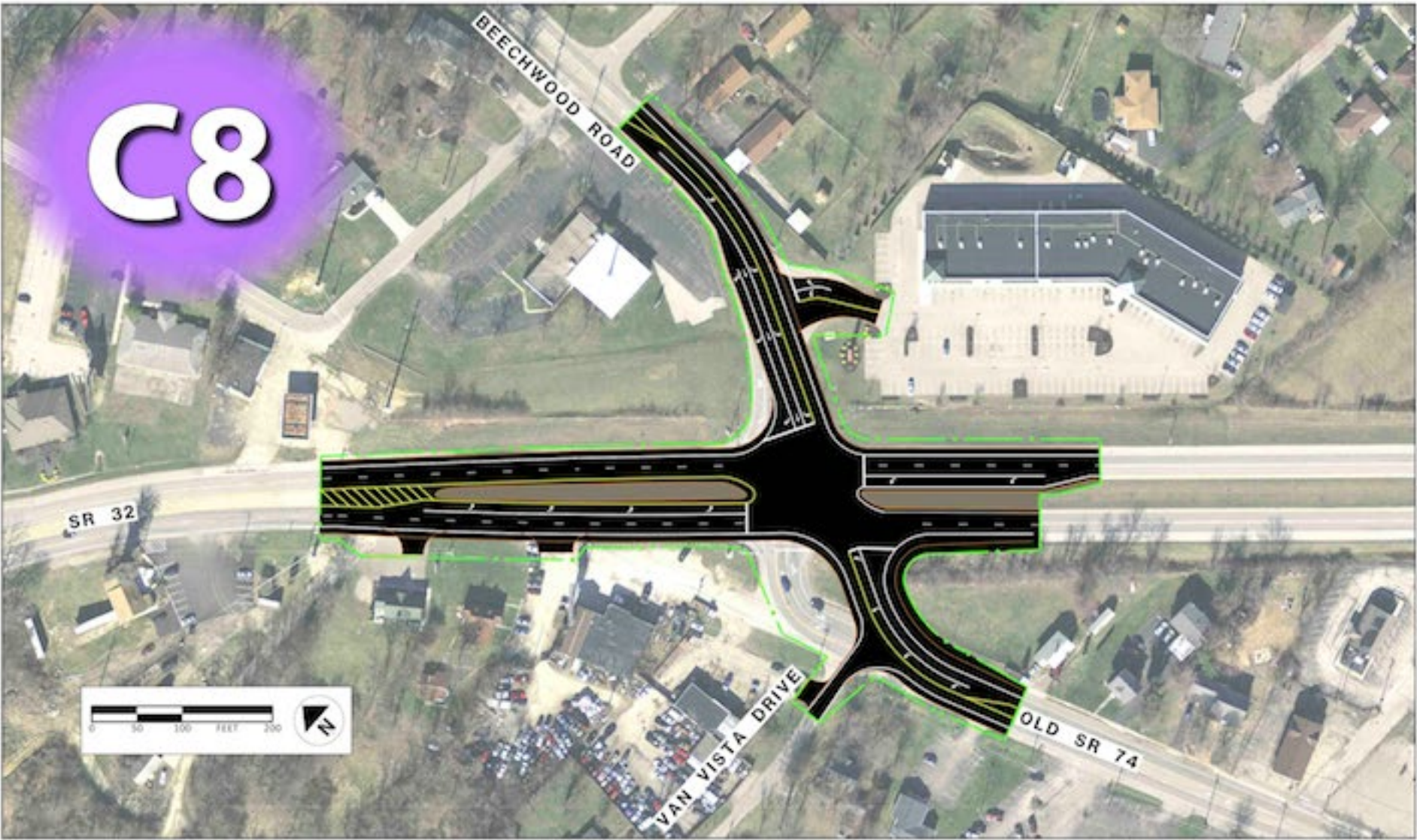
Figure I-2B
LENGTHENED STORAGE LANES AT S.R. 32/BEECHWOOD ROAD
INTERSECTION



Concept Drawing
 Eastern Corridor Projects
 Segment II-III (SR 32 Corridor)
 HAM-32F-0.00; PID 86462

Figure I-2B
 LENGTHENED STORAGE LANES AT S.R. 32/BEECHWOOD ROAD
 INTERSECTION

Drawing was presented at the October 24 & 25 Open House meetings.



SR 32 and Beechwood Intersection Improvements

- \$280,000 to \$420,000 construction cost
- New R/W needed from 6 parcels; no buildings impacted
- Modify curve on Old SR 74 to improve visibility at intersection
- Lengthen left turn lanes on three approaches

PUBLIC FEEDBACK RATINGS SUMMARY

| Strongly Oppose | Dislike | Neutral | Like | Strongly Support |
|-----------------|---------|---------|------|------------------|
| 5% | 2% | 40% | 38% | 16% |

(percentages have been rounded)

Concept drawing is presented on the following page.

DESCRIPTION

- Improve Broadwell Road and Round Bottom Road intersection to accommodate turning movements of large trucks

NEEDS ADDRESSED

- (Note: the need outlined below was identified during the course of multiple Advisory Committee meetings and was not included in the Segments II and III Transportation Needs Analysis report.)
- Address safety issues of large trucks making right turns from Broadwell to Round Bottom and crossing the double yellow line.

5/16 MEETING DISCUSSION AND COMMENTS

- New concept?

9/5 MEETING DISCUSSION AND COMMENTS

- New concept?

12/10 MEETING DISCUSSION AND COMMENTS

- This concept was presented as C9 at the October Open House meetings.
- The recorded number of crashes at this intersection is low, however, large trucks have difficulty making the right turn from Broadwell to Round Bottom and frequently cross over the double yellow line into the opposite side of the road. This concept would help keep trucks from crossing into on-coming traffic.
 - ODOT noted that this project would be even more important if the Martin Marietta mining work moves forward; if it does, increased truck traffic is expected at this intersection.
 - A committee member noted that this concept would improve the safety of drivers coming westbound on Round Bottom Road.
 - A committee member mentioned that because the hill to the east of this intersection limits sight lines for drivers, trucks and drivers are unable to see oncoming traffic when attempting to turn from Broadwell onto Round Bottom.
 - Hamilton County will be repaving Broadwell Road in the summer of 2019. ODOT suggested applying for safety funds to include this concept in the paving project.
 - The committee agreed to designate this concept as a high priority, noting that there is benefit to the project and estimated costs are not too high.

NEXT STEPS/RECOMMENDATION

- Include project in Implementation Plan as a high priority.
- Discuss concepts and related issues with the local sheriff before finalizing any decisions.
- Explore adding project into Hamilton County’s 2019 repaving effort.

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------------|--------------------|-------------------------|----------|------------------------------|-------------------------|----------|------------------------------|----------------------|--------------------------|-------------------|--|----------------------|--|-------------------------------------|-------------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | | | | | | | | \$100K to \$175K | 0 | \$15K to \$30K | C2 | | Neutral | Neutral | Neutral |

PRIORITY: HIGH

Drawing was presented at the October 24 & 25 Open House meetings.



Improve Broadwell
and Round Bottom
Intersection for Truck
Turns

- \$100,000 to \$175,000 construction cost
- New R/W needed from 2 parcels; no buildings impacted

PUBLIC FEEDBACK RATINGS SUMMARY

| Strongly Oppose | Dislike | Neutral | Like | Strongly Support |
|-----------------|---------|---------|------|------------------|
| 8% | 7% | 44% | 25% | 16% |

(percentages have been rounded)



Eastern Corridor Segments II and III ANCOR/SR 32 Hill Focus Area

Theme

CONNECTIVITY BETWEEN SR 32 AND ANCOR

Primary Needs identified for this theme:

P11) Improve freight connections between ANCOR and SR 32/I-275 due to constraints on Mt. Carmel Rd., Round Bottom Rd. and SR 32 to support local economic development plans.

Secondary Needs identified for this theme:

S3) Address roadway grade deficiency at Round Bottom Rd. and Broadwell Rd.

Concept drawings are presented on the following pages. Concept is also drawn with Concept A-2 (C-11).

DESCRIPTION

- Add access road from Newtown’s east corp. line to Broadwell Road.
- Cross railroad, running between lakes in Newtown with intersection on western end of Broadwell.
- Length of connector would be about 1.6 miles.

NEEDS ADDRESSED

P11) Improve freight connections between ANCOR and SR 32/I-275 due to constraints on Mt. Carmel Rd., Round Bottom Rd. and SR 32 to support local economic development plans.

5/16 MEETING DISCUSSION AND COMMENTS

- This concept is the most advantageous for businesses located on Round Bottom Road.
- Concept would require crossing Dry Run Creek and railroad tracks.
- The majority of land and mining rights in this area are controlled by Martin Marietta.
- Martin Marietta’s planned mining operation will affect traffic volumes in the area and may affect access needs and/or placement of the access road. However, Martin Marietta’s plans and timing are not yet known.
- Likely no retaining walls would be needed, unlike concepts A-2 and A-3.
- No additional comments were received following the 5/16 meeting.

- This concept includes a shared-use path.
- The Committee suggested reaching out to Martin Marietta to see if there are updates regarding development plans for the area and/or potential funding opportunities for the connector.
- The Committee indicated this concept could serve as an alternative to the Round Bottom Road and SR 32 route for truck traffic.
- Forest Hills School District recently relocated its bus depot to Round Bottom Road just north of Valley Ave.
- The Committee indicated that, to be viable, the intersection at the new access road and SR 32 would need to be signalized or could be a roundabout. While the roundabout would provide a gateway to slow traffic entering Newtown, the imbalance of anticipated traffic on the access road as compared to SR 32 might cause undesired traffic delays with a roundabout.
- A question was raised about the proximity of the new access road intersection with Broadwell and the existing intersection at Broadwell and Round Bottom. Could the access road tie into the existing intersection using a roundabout? Additionally, a committee member noted that intersection improvements were needed at Broadwell and Round Bottom since it does not accommodate truck turns today. It may be possible to relocate the entrance to Evans Landscaping opposite Broadwell. Employees currently cross Round Bottom to access parking, resulting in safety concerns.
- One member of the Committee indicated that, in terms of prioritization, it would be important to start here with the SR 32 and ANCOR concepts; many of the other potential improvements in the corridor are affected by this decision.
- No additional comments were received following the 9/5 meeting.

- Concepts A-1 (C10) and A-2 (C11) were discussed together. The following notes are also included on the A-2 (C11) summary page.
- Dry Run Creek has a flood hazard designation, which both concepts A-1 (C10) and A-2 (C11) will need to address.
 - Concepts A-1 (C10) and A-2 (C11) were shared with Martin Marietta and the company will support either option. Once the mining operation begins, truck traffic will increase in the area.
 - ODOT does not anticipate any significant problems with the proposed road crossing the railroad.
 - It is not optimal, however, to have an intersection near the railroad, as suggested in concept A-2 (C11), due to sight distance concerns.
 - A shared-use path along the rail line is unlikely because the railroad has the right-of-way and plans on expanding. They have already approached the Village of Newtown expressing interest in expanding operations in the Village.
 - Anderson Township would like to see one of the concepts implemented sooner than later so that the infrastructure will be in place to encourage development.
 - The need for this project will be largely driven by economic development in this area, and a local agency will be the most likely sponsor for the project. ODOT recommends setting the priority as medium at this time.

NEXT STEPS/RECOMMENDATION

- Include in the Implementation Plan as a medium priority for further vetting, but do not conduct any further analysis at this time.

12/10 MEETING DISCUSSION AND COMMENTS

This concept was presented as C10 at the October Open House meetings.

9/5 MEETING DISCUSSION AND COMMENTS

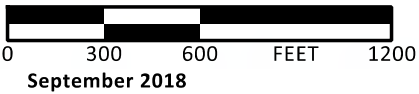
| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------|--------------------|----------------------|----------|---------------------------|----------------------|----------|---------------------------|--------------------|-----------------------|------------------|------------------------------------|-------------------|---------------------------------------|-------------------------------|----------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | | | | | | | | \$11.3M to \$16.9M | 0 | \$175K to \$350K | D1 | Archaeology | Improves | Improves | Improves |

PRIORITY: MEDIUM



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure A-1
NEW ACCESS ROAD FROM NEWTOWN EAST CORPORATION LINE
TO BROADWELL ROAD



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure A-1 (Overall View)
NEW ACCESS ROAD FROM NEWTOWN EAST CORPORATION LINE
TO BROADWELL ROAD

Concept drawings are presented on the following pages. Concept is also drawn with Concept A-1 (C10).

DESCRIPTION

- Add access road from Newtown east corp. line to Broadwell Road.
- Stay along east side of railroad with intersection near railroad crossing on Broadwell.
- Length of connector would be about 1.5 miles.

NEEDS ADDRESSED

P11) Improve freight connections between ANCOR and SR 32/I-275 due to constraints on Mt. Carmel Rd., Round Bottom Rd. and SR 32 to support local economic development plans.

5/16 MEETING DISCUSSION AND COMMENTS

- Concept would require constructing a bridge across Dry Run Creek, but bridge would be smaller than the bridge needed in Concept A-1.
- Concept would require constructing a retaining wall along the base of the hill on the east side of the access road.
- Concept would require acquiring the commercial building adjacent to the east side of the railroad tracks (owned by Evans Landscaping), near Broadwell Road (south of the parking lot).
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- This concept includes a shared-use path.
- This connector is shifted east due to the railroad line; the intersection of the access road and Broadwell Road is immediately adjacent to the rail line.
- The Committee indicated this concept could serve as an alternative to

the Round Bottom Road and SR 32 route for truck traffic.

- The Committee indicated that, to be viable, the intersection at the new access road and SR 32 would need to be signalized or could be a roundabout. While the roundabout would provide a gateway to slow traffic entering Newtown, the imbalance of anticipated traffic on the access road as compared to SR 32 might cause undesired traffic delays with a roundabout.
- A question was raised about the proximity of the new access road intersection with Broadwell and the existing intersection at Broadwell and Round Bottom. Could the access road tie into the existing intersection using a roundabout? Additionally, a committee member noted that intersection improvements were needed at Broadwell and Round Bottom since it does not accommodate truck turns today. It may be possible to relocate the entrance to Evans Landscaping opposite Broadwell.
- One member of the Committee indicated that, in terms of prioritization, it would be important to start with the SR 32 and ANCOR concepts; many of the other potential improvements in the corridor are affected by this decision.
- No additional comments were received following the 9/5 meeting.

12/10 MEETING DISCUSSION AND COMMENTS

This concept was presented as C11 at the October Open House meetings.

Concepts A-1 (C10) and A-2 (C11) were discussed together. The following notes are also included on the A-1 (C10) summary page.

- Dry Run Creek has a flood hazard designation which both concepts A-1 (C10) and A-2 (C11) will need to address.
- Concepts A-1 (C10) and A-2 (C11) were shared with Martin Marietta and the company is in favor of either option. Once the mining operation begins, truck traffic will increase in the area.
- ODOT does not anticipate any significant problems with the proposed

road crossing the railroad.

- It is not optimal though to have an intersection near the railroad, as suggested in concept A-2 (C11), due to sight distance concerns.
- A shared-use path along the rail line is unlikely because the railroad has the right-of-way and plans on expanding. They have already approached the Village of Newtown expressing interest in expanding operations in the Village.
- Anderson Township would like to see one of the concepts implemented sooner than later so that the infrastructure will be in place to encourage development.
- The need for this project will be largely driven by economic development in this area, and a local agency will be the most likely sponsor for the project. ODOT recommends setting the priority as medium at this time.

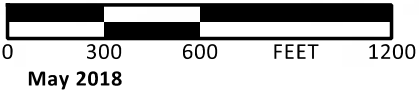
NEXT STEPS/RECOMMENDATION

- Include in the Implementation Plan as a medium priority for further vetting, but do not conduct any further analysis at this time.

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------|--------------------|----------------------|----------|---------------------------|----------------------|----------|---------------------------|-------------------|-----------------------|------------------|------------------------------------|------------------------------|---------------------------------------|-------------------------------|----------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | | | | | | | | \$9.1M to \$13.6M | 1 commercial | \$725K to \$1.5M | D1 | R/W, relocation, Archaeology | Improves | Improves | Improves |



| PAVEMENT LENGTH | BRIDGES |
|-----------------|---------|
| MILE | EACH |
| 1.5 | 1 |

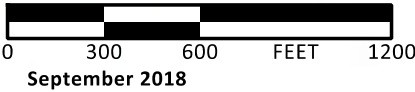


Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure A-2
NEW ACCESS ROAD FROM NEWTOWN EAST CORPORATION LINE
TO BROADWELL ROAD



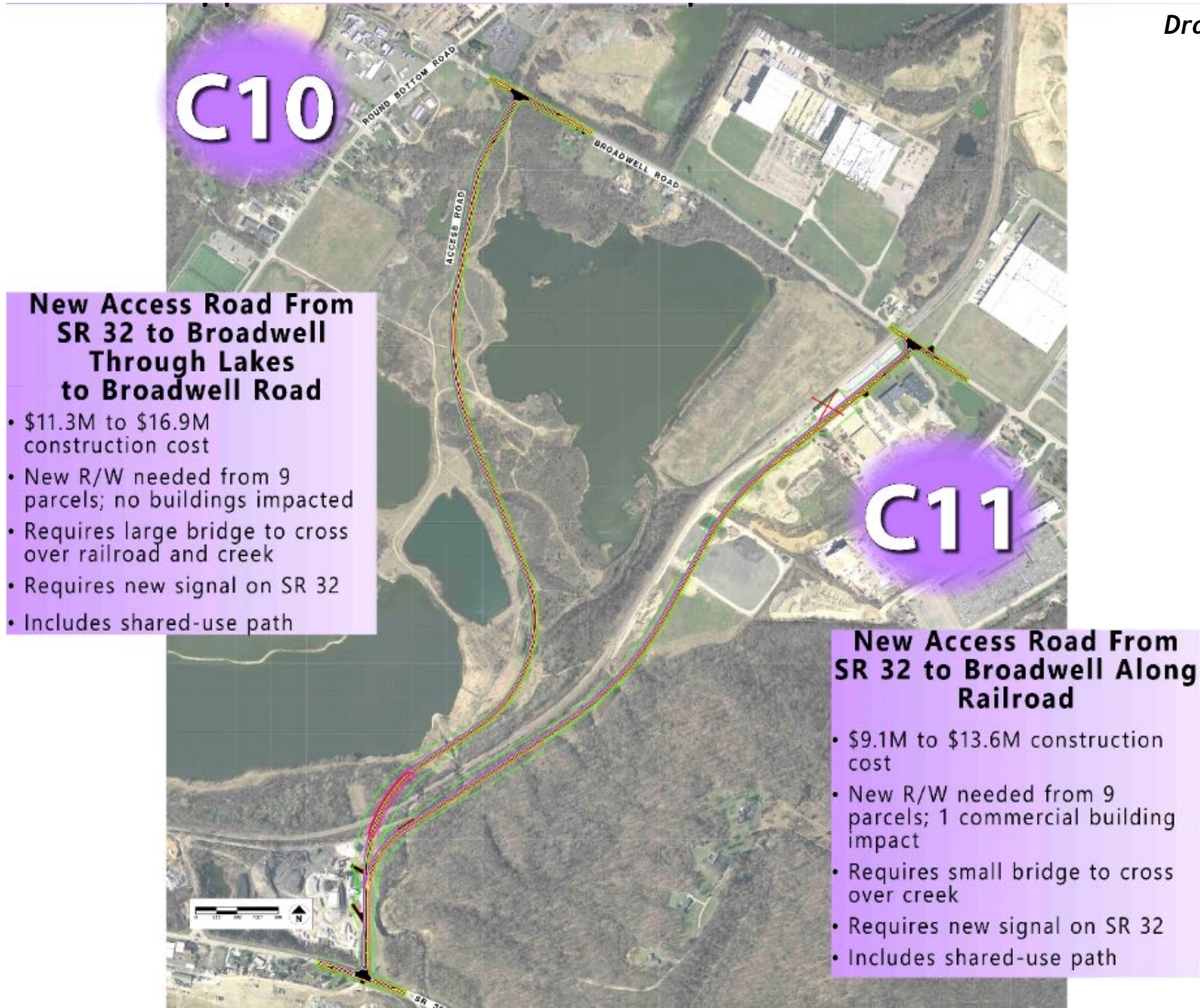
| PAVEMENT LENGTH | BRIDGES |
|-----------------|---------|
| MILE | EACH |
| 1.5 | 1 |



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure A-2 (Overall View)
NEW ACCESS ROAD FROM NEWTOWN EAST CORPORATION LINE
TO BROADWELL ROAD

Drawing was presented at the October 24 & 25
Open House meetings.



PUBLIC FEEDBACK RATINGS SUMMARY: C10

| Strongly Oppose | Dislike | Neutral | Like | Strongly Support |
|-----------------|---------|---------|------|------------------|
| 19% | 11% | 37% | 21% | 11% |

(percentages have been rounded)

PUBLIC FEEDBACK RATINGS SUMMARY: C11

| Strongly Oppose | Dislike | Neutral | Like | Strongly Support |
|-----------------|---------|---------|------|------------------|
| 14% | 10% | 35% | 24% | 17% |

(percentages have been rounded)

Concept drawing is presented on the following page.

DESCRIPTION

- Add access road from Newtown’s east corp. line to Broadwell Road.
- Stay along east side of railroad and follow base of the hill to go around the east side of SENCO building with intersection on Broadwell at Joanet Street near Mt. Carmel Road.
- Length of connector would be about 1.7 miles.

NEEDS ADDRESSED

P11) Improve freight connections between ANCOR and SR 32/I-275 due to constraints on Mt. Carmel Rd., Round Bottom Rd. and SR 32 to support local economic development plans.

5/16 MEETING DISCUSSION AND COMMENTS

- Would require constructing a bridge across Dry Run Creek; the bridge would be smaller than the bridge needed in Concept A-1.
- Concept would require constructing multiple retaining walls along the base of the hill on the east side of the access road.
- The SENCO building area sometimes floods during wet weather, which could impact use of the access road at times.
- No additional comments were received following the 5/16 meeting.

NEXT STEPS/RECOMMENDATIONS

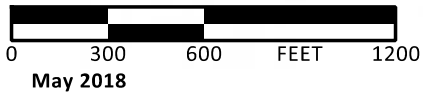
- No further study due to desire to impact fewer property owners, avoid multiple retaining walls, and drainage issues.

| 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 |
|--------------------|-------------------------|-------------------|-------------|-----------------------------------|---|-------------------------------|----------------------|------------------|
| IMPROVES | SIMPLE | \$5-10 MILLION | RELOCATIONS | MODERATE (C1/C2) | IMPROVES | IMPROVES | IMPROVES | NO FURTHER STUDY |

RECOMMENDATION: NO FURTHER STUDY



| PAVEMENT LENGTH | BRIDGES |
|-----------------|---------|
| MILE | EACH |
| 1.7 | 1 |



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure A-3
NEW ACCESS ROAD FROM NEWTOWN EAST CORPORATION LINE TO BROADWELL ROAD

Concept drawing is presented on the following page.

DESCRIPTION

- Add access road from Little Dry Run to Round Bottom Road, connecting at Newtown’s north corporation limits along Round Bottom Road.

NEEDS ADDRESSED

- P11) Improve freight connections between ANCOR and SR 32/I-275 due to constraints on Mt. Carmel Rd., Round Bottom Rd. and SR 32 to support local economic development plans.

5/16 MEETING DISCUSSION AND COMMENTS

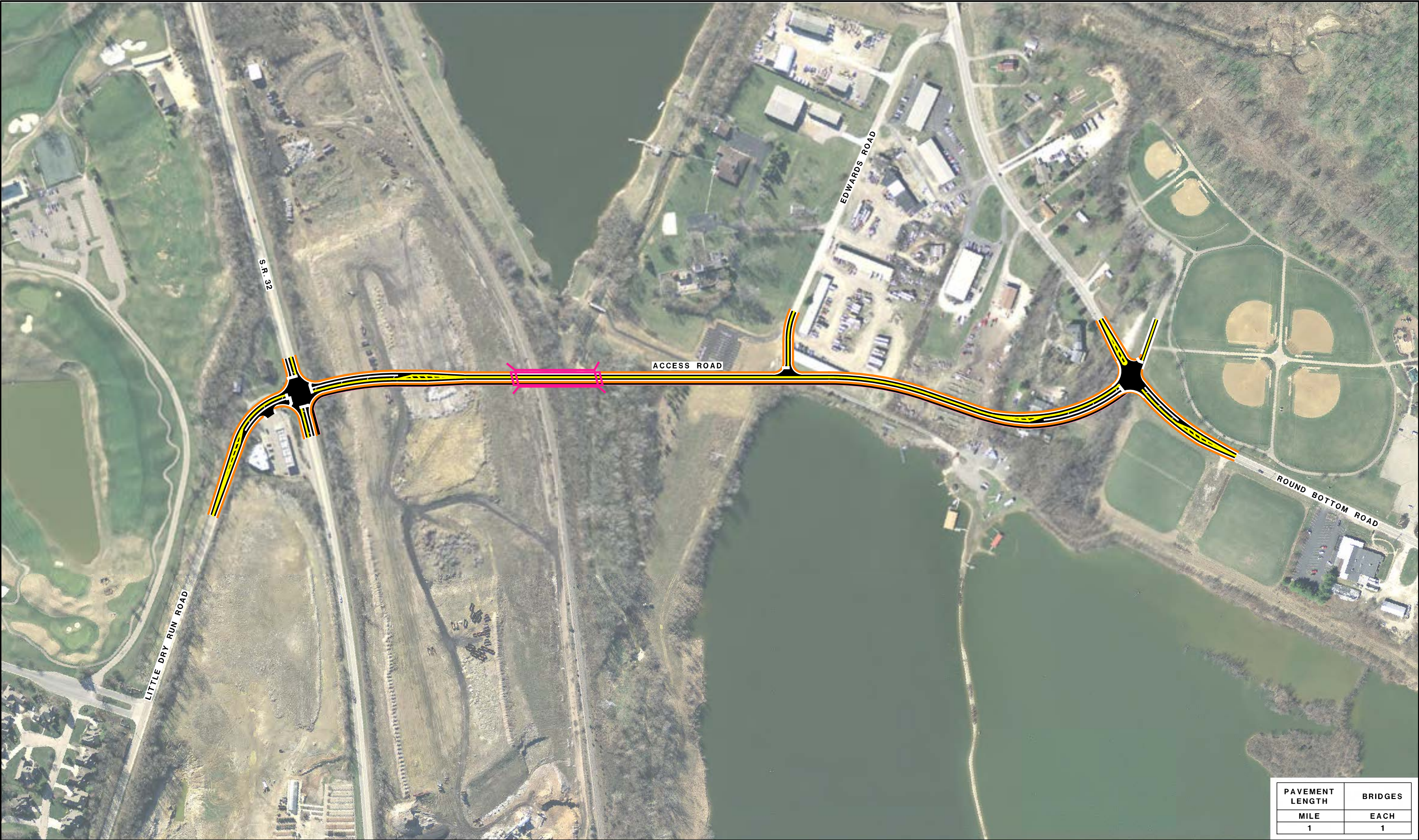
- Concept has the shortest connector, but would result in both commercial and residential impacts.
- Concept would go over an active landfill which would be very expensive.
- Concept does not solve issue of redirecting trucks/freight vehicles away from Newtown and existing parks.
- No additional comments were received following the 5/16 meeting.

NEXT STEPS/RECOMMENDATION

- No further study due to issues related to crossing the landfill and potential relocations along Round Bottom.

| 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 |
|--------------------|-------------------------|-------------------|-------------|-----------------------------------|---|-------------------------------|----------------------|------------------|
| IMPROVES | COMPLEX | >\$10 MILLION | RELOCATIONS | MODERATE (C1/C2) | IMPROVES | IMPROVES | IMPROVES | NO FURTHER STUDY |

RECOMMENDATION: NO FURTHER STUDY



Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure A-4
NEW ACCESS ROAD FROM NEWTOWN EAST CORPORATION LINE
TO BROADWELL ROAD

Concept drawings are presented on the following pages.

DESCRIPTION

- Add access road from SR 32 to Round Bottom Road using old Edwards Road corridor.

NEXT STEPS/RECOMMENDATION

- No further study. Concept does not provide as much benefit as concepts A-1 and A-2 because it does not remove truck traffic from Round Bottom Road.

NEEDS ADDRESSED

- P11) Improve freight connections between ANCOR and SR 32/I-275 due to constraints on Mt. Carmel Rd., Round Bottom Rd. and SR 32 to support local economic development plans.

5/16 MEETING DISCUSSION AND COMMENTS

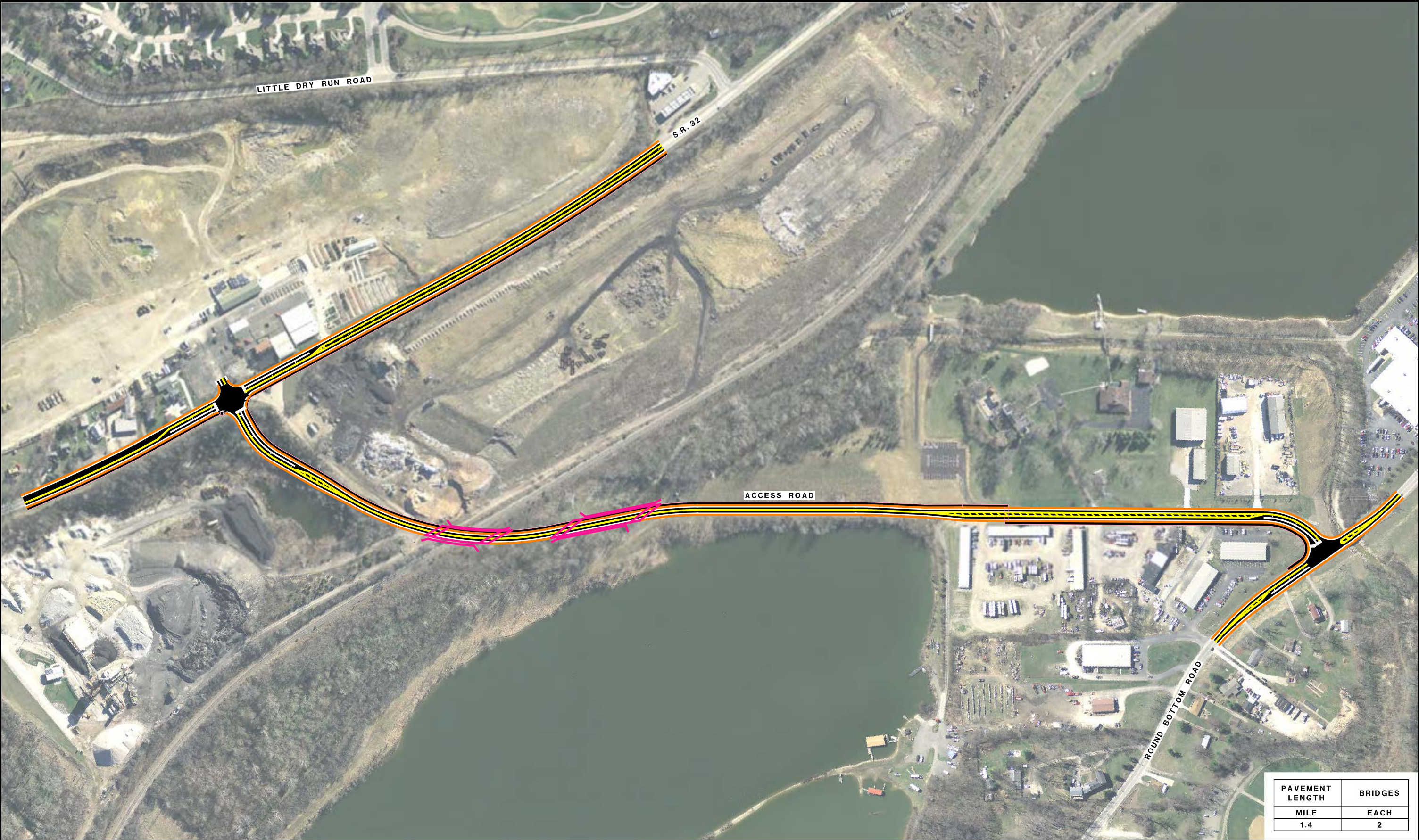
- Concept circles around the east side of the landfill and connects to old Edwards Road across from the entrance to Burger Farm.
- Construction would be a challenge:
 - Bridge would need to be constructed across railroad tracks.
 - Bridge would need to be constructed across Dry Run Creek.
 - Substrate is generally sand and gravel.
- Concept could have impact on Lake Barber.
- Concept does not solve issue of redirecting trucks/freight vehicles away from Newtown and existing parks.
- No additional comments were received following the 5/16 meeting.

9/5 MEETING DISCUSSION AND COMMENTS

- This concept includes a shared-use path.
- Members of the Committee suggested this alternative was not as viable as Concepts A-1 or A-2 and did not provide as much benefit; this concept still requires trucks to use Round Bottom Road, a main artery for cyclists.
- No additional comments were received following the 9/5 meeting.

| Safety ECAT Benefit/Cost Ratio | Traffic Operations | | | | | | | Construction Cost | R/W Impacts | | Environmental Impacts | | Support and/or Facilitate Multi-Modal | Improve Regional Connectivity | Improve Local Access |
|--------------------------------|--------------------|----------------------|----------|---------------------------|----------------------|----------|---------------------------|--------------------|-----------------------|------------------|------------------------------------|-------------------|---------------------------------------|-------------------------------|----------------------|
| | Time Period | HCS Results | | | TransModeler Results | | | | Number of Relocations | R/W Cost | Anticipated Environmental Document | Red Flag Triggers | | | |
| | | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | 2042 Delay (seconds) | 2042 LOS | % Reduction from No Build | | | | | | | | |
| | | | | | | | | \$10.2M to \$15.2M | 0 | \$350K to \$700K | D1 | Archaeology | Improves | Improves | Improves |

RECOMMENDATION: NO FURTHER STUDY

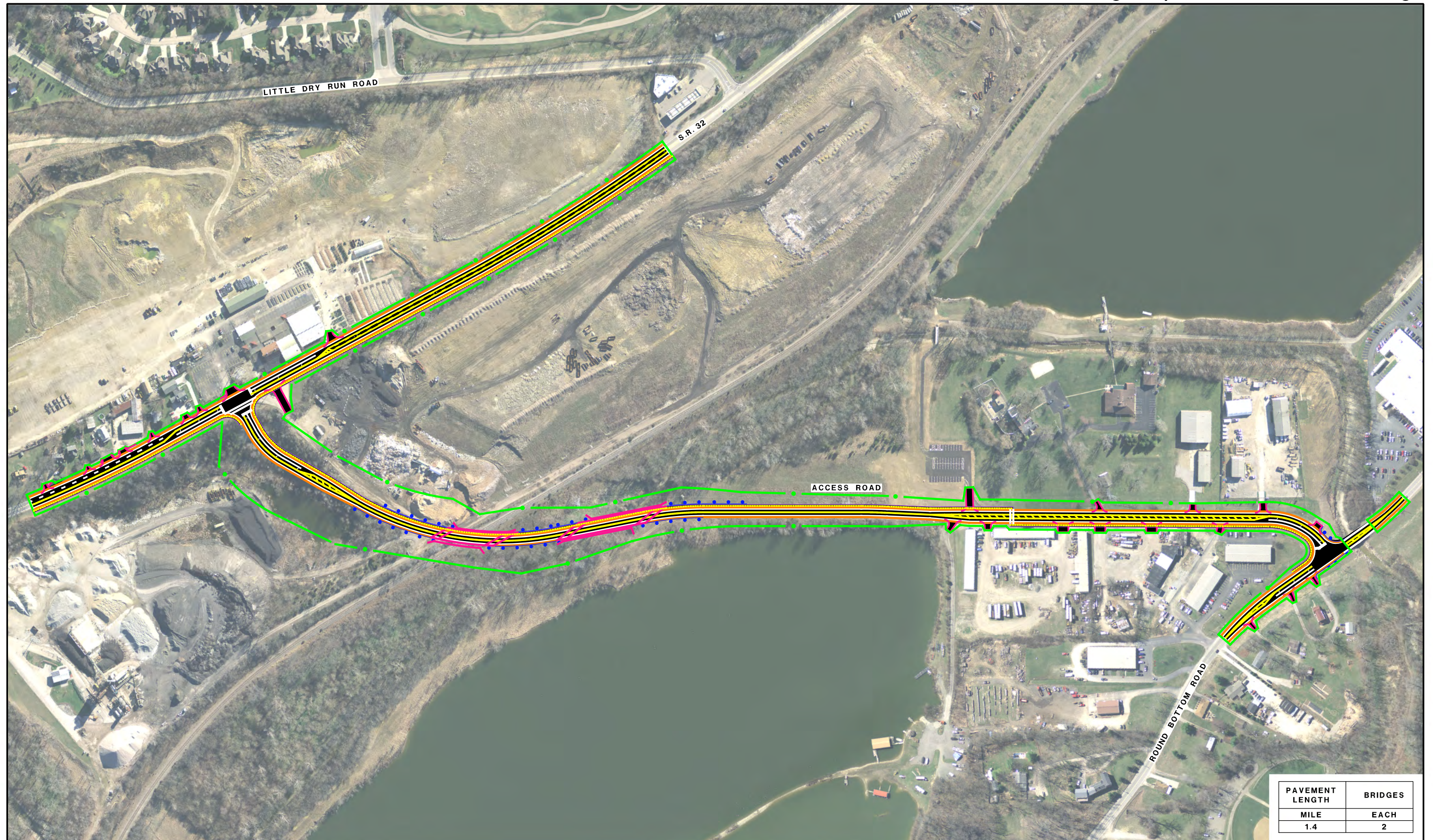


| PAVEMENT LENGTH | BRIDGES |
|-----------------|---------|
| MILE | EACH |
| 1.4 | 2 |

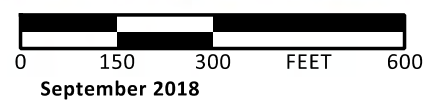


Concept Drawing
Eastern Corridor Projects
Segment II-III (SR 32 Corridor)
HAM-32F-0.00; PID 86462

Figure A-5
NEW ACCESS ROAD FROM NEWTOWN EAST CORPORATION LINE
TO BROADWELL ROAD



| PAVEMENT LENGTH | BRIDGES |
|--------------------|---------|
| MILE | EACH |
| 1.4 | 2 |



Concept Drawing
 Eastern Corridor Projects
 Segment II-III (SR 32 Corridor)
 HAM-32F-0.00; PID 86462

Figure A-5
 NEW ACCESS ROAD FROM S.R. 32
 TO ROUND BOTTOM ROAD