

# APPENDIX F

## STAKEHOLDER OUTREACH



# KY 90 Project Team Meeting #1

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9:00 AM Thursday, April 21st, 2022 | Microsoft Teams

## Attendees

| Name              | Representing    | Email                           |
|-------------------|-----------------|---------------------------------|
| Phillip Bischoff  | HDR             | Philip.Bischof@hdrinc.com       |
| Steve DeWitte     | KYTC            | Stephen.DeWitte@ky.gov          |
| Jeff Dick         | KYTC District 8 | JeffD.Dick@ky.gov               |
| Mark Foster       | KYTC District 8 | MarkA.Foster@ky.gov             |
| Mallory Frye      | KYTC District 8 | mallory.frye@ky.gov             |
| Billy Garrison    | WSP             | Billy.Garrison@wsp.com          |
| Joseph Gossage    | KYTC District 8 | Joseph.Gossage@ky.gov           |
| Amber Hale        | KYTC District 8 | Amber.Hale@ky.gov               |
| Chris Henderlight | KYTC District 8 | chris.henderlight@ky.gov        |
| Ian Cole          | LCADD           | Ian@lcadd.org                   |
| James Jones       | KYTC District 8 | JamesE.Jones@ky.gov             |
| Dave Heil         | KYTC            | dave.heil@ky.gov                |
| William Lucas     | D8              | William.Lucas@ky.gov            |
| Conley Moren      | D8              | Conley.Moren@ky.gov             |
| Beth Niemann      | KYTC            | Elizabeth.Niemann@ky.gov        |
| Austin Obenauf    | WSP             | Austin.Obenauf@wsp.com          |
| Cody Smith        | KYTC District 8 | codyw.smith@ky.gov              |
| Travis Thompson   | HDR             | Travis.alan.thompson@hdrinc.com |
| Randy Turner      | KYTC            | Randy.Turner@ky.gov             |
| Jami West         | D8              | jamib.west@ky.gov               |
| David Souleyrette | KYTC            | david.souleyrette@ky.gov        |
| Rob Frazier       | HDR             | rfrazier@hdrinc.com             |
| Doug Smith        | WSP             | Douglas.Smith@wsp.com           |
| Casey Durham      | KYTC            | casey.durham@ky.gov             |
| Anne Warnick      | WSP             | Anne.Warnick@wsp.com            |

## Introduction

The meeting started with Anne Warnick, the consultant team Project Manager presenting the agenda and running through introductions.

## Study Goals and Objective

Anne presented the study goals for the project and opened the floor for any comments. No comments were raised during this section.

## Study Schedule

Anne presented the study schedule for the project and opened the floor for any comments. No comments were raised during this section. The study is on a compressed schedule with improvement concepts being finalized at the end of June and documentation being completed by the end of July.

## Project Background

Anne presented the background for the project and opened the floor for any comments. No comments were raised during this section.

## Existing Conditions

### Relevant Projects and Studies



Anne presented the relevant projects identified along the corridor and opened the floor for any feedback. KYTC had some additional projects, studies, and CHAF's to note, highlighted below.

#### *WSP Identified*

8-109.10 – Improve KY 90

#### *KYTC Additional Projects to Note (KYTC to provide additional project information)*

- CHAF on US 27 between the KY 90 interchange.
- CHAF sidewalk project in Monticello **(08-03005.00 - THE CITY OF MONTICELLO - INSTALLATION OF SIDEWALKS. - Installation of new sidewalk within the public right of way along College St., Myrtle St. and Front St.)**
- 2 Active projects on KY 1275 in Monticello
  - 8-80005.00 - IMPROVE CURVE ON KY 1275 AT KY 833/ROGERS GROVE ROAD AND RESURFACE FROM KY 1275 FROM BELL LANE TO KY 833/ROGERS GROVE ROAD.
  - 8-80006.00 - Reduce congestion and improve safety, capacity, and mobility along KY 1275, including sidewalks, from KY 90 to Bell Lane.
- Ongoing study by Stantec on KY 90 from KY 1275 to KY 3106 (8-80105.00 - REDUCE CONGESTION AND IMPROVES SAFETY, CAPACITY AND MOBILITY OF KY 90 BETWEEN KY 90X/KY 1275 AND KY 3106.)
- CHAF 20080507 tie in to this KY 90 study on the Wayne County side
- CHAF 20080506 KY 1275 to KY 1568

|  |            |       |       |        |        |                |            |
|--|------------|-------|-------|--------|--------|----------------|------------|
|   | IP20080506 | Wayne | KY 90 | 19.267 | 23.077 | Major Widening | Identified |
| <b>Description:</b> Reduce congestion and improve safety, capacity, and mobility of KY 90 between KY 1275/KY 1619 and KY 1568.   |            |       |       |        |        |                |            |
|   | IP20080507 | Wayne | KY 90 | 23.077 | 25.235 | Major Widening | Identified |
| <b>Description:</b> Reduce congestion and improve safety, capacity, and mobility of KY 90 between KY 1568 in Wayne County and the Wayne/Pulaski County Line. (as a continuation of Pulaski Co. |            |       |       |        |        |                |            |

## Typical Sections

Anne presented the existing typical sections along the project study area.

## Horizontal and Vertical Geometrics

The terrain withing the study area is relatively flat. All curves meet the 55 mph design speed.

## **Intersections & Access Points**

Anne presented the intersections and access points along the project study area. In total, 95 access points exist throughout the study area. Two intersections, Old Bronston School Road and the northern entrance of CR 1370D, had sight distance issues and one approach to the intersection had a sharp angle turn that was raised as a concern.

## **Functional Class and Truck Routes**

KY 90 is a minor arterial that is not part of the National Highway System but is a Federal Designated Truck Route and on the Kentucky Highway Freight Network as well as the Appalachian Development Highway System.

## **Bicycle and Pedestrian Activity**

Strava data shows that there is both bicycle and pedestrian activity throughout the study area that is heaviest near the bridge and tapers off towards the western end of the study area.

# **Traffic and Safety**

## **Level of Service**

Travis Thompson presented the Level of Service along the project study area. AADT from 2019 ranges from 10,700 to 12,100 with 9.8% trucks. The Level of Service (LOS) is A or B on the eastern and western terminus of the study area (in 4 or 5-lane sections) and the rest of the study area (2-lane section) is LOS C.

## **Growth Trends and Future Development**

Travis showed the trends along the study area. KYTC asked if the team has looked at the 2010-2020 Census growth rate yet. That, along with information from the Kentucky State Data Center was used, but the team will note the Census growth rate along with the information from the State Data Center.

## **HERE Speed Data**

Philip Bischof presented the speed data throughout the corridor in both directions for the AM and PM peaks. The crash data was plotted along with the speed data to show any correlations between speed and crashes. Speeds were higher at the far ends of the study area and decreased in the middle of the study area. This is likely due to friction between through vehicles and those entering and exiting the intersections and access points. Locations with a higher number of access points showed a correlation with the higher crash volumes. KYTC asked if the crashes were mostly rear end or angle crashes. The team noted there were a lot of rear end crashes. KYTC also noted that the sun may cause issues for safety and visibility in the afternoon. The team noted that the afternoon peak has the highest number of crashes.

## **Safety: Crash Data and Trends**

Travis presented the crash data and trends along the project study area. The presentation shows maps of the types of crashes by severity and type. Crashes peak in the mid-day peak and the evening peak hours, with rear end crashes being the most common type, followed by angle. There were three serious injury crashes between 2015 and 2019, and two serious injury crashes and two fatal crashes in 2020.

## **Excess Expected Crashes**

The EEC data showed that severe crashes at intersections are worse than expected, but the overall EEC for the corridor is negative, indicating less than expected crashes throughout.

## Top 5 Intersection Crash Diagrams

Travis shared crash diagrams highlighting the number and type of crashes for the five intersections with the most crashes. The intersection with Jacksboro Road has the highest intersection crash rate within the corridor.

## Rear End Crashes at Driveways

Travis presented a map and the data showing rear end crashes at driveways and intersections. 2/3 of all crashes occurred at access points.

- KYTC noted that this is safer than expected. The highest opportunity seems to be at the access points.
- There was a question about the section with -22.97 crashes. The consultant team noted there were only 14 crashes, but the model predicted 35 crashes along this section. The number of access points along this section may be a contributing factor to why there is a high number of expected crashes. The consultant team will review the data to further evaluate the reason for this.
- There was a question of whether driveway crashes were caused by people backing onto the road from driveways. The consultant team looked at the entering and exiting data. 79% of rear end crashes were flagged as occurred within an intersection or driveway. Usually, someone was turning into the driveway and that's where the rear end occurred. Also, driveways are more often business access points than residential driveways, so people are not typically backing out of them.
- There was a question as to whether there were more crashes during the summer with the higher tourism and recreation and also if certain days of the week had higher numbers of crashes. The consultant team will look into that and is also working with Daniel Hulker to get the speed data to show the speeds during the winter versus the summer. The data gathered to date did not break down the time of year. Throughout this project the team will keep in mind the higher use in the summer recreation months.

## Corridor Drive Through

Anne showed a video of the corridor via GoPro and drone footage.

## Environmental

Travis and Anne presented the environmental conditions along the project corridor.

- KYTC asked what the hazmat locations are. One is a gas station, but the consultant team will investigate further into the other locations that are potential hazmat sites.
- There is one location that is eligible for the National Register of Historic Places.
- KYTC asked if any sink holes have been identified within the corridor. The consultant team checked this after the meeting and found that this part of Pulaski County has a high potential for karst developments, and there are several culverts on the 4-lane section at the west end of the study area that drain to sink holes. It appears there is the potential for sinkholes to be present near the study area. Within the study buffer area there are no wetlands or floodplains.

## Local Officials and Stakeholder (LO/S) Meeting

Anne opened the discussion on possible meeting dates for the next project team and stakeholder meetings.

- KYTC noted that there are two large marinas that will contribute to increased traffic in the summer, which should be noted when talking to stakeholders.
- The team discussed how best to use the one stakeholder meeting that will be held during this project. KYTC noted that since Phase 1 Design will start as soon as this project ends, that can be a chance to go back to the stakeholders and get feedback on more developed improvement concepts. The project team indicated that they preferred going to the stakeholders after a list of potential improvement concepts has been developed. The meeting could serve a dual purpose, to present and gather feedback on both existing conditions and potential improvement concepts.
- Project Team Meeting #2 will be held before the LO/S meeting, with the LO/S meeting being soon after. This will give the project team the opportunity to share feedback on potential improvement concepts before they are presented to the stakeholders. The weeks of May 9 and 16 were listed as potential weeks for a meeting. Anne will send out a doodle poll to the project team to determine a specific date and time for the next project team meeting. The project team will also determine the best time for the stakeholder meeting, although key stakeholders will be contacted to ensure the selected time works.
- KYTC has begun to develop list of stakeholders and will provide that to the consultant team. Dave, Steve, and Beth will assist with providing names of Central Office staff to invite.
- Invites to stakeholders will be sent via e-mail with follow up calls to those who don't respond.
- Locations for the meeting were discussed. KYTC will look into that a little more. Several places that were mentioned include the District 8 conference room, although not sure if it is big enough, the Community College, Bronston Water Service, The Lake Cumberland ADD and the Library in Monticello.
- The meeting will be a hybrid with an in-person option, as well as a zoom call in option.
- The project team discussed the best way to get feedback and decided a combination of paper surveys for those in person, and a zoom poll for those attending via zoom would work best.

## Next Steps

Anne outlined the next steps of the study, noting that the LO/S meeting will be moved to after the second project team meeting. KYTC noted that they would like to make the report available with the RFP for the Phase 1 Design project immediately following this study.

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The meeting concluded at 10:34 AM ET.

# 8-80104.00 KY 90 Project Team Meeting #2

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10:00 AM Thursday, May 13th, 2022 | Microsoft Teams

## Attendees

| Name              | Representing    | Email                           |
|-------------------|-----------------|---------------------------------|
| Phillip Bischoff  | HDR             | Philip.Bischof@hdrinc.com       |
| Steve DeWitte     | KYTC            | Stephen.DeWitte@ky.gov          |
| Jeff Dick         | KYTC District 8 | JeffD.Dick@ky.gov               |
| Mark Foster       | KYTC District 8 | MarkA.Foster@ky.gov             |
| Billy Garrison    | WSP             | Billy.Garrison@wsp.com          |
| Joseph Gossage    | KYTC District 8 | Joseph.Gossage@ky.gov           |
| Chris Henderlight | KYTC District 8 | chris.henderlight@ky.gov        |
| Ian Cole          | LCADD           | ian@lcadd.org                   |
| James Jones       | KYTC District 8 | JamesE.Jones@ky.gov             |
| Dave Heil         | KYTC            | dave.heil@ky.gov                |
| Conley Moren      | KYTC District 8 | Conley.Moren@ky.gov             |
| Beth Niemann      | KYTC            | Elizabeth.Niemann@ky.gov        |
| Austin Obenauf    | WSP             | Austin.Obenauf@wsp.com          |
| Cody Smith        | KYTC District 8 | codyw.smith@ky.gov              |
| Travis Thompson   | HDR             | Travis.alan.thompson@hdrinc.com |
| Jami West         | D8              | jamib.west@ky.gov               |
| Connor Schurman   | KYTC            | connor.schurman@ky.gov          |
| Rob Frazier       | HDR             | Robert.frazier@hdrinc.com       |
| Doug Smith        | WSP             | Douglas.Smith@wsp.com           |
| Casey Durham      | KYTC            | casey.durham@ky.gov             |
| Anne Warnick      | WSP             | Anne.Warnick@wsp.com            |
| Amanda Parmley    | KYTC District 8 | Amanda.parmley@ky.gov           |
| Israel Ramirez    | WSP             | Israel.ramirez@wsp.com          |

## Introduction

The meeting started with Anne Warnick, the consultant team Project Manager presenting the agenda and running through introductions.

## Study Goals and Objective

Anne presented the study goals and objectives for the project and opened the floor for any comments. No comments were raised during this section.

## Study Schedule

Anne presented the study schedule for the project and opened the floor for any comments. No comments were raised during this section. The study is on a compressed schedule with improvement concepts being finalized at the end of June and documentation being completed by the end of July.

## Project Background

Anne presented the background for the project and opened the floor for any comments. No comments were raised during this section.

## Existing Conditions

### 2022 Segment Level of Service Traffic Review

Anne updated the project team with the traffic data which was new since the first project meeting. New data included intersection turning movement counts. This included 2022 segment and intersection LOS. No comments were raised during this section.

## Improvement Concepts

Anne presented the improvement concepts along the corridor. She stopped periodically to allow time for comments and questions. The following were points of discussion:

### Three-lane section with TWLTL

A concept that would widen KY 90 to be three lanes in total, with the center lane being a two-way left-turn lane (TWLTL), was presented. The consultant team shared the impacts to right of way and building acquisitions as well as preliminary traffic, safety, and environmental impacts.

- For right of way, does “acquisitions” mean full parcels to be acquired?
  - Yes, we would have to take a building and there would not be enough room for the building to be moved.
- Without shoulders, would there still be issues with right of way?
  - Yes. The consultant team can perform a safety and right of way analysis to look at combinations of different lane and shoulder widths to find a PBFS option that still provides the safety and operational benefits with minimal right of way impacts.
  - The consultant team also looked at adding sidewalk along the corridor from the bridge to Jacksboro Road.
- Are there drivers for pedestrian access? Are there goat paths?
- How many people are walking/running along KY 90?
  - We are not 100% sure, but based on the Strava heat map, 20/week.
  - Traffic counts did not include pedestrian counts, but the video could be reviewed if needed.
- One thing to consider if we built the sidewalk is who would maintain it?
  - There is not a local government to maintain it.

### Two-lane section with a 6' wide raised median

This concept included adding a raised non-mountable median between two travel lanes on the section between Jacksboro Road and Tucker Road. The sections to the east and west would be widened to a 3-lane section with a TWLTL. Adding roundabouts at Jacksboro Road and Tucker Road (also part of the



spot improvements developed) was also discussed as these would be an option at either end of the raised median section.

- Would the roundabouts still be high speed roundabouts?
  - Reduced speed around the roundabout would occur. If we want to lower speeds through the corridor, the roundabouts could help to make this seem intentional. The far western roundabout in the more rural area would be a good high speed to low-speed concept.
- Any roundabouts would need to be mountable.
- Tractor trailers need to be considered in the roundabout and U-turn design. U-Turns and roundabouts may take up a lot of space to allow for trucks and buses to turn around.
- A speed study would need to be conducted to determine the 85<sup>th</sup> percentile speed. Central office may not lower posted speeds based on the character of the corridor.
- Distance between roundabouts would be a little over one mile. U-Turns can also be considered but with trailers and boats prevalent on the corridor, a roundabout may better accommodate these vehicles.
- Businesses may be unhappy with the reduction to access.
- KYTC has removed access before, but people generally do not like it. It is safer though.
- There is a similar project along US 25, where access is being reduced, however the through movement goes to the interstate, so there is not as much turning into and out of access points.

### Frontage and Backage Roads

This concept builds off of the section with the raised median by adding a frontage and backage road along parts of the corridor to improve safety and access management.

- KYTC likes this option better than totally removing access points.
- This option could also be done without a raised median.
- Would the frontage road require removing gas pumps at the gas station?
  - We can investigate solutions to help save the pumps.
- KYTC would like to see what the stakeholders would say about this concept.
- Could people still turn left where there is not a frontage road?
  - Only if we don't put a raised median.
- As the north side loses room for further development, the south side may also start to see more development. Frontage roads constructed in advance of development could be something to consider.
- With the frontage road concept, people may ask why not just widen to a four-lane highway in this section?
- If we are going to control the access, KYTC would like for that control to come from the middle of the road.
- We may also want to look at having the median end further than the extents we are showing. That may be the long-term vision for the corridor.
- The project team would like to show the stakeholders the frontage and backage road concepts to get their opinion.
- KYTC asked if cost estimates have been developed.
  - Costs will be estimated as part of the more detailed evaluation.

- The frontage and backage roads can be shown with or without the median.
- One issue with the frontage and backage roads is that they only help over a short distance, and not over the entire study area.

### Frontage and Backage Roads

A concept that would widen KY 90 to be five lanes in total, with the center lane being a two-way left-turn lane (TWLTL), was presented. The consultant team shared the impacts to right of way and building acquisitions as well as preliminary traffic, safety, and environmental impacts. Given that the current two-lane section is at less than 50% of the capacity of the roadway, the additional capacity that a five-lane section would bring is unnecessary, especially given the right of way impacts. The project team agreed to remove this option from further consideration.

### Spot Improvements

The consultant team shared 14 potential spot improvements along the corridor.

- KYTC asked if the Forest Ridge Road intersection would be a right-in right-out only?
  - No, motorists could still make left turns out.
- Forest Ridge Road and Sycamore Drive are very close together. An improvement option with a small TWLTL between the two intersections was discussed. There is also a lot of over-tracking by vehicles turning into the narrow width side roads.
- KYTC asked if correcting the skew at Jacksboro Road could help with sight distance?
  - Jacksboro Road does not have a sight distance issue, but we will see what we can learn from the crash data that we have and apply the CMF for angle change of the skew.
- KYTC asked if we checked the right turn lane warrants at Old Kentucky 90?
  - We looked at right turns warrants at all of the intersections and none of them met warrants.
  - The crash issue noted at this intersection is in the westbound direction.
- At Gibson Lane, a suggestion was brought up to eliminate the westbound merge and restripe to make a *right turn must turn right* to end that lane.
- The consultant team looked at an RCUT at the KY 790 intersection but believes it is not the best solution here due to the low number crashes and the number of turns.

### Local Officials and Stakeholders Meeting Preparation

Anne went through the Local Officials and Stakeholders presentation as it stands for the upcoming Local Officials and Stakeholders (LO/S) meeting. This included an overview of the existing conditions and presenting the improvement concepts. The project team agreed that showing the improvement concepts visually would be good. The full corridor concept typical sections could be shown with the 3-4 most important facts for each one on a slide. For the spot improvements, these could be grouped into 4-5 aeries with callouts showing what the improvements are being evaluated, with visuals where possible.

Several additional questions about the concepts came up during this discussion.

- How would the sidewalk tie-in at the bridge?
  - Either have people use the shoulder, which is not ideal, or do some sort of barrier if they are crossing. How much people would use a sidewalk will be a determining factor in whether this is considered.

- What should we present to the stakeholders with the median concept?
  - We can show U-Turns and left turns as needed, as well as potential roundabouts at the ends. The access management would come from the middle and not closing the access points alone.

The project team also discussed logistics for the Zoom portion of the meeting:

- Are you looking at it being more open where the folks can unmute at any time?
  - We have it set up as a webinar, we are going to make it where they can unmute at any time. We will make this as an open discussion and will monitor as well.
- As far as the logistics, will Anne kickoff the meeting? I would just like some instruction at the beginning.
  - We will have some slides at the beginning and that will allow the attendees to understand how the meeting will work throughout.
- Will you all do a kickoff in person?
  - Yes, we can do that in person.
  - We can have the introductions in person, and then we can make sure the folks online know the ground rules.
- Would you like this to be recorded?
  - Yes, please let everyone know as well.

## Next Steps

Anne outlined the next steps of the study and showed the evaluation of potential improvement concepts occurring in the middle of June, the third project team meeting at the end of June, and the draft report submitted by the end of July.

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The meeting concluded at 12:08 PM ET.

# 8-80104.00 KY 90 Local Officials and Stakeholder Meeting

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**1:30 PM Thursday, May 18th, 2022 | KYTC District 8 Office & Zoom**

## Attendees

| Name               | Location  | Representing                                     | Email                                   |
|--------------------|-----------|--|---|
| Anne Warnick       | In person | WSP  | Anne.Warnick@wsp.com                    |
| Billy Garrison     | In person | WSP  | Billy.Garrison@wsp.com                  |
| Patrick Richardson | In person | Pulaski County Board of Education                | Patrick.Richardson@pulaski.kyschools.us |
| Travis Thompson    | In person | HDR  | Travis.alan.thompson@hdrinc.com         |
| Al Morrow          | In person | Bronston Water Association                       | almorrow@newwavecomm.net                |
| J.C. Now           | In person | Bronston Water Association                       | Bronstonwater@gmail.com                 |
| Deron Byrne        | In person | Bronston Water Association / Monarch Engineering | dbyrne@monarchengineering.net           |
| Dave Heil          | In person | KYTC   | dave.heil@ky.gov                        |
| Chris Henderlight  | In person | KYTC District 8                                  | chris.henderlight@ky.gov                |
| William Lucas      | In person | KYTC District 8                                  | William.lucas@ky.gov                    |
| James Jones        | In person | KYTC District 8                                  | JamesE.Jones@ky.gov                     |
| Jeff Dick          | In person | KYTC District 8                                  | JeffD.Dick@ky.gov                       |
| Joseph Gossage     | In person | KYTC District 8                                  | Joseph.Gossage@ky.gov                   |
| Ian Cole           | In person | LCADD  | ian@lcadd.org                           |
| Mallory Frye       | In person | KKYTC District 8                                 | Mallory.frye@ky.gov                     |
| Beth Niemann       | In person | KYTC   | Elizabeth.Niemann@ky.gov                |
| Amanda Parmley     | Zoom      | KYTC District 8                                  | Amanda.parmley@ky.gov                   |
| Rob Frazier        | Zoom      | HDR  | Robert.frazier@hdrinc.com               |
| Amber Hale         | Zoom      | KYTC District 8                                  | Amber.hale@ky.gov                       |
| Conley Moren       | Zoom      | KYTC District 8                                  | Conley.Moren@ky.gov                     |
| Doug Smith         | Zoom      | WSP  | Douglas.Smith@wsp.com                   |
| Austin Obenauf     | Zoom      | WSP  | Austin.Obenauf@wsp.com                  |
| Randy Turner       | Zoom      | KYTC   | Randy.turner@ky.gov                     |
| Steve DeWitte      | Zoom      | KYTC   | Stephen.DeWitte@ky.gov                  |
| Jami West          | Zoom      | D8   | jamib.west@ky.gov                       |
| Israel Ramirez     | Zoom      | WSP  | Israel.ramirez@wsp.com                  |
| Lauren Plinka      | Zoom      | WSP  | Lauren.plinka@wsp.com                   |

## Introduction

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### Study Schedule

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### Project Background

Anne presented the background for the project and opened the floor for any comments. No comments were raised during this section.

## Existing Conditions

### Roadway Conditions and Issues

Anne presented the existing roadway conditions and access points along the project study area. A poll question was raised to allow stakeholders a chance to provide their feedback.

### Bicycle and Pedestrian Activity

A question was asked as to where and how often people are walking/riding bikes along this corridor?

Response from Bronston Water reps: People are walking on the shoulder here daily. They are usually going to the Dollar Store. 2-3 pedestrians are seen every day. Periodically a cyclist will come through.

### 2022 Segment Level of Service Traffic Review

Travis Thompson updated the group with the traffic data which was new since the first project team meeting.

A comment was received noting that starting around 3:30 in the afternoon and lasting until around 7 PM, traffic gets heavier and it is hard to make left turns off of side streets. Sometimes it will take 15 minutes to make a left turn out of side streets like Jacksboro Road or KY 790.

### Safety

Travis presented the safety data.

Stakeholders noted that there is a Lake Cumberland Pro Bass shop that folks take chances to turn into. That causes an issue for safety. There are other spots that are similar where people make risky movements to turn into or out of access points.

## Improvement Concepts

Anne presented the improvement concepts along the corridor. She stopped periodically to allow time for comments and questions.

### **Three-Lane Section with Two-Way Left-Turn Lane (TWLTL)**

The typical section for a three-lane section throughout with a TWLTL to accommodate left turning traffic was presented. It was noted that 8' shoulders on either side of the road could be modified to be narrower or changed to a curb and gutter typical section to reduce right of way impacts.

The nature of how turning traffic interacts with through traffic was discussed. Many people making right turns into access points do not use the shoulders but turn from the travel lane. People often use the shoulders to pass left turning traffic. One issue that exists is sun glare, which causes issues seeing taillights, and may be a safety issue with a TWLTL. Heavy fog in the area could also pose a safety issue. The consultant team noted that rumble strips and embedded pavement markers may help with some of these issues.

### **Two-Lane Section with 6' Wide Raised Median and Turn Lanes**

The typical section for a two-lane section with a six-foot wide raised median between Jacksboro Road and Tucker Road was presented. It was noted that the median could extend further through the study area, but also that turn lanes or roundabouts would be required to accommodate U-turns.

Stakeholders did not believe that consolidating turning movements would be a bad thing, especially if it resulted in signalization of those intersections, as there is a desire for signals currently to alleviate delay on side streets. Other intersections, such as KY 790 could also benefit from a signal.

There are also several locations in the study area that could use turn lanes, including just south of the Dollar General Store at the Lake Cumberland Woodworks where there are a lot of left turns entering at certain times of day, particularly at the western-most access point.

Mr. Richardson indicated that school buses have routes on side roads. Paths/direction of travel vary depending on the driver. Some travel down one side of KY 90 and back up the other side while others cross KY 90 intermittently.

### **Frontage Road + Median with some turn lanes**

The addition of a frontage and backage road in the section with the raised median (between Jacksboro Road and Tucker Road) was presented. It was noted that these locations were selected because of existing development, but that frontage roads could be added in other locations pre-emptively to manage access for future developments.

The project team asked how much the area is developing, and the stakeholders indicated that development in the area is stable, and that there is a lot of weekend activity.

### **Spot Improvements**

A list of 14 spot improvements was presented.

The first set of improvements included the Forest Ridge Road and Sycamore Road intersections. The Bronston Water reps noted that there is a Boys Home as well as a subdivision off of Forest Ridge Road, and turn lanes are greatly needed.

The next set of improvements presented included the Shaw Lane and Jacksboro Road intersections. Right turn improvements were shown at the Shaw Lane intersection due to the tight turn and presence of off-tracking at the intersection. The Dollar General Store causes a lot of crashes around the Jacksboro Road intersection. There is a lot of through traffic between Jacksboro Road and Old KY 90, and a lot of

turns into and out of the Dollar Store, which is likely why there are high crashes but not high turns onto Old KY 90 and Jacksboro Road.

As was presented during the discussion on the two-lane section with raised medians, roundabouts at Jacksboro Road and Tucker Road were discussed. One advantage of roundabouts is that they benefit traffic coming off of the side streets, especially in locations where a signal may not be warranted. The stakeholders voiced concerns about placing roundabouts when speeds are high throughout the corridor.

The next set of improvements presented included the Old Bronston School Road, Park Drive, and Tucker Road intersections. There are a lot of left turning vehicles into the Post Office at Park Drive, therefore the EB left turn lane onto Tucker Road / Old KY 90 Loop 2 may need to be shortened to allow for a WB left turn lane onto Park Drive.

The final set of improvements presented were two options for the Gibson Lane intersection, one showing the addition of left turn lanes on both eastbound and westbound KY 90, and the other removing the westbound lane drop and converting it to a right turn only lane onto Gibson Lane. The group agreed that turn lanes at this intersection would be very beneficial.

There were no spot improvements presented for KY 790, however because it came up in discussion, the stakeholders were asked if they had thoughts on potential improvement concepts for that location. It was noted that the issue is not on KY 90, but that left turning vehicles waiting at the KY 790 intersection block the intersection for vehicles trying to turn right, resulting in delays. An RCUT was discussed, however it may not be the best solution. Separating the right and left turns on KY 790 may be a concept for the project team to investigate further. Stakeholders also expressed a great deal of interest in a traffic signal at this location.

Other general discussion items included:

The current travel speeds on the road are concerning. The speed coming into a roundabout would be concerning as well.

The project team should check shoulders for rutting to determine where a lot of turns are occurring and vehicles are using the shoulder to pass, especially at locations where we don't have counts.

The project team asked whether there is more through traffic along KY 90 or more local traffic utilizing the various access points. The stakeholders believed that the majority of traffic is local and accessing the various properties along the corridor, although tourist traffic in the summer season may increase through traffic, but daily, it is more local.

## Next Steps

Anne outlined the next steps of the study which showed the evaluation of potential improvement concepts occurring in the middle of June, the third project team meeting at the end of June, and the report submittal by end of July.

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The meeting concluded at 2:45 PM ET.

**1**



## Attendee Report

Report Generated

5/18/2022 14:58

|             |               |                   |                           |                |             |                |                     |
|-------------|---------------|-------------------|---------------------------|----------------|-------------|----------------|---------------------|
| Topic       | Webinar ID    | Actual Start Time | Actual Duration (minutes) | Unique Viewers | Total Users | Max Concurrent | Enable Registration |
| KY 90 Corri | 875 0012 9750 | 5/18/2022 13:20   | 89                        | 19             | 22          | 0              | No                  |

## Host Details

|          |  |                      |                 |                 |                 |          |                     |
|----------|--|----------------------|-----------------|-----------------|-----------------|----------|---------------------|
| Attended | User Name (Original Name)                | Email                | Join Time       | Leave Time      | Time in Session | Is Guest | Country/Region Name |
| Yes      | Lauren Plinka [WSP] (Kristin Shaw [WSP]) | kristin.shaw@wsp.com | 5/18/2022 13:20 | 5/18/2022 14:49 | 89              | No       | United States       |

## Panelist Details

|          |                                       |                        |                 |                 |                 |          |                     |
|----------|---------------------------------------|------------------------|-----------------|-----------------|-----------------|----------|---------------------|
| Attended | User Name (Original Name)             | Email                  | Join Time       | Leave Time      | Time in Session | Is Guest | Country/Region Name |
| Yes      | Amanda Parmley                        |                        | 5/18/2022 13:29 | 5/18/2022 14:49 | 80              | Yes      | United States       |
| Yes      | TRTHOMPSON                            |                        | 5/18/2022 13:26 | 5/18/2022 14:48 | 82              | Yes      | United States       |
| Yes      | Rob Frazier                           |                        | 5/18/2022 13:31 | 5/18/2022 14:48 | 78              | Yes      | United States       |
| Yes      | Israel Ramirez [WSP] (Israel Ramirez) | israel.ramirez@wsp.com | 5/18/2022 13:24 | 5/18/2022 14:49 | 85              | Yes      | United States       |
| Yes      | Amber Hale                            |                        | 5/18/2022 13:29 | 5/18/2022 14:48 | 79              | Yes      | United States       |
| Yes      | Doug Smith                            |                        | 5/18/2022 13:31 | 5/18/2022 14:12 | 41              | Yes      | United States       |
| Yes      | Doug Smith                            | douglas.smith@wsp.com  | 5/18/2022 14:10 | 5/18/2022 14:48 | 38              | Yes      | United States       |
| Yes      | Austin Obenauf# WSP                   |                        | 5/18/2022 13:26 | 5/18/2022 14:48 | 82              | Yes      | United States       |
| Yes      | Randy Turner                          |                        | 5/18/2022 13:30 | 5/18/2022 14:48 | 78              | Yes      | United States       |
| Yes      | Steve De Witte (KYTC)                 |                        | 5/18/2022 13:27 | 5/18/2022 13:56 | 30              | Yes      | United States       |
| Yes      | Anne Warnick                          | anne.warnick@wsp.com   | 5/18/2022 13:23 | 5/18/2022 14:48 | 86              | Yes      | United States       |

## Attendee Details

|          |                           |       |                 |                 |                 |          |                     |
|----------|---------------------------|-------|-----------------|-----------------|-----------------|----------|---------------------|
| Attended | User Name (Original Name) | Email | Join Time       | Leave Time      | Time in Session | Is Guest | Country/Region Name |
| Yes      | Amanda Parmley            |       | 5/18/2022 13:29 | 5/18/2022 13:29 | 1               | Yes      | United States       |
| Yes      | TRTHOMPSON                |       | 5/18/2022 13:26 | 5/18/2022 13:26 | 1               | Yes      | United States       |
| Yes      | Jami West                 |       | 5/18/2022 13:34 | 5/18/2022 14:48 | 75              | Yes      | United States       |
| Yes      | Rob Frazier               |       | 5/18/2022 13:30 | 5/18/2022 13:31 | 1               | Yes      | United States       |
| Yes      | Amber Hale                |       | 5/18/2022 13:28 | 5/18/2022 13:29 | 2               | Yes      | United States       |
| Yes      | Conley.Moren              |       | 5/18/2022 13:29 | 5/18/2022 14:48 | 79              | Yes      | United States       |
| Yes      | Doug Smith                |       | 5/18/2022 13:31 | 5/18/2022 13:31 | 1               | Yes      | United States       |
| Yes      | Austin Obenauf# WSP       |       | 5/18/2022 13:26 | 5/18/2022 13:26 | 1               | Yes      | United States       |
| Yes      | Randy Turner              |       | 5/18/2022 13:28 | 5/18/2022 13:30 | 2               | Yes      | United States       |
| Yes      | Steve De Witte (KYTC)     |       | 5/18/2022 13:26 | 5/18/2022 13:27 | 1               | Yes      | United States       |

# 8-80104.00: KY 90 Project Team Meeting #3

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**10:00 AM Thursday, July 1st, 2022 | District 8 Office & Microsoft Teams**

## Attendees

| Name              | Representing    | Email                           |
|-------------------|-----------------|---------------------------------|
| Joseph Gossage    | KYTC District 8 | Joseph.Gossage@ky.gov           |
| James Jones       | KYTC District 8 | JamesE.Jones@ky.gov             |
| Anne Warnick      | WSP             | Anne.Warnick@wsp.com            |
| Billy Garrison    | WSP             | Billy.Garrison@wsp.com          |
| Rob Frazier       | HDR             | Robert.frazier@hdrinc.com       |
| Phillip Bischoff* | HDR             | Philip.Bischof@hdrinc.com       |
| Steve DeWitte*    | KYTC            | Stephen.DeWitte@ky.gov          |
| Jeff Dick*        | KYTC District 8 | JeffD.Dick@ky.gov               |
| Ian Cole*         | LCADD           | Ian@lcadd.org                   |
| Dave Heil*        | KYTC            | dave.heil@ky.gov                |
| Conley Moren*     | KYTC District 8 | Conley.Moren@ky.gov             |
| Austin Obenauf*   | WSP             | Austin.Obenauf@wsp.com          |
| Cody Smith*       | KYTC District 8 | codyw.smith@ky.gov              |
| Travis Thompson*  | HDR             | Travis.alan.thompson@hdrinc.com |
| Jami West*        | D8              | jamib.west@ky.gov               |
| Connor Schurman*  | KYTC            | connor.schurman@ky.gov          |
| Doug Smith*       | WSP             | Douglas.Smith@wsp.com           |
| Casey Durham*     | KYTC            | casey.durham@ky.gov             |
| Amanda Parmley*   | KYTC District 8 | Amanda.parmley@ky.gov           |
| Mallory Frye*     | KYTC District 8 | mallory.frye@ky.gov             |
| Jared Jeffers*    | KYTC            | jared.jeffers@ky.gov            |
| Steve McClendon*  | KYTC District 8 | Steve.McClendon@ky.gov          |

\*Indicates attendance via MS Teams

## Introduction

The meeting started with Anne Warnick, the consultant team Project Manager presenting the agenda.

## Study Background

Anne presented the study goals and objectives for the project as well as the study schedule. The study is on a compressed schedule with improvement concepts being finalized at the end of June and documentation being completed by the end of July 2022.

## Update on Previous Questions

### Breakdown of Crash Trends

Rob Frazier updated the project team regarding crash trends by day of week and month of the year, provided a detailed breakdown of the types of rear end crashes (lead vehicle turning left, lead vehicle turning right, other), and provided an update to questions about crashes due to sun glare, vehicles passing on the shoulder, and fog.

### Breakdown of Speed Trends

There was a question previously asked by the project team about how peak hour speeds compare to speeds throughout the rest of the day. Rob shared the speed analysis broken down by hour of day for the 85<sup>th</sup> percentile speed.

## Improvement Concepts

Anne presented the improvement concepts along the corridor. She stopped periodically to allow time for comments and questions. The following were points of discussion:

### Three-lane section with TWLTL

A concept that would widen KY 90 to be three lanes in total, with the center lane being a two-way left-turn lane (TWLTL), was presented. The consultant team shared the impacts to right of way and building acquisitions as well as preliminary traffic, safety, and environmental impacts.

#### *12' Lanes with 12' TWLTL and 8' Shoulders*

Rob noted that the safety impacts are assuming speeds stay the same. With less left turning vehicles in the travel lane, speeds have the potential to increase.

#### *11' Lanes with 12' TWLTL and 5-8' Shoulders*

Anne presented the differences between 5-, 6-, 7-, and 8-foot shoulders. 8' shoulders have the highest cost and right of way impact, but also the highest benefit/cost ratio since safety performance decreases as shoulder width decreases.

#### *12' Lanes with 12' TWLTL and Curb and Gutter*

Anne presented the curb and gutter addition to the section.

There was discussion about a curb and gutter section in Russellville where the speed limit is 55 mph. Most people drive this roadway at 45-50 mph and are slowing down. That area has roadway lighting and more access points.

### Two-lane section with a 6' wide raised median

This concept included adding a raised median between the two travel lanes on the section between Jacksboro Road and Tucker Road or extending this raised median to the New Cumberland River Bridge. The sections to the east (if not extended to the bridge) and west would be widened to a 3-lane section with a TWLTL. Adding roundabouts at Jacksboro Road and Tucker Road (also part of the spot improvements developed) was also discussed as these could be an option at either end of the raised median section.

### *12' Lanes with 6' Raised Median and 5-8' Shoulder*

Anne presented the difference between the 5-, 6-, 7-, and 8-foot shoulder width. Similar to the three-lane section, the 8-foot shoulder has the highest cost and right of way impacts but also the highest safety benefit since safety performance decreases as shoulder width decreases.

### *12' Lanes with 6' Raised Median and Curb and Gutter*

Anne presented the curb and gutter typical section with benefit to cost ratios for the different sections.

## **Frontage and Backage Roads**

A concept that would add a frontage road along the north side of KY 90 beginning at the T&G Used Furniture and Appliances store and ending at Old Bronston School Road, and a backage road behind businesses along the north side, beginning on Old KY 90 Loop Road (across from Jacksboro Road) in the west and ending behind Kentucky Marine in the east. The consultant team shared the impacts to right of way and building acquisitions as well as preliminary traffic, safety, and environmental impacts. The purpose of this concept is to manage access.

## **Bicycle and Pedestrian Considerations**

A call was held prior to this project team meeting to discuss bicycle and pedestrian accommodations along the corridor and the outcome of the call was summarized, where it was decided that there isn't the demand for, nor city government in place, to install sidewalks or shared use paths. Wide shoulders with delineation could be used if necessary.

## **Open Discussion**

The project team discussed which of these improvements to move forward with and which to remove from further consideration. The team agreed that if there are any improvements that could definitely be eliminated from further consideration, they should be, but that many of the concepts would be good to bring into phase 1 design.

It was noted that curb and gutter sections are better for adding sidewalks if they're needed in the future. Ponding with curb and gutter was discussed, however this does not seem to be a concern as there haven't been ponding issues with curb and gutter in other places. It also slows drivers down which is an added benefit.

The project team agreed to keep the three-lane TWLTL with shoulders and curb and gutter as concepts. The planning study does not need to recommend an exact lane width for travel lanes or TWLTL. Eight-foot shoulders will likely be used, but 11 vs. 12-foot travel lanes and 12-foot vs. 14-foot TWLTL can be further evaluated in preliminary design. The team decided to keep the two-lane section with raised median as an option to consider in Phase 1 design. There were some concerns about the ability for U-Turns as well as emergency vehicle access. The team agreed that the frontage and backage roads should be removed from further consideration.

## **Spot Improvements**

The spot improvements are shown in the figure below. Anne and Rob presented the benefit/cost ratio, the total cost, ROW acquisition, and potential crashes prevented.

## SPOT IMPROVEMENTS

### Intersections & Access Points

1. Advanced Intersection sign at Forest Ridge Road
2. WB left turn lane from KY 90 to Forest Ridge Road
3. WB left turn lane from KY 90 to Sycamore Drive
4. Angle shoulder to widen for right turns and improve pavement at Shaw Lane
5. "Congestion Ahead" sign at Jacksboro Road
6. Improve intersection skew at Jacksboro Road
7. Gateway signage and landscaping at Jacksboro Road
8. Roundabouts at Jacksboro Road and Tucker Road
9. Improve intersection skew at Old Bronston School Road
10. WB left turn lane from KY 90 to Old Bronston School Road
11. Improve intersection skew at Park Drive
12. WB left turn lane from KY 90 to Park Drive
13. EB and WB left turn lanes from KY 90 to Tucker Road
14. Restripe EB and WB turn lanes at Gibson Lane and improve WB merge
15. Remove merge and add WB right turn lane at Gibson Lane
16. Signalization of KY 790
17. Add right turn lane to KY 790

#### *Forest Ridge Road & Sycamore Drive*

There have been complaints on this section, and the turn lanes would help safety. There is already an advanced intersection warning sign on the westbound approach, so one would only need to be added on the eastbound approach.

#### *Shaw Lane to Jacksboro Road*

The team agreed to keep the improvements to Shaw Lane on the list as it would be nice to have a menu of spot improvements.

The gateway signage was discussed, and while the project team likes the idea, these types of improvements are hard to maintain and hard to keep up with, especially at this location without a local city government to maintain. The team decided to remove this from the list, and if there is local interest in it in the future, it can be done via encroachment permitting.

Adding signage and improving the skew at Jacksboro Road will be carried forward.

#### *Roundabouts at Jacksboro Road and Tucker Road*

The project team likes this idea, but ultimately does not think this is a good fit for the area. The speeds are too high for a roundabout and slowing drivers from traveling at 55 to 60 mph down to 25 mph is difficult. This concept is removed from further consideration.

#### *Old Bronston School Road & Park Drive*

The project team felt that adding turn lanes and improving the skews at Old Bronston School Road and Park Drive are good concepts to carry forward.

#### *Gibson Lane*

The project team decided to keep both improvement concepts at Gibson Lane, and one could be a short-term and one could be a long-term improvement.

## KY 790

The project team agreed that because this intersection does not meet signal warrants that adding a traffic signal should be removed from further consideration, however adding a right turn lane on northbound KY 790 should be included.

## Federal Grant Funding Options

Rob presented federal grant funding options, including:

- RAISE 2023
- Rural Surface Transportation Program (2023)
- Safe Streets and Roads for All Program (with an approved Safety Action Plan)

Information was shared regarding these programs and how they could be used to help fund some of the improvement concepts. Funding for this project is likely to be available through the six-year plan process.

## Project Prioritization

Anne raised the question about project prioritization. The project team decided not to place prioritization on the improvement concepts, but rather have the full list available as a menu of options that can be consulted as funding becomes available.

## Next Steps

Anne outlined the next steps of the study which include the draft report by the end of July and Phase I Design beginning at the end of Summer 2022.

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The meeting concluded at 11:19 AM ET.

July 6, 2022

«Mailing\_Title» «First\_Name» «Last\_Name»«Suffix»  
«Title»  
«Organization»  
«Address1»  
«Address2»  
«City», «State» «Zip»

Subject: KY 90 Corridor Study  
Pulaski County, Kentucky  
KYTC Item No. 8-80104.00

Dear «Letter\_Title» «Last\_Name»:

The Kentucky Transportation Cabinet (KYTC) has assembled a study team to evaluate the KY 90 Corridor in Pulaski County from mile point 0.000 at the Wayne/Pulaski County line to mile point 3.061 at the New Cumberland River Bridge. The study includes both short- and long-term improvement strategies that KYTC may use for further project development and implementation. Through examination of roadway characteristics, traffic patterns, crashes, and community concerns in the study area, this study will identify costs and impacts associated with several improvement options.

We are requesting your agency's valuable input and comments on this study as part of the KYTC planning process. Additional study details are discussed below and shown in the attached project graphics.

The objective of the KY 90 Corridor Study is to identify and evaluate potential improvement options to reduce congestion and improve safety, capacity, and mobility along KY 90 between the Wayne County Line and the New Cumberland River Bridge.

The study examined existing conditions with regards to safety, traffic operations, and roadway geometrics. A list of conceptual improvements was developed and evaluated considering safety, traffic operations, environmental, right-of-way, and cost. Finally, a list of recommended improvement concepts was developed based on the technical evaluation and feedback from the project team, Local Elected Officials (LEOs) and stakeholders.

Some notable issues within the corridor include:

- A relatively high number of access points (95) exist within the study area. When examined more closely, crashes were more prevalent in areas with numerous access points. Two-thirds of all crashes occurred at access points and 79% of rear end crashes occurred within an intersection or driveway.
- The intersection with Jacksboro Road has the highest intersection crash rate within the corridor. In addition, there are two intersections, Old Bronston School Road and the northern entrance of CR 1370D, that have sight distance issues.

- Speeds within the study area were generally near or above the posted limit of 55 mph. These speeds, in combination with lack of ability for turning vehicles to be separated from through traffic, result in rear end and angle crashes at access points and intersections.
- Level of service was examined for current and future levels. While not severe, there are current turning delays at three intersections at the east end of the corridor.
- With regard to natural resources, this part of Pulaski County has a high potential for karst developments. Also, there are several culverts on the 4-lane section at the west end of the study area that drain to sink holes. Within the study buffer area there are no wetlands or floodplains.

Throughout the course of this study, comments will be solicited from federal, state, and local agencies, as well as other interested persons and the public, in accordance with principles set forth in the National Environmental Policy Act (NEPA) of 1969. This coordination is not intended to satisfy NEPA requirements but is solely to identify scoping considerations for any future project development activities.

The planning study includes a scoping process for the early identification of potential improvement concepts, environmental issues, and impacts related to the potential projects. We believe any negative impacts associated with identified improvement concepts may be mitigated through early identification of pertinent issues or concerns. As a part of this study, an environmental overview was developed by subject matter experts. The results of the overview are summarized for your use in an attached exhibit.

The following project information is enclosed for your review and comment:

- Study Area and Access Points
- Crash Density Heat Map
- Crash Severity Map
- Traffic Volumes
- Environmental Overview

We are asking that you provide the following information:

- Significant issues or concerns in the study area that may need to be addressed so a potential future project can be adequately scoped
- Any conservation or development plans your agency or organization has ongoing or is aware of in the study area.
- Locations of any known areas, issues, or resources within the study area that should be considered when analyzing improvement concepts so impacts may be minimized or avoided early in the process.
- Any mitigation strategies that should be considered during future project development.

We respectfully ask that you provide us with your comments by August 31, 2022, to ensure timely progress in this planning effort. We appreciate any input you can provide concerning this project. Please direct any comments, questions, or requests for additional information to the following:

Dave Heil, P.E.



Resource Agency Coordination  
KY 90 Corridor Study  
Pulaski County, KY  
Item No. 8-80104.00

Kentucky Transportation Cabinet  
Division of Planning  
200 Mero Street, 4th Floor West  
Frankfort, KY 40622  
Dave.Heil@ky.gov

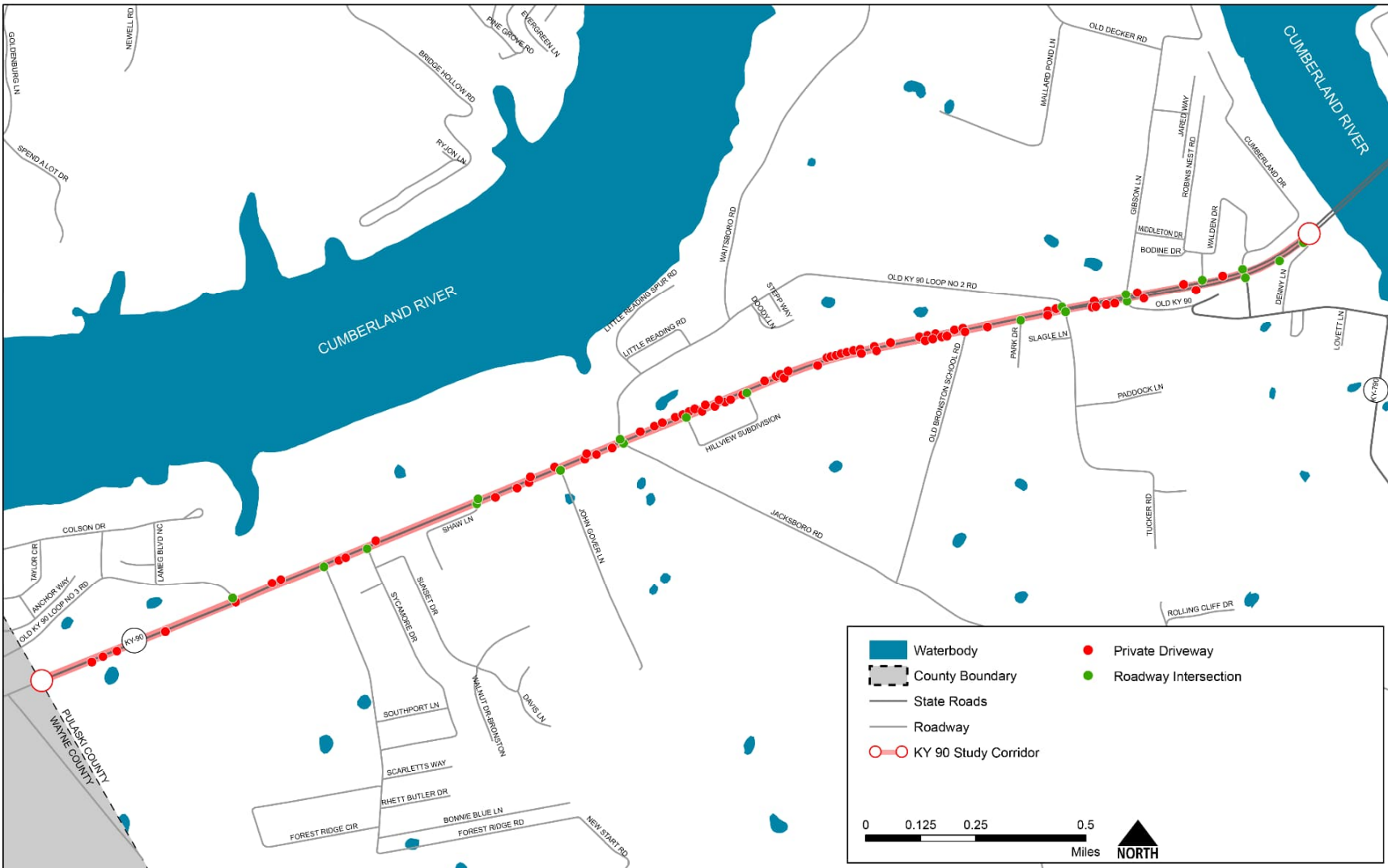
Please include a return address on such correspondence. Thank you in advance for your response.

Sincerely,

Mikael Pelfrey, P.E.  
Director  
Division of Planning

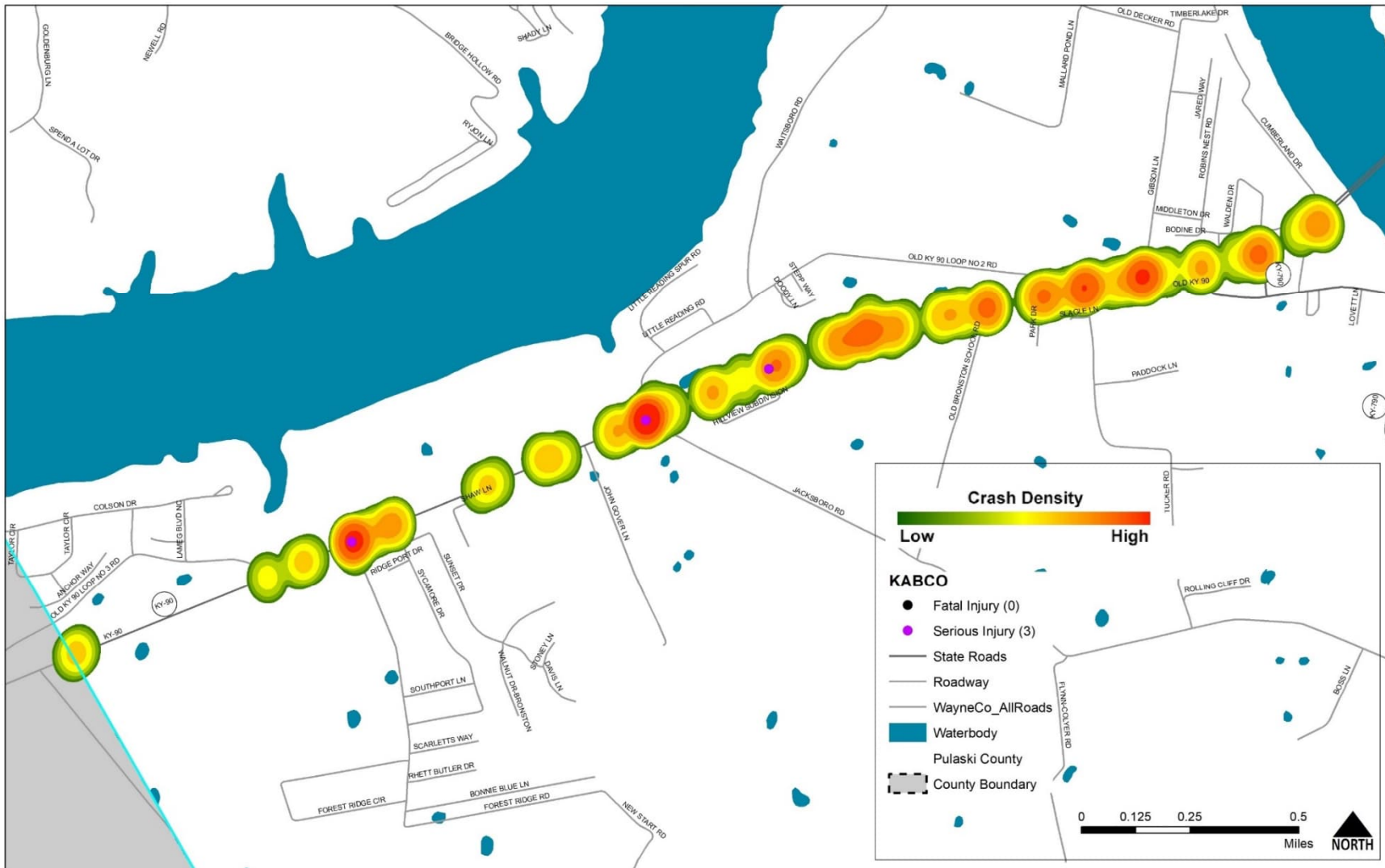
Enclosures

KY 90 Corridor Study  
Pulaski County  
KYTC Item No. 8-80104.00



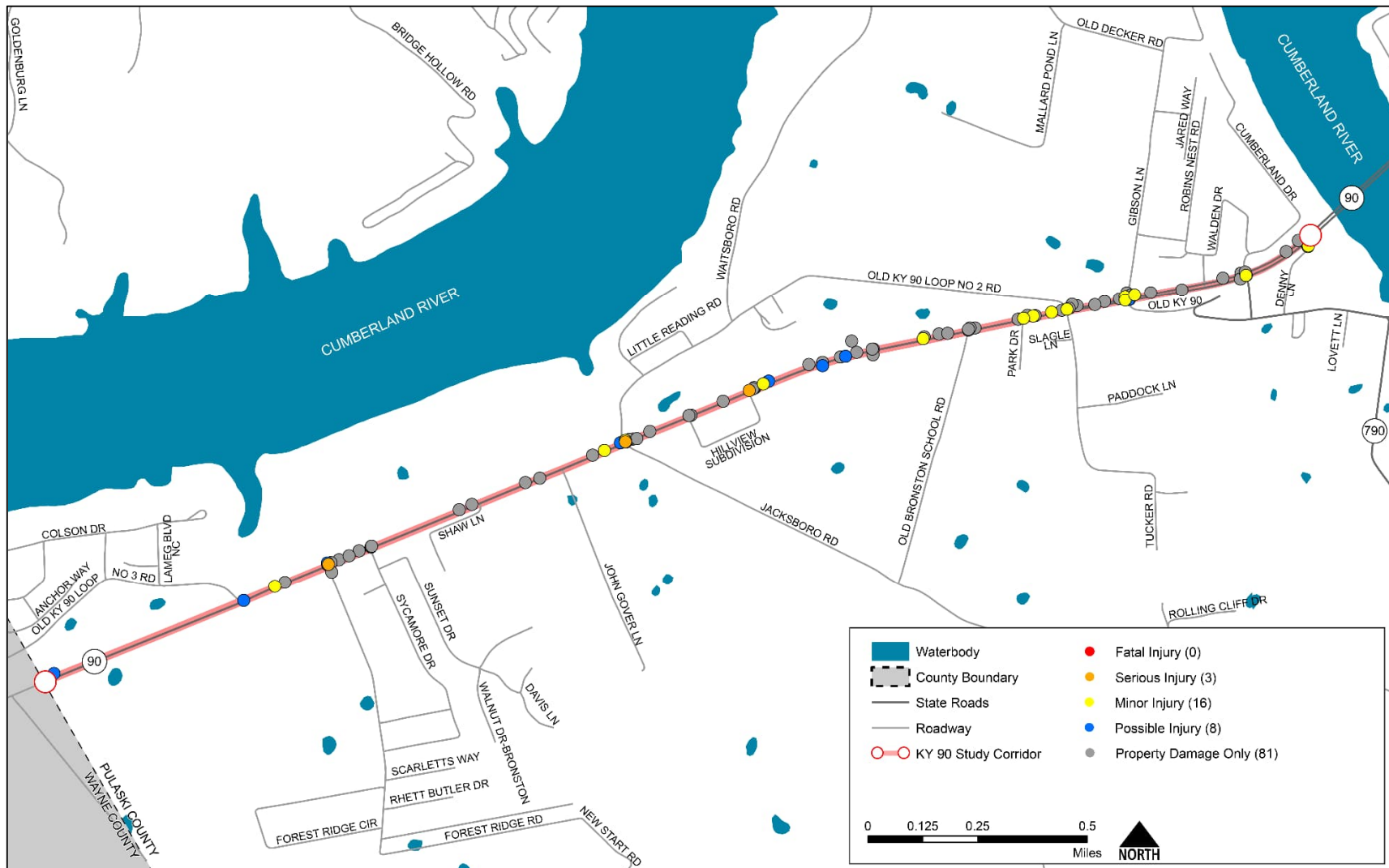
## KY 90 - Study Area and Access Points

KY 90 Corridor Study  
Pulaski County  
KYTC Item No. 8-80104.00



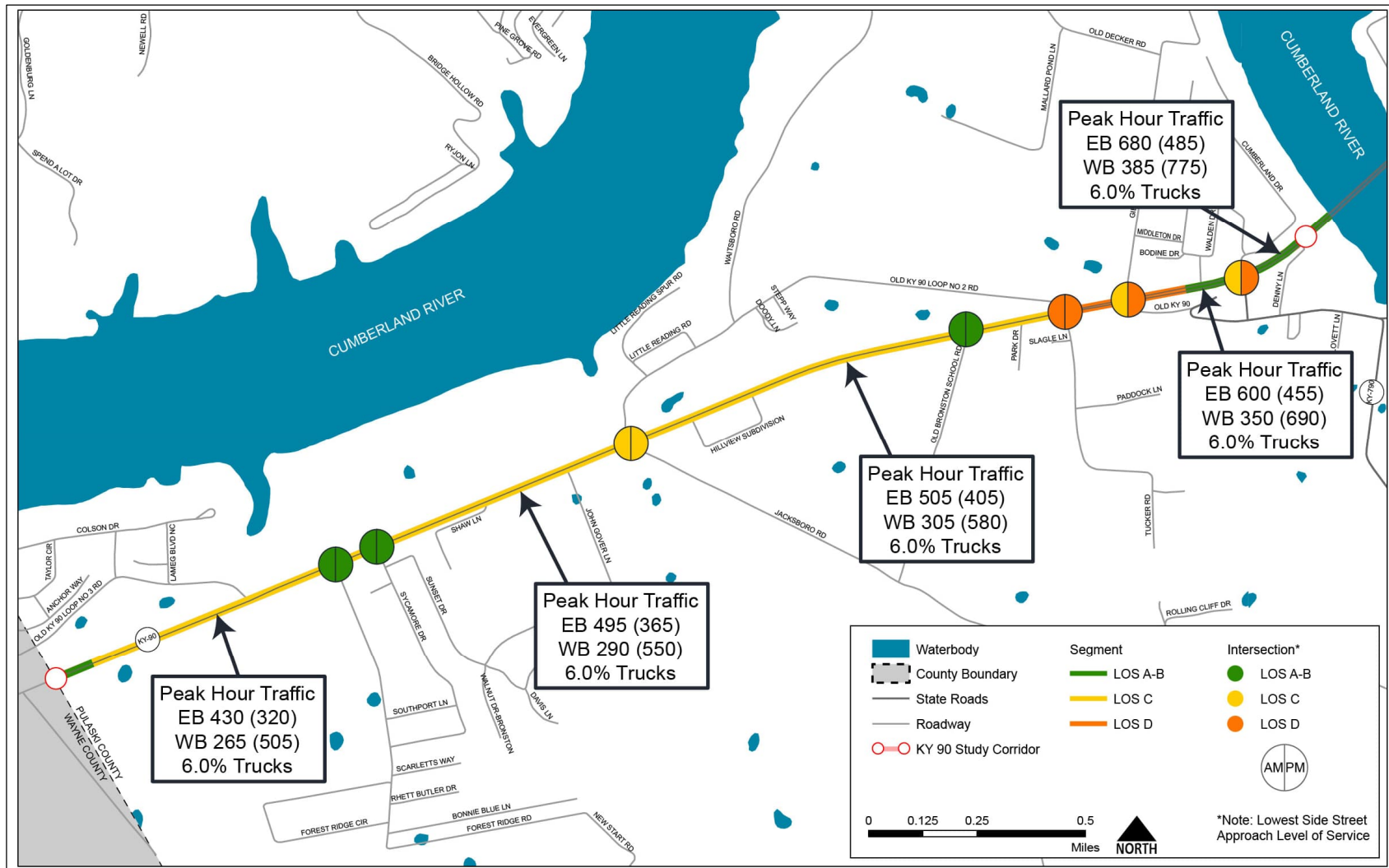
KY 90 - Crash Density Map (2015-2019)

KY 90 Corridor Study  
Pulaski County  
KYTC Item No. 8-80104.00



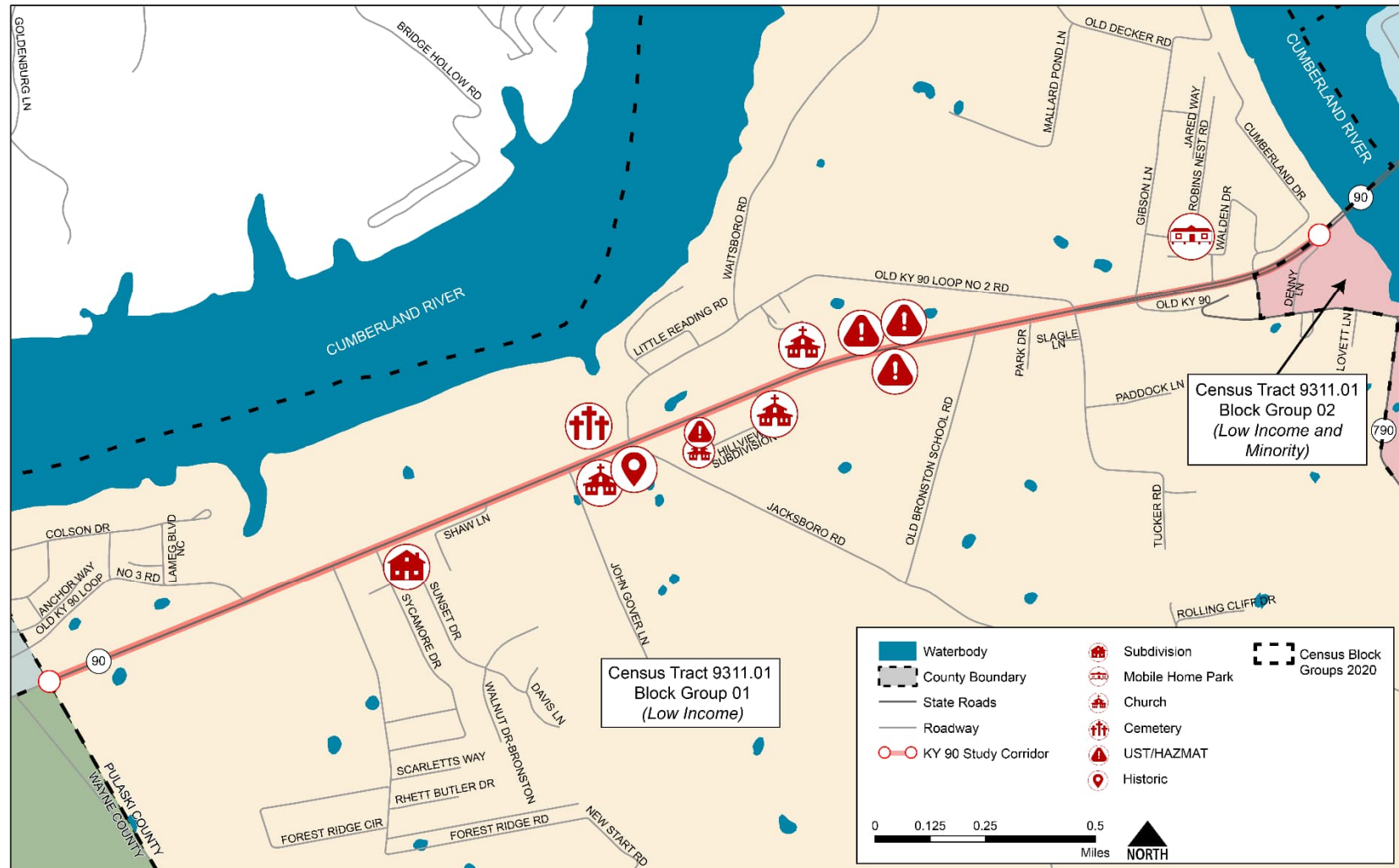
**KY 90 - Crash Severity Map (2015-2019)**

KY 90 Corridor Study  
Pulaski County  
KYTC Item No. 8-80104.00



KY 90 - 2022 AADT and DHV

KY 90 Corridor Study  
Pulaski County  
KYTC Item No. 8-80104.00



**KY 90 - Study Area Existing Environmental Conditions**



### Resource Agency and Stakeholder Listing

| Name        |                |             | Title                                  | Organization   |
|-------------|----------------|-------------|--|--|
| Mr.         | Russ           | Meyer       | Commissioner                           | Kentucky Department of Parks   |
| Dr.         | David          | Pollack     | Director                               | Kentucky Archaeological Survey   |
| Ms.         | Jennifer       | Kirchner    | Executive Director                     | Kentuckians for Better Transportation                                      |
| Ms.         | Missy          | Angolia     | Member & Event Coordinator             | Kentuckians for Better Transportation                                      |
| Ms.         | Lisa           | Abbott      | Co-Executive Director                  | Kentuckians for The Commonwealth   |
| Ms.         | Joan           | Brannon     | Co-Executive Director                  | Kentuckians for The Commonwealth   |
| Mr.         | Troy           | Hearn       | Health Program Administrator           | Cabinet for Health and Family Services                                     |
| Mr.         | Randall        | Royer       | Acting Administrator                   | Kentucky Airport Zoning Commission   |
| Mr.         | Jim            | Henderson   | Executive Director                     | Kentucky Association of Counties   |
| Ms.         | Ashli          | Watts       | President                              | Kentucky Chamber of Commerce Executives, Inc.                              |
| Mr.         | Ryan           | Quarles     | Commissioner                           | Kentucky Department of Agriculture   |
| Mr.         | Anthony        | Hatton      | Commissioner                           | Kentucky Department for Environmental Protection                           |
| Mr.         | Rich           | Storm       | Commissioner                           | Kentucky Department of Fish and Wildlife Resources                         |
| Mr.         | Gordon         | Slone       | Commissioner                           | Kentucky Department for Natural Resources                                  |
| Ms.         | Paulette       | Akers       | Director                               | Kentucky Department of Natural Resources, Division of Conservation         |
| Col.        | Phillip        | Burnett Jr. | Commissioner                           | Kentucky State Police  |
| Mr.         | Jim            | Ward        | Director                               | Division of Mine Reclamation and Enforcement                               |
| Mr.         | Michael        | Kennedy     | Director                               | Kentucky Division for Air Quality  |
| Mr.         | Brandon        | Howard      | Director                               | Kentucky Division of Forestry  |
| Major       | Nathaniel      | Day         | Director                               | KSP Commercial Vehicle Enforcement Division                                |
| Ms.         | Tammi          | Hudson      | Director                               | DEP Division of Waste Management   |
| Mr.         | Carey          | Johnson     | Director                               | DEP Division of Water  |
| Mr.         | Jeff           | Noel        | Secretary                              | Kentucky Cabinet for Economic Development                                  |
| Mr.         | Bill           | Haneberg    | State Geologist & Director             | Kentucky Geological Survey, University of Kentucky                         |
| Mr.         | Craig          | Potts       | State Historic Preservation Officer    | Kentucky Heritage Council  |
| Mr.         | Scott          | Alvey       | Executive Director                     | Kentucky Historical Society  |
| Mr.         | Matthew        | Tackett     | President/CEO                          | Kentucky Association for Economic Development                              |
| Mr.         | J.D.           | Chaney      | Executive Director/CEO                 | Kentucky League of Cities, Inc.  |
| Mr.         | Rick           | Taylor      | President/CEO                          | Kentucky Motor Transport Association                                       |
| Ms.         | Rebecca        | Goodman     | Secretary                              | Kentucky Energy and Environmental Cabinet                                  |
| Mr.         | Sunni          | Carr-Leach  | Executive Director                     | Kentucky State Nature Preserves Commission                                 |
| Mr.         | Vickie         | Bourne      | Executive Director                     | Kentucky Office of Transportation Delivery                                 |
| Mr.         | Beecher        | Hudson      | CEO                                    | Kentucky Public Transit Association  |
| Mr.         | Hank           | Phillips    | President/CEO                          | Kentucky Travel Industry Association                                       |
| Mr.         | Mike           | Berry       | Secretary                              | Tourism, Arts and Heritage Cabinet   |
| Ms.         | Tammy          | Hurst       | Executive Secretary                    | Kentucky Education and Workforce Development Cabinet                       |
| Mr.         | David          | Phemister   | State Director                         | The Nature Conservancy - Kentucky Chapter                                  |
| Ms.         | Edie           | Wooton      | Executive Director                     | Scenic Kentucky  |
| Ms.         | Cynthia        | Fox         | Staff Assisstant                       | Kentucky Commission on Human Rights  |
| Ms.         | Ntale          | Kajumba     | Acting Chief of NEPA Program Office    | Office of Environmental Accountability                                     |
| Mr.         | Tommy          | Depree      | Acting District Office Manager         | Memphis Airports District Office, Federal Aviation                         |
| Brig. Gen.  | Hal            | Lamberton   | Adjutant General                       | Department of Military Affairs   |
| Dr.         | Gracia         | Szczec      | Regional Environmental Officer         | Federal Emergency Management Agency, Region IV                             |
| Mr.         | H. Scott       | Ray         | Forest Supervisor                      | U.S. Dept. of Agriculture, Forest Service, Daniel Boone Nat'l Forest       |
|             | Deb            | Schoenburg  | Staff Officer (recreation, Heritage, E | U.S. Dept. of Agriculture, Forest Service, Daniel Boone Nat'l Forest       |
|             | Franklin (Lin) | Vaughan     | Transportation Coordinator             | U.S. Dept. of Agriculture, Forest Service, Daniel Boone Nat'l Forest       |
| Mr.         | Greg           | Stone       | State Conservationist                  | U.S. Dept. of Agriculture, Natural Resources Conservation Service          |
| Mr.         | Antrell        | Tyson       | Regional Director                      | U.S. Dept. of Health & Human Serv., Region IV, Atlanta Federal Center      |
| Mr.         | Lee            | Andrews     | Field Supervisor                       | U.S. Fish & Wildlife Service, Kentucky Ecological Services Field Section   |
| Mr.         | Eric           | Washburn    | Bridge Administrator                   | U.S. Coast Guard, Eighth District Western Rivers Bridge Branch             |
| Ms.         | Ahsaki         | Thurman     | Field Office Director                  | U.S. Department of Housing & Urban Development, KY Louisville Field Office |
| Ms.         | Holly          | Bell        | Planning and Programs Manager          | Federal Highway Administration, Eastern Federal Lands Highway Division     |
| Ms.         | Gayle          | Manchin     | Federal Co-Chair                       | Appalachian Regional Commission  |
| Colonel     | Eric           | Crispino    | District Commander                     | U. S. Army Corps of Engineers, Louisville District                         |
| Senator     | Rand           | Paul        | United States Senator                  | United States Senate   |
| Senator     | Mitch          | McConnell   | United States Senator                  | United States Senate   |
| Congressman | Andy           | Barr        | United States Representative - Distr   | U. S. House of Representatives   |
| Mr.         | Terrell        | Holder      | Chapter Chair                          | Sierra Club  |
| Mr.         | Chris          | Spear       | President                              | American Trucking Associations   |

Smith, Douglas

---

From: Heil, Dave (KYTC) <dave.heil@ky.gov>  
Sent: Wednesday, August 24, 2022 11:56 AM  
To: Smith, Douglas  
Subject: FW: KYTC - KY 90 Corridor Study  
Attachments: KYTC KY 90 Corridor Study.pdf

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From: Airport Zoning Commission <AirportZoning@ky.gov>  
Sent: Tuesday, August 23, 2022 5:38 PM  
To: Heil, Dave (KYTC) <dave.heil@ky.gov>  
Subject: KYTC - KY 90 Corridor Study

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Hi Dave,

This is our response to your KY 90 Corridor Study assessment request:

- The coordinates we determined from the drawings included show that no points along the route in question are in the jurisdiction of the Kentucky Airport Zoning Commission (KAZC). If any mitigating actions from the study were to include structures above 200' then a Form TC 55-2 would need to be submitted to this email address for each structure coordinate.

If you have any questions, please contact us. Thank you for including us in your study outreach. Regards, Brad

**Brad Schwandt**  
**Airport Zoning Administrator**  
**Department of Aviation**  
**90 Airport Road**  
**Frankfort, KY 40601**  
**Office: 502-564-0525**  
[Brad.Schwandt@ky.gov](mailto:Brad.Schwandt@ky.gov)



-----Original Message-----

From: Airport Zoning Commission <[AirportZoning@ky.gov](mailto:AirportZoning@ky.gov)>



Sent: Tuesday, August 23, 2022 2:48 PM  
To: Airport Zoning Commission <[AirportZoning@ky.gov](mailto:AirportZoning@ky.gov)>  
Subject: KYTC - KY 90 Corridor Study

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This is an airspace impact study request from the KYTC Division of Planning; Dave Heil  
P.E. [Dave.Heil@ky.gov](mailto:Dave.Heil@ky.gov)

Smith, Douglas

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From: Heil, Dave (KYTC) <dave.heil@ky.gov>  
Sent: Wednesday, August 24, 2022 11:49 AM  
To: Smith, Douglas  
Subject: FW: KY 90 Corridor Study; Pulaski County, KY and KYTC Item No. 8-80104.00  
Attachments: 08192022 MPelfrey DHeil KY Transportation.pdf

---

From: ARC Federal Co-Chair <arcfedco@arc.gov>  
Sent: Friday, August 19, 2022 4:36 PM  
To: Pelfrey, Mikael B (KYTC) <Mikael.Pelfrey@ky.gov>; Heil, Dave (KYTC) <dave.heil@ky.gov>  
Cc: Jim Sinnette <jsinnette@arc.gov>; Tom Smith <tsmith@arc.gov>  
Subject: KY 90 Corridor Study; Pulaski County, KY and KYTC Item No. 8-80104.00

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Please see the attached in response to your letter dated August 8<sup>th</sup>. If we can be of any further assistance, please let us know.



**Missy Phalen**

Executive Assistant to Federal Co-Chair

APPALACHIAN REGIONAL COMMISSION  
1666 CONNECTICUT AVENUE, NW, SUITE 700  
WASHINGTON, DC 20009-1068  
(202) 884-7681 (o) | (202) 603-2252 (c)  
[mphalen@arc.gov](mailto:mphalen@arc.gov)  
[www.arc.gov](http://www.arc.gov) | [Subscribe to ARC news and updates](#)





## Office of the Federal Co-Chair

August 19, 2022

Mikael Pelfrey, P.E.  
Kentucky Transportation Cabinet  
Director, Division of Planning  
200 Metro Street, 5<sup>th</sup> Floor West  
Frankfort, KY 40622

Dave Heil, P.E.  
Kentucky Transportation Cabinet  
Division of Planning  
200 Metro Street, 4<sup>th</sup> Floor West  
Frankfort, KY 40622

Dear Messrs. Pelfrey and Heil:

Thank you for your August 8 letter and for including the Appalachian Regional Commission (ARC) in your outreach efforts for improving the operation of KY 90 in Pulaski County. As you are aware, this route has been formally designated as Corridor J within the Appalachian Development Highway System (ADHS). As you are also aware, all planned work utilizing designated ADHS funding for Corridor J in Kentucky has been completed.

The ARC very much appreciates your strong commitment toward finishing the ADHS and also positively recognizes your ongoing focus on the operations and maintenance of your ADHS corridors.

Tom Smith ([TSmith@arc.gov](mailto:TSmith@arc.gov), 202-805-1536), ARC Senior Transportation Advisor, and Jim Sinnette ([JSinnette@arc.gov](mailto:JSinnette@arc.gov), 202-884-7729), ARC Transportation Program Manager, are available and can provide technical assistance in your study efforts, should you determine that such involvement could be beneficial.

Again, thank you very much for your interest in improving transportation within the Appalachian region.

Sincerely,

A handwritten signature in black ink that reads 'Gayle C. Manchin'.

Gayle C. Manchin  
Federal-Co-Chair Appalachian Regional Commission

Smith, Douglas

---

From: Heil, Dave (KYTC) <dave.heil@ky.gov>  
Sent: Wednesday, August 24, 2022 11:51 AM  
To: Smith, Douglas  
Subject: FW: NRCS Comments KY 90 Corridor study  
Attachments: NRCS Comments KY 90 Corridor study gs.pdf

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From: Johnson, Lesley - FPAC-NRCS, Lexington, KY <Lesley.Johnson@usda.gov>  
Sent: Wednesday, August 24, 2022 9:29 AM  
To: Heil, Dave (KYTC) <dave.heil@ky.gov>  
Cc: Pappas, Christina - NRCS, Lexington, KY <Christina.Pappas@usda.gov>; Blanford, Steve - NRCS, Lexington, KY <steve.blanford@usda.gov>  
Subject: NRCS Comments KY 90 Corridor study

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***Lesley K. Johnson***  
Executive Secretary  
USDA/Natural Resources Conservation Service  
Lexington State Office  
(859) 224-7391 – office  
(859) 609-3619 – cell



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United States Department of Agriculture

August 22, 2022

Dave Heil, PE  
Kentucky Transportation Cabinet  
Division of Planning  
200 Mero Street, 4<sup>th</sup> Floor West  
Frankfort, KY 40622  
Dave.heil@ky.gov

**RE: KY 90 Corridor Study, Pulaski County, KY KYTC Item No. 8-80104.00**

Dear Mr. Heil,

The Natural Resources Conservation Service (NRCS) has reviewed the information submitted for the subject project in Pulaski County, KY. The USDA-Natural Resources Conservation Service (NRCS) is concerned with potential impacts that projects might have upon prime farmland soils, farmlands of statewide importance, PL-566 watershed structures, wetlands identified under the Food Security Act, Wetland Reserve Program (WRP/WRE) and Grassland Reserve Program (GRP) easements.

KY NRCS is not aware of any existing easements, plans or activities related to ongoing efforts in the defined project area. A cursory review indicates that prime farmlands and farmlands of statewide importance are located within the project area. If it is determined that prime farmlands or farmlands of statewide importance will be converted from agricultural to non-agricultural uses, a form AD-1006 (or Form NRCS-CPA-106 if the project is a corridor type project) must be submitted to the local NRCS office. These forms may be obtained from any local NRCS office and are also available as electronic forms on the web at:

<http://forms.sc.egov.usda.gov/eForms/welcomeAction.do?Home>.

NRCS has no further environmental comments regarding the proposed project. We appreciate the opportunity to provide input on this project. If you have questions regarding this matter, please contact Steve Blanford, State Soil Scientist at (859) 224-7607 or Christina Pappas, NRCS KY State Cultural Resource Specialist at (859) 224-7433 or [christina.pappas@usda.gov](mailto:christina.pappas@usda.gov).

Sincerely,

C. GREGORY STONE  
State Conservationist

cc: Christina Pappas, State Cultural Resource Specialist, Lexington, KY  
Steve Blanford, State Soil Scientist, Lexington, KY

Smith, Douglas

---

From: Heil, Dave (KYTC) <dave.heil@ky.gov>  
Sent: Friday, August 26, 2022 3:12 PM  
To: Smith, Douglas  
Subject: FW: KY 90 Study  
Attachments: Scanned from a Xerox Multifunction Printer.pdf; KDF Response KYTC KY 90 Corridor Study Pulaski County 9-80104.00.pdf

Another response

---

From: Howard, Brandon K (EEC) <brandon.howard@ky.gov>  
Sent: Friday, August 26, 2022 1:56 PM  
To: Heil, Dave (KYTC) <dave.heil@ky.gov>  
Cc: Abernathy, Bridget M (EEC) <bridget.abernathy@ky.gov>; Kull, Steve J (EEC) <Steve.Kull@ky.gov>  
Subject: KY 90 Study

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Mr. Heil,

Attached is my response to your inquiry. Thank you.

*Brandon Howard*  
*Director/State Forester*  
Kentucky Division of Forestry  
300 Sower Blvd.  
4<sup>th</sup> Floor SE  
Frankfort, KY 40601  
(502)782-7166



**Andy Beshear**  
GOVERNOR

**ENERGY AND ENVIRONMENT CABINET**  
**DEPARTMENT FOR NATURAL RESOURCES**  
**DIVISION OF FORESTRY**

**Rebecca Goodman**  
SECRETARY

**Gordon R. Slone**  
COMMISSIONER

300 Sower Boulevard  
Frankfort, Kentucky 40601  
Phone: (502) 564-4496  
<https://eec.ky.gov/Natural-Resources/Forestry>

**Brandon K. Howard**  
DIRECTOR/STATE FORESTER

August 23, 2022

Dave Heil, P.E.  
Kentucky Transportation Cabinet  
Division of Planning  
200 Mero Street, 4<sup>th</sup> Floor West  
Frankfort, KY 40622

Dear Mr. Heil:

The Division of Forestry has reviewed the KY 90 Corridor Study, Pulaski County (KYTC Item 8-80104.00) and we find no significant issues or concerns in the study area. The project as described remains primarily in the existing right-of-way. We currently do not have development or conservation plans in the area. The study has already identified the high potential for karst developments in the area that will be mitigated as needed.

If you have any questions or desire additional information, please contact us.

Sincerely,

A handwritten signature in black ink, appearing to read "Brandon Howard".

Brandon Howard  
Director and State Forester

c: Bridget Abernathy, Assistant Director  
Steve Kull, Environmental Scientist Consultant, Senior

Smith, Douglas

---

From: Heil, Dave (KYTC) <dave.heil@ky.gov>  
Sent: Friday, September 2, 2022 10:27 AM  
To: Smith, Douglas  
Cc: Dick, Jeff D (KYTC-D08); De Witte, Stephen G (KYTC)  
Subject: FW: KY 90 Corridor Study  
Attachments: Letter - (KYTC Project - KY 90 Corridor Study in Pulaski County).pdf

Jeff, there are 4 other responses that I did not forward to you. Do you want copies of them?

---

From: Akers, Paulette (EEC) <Paulette.Akers@ky.gov>  
Sent: Tuesday, August 30, 2022 3:05 PM  
To: Heil, Dave (KYTC) <dave.heil@ky.gov>  
Cc: Davis, Mark J (EEC) <MarkJ.Davis@ky.gov>  
Subject: KY 90 Corridor Study

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---

Dave,

Please find attached response regarding agricultural lands in the KY 90 Corridor.

Thanks,  
Paulette

*E. Paulette Akers*  
Director, Division of Conservation  
300 Sower Blvd  
Frankfort, KY 40601  
502-782-6300





**Andy Beshear**  
GOVERNOR

**ENERGY AND ENVIRONMENT CABINET**  
**DEPARTMENT FOR NATURAL RESOURCES**

300 Sower Boulevard  
Frankfort, Kentucky 40601  
Phone: (502) 564- 6940

**Rebecca Goodman**  
SECRETARY

**Gordon R. Slone**  
COMMISSIONER

August 30, 2022

Dave Heil, P.E.  
Kentucky Transportation Cabinet  
Division of Planning  
200 Mero Street, 4<sup>th</sup> Floor West  
Frankfort, KY 40622  
[Dave.Heil@ky.gov](mailto:Dave.Heil@ky.gov)

Subject: **KY 90 Corridor Study (Pulaski County)**  
**Item No. 8—80104.00**

As requested, the Division of Conservation has reviewed the early planning study to determine potential impacts of improvements along KY 90 from the Wayne/Pulaski County line to the New Cumberland River Bridge. We would like to provide the following comments that may be helpful in the initial planning process.

Currently, there are no PACE, (Purchase of Agricultural Conservation Easements) or established agricultural districts within or near the corridor study area.

One concern we would like to comment on is the control of erosion and sedimentation if any proposed improvements proceed to construction phase. We recommend Best Management Practices, BMP's, be utilized to prevent nonpoint source water pollution. This would help protect the water quality and aquatic habitat of any perennial or intermittent streams within the corridor and possible underground water recharge areas due to karst developments mentioned as a notable environmental issue toward the west end of the project.

We appreciate the opportunity to comment on this study and if you have any questions, please contact this office anytime.

Sincerely,

A handwritten signature in black ink that reads "Paulette Akers".

Paulette Akers, Director  
Kentucky Division of Conservation

PA/MD

Smith, Douglas

---

From: Heil, Dave (KYTC) <dave.heil@ky.gov>  
Sent: Friday, September 2, 2022 10:25 AM  
To: Smith, Douglas  
Cc: Dick, Jeff D (KYTC-D08); De Witte, Stephen G (KYTC)  
Subject: FW: Pulaski County KY-90 Study / HIA Review  
Attachments: HIA Active living\_Equity Review KY 90 Coridor Review Pulaski County final.doc

---

From: Hearn, Troy T (CHFS DPH DPQI) <Troy.Hearn@ky.gov>  
Sent: Tuesday, August 30, 2022 11:38 AM  
To: Heil, Dave (KYTC) <dave.heil@ky.gov>  
Cc: Hoagland, Elizabeth A (CHFS DPH DPQI) <ElizabethA.Hoagland@ky.gov>; Pelfrey, Mikael B (KYTC) <Mikael.Pelfrey@ky.gov>; Lovan, Keith K (KYTC) <keith.lovan@ky.gov>  
Subject: Pulaski County KY-90 Study / HIA Review

Good day Dave,

Please see the attached Health Impact/Transportation Equity Review.

As always, please feel free to call or email with comments or questions.

I hope everyone has great day.

Thank you,

Troy Hearn

Troy Hearn  
Health Program Administrator  
Division of Prevention & Quality Improvement  
Cabinet for Health & Family Services  
502-564-9358 ext. 4022  
275 E. Main St HS1EE  
Frankfort, KY 40621

# *Active Living (Non-motorized travel) Health Impact Assessment*

Pulaski County  
Pedestrian & Bicycle Travel  
KY-90 Corridor Study

Prepared for:



**Kentucky Public Health**  
Prevent. Promote. Protect.

Prepared by:  
Troy Hearn  
Division of Prevention & Quality Improvement  
Kentucky Department for Public Health  
September 11, 2022

#### Project Overview:

The objective of the KY-90 corridor study is to identify and evaluate potential improvement options to reduce congestion and improve safety, capacity, and mobility along KY-90 between the Wayne County line and the New Cumberland Bridge.

#### Project limits for Study Area



#### Local/Regional Planning & Current Activities:

- The City of Somerset/Pulaski County does have a current pedestrian and bicycle master plan / <http://www.cityofsomerset.com/wp-content/uploads/2016/06/Final-Bicycle-and-Ped-Master-Plan-2016.pdf>  
The roadway area is not specifically mentioned in the county/city walk & bike master plan.
  - Pedestrian and bicycle activity shows minor activity within project area (see Figure 1)

## Existing Conditions / Active Living Conditions

### KY-90: 100-KY-0090 -000

- Mile Points 0.00-3.060
- ADT is 10906 (2020)
- Truck ADT is 9.82% (2020) / over 1,000
- Paved shoulder (5' or less) with rumbles (no bicycle gap spacing as of 2020).
- Posted speed limit is 55mph
- The Bicycle Comfort Index is a level E (the lowest)
- The Pedestrian Comfort Index is a level E (the lowest)
- Pedestrian and bicycle route termini generators are:
  1. Residential areas (includes low-income areas)
  2. Churches
  3. Shopping/Grocery
  4. Post Office

### Project comments:

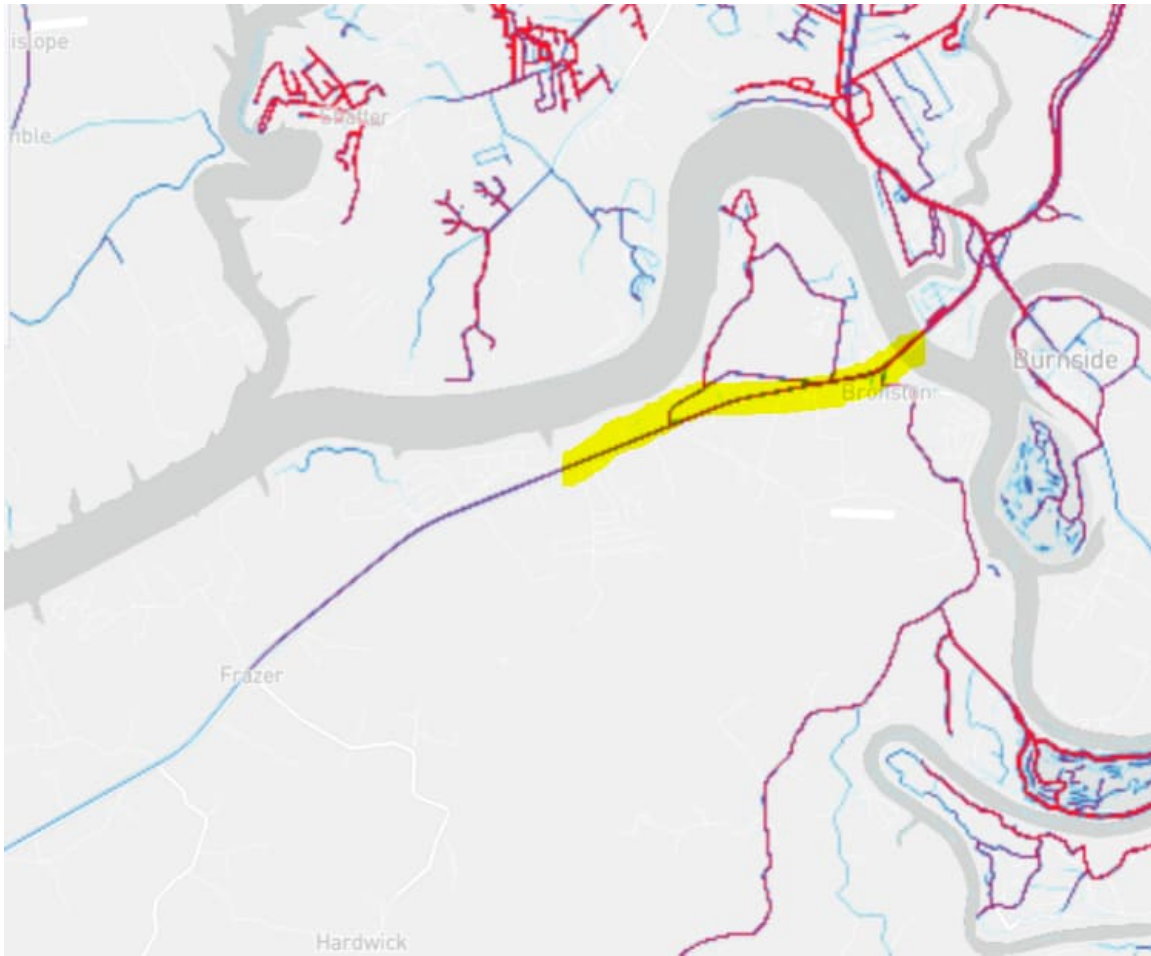
- The KY Department for Public Health hopes that the project evaluation will include the considerations and benefits of a non-motorized facilities to be incorporated with this project (in/on non-interstate roadways): to include, but not limited to social connectedness, transportation equity, and physical health benefits.
- The KY Department for Public Health hopes the project area (when finalized) will not adversely affect at risk populations or minority or low-income residential areas. The negative effects being related to large high speed/high volume roadways cutting off access and or accommodation to public spaces (parks or other green spaces), schools, or other logical termini for non-motorized travel.
- The KY Department for Public Health desires the consideration of non-motorized facilities within the project area; as detailed in the [Louisville non-motorized travel plan](#), and the [KY Transportation Pedestrian and Bicycle Travel Policy](#). The State Physical Activity and Nutrition (SPAN) Program works with communities to create, improve, or update local level walk/bike travel master plans through funding received by the Centers for Disease Control and Prevention (CDC). The consideration and inclusion of elements included in these plans is the ultimate goal of the 'Active Living' program with the SPAN group. "Collaboration with partners to improve or build non-motorized facilities that connect to everyday destinations; thus, providing accommodation safe places/spaces for physical activity."

Best: Construct a sidewalk (5' or wider) on both side of the roadway from mile points 0.632-2.58 with a curb and gutter design. The roadway design should promote lower travel speeds for this section (10' travel lanes/45 MPH or lower) with 2' minimum grass buffer space from pedestrian facilities. This will serve the current and future residential areas for logical pedestrian and bicycle travel generators. ADA requirements for the sidewalk construction shall be followed. Also construct a paved shoulder (6' or wider) for both bicycle and pedestrian travel accommodation. If constructed, provide the "bicycle space gap" in the rumble stripes, and place strip on the white fog line. (Figure 4). The Pedestrian Comfort Index will improve to a level D. The Bicycle Comfort Index would improve to a level D.

Good: Construct a sidewalk (5' or wider) on one side of the roadway from mile points 0.632-2.58 with a curb and gutter design. The roadway design should promote lower travel speeds for this section (10' travel lanes/45 MPH or lower) with 2' minimum grass buffer space from pedestrian facility. This will serve the current and future residential areas for logical pedestrian and bicycle travel generators. ADA requirements for the sidewalk construction shall be followed. Construct a paved shoulder (6' or wider) for both bicycle and pedestrian travel accommodation. If constructed, provide the "bicycle space gap" in the rumble stripes, and place strip on the white fog line. (Figure 4). The Pedestrian Comfort Index will improve to a level D. The Bicycle Comfort Index would improve to a level D.

Fair: The roadway design should promote lower travel speeds for mile points 0.632-2.58 (10' travel lanes/45 MPH or lower). Construct a paved shoulder (5' or wider) for both bicycle and pedestrian travel accommodation. If constructed, provide the "bicycle space gap" in the rumble stripes, and place strip on the white fog line. (Figure 4). The Bicycle Comfort Index would improve to a level D.

*These recommendations follow the guidance form both the Kentucky and Federal Highways current non-motorized travel policies (see references below).*



**Figure 1:** Strava Heat Map for Pedestrian and bicycle Activity / <https://www.strava.com/heatmap#12.47/-84.69846/36.98052/bluered/all>



Figure 2: Bicycle gap in shoulder rumble strip /

<https://transportation.ky.gov/BikeWalk/Documents/Bicycle%20and%20pedestrian%20safety%20with%20rumble%20strips%20and%20stripes.pptx>

The data needed and used for evaluation:

- KY Transportation Cabinet Pedestrian and Bicycle Travel policy: <https://transportation.ky.gov/BikeWalk/Documents/KYTC%20Pedestrian%20and%20Bicycle%20Travel%20Policy%20%202002.pdf>
- KY Transportation Cabinet active highway map: <https://maps.kytc.ky.gov/activehighwayplan/>
- KYTC Highway Design Guide (section 701-704): <https://transportation.ky.gov/Highway-Design/Highway%20Design%20Manual/Geometric%20Design%20Guidelines.pdf>
- KY Transportation Cabinet Pedestrian Comfort Index: <https://transportation.ky.gov/BikeWalk/Documents/Metadata%20Page%20PCI%202019.pdf>
- KY Transportation Cabinet Bicycle Comfort Index: <https://transportation.ky.gov/BikeWalk/Documents/BCI%20Metadata%20Page%20Updated%202018.pdf>
- FHWA Design Speed guidance: <https://www.fhwa.dot.gov/publications/research/safety/17098/004.cfm>
- Google Street View (Pulaski County, KY / project area)
- CDC website for recommended daily physical activity: <https://www.cdc.gov/physicalactivity/walking/index.htm> & <https://www.cdc.gov/physicalactivity/basics/pa-health/index.htm>