

APPENDIX

D STAKEHOLDER ENGAGEMENT



US 127 Project Team Meeting #1

10:00 AM Thursday, March 2, 2023 | KYTC District 8 Office & Microsoft Teams

Attendees

Name	Representing	Email
Jeff Dick	KYTC District 8	Jeffd.dick@ky.gov
Joe Gossage	KYTC District 8	Joseph.gossage@ky.gov
Dave Heil*	KYTC Central Office	Dave.heil@ky.gov
Mallory Frye	KYTC District 8	Mallory.frye@ky.gov
Jessica Richardson	KYTC District 8	Jessicad.richardson@ky.gov
Lindsey Phelps	KYTC District 8	Lindsey.phelps@ky.gov
Scott Price	KYTC District 8	Scott.price@ky.gov
William Lucas	KYTC District 8	William.lucas@ky.gov
Jami West	KYTC District 8	Jamib.west@ky.gov
James Jones	KYTC District 8	Jamese.jones@ky.gov
Travis Thompson	HDR	travis.alan.thompson@hdrinc.com
Rebecca Colvin*	HDR	Rebecca.colvin@hdrinc.com
Ali Rahimi*	HDR	alireza.rahimi@hdrinc.com
Chris Smith*	HDR	Christopher.smith2@hdrinc.com
Shihab Uddin*	HDR	Shihab.Uddin@hdrinc.com
Elizabeth Farc	WSP	Elizabeth.farc@wsp.com
Doug Smith	WSP	Douglas.smith@wsp.com
Austin Obenauf*	WSP	Austin.obenauf@wsp.com
Anne Warnick*	WSP	Anne.warnick@wsp.com
Jason Littleton*	WSP	Jason.Littleton@wsp.com
Cameron Manly*	WSP	Cameron.manly@wsp.com

*Indicates attendance via MS Teams

Introduction

The meeting started with Doug Smith, the consultant team project manager, introducing the purpose of the meeting and going through introductions. Jeff Dick, the KYTC District 8 Project Manager, provided the background to the study. Doug reviewed the agenda, the purpose of the project, and the study area.

Study Background, Objective, and Goals

Doug presented the objective and goals for the study and opened the floor for any comments. He also shared a schedule. The study is anticipated to wrap up in September 2023, keeping with the 12-month schedule established in the scope.

Existing Conditions

Previous Studies and Planned Projects

Doug presented CHAF and 2022 -2028 6-Year Highway Plan projects on and near the study corridor. This study is the main project in the Highway Plan. There is a turn lane project identified at Arcadia View Drive (8-80000.00) that has public interest, but it has not been designed yet. The project addressing sight distance issues at KY 1552 will likely be added into the next Highway Plan.

Considerations for 2+1

Since this project is identified as a 2+1 treatment, Doug reviewed the roadway conditions that need to be considered when developing 2+1 lanes. These included:

- Design year volume of between 5,000 and 15,000 AADT
- Directional flow rate < 1,200 veh/hr
- Minimum ½ mile length: Length goes up with veh/hr (to reduce platoons)
- Locate lanes away from major intersections (10 lefts/hr)
- Maximum 2-mile length (B/C ratio)
- Uphill grades work better
- Adequate sight distance required on approach lane
- Do not close passing lanes at crests
- Stay away from low-speed curves (advisory)
- More effective when left lane used for passing
- Use stopping sight distance when ending lanes

Speed

Doug presented speed graphs showing hourly HERE speed data along the corridor in both directions. The 85th percentile speed in both directions is high, primarily between 65 mph and 70 mph in the off-peak morning time, and well above the 55-mph posted speed limit. The 50th percentile speeds were also generally higher than the posted speed limit. Speeds decrease slightly in the northern part of the corridor north of KY 78. Two noticeable dips in speed are observed in both directions at the KY 78 intersection and the residential side streets just south of Bowen Loop Rd. District 8 representatives concurred that these speeds were reflective of their experience driving the corridor, unless following a truck or slower vehicle, in which case drivers sometimes must drive at slower speeds for miles because of limited or difficult passing opportunities.

Traffic

Elizabeth Farc, WSP, presented existing segment volume and level of service (LOS) data for the AM and PM peaks. LOS is categorized as A-C throughout the corridor. The LOS C segments are in the northern part for both AM and PM peaks. LOS does not highlight any congestion concerns in the base year of 2023.

Doug presented existing LOS for the ten primary study intersections. All intersection LOS values are A. District staff asked how StreetLight data compared to actual counts for these intersections. Of the ten primary intersections, five were counted and five were obtained from StreetLight. The StreetLight counted intersections are comparable, but side street volumes did tend to be lower. The StreetLight counted intersections were looked at in conjunction with the actual counts to adjust. For the secondary intersections, the consultant team only reviewed raw StreetLight data. Volumes for the secondary study

intersections were difficult to obtain and often showed zero counts due to low samples on those side streets.

Doug presented intersection turning volumes for the primary and secondary study intersections, noting that this data helps determine where there are ten left turns in an hour and dedicated left turns will be needed. The District staff noted that one of the most common requests they receive is for turn lanes and the effectiveness of 2+1 lanes will be diminished if turn lanes are added everywhere. Chris Smith, HDR, suggested that once the guideline is set on how to determine if there is a left-turn warrant, it can be communicated to people asking for turn lanes. Two-way left turn lanes (TWLTLs) can be used for densely spaced intersections with high numbers of turns.

Doug presented follower density results from the HCS analysis by segment. Aligning with the LOS results, the northern segments southbound in the PM and northbound in the AM have higher follower densities. WSP will continue to investigate the results to understand how follower density affects the recommendation for a 2+1 facility. District staff noted they thought drivers were more likely to be following another vehicle in the Casey County portion of the corridor.

Travis Thompson, HDR, reviewed the historical growth rate in the study area. There has been more growth in Casey County than Lincoln County over the last 10 years. Population is expected to decrease in both counties over the next 15 years. The No Build growth rate from the Statewide Travel Demand Model is about 0.4%. Travis noted that the local planning entities were contacted, and no large developments were mentioned. Doug asked if the District staff knew of any large developments that would affect the forecasted growth rate. District staff did not know of anything planned but did expect traffic, especially truck traffic, to increase once US 127 is completed to the Tennessee border. Staff did note that a pipe factory opened in the last three to four years in Russell County, a trucking company is located in Dunsville, and candle making factories in Liberty use the corridor for freight. Sewers are now available on the corridor in Casey County that could spur growth, but nothing specific. HDR will work with Jay Balaji to decide on a forecasted growth rate.

Geometrics

Elizabeth presented typical sections on the corridor, which include narrow width and varying shoulders. Doug asked if there was significant buggy traffic, but District staff noted the Amish community is located south of Liberty so buggy traffic is not as prevalent on this part of the corridor.

Elizabeth showed a map of access points on the corridor, noting the large number of private driveways in Casey County. The access in this area is by permit. Access points in Lincoln County are less numerous due to the partial access control. Doug showed maps of grades, rock cuts, and guardrails on the corridor, noting steep areas, the current truck climbing lane, and the alternating rock cuts and guardrails in Lincoln County.

Doug presented photos of primary intersections and the geometrics that were of note at these sites such as double-sided rock cuts, right-of-way, and sight distance issues. District staff noted that KY 2141 is the site of numerous fatalities and used to be the main street through Hustonville, so there is traffic that crosses US 127. This intersection has a significant sight distance concern and blocking off the road should be considered. KY 906 was also noted as a concern, with occasional flooding, a potential historic site, and Columbia Gulf gas lines all in one area. At Patsy Riffe Rd, the hillside on the west side of US 127

is unstable and there is a stream on the left. Finally, some of the bridges on the corridor have been recently rehabbed and the consultant team will check which ones were.

Pedestrian and Bicycle Activity

Doug presented pedestrian and bicyclist activity based on Strava and field observations. Activity is light, but the consultant team will look at the locations where pedestrians were observed to see if any connections should be added. Bicyclists seem to be using other routes but may cross US 127 and ride along it for a short time to get to the next street intersection. District staff noted they rarely if ever see pedestrians or cyclists.

Safety

Austin Obenauf, WSP, presented the crash trends for the US 127 study area. The data covers the last five years. Three fatalities and eight serious injury crashes occurred. Looking at 2020, crashes were lower than other years. Austin noted that there were also 26 animal crashes. Most crashes occur around intersections and the PM peak has the highest number of crashes by time of day. Interestingly these occurred in the 5:00 and 7:00 pm hours, but the 6:00 pm hour had fewer crashes. This could be due to sun glare or when work shifts change and more commuters are on the road. The consultant team will request individual crash reports for K and A crashes to investigate if there is a common cause.

Austin continued by presenting excess expected collisions (EECs). The intersections were slightly high EEC, including KY 78 (which is at the bottom of two hills and has cross traffic), KY 1194, and KY 2141. However, US 127 has very low segment crash rates compared to the statewide average. District staff asked if the more recent 2021 data from CDAT should be used for updated EEC. Austin noted that the updated EEC data is reflected in the tables, but the GIS files were still the previous version. The consultant team will obtain a new shapefile for mapping.

Environmental

Rebecca Colvin, HDR, listed environmental considerations on the corridor from the data review. US 127 is in a floodplain in portions of Casey County. Several archeological survey sites were seen in Lincoln County. The team needs to plot more gas stations that are seen on Google Maps. Rebecca asked the team if anyone had any additional information regarding the boundaries of an African American cemetery in Hustonville or an unnamed park and historical marker in Casey County. Rebecca will investigate the potential for historical post office in Kidds Store. The consultant team is continuing to investigate environmental sites on the corridor.

Public Survey

Doug asked how the team would like to engage the public. There is a public survey in the scope. Chris shared how the public survey was implemented in District 4 for a 2+1 project. They used a website with a survey and digital message boards to promote it. KYTC might want to set up a standalone site for this project. Anne Warnick, WSP, explained how Metroquest works, including features to drop pins on a map and rank priorities. The District expressed concern that the public may not know what a 2+1 facility is, and Anne noted that pictures and text explaining the project can be created in the survey. Doug recommended the survey be done to gather input for the concepts before final recommendations are set. The consultant team will reach out to Amber Hale, District 8's Public Information Officer, to coordinate the public survey and social media.

Local Elected Officials/Stakeholder Meeting

Doug asked when and where the District staff wanted to host the local officials and stakeholders meeting. The District staff asked how the timing would work with the public survey. The local officials and stakeholders will be presented with some concepts for them to respond to and the meeting is currently scheduled for June. The local officials/stakeholders meeting will happen after the public survey, so the consultant team can reach out to the stakeholders to get them the link and ask them to help distribute it. The District staff agrees with the meeting location at the new fire department building in Hustonville. The consultant team will reach out with a proposed list of stakeholders in each county.

Additional Comments

- Speed stood out as a surprising result, especially how speed in Casey County, where there are narrower shoulders, many driveways, access by permit, was not much different from Lincoln County where shoulders are wider and there is more restricted access.
- There was discussion about raised pavement markers. Chris shared that District 4 used sinusoidal rumbles for the center and edge of the road, along with a double stripe special reflective yellow paint instead of raised pavement markers in the middle. The team can follow up with District 4 to see how it is working.

Next Steps

- The consultant team will begin preparing initial concepts.
- The consultant team will begin creating a public survey to send to KYTC for review.
- The consultant team will send a list of potential stakeholders to KYTC for review.
- The consultant team will schedule a LEO/Stakeholder meeting for June.

The meeting concluded at 11:40 AM ET.

US 127 Project Team Meeting #2

10:00 AM Wednesday, March 12, 2023 | KYTC District 8 Office & Microsoft Teams

Attendees

Name	Representing	Email
Jeff Dick	KYTC District 8	Jeffd.dick@ky.gov
Joe Gossage	KYTC District 8	Joseph.gossage@ky.gov
Dave Heil	KYTC Central Office	Dave.heil@ky.gov
Mallory Frye	KYTC District 8	Mallory.frye@ky.gov
Jessica Richardson	KYTC District 8	Jessicad.richardson@ky.gov
Lindsey Phelps	KYTC District 8	Lindsey.phelps@ky.gov
William Lucas*	KYTC District 8	William.lucas@ky.gov *
Jami West	KYTC District 8	Jamib.west@ky.gov
James Jones	KYTC District 8	Jamese.jones@ky.gov
Catherine Davis	KYTC Central Office	Catherine.davis@ky.gov
Randy Turner*	KYTC Central Office	Randy.turner@ky.gov
Travis Thompson	HDR	travis.alan.thompson@hdrinc.com
Rob Frazier*	HDR	Robert.frazier@hdrinc.com
Jeff Schaefer*	HDR	Jeff.Schaefer@hdrinc.com
Ali Rahimi*	HDR	alireza.rahimi@hdrinc.com
Chris Smith	HDR	Christopher.smith2@hdrinc.com
Sam Wiser*	TSW	swiser@tswdesigngroup.com
Elizabeth Farc*	WSP	Elizabeth.farc@wsp.com
Doug Smith	WSP	Douglas.smith@wsp.com
Noah Freyberger*	WSP	noah.freyberger@wsp.com
Anne Warnick*	WSP	Anne.warnick@wsp.com
Jason Littleton	WSP	Jason.Littleton@wsp.com
Cameron Manly*	WSP	Cameron.manly@wsp.com

*Indicates attendance via MS Teams

Introduction

The meeting started with self-introductions of in-person and virtual attendees. Mallory Frye, District Project Manager, started the discussion with a history of the project to inform those who had not been previously involved. Doug Smith, the consultant team project manager, then gave an overview of the meeting agenda, the study area covering two counties, and the study goals and objectives.

Concept Development

Doug presented 2+1 considerations and criteria that were either satisfied or challenging during the concept development process. The passing lanes in the concepts mostly adhere to the 2+1 criteria, but

some locations are challenging to meet the minimum length for passing lanes given the number of access points.

Doug discussed additional information found in the crash reports for K and A crashes on the corridor. He reviewed where passing or speed was a contributing factor in the crash. These crashes occur throughout the two counties. Doug also presented the manner of collisions. Single vehicle crashes made up the largest percentage. Side swipe crashes and rear end crashes are also high, which could align with speed and passing issues.

Doug presented truck and car speed graphs derived from 2021 HERE data. There was a marked difference between faster cars and slower trucks.

TSMO Review and Assessment

Doug presented potential improvements suggested through a TSMO review of the corridor.

General improvements could include:

- Rumble strips
- Guiding striping with intersections
- Enhanced striping for lane warning systems on newer cars
- Noting pedestrian activity on KY 78 could benefit from striping and signage, especially from community to convenience store.

Doug also presented TSMO spot improvements. At KY 2141/Danville Pike, an advance intersection warning signal could be used to alert drivers given the poor sight distance at the intersection. A Barrier separated left acceleration lane could also allow more time for left turn movements to merge with through traffic. At KY 906, the passing zone could be removed, and an advance intersection warning signal could be installed. Finally, near Barger Drive approaching Liberty, a speed warning sign and flashing curve warning sign could be installed to alert drivers to the curve, where the crash and speed data indicates speed is too high for the curves.

2045 Forecast Volumes

Travis Thompson, HDR, showed forecasted 2045 volumes and noted that future AADT in all segments adhered to 2+1 design criteria.

Corridor Improvement Concepts

Doug introduced the corridor-wide concepts. All concepts used a 70-mph design speed given that observed speeds were higher than the posted speed limit.

2+1 and Passing Lanes Where Feasible

Doug presented the first corridor concept which includes 2+1 lanes throughout with passing lanes in areas where it is not feasible to have 2+1 lanes. Two-way-left-turn lanes (TWLTLs) are also included in some locations where there are turning movements at intersections, but passing lanes are not feasible. The typical section would be 11' lanes, 3' buffer, and 8' outside shoulder.

Chris Smith, HDR, mentioned that locations with short passing segments would be extended by using a 4-lane typical section instead of 3-lane. Doug noted that the length between passing lanes varies and passing lanes are not dependent on grade.

KYTC asked if the speed would rise with the passing issues solved. There is a concern of designing the corridor to be too fast. Rob Frazier, HDR, noted that they used NCHP equations to model the effect on speed. The results estimate a 4% increase in speed, which equates to roughly 3 mph. This is in line with observed radar speeds from a recent District 4 2+1 lane project that Chris had worked on.

Modeling results also estimated the corridor would attract a few more trips from other routes but not a huge difference.

The District asked if vehicles would likely pass on the TWLTL. This has been seen in the District 4 project. A 2-lane section with turn lanes could be used in this location in Casey County instead of the proposed TWLTL.

Add Truck Climbing Lanes

Doug presented the second corridor concept to add truck climbing lanes where the grades warrant one in Lincoln County. There is also a TWLTL section in Casey County. Jason reviewed the calculations comparing grades to the warrant test. The District expressed concern about the TWLTL being used as a passing lane and suggested it could be a 2-lane section instead. Chris mentioned that the TWLTL could be slightly raised to not be as comfortable to drive on and off. The question was raised whether this would create an issue for maintenance (ex. snowplowing) and if the raised pavement would cause more issues given the speed on the corridor. Doug will review the TWLTL to cut down the length and keep it at intersections with left turn movements. He also noted there were many private driveway access points in Casey County, but there was not good data for the number of left turn movements into these driveways.

Correct Existing Passing Lanes

The third corridor concept lengthens the existing truck climbing lane and adds other turn lanes at intersections in Lincoln County where the StreetLight data showed a potential warrant for turn lanes. A suggestion was made to add signage on the corridor alerting drivers to the next passing opportunity. This could relieve driver anxiety and unsafe passing maneuvers if drivers know that a passing opportunity is coming.

Spot Improvement Concepts

Doug presented general spot improvements at intersections. These included:

- Striping angled intersections for perpendicular entry to US 127
- Updating guardrails to standard heights
- Offset left turn lanes
- Curve warning signs
- Consolidating multiple business entrances

Doug also presented specific improvements, including the potential of closing off KY 2141 and/or Danville Pike, improving sight distance at Pasty Riffe Rd, moving forward with the CHAF project at Short Town Rd, and safety improvements at KY 906.

KYTC agreed with closing Danville Pike and KY 2141, with at least closing KY 2141. It was noted that Danville Pike could be a right-in-right-out if kept open. A question was asked as to the distance people

would need to drive to get to US 127 if the side roads were closed. The impact on distance to US 127 would be 0.4 miles from KY 2141 and 1 mile from Danville Pike.

KYTC asked if the crash data had shown any wet crashes at KY 906 because the road has flooded there in the springtime, although it is a somewhat rare occurrence. WSP will check the crash data. A question was asked if shaving the rock cut back had been considered in the KY 906 option. This will be added into the concepts.

Discussion

KYTC preferred a concept of adding passing lanes where needed. They also liked the idea of striping into intersections and removing tapers. The District asked to reduce the number of TWLTLs because drivers would likely use them as passing lanes. The short passing lanes outside of Liberty were also questioned as being too short to be effective. The consultant team will refine a new concept that combines 2+1 passing lanes in Casey County, climbing lane passing in Lincoln County, and reducing the length of TWLTLs, especially where there are not many turning opportunities, throughout.

The District staff also mentioned making improvements but not necessarily making traffic faster. The refined concept will also look at narrower shoulders in Casey County to help reduce speed.

Public Survey

Sam Wisner mentioned the public survey is almost finalized in MetroQuest. It is slated to launch on April 19. WSP and TSW will coordinate with Amber Hale to spread the word through the newspaper, local radio station, and social media boosts.

Local Elected Officials/Stakeholder Meeting

The LEO/Stakeholder Meeting is still slated for June. Doug will book a date at the Hustonville Fire Department. WSP has the list of stakeholders to invite.

There was discussion about the format of the meeting. It was decided that a short presentation followed by open-house style review of the concepts on boards around the room. A questionnaire should also be created and can be on paper or through a virtual platform (e.g. Menti).

Next Steps

- The consultant team will refine concepts based on project team feedback.
- The consultant team will launch the public survey.
- The consultant team will schedule a LEO/Stakeholder meeting for June.

The meeting concluded at 11:38 AM ET.

US 127 Project Team Meeting #3

11:00 AM Wednesday, August 2, 2023 | KYTC District 8 Office & Microsoft Teams

Attendees

Name	Representing	Email
Joe Gossage	KYTC District 8	Joseph.gossage@ky.gov
Dave Heil	KYTC Central Office	Dave.heil@ky.gov
Mallory Frye	KYTC District 8	Mallory.frye@ky.gov
Jessica Richardson	KYTC District 8	Jessicad.richardson@ky.gov
Lindsey Phelps	KYTC District 8	Lindsey.phelps@ky.gov
William Lucas	KYTC District 8	William.lucas@ky.gov*
Jami West	KYTC District 8	Jamib.west@ky.gov
Conley Moren*	KYTC District 8	Conley.Moren@ky.gov
Randy Turner*	KYTC Central Office	Randy.Turner@ky.gov
James Jones	KYTC District 8	James.jones@ky.gov
Travis Thompson	HDR	travis.alan.thompson@hdrinc.com
Ali Rahimi*	HDR	alireza.rahimi@hdrinc.com
Chris Smith*	HDR	Christopher.smith2@hdrinc.com
Sam Wiser*	TSW	swiser@tswdesigngroup.com
Elizabeth Farc*	WSP	Elizabeth.farc@wsp.com
Doug Smith	WSP	Douglas.smith@wsp.com
Noah Freyberger*	WSP	noah.freyberger@wsp.com
Anne Warnick*	WSP	Anne.warnick@wsp.com
Billy Garrison	WSP	Billy.garrison@wsp.com

*Indicates attendance via MS Teams

Introduction

The meeting started with Doug Smith going over the agenda, revisiting the project study area and objectives of safety and mobility. He also reviewed selected existing condition data, pointing out that the intersections are the more definitive safety problem. Also, the 2045 level of service were discussed, noting that most Lincoln County intersections dropped a LOS under 'no build', but that this did not account for the proposed intersection spot improvements.

Public Survey and Stakeholder Meeting Results

Doug then reviewed the Public Survey results. 58 people responded which was viewed as a good number of respondents. Sight distance and safety were high concerns. It was noted by one respondent that passing occurred in Casey County where there are 2-foot shoulders. Elizabeth Farc then reviewed the details of the 'pin drop' issues by respondents by county. Casey County issues included passing lanes with safety concerns (limited visibility, drivers passing on the shoulder) noted at KY 906, Patsy Riffe Road, and Short Town Road. Lincoln County generally had a larger number and wider variety of issues

including safety, side road access, heavy traffic north of Hustonville, and need for passing. No questions were asked about the Survey.

Doug also reviewed the list of summarized themes from the Stakeholder Meeting and how they guided the new corridor concept. He also discussed the choice of 8-foot and 4-foot shoulders in Casey County, as well as the corridor-wide features. Also, Doug reviewed the previous findings for passing zones that are too short for 70 mph passing and stopping sight distance. No TWLTLs were included in the current concept.

Corridor Concept

Doug reviewed the suggested three goals for the corridor concepts (sufficient but not excessive passing opportunities, eliminate unsafe passing opportunities, when adding passing opportunities make sure they are safe) and reviewed graphics that addressed those goals.

A question was asked about stopping sight distance (SSD). The SSD was evaluated for vertical and horizontal. The insufficient SSD and crashes had a fair amount of correlation. The length of US 127 without passing was also discussed. At this point the handout was discussed that showed both the corridor concept and identified the spot improvement concept locations. Joe Gossage asked about any correlations between short sight distances and crash locations, and there were fatal and serious crashes near or in these zones.

Doug then summarized how the corridor concept performed. Billy pointed out that we are eliminating all the passing zones that are too short for 70 MPH passing. Bill Lucas asked about the shoulder width assumption, which are costly especially in Casey County (a 30% contingency was included). Speed is predicted to increase as a result of the corridor concept by 2.5 MPH. Travis and Chris Smith confirmed this amount was in line with other 2+1s implemented in KY, and the new D4 2+1s were even 1 or 2 MPH more. The overall benefit cost ratio of the corridor concept only was found to be 0.78, which attempted to incorporate all aspects of the concept that would contribute to safety (2+1, guardrail, striping, etc.), but some aspects could not be quantified using CMFs such as improved sight distance, etc.). This benefit cost ratio does not quantify the added mobility. Austin pointed out that this ratio uses D8 crash costs which are generally higher than other Districts.

Spot Improvement Concepts

Doug showed how the proposed spot improvements address the high EEC locations in the corridor. He then reviewed each of the proposed improvements including crashes and crash modification factors, if there was one that applied. Billy noted the spot improvement costs would be lower if bundled together.

#1 remained the same but updated the crashes in the area. Joe Gossage mentioned some implementation issues with advisory speeds.

#2 includes a second vertical correction, and a left turn lane that keeps turners away from the gas station.

#3 did not change.

#4 now includes a NB left turn lane. 59% crash reduction. Removing the rock is expensive. Removing passing zones near intersections.

#5 no change.

#6A & B – Option A limits movement into KY 2141, Option B closes KY 2141. Not many vehicles turn into KY 2141 under existing conditions.

#7 – Added left turn lane.

#8 – Added left turn lane.

#9A – removed NB left turn lane into KY 1194.

#9B - closing 1194. Detour is not insignificant. Bill Lucas did not like closing the left turn lane because of the traffic going elsewhere. There are quite a few turns into KY 1194.

#10 – Added SB right turn lane, as well as stop bars.

#11 – Added SB left turn lane at Arcadia. Only 1 crash in 5 years. James wondered about only 1 crash since it is a planned project at that intersection.

#12 – updated intersections for striped out roadway flares.

Doug reviewed the B/C ratios for the spot concepts. The summarized B/C for all 12 is 1.64. Several are very high, some are very low due to high costs and a low number of crashes. At several locations there are no directly applicable CMFs, so benefits could not be quantified. Where there are warranted left turns, the crashes seem low, but that may be due to drivers who already know how dangerous certain intersections are (the evidence is that the public commented on them as safety issues heavily). There is also mobility benefits to many as spot improvements as well. Overall, the package of all the spots are supportable, albeit using different data (public input, safety, mobility). Joe was supportive of the spot improvements in their entirety.

Dave Heil asked which intersections are high crash. Doug reviewed the crash rates table.

Discussion

Doug facilitated discussing regarding the inclusion of passing zones. Bill Lucas asked about the likelihood of slow vehicles in Lincoln County potentially causing passing issues. James and others expressed the idea that passing ZONES are less used even if they are compliant with standards, so the congestion problem would remain especially SB in the PM peak. The group discussed a 2+1 or other kind of passing lane in Lincoln County. Locating a 2+1 SB was discussed, as well as 4-lane as Chris Smith had suggested in earlier meetings and had used in District 4. Chris Smith mentioned a D4 project (KY 210) that had similar striped passing that provided few actual safe passing opportunities. If KY 1194 on the west was closed, or no NB left ins allowed, a SB passing lane might be possible. Putting it on the long gradual hill SB would make sense, perhaps terminating before the crest of the NB passing lane. A NB lane further north in Lincoln County might be difficult to add. Chris Smith provided an example of a 4-lane application that provided a left turn lane. Billy thought a NB lane between Jeffries and KY 1194 was possible. Billy will draw up a couple Lincoln County options and present them to the Project Team next week.

Casey County's corridor approach was agreeable to the team. KYTC would like to see cost estimates for different shoulder widths in Casey County.

Doug asked Travis to quickly review environmental. Other than KY 906 no spot improvement had issues. There were or 'show-stoppers' elsewhere or for the corridor.

Doug wanted to revisit Spot Improvements and how they might be combined with the Corridor concept. Patsy Riffe Road and Short Town Road were discussed again. Very low volume comes out of Patsy Riffe Road, but they often seem to have crash issues. Closing KY 2141 is tied to the idea of a SB passing lane in Lincoln County. Both options will be included in the final report. All spot improvements will be put in the final report as Project Sheets. The new left turn lanes were OK with the Project Team. Spot Improvement 9A/9B should become a right-in right-out, whether as part of a passing lane or not.

Try the SB lane first in Lincoln County, and if that doesn't work, proceed to try a 4-lane.

Doug asked if the Project Team wants corridor and spot improvements combined? Or likely to be separate projects? It's a funding question. James and the Team felt the corridor and spot improvements should go together, but broken be broken out by county. They'd like to see the costs broken down by county, also separate spot and corridor costs within each county. Treat the potential Lincoln County passing lanes as spot improvements. The District would like to see smaller shoulders on the regular lanes and passing lanes costed out for the Casey County corridor concept as well in case that helps the viability of the project.

Next Steps

- The consultant team will prepare spot improvement passing lanes for Lincoln County, as well as break down estimates by county, and quantify costs for various shoulder widths in Casey County.
- Draft Report is due in three weeks (and of August)

The meeting concluded at 12:50 PM ET.

US 127

Casey & Lincoln County; Item No. 8-80150.00

Public Survey Summary

A public survey was made using MetroQuest and dispersed to participants using social media platforms. The survey was open from April 20 to May 10, 2023 and was completed by 58 participants. Three questions were asked in addition to demographic information. Summaries of the responses are described below.

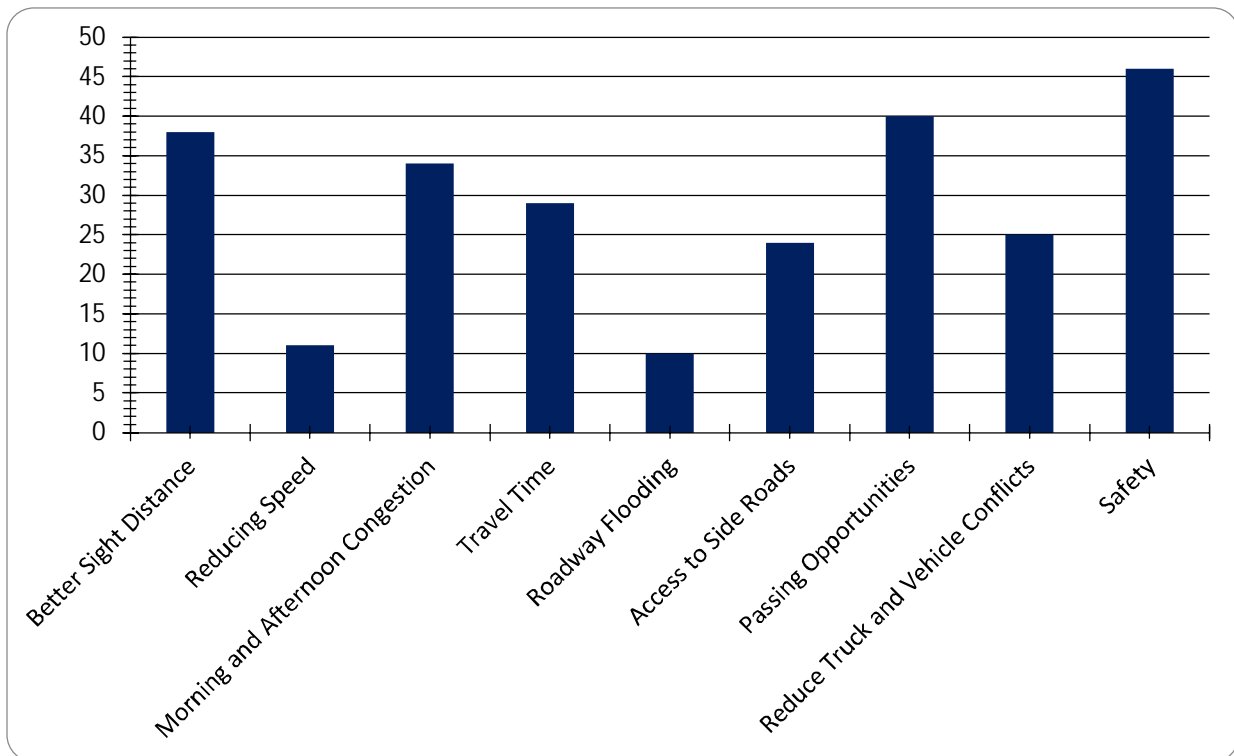
Summary of Responses

Question 1: What are the most important needs on the corridor?

Respondents were asked what the focus of the project should be. Participants were asked to rank five pre-populated focus areas from one to five, with one being the most important issue with the corridor. The resulting priorities are displayed as an average of the rankings (1-5) in Figure 1 below.

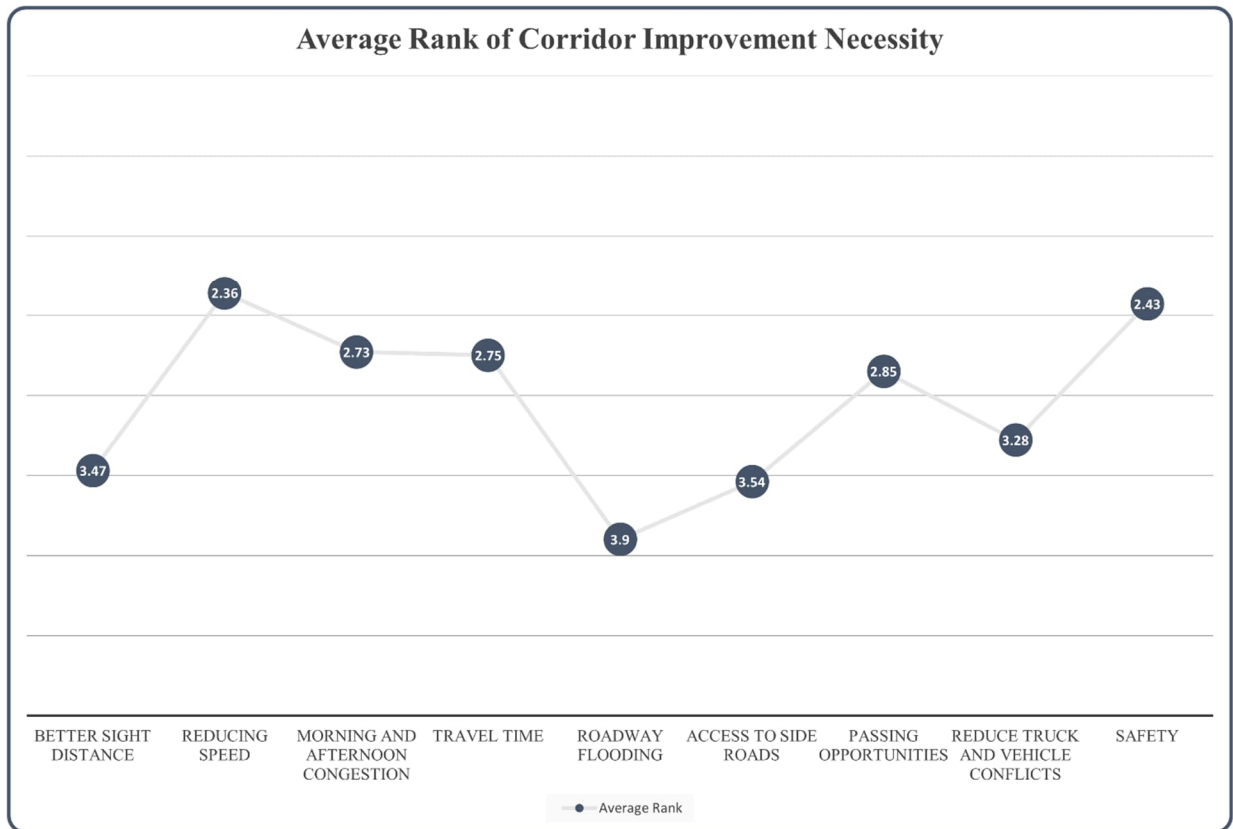
Safety, passing opportunities, and better sight distance were the highest ranked needs along US 127. Roadway flooding and reducing driving speed received the lowest rankings as important needs. The priorities of the public align with needs seen in the data and discussed by KYTC District staff.

Figure 1: Total Participant Inputs by Need



Note: Not every respondent chose five topics to rank.

Figure 2: Average Ranking of Need



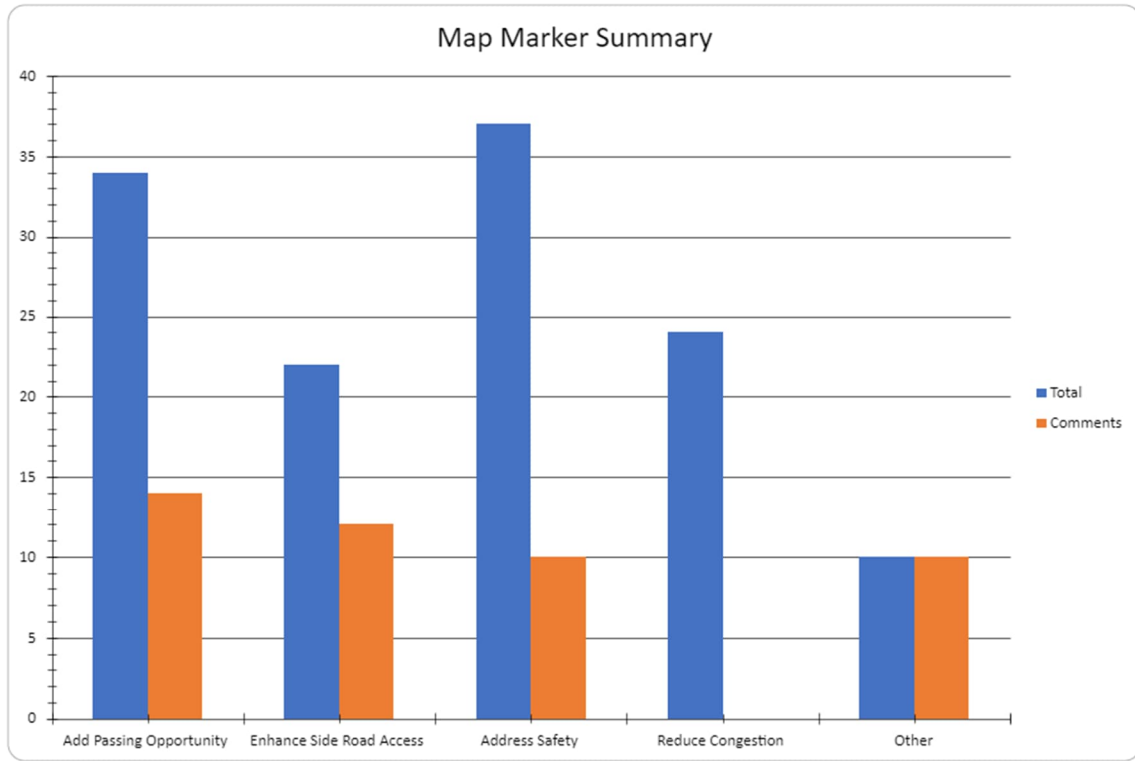
Question 2: Mapping Concerns

Respondents were asked about concerns along the corridor and invited to place “markers” on an interactive map to indicate a concern. Five marker types were available:

- Address Safety
- Enhance Side Road Access
- Reduce Congestion
- Add Passing Opportunity
- Other

As shown in Figure 3, concerns about safety were the top map marker type used (29%), followed by the need to add passing opportunities (27%). Additional comments about these concerns were collected for all but one map marker type.

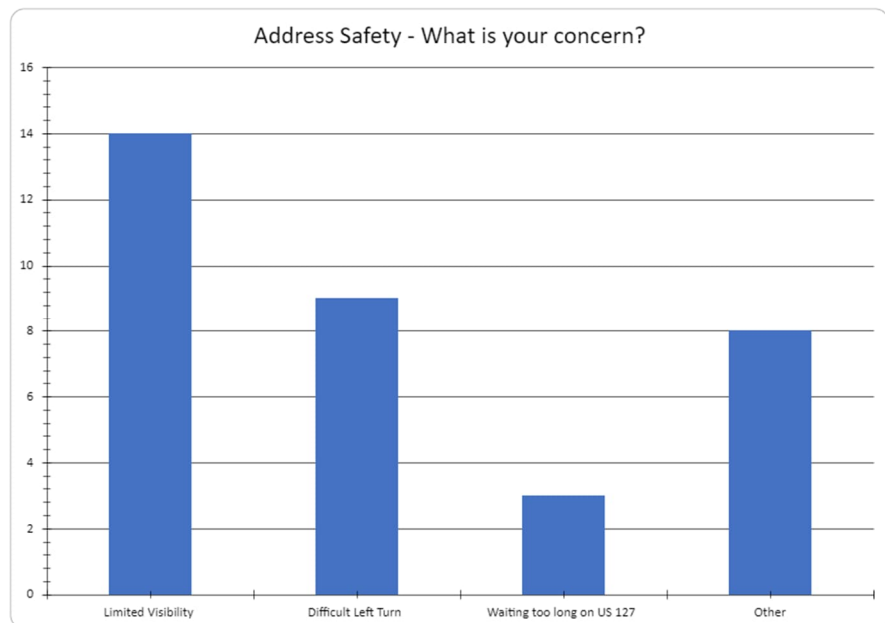
Figure 3: Number of Responses by Map Marker Type



Map Marker Type: Address Safety

For the concern to address safety, several key concerns were highlighted by respondents (Figure 4). Out of the 37 respondents who voiced their concerns about safety, 38% (14) pinpointed limited visibility as a major issue. Additionally, 24% (9) of respondents said left turns were a concern, suggesting mobility from mainline US 127 to side roads is an issue and intersections are a part of the improvement concepts to be developed. Another concern for 8% (3) of respondents was the prolonged wait times on US 127, again suggesting mobility issues at intersections. Beyond these specific issues, 22% (8) of respondents raised other safety concerns, including crashes and congestion at the intersection of US 127 and KY 1194 and drivers making unsafe passing maneuvers.

Figure 4: Ranking of Safety Concerns



Map Marker Type: Reduce Congestion

Respondents were asked additional questions regarding congested areas along US 127 to provide insight into the level of traffic volume and specific times of congestion (Figure 5). 80% (16) respondents classified traffic as "heavy" at points along the corridor, including the most northern section between BOWENS LOOP ROAD and JEFFRIES LANE, HUSTONVILLE, KY 1194, and SHORT TOWN ROAD.

Figure 5: Number of Responses for Traffic Volume Level

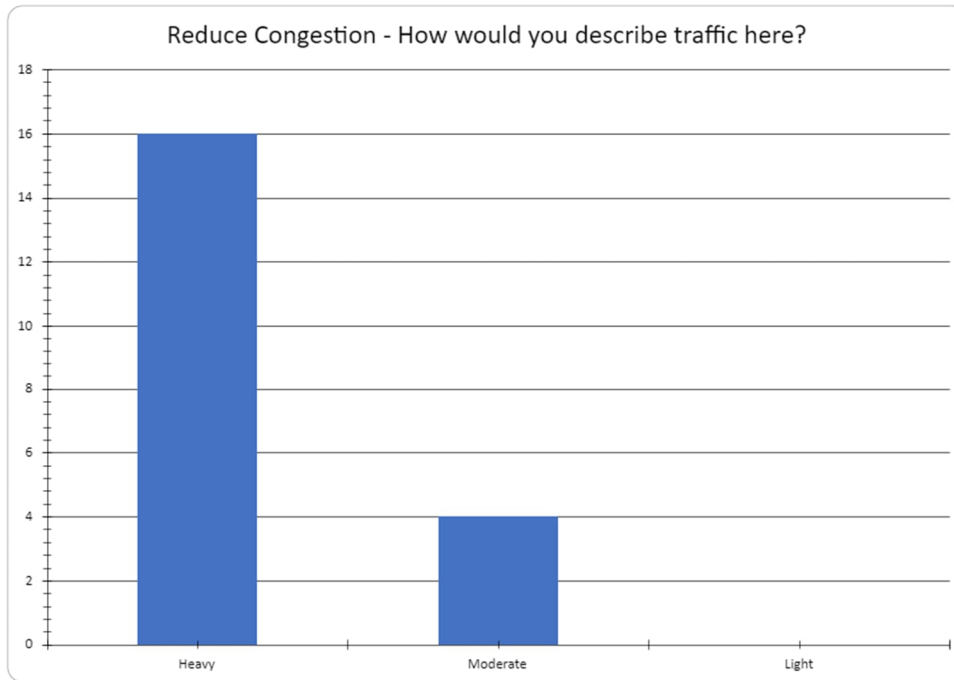


Figure 6: Number of Responses for Congested Times of Day

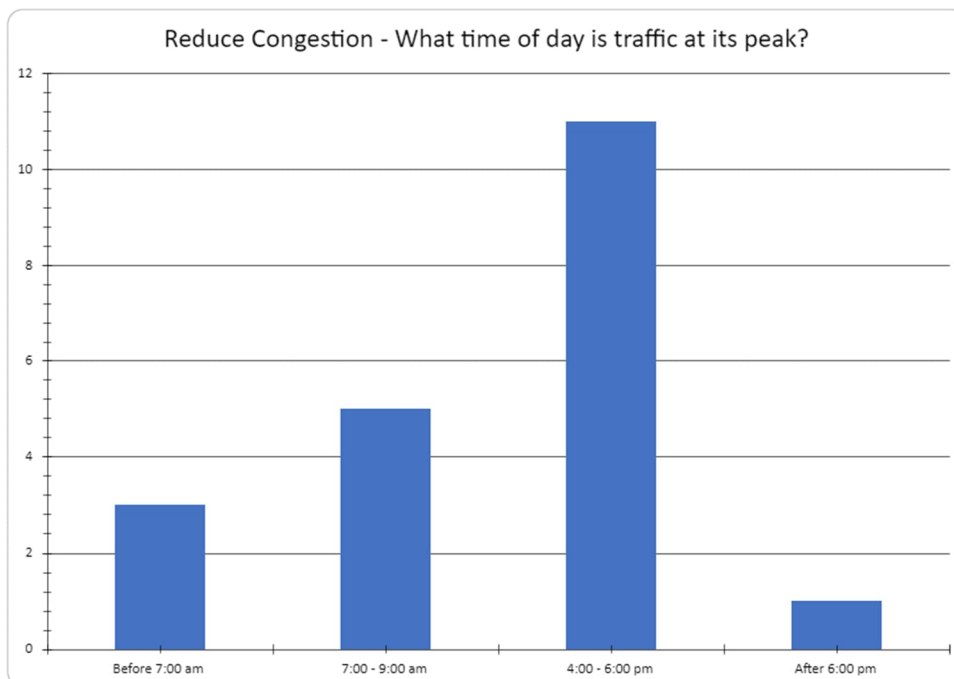


Figure 6 shows that the afternoon commute time between 4 p.m. and 6 p.m. was identified by survey participants as the peak congested time along US 127.

Map Marker Type: Add Passing Opportunity

This issue was identified 34 times on the map, concentrated in four places:

- North of Liberty
- Between KY 1552 and KY 1582
- Between the Lincoln County line and Hustonville
- Between Bowens Loop Road and Arcadia View Drive.

Additionally, 14 comments were received. Five comments requested four travel lanes for the entirety of the corridor and three specifically mentioned the need for drivers to be able to safely pass trucks and other slower vehicles.

Map Marker: Enhance Side Road Access

Enhancing side road access was marked as a concern 22 times, with 12 additional comments made at the identified locations. The following intersections/areas were identified by respondents:

- Sierra Drive
- KY 1194
- KY 2141/Danville Pike
 - "Southbound traffic will slow or stop for drivers turning left into the northern limits of Hustonville. A turning lane here would alleviate the issue."
- KY 906
 - "Difficulty seeing traffic approaching from northeast from the side road perspective; no warning of the side road in the darkness (flashing lights needed)."
 - "Blind spots for persons pulling out of 906."
- Patsy Riffe Road
- Between KY 1552 and KY 1582
 - "I have seen people passing a line of traffic here, traveling North, and have someone turn West into business and driveways nearly causing heading and behind collisions. Therefore needs turning lane in center to prevent collisions."
- KY 1552/Short Town Road
 - "Southbound traffic will stop, or be slowed to a near stop, to wait for traffic turning left onto Short Town Road. A left turn lane for southbound traffic would alleviate this issue."

Map Marker: Other

This category, with both 10 markers placed and 10 corresponding comments, makes up 8% of the total concerns. Five of the comments request turn lanes or note limited sight distance/visibility from side roads. Two comments mentioned flooding, one at the southern terminus of the study area and one at the bridge over Hanging Fork Creek in Hustonville.

Figure 7: Map Marker Responses in Lincoln County

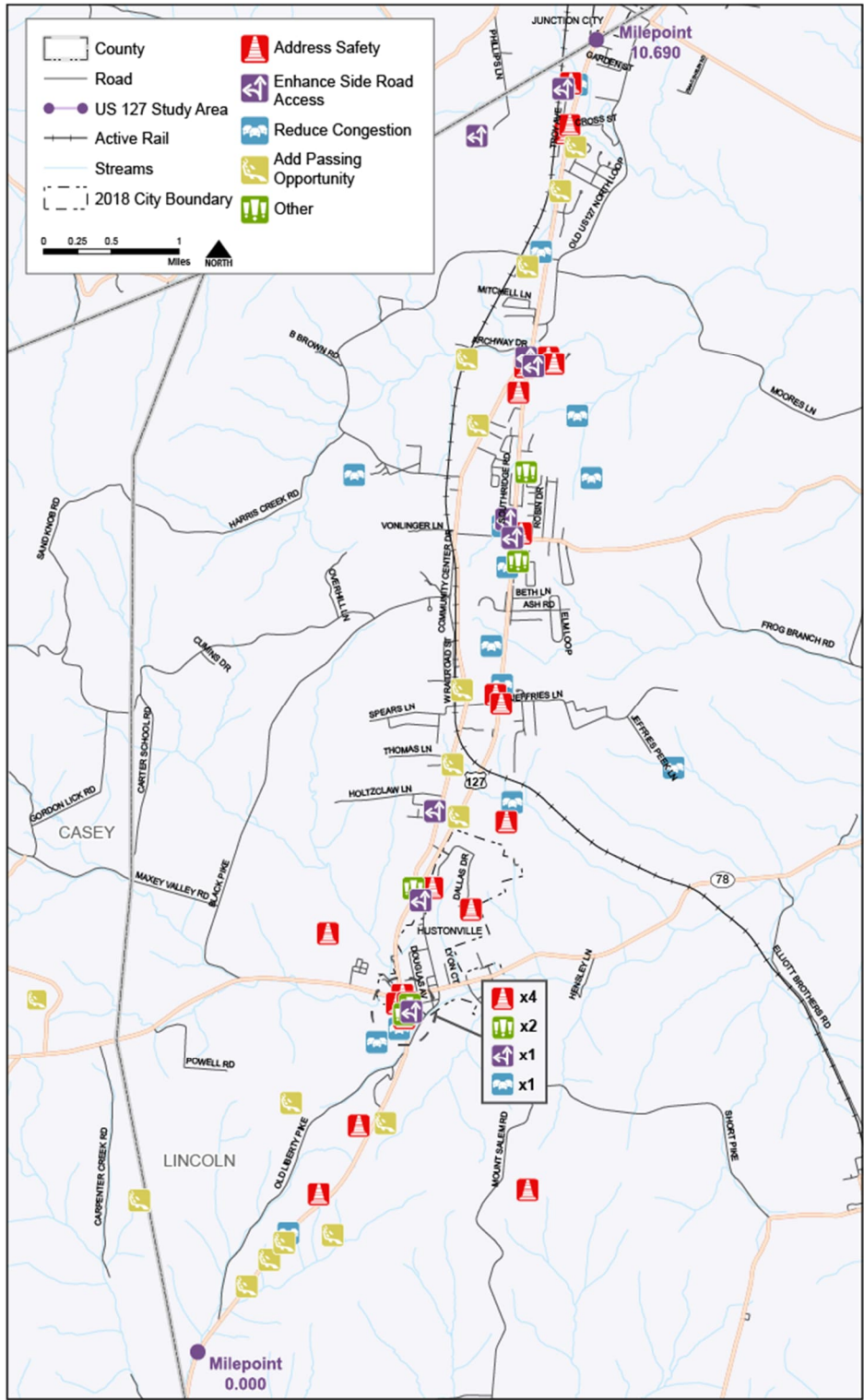
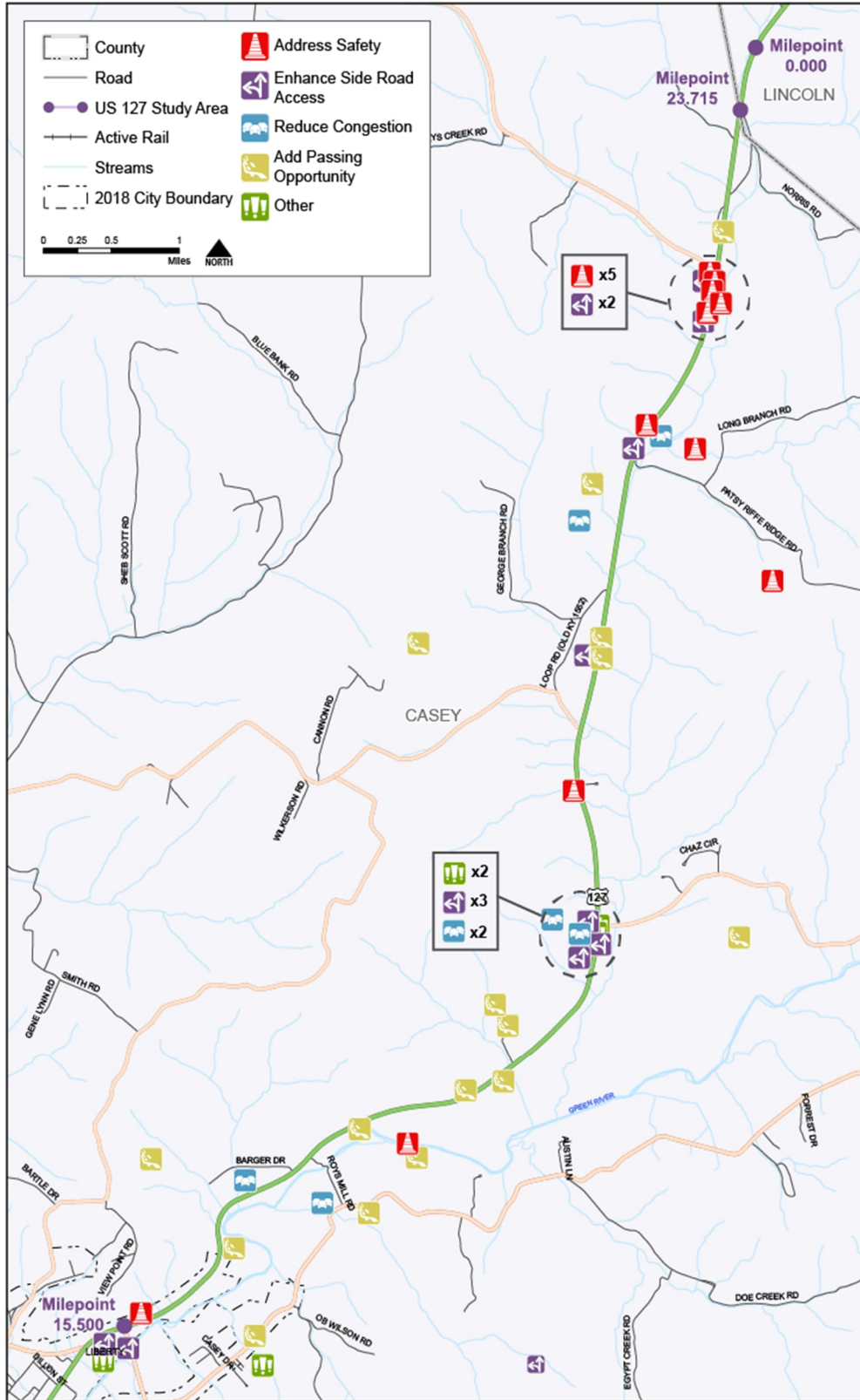
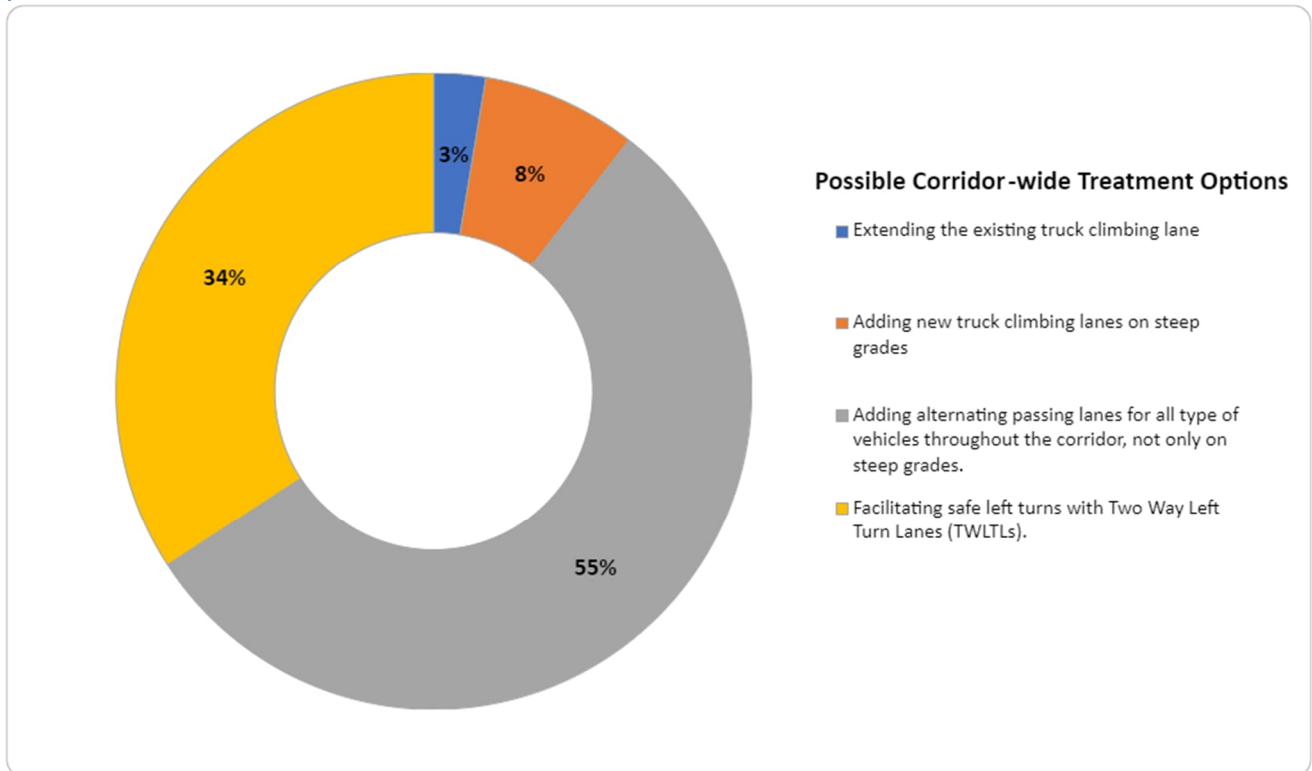


Figure 8: Map Marker Responses in Casey County



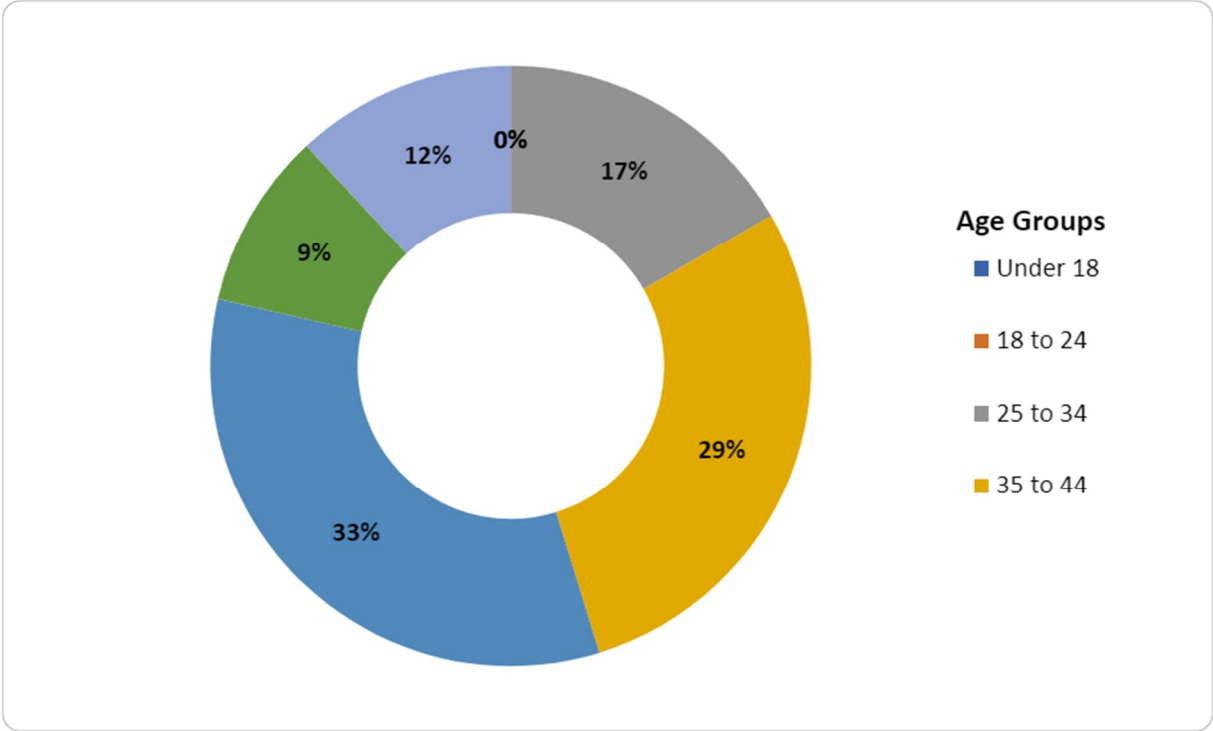
Question 3: If you had to choose, which possible corridor-wide treatment option is preferred?



The graph presents various "Possible Corridor-wide Treatment Options" alongside the count of preferences and their respective percentages. Beginning with the least favored, only 3% of the respondents, which translates to just one individual, opted for "Extending the existing truck climbing lane." Moving forward, "Adding new truck climbing lanes on steep grades" was supported by 3 respondents, making up 8% of the total preference. Dominating the chart, "Adding alternating passing lanes for all types of vehicles throughout the corridor" – without the restriction to steep grades – garnered significant backing, with 21 respondents, accounting for 55% of the total. Lastly, the proposal for "Facilitating safe left turns with Two Way Left Turn Lanes (TWLTLs)" was also a notable contender, chosen by 13 respondents, making up 34% of the overall preference.

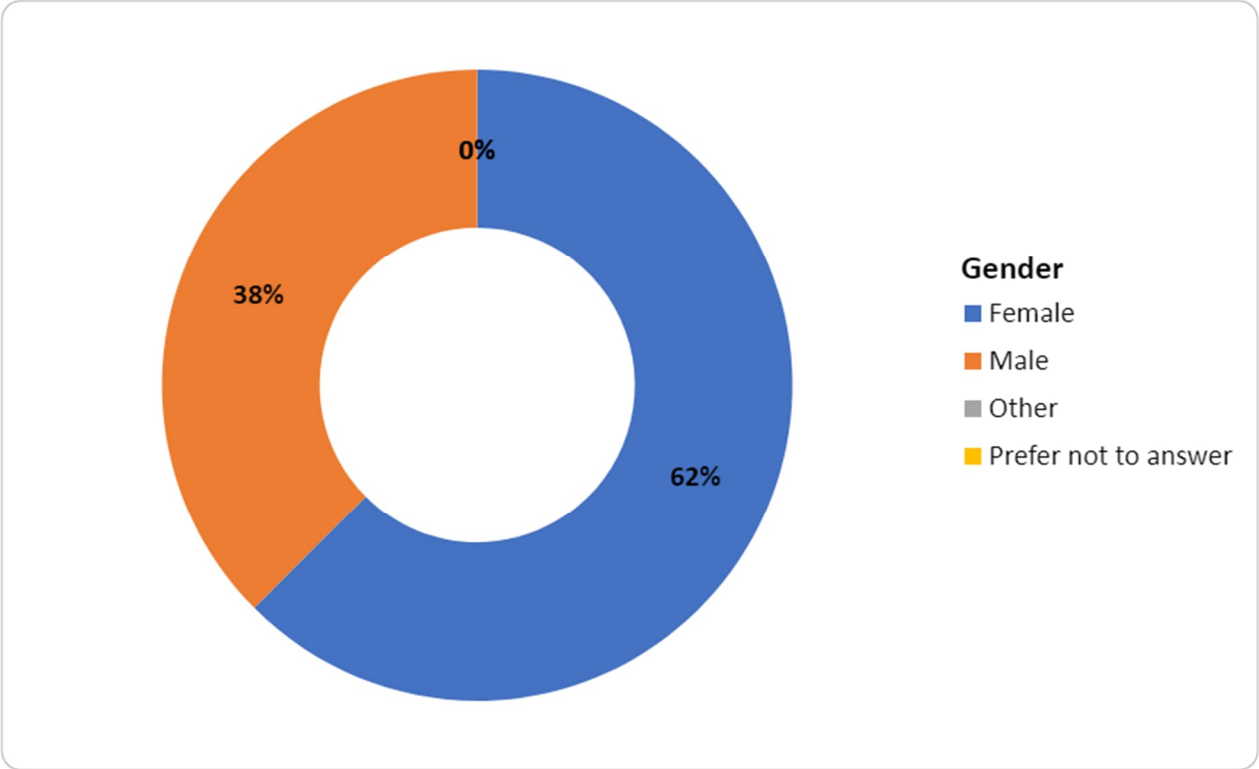
Question 4: Survey Respondent Demographics (screen 5)

Age:



Notably absent are participants from the younger age groups "Under 18" and "18 to 24", both of which registered no respondents. The age bracket "25 to 34" consists of 7 individuals, accounting for 17% of the total. This is followed by the "35 to 44" age group, which comprises 12 respondents, making up 29%. The most represented age category is "45 to 54", with 14 individuals or 33% of the total. The latter age segments, "55 to 64" and "65 and older", are made up of 4 (10%) and 5 individuals (12%) respectively.

Gender



In terms of gender distribution, there's a significant skew towards females, who constitute a majority with 25 respondents, or 62.5%. Males are represented by 15 individuals, amounting to 37.5%. It's noteworthy that there were no respondents who identified as "Other", and similarly, none selected the "Prefer not to answer" option regarding their gender.