CITY OF
WINFIELD
KANSAS

ACTION PLAN

SAFE STREETS AND ROADS FOR ALL

APRIL 2025

KM #2401830

TABLE OF CONTENTS

1. INTRODUCTION **5**
- 1.1. Safe System Approach 5
- 1.2. Vision 6
- 1.3. Planning Structure 7

2. ENGAGEMENT AND COLLABORATION **7**
- 2.1. Public Involvement Plan 7
- 2.2. Safety Task Force Meetings 8
- 2.3. Public Survey 11
- 2.4. Public Meeting 13
- 2.5. Collaboration with Other Plans 13

3. EXISTING CONDITIONS ANALYSIS **15**
- 3.1. Background 15
- 3.2. Crash Trend Analysis 15
- 3.3. Identification of High-Risk Locations 20

4. EQUITY ANALYSIS **21**

5. EMPHASIS AREAS **22**
- 5.1. Background 22
- 5.2. Top Crash Emphasis Areas 23
- 5.3. Intersections 26
- 5.4. Roadway Departure 28
- 5.5. Distracted Driving 29
- 5.6. Vulnerable Roadway Users 30

6. SAFETY STRATEGIES **31**

7. IMPLEMENTATION PLAN **34**
- 7.1. Planned and Current Projects 34
- 7.2. Safety Projects 36
- 7.3. Programs and Plans 38
- 7.4. Funding Sources 40
- 7.5. Process and Policy Changes 40
- 7.6. Next Steps: Progress and Transparency 41

APPENDIX

Appendix A: Public Survey Results Summary
Appendix B: Project Sheets
Appendix C: Equity Analysis
Appendix D: Vision Zero Proclamation

LIST OF FIGURES

Figure 1: Safe System Approach 5
Figure 2: Survey Response Areas of Concern 12
Figure 3: Public Meeting Interaction 13
Figure 4: Crash Totals (Fatal Crashes Only) [2014-2023] 15
Figure 5: Crash Totals (Serious Injury Only) [2014-2023] 16
Figure 6: Crash Totals (Injury Only) [2014-2023] 16
Figure 7: Crash Totals (Property Damage Only) [2014-2023] 16
Figure 8: Heat Map for All Crashes [2014-2023] 20
Figure 9: Heat Map for Fatal and Serious Crashes [2014-2023] 21
Figure 10: Emphasis Areas – All Crashes 24
Figure 11: Emphasis Areas – Fatal and Serious Injury Crashes 24
Figure 12: EPDO Emphasis Areas 25
Figure 13: Emphasis Areas Overlap 26
Figure 14: Roadway Departure Fatal and Injury Crashes with Cluster Locations 29
Figure 15: Driver Contributing Circumstances for Fatal and Serious Injury Crashes 30
Figure 16: Vulnerable Roadway User Crash Cluster Locations 30

LIST OF TABLES

Table 1: Related Plans 13
Table 2: Intersection Crash Type Breakdown (Charts A-C) 17
Table 3: Non-Intersection Crash Type Breakdown (Charts D-F) 18
Table 4: Crash Severity by Maintaining Authority 18
Table 5: Crash Type and Fatal/Sever Injury % 19
Table 6: Crash Types Breakdown – Collision with Other Motor Vehicle 20
Table 7: Signalized Intersection Rankings 27
Table 8: Unsignalized Intersection Rankings 28
Table 9: Selected Safety Countermeasures 33
Table 10: Current Transportation Projects 35
Table 11: Recommended Signalized Intersection Safety Projects 36
Table 12: Recommended Unsignalized Intersection Safety Projects 37
Table 13: Recommended Pedestrian Safety Projects 38
Table 14: Recommended Safety Programs 39
Table 15: Recommended Plans Supporting Safety 39

EXECUTIVE SUMMARY

Introduction

The County of Cowley, Kansas was selected for the fiscal year 2022 (FY22) Safe Streets and roads for All (SS4A) Planning grant. Through the grant, this Cowley County Comprehensive Safety Action Plan (CSAP) was prepared. The purpose of a CSAP is to develop comprehensive strategies to eliminate fatalities and serious injuries from vehicular crashes for all road users in the community. The SS4A program supports the U.S. Department of Transportation's National Roadway Safety Strategy and Cowley County's goal of zero roadway deaths using a Safe System Approach.

Vision

Cowley County envisions the development of a comprehensive transportation infrastructure that meets the needs of all residents through transportation improvements, education, and community collaboration, with a goal of zero traffic deaths and serious injuries. Cowley County is committed to reducing the risk of a fatal or serious injury to all road users, with an emphasis on intersections, distracted drivers, and speeding vehicles. This CSAP outlines countermeasures to reduce conflicts at intersections, reduce vehicle speeds, and address driver inattention through education and other means.

Safety Task Force

The Cowley County Safety Task Force (STF) was comprised of representatives from county departments, Cowley Council of Aging, Unified School District 465, Unified School District 470, the City of Winfield, and Cowley County Sheriff. Over the course of three meetings, participants were provided with context and resources for the planning process plus relevant data and informational materials to identify the safety challenges and needs in Cowley County.

Public Meetings

Public meetings and other outreach events provided opportunities for the public to identify transportation safety issues and provide input on proposed solutions. Public outreach included contacts with 11 visitors at a Public Meeting held on November 13, 2024.

Public Survey

An online public survey was conducted between September 20, 2024, and November 22, 2024, to understand current safety attitudes and concerns. Questions were asked about the behaviors of different road users, vulnerable road user protection, enforcement, equity, and top investment priorities. The survey was conducted before the public meeting (September

20 – November 15) and after the public meeting (November 15 – November 22). The survey was shared through the Cowley County webpage, social media, and community-based organizations. The survey included 348 responses (190 responses pre-public meeting and 158 responses post-public meeting). The survey results are included in Appendix A.

Crash Trends

Ten years of crash data (2014-2023) was reviewed for the Cowley County limits. The data provided a large sample size to identify crash trends.

- During this period, there were 47 fatal crashes, 1,666 injury crashes, and 6,612 property damage only (PDO) crashes.
- Most crashes were with other motor vehicles (34%) or an animal (31%).
- There were 114 crashes with either a pedestrian or bicycle, of which 15% of these crashes were fatal or serious injury crashes.
- For crashes with other vehicles, 54% were angle-side impact crashes and 28% were rear-end crashes.

High Crash Locations

High crash locations were identified for concentrations of fatal or injury crashes at signalized intersections, unsignalized intersections, and locations where fatal or injury pedestrian or bicycle crashes occurred. These locations are shown in Figures ES-1 and ES-2.

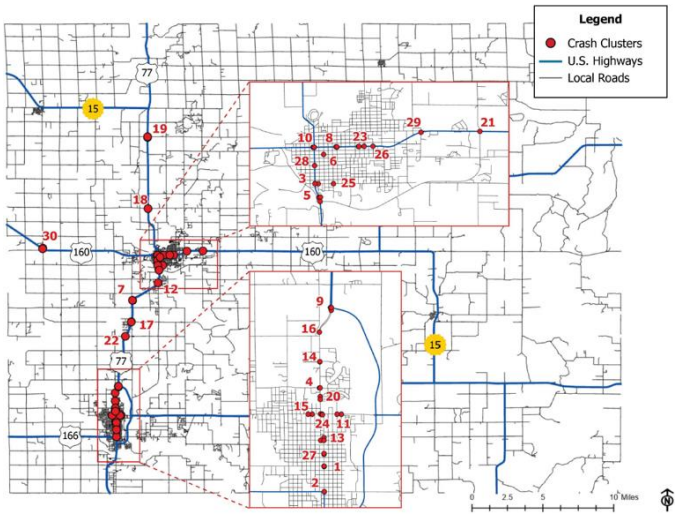


Figure ES-1: Fatal and Injury Intersections Crashes

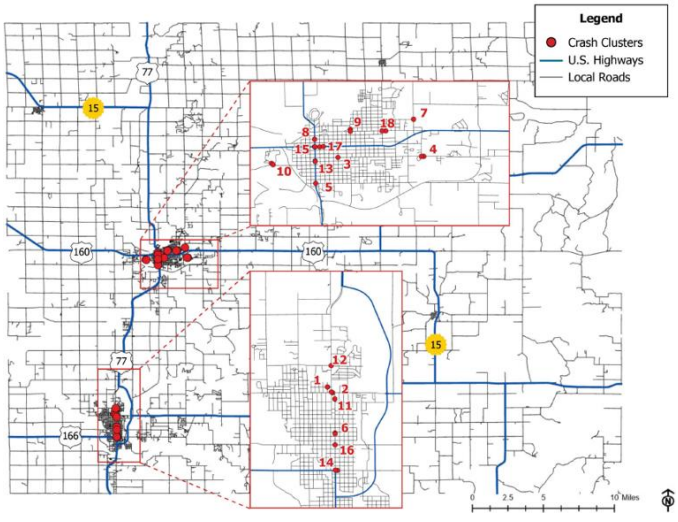


Figure ES-2: Bike and Pedestrian Fatal and Injury Crashes

Equity Analysis

The goal of equity analysis is to distinguish populations that are underserved and under-resourced and assess how they are impacted by outcomes of the transportation system (like

safety risk). This plan uses criteria for areas of persistent poverty, historically disadvantaged communities as identified by the USDOT, and the Social Vulnerability Index as defined by the Centers for Disease Control and Prevention (CDC). The review of equity information shows a large portion of Cowley County can be defined as disadvantaged based on one or more of the sources used.

Safety Strategies

The Cowley County STF evaluated the results of the data analysis, the safety concerns, and public priorities. Each Safe System element (Safe Roads, Safe Speeds, Safe Road Users, Safe Vehicles, and Post-crash Care) was considered. Prioritized safety emphasis areas were identified based on crash data, public input, and overlaps between different emphasis areas. Countermeasures were developed to specifically address the following prioritized safety emphasis areas:

- Signalized intersections
- Unsignalized and midblock intersections
- Roadway departures
- Distracted driving
- Vulnerable Road Users (VRUs) – pedestrians and bicyclists

Below are major projects identified in this CSAP:

Signalized Intersections

- Update and coordinate signal timing along highway US-77 in Winfield and add pedestrian improvements along the corridor.
- Update and coordinate signal timing along highway US-160 in Winfield and add pedestrian improvements along the corridor.

Unsignalized Intersections

- Improve safety of intersections along curves by adding pavement markings, signage, and other safety features, including the intersections of US-77 & 71st Road and N Jct. K-15 & 11th Road.
- Reconfigure intersections and add other safety features on county intersections, including 232nd Road & 151st Road and 232nd Road & 141st Road.
- Perform a safety study at S US-77 from K-360 to city limits to determine course of action.

Roadway Departure

- Add pavement markings and add/improve clear zone at several locations, including 162nd Road between K-15 and 251st Road, 292nd Road between 79th Road and 101st Road, and 101st Road between 292nd Road and 141st Road.
- Install rumble strips, update guardrail and install curve signage and several locations, including 41st Road between US-166 and US-77, 141st Road between US-166 and 296th Road, and 146th Road between 132nd Road and Viking Boulevard.

Vulnerable Road Users

- Coordinate with Winfield School District and KDOT to develop a bike/pedestrian plan or a Safe Routes to School (SRTS) plan.
- Add pedestrian improvements on College Street in Winfield to improve connectivity to the north edge of the city.
- Add pedestrian improvements including missing segments and upgrade pedestrian crosswalks on 5th /Simpson Ave. and 12th Ave. in Winfield.
- Add pedestrian improvements including missing segments and upgrade pedestrian crosswalks where warranted on E. 19th Ave. from Broadway to Wheat Rd. to improve connectivity to the east edge of the city.

Distracted Driving

Implementing a variety of policies and programs to provide education and enforcement to address distracted driving. The Kansas Department of Transportation (KDOT) offers safety programs and resources that could be used to reduce these activities. Examples include Special Traffic Enforcement Program (STEP), Drive Better Kansas presentation materials, Risk of Intoxication and Distractions Everywhere (RIDE), and Safety Break! Educational curriculum.

Plans Supporting Safety

Cowley County could consider completing plans to address additional pedestrian and bicycle safety near schools and to major employment centers. Examples include residential speed limits and sidewalk policies.

Progress and Transparency

The CSAP assesses current policies, plans, guidelines, and/or standards to identify opportunities to improve how processes prioritize transportation safety. This has included adopting a Vision Zero Initiative and measuring progress toward achieving safety improvements over time. The CSAP will be posted publicly online.

1. INTRODUCTION

Cowley County, Kansas was selected for the fiscal year 2022 (FY22) Safe Streets for All (SS4A) Planning grant. Through the grant, this Cowley County Comprehensive Safety Action Plan (CSAP) was prepared. The purpose of a CSAP is to develop comprehensive strategies to eliminate fatalities and serious injuries from vehicular crashes for all road users in the community. Cowley County recognizes that one life lost is one too many and aims to develop a set of programs and projects to save lives and reduce transportation safety risks. Cowley County has experienced 8,325 crashes in the previous 10 years. There were 47 fatalities, 1,666 injury crashes and 6,612 property damage only crashes. The growing community strives to eliminate all roadway fatalities and serious injury crashes and improve safety for all transportation users. The CSAP outlines strategies and actions to be taken over the next 10 years that will make progress toward that goal.

1.1. SAFE SYSTEM APPROACH

The SS4A program supports the U.S. Department of Transportation's (USDOT) National Roadway Safety Strategy and Cowley County's goal of zero roadway deaths using a Safe System Approach. The SS4A program provides funding for the development of a comprehensive safety action plan that identifies the most significant roadway safety concerns in a community and the implementation of projects and strategies to address roadway safety issues.

The USDOT Safe System Approach is a comprehensive and proactive framework to reduce the number of fatalities and serious injuries on roadways. The Safe System Approach is based on the fundamental concept that death and serious injuries are unacceptable, and humans are vulnerable and make mistakes. This approach recognizes a shared responsibility for road safety.

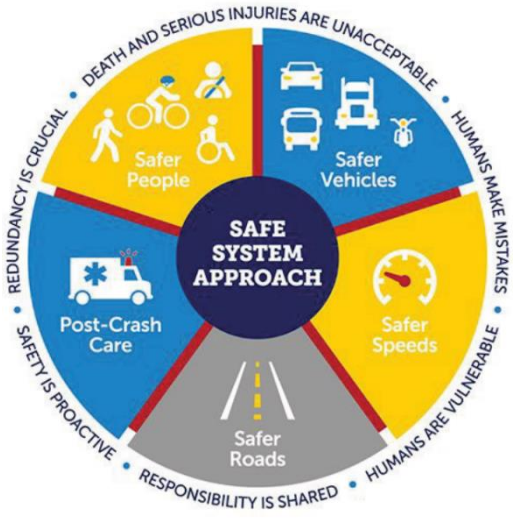


Figure 1: Safe System Approach

The Safe System Approach has five key elements as shown in Figure 1. Layering these together creates redundancy so that if one component fails, the others are still in place to prevent severe outcomes. This plan focuses on Safe System Approaches:

- **Safer Roads:** The design and maintenance of roads play a crucial role in road safety. This CSAP includes proven safety countermeasures that reduce the risk of a fatal or serious injury crash for prioritized locations.

- **Safer Speeds:** Speed plays a significant role in the severity of crashes. Stakeholders and the public selected this as a plan emphasis area. This plan includes countermeasures that encourage appropriate speeds to improve proper driver behavior.
- **Safer People:** Education, awareness campaigns, and training promote a safety awareness culture among road users, reducing the likelihood of crashes caused by risky behaviors. This plan identifies specific countermeasures to reduce distracted driving and reduce risk for vulnerable roadway users.
- **Post Crash Care:** The Safety Task Force discussed enhancing the survivability of crashes through expedient access to emergency medical care, creating a safe working environment for first responders, and preventing secondary crashes through proper traffic incident management practices.
- **Safer Vehicles:** Vehicle systems and features that enhance occupant safety are increasing on newer models but other safety actions, such as seat belt use, proper child seats, and proper vehicle maintenance can be encouraged.

1.2. VISION, GOALS AND TARGETS

Because Cowley County's Vision and Goals are rooted in Vision Zero elements and the Safe System Approach, the resulting plan is not only comprehensive but also firmly centered on enhancing safety outcomes, with the eventual goal of zero deaths on Cowley County roadways.

Vision

As a vibrant, growing community, Cowley County envisions the development of a comprehensive transportation infrastructure that meets the needs of all residents through transportation improvements, education, and community collaboration, with a goal of zero traffic deaths and serious injuries.

Goals

Cowley County is committed to reducing the risk of a serious or fatal injury to all road users, with an emphasis on intersections, distracted drivers, and speeding vehicles. This CSAP outlines countermeasures to reduce conflicts at intersections, reduce vehicle speeds, and address driver inattention through education and other means.

Targets

The loss of human lives and serious injuries on the transportation system is unacceptable. The eventual target of this plan is to eliminate fatalities and serious injuries. This will be achieved through the gradual reduction of targets that will be adjusted each year, or as needed.

1.3. PLANNING STRUCTURE

The County of Cowley, Kansas was awarded $160,000 from the U.S. Department of Transportation through the Federal Highway Administration (FHWA) to develop a Comprehensive Safety Action Plan (CSAP) for the SS4A Program. The project was directed by Cowley County and completed by Kirkham Michael with partnership of TranSystems Corporation.

The Cowley County CSAP goals, visions, and recommendations were identified and approved through coordination with the Cowley County Safety Task Force (STF). The STF was charged with oversight of the CSAP development, implementation, and monitoring. The STF for this plan consisted of county and city staff, law enforcement, school district representatives, and emergency services personnel.

2. ENGAGEMENT AND COLLABORATION

The development of the CSAP included a robust engagement plan with the public and stakeholders that allowed for community representation and feedback. The CSAP incorporates information received from the engagement process. The CSAP also coordinates with other plans and processes.

2.1. PUBLIC INVOLVEMENT PLAN

A Public Involvement Plan (PIP) was prepared as a guide to obtain meaningful public involvement from study partners, citizens, and communities impacted by the current limitations of the project area. Communication with interested parties was on-going throughout the study period.

Three primary opportunities to obtain project public input were provided:

- **Information and communications:** Distributed information regarding study background, procedures, methods, schedule, key messages, and activity updates.
- **Stakeholder input:** Briefed and consulted with community leaders, elected and appointed officials, government staff members and other stakeholder groups to help decision-making in the planning process.
- **Community outreach:** Educated, informed, engaged, and received input from community members with the intent of precipitating an interactive dialogue for consideration as the project evolved.

Key Audiences

The following audiences were identified as important stakeholders and provided input for the CSAP:

- Safety Task Force (STF)
- Cowley County residences
- Cowley County businesses
- Cowley County civic organizations
- Governmental units including Cowley County and the City of Winfield
- Unified School District 465 and 470
- Area first responders including law enforcement, fire departments, emergency medical services, emergency management and others.

Public Involvement Methods

- Three STF meetings were convened.
- A public open house was held to share the proposed plan.
- A public survey (in English and Spanish) was used to help select areas of concern and gather comments on safety opportunities.
- Presentations outlining the goals and progress of the study were prepared and presented to governing bodies.
- Public comments were compiled from meetings, online surveys, phone, and face-to-face conversations plus written comments received during the study period.
- Updates and announcements were made available for news media, city websites and social media outlets for distribution and outreach to the public.
- Project documents were provided in English and Spanish. A wide range of tools were used to provide communication and opportunities for participation in public activities to people with disabilities and diverse needs and experiences.

2.2. SAFETY TASK FORCE (STF) MEETINGS

The STF was comprised of representatives of Cowley County Public Works, Cowley Council of Aging, Unified School District 465, Unified School District 470, the City of Winfield, and the Cowley County Sheriff's Office. Over the course of three meetings, the project team made presentations to provide context and resources for the planning process, and relevant data and information materials were distributed to identify the safety challenges and needs within the area. Task force members played an integral role in verifying safety opportunities, challenges, and problems which directly lead to plan focus and formation.

Meetings included creating strategies and implementation efforts that aligned with the vision and goals of the region.

STF Meeting #1 – August 23, 2024

The purpose of STF Meeting #1 was to introduce the Comprehensive Safety Action Plan concept, highlight transportation safety successes in the region to build on, and identify challenges to overcome. Meeting participants discussed safety issues and concerns. This meeting also introduced the Safe System Approach and Vision Zero concepts.

An interactive survey through Mentimeter (an online app that creates real-time feedback) was used during the meeting to better understand community needs. Stakeholders indicated a strong desire to improve transportation safety for their families, community members, and the traveling public. After data trends were presented, stakeholders had an opportunity to select their top three areas of focus for generating safety solutions. The selected emphasis areas are intersections, roadway departure, and distracted driving. These stakeholder-selected areas became the focus of countermeasure and location selection.

Stakeholders noted the following safety concerns:

- Roadway pavement conditions are poor in some locations, and maintenance activities can cause lengthy delays.
- There is poor driving behavior, including speeding, texting while driving, and other types of distracted driving.
- Concerns at intersections included lack of appropriate signage, dedicated turn lanes, and traffic signals.
- Roadway departure crashes are a leading cause for traffic fatalities on county roads.

The following areas were noted as potential solutions for improving roadway safety:

- At intersections, upgrade signs and pavement markings.
- Install edge line treatments and curve signage to prevent roadway departure.
- There was interest in enforcement communications and outreach to address distracted driving.
- Stakeholders would like to increase high visibility crosswalks within Winfield.

This meeting also included a discussion on communication outreach efforts, benchmarking priority actions, an initial discussion of emphasis areas, a data review, and a discussion of problem locations and crash types.

Stakeholders identified the following locations for additional review:

- Safety concerns along US-77:
    - Signal timing in Winfield
    - The south entrance to Winfield
- Pedestrian mobility in Winfield limits

STF Meeting #2 – November 6, 2024

STF Meeting #2 included reviewing the selected emphasis areas from the stakeholders and initial public survey feedback. The meeting included a review of crash data related to three emphasis areas (intersections, roadway departure, and distracted driving). The project team presented crash data related to unrestrained occupants and vulnerable roadway users. Potential countermeasures were reviewed during the second half of the meeting.

Stakeholders reviewed the information presented and then identified or emphasized the following countermeasures:

- Installing signal backplates with retroreflective borders and providing protected left turns and flashing yellow arrows.
- Improving signal phasing and timing plans and using consistent yellow and all-red timing.
- Install flashing beacons or retroreflective strips on warning signs.
- Install traffic signals or provide left turn lanes at intersections if warrants are met.
- Edge line and centerline treatments.
- Enforcement and public service announcements (PSAs) were mentioned as ways of addressing distracted driving. The County Sheriff noted that it is a difficult thing to enforce.
- Crosswalks, shared lane, and bicycle lane markings

STF Meeting #3 – January 22, 2025

At STF Meeting #3 public survey results, stakeholder feedback, and draft project recommendations were presented for review and comment. Safety projects at specific locations were shown for road segments, curves, signalized intersections, unsignalized intersections, and locations impacting pedestrians. Programs, policies, and actions were also described to address education related to speeding, pedestrian and bicycle travel, and distracted driving. Steps to implement Vision Zero were discussed. Input was received as each project and policy was presented. The recommendations included in this CSAP reflect this input. See Appendix B for specific project sheets.

2.3. PUBLIC SURVEY

An online public survey was conducted to understand current safety attitudes and concerns. Questions were asked about the behaviors of different road users, vulnerable road user protection, enforcement, equity, and top investment priorities. The survey was shared through the Cowley County webpage, social media, and community-based organizations. Between September 20, 2024, and November 15, 2024, 190 responses were collected. After the public meeting on November 15, 2024, 158 responses were collected between November 15 and November 22, 2024. The pinned locations in the survey are shown in Figure 2. Survey results are in Appendix A.

General comments from the survey include:

- Before the public meeting, speeding vehicles were the highest street safety area that wanted to be addressed, followed by intersections and distracted driving.
- Before the public meeting, nearly half of respondents considered infrastructure maintenance in the three most important safety improvements that tax dollars help.
- After the public meeting, bicyclists and pedestrians were considered the most important areas to address street safety by an overwhelming margin.
- After the public meeting, nearly 70% of respondents considered bicycle infrastructure in the three most important safety improvements that tax dollars help. One-third of respondents had considered infrastructure maintenance in the three most important safety improvements.

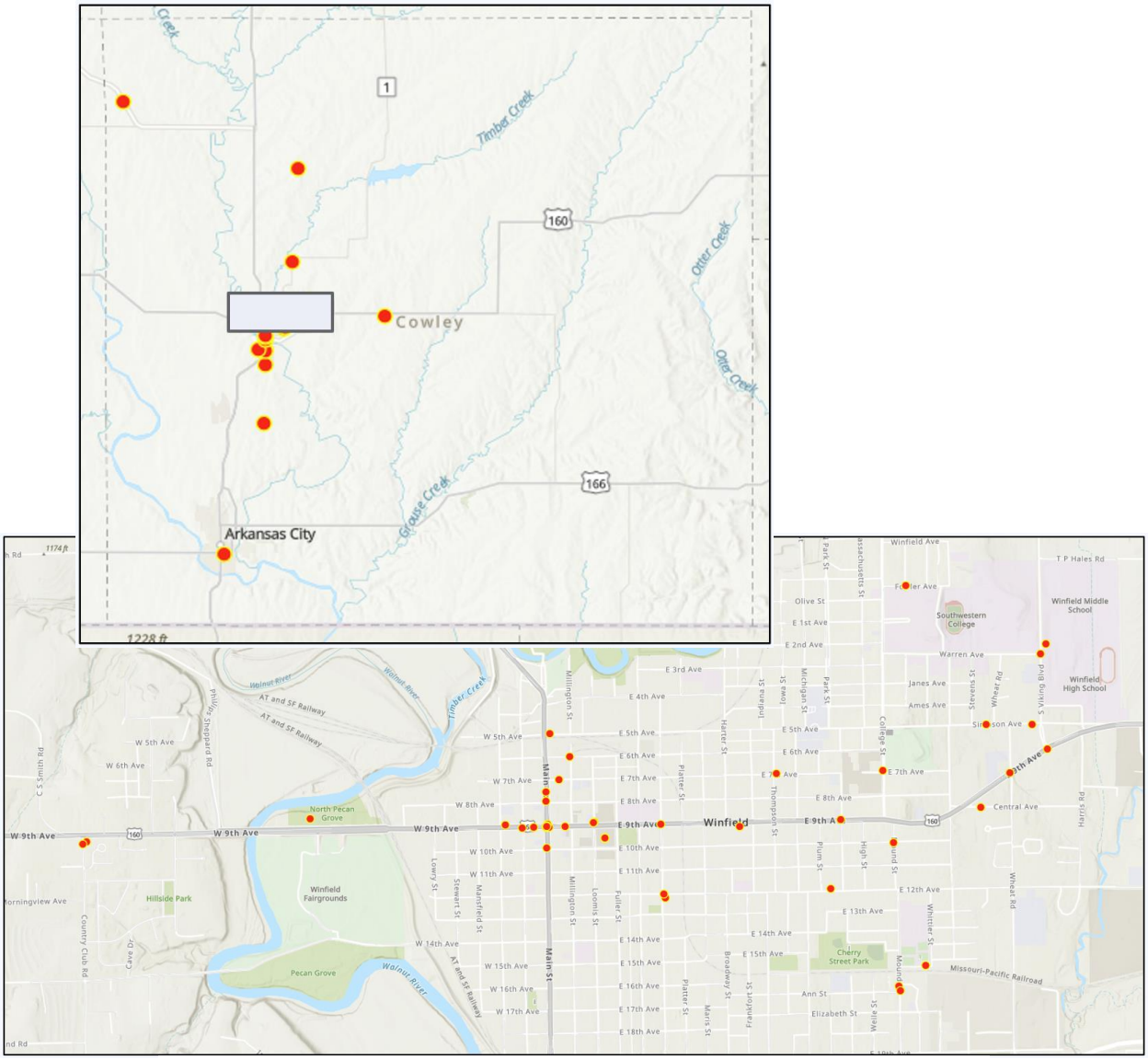


Figure 2: Survey Response Areas of Concern

2.4. PUBLIC MEETING

Figure 3: Public Meeting Interaction

Cowley County hosted an open house to explain the Safe Streets 4 All process, answer questions, and receive feedback from members of the community who attended. Eleven citizens signed the attendance sheet, and several task force members were present. The project team engaged the visitors in conversation, explained the display boards, and noted their safety concerns and suggestions. Spanish-speaking staff members were available to assist visitors. Participants reviewed and expressed support for the countermeasures being considered but also emphasized the need to address bicycle and pedestrian safety in the Winfield downtown business district.

2.5. COLLABORATION WITH OTHER PLANS

This CSAP is coordinated and aligned with other governmental plans, planning processes, and previously completed or ongoing studies and projects. These are listed in Table 1.

Table 1: Related Plans

Title	Year	Goals	Strategies	Application
Kansas Dept. of Transportation (KDOT) Long Range Transportation Plan	2021	Safety and Security, plus Transportation System Management	• Use education, enforcement, and engineering to reduce the severity of crashes and reduce the number of travel-related deaths towards zero. • Adopt a systemic approach to safety	Provides information about KDOT's Strategic Safety Initiative and an overview of KDOT's priorities and processes related to safety
Kansas Strategic Highway Safety Plan (SHSP)	2020	Achieve a fatal and injury crash rate of less than 35 crashes per 100-million vehicle miles travel by 2024	Address: • Roadway Departure • Impaired Driving • Older Drivers • Intersections • Local Roads • Teen Drivers • Pedestrians & Cyclists • Data Support	Provides statewide safety framework to apply to local plans

City of Arkansas City Comprehensive Plan	2022	Develop the best, most cost-effective methods of addressing the current shortcomings in the aging street and utility network	• Maintain and improve the city's streets and sidewalks. • Improve storm water management, wastewater system, and water treatment and distribution infrastructure	Describes the transportation system, identifies future roadway and water projects
City of Winfield Comprehensive Development Plan	2020	Utilize the public right of way to support safe and comfortable travel by all users, of all ages and abilities	• Implement complete streets principles to make Winfield more walkable. • Revise subdivision regulations to include pedestrian networks. • Implement a demonstration project of on-street back-in angle parking • Replace all sign posts with breakaway	Describes the transportation system, identifies future roadway projects
City of Winfield Master Parks and Trails Plan	2020		• Incorporate complete streets principles in certain areas of rights-of-way. • Repair existing and install added pedestrian-activated crossing signals on US 77 US160 • Implement a demonstration project of on-street back-in angle parking • Develop network of paths from neighborhoods to community destinations	Describes multimodal travel with goals and best practices to improve pedestrian sidewalk/pathway network. Informed by 2010 MKEC Transportation Study
Cowley County Local Road Safety Plan (LRSP)	2019	Reduce fatalities and serious injuries with Kansas	• Analyze existing crash data and roadway data to identify systemic risk factors. • Risk factor determination. • Develop potential safety countermeasures. • Engage county stakeholders and father feedback. • Determine prioritized safety projects for county's routes	Identifies High Crash Risk Locations and recommends potential safety improvements on Cowley County roads.

3. EXISTING CONDITIONS ANALYSIS

3.1. BACKGROUND

The previous ten years of crash data (2014-2023) were reviewed for the Cowley County area. The data provided a large sample size to identify crash trends. At the time of data collection, 2023 data was generally updated in the KDOT system. However, the 2023 data may be missing a few data points. The data reflects one change in the definition of crash severity. In 2019, FHWA required KDOT to change its serious injury definition, which resulted in more crashes being classified as serious injury crashes. The data also reflects changes in travel patterns during COVID-19 in 2020-2022. A total of 8,325 crashes were left for analysis after incomplete or erroneous data. There were 47 fatal crashes, 1,666 serious injury crashes, and 6,612 property damage only (PDO) crashes.

3.2. CRASH TRENDS ANALYSIS

The number of total crashes per year has been steady, with a slight increase in post-COVID crashes. A basic breakdown of crashes/year for the study area by crash severity is shown in figures 4 through 7 below. The results show a slight decrease in the number of PDO crashes, a slight decrease in injury crashes, an increase in serious injury crashes, and a steady number of fatal crashes.

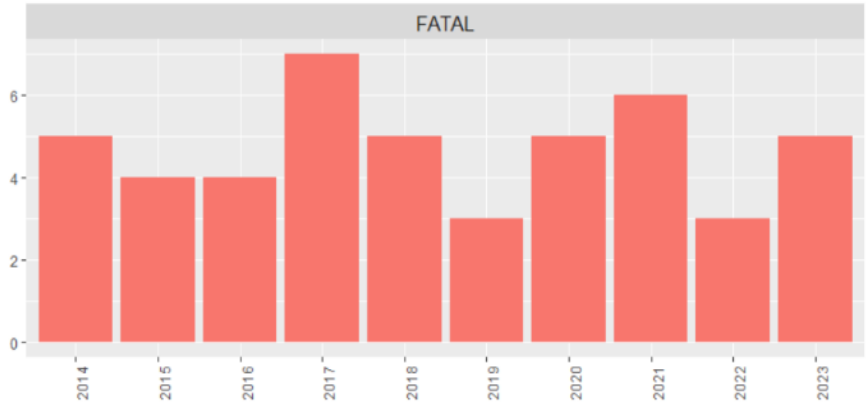


Figure 4: Crash Totals (Fatal Crashes Only) [2014-2023]

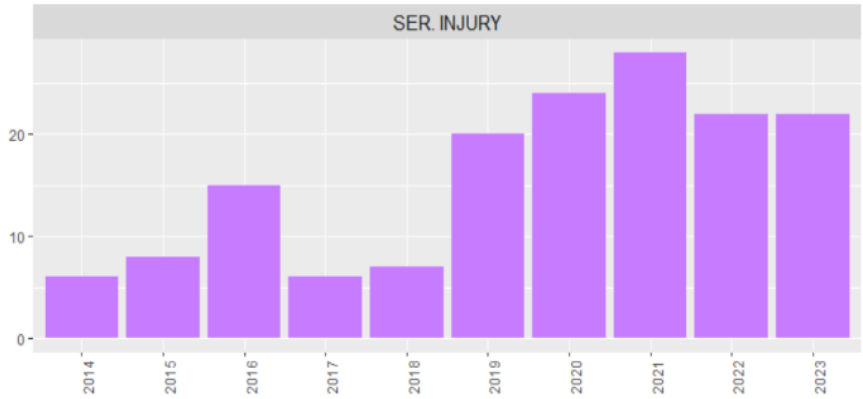


Figure 5: Crash Totals (Serious Injury Only) [2014-2023]

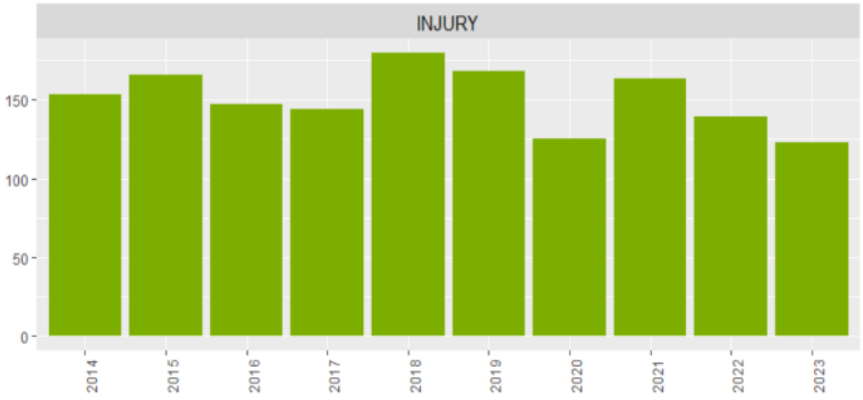


Figure 6: Crash Totals (Injury Only) [2014-2023]

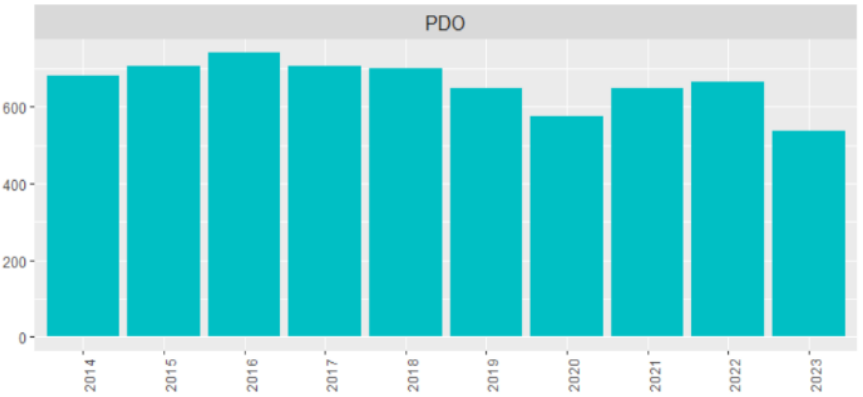


Figure 7: Crash Totals (Property Damage Only) [2014-2023]

A. CRASH LOCATION [INTERSECTION VERSUS NON-INTERSECTION]

For the study area, 79% of collisions were PDO crashes, 20% were injury crashes, and less than 1% were fatal crashes. The data also shows that 25% of crashes occurred at intersections and 75% of crashes at non-intersections. At intersections, the primary crash type is with other vehicles (84%). A breakdown of crash type at intersections is shown in Table 2.

Table 2: Intersection Crash Type Breakdown (Charts A-C)

Chart A Intersection (Fatal)		
Crash Type	**Crash Number**	**Percent**
Other Motor Vehicle	7	64%
Overturned	2	18%
Pedestrian	2	18%
Total	**11**	**100%**

Chart B Intersection (Injury)		
Crash Type	**Crash Number**	**Percent**
Other Motor Vehicle	485	78%
Fixed Object	42	7%
Overturned	37	6%
Pedalcycle	33	5%
Pedestrian	14	2%
Other Non-Collision	4	1%
Other Object	3	0.5%
Animal	1	0.2%
Parked Motor Vehicle	1	0.2%
Total	**620**	**100%**

Chart C Intersection (PDO)		
Crash Type	**Crash Number**	**Percent**
Other Motor Vehicle	1219	86%
Fixed Object	112	8%
Animal	26	2%
Parked Motor Vehicle	20	1%
Overturned	18	1%
Other Non-Collision	14	1%
Other Object	4	0.3%
Pedalcycle	2	0.1%
Total	**1415**	**100%**

At non-intersections, the most frequent crash types were with animals (41%), fixed objects (19%), and other motor vehicles (18%). A breakdown of crash types for non-intersections is shown in Table 3 on the following page.

Table 3: Non-Intersection Crash Type Breakdown (Charts D-F)

Chart D Non-Intersection (Fatal)		
Crash Type	**Crash Number**	**Percent**
Overturned	13	36%
Other Motor Vehicle	11	31%
Fixed Object	7	19%
Animal	1	3%
Other Object	1	3%
Pedalcycle	1	3%
Pedestrian	1	3%
Railway Train	1	3%
Total	**36**	**100%**

Chart F Non-Intersection (PDO)		
Crash Type	**Crash Number**	**Percent**
Animal	2456	47%
Other Motor Vehicle	870	17%
Fixed Object	868	17%
Parked Motor Vehicle	610	12%
Overturned	153	3%
Other Non-Collision	145	3%
Other Object	80	2%
Unknown	12	0.2%
Railway Train	3	0.1%
Total	**5197**	**100**

Chart E Non-Intersection (Injury)		
Crash Type	**Crash Number**	**Percent**
Fixed Object	312	30
Overturned	231	22
Other Motor Vehicle	216	21
Animal	124	12
Parked Motor Vehicle	55	5
Pedestrian	39	4
Other Non-Collision	30	3
Pedalcycle	22	2
Other Object	10	1
Railway Train	4	0.4%
Unknown	3	0.3%
Total	**1046**	**100%**

B. CRASH BY MAINTAINING AUTHORITY

Table 4 shows the breakdown of crashes by severity and owner. State system crashes comprise 47% of fatal and 37% of serious injury crashes. Overall, 40% of all crashes occurred on state system roadways. City-owned roads account for 38% of all crashes and 22% of crashes occurred on county-maintained roadways.

Table 4: Crash Severity by Maintaining Authority

Maintaining Authority	Fatal	Serious Injury	Injury	PDO	Total
State System Crashes	22	59	563	2685	**3329**
County Crashes	19	55	350	1398	**1822**
City Crashes	6	44	595	2529	**3174**
Total	**47**	**158**	**1508**	**6612**	**8325**

C. CRASH TYPE

Crash type (e.g., collision with other vehicles, fixed object, pedestrian) analysis is a common method to understand key concerns and develop effective countermeasure solutions. The following sections outline the results of the analysis of specific crash types in the study area.

The three most prevalent crash types are collisions with another motor vehicle, an animal, and fixed objects. There were 5,067 total crashes (excluding "none listed" and "unknown" columns). There were 2,808 other motor vehicle crashes, 2,608 animal crashes, and 1,341 fixed object crashes. Higher percentages of railway train, pedestrian, and overturned crashes resulted in fatalities and serious injuries (FSI) compared to other types of crashes. Both crash frequency and percentage of fatal and serious crashes can be used to identify applicable improvement strategies for Vision Zero. Table 5 shows the crash type and associated Fatal and Serious Injury percent (FSI%).

Table 5: Crash Type and Fatal/Sever Injury %

Crash Type	All Crashes	Fatal Crashes	Serious Injury Crashes	Fatal/Serious Injury %
Railway Train	8	1	1	25.00%
Pedestrian	56	3	9	21.43%
Overturned	450	15	41	12.44%
Pedalcycle	58	1	4	8.62%
Other Object	98	1	3	4.08%
Fixed Object	1341	7	34	3.06%
Other Motor Vehicle	2808	18	56	2.64%
Other Non-Collision	197	-	2	1.02%
Parked Motor Vehicle	686	-	2	0.29%
Animal	2608	1	6	0.27%
Unknown	15	-	-	0.00%

KDOT crash reporting separates collisions with other vehicles, into further breakdowns of type (e.g., angle-side impact and head-on). This data indicates that angle – side impact, rear end, and sideswipe: same direction impacts have the highest number of crashes. Sideswipe: The opposite direction accounts for the highest percentage of fatalities and serious injuries, as shown in Table 6.

Table 6: Crash Types Breakdown – Collision with Other Motor Vehicle

Collision with Other Motor Vehicle – Crash Type	All Crashes	Fatal Crashes	Serious Injury Crashes	Fatal/Serious Injury %
Angle – Side Impact	1858	2	9	0.6%
Sideswipe: Opposite Direction	72	-	3	4.2%
Head On	154	-	3	2.0%
Sideswipe: Same Direction	266	-	1	0.4%
Rear End	984	-	1	0.1%
Backed Into	125	-	-	0.0%
Other	5	-	-	0.0%
Unknown	2	-	-	0.0%

3.3. IDENTIFICATION OF HIGH-RISK LOCATIONS

This section presents ways to visualize crash data and identifies locations of crashes using a "heat map" where color shading indicates concentrations of crashes. Figure 8 shows a heat map for all crashes and Figure 9 shows a heat map for fatal and severe injury crashes.

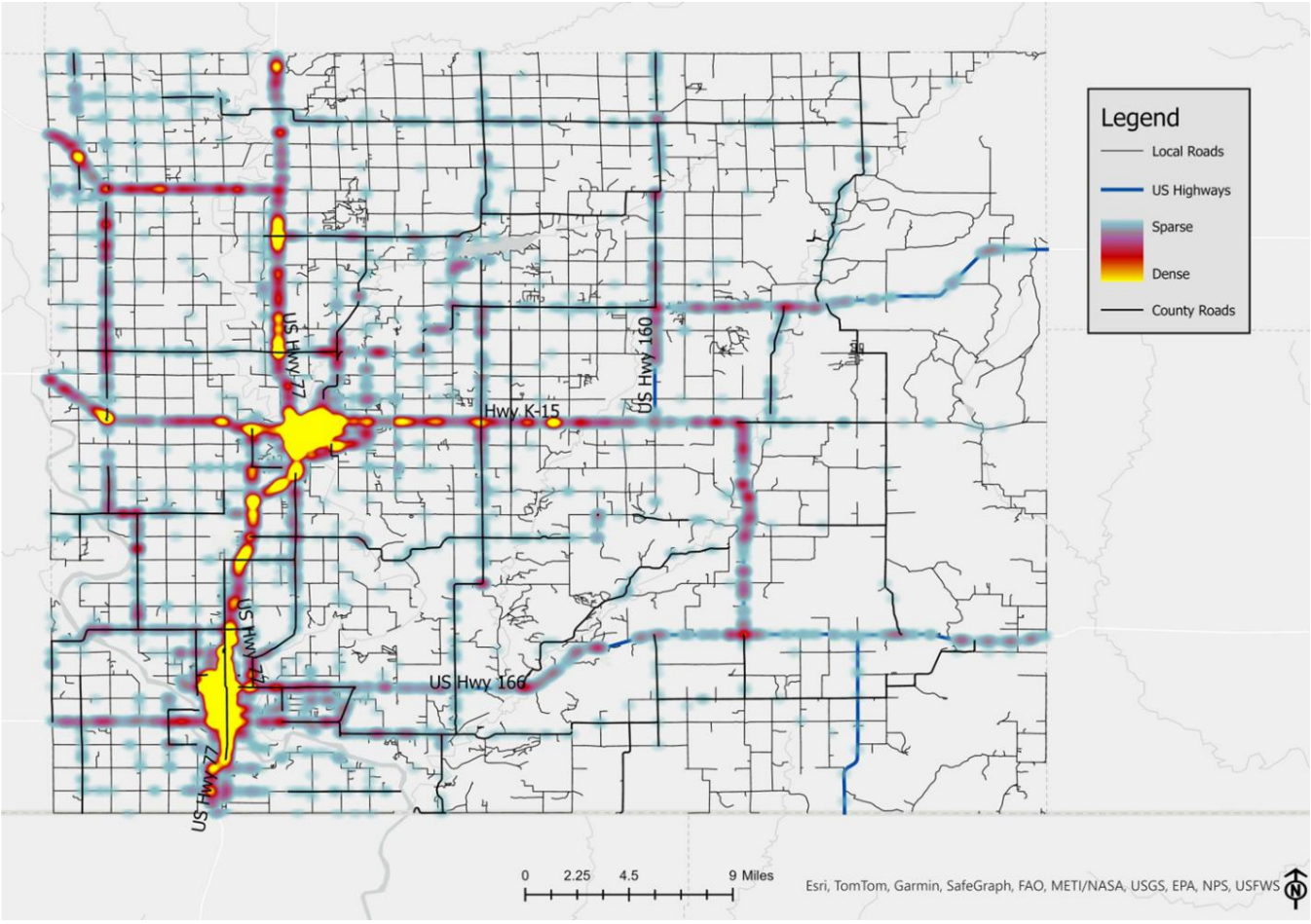


Figure 8: Heat Map for All Crashes [2014-2023]

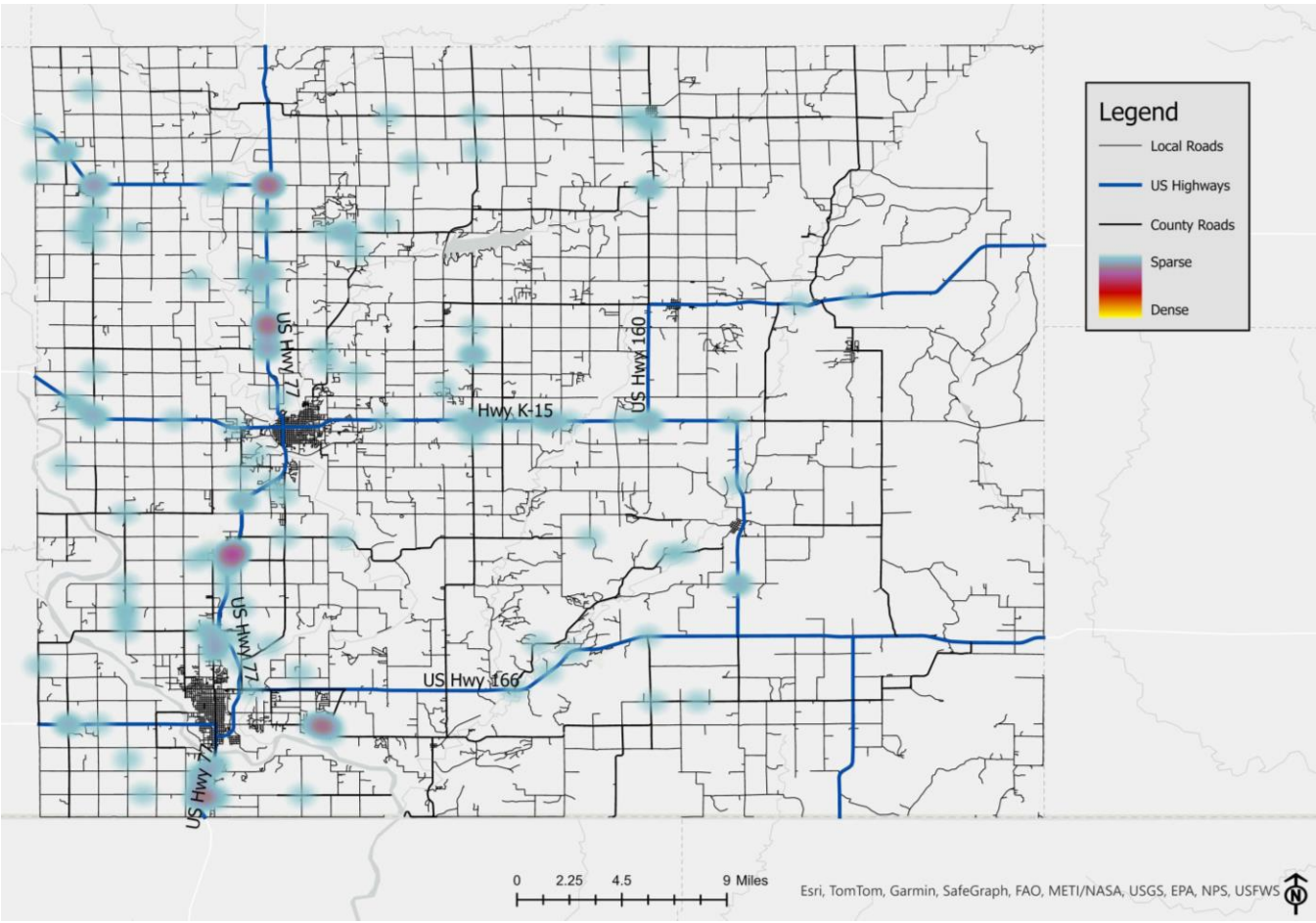


Figure 9: Heat Map for Fatal and Serious Crashes [2014-2023]

4. EQUITY ANALYSIS

The goal of equity analysis is to distinguish populations that are underserved and under-resourced and to assess how they are impacted by outcomes of the transportation system (like safety risk). Equity analysis can provide an understanding of the implications of safety risk disparities in various communities. Equity is a concept that centers on the idea of fairness and justice. Reaching zero deaths requires eliminating disparities by prioritizing equity.

This plan uses criteria for areas of persistent poverty, historically disadvantaged communities as identified by the USDOT, and the Social Vulnerability Index as defined by the Centers for Disease Control and Prevention (CDC).

The Safe Streets and Roads for All (SS4A) defines an Underserved Community consistent with the USDOT definition of a disadvantaged community using two sources. These sources are also used when completing SS4A grant applications:

- U.S. Census tracts identified in the Equitable Transportation Community (ETC) Explorer tool. This tool provides a percentile rank based on five disadvantaged components including disadvantaged components related to climate, environmental burden, health vulnerability, social vulnerability, and transportation factors.
- U.S. Census tracts identified in the Climate and Economic Justice Screening (CEJST) tool (Justice40 Tracts). The tool has an interactive map and uses datasets that are indicators of burdens in eight categories: climate change, energy, health, housing, legacy pollution, transportation, water and wastewater, and workforce development.

Other tools available at the federal level to assist in identifying disadvantaged communities include:

- HEPGIS Maps: Socioeconomics and Equity Analysis developed by the Federal Highway Administration.
- The Centers for Disease Control and Prevention (CDC) Social Vulnerability Index measures social vulnerability based on measurements of socioeconomic status such as poverty and unemployment, household characteristics such as age, racial and ethnic minority status, and housing type.
- EJScreen: Environmental Justice Screening and Mapping Tool (Environmental Protection Agency).

These approaches vary on specific criteria used to identify disadvantaged areas. Appendix C summarizes the designation of each census tract as a disadvantaged community by each tool. Details on the equity information sources and data can be found in Appendix C. The review of equity information shows that a large portion of Cowley County, including all of the City of Winfield and Arkansas City, can be defined as disadvantaged based on one or more of the sources used.

5. EMPHASIS AREAS

5.1. BACKGROUND

Emphasis areas help prioritize efforts and resources toward specific areas with the highest risk and greatest potential for improvement. By focusing on these areas, decision makers can address the most pressing issues, such as intersections with high crash rates or sections of roads with frequent speeding violations, leading to a more effective and targeted safety strategy. Additionally, emphasis areas provide a clear framework for measuring the success of road safety initiatives, allowing for data-driven decision-making and continuous improvement in crash prevention.

Grouping crashes together based on behavior and location is a good basis for looking at emphasis areas deserving extra consideration. Emphasis areas should be the focal points that planned activities are built upon thus providing the biggest impacts to preventing crashes. Some emphasis areas are more focused on engineering design-related solutions (location or systemic-based crashes), while others rely on changing the behaviors associated with the crashes often using enforcement, education, or emergency response (or combinations of all). These may include countermeasures from the National Highway Traffic Safety Administration (NHTSA) which are primarily behavior-based programs and FHWA's Crash Modification Factors clearinghouse (mostly project-based solutions).

5.2. TOP CRASH EMPHASIS AREAS

Emphasis areas were charted in three ways.

1. Intersection-related, roadway departure, and distracted driving are the top crash emphasis areas by frequency.
2. Roadway departure, unrestrained occupant, and intersection-related crashes are highest for injury and fatality crashes.
3. Vulnerable road users, motorcycle, and unrestrained occupant are highest when using an Equivalent Property Damage Only (EPDO) score. The EPDO score weighs factors related to the societal costs of fatal, injury, and property damage-only crashes and are assigned to crashes by severity to develop an EPDO score that considers frequency and severity of crashes. The equation used for EPDO is based on 2023 KDOT crash costs:

EPDO Rate=#fatal crashes*1188.7+#serious injury crashes*63.99+#injury crashes*19.62

Figures 10 through 13 show more details of these emphasis area charts.

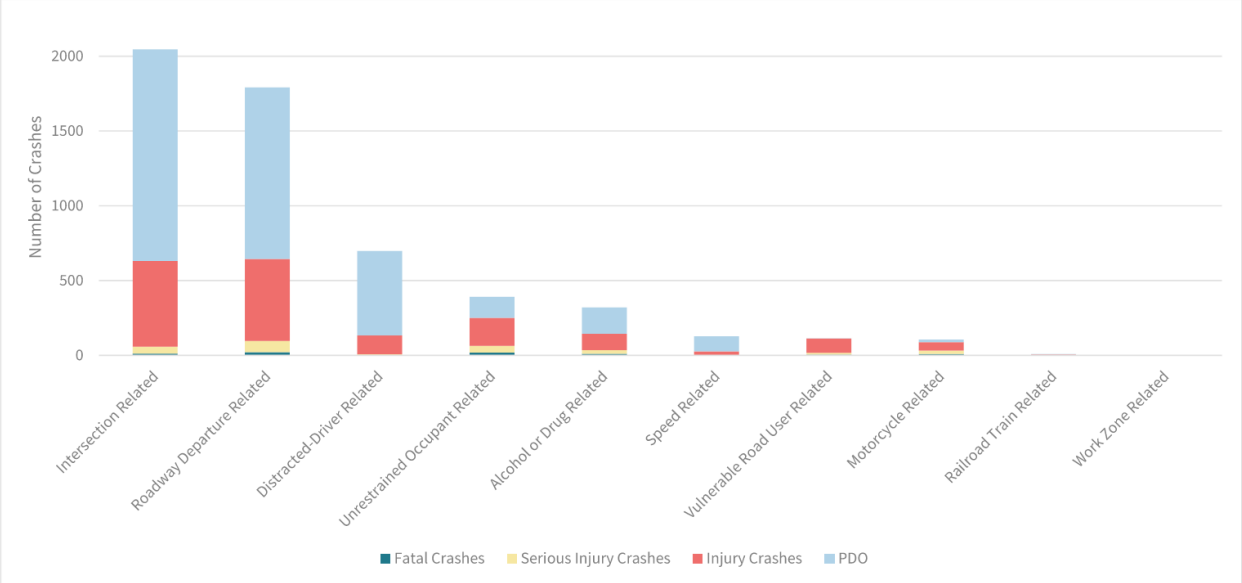


Figure 10: Emphasis Areas – All Crashes

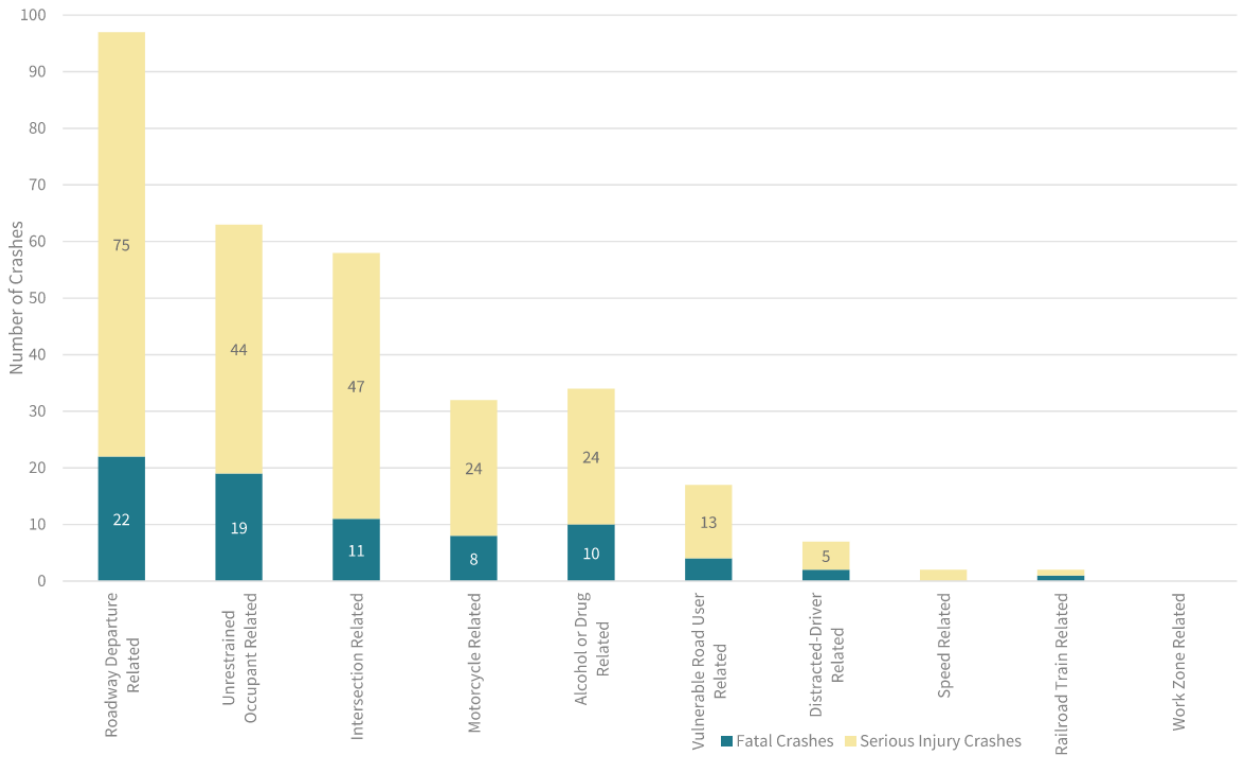


Figure 11: Emphasis Areas – Fatal and Serious Injury Crashes

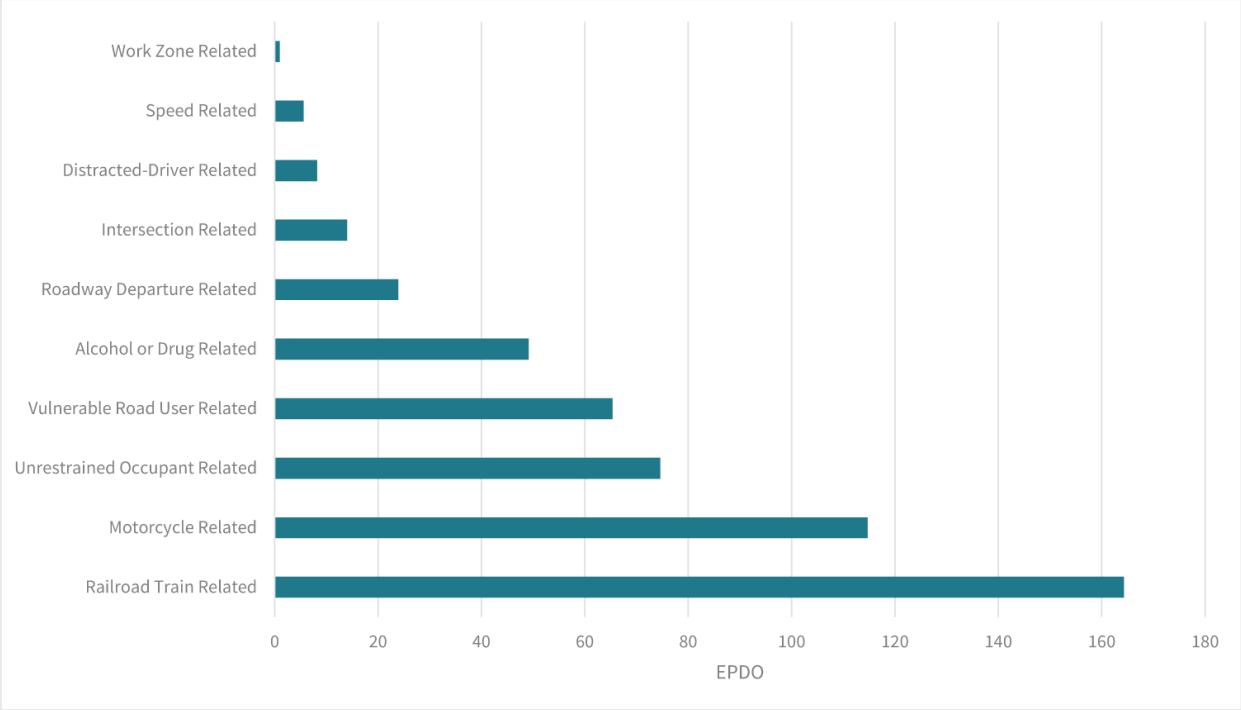


Figure 12: EPDO Emphasis Areas

In many crashes, multiple emphasis areas are identified as contributing factors. Intersection crashes overlap the most with other influence areas. Other overlap observations:

- 29.5% of speed-related crashes are also distracted driving crashes.
- 11.2% of roadway departure crashes and 17.6% of unrestrained occupant-related are alcohol or drug related crashes.
- 31.1% of unrestrained occupants are intersection related and 43.4% are roadway departure related.
- 44.7% of VRU crashes are intersection related.
- Over 24% of VRU, speed, distracted driving, unrestrained occupant, and motorcycle related are all intersection related.

Step 2: Evaluate Overlapping Emphasis Area	Step 1: Select Emphasis Area: Roadway Departure Related	Vulnerable Road User Related	Intersection Related	Speed Related	Distracted-Driver Related	Unrestrained Occupant Related	Alcohol or Drug Related	Work Zone Related	Motorcycle Related	Railroad Train Related
Roadway Departure Related	100.0%	0.0%	10.1%	26.4%	25.9%	43.4%	62.6%	0.0%	0.0%	0.0%
Vulnerable Road User Related	0.0%	100.0%	2.5%	0.0%	0.6%	0.8%	0.9%	0.0%	0.0%	0.0%
Intersection Related	11.6%	44.7%	100.0%	27.9%	24.6%	31.1%	17.1%	0.0%	26.4%	0.0%
Speed Related	1.9%	0.0%	1.8%	100.0%	5.4%	1.0%	1.9%	0.0%	0.0%	0.0%
Distracted-Driver Related	10.1%	3.5%	8.4%	29.5%	100.0%	10.2%	10.6%	0.0%	7.5%	12.5%
Unrestrained Occupant Related	9.5%	2.6%	6.0%	3.1%	5.7%	100.0%	21.5%	0.0%	31.1%	37.5%
Alcohol or Drug Related	11.2%	2.6%	2.7%	4.7%	4.9%	17.6%	100.0%	0.0%	8.5%	0.0%
Work Zone Related	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%
Motorcycle Related	2.1%	0.0%	1.4%	0.0%	1.1%	8.4%	2.8%	0.0%	100.0%	0.0%
Railroad Train Related	0.0%	0.0%	0.0%	0.0%	0.1%	0.8%	0.0%	0.0%	0.0%	100.0%

Figure 13: Emphasis Areas Overlap

Intersection-related, roadway departure, and distracted driver-related crashes were selected by the Safety Task Force as main emphasis areas. Due to the alignment of overlap with speed-related crashes and vulnerable roadway users (VRUs), those crashes were analyzed further as well. It should be noted that for some things such as distracted driving there were limited reports with that as a contributing circumstance, that may be in part due to the nature of proving it, or the prevalence of police in some instances to not fill out non-mandatory parts of the crash reports.

5.3. INTERSECTIONS

Using crash report data, an algorithm was used to create clusters of intersections with high densities of fatal or injury crashes. Crash emphasis areas are limited to the data available within the crash report. Therefore, there are some limitations within the data. The difference between signalized intersection and unsignalized intersection was based on the "traffic control type" within the crash report. This data did align with existing conditions.

For the emphasis area clustering, intersections were selected if seven or more fatal or injury crashes occurred in the 10-year period within 300 feet of each other. The location rankings are based on the EPDO. Some rankings are tied, as shown in Table 7 and Table 8. Again, the equation used for EPDO is based on 2023 KDOT crash costs:

EPDO Rate=#fatal crashes*1188.7+#serious injury crashes*63.99+#injury crashes*19.62

Top Signalized Intersections

The most common fatal or serious injury crash for clustered signalized intersections is angle-side impact. There were no fatal crashes at a clustered signalized intersection. The highest-ranked signalized intersection is Summit Street and Chestnut Ave., with 26 injury crashes occurring in the previous ten years. Table 7 indicates the clustered intersection rankings.

Table 7: Signalized Intersection Rankings

Location	Ranking	# of Fatal Crashes	# of Serious Injury Crashes	# of Injury Crashes	Equivalent Property Damage Only Rate (EPDO)
Summit St & Chestnut Ave	1	0	0	26	510
US77/Summit St & US166/ Madison Ave	2	0	0	25	491
US77 & 19th Ave	3	0	0	19	373
Summit St & Radio Lane	4	0	0	17	334
US77 & K360	5	0	0	12	235
US160 & Bliss Street	6	0	0	11	216
US77 & US160	7 (tie)	0	0	10	196
Kansas Ave & C Street	7 (tie)	0	0	10	196
US77 & Summit St	9	0	0	7	137

Top Unsignalized Intersections

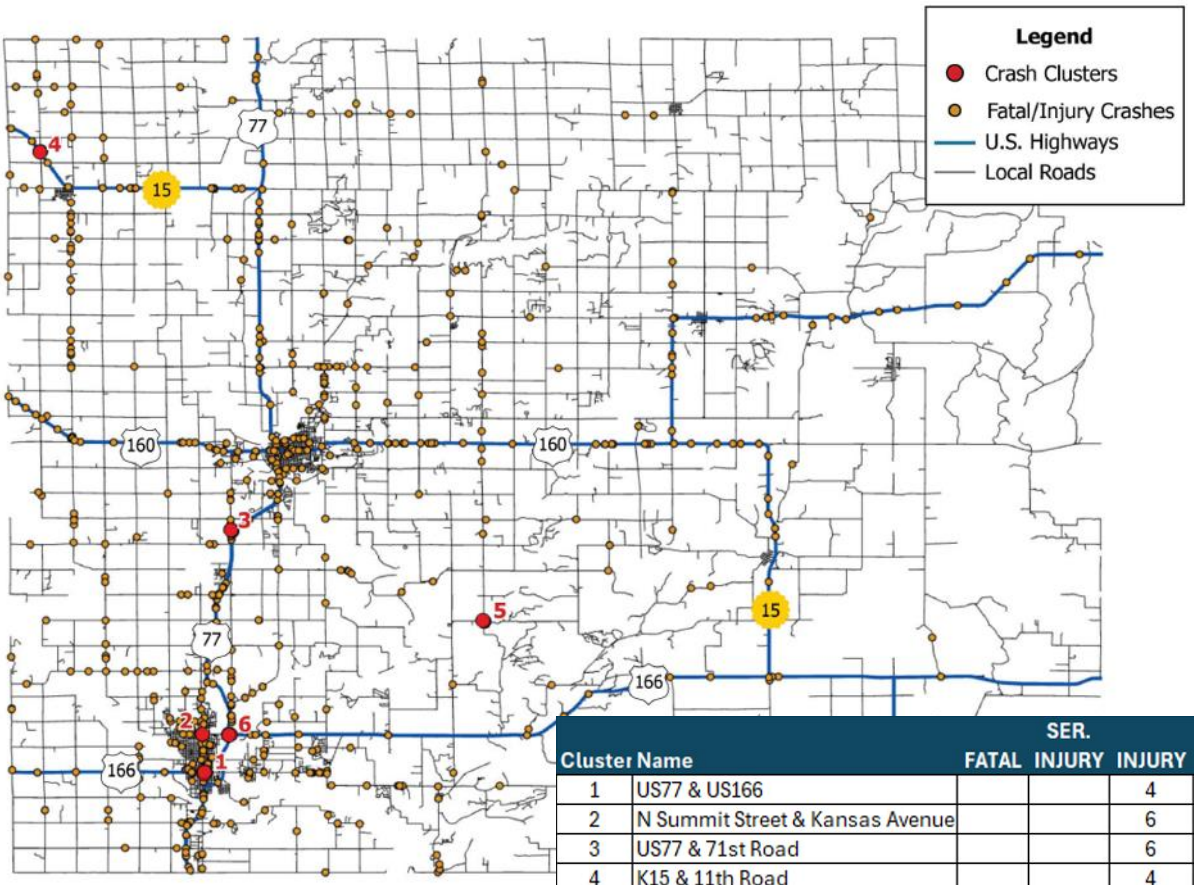
The highest ranked unsignalized intersections are US77 & Summit Street, US160 & K360, and Summit Street & Vine Ave.. All three intersections had a fatality crash in the previous ten years. Table 8 indicates the clustered intersection rankings.

Table 8: Unsignalized Intersection Rankings

Location	Ranking	# of Fatal Crashes	# of Serious Injury Crashes	# of Injury Crashes	Equivalent Property Damage Only Rate (EPDO)
US77 & Summit St	1	1	0	10	1385
US160 & K360	2	1	0	5	1287
Summit St & Vine Ave	3	1	0	3	1248
11th Ave & Loomis St	4	0	1	11	280
US160 & Harris Road	5	0	4	0	256
US77 & 71st Road	6	0	0	11	216
Summit St & Virginia Ave	7	0	2	4	206
US77 & Quail Ridge Dr	8	0	0	10	196
Summit St & Birch Ave	9 (tied)	0	0	9	177
Summit St & Bryant Road	9 (tied)	0	0	9	177
2nd Street & Kansas Ave	11	0	0	8	157
US77 & 212th Road	12	0	0	7	137

5.4. ROADWAY DEPARTURE

From the crash data analyzed between 2014 and 2023 within the Cowley County limits, roadway departure related crashes had the highest number of fatal and serious injury crashes. Figure 14 shows a map of Cowley County with all roadway departure-related fatal and serious injury crashes. Crash cluster locations show that many fatal and serious injury roadway departure crashes occur within or near city limits of Winfield and Arkansas City.



Cluster	Name	FATAL	SER. INJURY	INJURY	TOTAL
1	US77 & US166			4	4
2	N Summit Street & Kansas Avenue			6	6
3	US77 & 71st Road			6	6
4	K15 & 11th Road			4	4
5	151st Road & 232nd Road			3	3
6	US77/US166 & E Kansas Avenue			3	3

Figure 14: Roadway Departure Fatal and Injury Crashes with Cluster Locations

5.5. DISTRACTED DRIVING

Distracted driving can be a difficult problem to quantify. On crash forms, officers note driver-contributing circumstances in crashes, which helps identify driver issues contributing to fatal or serious injury crashes. Of the forms where contributing circumstances information was filled out, Figure 15 breaks down the contributing circumstances by intersection crashes and non-intersection crashes. Although distracted driving was not an option for contributing circumstances, inattention had the largest percentage of crashes for intersection and non-intersection serious injury and fatal crashes.

Intersection Contributing Circumstances Chart Injury + Fatal		
CONTRIBUTING CIRCUMSTANCE	Crashes	Percentage
INATTENTION - GENERAL	21	32%
RIGHT OF WAY VIOLATION	11	17%
DISREGARDED SIGNS-SIGNALS-MARKINGS	4	6%
UNKNOWN	4	6%
FELL ASLEEP OR FATIGUED	3	5%
ILL OR MEDICAL CONDITION	3	5%
TOO FAST FOR CONDITIONS	3	5%
AVOIDANCE OR EVASIVE ACTION	2	3%
IMPROPER LANE CHANGE	2	3%
INATTENTION - GENERAL|DISREGARDED SIGNS-SIGNALS-MARKINGS	2	3%
INATTENTION - GENERAL|IMPROPER BACKING	2	3%
INATTENTION - GENERAL|RIGHT OF WAY VIOLATION|OTHER ELECTRONIC DEVICE	2	3%
NO DRIVER CONTRIB CIRCUMSTANCE	2	3%
OTHER DISTRACTION IN OR ON VEHICLE	2	3%
OVERSTREERING-OVERCORRECTION	2	3%
TOTAL	**65**	**100%**

Non-Intersection Contributing Circumstances Chart Injury + Fatal		
CONTRIBUTING CIRCUMSTANCE	Crashes	Percentage
INATTENTION - GENERAL	46	42%
RIGHT OF WAY VIOLATION	12	11%
AVOIDANCE OR EVASIVE ACTION	7	6%
UNKNOWN	7	6%
RIGHT OF WAY VIOLATION|INATTENTION - GENERAL	6	5%
CARELESS OR RECKLESS DRIVING	5	5%
NO DRIVER CONTRIB CIRCUMSTANCE	5	5%
TOO FAST FOR CONDITIONS	5	5%
UNDER INFLUENCE OF ALCOHOL	5	5%
FOLLOWED TOO CLOSELY	4	4%
FOLLOWED TOO CLOSELY|INATTENTION - GENERAL	4	4%
INATTENTION - GENERAL|RIGHT OF WAY VIOLATION	4	4%
TOTAL	**110**	**100%**

Figure 15: Driver Contributing Circumstances for Fatal and Serious Injury Crashes

5.6. VULNERABLE ROADWAY USERS

Pedestrians are particularly vulnerable to crashes, as shown in the EPDO section. These crashes rarely occur outside of city limits due to the lack of pedestrians and cyclists on county-maintained roads. Figure 16 lists county-wide vulnerable road user crash cluster locations. Approximately half of the clusters are in the City of Winfield and the rest are in the City of Arkansas City. Of notable concern are the crashes with fatal and serious injury. Within the City of Winfield, the intersections of most concern are 12th Ave. & Harris Road, US77 & 13th Ave., and College Road & 5th Ave..

Cluster ID	Name	FATAL	SER. INJURY	INJURY	TOTAL
1	1st Street & Palmetto Avenue			2	2
2	Summit Street & Kansas Avenue			2	2
3	Bliss Street & 12th Avenue			2	2
4	12th Avenue & Harris Road		1	2	3
5	US77 & 19th Avenue			3	3
6	Summit Street & Vine Avenue	1		1	2
7	Viking Boulevard & Warren Avenue			2	2
8	US77 & 7th Avenue			2	2
9	5th Road & Harter Street			2	2
10	14th Avenue & Fairgrounds Road			2	2
11	Summit Street & Poplar Avenue			2	2
12	Summit Street & Radio Lane			3	3
13	US77 & 13th Avenue		2	1	3
14	Summit Street & Madison Avenue			2	2
15	US77 & US160			3	3
16	Summit Street & Chestnut Avenue			2	2
17	US160 & Millington Road			2	2
18	College Road & 5th Avenue		2	1	3

Figure 16: Vulnerable Roadway User Crash Cluster Locations

6. SAFETY STRATEGIES

The Safety Task Force evaluated the results of the data analysis and the safety concerns and public priorities. Using the Safe System Approach as the framework, they identified safety countermeasures to be evaluated. Each Safe System element (Safe Roads, Safe Speeds, Safe Road Users, Safe Vehicles, and Post-crash Care) was considered. The countermeasures specifically address the prioritized safety emphasis areas:

- Signalized Intersections
- Unsignalized Intersections
- Roadway Departures
- Distracted Driving
- Vulnerable Road Users – pedestrians and bicyclists

Multiple resources were used in developing appropriate safety strategies, including:

- FHWA's Proven Safety Countermeasures
- National Highway Traffic Safety Administration's (NHTSA) "Countermeasures that Work"
- FHWA's Crash Modification Factors (CMF) Clearinghouse

When identifying potential systemic safety improvements, it is important to look at CMFs for the proposed improvements. The CMF Method is found in Part D of the Highway Safety Manual (HSM). CMFs are defined as the ratio of effectiveness of one condition in comparison to another condition and represent the relative change in crash frequency due to a change in one specific condition. A CMF is a multiplicative factor used to compute the expected number of crashes after implementing a given countermeasure at a specific site. Countermeasures with CMFs less than one are expected to reduce crashes if applied, while those countermeasures with CMFs greater than one are expected to increase crashes.

The CMF Method is used to calculate the expected number of crashes by taking the observed number of crashes and multiplying those crashes by the applicable CMF for the proposed countermeasure. It is recommended that CMFs be applied to a minimum of three (3) years of crash data for urban and suburban sites and five (5) years of crash data for rural sites.

Crash Reduction Factors (CRFs) are related to CMFs but stated in different terms. A CRF is defined as a percentage of crash reduction that might be expected after the implementation of a given countermeasure at a specific site.

Caution should be used in the selection of appropriate CMFs. The following guidance should be considered when selecting CMFs for predictive crash analysis:

- CMFs should be selected from the HSM Part D or from the Federal Highway Administration's (FHWA) CMF Clearinghouse website (http://www.cmfclearinghouse.org).
- Read the countermeasure abstract to determine if the CMF is applicable to the proposed improvement.
- Only CMFs with a four- (4) star rating or higher should be considered for use in analysis.
- Be sure the selected CMF is applicable to the set of crash data being used for analysis. Some CMFs may only be applicable to a subset of the crash data.
- The application of multiple CMFs can overestimate the expected crash reduction. Unless each CMF addresses independent crash types, multiple CMFs should not be used. It is suggested that no more than three (3) independent CMFs be applied to a particular site.

The countermeasures proposed in this document were chosen because of their effectiveness in reducing crashes. Some safety countermeasures that are recommended do not yet have CMF ratings that meet the above guidance, due to the amount of data and peer review that is required; however, preliminary studies show safety benefits as a result of these countermeasures. The FHWA has also published a list of Proven Safety Countermeasures which, per their website is "a collection of countermeasures and strategies effective in reducing roadway fatalities and serious injuries… Transportation agencies are strongly encouraged to consider widespread implementation of [Proven Safety Countermeasures] to accelerate the achievement of local, State, and National Safety goals." https://safety.fhwa.dot.gov/provencountermeasures/.

Nationally, there are relatively low percentages of fatal and serious injury crashes that occur on unpaved roadways when compared to paved roadways. As such, safety research has focused on paved roadways. The lack of research on the unpaved system results in very few CMFs defined for safety countermeasures on unpaved roadways.

The countermeasures presented in Table 9 were identified and reviewed by stakeholders as those providing a significant opportunity to reduce traffic-related fatalities and serious injuries in Cowley County.

Table 9: Selected Safety Countermeasures

Countermeasure	Description	CMF
Signalized Intersections		
Improved Signal Phasing/Timing Plans	Traffic signal coordination can decrease the number of crashes and create speed harmonization as drivers learn the length of signal intervals.	0.79
Consistent Yellow and All-Red Timings	Consistent yellow and all-red display intervals allow motorists and pedestrians to anticipate when it will be safe to enter the intersection.	0.86
Backplates with Retroreflective Borders	Backplates improve the visibility of a traffic signal with a controlled-contrast background. A yellow retroreflective border makes it even more conspicuous.	0.85
Add Left Turn Lanes	Left turn lanes provide separation from through traffic, space for deceleration, and space to wait to complete a turn.	0.6 (for LT) 0.75 (all)
Unsignalized Intersections		
Access Management (restrict left turn lanes)	Restrict the left turns from side streets onto a main street.	0.30 (for LT)
Flashing Beacon Warning Sign	Flashing beacons on warning signs increase driver awareness and recognition of upcoming problems and potential conflicts.	0.9
Add Left Turn Lanes	Left turn lanes provide separation from through traffic, space for deceleration, and space to wait to complete a turn.	0.4
Enhanced Stop Signs	Larger stop signs, use of flasher on signs, or use of retroreflective markings to increase visibility of stop signs.	0.9
Roadway Departures		
Install Safety Edge Treatment	The safety edge is a low-cost treatment that is implemented in conjunction with pavement resurfacing and is intended to help minimize drop-off-related crashes.	0.79
Increase Lateral Clearance	Lateral clearance is the distance from the roadside to nearby obstructions and fixed objects.	0.68
Install Edge line Rumble Strips	Rumble strips are grooved patterns in the roadway surface that create audible and tactile warnings for drivers.	0.53
Distracted Driving		
Distracted Driving Education	Education campaigns (PSAs, social media ads, school/ workplace education) can be conducted regarding distracted driving.	Needs further evaluation
Impaired Driving Education	Inform the public of the dangers of impaired driving and establish positive social norms that make driving while impaired unacceptable.	★★
Vulnerable Road Users		

Rectangular Rapid Flashing Beacons	Pedestrian-actuated RRFBs flash with an alternating high frequency to enhance driver awareness of pedestrians at the crossing.	0.53 (Ped)
Pedestrian Hybrid Beacons	A traffic control device designed to help pedestrians safely cross higher-speed roadways at midblock crossings and uncontrolled intersections.	0.45 (Ped)
Countdown Pedestrian Signal Heads	These signals provide pedestrians with more information on the remaining crossing time.	0.92 (Ped)
Leading Pedestrian Interval (LPI)	LPIs allow pedestrians to enter the crosswalk 3-7 seconds before parallel vehicles are given a green indication.	0.87
Construct Sidewalks	Construct sidewalks to fill in gaps to allow separation of pedestrians and vehicles along roadways.	0.11-0.35 (Ped)
High Visibility Crosswalks	High-visibility crosswalks use patterns (i.e., bar pairs, continental, ladder) that are visible to both the driver and pedestrian from farther away compared to traditional transverse line crosswalks.	0.60 (Ped)
Advance Yield or Stop Markings	YIELD Here to Pedestrians" or "STOP Here for Pedestrians" signs 20 to 50 feet in advance of a marked crosswalk.	0.62 (Ped)

Countermeasure effectiveness is shown using a five-star rating system:

Effectiveness

★★★★★ Demonstrated to be effective by several high-quality evaluations with consistent results

★★★★ Demonstrated to be effective in certain situations

★★★ Likely to be effective based on balance of evidence from high-quality evaluations

★★ Limited evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well

★ No evaluation evidence, but adheres to principles of human behavior and may be effective if implemented well

7. IMPLEMENTATION PLAN

7.1. PLANNED AND CURRENT PROJECTS

Cowley County and the City of Winfield are pursuing the construction of roadway and intersection projects that would be completed within the next five years. Many of these potential projects will address systemic or hot spot crash locations. The project list is provided in Table 10.

Table 10: Current Transportation Projects

Funding	Location	Project Type	Scope
Kansas High-Risk Rural Roads (HRRR) Program	302nd Road, 304th Road, 306th Road, and 41st Road between US-166 and US 77	Segment	Add pavement markings, edge treatment, provide clear zone, flatten/widen slopes, center and edge line rumble strips, update guardrail, curve signage
Cowley County Local Road Safety Plan (LRSP)	141st Road between US-166 and 296th Road	Segment	Add pavement markings, edge treatment, provide clear zone, flatten/widen slopes, center and edge line rumble strips, update guardrail, curve signage
LRSP	101st Road, 146th Road between 132nd Road and 0.15 Mile West of Viking Boulevard	Segment	Add pavement markings, edge treatment, provide clear zone, flatten/widen slopes, center and edge line rumble strips, update guardrail, curve signage
LRSP	162nd Road between K-15 and 251st Road	Segment	Add pavement markings, edge treatment, provide clear zone, flatten/widen slopes, update guardrail
LRSP	292nd Road between 79th Road and 101st Road	Segment	Add pavement markings, edge treatment, provide clear zone, flatten/widen slopes, center and edge line rumble strips, update guardrail, curve signage
LRSP	101st Road between 292nd Road and 141st Road	Segment	Add pavement markings, edge treatment, provide clear zone, flatten/widen slopes, center and edge line rumble strips, update guardrail, curve signage
LRSP	131st Road, 122nd Road, and 141st Road	Segment	Add pavement markings, edge treatment, provide clear zone, flatten/widen slopes, center and edge line rumble strips, update guardrail, curve signage
LRSP	85th Road & 222nd Road	Intersection	Upgrade signing and pavement markings, provide clear area, improve geometry
LRSP	85th Road 0.9 miles, 1.05 miles, and 1.15 miles south of 242nd Road	Curves	Add pavement markings, edge treatment, provide clear zone, flatten/widen slopes, center and edge line rumble strips, curve signage, improve superelevation
LRSP	71st Road & 85th Road	Curves	Add pavement markings, edge treatment, provide clear zone,

			flatten/widen slopes, center and edge line rumble strips, curve signage, improve superelevation
CIP	US 77- Mildfelt, 6th, 8th, 11th, 12th Ave.s	Intersection	Add activated pedestrian signal, hi vis crosswalk improvements
CIP	College and 7th Ave.	Intersection	Add activated pedestrian signal, hi vis crosswalk improvements
CIP	US 160 W. bridge to Grand Ave.	Segment-Ped	Add pedestrian path, barrier protection
CIP	US 77 Sunnyside to K360	Segment-Ped	Add pedestrian path, barrier protection
CIP	Simpson- College to Viking	Segment	Add stormwater, add pedestrian path, crosswalks, reconstruct roadway.

7.2. Safety Projects

Safety projects are identified for each crash emphasis area using input from stakeholders, the public survey, crash data analysis, and input from City staff. This list was refined based on review and comments by the County, City of Winfield, and the STF. Project fact sheets that provide additional project information are provided in Appendix B.

Signalized Intersections

The projects addressing crash locations at signalized intersections are listed in Table 11. The projects will perform a Road Safety Audit (RSA) or Traffic Engineering Assistance Program (TEAP) Study to determine the course of action for the corridors. A consideration is to reconfigure from right turn lanes to protected left turn lanes. The project will include updating and coordinating signal timing.

Table 11: Recommended Signalized Intersection Safety Projects

Signalized Intersections				
Roadway Ownership	**Location**	**Project Type**	**Selection**	**Scope**
KDOT/City	US-77 (8th Ave to 19th Ave)	Signalized Intersections	Cluster Review	Update/coordinate signal timing, add ped improvements such as LPI, Hi Vis cross walks
KDOT/City	US-160 (US-77 to Bliss St)	Signalized Intersections	Cluster Review	Update/coordinate signal timing, add ped improvements such as LPI, Hi Vis cross walks

Unsignalized Intersections

Recommended safety projects at unsignalized intersections are in Table 12. Listed are locations where unsignalized intersections occur on curves with poor sight vision.

Additional intersections are identified where an intersection study should be completed to examine future course of action.

Table 12: Recommended Unsignalized Intersection Safety Projects

Unsignalized Intersections				
Roadway Ownership	**Location**	**Project Type**	**Selection**	**Scope**
Cowley County	US-77 & 71st Road	Unsignalized Intersection/ Curve	Cluster Review	Add pavement markings, edge treatment, provide clear zone, flatten/widen slopes, center and edge line rumble strips, curve signage, improve geometry
Cowley County	232nd Road & 151st Road	Unsignalized Intersection	Cluster Review	Add pavement markings, curve warning signs, intersection warning signs on RS Route, reconfigure intersection, add signing on gravel roads for curves and intersections
Cowley County	232nd Road & 141st Road	Unsignalized Intersection/ Curve	Cluster Review	Add pavement markings, curve warning signs, intersection warning signs on RS Route, reconfigure intersection, realign gravel roads
Cowley County	N Jct. K-15 & 11th Road	Unsignalized Intersection/ Curve	Cluster Review	Review curve warning signage, reflective strips on stop sign posts, improve pavement markings on 11th Road
Winfield	US-77 K360 to south city limits	Unsignalized Intersection/ Curve	Cluster Review	Perform Road Safety Audit or Traffic Engineering Assistance Program Study to determine course of action for US 77/K-360 to south city limits. Include speed study

Vulnerable Road Users

Projects that address pedestrian and bicycle safety are shown in Table 13. The list includes projects along main corridors in Winfield. These projects connect neighborhoods to parks and schools and reducing vehicle speeds would improve bicycle/pedestrian safety.

Table 13: Recommended Pedestrian Safety Projects

Pedestrian Projects				
Roadway Ownership	**Location**	**Project Type**	**Selection**	**Scope**
Winfield	City-wide	Bicycle and Pedestrian Study	Cluster Review	Coordinate with School District and KDOT to develop Safe Routes to School (SRTS) or Bike/Ped Plan
Winfield	College Street – US 160 to 152nd Road	Pedestrian Improvement	Cluster Review	Bike/ped study/ADA – Numerous ped/bike generators in this corridor, add missing sidewalk segments, improve connectivity to north edge of city
Winfield	5th Ave/ Simpson Ave – Main St to US 160	Pedestrian Improvement	Cluster Review	Add / upgrade pedestrian crosswalks and missing sidewalk segments
Winfield	12th Ave – Wheat Rd to US 77	Pedestrian Improvement	Cluster Review	Add / upgrade pedestrian crosswalks at higher crossing locations
Winfield	Bliss Street – 5th Ave to 19th Ave	Pedestrian Improvement	Cluster Review	Add / upgrade pedestrian crosswalks at higher crossing locations
Winfield	Viking Blvd & Warren Ave	Pedestrian Improvement	Cluster Review	Location near high school, provide higher visibility pedestrian crossing
Winfield	19th Ave. – Main St. to Wheat Rd.	Pedestrian Improvement	Cluster Review	Add / upgrade pedestrian crosswalks and missing sidewalk segments

7.3. PROGRAMS AND PLANS

The following programs and plans will support achieving the goals of the CSAP.

Speeding and Distracted Driving

Cowley County and the City of Winfield could consider implementing a variety of policies and programs to provide education and enforcement to address excessive speeds and distracted driving as listed in Table 14.

Table 14: Recommended Safety Programs

Speeding and Distracted Driving				
Roadway Ownership	**Location**	**Project Type**	**Selection**	**Scope**
City and County	All	Vulnerable Road Users	Public comment & Crash locations	Create VRU-specific education through Public Service Announcements (PSAs) and other targeted education outlets.
City and County	All	Speeds	Public comment & Crash locations	Conduct high-visibility law enforcement campaigns to deter aggressive driving/speeding on high-crash corridors and near schools.
City and County	All	Distracted Driving	Public comment & Crash locations	Perform targeted education and enforcement. This may include (PSAs), social media ads, school & workplace education related to distracted driving.

Plans Supporting Safety

Cowley County and the City of Winfield could consider completing or supporting plans that will address traffic speeds, provide additional pedestrian, and bicycle safety near schools as listed in Table 15.

Table 15: Recommended Plans Supporting Safety

Supporting Plans and Programs				
Roadway Ownership	**Location**	**Project Type**	**Selection**	**Scope**
City and County	All	Speeds and Vulnerable Road Users	Public comment & Crash locations	Consider developing traffic calming guidance and policy related to defining speed thresholds and identifying traffic calming project types to address speeds and cut-through traffic in neighborhoods.
City	Citywide	Speeds and Vulnerable Road Users	Public comment & Crash locations	Coordinate with the school district to encourage Safe Routes to School or complete additional analysis in school areas to address safety concerns.

7.4. FUNDING SOURCES

Funding is critical to implement the strategies and action items in this CSAP and may come from a variety of sources: Federal, State, local, and the private sector. These include standard funding program mechanisms and grants as well as new initiative grants. Some sources of funding:

- **Local Agency Funding**. Cowley County and the City of Winfield have various funding sources that can be used to maintain and improve streets and roads as well as enhance other safety measures. Consideration of the CSAP strategies during the allocation of funding, especially for maintenance activities or other street and road improvement projects can support implementation of the CSAP.
- **Safe Streets and Roads for All**. The Bipartisan Infrastructure Law (BIL) established the Safe Streets and Roads for All (SS4A) discretionary program that will provide $5-6 billion in grants over the five- year program period. With the completion of this CSAP, Cowley County is eligible to apply for implementation funding.
- **Coordinate with KDOT** to administer annual safety grants funded by the state that are targeted at behavioral safety projects. Identify and apply for funding for education and enforcement programs annually.
- Support the school district in applying for **Safe Routes to School funding**.

7.5. PROCESS AND POLICY CHANGE

The CSAP assesses current policies, plans, guidelines, and standards to identify opportunities to improve and prioritize transportation safety. The following policies, guidelines, and/or standards support achieving CSAP goals.

Vision Zero

The zero deaths vision acknowledges that even one death on our transportation system is unacceptable and focuses on safe mobility for all road users. A “Vision Zero” initiative to target fatal and serious injury crashes was adopted by the Cowley County Commission and Winfield City Council. The Vision Zero Resolutions are included in Appendix D.

Incorporating Safety into Project Development Process

Include systemic safety improvements in projects developed by Cowley County, City of Winfield, and KDOT.

Measuring Progress

After developing the CSAP, progress toward meeting the plan’s goals should be measured over time. This progress needs to be transparent to residents and other stakeholders. This can include annual public and accessible reporting on progress toward reducing roadway

fatalities and serious injuries, and public posting of the Comprehensive Safety Action Plan online.

Update Design Policies
The CSAP includes assessing current policies, plans, guidelines, and/or standards to identify opportunities to improve how processes prioritize transportation safety. This CSAP includes a review of roadway design standards and examines the development of a complete streets policy. Policies to be examined should include sidewalk and speed limits plus other guidelines that are listed in programs such as Safe Routes to Schools.

7.6. NEXT STEPS: PROGRESS AND TRANSPARENCY

The Cowley County CSAP is a dynamic document intended to be used by the County and by stakeholders to continually advance transportation safety via the strategies and actions listed within the CSAP.

Plan Leadership
Cowley County assumes leadership of this plan and will support implementation. As part of this role, Cowley County will continue to utilize the Safety Task Force, whose responsibility will be to carry out updates to the document and implementation of the plan.

Implementation Meetings
Cowley County will convene the Safety Task Force a minimum of one time a year to discuss progress and associated challenges with implementing the CSAP.

Stakeholders
The key stakeholders for the CSAP reviewed the data, discussed other known challenges, and collectively agreed to the identified strategies. The County and stakeholders are committed to implementing the policies, programs, and projects that pertain to their individual mission as well as to improving transportation safety within the county. They will do this by:

- Being champions for safety in job responsibilities and personal lives.
- Participating in events and campaigns relevant to this plan.
- Sharing information about transportation safety within agencies and with peers.
- Coming together annually to share progress on safety activities.

Annual Evaluation
When the previous year's crash data is available, Cowley County will evaluate progress toward this plan's goals by assessing county-wide fatalities, serious injuries, and crashes. Data will also be analyzed to see if the emphasis areas have been affected.

Other Planning Efforts

Cowley County will remain informed of current and new local and statewide safety programs, policies, plans, guidelines, and/or standards. Based on this information, Cowley County can continue to identify opportunities to build upon the current Implementation Plan.

APPENDIX A: PUBLIC SURVEY RESULTS SUMMARY

I reviewed the information provided regarding the Cowley County survey. It was divided into three time frames:

September 20 – November 15, 2024 (pre-Public Meeting)
November 15 – November 22, 2024 (post-Public Meeting)
September 20 – November 22, 2024 (entire duration)

Summary of the responses:

September 20 – November 15, 2024

Number of respondents: 190

Question 1. What safety areas are most important to you in addressing street safety?

Top five answers:

1.	Speeding Vehicles	90	47.37%
2.	Intersections	78	41.05%
3.	Distracted Driving	77	40.53%
4.	Pedestrians	67	35.26%
5.	Bicyclists	62	32.63%

Question 2: Pick the three most important safety improvements that your tax dollars help.

Top five answers:

1.	Infrastructure maintenance	92	48.42%
2.	Sidewalks	69	36.32%
3.	Intersection improvements	68	35.79%
4.	Accessible infrastructure	55	28.95%
5.	Traffic enforcement	42	22.11%

November 15 – November 22, 2024

Number of respondents: 158

Question 1. What safety areas are most important to you in addressing street safety?

Top five answers:

1.	Bicyclists	115	72.78%
2.	Pedestrians	106	67.09%
3.	Distracted Driving	39	24.68%
4.	School Zones	36	22.78%
5.	Intersections	35	22.15%

Question 2: Pick the three most important safety improvements that your tax dollars help.

Top five answers:

1.	Bicycle Infrastructure	110	69.62%
2.	Sidewalks	68	43.04%
3.	Infrastructure Maintenance	53	33.54%
4.	Safe pedestrian crossings	46	29.11%
5.	Intersection Improvements	31	19.62%

September 20 -November 22 (Entire survey duration)

Number of respondents: 348

Question 1. What safety areas are most important to you in addressing street safety?

Top five answers:

1.	Bicyclists	177	50.86%
2.	Pedestrians	173	49.71%
3.	Speeding vehicles	121	34.77%
4.	Intersections	113	32.47%
5.	School Zones	85	24.43%

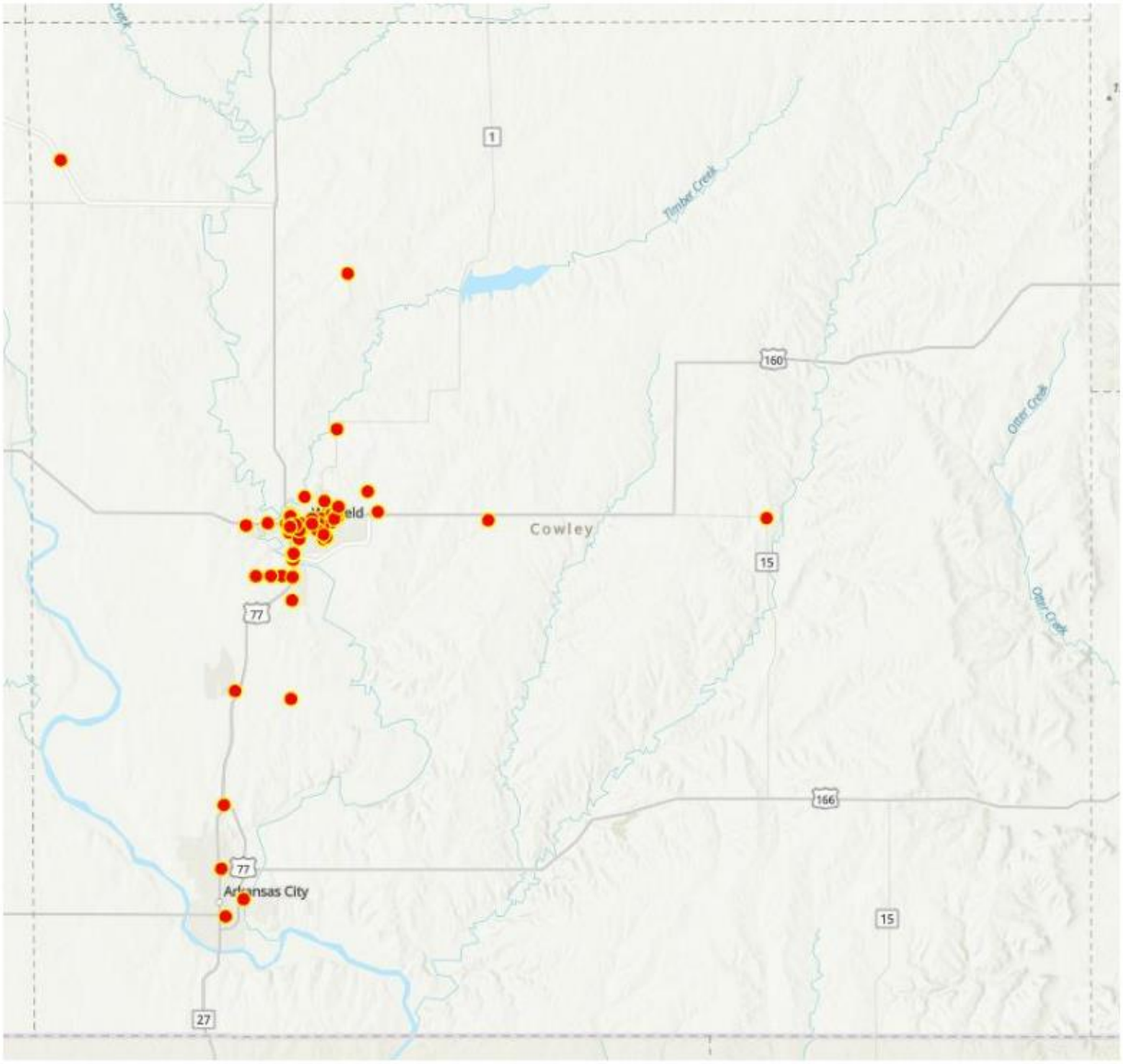
Question 2: Pick the three most important safety improvements that your tax dollars help.

Top five answers:

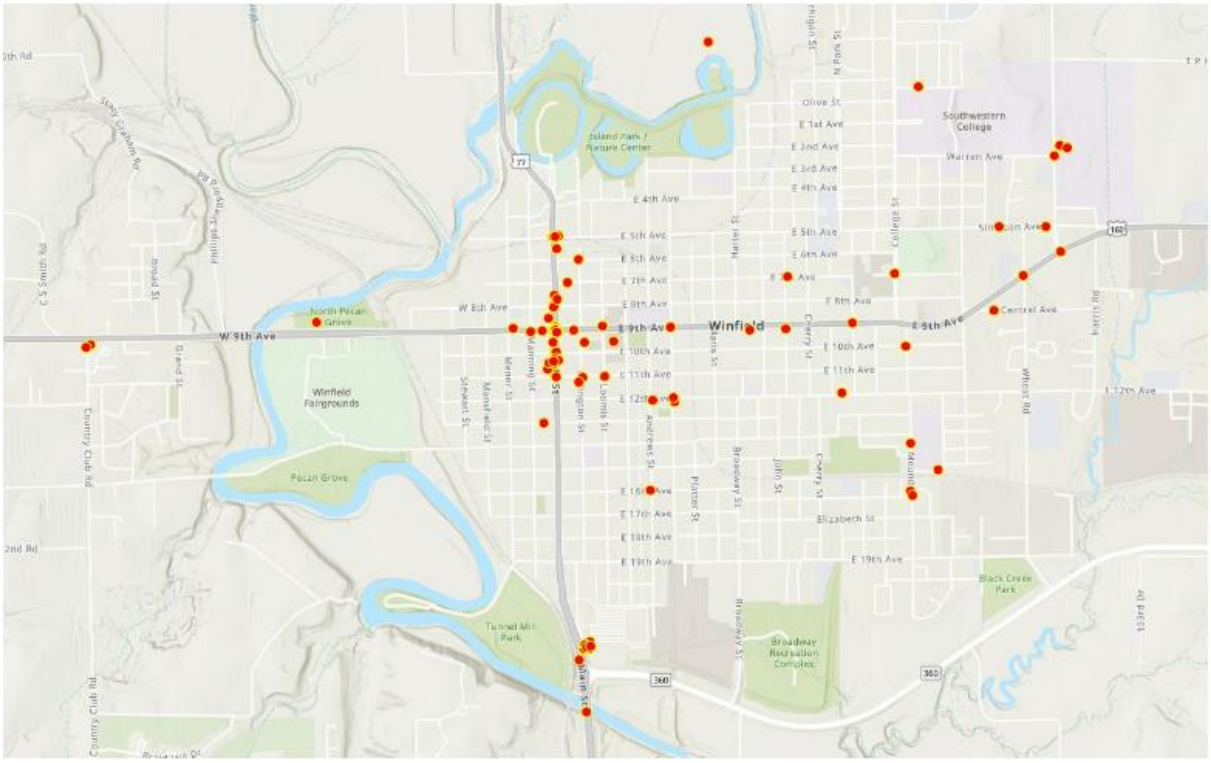
1.	Bicycle Infrastructure	147	42.24%
2.	Infrastructure maintenance	145	41.57%
3.	Sidewalks	137	39.37%
4.	Street Lighting	55	15.8%
5.	Traffic Enforcement	55	15.8%

Respondents also had the opportunity within the survey to give details regarding specific areas of concern.

Cowley County SS4A Survey Results Map – Cowley County

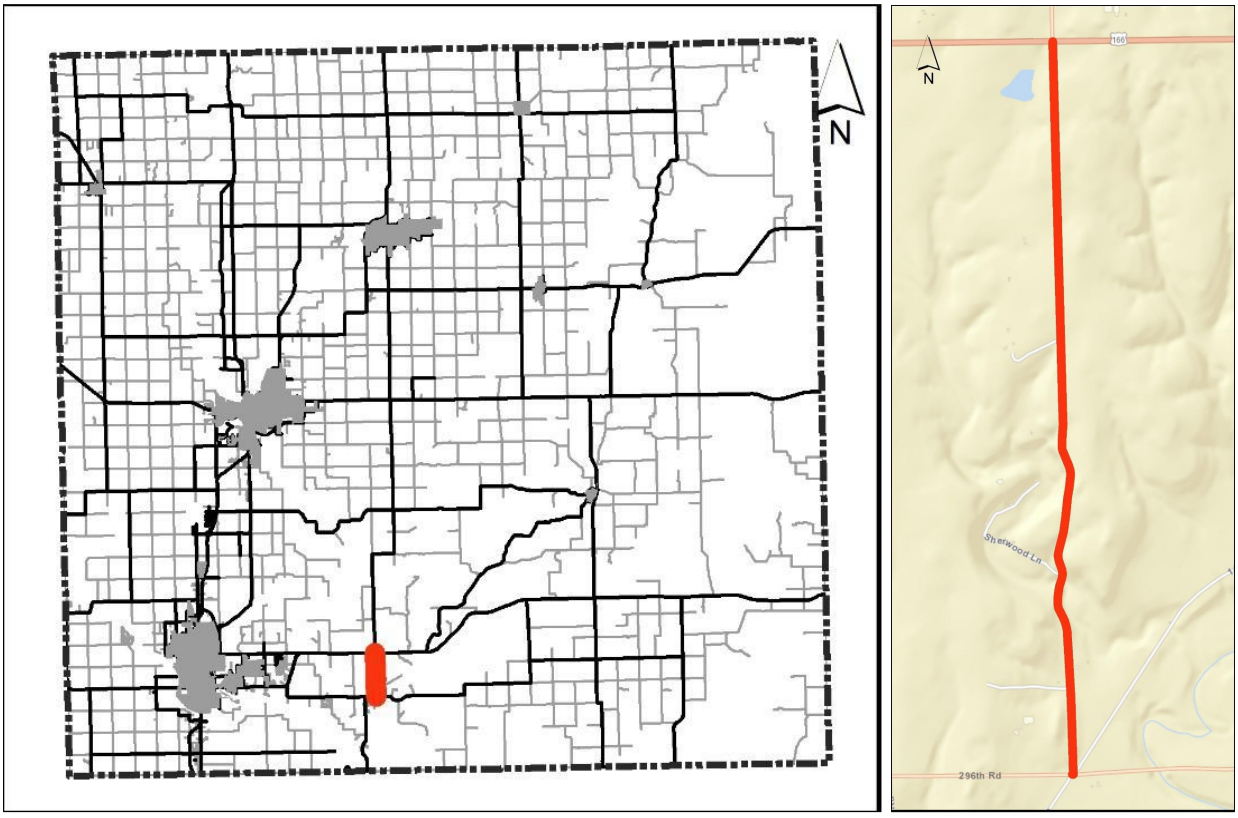


Cowley County SS4A Survey Results Map – City of Winfield



APPENDIX B: PROJECT SHEETS

141st Road between US-166 and 296th Road

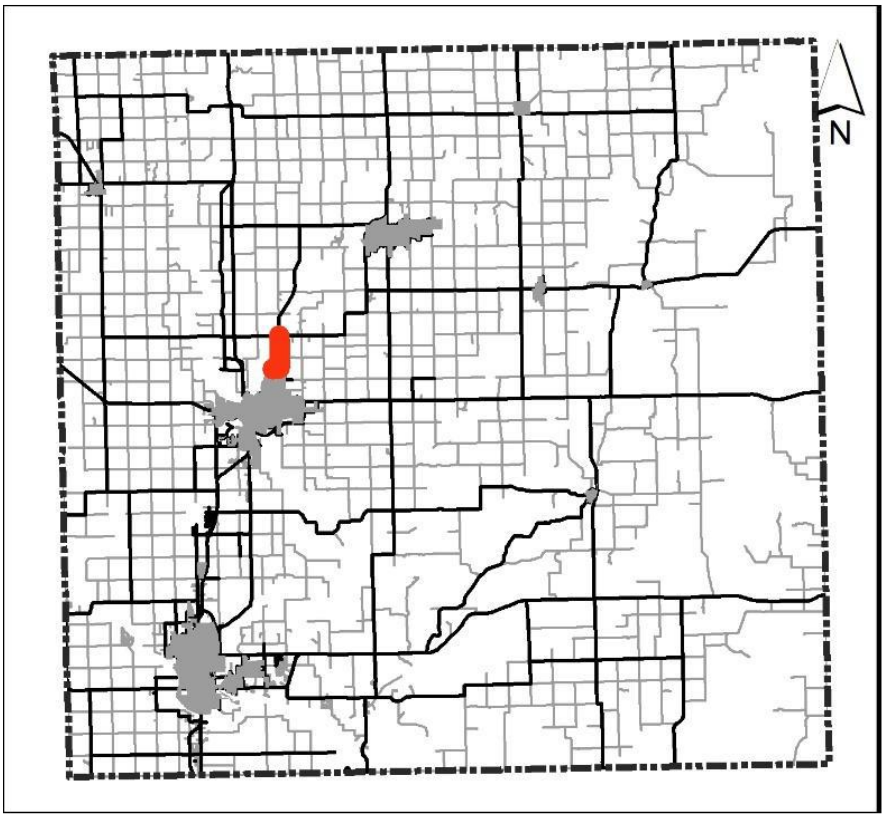


Length (miles): **2.01**

Short Term Options: Add Pavement markings, edge treatment, update curve signage.
Estimated Cost: $160,000

Long Term Options: Add Pavement markings, edge treatment, provide clear zone, flatten/widen slopes, Center and edge line rumble strips, update guardrail, update curve signage.
Estimated Cost: $1.4M

101st Road, 146th Road between 132nd Road and 0.15 Mile West of Viking Boulevard

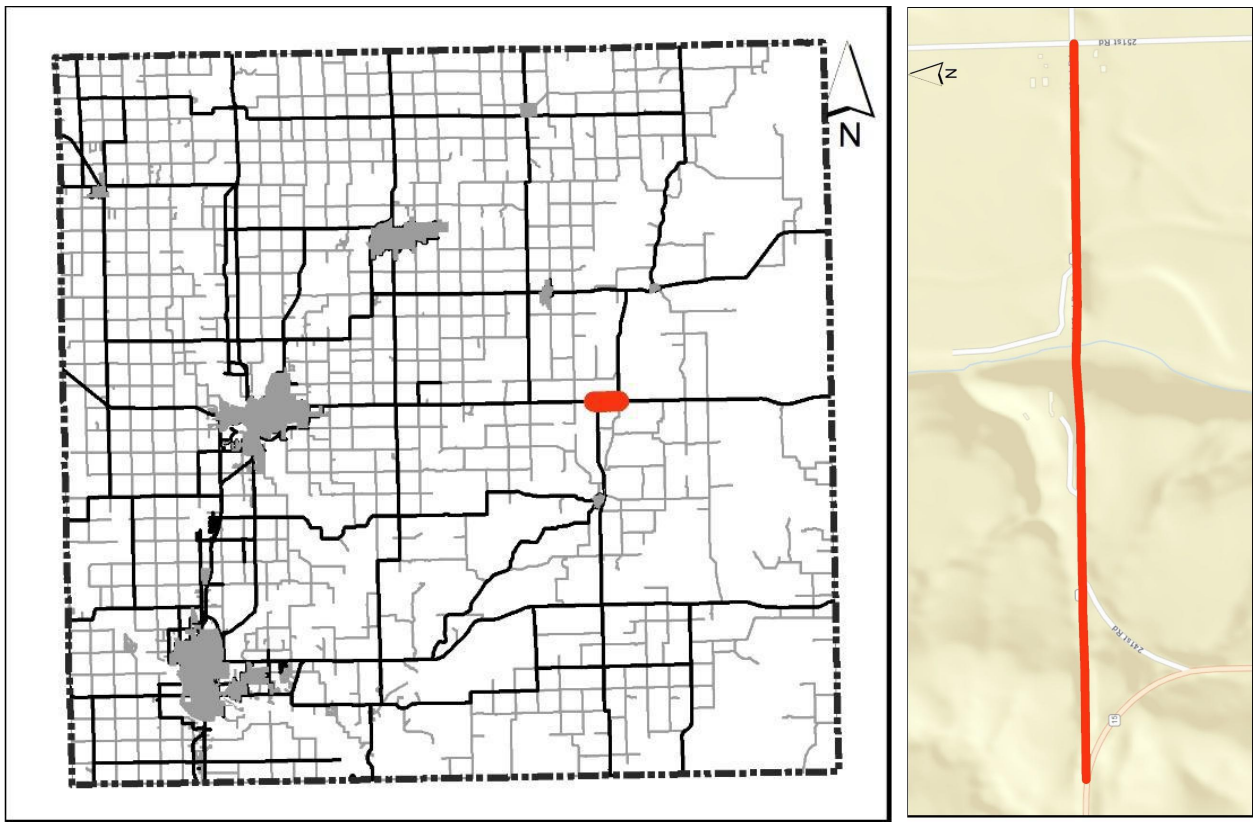


Length (miles): **1.79**

Short Term Options: Add Pavement markings, edge treatment, Retro Strips on Curve Signs.
Estimated Cost: $80,000

Long Term Options: Add Pavement markings, edge treatment, provide clear zone, flatten/widen slopes, Center and edge line rumble strips, update guardrail, update curve signage, extend pipes.
Estimated Cost: $1.15M

162nd Road between K-15 and 251st Road

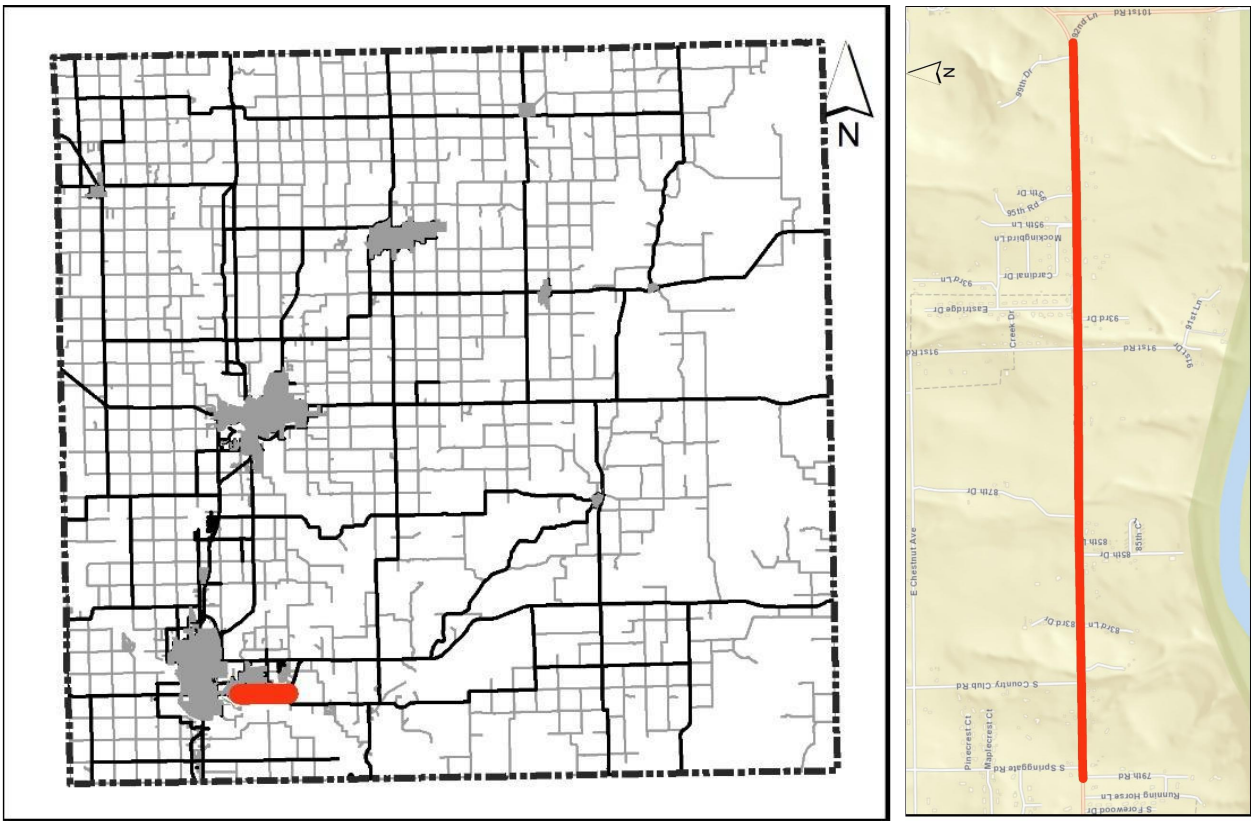


Length (miles): **1.12**

Short Term Options: Add Pavement markings, clear and grub, delineate roadside hazards.
Estimated Cost: $50,000

Long Term Options: Add Pavement markings, edge treatment, flatten/widen side slopes, provide clear zone, update guardrail, extend pipes.
Estimated Cost: $400,000

292nd Road between 79th Road and 101st Road

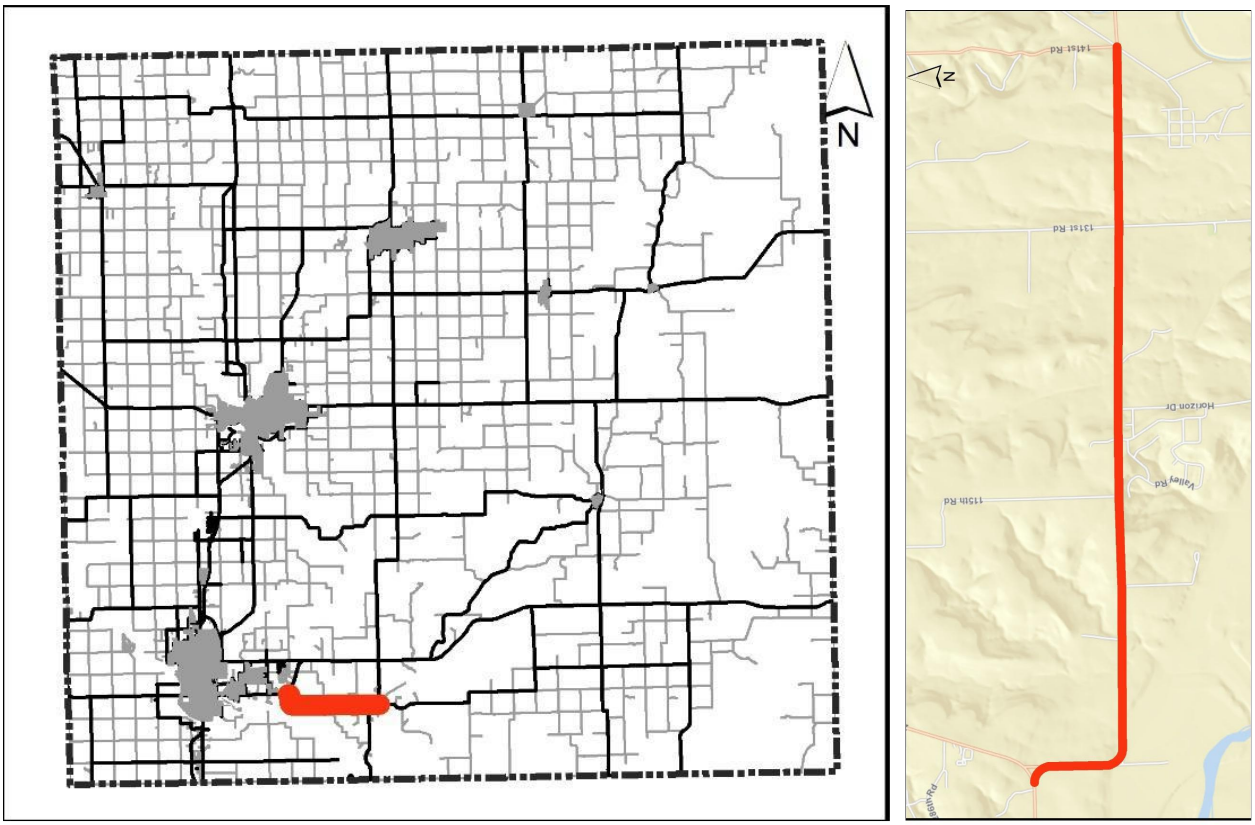


Length (miles): **2.19**

Short Term Options: Add Pavement markings, Delineate roadside hazards, update curve signage.
Estimated Cost: $110,000

Long Term Options: Add Pavement markings, delineate roadside hazards, provide clear zone, flatten/widen slopes, Center and edge line rumble strips, update guardrail, update curve signage, extend pipes.
Estimated Cost: $1.4M

101st Road and 296th Road between 292nd Road and 141st Road

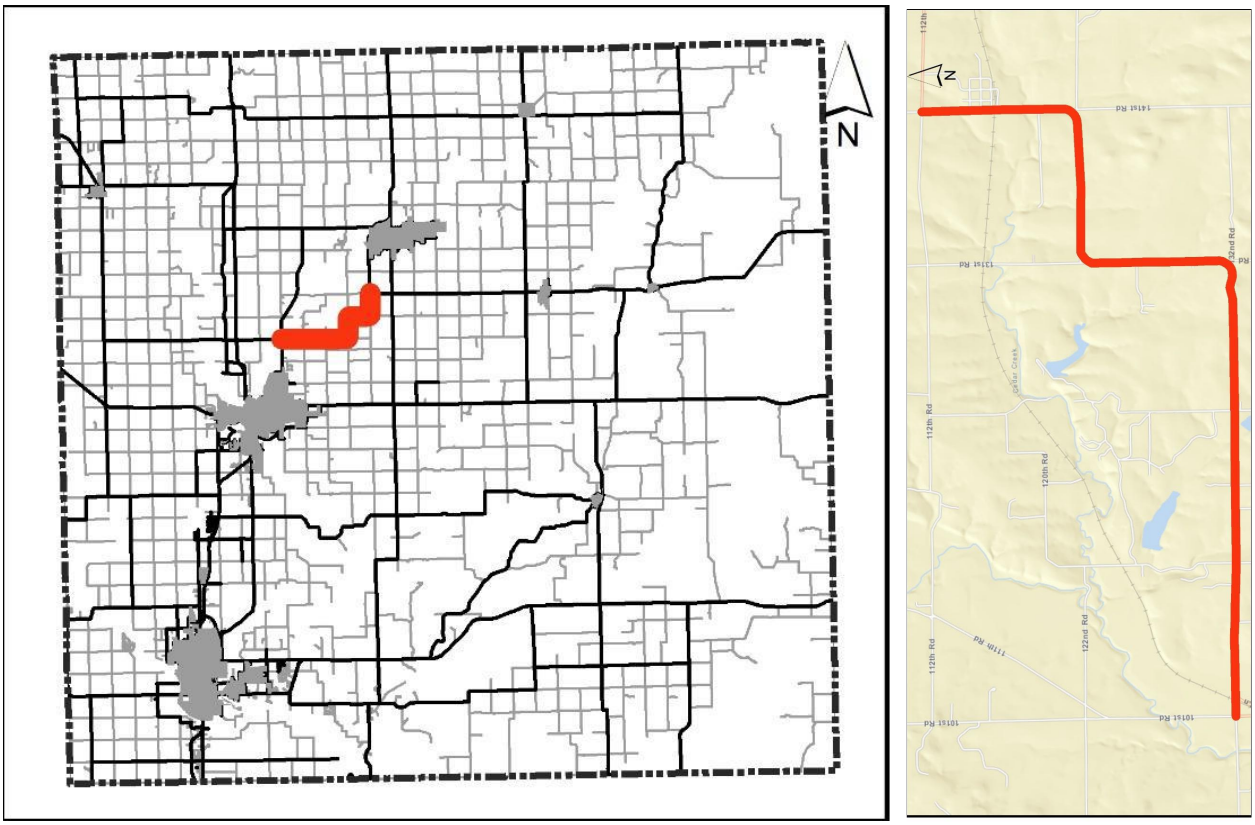


Length (miles): **4.53**

Short Term Options: Add Pavement markings, Delineate roadside hazards, update curve signage.
Estimated Cost: $220,000

Long Term Options: Add Pavement markings, delineate roadside hazards, provide clear zone, flatten/widen slopes, Center and edge line rumble strips, update guardrail, update curve signage, Extend Pipes.
Estimated Cost: $2.8M

131st Road, 122nd Road, and 141st Road

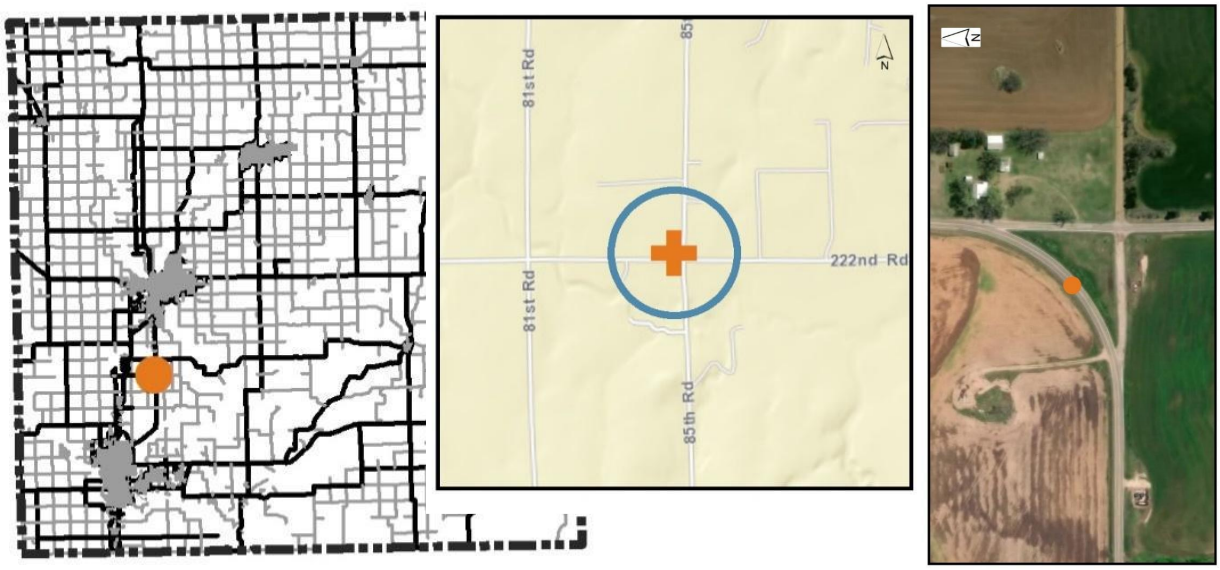


Length (miles): **5.89**

Short Term Options: Add Pavement markings, Delineate roadside hazards, update curve signage.
Estimated Cost: $500,000

Long Term Options: Add Pavement markings, delineate roadside hazards, provide clear zone, flatten/widen slopes, Center and edge line rumble strips, update guardrail, update curve signage, Extend Pipes
Estimated Cost: $3.8M

85th Rd & 222nd Rd



Length (miles): **1.12**

Short Term Options: Retro Strips on signposts, clear and grub, update signs and pavement markings, add transverse rumble strips.
Estimated Cost: $40,000

Long Term Options: Retro Strips on signposts, clear and grub, update signs and pavement markings, add transverse rumble strips, improve curve geometry, reconstruct tie in.
Estimated Cost: $420,000

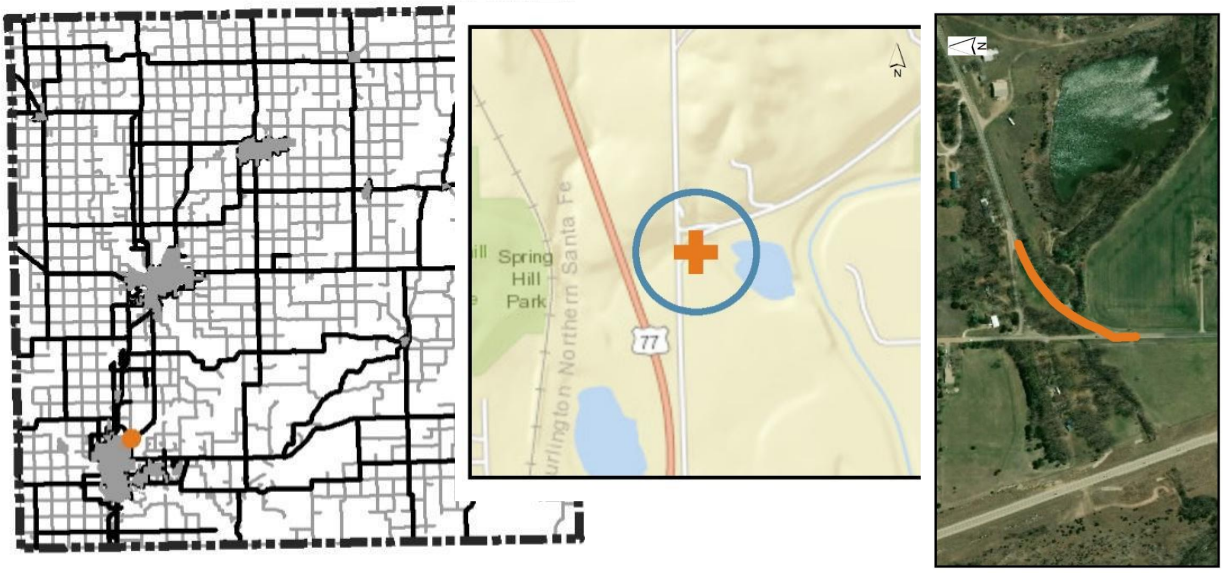
85th Rd 0.9 miles, 1.05 miles and 1.15 miles south of 242nd Rd

Length (miles): **0.42**

Short Term Options: Retro Strips on signposts, clear and grub, update signs and pavement markings.
Estimated Cost: $36,000

Long Term Options: Retro Strips on signposts, clear and grub, update signs and pavement markings, add center and edge line rumble strips, improve superelevation.
Estimated Cost: $480,000

71st Rd & 85th Rd

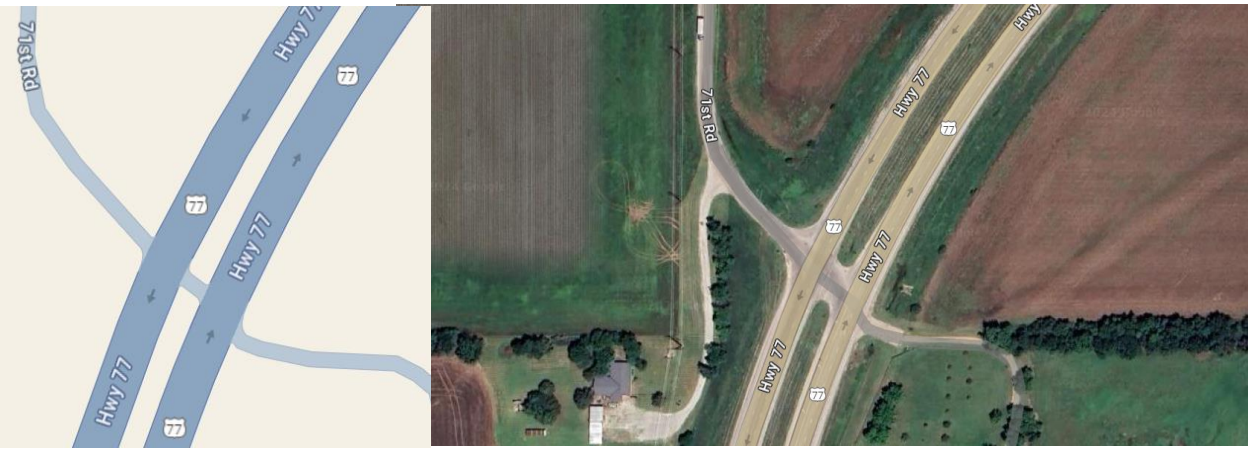


Length (miles): **0.17**

Short Term Options: Retro Strips on signposts, clear and grub, update signs and pavement markings.
Estimated Cost: $11,000

Long Term Options: Retro Strips on signposts, clear and grub, update signs and pavement markings, add center and edge line rumble strips, update guardrail, reconstruct tie-in.
Estimated Cost: $675,000

US 77/71st Road (3.5 Mi. South of Winfield)



Length (miles): **0.2**

Short Term Options: Retroreflective strips on signposts, advance warning signs with flasher, clear and grub, update signs and pavement markings.
Estimated Cost: $41,000

Long Term Options: Retro Strips on signposts, clear and grub, update signs and pavement markings, advance signs with flashers, install two-foot paved shoulders, flatten widen foreslopes, add centerline and edge line rumble strips, reconstruct driveway tie-in.
Estimated Cost: $244,000

232nd Rd/151st Rd

Length (miles): **0.5**

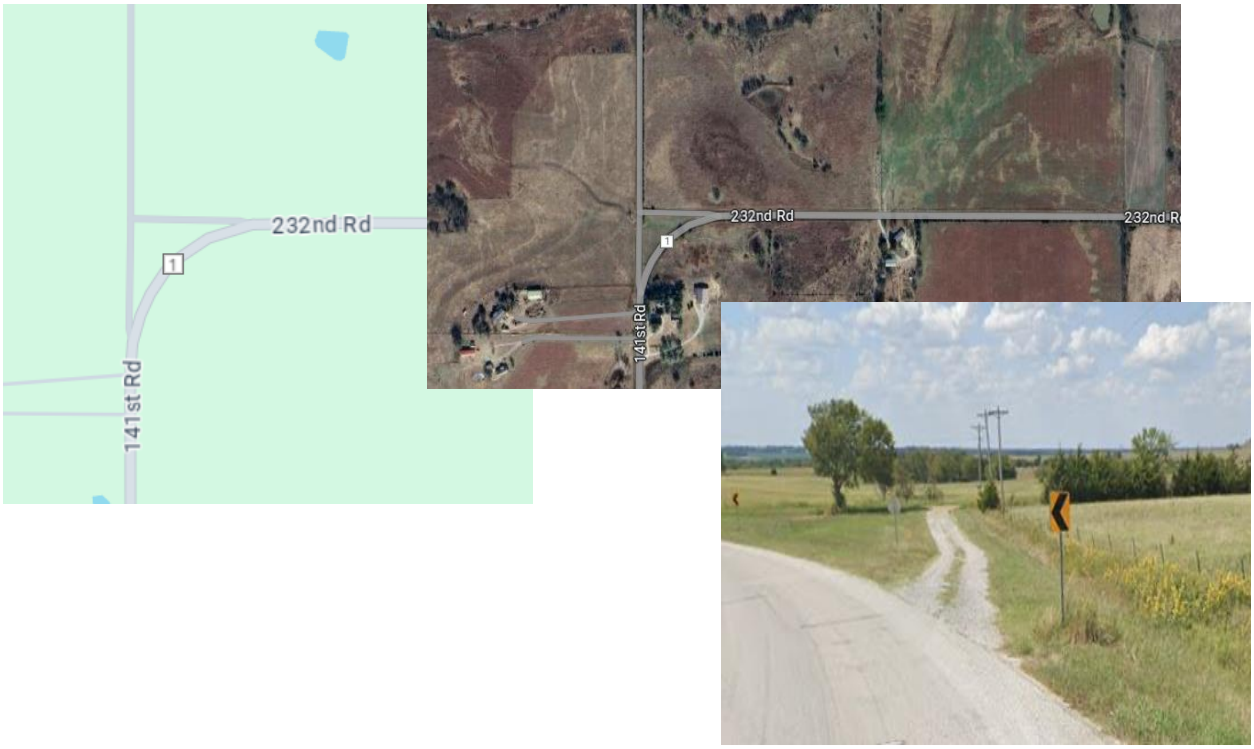
Short Term Options: Retroreflective strips on signposts, clear and grub, update signs and pavement markings, improve edge drop off.
Estimated Cost: $60,000

Long Term Options: Retro Strips on signposts, clear and grub, add pavement markings on mainline, update signs for both mainline and side roads, install two-foot paved shoulder, flatten widen foreslopes, add centerline and edge line rumble strips, extend culvert.

Estimated Cost: $500,000

Blinking chevron signs or advance warning signs with flasher may also provide additional benefit.

232nd Rd / 141st Rd



Length (miles): **0.5**

Short Term Options: Retro Strips on signposts, clear and grub, update signs and pavement markings, improve edge drop off.
Estimated Cost: $50,000

Long Term Options: Retro Strips on signposts, clear and grub, update signs and pavement markings, install 2' paved shoulder, flatten widen foreslopes, add centerline and edge line rumble strips, reconstruct side road tie ins, extend culvert.
Estimated Cost: $600,000

Blinking Chevron signs or advance warning signs with flasher may also provide additional benefit.

N Junction K-15/11th Rd

Length (miles): **0.2**

Short Term Options: Retro Strips on signposts, clear and grub, update signs and pavement markings, advance signs with flashers, improve edge drop off.
Estimated Cost: $49,000

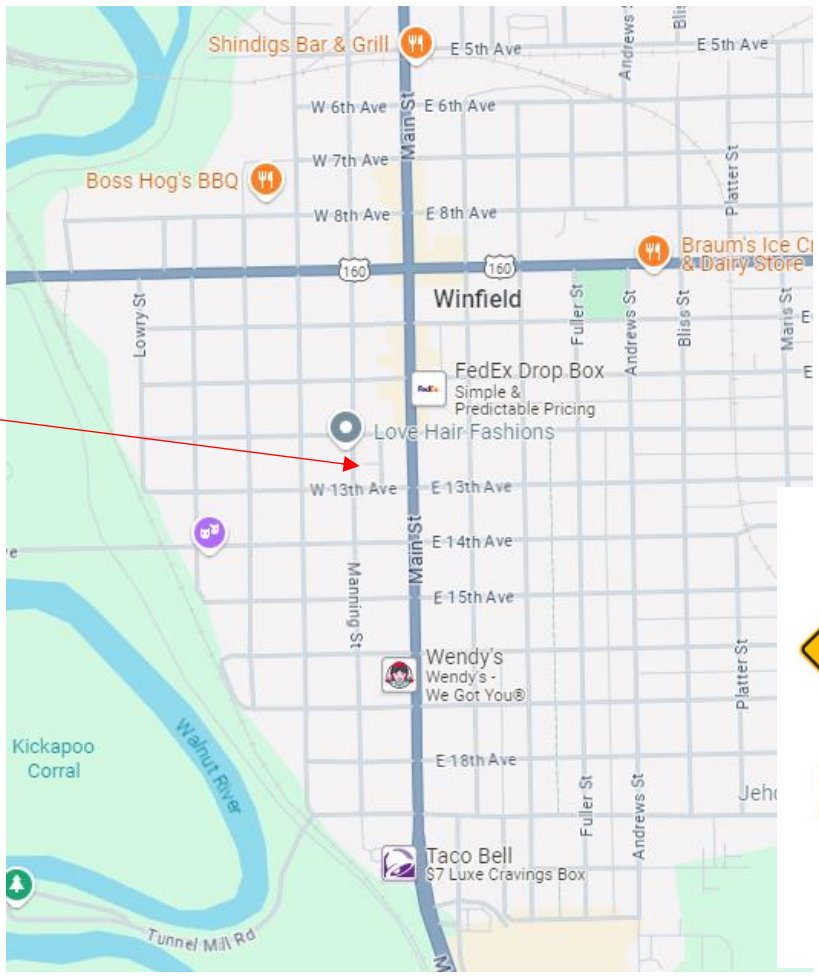
Long Term Options: Retro Strips on signposts, clear and grub, update signs and pavement markings, advance signs with beacon, install two-foot paved shoulder, add centerline and edge line rumble strips.
Estimated Cost: $114,000

US 160/21st Road

Improve pavement marking/signing 21st approach, reconfigure intersection to convert bypass lanes to left turn lanes on US 160.
Estimated Cost: $1.3M

Additional study needed. This location is not currently a priority for KDOT. Federal grants are available if the County wishes to pursue improvements on its own.

Signal Timing/Coordination



Perform Road Safety Audit (RSA) or Traffic Engineering Assistance Program (TEAP) Study to determine course of action for main corridors. Consider reconfiguring from right turn lanes to protected left turn lanes from on US 77 8th St to 19th and US 160 from US 77 to Bliss. Estimated Cost: $600,000^ per signal

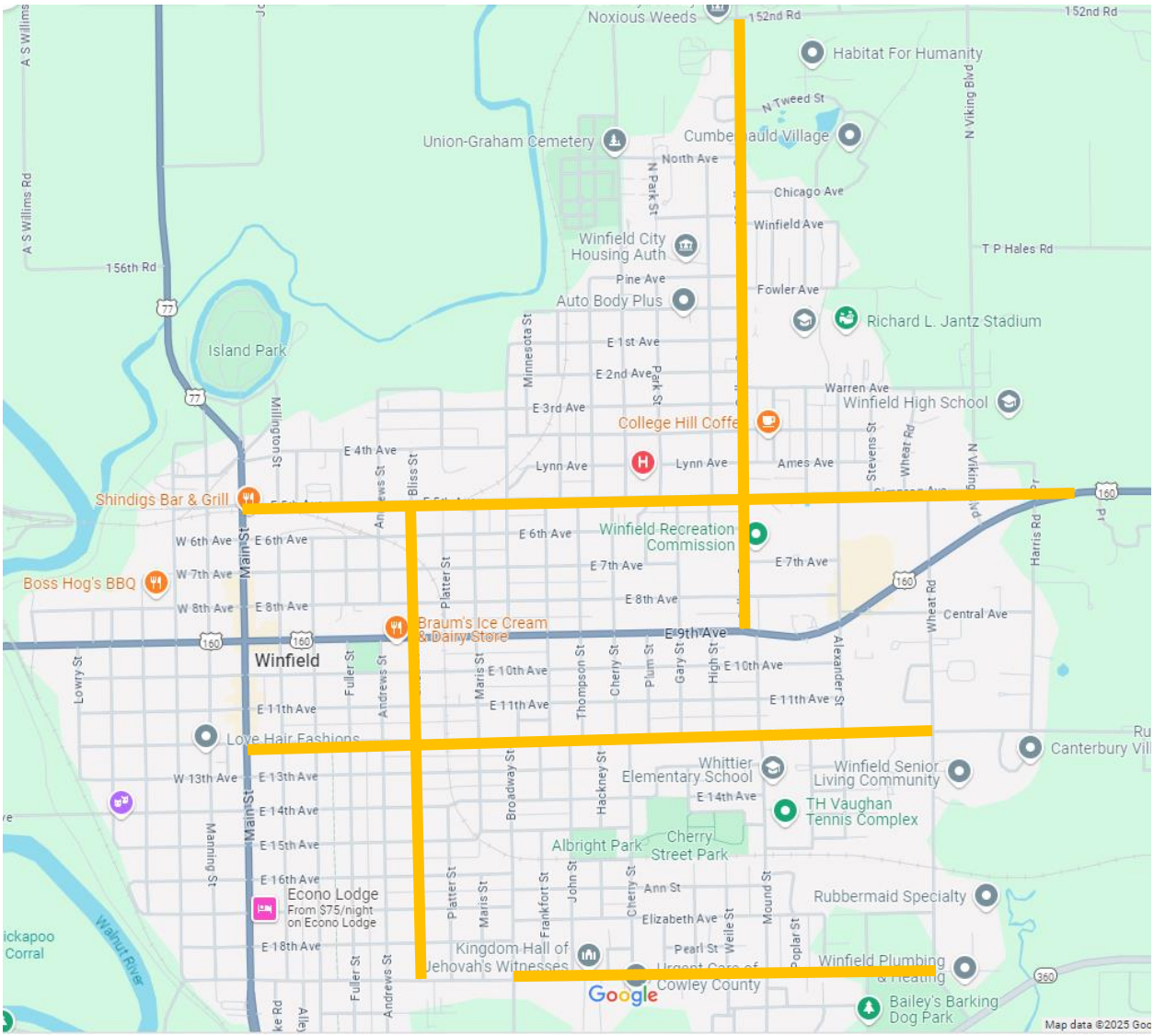
^Includes updating/coordinating signal timing, adding ped improvements such as LPI, and high visibility crosswalks.

North of Quail Ridge Road, south of K-360

Perform Road Safety Audit (RSA) or Traffic Engineering Assistance Program (TEAP) Study to determine course of action for US 77 from Quail Ridge Road to K-360. *Speed study should be included*.

Coordinate with KDOT to determine the best opportunities for funding study.

Winfield Pedestrian Improvements

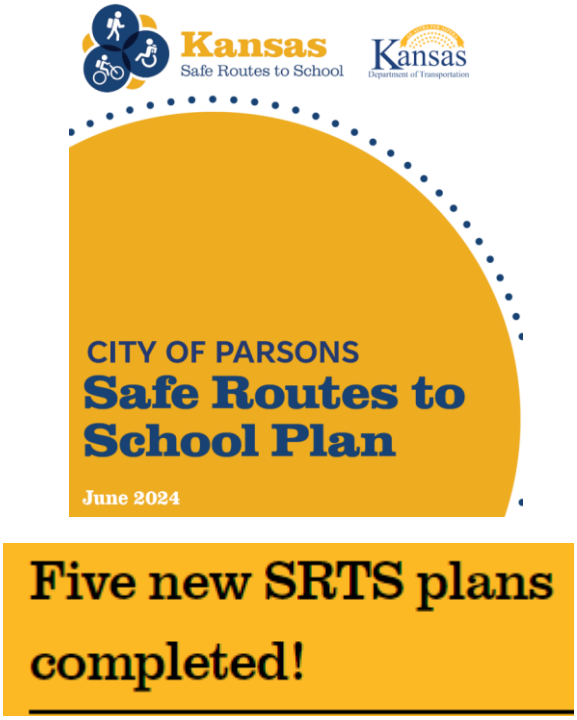


Note: The above map is not exhaustive

<u>Bike/pedestrian /ADA improvements</u>

Numerous ped/bike generators in these corridors. Add missing sidewalk segments and improve connectivity. Add/upgrade pedestrian crosswalks at higher crossing locations. Funding available through KDOT Transportation Alternatives Program and SRTS.

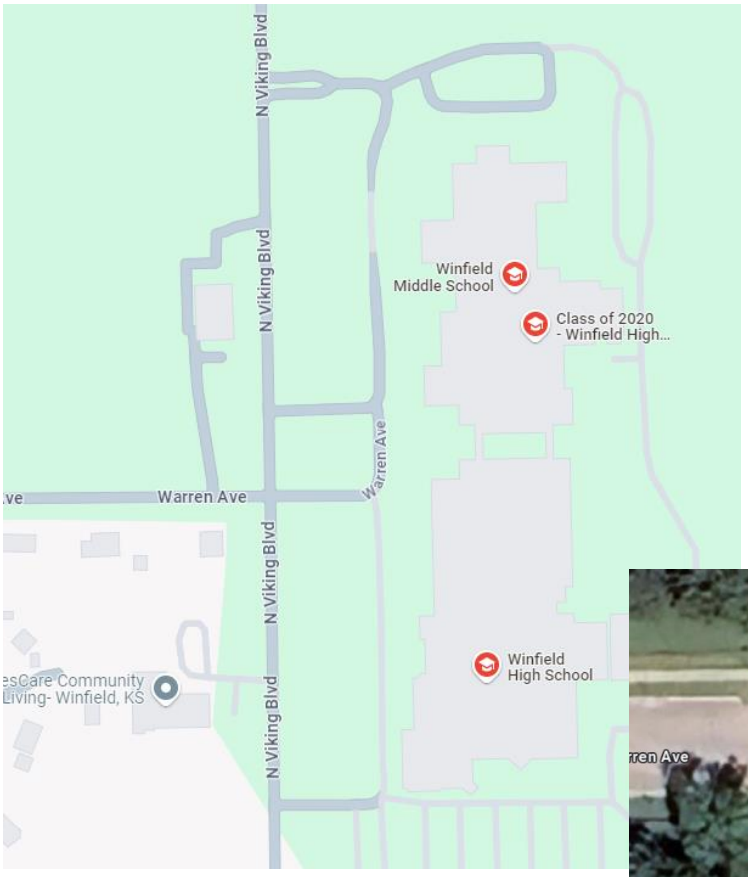
Bicycle/Pedestrian Plan



Coordinate with the School District and KDOT to develop Safe Routes to School (SRTS) or Bike/Pedestrian Plan.

$25,000 awards available through SRTS Program

Viking Blvd & Warren Ave.



Perform RSA or TEAP Study to determine appropriate action for this location near middle and high schools. Providing a high visibility pedestrian crossing may provide improvement to safety.

Distracted Driving

Communications and Outreach Supporting Enforcement
Effective, high-visibility communications and outreach are essential parts of successful speed and aggressive-driving enforcement programs (Neuman et al., 2003; NHTSA, 2000). All examples discussed in the Speeding and Speed Management chapter, Sections 2.2, High-Visibility Enforcement, and 2.3, Other Enforcement Methods, used extensive communications campaigns to support their enforcement efforts. Most campaigns to date have not used paid advertising. The success of paid advertising in seat belt use campaigns (the Seat Belts and Child Restraints chapter, Section 3.1) suggests that it is worth considering for speed and aggressive driving enforcement campaigns
3 Star Effectiveness
https://www.nhtsa.gov/book/countermeasures/countermeasures/41-communications-and-outreach-supporting-enforcement

APPENDIX C: EQUITY ANALYSIS

Environmental Justice Information

The SS4A program aligns with the DOT's department-wide strategic goal of Equity. The goal is to reduce inequities across the country's transportation system and the communities they affect. Several federal agencies provide tools to understand communities to focus on for equity initiatives. An extra focus should be made in areas in Cowley County that align with this criterion. The following equity GIS layers were used to understand what parts of Cowley County are considered an equity-focus area:

• SS4A Underserved Communities Census Tracts (USDOT) – "Historically Disadvantaged Communities"
• EJ Screen: Environmental Justice Screening and Mapping Tool (Environmental Protection Agency [EPA])
• Federal Highway Administration (FHWA) – HEPGIS Maps: Socioeconomics and Equity Analysis
• Centers for Disease Control and Prevention (CDC) Social Vulnerability Index
• Justice40 Tracts (November 2022, Version 1.0) (ESRI, via Climate & Environmental Justice Screening Tool (CEJST))

Based on these GIS layers, 6,025 crashes (out of 8,325 crashes) were within an EJ area. The highest FSI crash types were pedestrian, overturned, and pedalcycle. The areas considered within the equity area are shown in Figure 6.

Table 8: Crash Types - EJ Areas

Crash Type	All Crashes	Fatal Crashes	Serious Injury Crashes	FSI
PEDESTRIAN	59	2	8	16.95%
OVERTURNED	216	11	20	14.35%
PEDALCYCLE	61	1	4	8.20%
OTHER OBJECT	57	1	2	5.26%
FIXED OBJECT	887	3	17	2.25%
OTHER MOTOR VEHICLE	2,672	10	32	1.57%
OTHER-NON-COLLISION	113	-	1	0.88%
ANIMAL	1,183	1	2	0.25%
PARKED MOTOR VEHICLE	763	-	1	0.13%
RAILWAY TRAIN	2	-	-	0.00%
UNKNOWN	12	-	-	0.00%

Of the 2,672 other motor vehicle crashes, the most common crash type was sideswipe: opposite direction. This and head-on crashes accounted for the highest FSI crashes for other motor vehicle crashes in the EJ areas.

Table 9: Other Motor Vehicle Crash Types - EJ Areas

Crash Type	All Crashes	Fatal Crashes	Serious Injury Crashes	FSI
HEAD ON	123	3	5	6.50%
ANGLE - SIDE IMPACT	1,267	6	19	1.97%
SIDESWIPE: OPPOSITE DIRECTION	100	-	1	1.00%
SIDESWIPE: SAME DIRECTION	217	-	2	0.92%
REAR END	774	1	5	0.78%
BACKED INTO	178	-	-	0.00%
OTHER	5	-	-	0.00%
UNKNOWN	8	-	-	0.00%

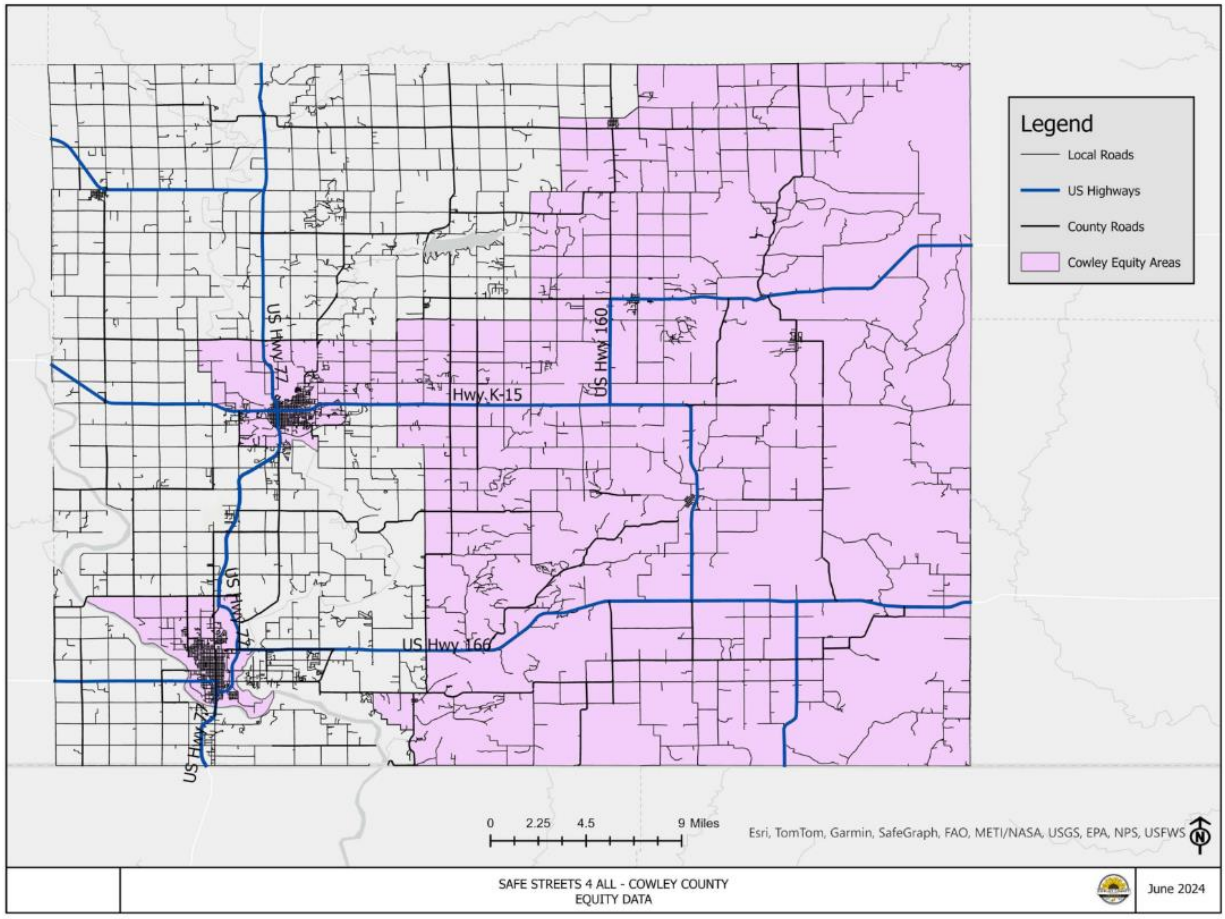


Figure 6: Environmental Justice Areas

EXAMPLE VISION ZERO RESOLUTION OR ORDINANCE

RESOLUTION NO. *[X]*

A RESOLUTION BY THE COWLEY COUNTY COMMISSION, THE GOVERNING BODY OF THE COWLEY COUNTY, KANSAS, ADOPTING A VISION ZERO POLICY AND PROCLAIMING THE COWLEY COUNTY COMMITMENT TO REDUCE TRAFFIC FATALITIES AND SERIOUS INJURY ACCIDENTS IN COWLEY COUNTY BY 2030 AND IMPLEMENTATION OF A SAFE STREETS AND ROADS FOR ALL PLAN.

WHEREAS, in 2021 the Bipartisan Infrastructure Law established the Safe Streets and Roads for All (SS4A) discretionary program which funds regional, local and Tribal initiatives through grants to prevent roadway deaths and serious injuries; and,

WHEREAS, in 2023 Cowley County in making an application for a SS4A planning grant from the U.S. Department of Transportation to create SS4A compliant action plans; and,

WHEREAS, the SS4A program supports the U.S. Department of Transportation's National Roadway, Safety Strategy and the goal of zero roadway deaths using a Safe System Approach; and,

WHEREAS, Cowley County Vision Zero policy supports the Kansas Department of Transportation's Drive to Zero program and the goals of the Kansas Strategic Highway Safety Plan; and,

WHEREAS, 47 individual(s) was/were needlessly killed, and 1,666 individuals were injured on the Cowley County roadways between 2014 and 2023; and

WHEREAS, the Cowley County recognizes the need for action to increase safety and to prevent deaths and injuries on Cowley County streets; and,

WHEREAS, Vision Zero is a proven framework for eliminating traffic deaths and serious injuries through intergovernmental and community partnerships leveraging resources and funds to ensure safe and efficient multimodal transportation; and,

WHEREAS, A comprehensive Vision Zero policy unifies existing safety efforts and elevates improvements through engineering and street design, education and engagement efforts, enforcement and technology, evaluation and data analysis, and equity; and,

WHEREAS, the Cowley County policies and practices support Vision Zero efforts to lead with roadway design that prioritizes safety and plans for a safe network for all modes of transportation; and,

APPENDIX D: Vision Zero Proclamation

WHEREAS, the Cowley County recognizes the need to prioritize hearing from the entire community and supports Vision Zero efforts to address inequities by prioritizing interventions in areas most in need of safety improvements; and,

WHEREAS, the Cowley County commits to build and sustain leadership, collaboration and accountability in partnership with public health, law enforcement, policymakers, elected officials, and community members in traffic safety work to advance the strategies of the SS4A plan and the Vision Zero policy; and,

WHEREAS, the Cowley County recognizes the need for action to increase safety and to prevent deaths and injuries on Cowley County streets; and,

NOW, THEREFORE, BE IT RESOLVED THAT, I, [FIRST NAME MI. LAST NAME], Commissioner(s) of the Cowley County of [NAME], by virtue of the Charter of the Cowley County of [NAME], do hereby:

1. Adopt the Cowley County a Vision Zero policy with the ultimate goal of achieving zero fatalities and serious injuries by the year [year].
2. Adopt the Cowley County Safe Streets for All Action Plan, attached hereto as Exhibit A.

PASSED, APPROVED AND ADOPTED THIS [X] day of [MONTH], 2025.

D

EXAMPLE VISION ZERO RESOLUTION OR ORDINANCE

ORDINANCE NO. *[X]*

A ORDINANCE BY THE CITY COUNCIL, THE GOVERNING BODY OF THE CITY OF WINFIELD KANSAS, ADOPTING A VISION ZERO POLICY AND PROCLAIMING THE CITY OF WINFIELD'S COMMITMENT TO REDUCE TRAFFIC FATALITIES AND SERIOUS INJURY ACCIDENTS IN THE CITY OF WINFIELD BY 2030 AND IMPLEMENTATION OF A SAFE STREETS AND ROADS FOR ALL PLAN.

WHEREAS, in 2021 the Bipartisan Infrastructure Law established the Safe Streets and Roads for All (SS4A) discretionary program which funds regional, local and Tribal initiatives through grants to prevent roadway deaths and serious injuries; and,

WHEREAS, in 2023 City of Winfield in making an application for a SS4A planning grant from the U.S. Department of Transportation to create SS4A compliant action plans; and,

WHEREAS, the SS4A program supports the U.S. Department of Transportation's National Roadway, Safety Strategy and the goal of zero roadway deaths using a Safe System Approach; and,

WHEREAS, the City of Winfield Vision Zero policy supports the Kansas Department of Transportation's Drive to Zero program and the goals of the Kansas Strategic Highway Safety Plan; and,

WHEREAS, four individual) was/were needlessly killed, and 366 individuals were injured on the Cowley County roadways between 2014 and 2023; and,

WHEREAS, the City of Winfield recognizes the need for action to increase safety and to prevent deaths and injuries on the City of Winfield streets; and,

WHEREAS, Vision Zero is a proven framework for eliminating traffic deaths and serious injuries through intergovernmental and community partnerships leveraging resources and funds to ensure safe and efficient multimodal transportation; and,

WHEREAS, A comprehensive Vision Zero policy unifies existing safety efforts and elevates improvements through engineering and street design, education and engagement efforts, enforcement and technology, evaluation and data analysis, and equity; and,

WHEREAS, the City of Winfield policies and practices support Vision Zero efforts to lead with roadway design that prioritizes safety and plans for a safe network for all modes of transportation; and,

WHEREAS, the City of Winfield recognizes the need to prioritize hearing from the entire community and supports Vision Zero efforts to address inequities by prioritizing interventions in areas most in need of safety improvements; and,

WHEREAS, the City of Winfield commits to build and sustain leadership, collaboration and accountability in partnership with public health, law enforcement, policymakers, elected officials, and community members in traffic safety work to advance the strategies of the SS4A plan and the Vision Zero policy; and,

WHEREAS, the City of Winfield recognizes the need for action to increase safety and to prevent deaths and injuries on the City of Winfield streets; and,

NOW, THEREFORE, BE IT RESOLVED THAT, I, [FIRST NAME MI. LAST NAME], Mayor/Commissioner(s) of the City of Winfield of [NAME], by virtue of the Charter of the City of Winfield of [NAME], do hereby:

1. Adopt the City of Winfield a Vision Zero policy with the ultimate goal of achieving zero fatalities and serious injuries by the year [year].
2. Adopt the Cowley County Safe Streets for All Action Plan, attached hereto as Exhibit A.

PASSED, APPROVED AND ADOPTED THIS [X] day of MONTH, 2025.