CITY OF CORBIN, KY
SAFETY ACTION PLAN

JUNE 25, 2025

PREPARED FOR:

CITY OF CORBIN
805 S. MAIN STREET
CORBIN, KY, 40701

PREPARED BY:

BANKS ENGINEERING, INC.
1211 JESSAMINE STATION
NICHOLASVILLE, KY 40356

AND

CRAWFORD, MURPHY & TILLY, INC.
230 LEXINGTON GREEN CIRCLE
SUITE 410
LEXINGTON, KY 40503

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INTRODUCTION

This report summarizes the background, methodology and recommendations of systemic crash analyses conducted for the development of a Safety Action Plan for the City of Corbin, KY. This study evaluated crash data on City and State maintained roads from 2019-2023 to determine overrepresented crash types and identify high crash areas on the roadway network. This report outlines the data sources used within the analysis, findings of the city-wide crash analysis and methodologies used in developing a priority ranking for high crash locations.

Recommendations for safety-related improvements to the local transportation network are summarized in this report, with estimates of implementation costs and site location prioritization. The proposed improvements range from capital construction projects to administrative processes to incorporate safer roads into future development. Improvements are proposed that improve safety performance of motor vehicle, bicycle, and pedestrian traffic consistent with the Complete Streets program adopted by the Kentucky Transportation Cabinet (KYTC).

OVERVIEW OF SS4A PROGRAM

The Bipartisan Infrastructure Law (BIL) established the Safe Streets and Roads for All (SS4A) discretionary program with $5 billion in appropriated funds over 5 years between 2022-2026. The SS4A program funds regional, local, and Tribal initiatives through grants to prevent roadway deaths and serious injuries in support of the U.S. Department of Transportation's (USDOT) National Roadway Safety Strategy goal of zero roadway deaths using a Safe System Approach. The City of Corbin was awarded an Action Plan Grant in FY 22 to develop a Safety Action Plan for the city.

A Safety Action Plan is a strategic document aimed at identifying and addressing safety issues related to transportation infrastructure. Based on SS4A criteria a Safety Action Plan must include the following three criteria:

1. **Safety Analysis.** Collecting and analyzing crash data to pinpoint high-risk areas and crash types.
2. **Strategy and Process Selections.** Developing specific interventions, such as roadway improvements, policy changes, and educational initiatives, to enhance safety.
3. **Action Plan Date.** Be completed using data compiled during the last 5 years (2019-2023).

Additionally, an action plan must meet at least four (4) of the following additional criteria:

4. **Leadership Commitment and Goals Setting.** An official commitment by the governing body to an eventual goal of zero roadway fatalities and serious injuries.
5. **Planning Structure.** A task force charged with oversight of the Action Plan development, implementation, and monitoring.
6. **Engagement and Collaboration.** Involving local stakeholders, including residents, advocacy groups, and underserved communities to gather insights and prioritize concerns.
7. **Equity Considerations.** Underserved communities are identified through data and other analyses in collaboration with appropriate partners including both population characteristics and impact assessments of the proposed projects and strategies on equity.

8. **Policy and Process Changes.** Assessment of current policies, plans, guidelines, and/or standards to identify opportunities to improve how processes prioritize transportation safety.
9. **Implementation and Evaluation Metrics**: Setting up methods to implement and assess the effectiveness of the actions taken.

The goal of the Safety Action Plan is to create safer streets and reduce fatalities and serious injuries for all road users, including pedestrians, cyclists, and motorists by providing a strategic plan that an agency can follow towards reaching the goal of zero deaths and serious injuries.

STUDY AREA

The Safety Action Plan covers the city of Corbin, and recent and planned annexations. All city and state-maintained roadways within the expanded city limits were analyzed within the Safety Action Plan. The city limits (grey shading) and study roadways are shown in **Figure 1.**

CRASH ANALYSIS

A crash analysis was conducted to identify common crash types and identify priority locations within the city limits. Crash data for the study area was obtained from the Kentucky State Police Crash database available at crashinformationky.gov. Data was obtained for the five-year period of January 1, 2019 to December 31, 2023. During this period 2,555 crashes were recorded, resulting in 9 fatalities and 976 injuries. **Figure 2** shows all crashes recorded in the study area during the 5-year period.

Crash data was provided in a database format with latitude and longitude provided for each crash, and crash characteristics such as crash severity, manner of collision, and human, vehicular and environmental contributing factors. Crash data was spatially joined to the city roadway network available from the Kentucky Transportation Cabinet (KYTC) website (transportation.ky.gov). Crashes were assigned to the nearest roadway in order to determine if the crash occurred on a city or state roadway.

Prior to the identification of high crash locations, area wide crash analyses were completed to determine emphasis areas within the city roadways that may be the focus of safety efforts. **Table 1** shows a comparison of crash severity on city roads versus state-maintained roadways. The (xx) values represent the number of crashes that resulted in the total number of injuries/ fatalities by person. For example, there were 9 fatalities resulting from 8 crashes on state roads.

TABLE 1: CRASH FREQUENCY AND SEVERITY BY ROUTE OWNERSHIP

Road Ownership	Total Crashes	Fatalities (fatal crashes)	Injuries	PDO
City Streets	250	0	38 (30)	220
State Main-tained	2,555	9 (8)	938 (553)	1994

FIGURE 1: STUDY AREA (CITY LIMITS AND ROADWAYS)

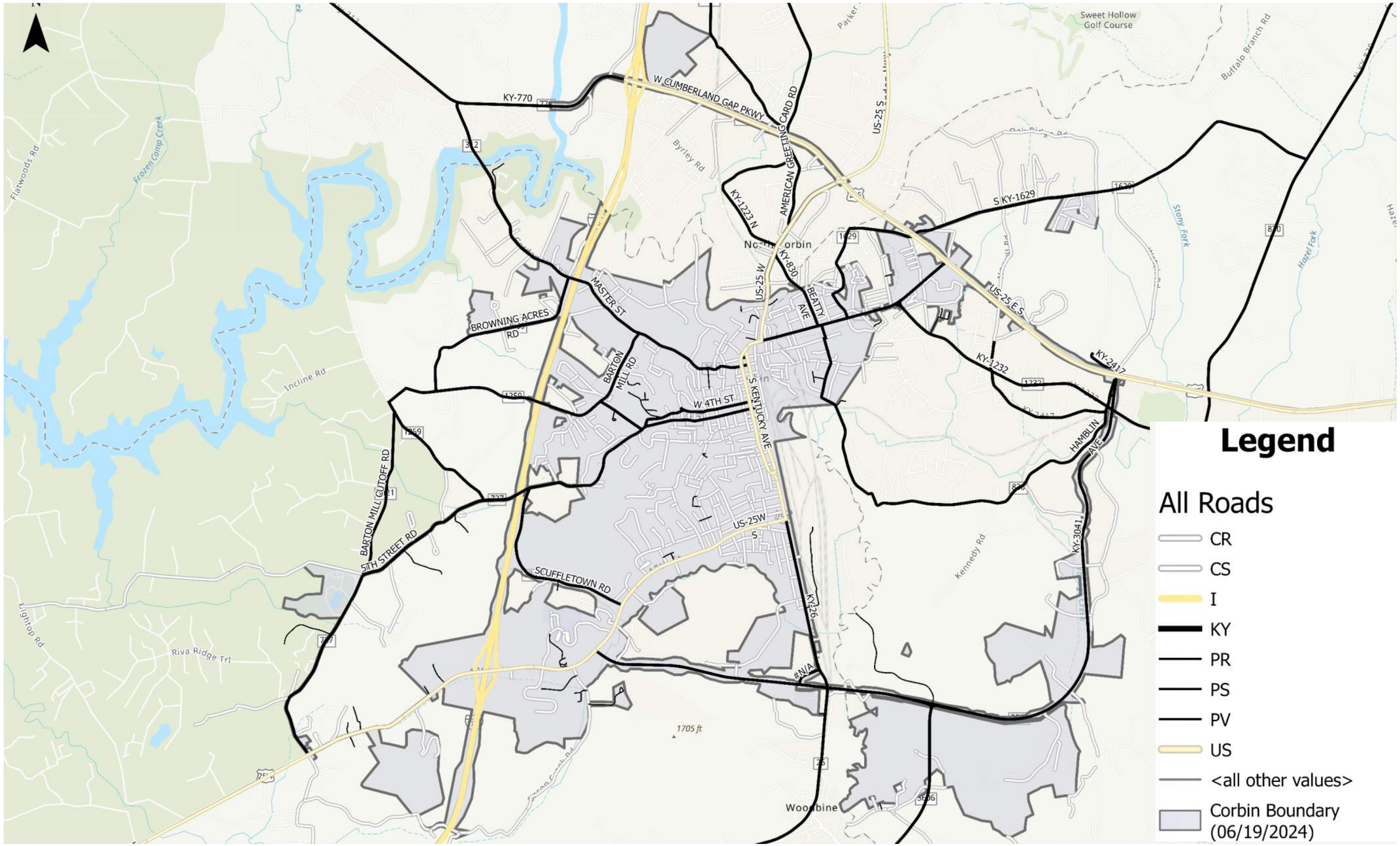
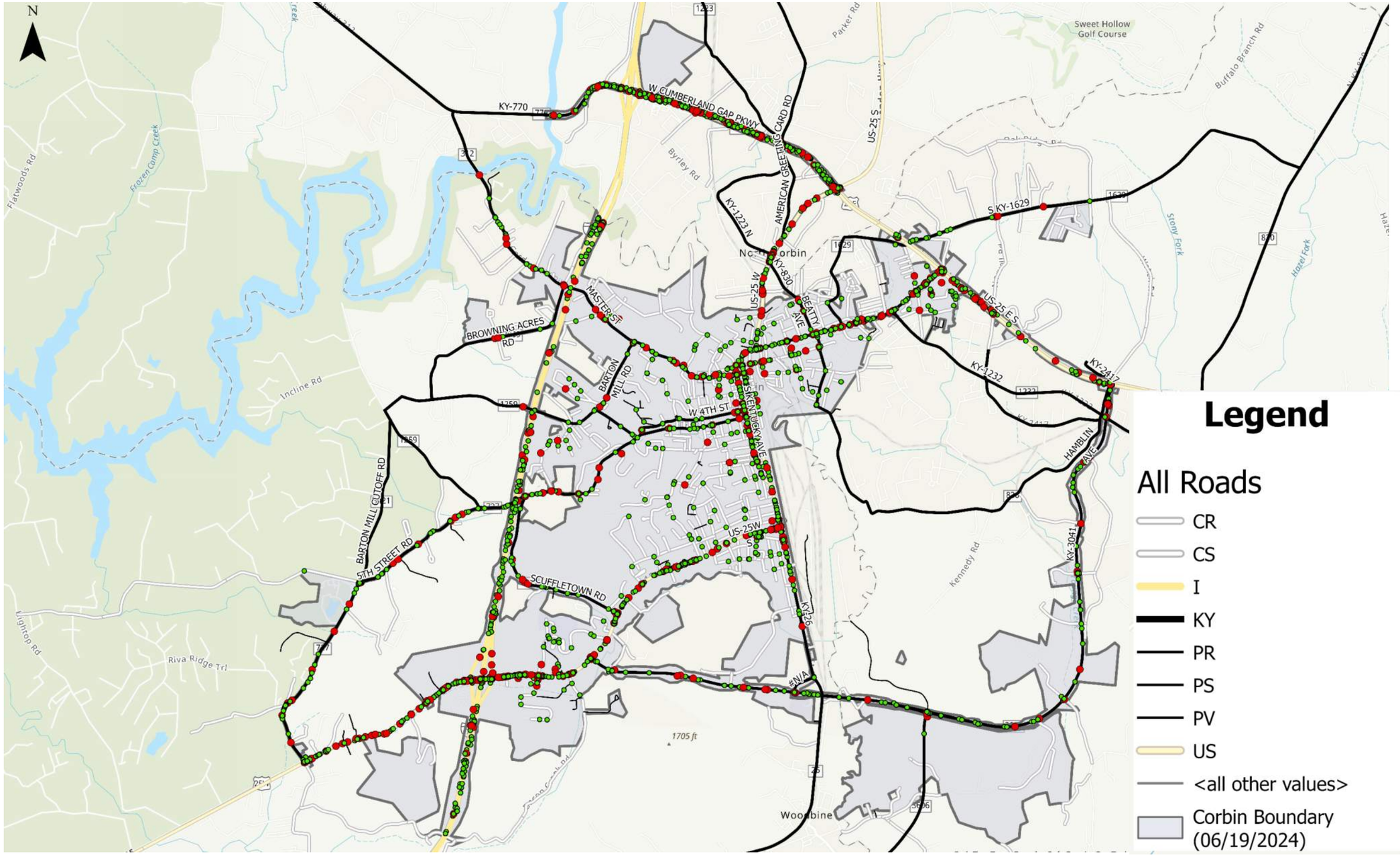


FIGURE 2: CRASH MAP



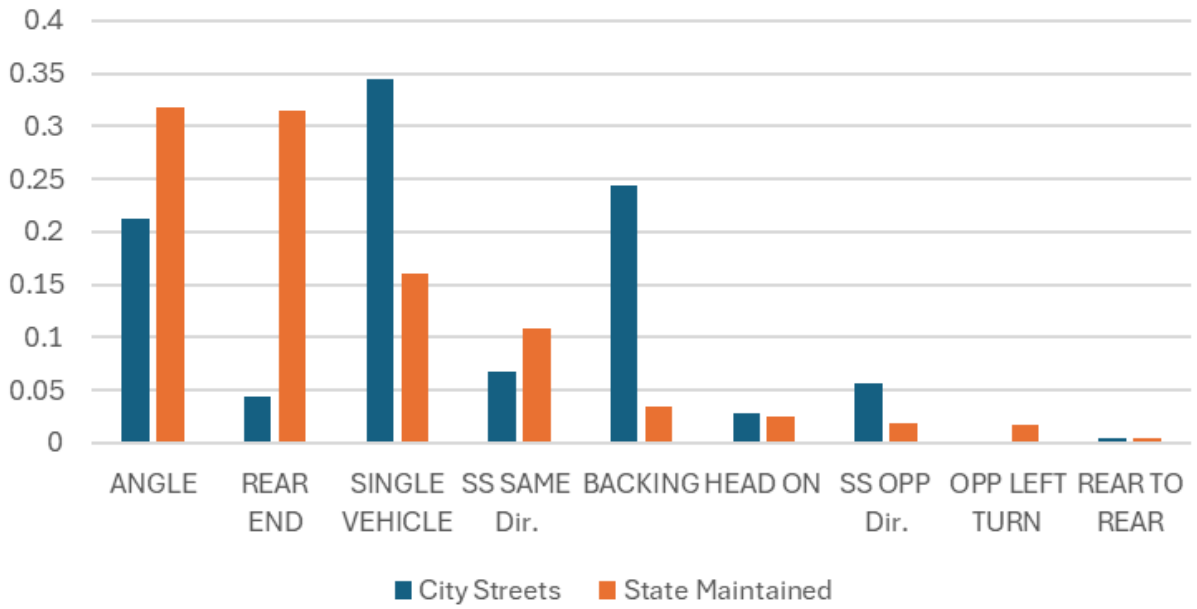
One of the goals of the Federal Highway Administration and KYTC is to address fatal and serious injury crashes. Crashes can be categorized by injury severity, as K, A, B or C injury or Property Damage Only (PDO). The definition of each of these severities is summarized below.

1. Fatal Crash (K): A motor vehicle crash (single or multiple) that results in the death of one or more persons.
2. Injury Crash: Any motor vehicle crash that results in one or more non-fatal injuries. The injury category includes the three severity levels of injuries.
    - A-Injury (Incapacitating Injury): Any injury, other than a fatal injury, which prevents the injured person from walking, driving, or normally continuing the activities he/she was capable of performing before the injury occurred. Type A crashes include severe lacerations, broken limbs, skull or chest injuries, and abdominal injuries.

      This injury severity is quantified in the Injury column of the table.
    - B-Injury (Non-incapacitating Injury): Any injury other than a fatal or incapacitating injury, which is evident to observers at the scene of the crash. Includes lump on head, abrasions, bruises, minor lacerations.
    - C-Injury (Possible Injury): Any injury reported or claimed which is not either of the above injuries. It includes momentary unconsciousness, claims of injuries not evident, limping, complaint of pain, nausea, and hysteria.
3. PDO: Property-damage only crash.

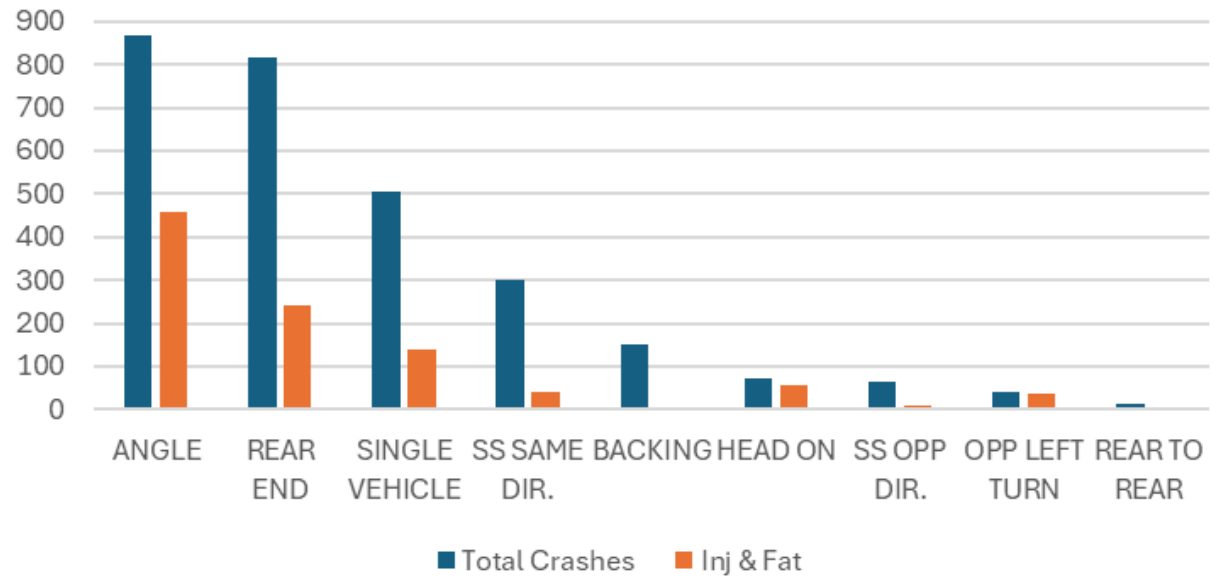
State routes account for the majority (91%) of all crashes in the study area and all fatal crashes in the study area as summarized in **Table 1**. When evaluating the types of crashes on the two systems (**Figure 3**) angle and single-vehicle crashes are shown to be the most frequent on city streets, representing over 55% of crashes, while angle and rear end crashes are the most frequent on state-maintained highways. Note the Y-axis represents percentage.

FIGURE 3: CRASH TYPE BY MAINTAINING AGENCY



When examining the severity of crash types (**Figure 4**), angle, rear end, and single vehicle crashes are shown to be the most frequent crash types resulting in an injury or fatality, while head-on and opposing left turn crashes have the highest percentage of injuries and fatalities. Note the Y-axis represents a total number of crashes.

FIGURE 4: CRASH TYPE BY SEVERITY



SITE SCREENING METHODOLOGY

While the goal of the Safety Action Plan is to improve safety on all roadways, for all users, the primary focus is to reduce fatal and injury crashes. A systemic analysis approach was taken to identify roadways which have the highest probability of future injury or fatal crashes.

These roadways are identified as those roadways that have:

- Highest unaddressed injury and fatal crash history
- Highest vehicular use and
- Critical role in the road network.

A data-driven approach was used to identify the priority or “Focus Roadways” for in-depth review and the identification of safety countermeasures. Roadways meeting these criteria have been identified as Focus Roadways, as they will be the primary focus for review and analysis within the Safety Action Plan.

Roadways were ranked based on the previous crash history and severity, as well as anticipated roadway use. Additionally, the Steering Committee assembled for this Action Plan reviewed the initial site location priority list and provided a community importance rating to identify community-sensitive areas, such as schools and other service areas that required increased attention to traffic and safety.

Focus Roadways were identified based on available Crash and Use information, and the following factors.

Crash Score was based on 3 factors listed below:

- Equivalent Property Damage Only (EPDO) crashes. A weighted rating technique based on crash severity. The EPDO formula used in this analysis assigned a weight of 10 to crashes resulting in a fatality or incapacitating injury, 5 for crashes resulting in a minor or possible injury (B or C Injury), and 1 to crashes resulting in property damage only (PDO).
- Total Fatal and Injury Crashes. The frequency of all injury and fatal crashes.
- Vulnerable Road User (VRU) Crashes. The frequency of pedestrian, bicyclist or other non-motorized crashes with a motorized vehicle.

Use Score was based on 2 Factors listed below:

- HERE Traffic Analytics. This location and technology company provides a record of traffic volume and speed observations on roads from GPS probe data points. The number of observations recorded on each road segment was used as a surrogate for roadway use in the absence of Average Daily Traffic volumes.
- Spatial Connectivity Analysis. Spatial analysis was conducted in ArcGIS to quantify the role each road segment plays in the roadway network. Connectivity analysis identifies the percentage of times a roadway segment is part of the shortest path between any two origin-destination points within the city-wide roadway network.

All of the evaluation factors were normalized on a scale of 1-10, with 1 representing the minimum value observed within the city and 10 representing the highest value in the city. All other values were rated proportionally between the highest and lowest values. A total Crash Score was then developed as the sum of the EPDO, Injury and Fatal Crashes, and VRU data and a Use Score was developed based on HERE Data and Connectivity Scores.

A final score was determined based on the sum of the crash and use scores. Roadways were then ranked by total score. City Streets (CS) and State Roads (SR) were evaluated separately due to the difference in crash patterns, speed and level of use.

Tables 2 summarizes the top 20 route segments for city streets. The top 20 ranked city streets were selected as Focus Roadways for further review.

> The Arena Drive segment was excluded from further analysis thus does not have countermeasures proposed as part of the SS4A Action Plan due to an active transportation project (KYTC Project 11-186) sponsored by KYTC. The improvements being constructed as part of the KYTC project are expected to improve future safety performance.

A full listing of all roadways is provided in **Appendix A**.

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TABLE 2: CITY STREET (CS) TOP 20 SEGMENTS

Rank	RT Unique	Road Name	Length	Total Crashes	Inj.	K	VRU	Crash Score	UseScore	Community Score	Final Rank
1	061-CS-2029 -000-2	ROY KIDD AVE	1927	18	6	0	1	5.00	3.09	0.00	1
2	118-CS-2212 -000-1	DEPOT ST	4102	13	5	0	1	4.37	1.94	0.00	2
3	061-CS-2003 -000-1	BARBOURVILLE ST	2477	5	2	0	0	1.07	0.84	5.00	3
4	118-CS-2146 -000-1	OAKLAWN DR	4156	5	1	0	0	0.63	0.75	5.00	4
5	118-CS-2017 -000-1	7TH ST	3904	15	1	0	0	1.03	3.70	0.00	5
6	118-CS-2000 -000-1	ARENA DR	3601	12	2	0	0	1.35	2.74	0.00	6
7	118-CS-2196 -000-1	VANDORN ST	1433	3	1	0	1	2.22	0.88	0.00	7
8	118-CS-2213 -000-1	E GORDON ST	260	2	1	0	1	2.18	0.47	0.00	8
9	118-CS-2189 -000-1	TRILLIUM WAY	4748	9	1	0	0	0.79	3.22	0.00	9
10	061-CS-2026 -000-1	N COMMONWEALTH AVE	1740	2	2	0	0	0.95	2.61	0.00	10
11	118-CS-2085 -000-1	FOREST DR	636	2	0	0	1	1.75	0.92	0.00	11
12	118-CS-2169 -000-1	SANDERLIN DR	3272	5	2	0	0	1.07	2.23	0.00	12
13	118-CS-2126 -000-1	LAUREL AVE	3116	8	1	0	0	0.75	2.65	0.00	13
14	118-CS-2186 -000-1	TENNESSEE AVE	1703	2	0	0	1	1.75	0.23	0.00	14
15	061-CS-2017 -000-1	FORD AVE	1877	8	1	0	0	0.75	1.81	0.00	15
16	118-CS-2159 -000-1	POPLAR ST	3270	5	1	0	0	0.63	1.88	0.00	16
17	118-CS-2155 -000-1	PHILLIPS LN, JOHN ST, HILLSIDE ST	2270	6	1	0	0	0.67	1.78	0.00	17
18	118-CS-2176 -000-1	SNYDER ST	954	6	1	0	0	0.67	1.71	0.00	18
19	118-CS-2010 -000-1	20TH ST	2658	4	0	0	0	0.16	1.44	0.00	19
20	061-CR-1355 -000-1	S COMMONWEALTH AVE	1803	3	1	0	0	0.56	0.63	0.00	20

For the purposes of this analysis, state highways were segmented into 1-mile-long sections, which were analyzed and ranked separately from the City Street (CS) list. **Table 3** summarizes the top 20 route segments for state roads. The following higher ranked segments are excluded from further analysis thus do not have countermeasures proposed as part of the SS4A Action Plan due to active transportation projects sponsored by KYTC that are expected to improve future safety performance:

SR01: US Route 25E is being improved as part of KYTC Project 11-185: Cumberland Gap Parkway from I-75 interchange to 350 ft east of Chestnut Lane in Laurel County. This segment is ranked #1 of all state roadways.

SR05: US Route 25E is being improved as part of KYTC Project 11-185: Cumberland Gap Parkway from 350 ft east of Chestnut Lane to 775 ft east of US 25E / US 25W in Laurel County. This segment is ranked #5 of all state roadways.

SR06: US Route 25W is being improved as part of KYTC Project 11-186 to Improve Mobility and Reduce Congestion: Cumberland Falls Hwy from KY 727 (5th Street Road) to Corbin By-Pass in Whitley County. This segment is ranked #6 of all state roadways.

SR08: A segment of US Route 25W is ranked #8 and included with KYTC Project 11-186

SR10: US Route 25E is being improved as part of KYTC Project 11-188: Cumberland Gap Parkway in Know County.

Figure 5 shows the various active projects being completed by KYTC on the state-maintained roadway network in the Corbin region. Blue color coding represents awarded planned projects whereas the green color coding represents current planned projects.

FIGURE 5: KYTC ACTIVE PROJECT SUMMARY

TABLE 3: STATE ROAD (SR) TOP 20 SEGMENTS

Rank	RT Unique	Road Name	Total Crashes	Inj.	K	VRU	Crash Score	Use Score	Community Score	Final Rank
1	063-US-0025E -000-2	CUMBERLAND GAP PKWY	362	124	0	5	5.00	5.00	0.00	1
2	118-US-0025W -001-1	KENTUCKY AVE	142	40	0	0	1.12	3.83	5.00	2
3	118-US-0025W -000-33	MAIN ST	123	24	0	1	1.08	3.83	5.00	3
4	118-US-0025W -000-34	MAIN ST	130	30	0	0	0.89	3.83	5.00	4
5	063-US-0025E -000-1	CUMBERLAND GAP PKWY	141	41	2	1	1.54	5.00	0.00	5
6	118-US-0025W -000-30	CUMBERLAND FALLS HWY	199	80	0	0	2.08	3.83	0.00	6
7	118-US-0025W -000-29	CUMBERLAND FALLS HWY	80	47	1	0	1.18	3.83	0.00	7
8	118-US-0025W -000-32	CUMBERLAND FALLS HWY	95	31	0	1	1.18	3.83	0.00	8
9	061-US-0025E -000-26	CUMBERLAND GAP PKWY	72	40	0	0	0.99	3.98	0.00	9
10	061-KY-3041 -000-4	CORBIN BYPASS	61	34	1	0	0.87	3.48	0.00	10
11	061-KY-0312 -000-1	MASTER ST	92	38	1	3	2.02	1.08	0.00	11
12	061-US-0025E -000-25	CUMBERLAND GAP PKWY	39	22	0	0	0.54	3.98	0.00	12
13	118-US-0025W -000-99	CUMBERLAND FALLS HWY	55	24	0	0	0.62	3.83	0.00	13
14	061-KY-3041 -000-2	CORBIN BYPASS	14	8	0	1	0.53	3.48	0.00	14
15	063-US-0025W -000-1	CUMBERLAND GAP PKWY	75	48	0	1	1.50	1.23	0.00	15
16	118-KY-3041 -000-1	CORBIN BYPASS	55	13	0	0	0.38	3.37	0.00	16
17	061-US-0025E -000-27	W CUMBERLAND GAP PKWY	5	2	0	0	0.05	3.98	0.00	17
18	118-KY-3041 -000-2	CORBIN BYPASS	19	11	0	0	0.27	3.37	0.00	18
19	061-KY-3041 -000-3	CORBIN BYPASS	20	3	0	0	0.10	3.48	0.00	19
20	061-KY-0312 -000-2	MASTER ST	99	32	0	1	1.20	1.08	0.00	20

SITE LOCATION SAFETY ANALYSES

Once the screening process to identify and prioritize locations was completed (**Tables 2 and 3)**, crashes were manually reviewed for each segment. Crashes that occurred at an intersection with a focus road were reassigned to the Focus Road for purposes of the detailed safety analysis by sublocation. The crash reassignment was done even if the crashes were coded in the KYTC database to the cross street since corridor level countermeasures may mitigate crashes on the side street approaches at intersections. Examples of how crashes were reassigned is summarized below:

- Four (4) crashes were reassigned from the side streets to Barbourville Street (two from Wilson Street, one from Hamlin St and one from Laurel Ave) resulting in a total number of 9 crashes on Barbourville Street for the corridor level safety analysis. Note that **Table 1** shows a total of 5 crashes assigned to Barbourville Street which was the basis for the screening process.
- Ten (10) crashes reassigned to the Roy Kidd Avenue corridor from the side street when analyzing corridor specific countermeasures.
- If a crash occurred at the intersection of 2 focus roads, it was assigned to the higher ranked focus road.

The reassignment of crashes for the safety analysis at the segment level was assumed not to affect the priority ranking especially as it relates to segments shown on the respective Top 20 list.

STATE ROAD (SR) NETWORK OVERVIEW

A corridor level safety analysis was completed for the top 5 locations on the State Road (SR) list. **Appendix B** contains a more detailed analysis for the following state roads not having active construction projects:

Appendix B1: Main Street/ Kentucky Avenue (SR02, SR03 and SR04).

- Kentucky Avenue (US Route 25W) ranked #2 is a one-way (southbound), 2-lane roadway between the Main Street intersections on both ends of downtown Corbin.
- Main Street (US Route 25W) ranked #3 is a one-way (northbound), 2-lane roadway between 5th Street and an endpoint on 18th Street / US Route 25W / Cumberland Falls Hwy (500 ft west of Main Street).
- Main St (US Route 25W) ranked #4 is a segment of US Route 25 that has a variable width from 5th Street to the Lynn Camp Creek / Whitley County Line including the Main Street / Master Street intersection.

Appendix B2: 5th Street Road (SR07) from US Route 25W (Cumberland Falls Highway) to 250 ft east of Sanderlin Drive. The study limits combined three sub-segments into a single study area.

Appendix B3: 18th Street Road/ US Route 25W (SR09) from 200 ft east of Snyder Road (High School access) to 500 ft west of Maple Lane.

Other locations that would benefit from safety-related countermeasures include Master Street/ KY 312 (SR12), Gordon Hill Road/ KY 312) and Barton Mill Road (KY 2384).

MASTER STREET/ KY 312 (SR12)

Master Street (KY 312) has a rank of #12 on the state road list (**Table 3**). The safety study limits are between the bridge crossing of Lynn Camp Creek and the Trademart Center/ McDonalds intersection. **Figure 6** shows the location of crashes by type and severity. A KYTC project (KYTC project 11-182) is planned to improve drainage near the Hart Funeral Home (1011 Master Street).

A total of 103 crashes occurred over a 5-year period within the study area resulting in a combined equivalent Property Damage Only (EPDO) score of 253. The injury rate is 26.2% which includes a fatality (pedestrian) that occurred on 11/11/19 at 6:30PM near St. John Avenue between the Hancock Avenue and Wentworth Street intersections. The 75-year-old pedestrian was wearing dark clothing and walking in the roadway.

FIGURE 7: CRASH SEVERITY BY YEAR

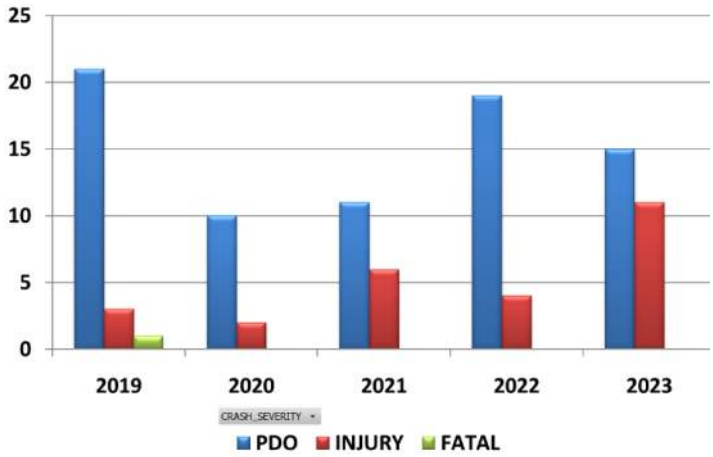


Figure 7 also shows that the severity of crashes is increasing, which suggests speed as a contributing factor of crash frequency and severity. **Appendix B4** contains the detailed safety analysis of the Master Street study area.

Countermeasures to improve the safety performance of Master Street include the following:

1. The nearest sidewalk along Master Street is 800 feet west of the crash location. Master Street does not have sidewalks between Standard Avenue and the Trademart Center / McDonalds intersection (3,000 feet). A Christian Care Community is a senior living facility located at 1390 Master Street and has pedestrian traffic to/from the Trademart Center. **Extend proposed sidewalk east of Standard Ave to the McDonald / Trademart Center intersection.**
2. The posted speed limit on Master Street is 35 MPH. Speed is a major component of crash severity especially when crashes involve pedestrians (see **Figure 8**). NCHRP Report 880 (Exhibit 4-8) recommends lane widths of 10 and 11 feet to achieve a target speed of 35 MPH. **Revise the typical section of Master Street to have 10 ft travel lanes, an 11 ft center turn lane, and wider shoulders (3.5-4 ft) to discourage operating speeds above 35 MPH**.
3. Add street lighting improvements.

FIGURE 8: PED FATALITY RISK BY IMPACT SPEED

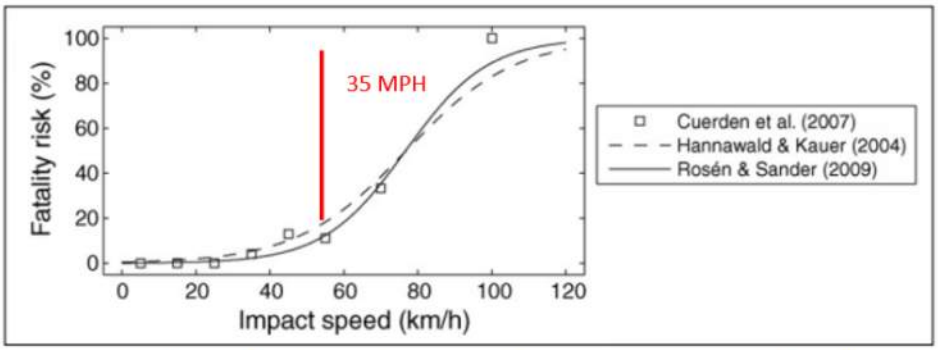
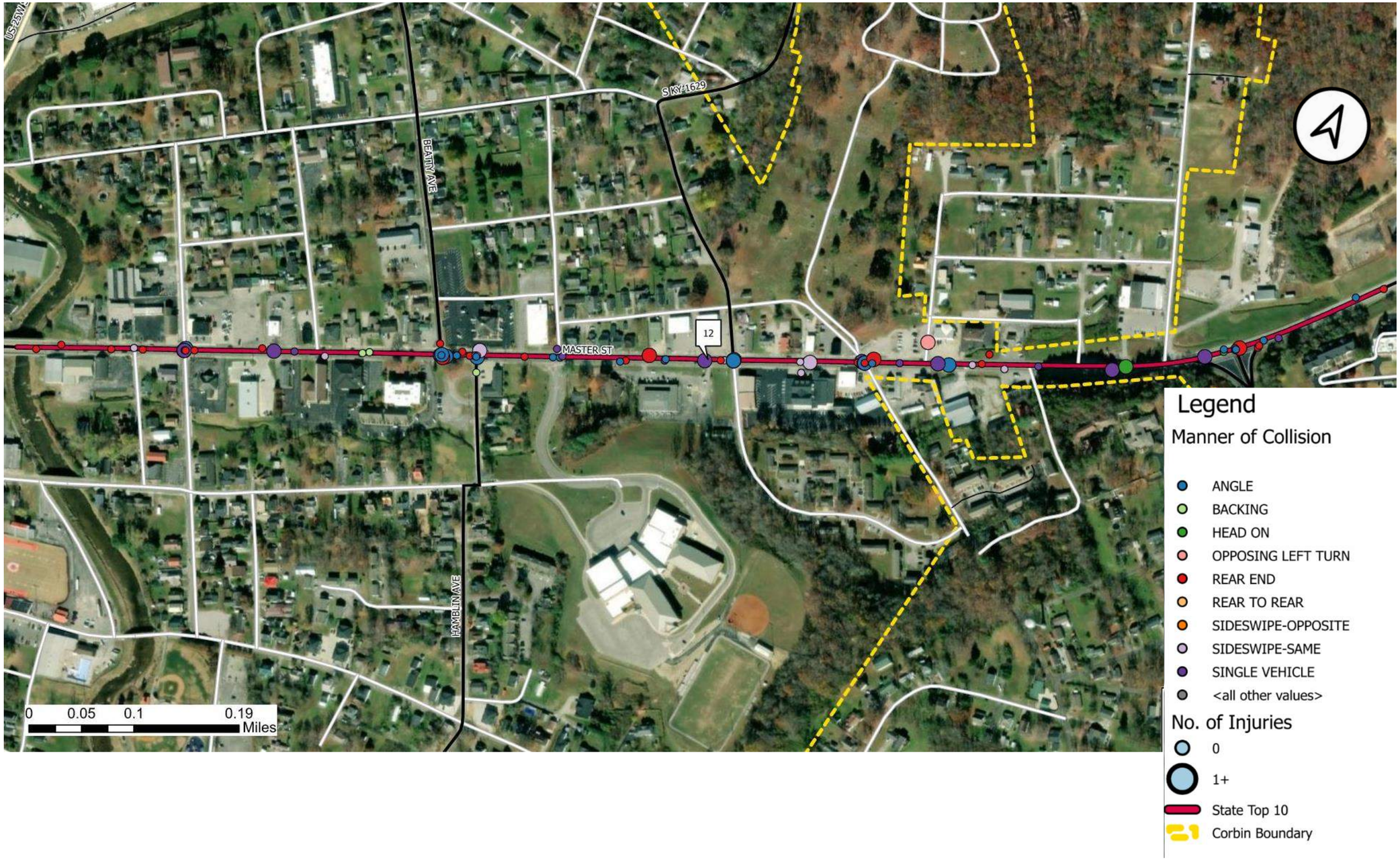


Figure 1. *The fatality rate of pedestrians in crashes with passenger cars as function of the collision speed (from Rosén et al., 2011).*

FIGURE 6: CRASH MAP OF MASTER STREET (KY 312)



GORDON STREET/ KY 312 (SR25 AND SR28)

Gordon Street near Earls Avenue has an average annual daily traffic (AADT) volume of 4,842 vehicles (2023). The 2-lane roadway has sidewalks from the downtown area (Main Street) to Doody Street (south side) and to Blair Park (north side).

Gordon Street / Gordon Hill Pike / Keavy Road connects residential land uses from Kentucky Avenue to the Corbin Civic Center located near 2055 Gordon Hill Pike. A total of 81 crashes occurred over a 5-year period within the study area resulting in a combined equivalent Property Damage Only (EPDO) score of 241. The injury rate is 49.4%. Two segments of Gordon Street (SR25 and SR28) comprise the study area shown in **Appendix A**.

Sidewalks do not exist for a 1.35-mile segment along Gordon Street to the Civic Center complex. The speed limit on Gordon St changes from 25 MPH (east) to 35 MPH (west) near Jesson Street.

The following countermeasures are proposed to improve the safety performance of the corridor:

1. Add sidewalk between the existing sidewalk and the civic center sports complex. Sewer upgrades are planned and may present an opportunity for sidewalk easements along the roadway. Note the sewer project will be at and west of I-75, which would address 900 feet of missing sidewalk along Gordon Hill Pike. Construction may be done in phases due to project cost – Phase 1 may terminate at the Circle K site (1142 Gordon Hill Pike).
2. Add advance curve warning signs at curves having operating speeds at or below the posted speed of 35 MPH. For example, the curve near Virginia Avenue has a centerline radius of 290 feet and the curve near Jesson Street has a centerline radius of 155 feet. The existing curves with normal crown are adequate for a design speed of 25 MPH and 20 MPH, respectively. Curve warning signs, advisory speed plaques, and chevrons are recommended or required in accordance with Table 2C-5 of the Manual of Uniform Traffic Control Devices (MUTCD) for speeds 10 to 15 MPH below the posted speed limit (35 MPH). See **Table 4** below.

TABLE 4: HORIZONTAL ALIGNMENT SIGN SELECTION (TABLE 2C-5, MUTCD)

Type of Horizontal Alignment Sign	Difference Between Speed Limit and Advisory Speed				
	5 mph	10 mph	15 mph	20 mph	25 mph or more
Turn (W1-1), Curve (W1-2), Reverse Turn (W1-3), Reverse Curve (W1-4), Winding Road (W1-5), and Combination Horizontal Alignment/Intersection (W10-1) (see Section 2C.07 to determine which sign to use)	Recommended	Required	Required	Required	Required
Advisory Speed Plaque (W13-1P)	Recommended	Required	Required	Required	Required
Chevrons (W1-8) and/or One Direction Large Arrow (W1-6)	Optional	Recommended	Required	Required	Required
Exit Speed (W13-2) and Ramp Speed (W13-3) on exit ramp	Optional	Optional	Recommended	Required	Required

3. Install a rectangular rapid flashing beacon (RRFB) at intersections (3) to accommodate pedestrian traffic. FHWA has documented safety motorist yielding rates up to 98%. The RRFB increases the visibility of pedestrians crossing Gordon Hill Street.

BARTON MILL ROAD / KY 2384 (SR44)

The average annual daily traffic (AADT) volumes on Barton Mill Road/ KY 2384 vary by location:

- 2,948 vehicles (2023) north of Cobb Street
- 1,789 vehicles (2022) south of Stamper Street
- 836 vehicles (2021) east of I-75. These numbers may be higher due to the recent park renovation completed in 2023.

The 2-lane roadway does not have sidewalks. The roadway connects residential land uses to Miller Park located at 940 Barton Mill Road. The speed limit on Barton Mill Road changes from 35 MPH (east) to 45 MPH (west) near the Debbie Lane intersection.

A total of 12 crashes occurred over a 5-year period within the study area. The injury rate is 25%. The segment of Barton Mill Road (SR44) comprises the roadway section from Gordon Street to Stamper Street study as shown in **Appendix A**.

The following countermeasures are proposed to improve the safety performance of the corridor:

1. Add sidewalk between the Stamper Street (KY 1259) and Miller Park.
2. Add advance curve warning signs at curves having operating speeds at or below the posted speed of 35 MPH. For example, the curve near Oaklawn Drive has a centerline radius of 500 feet and the curve near Sanderline Drive has a centerline radius of 350 feet. The existing curves with normal crown are adequate for a design speed of 30 MPH. Curve warning signs, advisory speed plaques, and chevrons are recommended in accordance with Table 2C-5 of the Manual of Uniform Traffic Control Devices (MUTCD) for 85th percentile speeds 10 MPH below the posted speed limit (35 MPH). See **Table 4**.
3. Restrict parking within the functional area of intersections. For example, parking perpendicular to the public roadway occurs within 25 feet of the Barton Mill Road / Gordon Hill intersection. Pavement removal from the edge of pavement to right-of-way line is recommended to define the functional area of the intersection (**Figure 9**).

A similar treatment may be considered for other intersections such as Stamper St/ 5th Street Road intersection (NW quadrant) – locations where parking adjacent to or within right-of-way restricts intersection or stopping sight distance.

FIGURE 9: BARTON MILL RD / GORDON ST INTERSECTION

CITY STREET (SC) NETWORK OVERVIEW

A corridor level safety analysis was completed for the top 3 locations on the City Street (CS) focus road list. **Appendix C** contains a more detailed analysis of the following city streets, not having active construction projects:

Appendix C1: Roy Kidd Ave (CS01) from Main Street (US 25W) to Hamlin Street (KY 830)

Appendix C2: Depot St (CS02) from 7th Ave to Ellison St

Appendix C3: Barbourville St (CS03) from Laurel Ave to Wilder Dr

Other locations that would benefit from safety-related countermeasures on the city-maintained road network include Oaklawn Avenue (CS04), 7th Street Road (CS05), N. Commonwealth Avenue (CS10), 20th Street (CS19) and High Street.

OAKLAWN DRIVE (CS04)

Oaklawn Drive is a residential street that is ranked #4 on the city street priority list. The 2-lane roadway has a pavement width of 24 feet. A crest vertical curve exists on the north leg of Oaklawn Circle near the Oaklawn Court intersection. The existing profile of the north side of Oaklawn Circle (**Figure 10)** shows an elevation difference that varies between 20 - 30 feet between the high and low points.

FIGURE 10: OAKLAWN CIRCLE PROFILE (NORTH SIDE)

A total of 5 crashes occurred over a 5-year period within the study area resulting in a combined equivalent Property Damage Only (EPDO) score of 9. The injury rate is 26.2%. **Figure 11** shows the location and severity of crashes on Oaklawn Drive.

FIGURE 11: OAKLAWN DRIVE CRASH MAP

Countermeasures to manage speed are proposed to improve the safety performance of Oaklawn Drive / Oaklawn Circle:

1. NCHRP Report 880 (Exhibit 4-8) recommends lane widths of 10 feet for through lanes to achieve a target speed of 25 MPH. Add an edge line to reduce the travel width of Oaklawn Drive / Oaklawn Circle to a maximum of 20 feet. A shoulder width of 4 feet could also serve as a bike lane. Transverse lines would help designate the shoulder as not being a travel lane. The street is scheduled to be resurfaced in 2025 which would be an opportunity to incorporate the pavement marking countermeasures listed above.
2. The profile of Oaklawn Circle restricts sight distance of vehicles backing from driveways. Several options may be considered to mitigate the sight distance constraints attributed to the existing profile:
    - Restrict on-street parking between 173 and 195 Oaklawn Circle due to the profile obstructing visibility of vehicles backing from driveways.
    - Replace speed limit signs (15 MPH) with warning signs (W7-6-24) having an advisory speed plaque (20 MPH). Stopping sight distance for 20 MPH is equal to 115 feet.

3. Realign the loop intersection as a tee configuration instead of a wye configuration (**Figure 12**).

FIGURE 12: OAKLAWN CIRCLE / OAKLAWN DRIVE REALIGNMENT

7TH STREET ROAD (CS05)

7th Street Road is a residential street that is ranked #5 on the city street priority list. The 2-lane roadway has a pavement width of 24 feet. 7th Street Road near Steele Street has an average annual daily traffic (AADT) volume of 1,665 vehicles (2021). The 2-lane roadway is missing a segment of sidewalk between Steele Street and Sycamore Avenue (500 feet).

A total of 15 crashes occurred over a 5-year period within the study area resulting in a combined equivalent Property Damage Only (EPDO) score of 19. The injury rate is 33%. **Figure 13** shows the location and severity of crashes on Oaklawn Drive.

FIGURE 13: 7TH STREET ROAD CRASH MAP

A creek is separated from the road with a retaining wall (**Photo 1**). A curb exists along the road edge to discourage vehicles from leaving the roadway. A structural assessment of the wall is recommended to determine if guardrail can be attached to the top of the wall to serve as a more effective barrier between the road and stream.

PHOTO 1: 7TH STREET ROAD ROADSIDE CURB

Extend culvert on the north side of the roadway near Steele Street to close gap in the sidewalk.

NORTH COMMONWEALTH AVENUE (CS10)

Assess safety issues (2 injury crashes in 2022 and 2023) that occurred after street improvements were completed in 2021. Consider raised islands (3 - 4 locations) without restricting access to existing driveways. Consider consolidating driveways that are less than 100 ft apart (i.e. the Kroger's and McDonald's entrances where at least one of the crashes occurred).

20TH STREET AT MAIN STREET / KY 26 (CS19)

Main Street between 23rd and 24th Streets has an average annual daily traffic (AADT) volume of 5,278 vehicles (2023). The 2 - lane roadway has sidewalks on both sides of the roadway. Speed zone transition (35 MPH north / 45 MPH south) of the 20th Street intersection. On-street parking is permitted on Main Street as shown in **Photo 2**.

PHOTO 2: MAIN ST (KY 26) LOOKING SOUTH AT 20TH STREET

The 20th Street at Main Street (KY 26) intersection provides access to the Corbin Area Technology Center and the Betty Hamilton Center. 20th Street is also a secondary access to the Corbin High School campus. A total of 6 PDO crashes were documented on 20th Street including four at the subject intersection: 2 angle, 1 rear end, and 1 backing crash.

Stopping sight distance (SSD) of 360 feet is adequate for a 45 MPH speed: SSD of 250 feet for 35 MPH. On-street parking on the SW quadrant of the intersection restricts sight distance when turning from 20th Street.

The primary countermeasure is to install curb extensions to enable the stop line closer to the centerline of Main Street (**Figure 14**). On-street parking is to be restricted on the SW quadrant to mitigate the sight distance constraints at the existing intersection.

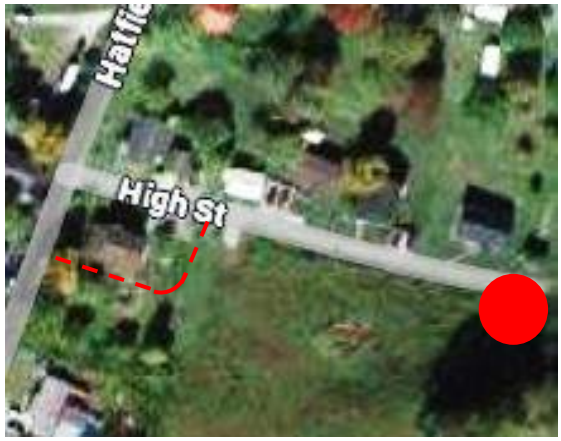
FIGURE 14: MAIN ST / 20TH ST INTERSECTION

HIGH STREET

High Street is a narrow (12 ft), dead-end street having a length of 450 feet without a cul-de-sac to enable vehicles to turn around. One PDO crash occurred near the east end of the street.

Review property deeds is recommended to evaluate options for improvements. Countermeasures may include a cul-de-sac (red circle) or the use of an existing alley (red dash) to provide circulation (**Figure 15**).

FIGURE 15: HIGH ST COUNTERMEASURE



COST ESTIMATES

Conceptual cost estimates were prepared for each major countermeasure project included in the plan. The estimates were developed using available aerial photography, with quantities measured for major construction elements. Each estimate includes a "miscellaneous" line item for more minor project elements, consisting of 30 percent of the major work elements costs.

Unit prices were estimated from recent transportation project bids and recent average unit prices from KYTC and the city of Lexington. The estimates also include design and construction engineering costs, as well as right-of-way acquisition and utility relocation estimates, where applicable. It should be noted that the estimates are in current dollars; the 25-year Action Plan is implemented the costs will need to be adjusted for inflation.

Table 5 summarizes the cost estimates for various improvements outlined in the Site Location section for the report. **Appendix D** contains more detailed information related to the line items used to develop the site-specific cost estimates.

TABLE 5: COST ESTIMATE SUMMARY

State Road (SR) / City Streets (CS) Reference	Site Location	Subtotal Cost
Project CS01	Roy Kidd Avenue Improvements	$ 540,000
Project CS02	Depot Street Improvements	$ 520,000
Project CS03	Barbourville Street - Alternate 1B	$ 410,000
Project CS04	Oaklawn Neighborhood Improvements	$ 260,000
Project CS05	7th Street Safety Improvements	$ 280,000
Project CS19	20th & Main Street Curb Extensions	$ 120,000
Project SR02	Main Street and Kentucky Avenue Improvements	
	Alternate 2 Phase 1 - Target Speed, Traffic Control, and Intersection Improvements	$ 1,170,000
	Alternate 2 Phase 2 - Roundabouts at Each End of the Main - Kentucky Couplet	$ 2,360,000
Project SR07	5th Street Road Safety Improvements	$ 2,700,000
Project SR09	18th Street and Snyder Street Improvements	$ 410,000
Project SR12	Master Street Improvements	$ 1,860,000
Project SR 25 & 28	Gordon Street Sidewalk Extension - Phase 1	$ 950,000
Project SR42	Barton Mill Improvements	$ 1,300,000
	TOTAL	**$ 12,880,000**

BICYCLE AND PEDESTRIAN CONSIDERATIONS

The site location safety analyses include countermeasures where infrastructure may be lacking for bicyclists and pedestrians. Corbin has experienced pedestrian fatalities in recent years, and in several areas of the city there are safety issues due to the absence of dedicated bicycle facilities, a lack of sidewalks, and poor street lighting that create hazardous conditions for these road users.

The Steering Committee and public involvement process produced information and data used to develop bike-ped improvements included in the focus road recommendations in this report. Safe bike-ped facilities are particularly important for the underserved populations of the community, which as summarized below and comprise most of the city limits. The following recommendations are included in the Action Plan either as standalone projects or as parts of roadway improvements.

1. Main/ Kentucky (SR02, SR03, and SR04) implements target speed concepts so operating speeds match posted speeds (25 MPH) which are more favorable to vulnerable road users.
2. Pedestrian crossing enhancements (SR09) at the Snyder Street / 18th Street (US Route 25W) intersection.
3. Revised typical section on Master Street to increase shoulder widths which increase the offset to sidewalks and could better accommodate bicyclists -- NACTO states the desirable ridable surface adjacent to a street edge or longitudinal joint is 4 feet. Other countermeasures include the extension of sidewalk from a residential area to a commercial district and proposed street lighting to increase visibility.
4. Roy Kidd Avenue and Depot Street – raised crosswalks to manage speeds and conversion of traffic signals to 4-way stop controlled intersections (2).
5. Convert existing bridge to a ped/bicycle structure that connects the Senior Citizen Center, Campbell Field / Denes Stadium and city pool to the Rotary skate park.
6. Gordon Street / Gordon Hill / KY 312 sidewalk extension and RRFB crossings (3).
7. Barton Mill Road sidewalk extension to the renovated Miller Park.

PLANNING STRUCTURE

To guide the development of the Safety Action Plan, an 18-member Steering Committee was formed that consisted of representatives from the following entities:

1. City Administration – Mayor, City Manager, City Clerk, Council representative
2. Public Works Department
3. Police Department
4. Fire Department
5. Parks & Recreation Department
6. KYTC District 11
7. Whitley County Health Department
8. Corbin Independent Schools
9. The Consultant Team – Banks Engineering and Crawford, Murphy & Tilly

Seven monthly Steering Committee meetings were held from February to November 2024 (excluding April, September, and October). The initial meetings focused on information gathering and discussions of known or perceived safety issues, and the later meetings focused on the development of recommendations for potential improvements. The KYTC District 11 representatives provided information on current and planned KYTC construction projects.

Consensus was attained in the August meeting for the proposed recommendations of this Action Plan, as described herein. Meeting minutes are included in **Appendix E**.

LEADERSHIP AND GOAL SETTING

In applying for the SS4A Action Plan grant, the City committed to developing and implementing community-wide safety improvements for all users of their transportation network, with a goal of reducing fatalities and serious injuries to the extent practicable. On October 21, 2024 the City Council passed the resolution shown below to confirm their commitment to the Vision Zero initiatives.

FIGURE16: CITY RESOLUTION

RESOLUTION NO. 2024-6

WHEREAS, the City of Corbin, Kentucky, (hereinafter "City") has experienced nine traffic fatalities from 2019 through 2023, as well as 976 injured persons in traffic accidents; and

WHEREAS, the City aspires to reduce and eventually eliminate traffic-related fatalities and serious injuries; and

WHEREAS, the City was awarded a planning grant through the Federal Highway Administration's Safe Streets for All (SS4A) Program to develop a safety action plan for the City, to evaluate existing safety issues and identify projects and strategies to address identified problems; and

WHEREAS, a safety action plan is an eligibility requirement for implementation grants through the SS4A Program; and

WHEREAS, an official public commitment by the City's governing body to pursue the goal of zero roadway fatalities and serious injuries is a required component of a safety action plan to receive consideration for an implementation grant.

NOW, THEREFORE, be it RESOLVED by the City ~~Council~~ Commission that the City hereby establishes a goal of working towards zero traffic fatalities and serious injuries by the year 2050 through the implementation of the safety action plan.

This the 21st day of October, 2024.

Hon. Suzie Razmus, Mayor
City of Corbin, Kentucky

ATTESTED BY:

Tori Brock

Tori Brock, City Clerk
City of Corbin, Kentucky

ENGAGEMENT AND COLLABORATION

In addition to the participation of the Steering Committee described above, two public meetings were conducted to obtain information from, and share recommendations with the public. On June 3, 2024 a public meeting was held at Corbin City Hall to describe the goals and objectives of the Action Plan development, and to solicit input from the community related to safety issues. In addition to the comments received at this meeting, the City solicited information on social media. Numerous comments were received on both avenues.

The Steering Committee and consultant team evaluated the public input; numerous comments validated safety issues previously discussed by the Steering Committee, and many others led to recommendations included in this report.

A second public meeting was held at City Hall on November 18, 2024 to outline the Action Plan recommendations to achieve community consensus.

Documentation of the comments received during the public meetings are included in **Appendix F** herein.

EQUITY CONSIDERATIONS

Based on the Justice 40 analysis, a majority of the city limits, including the downtown area where the majority of focus roadways are located lie within a USDOT designated disadvantaged census tract. **Figure 17** shows the disadvantaged census tracts in red and the study boundaries. As the majority of the city, and identified projects fall within these underserved areas, no additional considerations for equity were undertaken other than to meet the overall needs of the city.

POLICY AND PROCESS CHANGES

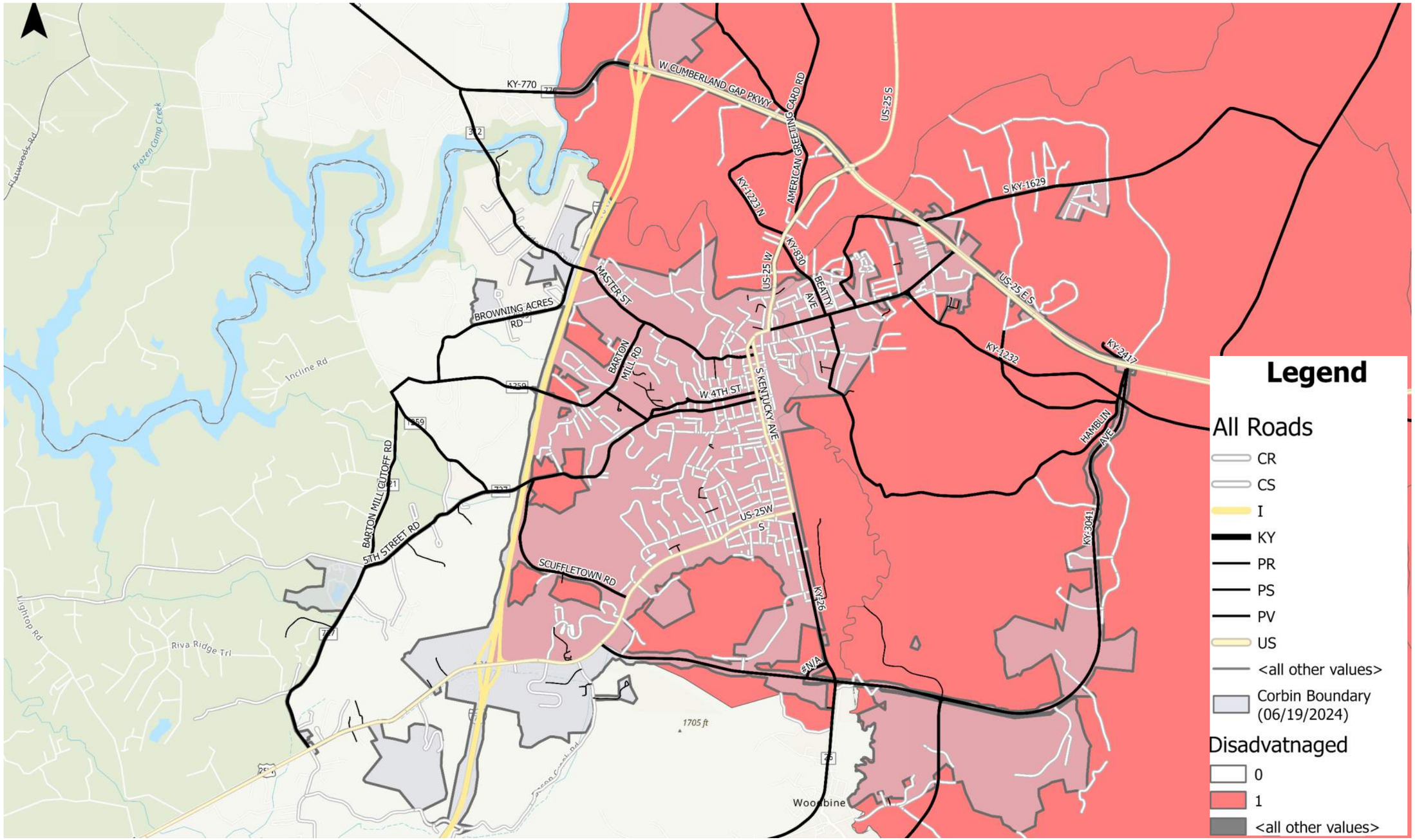
During the development of the Safety Action Plan, existing City policies, procedures, and development standards were reviewed to identify potential modifications that will facilitate safer transportation improvements in new developments and redevelopments. The following documents were reviewed:

- 2015 Comprehensive Plan
- Requirements for streets and sidewalks included in Chapter 98 of the Code of Ordinances
- 2015 Development Ordinance
- Previous bicycle and pedestrian master plans – 2013, 2020, and a 2021 feasibility study

Based on this review, the following general recommendations for modifications to the current City policies and design standards are proposed:

1. Update Section 504.6 of the Development Ordinance to adopt the provisions of the KYTC Complete Streets Manual, to the extent that they apply to local city streets and in particular elements that pertain to providing safe vehicular, bicycle, and pedestrian traffic movements.
2. Consolidate and update the previous bicycle and pedestrian master plans to incorporate the recommendations in the Action Plan and promote the inclusion of appropriate bicycle and pedestrian facilities in new development and redevelopment.

FIGURE 17: DISADVANTAGED CENSUS TRACTS



SAFETY PERFORMANCE UPDATES

Specific progress reporting may include the following elements:

1. **Data-driven analysis is to be completed on a 5-year basis:**
    - Number of crashes, fatalities, and serious injuries on high-injury network segments before and after implementing safety improvements.
    - Trends in crash types (pedestrian, bicycle, etc.) on targeted corridors.
2. **Safety based countermeasures.** A report is to be prepared that summarized improvements that have occurred at the priority locations listed in Tables 2 and 3 or systemic improvements that have been incorporated by the city at various locations to achieve the safety performance goals of the Action Plan. The improvements may include the following:
    - Number of intersections with new pedestrian crossing signals installed.
    - Length of roadway segments with improved lighting.
    - Number of new or upgraded sidewalks constructed.
    - Specific design elements implemented on priority corridors (e.g., median refuge islands, raised crosswalks).
3. **Community engagement.** Updates to the community that achieve the safety goals of the Action Plan are to provided in a public forum annually.