Finney County Safe Streets and Roads for All Action Plan

Prepared by:

WILSON & COMPANY

TRANSYSTEMS

Kimley»Horn

June 2025

Thank you!

Elected Leadership

Gerry Schultz, District 4 (Chair)
Vicki Germann, District 3 (Vice Chair)
Mike Utz, District 1
Kevin Bascue, District 2
Larry Jones, District 5

Task Force

Mackenzie Phillips, Finney County, Development & Administrative Coordinator
Michael (Shane) Burns, USD 457, Transportation Director
Robin Lujan, Holcomb, County Administrator
Matt Allen, Garden City, County Manager
Mike Muirhead, Garden City, Director of Public Works & Utilities
Tyler Patterson, Garden City, Public Works Operations Manager
C.W. Harper, Finney County/Haskell County, Kirkham-Michael
Robert Reece, Finney County, County Administrator
Adam Schart, Garden City, Engineer
Rusty Varnado, Liberal, County Manager
Pete Earles, Liberal, Engineer
April Warden, Seward County, County Administrator
David Sporn, County of Oberlin, Interim Co-County Administrator
Brock W. Sloan, Oakley, County Administrator
Bradley Pendergast, Scott County, County Administrator
Katie Eisenhour, Scott County Development Committee, Executive Director
Jeffery Pounds, Scott County, Sheriff
Nora Urban, Decatur County, County Clerk
Lisa Mussman, KDOT, District 3 Public Affairs Manager
Gary Bennett, KDOT, District 6 Engineer
Ingrid Vandervort, KDOT, Public Service Executive II
David LaRoche, FHWA, Safety/ITS/Traffic Ops Engineer
Nate Hales, Logan County, Road Supervisor

This page left blank intentionally

Table of Contents

List of Figures

List of Tables

Executive Summary

The Safe Streets and Roads for All (SS4A) program is a federally funded initiative designed to provide grant funding to regional, local, and tribal organizations through 2026. These funds aim to tackle local roadway safety issues by creating Safety Action Plans (SAPs) that enhance road safety. SAPs, funded by the SS4A program, describe comprehensive strategies focused on eliminating fatal and serious injury crashes for all road users. By developing an SS4A SAP, communities are eligible for grant funding for infrastructure or supplemental planning, such as updating a Local Road Safety Plan (LRSP). This initiative strives to form cohesive strategies that extend beyond individual community boundaries, promoting a unified approach to safety enhancement across western Kansas. **This document specifically serves as the tailored SS4A SAP for Finney County** and was developed in collaboration with the US-83 Coalition. It also builds from Finney County's LRSP, which was completed in 2023. Please note that the emphasis areas and the recommendations contained in this plan apply to Finney County including the City of Holcomb, but not Garden City. Garden City will have its own plan and recommendations as part of the US-83 Corridor project, and data for Garden City is not included in this plan.

Commitment

The US-83 Coalition understands the importance of a coordinated approach to identifying and addressing safety concerns on US-83 and within their communities. The Coalition is dedicated to working together to develop strategies aimed at reducing risks and enhancing roadway safety for travelers on US-83, as well as for residents and visitors in their communities.

The success of this SAP depends on the commitment and active involvement of all stakeholders in the US-83 Safety Coalition. This SAP promotes collaboration among the counties and cities along the corridor. By uniting residents, local government officials, law enforcement agencies, transportation authorities, and community organizations, we can pool our expertise and resources to implement focused safety initiatives.

Finney County is dedicated to minimizing the risk of fatal or serious injuries for all road users, with a particular focus on roadway departure crashes, unrestrained occupant crashes, and intersection crashes. This SAP outlines measures to prevent roadway departures, encourage seatbelt use, and minimize conflict points through high-volume intersections through the implementation of infrastructure improvements, public outreach, education, and other efforts.

Safety Task Force

The US-83 Coalition established a Safety Task Force (STF) to oversee the development of this plan. The Task Force consists of elected officials, local government staff, and personnel from stakeholder agencies, all supported by a team of consultant planners and engineers throughout the process.

The US-83 Coalition Safety Task Force formed the basis for community engagement, data collection, and planning efforts that shaped the development of the SAP for US-83, as well as plans for participating Cities and Counties, including Finney County. The Task Force established project objectives and goals, outlined the scope of work, created a project schedule and timeline, and allocated resources across the project.

During three meetings, participants received context and resources for the planning process, along with relevant data and informational materials, to identify the safety challenges and needs for the US-83 Corridor and Finney County.

Public Engagement

Online surveys and stakeholder discussions provided opportunities for the public to identify transportation safety issues and provide input on proposed solutions. On July 22, 2024 and January 23, 2025, the project team connected with CW Harper – an Engineer from Kirkham Michael, who represented Finney County. Mr. Harper reiterated the County's concerns during the first meeting about several locations on state roads that were not included in the 2023 LRSP, as well as skew issues on Jones Avenue between Holcomb and Garden City.

An online survey was conducted from May to August of 2024. The survey was promoted on City and County websites, Facebook, and other community social media platforms. A total of 284 responses were received from across the US-83 corridor, with nineteen respondents identifying as either living or working in or within one mile of Finney County. The survey included questions about demographic information for the corridor at large, and localized queries on crash involvement, safety perceptions, key roadway safety issues, important destinations within the community, and additional comments from respondents. Though the survey did not generate a high number of responses from Finney County residents and stakeholders, the nineteen respondents who did participate offered valuable insights. Here are some key takeaways from their responses:

- Trucks turning at Parallel Road often hold up traffic due to a lack of passing lanes for motorists not turning.
- Some respondents have observed other drivers not complying with stop conditions.
- One respondent believes there is excess semi-truck traffic on US-83 between Garden City and Southwind Golf Course.

Crash Trends

Five years of crash data (2018-2022) was reviewed for Finney County outside of Garden City. The data provided a suitable sample size to identify crash trends.

- During this period, there were 22 fatal crashes, 40 serious injury crashes, 188 injury crashes, and 801 property damage only (PDO) crashes.
- Most crashes were single car crashes (57%).
- There were 197 crashes with animals, though 191 of these were PDO crashes.
- For crashes involving other vehicles, 41% were rear-end crashes and 32% were angle–side impact crashes.
- High Crash Locations: Among fatal and serious injury crashes (KSI), a majority are located along the major arteries of US-400, US-83, and W Jones Avenue.

Equity Analysis

Equity is a fundamental component of a safety action plan and was incorporated into both the High-Risk Network (HRN) scoring and project prioritization. The project team used tools from the U.S. Department of Transportation, Environmental Protection Agency, Federal Highway Administration, Centers for Disease Control and Prevention, and the White House Council on Environmental Quality to assess which census tracts within the study area showed a greater need for roadway safety improvements.

Projects in disadvantaged areas were given higher priority than non-disadvantaged areas. Finney County has multiple census tracts, and projects in those tracts identified as equity tracts were prioritized over projects in non-equity tracts.

Safety Strategies

The US-83 Safety Task Force 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. Priority Emphasis Areas were then identified for each community and Countermeasures were developed to specifically address the following prioritized safety emphasis areas for Finney County:

1. Roadway Departures
2. Unrestrained Occupants
3. Intersections

Within Finney County, one location registered on both the HIN and HRN that also received public and stakeholder input. That project and other major projects identified in the Finney County LRSP are below (Priority 1 project is in **bold**):

1. **W Jones Avenue from Holcomb to Garden City**
2. Big Lowe Road (between Lowe Road and Turner Avenue)
3. Maple Street (between Anderson Road and Taylor Avenue)
4. VFW Road (between Maple Street and US-50)
5. Burnside Drive (between Business US-83 and US-83)
6. Old Highway 83 (between Business US-83 and US-83)
7. Anderson Road (between Maple Street and US-50)
8. River Road (between the Kearny County Line Road and Oak Avenue)
9. Sagebrush Road (between Circle Land Road and Business US-83)
10. Jones Avenue and Mary Street Intersection
11. Holcomb Lane and Parallel Road Intersection

Progress and Transparency

Tracking progress over time in an open and transparent way is crucial to achieving the goals set forth in Finney County's Vision Zero Resolution. Regularly monitoring progress ensures accountability to the public and fosters trust between the community and the cities, counties, and agencies responsible for roadway safety. Progress and transparency also promote informed decision-making based on the effectiveness of chosen interventions, allowing for adjustments when necessary. Additionally, they provide a sense of direction and enable teams and individuals to see the tangible outcomes of their efforts.

To support progress and transparency, this Action Plan includes information on funding, process and policy changes, and other strategies to help Finney County achieve the objectives outlined in their Vision Zero Ordinance.

1. Project Introduction

1.1 US-83 Corridor Communities Safe Streets and Roads for All Action Plan Overview

Roadway safety affects every individual and community across the United States. Whether driving, riding as a passenger, using transit, walking, or biking, everyone faces risks on roadways. In the U.S., road crashes lead to significant numbers of serious injuries and fatalities. According to the National Highway Traffic Safety Administration (NHTSA), in 2022, 42,514 people were killed and 2,382,771 people were injured in motor vehicle crashes. That's roughly 116 deaths each day and 272 injuries each hour.

To address this issue, the U.S. Department of Transportation (USDOT) established the Safe Streets and Roads for All (SS4A) grant program. SS4A funds regional, local, and Tribal transportation safety initiatives aimed at preventing roadway deaths and serious injuries. The SS4A program supports the USDOT's National Roadway Safety Strategy and its goal of zero roadway deaths through a Safe System Approach. SS4A shares the principles, objectives, and policies of Vision Zero, which asserts that all roadway deaths are unacceptable and preventable. SS4A implements Vision Zero through the USDOT.

Communities that successfully apply for an SS4A Grant receive funds for roadway safety planning, which culminates in a Safety Action Plan (SAP) for the community. In September 2022, a group of cities and counties along the US-83 Highway, led by Garden City, successfully applied for an SS4A Grant. This initiative led to the formation of the US-83 Coalition (Coalition) to oversee the development of the SAPs for the US-83 Corridor and the participating cities and counties. This report focuses specifically on Finney County, Kansas. Please note that these emphasis areas and the recommendations contained in this plan apply to Finney County including the City of Holcomb, but not Garden City. Garden City will have its own plan and recommendations as part of the US-83 Corridor project, and data for Garden City is not included in this plan.

The project began in May 2024, with the Coalition convening for a series of meetings that included staff and elected officials from the participating cities and counties. This was followed by public engagement, data collection, and an analysis of roadway safety concerns throughout the corridor and in the involved communities. This plan employs comprehensive data analysis to identify high-risk roadways and intersections, assess traffic patterns, and evaluate existing infrastructure in communities along the US-83 Corridor, including Finney County. **Figure 1** on the following page shows the extent of the US-83 corridor and the communities participating in this project.

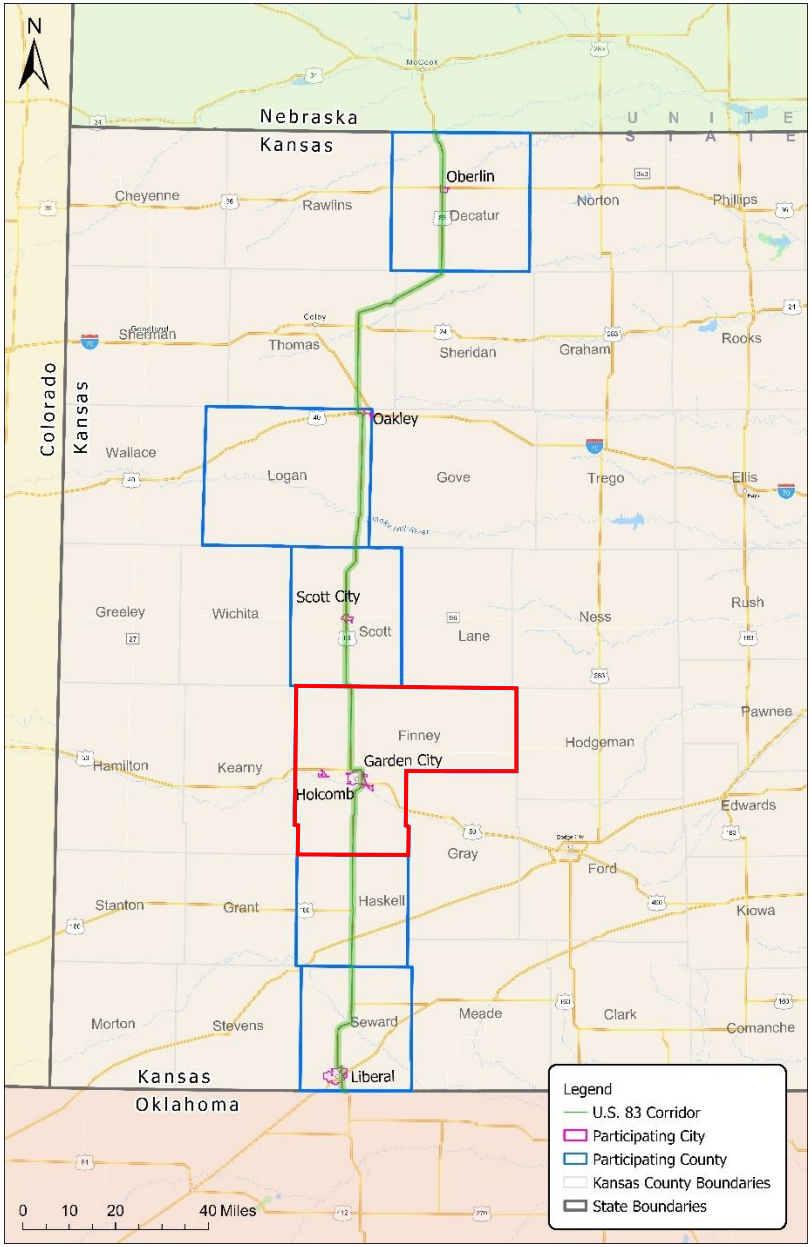

Figure 1: US-83 Corridor and Participating Study Communities

The information collected and analyzed throughout this process is the basis for the following SAP. With this information, evidence-based strategies have been identified that focus on the core tenets of SS4A: safer people, safer roads, safer vehicles, safer speeds, and post-crash care. Identifying and improving safety gaps in these areas will create safer roads for Finney County and all US-83 communities.

1.1.1 Commitment to Collaboration and Safety

The US-83 Coalition recognizes the need for a coordinated effort to identify and prioritize safety concerns on US-83 and within their communities. The Coalition is committed to working collaboratively to develop strategies that will mitigate risks and improve roadway safety for travelers on US-83, as well as residents and visitors to their communities.

The success of this Safety Action Plan relies on the commitment and active participation of all stakeholders in the US-83 Safety Coalition. Through this SAP, the Coalition fosters collaboration among the counties and cities along the corridor. By bringing together residents, local government officials, law enforcement agencies, transportation authorities, and community organizations, we can leverage our collective expertise and resources to implement targeted safety initiatives.

By working together, we can promote a culture of safety and ensure that our communities are safe places to live, work, and visit. Through regular communication, sharing of best practices, and ongoing prioritization of our initiatives, we will continuously strive to improve safety along the US-83 corridor. This coalition is dedicated to fostering collaboration, innovation, and a proactive approach to addressing safety problems, and we look forward to making a positive impact on the well-being of Finney County, and the rest of the US-83 Corridor communities.

1.1.2 Safe System Approach

The US Department of Transportation has adopted the Safe System Approach (SSA) model to roadway safety. The SSA is part of the broader National Roadway Safety Strategy which is designed toward a future with zero roadway fatalities and serious injuries. The Safe System Approach model is to create layers of safety redundancy in the roadway system to prevent crashes and reduce harm when crashes occur. To achieve this, the Safe System Approach focuses on six principles and five objectives when evaluating safety plans. A graphical depiction of the Safe System Approach may be found in **Figure 2** below.

Safe System Approach Principles:

1. Death and serious injury are unacceptable
2. Humans make mistakes
3. Humans are vulnerable
4. Responsibility is shared
5. Safety is proactive
6. Redundancy is crucial

Objectives of the Safe System Approach:

1. Safer People
2. Safer Roads
3. Safer Vehicles
4. Safer Speeds
5. Post-Crash Care

Figure 2: The Safe System Approach, Source: FHWA

1.1.3 Plan Organization

This SAP is built on the following eight key components:

1. ***Leadership Commitment and Goal Setting*** – Finney County Board of Commissioners recognize the need for action to increase safety and to prevent deaths and injuries on Finney County streets and committed to eliminating roadway fatalities and serious injuries by year 2035.
2. ***Planning Structure*** – The US-83 Coalition established a Safety Task Force (STF) to oversee the development, implementation, and monitoring of the Finney County Safety Action Plan.
3. ***Engagement and Collaboration*** – Robust public engagement, including online surveys and stakeholder discussions, provided opportunities for the public to identify transportation safety issues and provide input on proposed solutions. Feedback was collected, analyzed, and incorporated into the SAP.
4. ***Equity Considerations*** – In addition to inclusive and representative engagement processes, the project team used USDOT tools to identify and prioritize projects in underserved communities.
5. ***Safety Analysis*** – A comprehensive safety analysis was conducted to identify high-crash locations and emphasis areas. Then, the US-83 Safety Task Force evaluated the results of the safety analysis alongside public comments.
6. ***Policy and Process Changes*** – Current policies and plans were reviewed then, policy and process changes were recommended to improve safety.
7. ***Strategy and Project Selection*** – A comprehensive set of projects was prioritized based on data analysis and public input, including projects to address the priority emphasis areas: roadway departures, unrestrained occupants, and intersections
8. ***Progress and Transparency*** – A process was established to measure progress over time, as the SAP is implemented and updated.

2. Leadership Commitment and Goal Setting

2.1 Message from Board of Commissioners

As the elected body representing Finney County, we are proud to endorse the Finney County Safety Action Plan. Our goal with this plan is to establish a framework for a safe and sustainable transportation system that eliminates traffic fatalities and severe injuries on our roads. We strongly believe that every life is precious, and it is our shared responsibility to prioritize safety and protect all road users.

This Action Plan aims to address the root causes of traffic crashes and devise effective prevention strategies. We acknowledge that achieving Vision Zero requires a comprehensive approach involving education, infrastructure improvements, enforcement, and collaboration with all stakeholders. This plan will serve as a guiding document to assist decision-makers in balancing multiple competing needs with limited funds.

We invite all Finney County residents to join us in this crucial effort. By working together, we can create a future where everyone travels safely and confidently on our roads. Let us unite in our commitment to Vision Zero and make Finney County a model for safe and sustainable transportation.

To demonstrate our commitment to achieving Vision Zero, Resolution 2025-03 was adopted by vote of the Holcomb City Council on June 11, 2025 and Resolution 17-2025 was adopted by the vote of the Finney County Board of Commissioners on June 16, 2025. The resolution is attached as **Appendix A**: Vision Zero Resolution to this document.

3. Engagement and Collaboration

3.1 Public Involvement Plan

A Public Involvement Plan (PIP) was created to guide the engagement of citizens and stakeholder agencies for this project. The PIP provides project background, guiding principles, objectives and relevant community demographics for the US-83 Corridor and its communities. It also describes the structure of the Safety Task Force, their meetings and agendas, and how the project team intends to engage the public.

The guiding principles of the Public Involvement Plan are:

1. Public involvement will be meaningful, productive, and respectful of the participant's time.
2. Feedback generated will be valued and considered.
3. Feedback will be representative of the overall community.
4. Public involvement will lead to a SS4A Action Plan that results in successful implementation that improves the lives of those living and traveling in the study area jurisdictions. By using the input of the community, the plan will meet their needs and gain their support.

Public involvement in the plan was achieved through a few primary means:

- Three Task Force Meetings
- Online Surveys
- Interactive Map
- Stakeholder Meetings

3.2 Safety Task Force Meetings

The US-83 Coalition created a Safety Task Force to guide the development of this action plan. The Task Force is made up of elected officials, staff from local government, and staff from stakeholder agencies, all of whom were assisted throughout the process by a team of consultant planners and engineers. A full list of task force members and their professional affiliations is found in the Acknowledgements section at the beginning of this document.

The US-83 Communities Safety Task Force served as the foundation for community engagement, data collection, and planning efforts that informed the development of the US-83 SAP, as well as the plans for all the participating Cities and Counties, including Finney County. The Roadway Safety Task force sought to determine the project objectives and goals, provide a scope of work, create a project schedule and timeline, and determine how resources would be allocated across the project.

The task force met three times throughout the course of the project to share issues in their communities and to discuss solutions to reach the goal of eliminating serious injury and fatal traffic crashes. **Table 1** below provides information about the three Safety Task Force meetings that were held for this project.

Table 1: Safety Task Force Meetings

Meeting Date	Subject	Location
May 1, 2024	Project Kickoff	Virtual
June 12, 2024	US-83 Summit	Scott City, KS
August 7, 2024	Countermeasures	Virtual

3.2.1 Safety Task Force Meeting 1

The first US-83 Coalition Safety Task Force Meeting was held virtually via Microsoft Teams on May 1, 2024. The group was convened with the stated purpose: To gather input and perspectives from the Task Force about the roadway safety concerns and issues along the US-83 corridor. Participants were divided into two separate Breakout groups, with the first comprised of officials from Finney County, KDOT, Holcomb, and Garden City. Discussion topics focused on what each community wants to get out of the plan and general discussion around major roadway issues, including distracted driving, speeding, and allocation of funding, among other issues.

3.2.2 Safety Task Force Meeting 2

The second US-83 Coalition Safety Task Force Meeting was held on June 12, 2024, at the Western Kansas Child Advocacy Center in Scott City, KS. This meeting organized the participants into regional clusters to focus on the North, Central, and South Regions of the US-83 Corridor. This meeting focused on visioning a future for the US-83 Community, describing the current impact the US-83 Corridor has on the communities, and what are the major safety concerns in individual communities. This discussion provided more time and space for community members to describe roadway safety issues in their individual communities, thus providing more information and context to the project team. Finaly, the project team used a poll asking: "What do you hope to accomplish through the US-83 Corridor Safety Action Plan?" The top three answers were improved safety, better flow of traffic, and planning for the future.

3.2.3 Safety Task Force Meeting 3

The third and final US-83 Coalition Safety Task Force was held on August 7, 2024, and was held virtually via Microsoft Teams. This meeting focused on identifying countermeasures preferred by each community for their highest priority projects. Like the second meeting, the communities were organized into Small Communities, Medium Sized Communities, and Counties. The project team walked through common countermeasures that can be applied to address each crash type. For example, safety edges, rumble strips, and median barriers were given as example countermeasures to address roadway departure crashes. Overall, the meeting gave participants an opportunity to preview some of the solutions that would be included in their respective communities' plans.

3.3 Online Survey

An online survey was conducted from May to August 2024. The survey was advertised on US-83 Coalition City and County websites, Facebook, and other community social media platforms. There were 284 completed surveys received throughout the entire corridor, with 19 respondents reporting as living or working in or within one mile of Finney County. Survey questions focused on demographic information for the corridor at-large, and for localized information on crash involvement, perceptions of safety, important roadway safety issues, destinations within the community, and comments from respondents. This helped the project team understand issues impacting the entire US-83 Corridor, Finney County, and the other local Communities.

A common theme from the Finney County survey was the high volume of semi-truck traffic on US-83. US-83 bypasses Garden City to the east and north and serves as the main north-south highway artery in Finney County. High volumes of large commercial vehicle traffic was a consistent theme for respondents. Another commonly reported safety improvement was the desire for four lanes on US-83 to allow cars to pass the large trucks which frequent the road. Another comment noted a desire for more proactive enforcement by local police and highway patrol officers.

> "Certain intersections (US-83 & 6 Mile Rd, US-50 and Spruce/Schulman) are so dangerous. Could [have] extended lanes for heavy vehicles to have a way around slower moving vehicles to avoid crashes."
>
> - Finney County Survey Respondent

3.4 Interactive Map

An interactive map was created to assist with public engagement efforts. Due to the wide geography of the study area, the map was a helpful tool to reach community members that were unable to attend public meetings in person. The map also helped respondents communicate exactly where they had experienced crashes and other safety concerns in and around the US-83 Corridor and within their communities. **Figure 3** shows a screenshot of responses from users identifying problem areas along Finney County roadways.

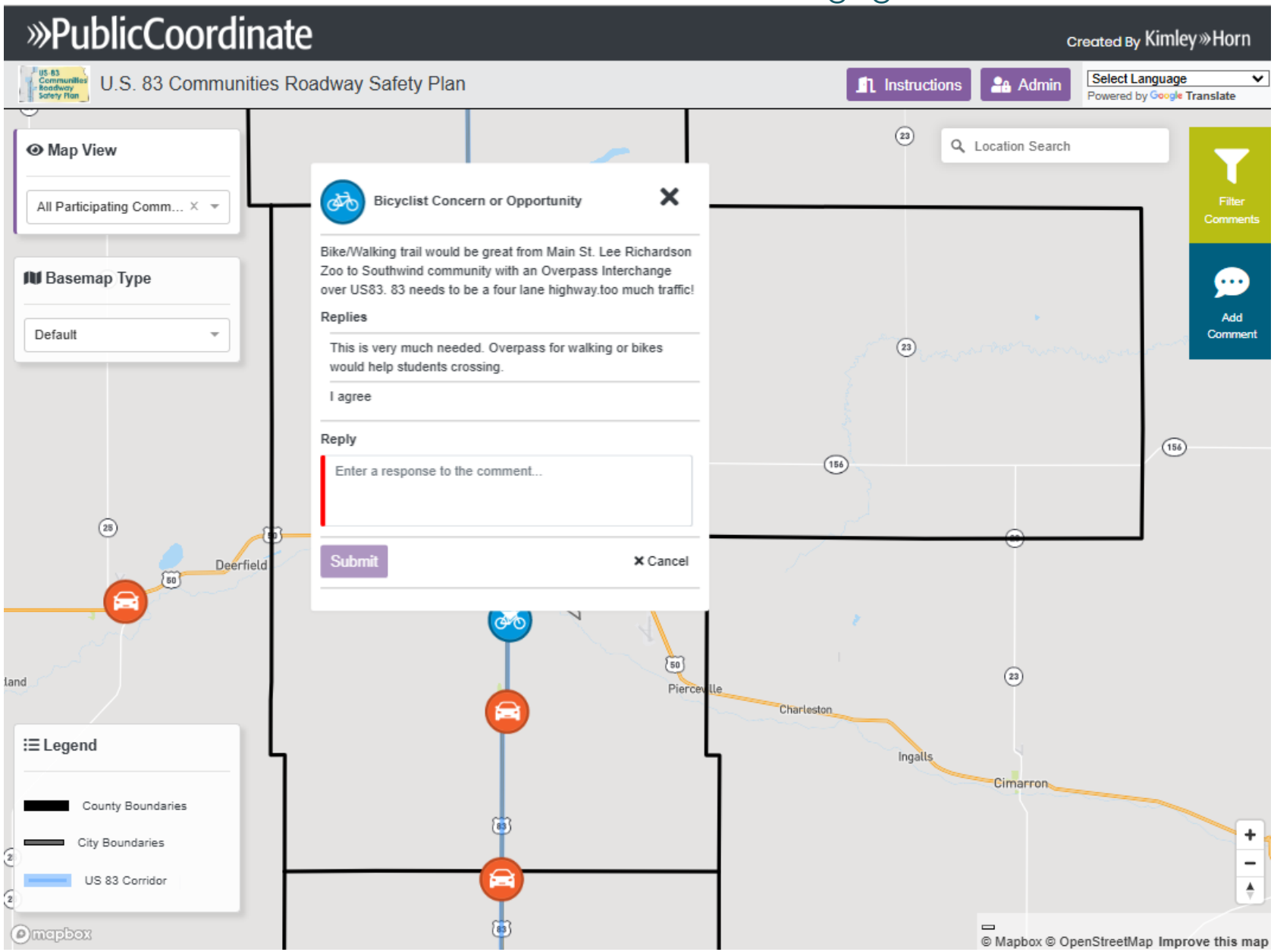

Figure 3: US-83 Communities Roadway Safety Plan

3.5 Key Takeaways from Public Engagement

Survey respondents shared a lot of helpful information with the project team. Specific items that were identified by Finney County residents and stakeholders included:

- All 19 respondents stated that during a typical week, their usual mode of travel was driving by car.
- Responses were mixed when respondents were asked how strongly they agree that Finney County streets are safe, with six agreeing, six disagreeing, four answering neutral, two strongly agreeing, and one strongly disagreeing.
- Heavy/large vehicles and reckless/careless driving were the two most common responses when asked about elements to focus on for improving safety.
- Semi-trucks passing other traffic contributes to unsafe conditions on US-83, with many respondents citing a desire to convert the US-83 corridor through Finney County into a 4-lane expressway.
- Areas identified by stakeholders for specific safety improvements include:
    - Jones Avenue between Holcomb and Garden City (fixing skew issues on County Road)
    - VFW Road and Jones Avenue (addressing conflict points due to truck traffic)
    - Jones Avenue/Mary Street/Anderson Road (awkward geometry and poor visibility at night)
    - Jones Avenue and Lincoln Road (heavy skew)
    - US-83/Business 83 (congestion and delays south of Garden City, many conflict points near Southwind Development)
    - US-400/US-83 Interchange (large truck traffic along Solar Avenue to existing truck stop)
    - Wilderness Road (low water crossing – "Bruno Crossing", sees heavy traffic volume)
    - VFW Road and Maple Avenue (mill and overlay and shoulder work currently under design)
    - Burnside Drive (Comprehensive Plan calls for trail similar to the Talley Trail to alleviate dangerous conditions for cyclists)

4. Safety Analysis

4.1 Finney County Crash History

A comprehensive, data-driven analysis was conducted evaluating roadway safety conditions, crash trends, and identified vulnerable locations throughout Finney County. This analysis also assisted in determining the long-range safety needs of the community and formulated countermeasures and strategies to mitigate risks and address crash trends effectively.

The following crash analysis focused on five years of data for Finney County outside Garden City. It is important to note that this analysis captures data collected during the Covid-19 pandemic, which may skew trends to some degree. In addition, FHWA required KDOT to change its serious injury definition in 2019, which has resulted in a higher number of serious injury crashes after that year throughout the state.

This dataset includes all crashes that occurred in Finney County during the five-year period. Following the removal of crashes within Garden City and all incomplete or erroneous data, a 1,051–crash dataset was developed. There were 22 fatal crashes, 40 serious injury crashes, 188 injury crashes, and 801 property damage only (PDO) crashes as shown in **Table 2** below.

Table 2: Crashes by Severity and Year

Finney County	Fatal	Serious Injury	Other Injury	PDO	Total
2018	2	6	37	197	**242**
2019	6	6	35	166	**213**
2020	6	10	31	139	**186**
2021	5	9	46	144	**204**
2022	3	9	39	155	**206**
Crashes	**22**	**40**	**188**	**801**	**1,051**

4.2 Network Screening

4.2.1 Crashes by Location

Data from 2018 to 2022 was analyzed to map crash locations, helping to pinpoint high-risk areas and contributing factors. Identifying these high-risk areas and factors allows for the development of effective safety measures, targeted interventions, and strategic resource allocation to improve safety along the corridor and in the cities and counties. **Figure 4** on the following page shows a heat map of all crash locations (including PDO crashes) around Finney County (excluding Garden City) over the five-year study period.

4.2.2 Methodology

To understand which intersections and roadway segments are the most statistically significant regarding crash history and crash risk, the project team created a High Injury Network (HIN) and High-Risk Network (HRN) scoring methodology. **Figure 5** on Page 20 shows a map of the locations along the HIN and/or HRN.

The HIN scoring methodology was developed to identify and prioritize roadway segments and intersections with the highest rates of KSI crashes. This data-driven approach to the analysis incorporates crash severity, frequency, and roadway characteristics (e.g., traffic volumes) to highlight areas where focused safety improvements will yield the most significant reductions in severe crashes.

The HRN scoring methodology was developed to identify and prioritize roadway segments and intersections with the highest risk of KSI crashes based on facility attributes. This data-driven approach to the analysis incorporates roadway characteristics, intersection attributes, and location context to highlight areas where focused safety improvements will reduce the number of risk factors present on the system to reduce the likelihood of severe crashes occurring in the future.

The methodology was applied in every city and county in the US-83 project area and contributed to the projects and safety interventions recommended in this SAP in the Countermeasures and Recommended Projects section. The complete methodology for the HIN and the HRN can be found in **Appendix B** at the end of this report.

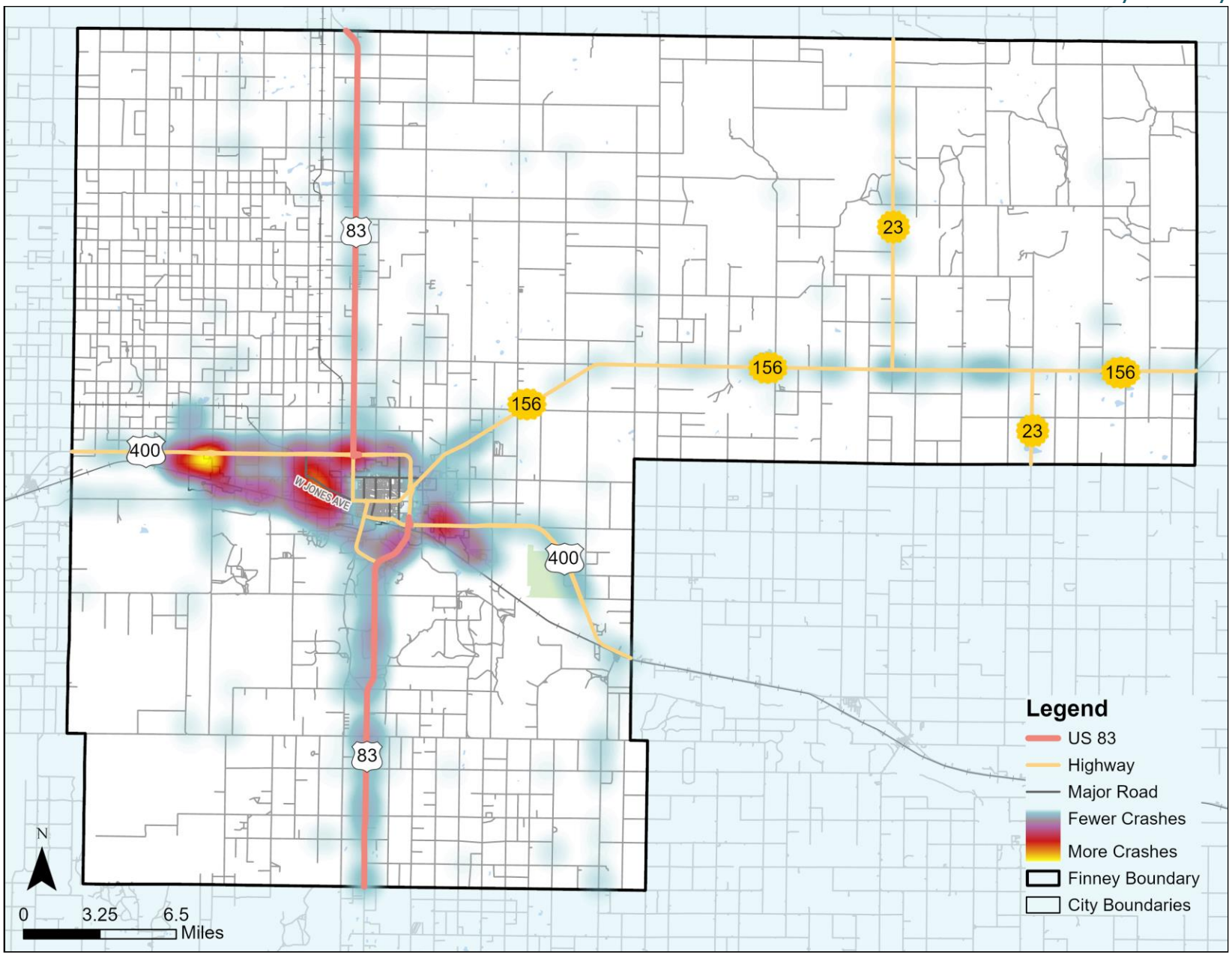

Figure 4: Crash Density Heat Map

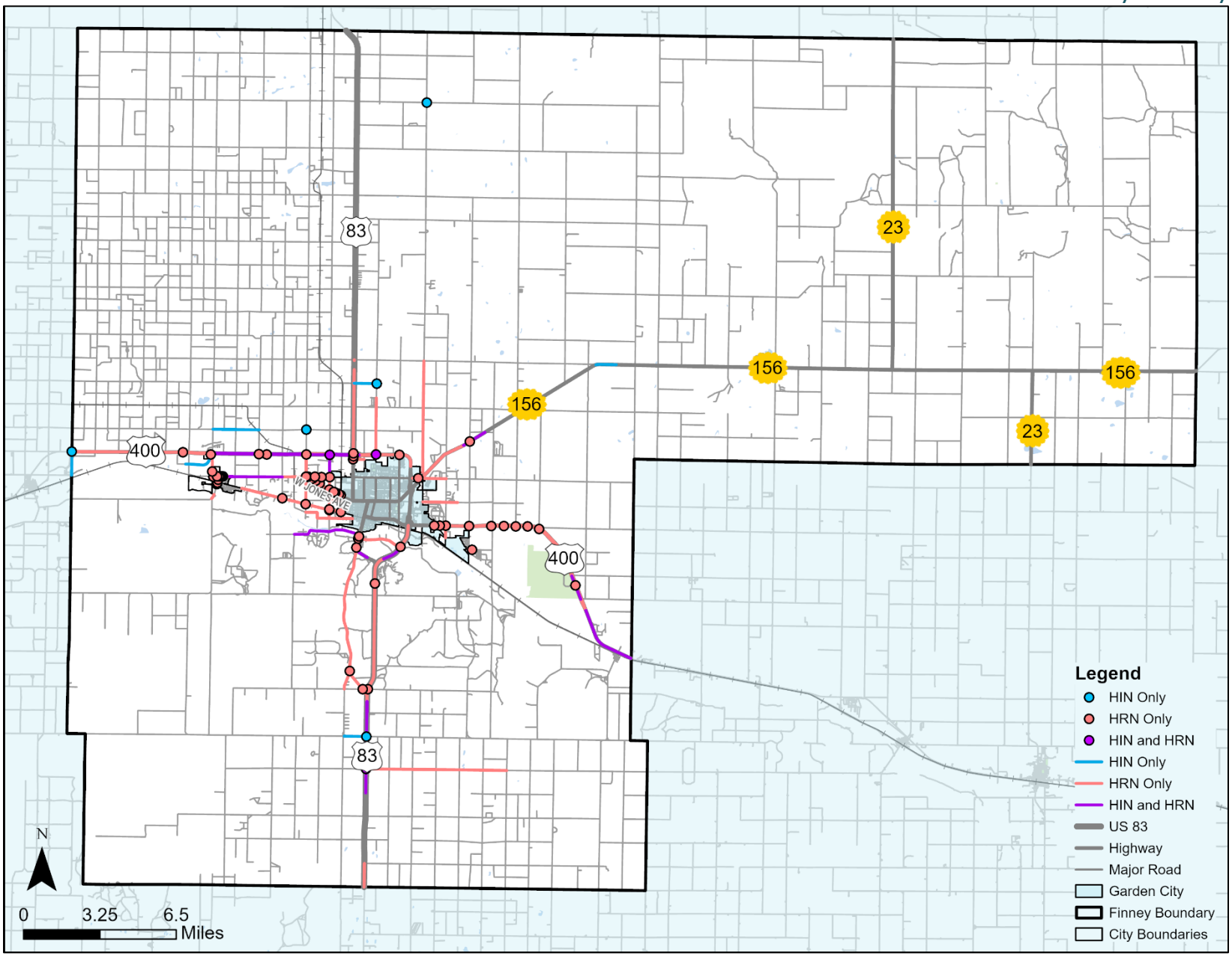

Figure 5: HIN/HRN Map

4.3 Emphasis Areas

Early in the project, emphasis areas for each community were determined by discussing known traffic safety issues with residents and stakeholders, and then cross checking these concerns against crash data. A discussion of potential interventions for each of these emphasis areas will be discussed later in this document. Emphasis areas that were significantly over-represented in the fatal and serious injury crash data are described below as Priority Emphasis Areas, underscoring their importance to safety in the study area. **Figure 6** shows the total number of crashes that resulted in a fatality or injury by emphasis area. It is important to note that a crash can apply to more than one emphasis area. Please note that these emphasis areas and the recommendations contained in this plan apply to Finney County including the City of Holcomb, but not Garden City. Garden City will have its own plan, emphasis areas, and recommendations as part of the US-83 Corridor project.

Priority Emphasis Areas for Finney County:

- Roadway Departure Related
- Unrestrained Occupant Related
- Intersections

Other Emphasis Areas for Finney County:

- Large Commercial Vehicles
- Impaired Driver
- Young Driver
- Older Driver

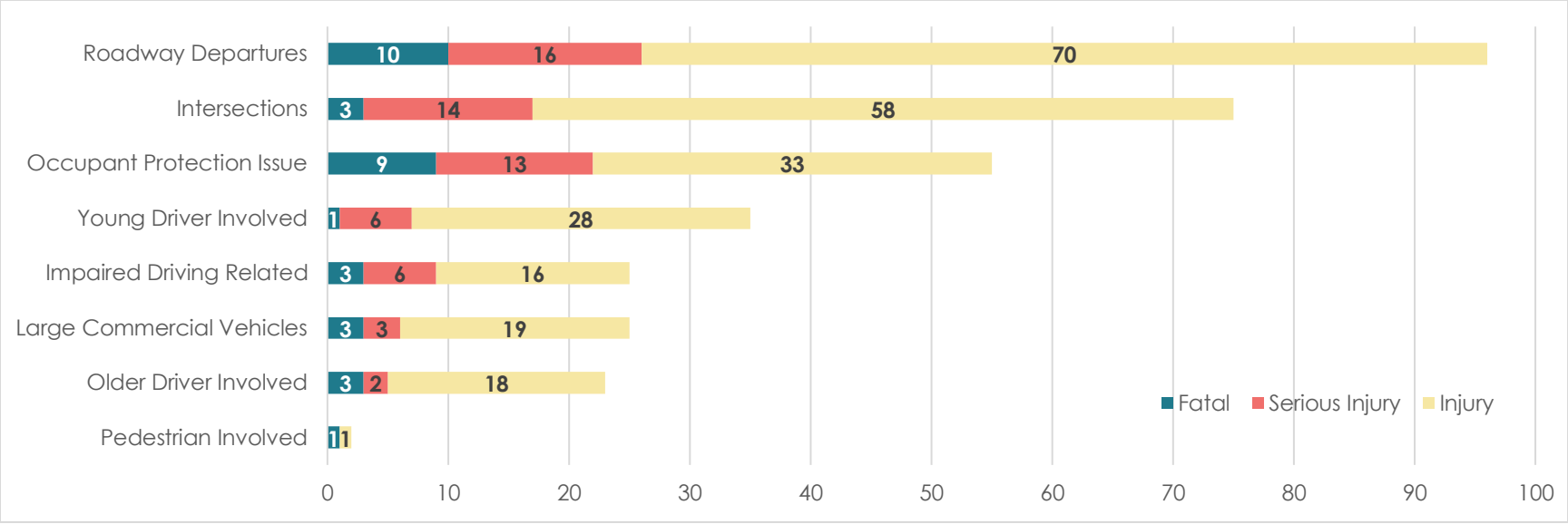

Figure 6: KABC Crashes (Crashes Involving Injury) by Emphasis Area

4.3.1 Emphasis Areas Matrix

The Contributing Circumstance Matrix in **Figure 7** provides a comprehensive view of the interplay between various factors leading to fatal and serious injury crashes (KSI) within the Finney County corridor. The matrix highlights the overlap of contributing circumstances along both the horizontal and vertical axes, illustrating how certain conditions frequently coexist and compound the severity of crashes. For example, roadway departures often overlap with crashes involving occupant protection issues, as shown by the 14 incidents where these factors intersected. Similarly, intersections and large commercial vehicles are another critical overlap, with 8 crashes involving a large commercial vehicle navigating through an intersection. These overlaps of contributing circumstances underscore the multifaceted nature of road safety challenges within Finney County revealing the need for integrated strategies that address multiple risk factors simultaneously, such as design improvements to prevent roadway departures and the promotion of seatbelt use.

(Contributing Circumstance Matrix (Fatal + Serious Injury Crashes, 2018-2022)										
Finney County (Excluding Garden City)	***Intersections***	***Roadway Departures***	***Large Commercial Vehicles***	***Occupant Protection Issue***	***Older Driver Involved***	***Young Driver Involved***	***Impaired Driving Related***	***Pedestrian Involved***	***Cyclist Involved***	***Farm Equipment***
KSI Count	17	26	6	22	5	7	9	1	1	0
Intersections			8	8	3	4	3	0	1	0
Roadway Departures	8		1	14	2	3	5	0	0	0
Large Commercial Vehicles	8	1		2	1	0	0	0	0	0
Occupant Protection Issue	3	14	2		2	5	5	0	0	0
Older Driver Involved	4	2	1	2		0	0	0	0	0
Young Driver Involved	3	3	0	5	0		1	0	0	0
Impaired Driving Related	0	5	0	5	0	1		0	0	0
Pedestrian Involved	1	0	0	0	0	0	0		0	0
Cyclist Involved	0	0	0	0	0	0	0	0		0
Farm Equipment	0	0	0	0	0	0	0	0	0	

Figure 7: Contributing Circumstances Matrix

4.3.2 Priority Emphasis Areas

Roadway Departures

Roadway departure crashes are a leading cause of highway fatalities, accounting for over half of the deaths on U.S. roads each year and approximately half of the deaths in Kansas. In Finney County, 10 fatal, 16 serious injury, and 70 injury crashes were attributed to roadway departures, making it the most frequent contributing circumstance for the county.

These crashes occur when a vehicle veers out of its designated lane, either crossing the edge line or centerline. Critical factors associated with these fatal and serious injury crashes include excessive speed, roadway geometry such as shoulder width and curve radii, impaired driving, distracted driving, and failure to use seatbelts. The combination of these behaviors not only increases the likelihood of a crash but also exacerbates the severity of injuries and fatalities resulting from such events. Addressing these factors is vital to reducing the frequency and impact of roadway departure crashes for the county. **Figure 8** on the following page shows the distribution of roadway departure crashes across the county.

Unrestrained Occupants

The simple act of wearing a seatbelt is one of the most effective ways to reduce the risk of death or serious injury in a crash, as unrestrained occupants are statistically far more likely to suffer catastrophic outcomes. Consistent seatbelt use across all demographics is crucial for enhancing overall safety on the highway. Occupant protection issues were linked to nine fatal, 13 serious injury, and 33 minor injury crashes in Finney County. **Figure 9** on Page 25 shows the distribution of unrestrained occupant crashes across the county.

Intersections

A significant proportion of fatal and serious injury crashes occur at intersections due to the increased complexity for drivers and number of conflict points where multiple traffic streams converge. There were 75 crashes involving an injury that were intersection related over the five-year period, including three fatalities and fourteen serious injuries. There are many countermeasures that can improve safety at intersections, such as installation of additional traffic control devices, improved visibility, and road design adjustments. **Figure 10** on Page 26 shows the distribution of intersection-related crashes across Finney County.

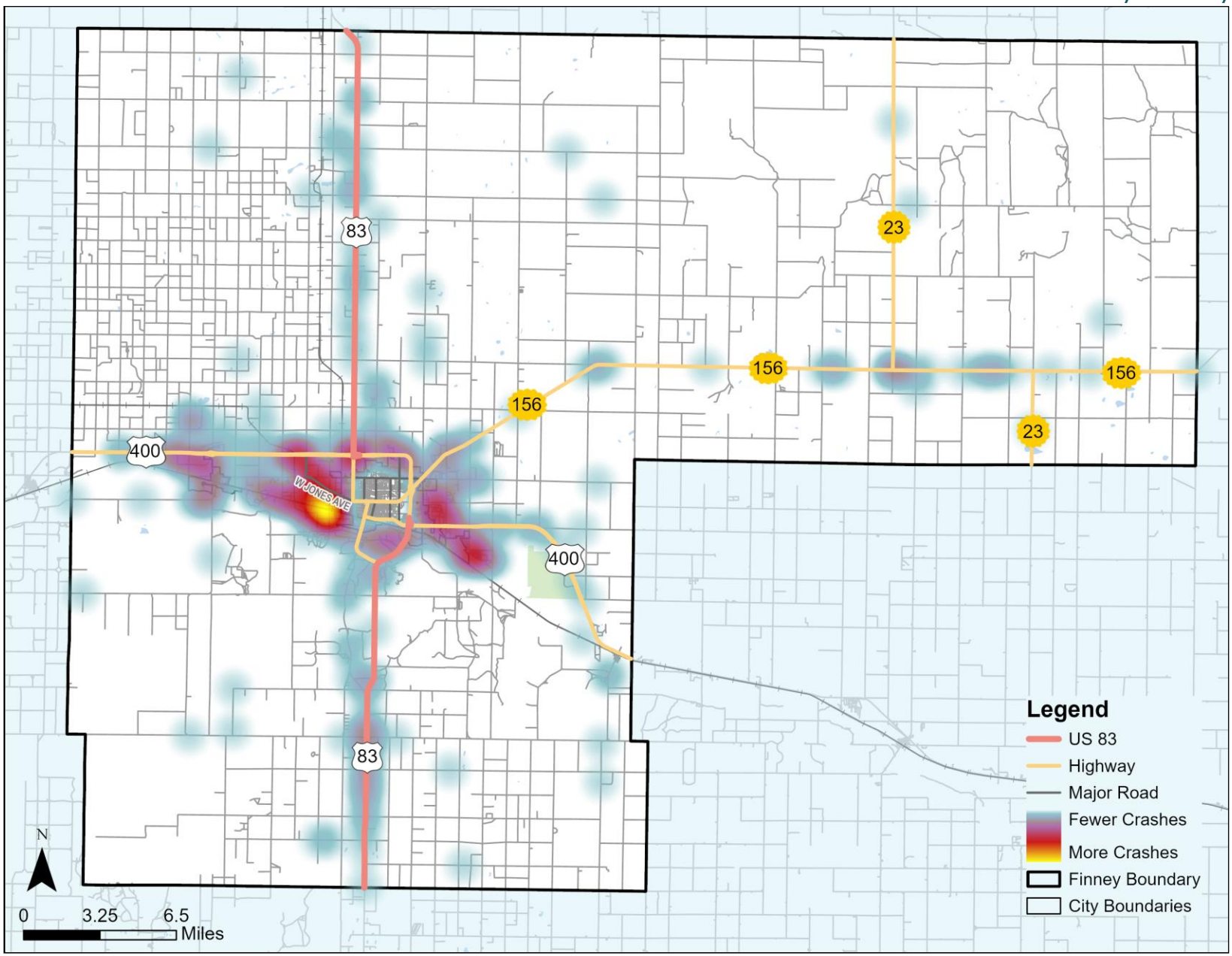

Figure 8: Roadway Departure Crashes

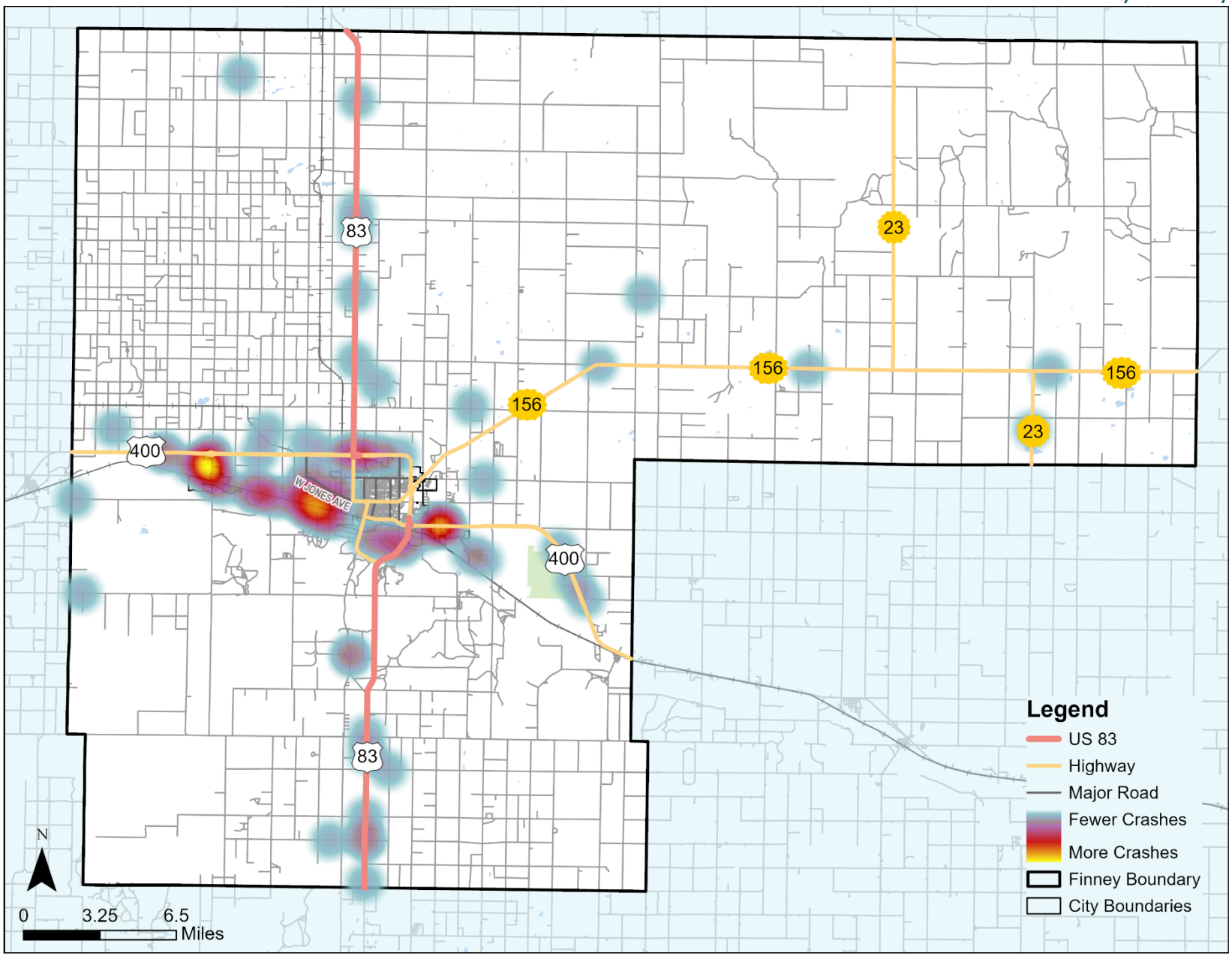

Figure 9: Unrestrained Occupant Crashes

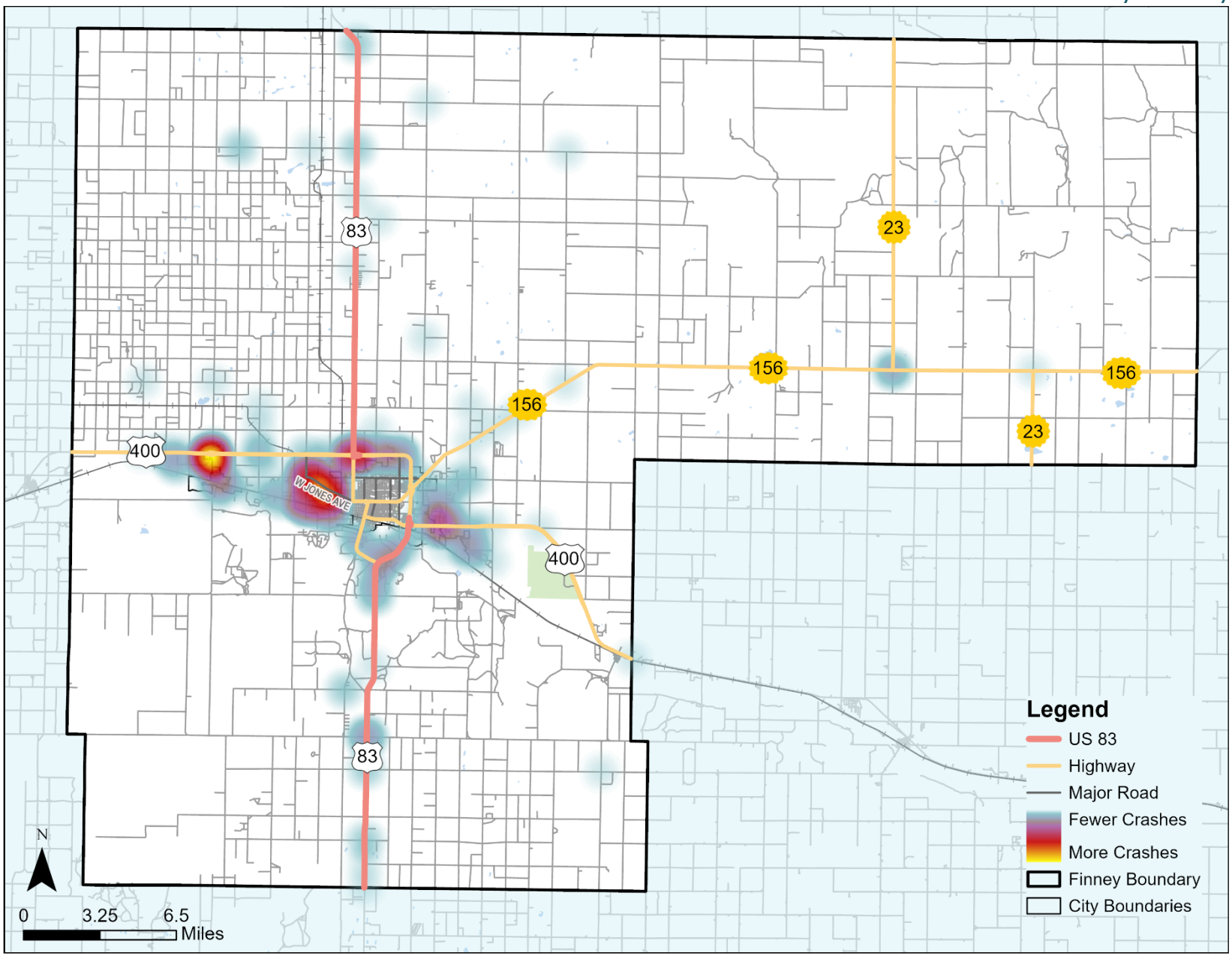

Figure 10: Intersection Crashes

4.3.3 Other Emphasis Areas

Large Commercial Vehicles

Another one of the largest contributing circumstances to crashes involving injury in the study area were large commercial vehicles, with three fatal, three serious injury, and 19 injury crashes. The severity of these types of crashes is typically increased due to the large size and weight of commercial vehicles.

Impaired Drivers

Impaired driving is when a vehicle is being operated under the influence of any substance, or in any condition that may reduce the ability to drive safely. In Finney County, there were 25 crashes involving injury (including three fatalities and six serious injuries) that involved an impaired driver.

Young Drivers

Young drivers are defined as those under the age of 18 years. Crashes involving young drivers frequently occur due to inexperience or risky behavior, such as speeding or ignoring roadway signage. In Finney County, there were 35 crashes involving injury (including one fatality and six serious injuries) that involved a young driver.

Older Drivers

Older drivers are defined as those who are 65 years old or older. Crashes involving older drivers frequently occur due to problems with reaction time, driver vision, or ignoring roadway signage. In Finney County, there were 23 crashes involving injury (including three fatalities and two serious injuries) that involved an older driver.

5. Policy and Process Review

5.1 Policy Review

Examining relevant existing documents, policies, plans, and projects is crucial for understanding the broader context of roadway safety in a region. For this project, four documents were identified as particularly influential on roadway safety for the US-83 Corridor and Finney County: the KDOT Long Range Transportation Plan, the KDOT Strategic Highway Safety Plan, the Finney County Local Road Safety Plan (LRSP), and the Great Plains Rural Freight Technology Corridor Project.

5.1.1 KDOT Long Range Transportation Plan

The Long-Range Transportation Plan (LRTP) outlines a 25-year strategy for transportation in the state of Kansas. A primary goal of KDOT's LRTP is to enhance safety on Kansas highways, embedding safety considerations throughout many aspects of the plan. Although safety is a factor in nearly every program within the LRTP, the plan also includes specific safety programs and projects, many of which will affect the US-83 Corridor and its communities.

One of the most significant initiatives was the creation of a Bureau of Transportation Safety. This bureau oversees the implementation of targeted safety strategies, ensuring they are integrated into all of KDOT's actions over the next 25 years. The implementation strategies used by the Bureau are included below in **Table 3**.

Table 3: KDOT LRTP Bureau of Transportation Safety Implementation Strategies

Strategy / Action	Description
Improve program implementation	KDOT is developing new performance-based analytical processes to improve its identification and evaluation of candidate safety projects.
Adopt a systemic approach to safety	KDOT is updating safety related policies for topics such as rumble strip installation and use of cable median barriers to adopt cost effective safety measures across the state highway system.
Improve safety data	KDOT is undertaking several initiatives to improve the availability and use of data to help incorporate safety into project design. This includes using embedded consultants and developing a LIDAR based system inventory.
Engage the Executive Safety Council	KDOT will reengage the Executive Safety Council to assist with implementing the new SHSP.
Streamline work processes	KDOT will refine safety analysis activities such as right-sizing safety audits scopes based on project development information needs.

5.1.2 KDOT Strategic Highway Safety Plan

Originating from the LRTP, the KDOT Strategic Highway Safety Plan (SHSP) aims to guide KDOT's strategic investments to reduce traffic injuries and fatalities through a collaborative process involving a broad range of stakeholders. The SHSP provides detailed descriptions of the KDOT programs, projects, and systems designed to decrease serious injuries and deaths on Kansas roads.

5.1.3 Finney County Local Road Safety Plan (LRSP)

The County's LRSP encompasses all major County-owned collectors and paved roads and outlines potential safety improvements eligible for Highway Safety Improvement Program (HSIP) funding. The LSRP emphasizes low-cost systemic improvements and focuses on proactive measures while targeting crash hotspots. The LRSP identified and prioritized **10** proactive safety improvement projects to reduce fatal and serious injury crashes.

5.1.4 Great Plains Rural Freight Technology Corridor Project (US-83 Advanced Technology Project)

The FHWA awarded a $6.7 million Advanced Transportation and Congestion Management Technologies Deployment grant in September 2022 to support the US-83 Advanced Technology Project, which will use technology aimed at improving safety and economic productivity along US-83. The project limits stretch approximately 131 miles from the Thomas/Sheridan County line in the north to the Finney/Haskell County line in the south.

The primary goal of this project is to enhance and improve freight travel by utilizing advanced technology. KDOT anticipates the connected vehicle and intelligent transportation systems deployed as part of Phase 2 of this project will help reduce congestion and improve traffic flow for all drivers at a fraction of the cost of a major road widening project. KDOT currently forecasts conclusion of Phase 1 Design and Construction in 2025, with Phase 2 Design, Development, Construction, and Testing anticipated to conclude in 2028.

5.2 Policy Recommendations

The following policy and process changes are recommended to improve safety and achieve SAP goals.

5.2.1 Incorporating Safety into Project Development Process

Include systemic safety improvements in projects developed by Finney County and KDOT. Include a review of crashes and potential safety improvements when intersections or roadway segments are maintained or improved.

5.2.2 Update Design Policies

Roadway design policies, standards, and best practices change over time. An ongoing review and update of local roadway design policies is critical to ensuring roadway safety best practices are implemented when roadways are maintained, improved, or constructed.

5.2.3 Post Crash Care

Post crash care best practices include both advanced planning activities and countermeasures. Integrating post-crash care into highway safety planning and coordinating post-crash care between highway safety, EMS, and 911 services are important first steps.

Countermeasures include improving emergency medical dispatch and 911 protocols, providing timely on-scene care using model EMS clinical guidelines, providing timely transportation to a trauma center based on national field trauma triage guidelines, and then measuring EMS performance over time.

6. Countermeasures and Recommended Projects

6.1 Introduction

The previous chapters documented locations and emphasis areas within potential for safety improvements within Finney County – based on a detailed analysis of historical crash data and input from County stakeholders and the public. This chapter provides a discussion of **countermeasures**, or a "menu" of strategies that can be applied proactively throughout the County, as well as **targeted safety projects** at specific identified locations most in need of safety improvements.

6.2 Countermeasure

Safety Countermeasures are strategies that have been shown to effectively reduce roadway fatalities and serious injuries. Safety countermeasures include **infrastructure-based strategies** – changes to the built environment – as well as **behavioral strategies** aimed at modifying the behavior of drivers. The following section provides a menu of countermeasures that have been selected to target the emphasis areas, or critical safety issues, identified in the Safety Analysis:

- Roadway departure
- Unrestrained occupants
- Intersections
- Large commercial vehicles
- Impaired drivers
- Young Drivers
- Older Drivers

These safety countermeasures are used to help decision-makers determine what projects and project elements to consider when seeking to improve roadway safety in their communities. They can be applied quickly for immediate improvements or integrated into longer-term infrastructure projects. By adopting these evidence-based solutions, communities can reduce traffic-related injuries and deaths, ensuring both immediate and lasting safety improvements.

The tables below and on the following pages outline countermeasures identified that provide a significant opportunity to reduce traffic-related fatalities and serious injuries in Finney County. The countermeasures below are organized around which emphasis area the countermeasure aims to improve. Additional details of each countermeasure, including the description, cost, and crash reduction, are available in **Appendix D**: Countermeasure Toolbox.

Table 4: Countermeasures by Emphasis Area

Emphasis Area	Countermeasures	
Roadway Departure Countermeasures	• Rumble Strip • Roadside Design Improvements • Safety Edge • Enhanced Curve Delineation	• Striping Center Lines/Edge Lines • Widening Edge Lines • Pavement Friction Management (PFM)(Not at Intersections)
Occupant Protection	• Short-Term, High-Visibility Seat Belt Law Enforcement • Nighttime, High-Visibility Seat Belt Law Enforcement	• Communication Strategies for Low-Belt-Use Groups as Part of HVE • Programs for Increasing Child Restraint and Booster Seat Use
Intersection Related	• Intersection Warning Signage • Retroreflective Sign Post Panels • Double Up / Enlarged Signage • Cross Traffic Does Not Stop / Double Arrow Warning • Approach Rumble Strips	• All-Way Stop Control Conversion • Pavement Friction Management (Intersections) • Lighting • Intersection Daylighting • Roundabouts
Large Commercial Vehicle	• Roadway Measures • Adding Lanes and Ramps • Signs and Signals • Pavement Markings	• Incident Warnings • Compliance with Safety Rules • Truck Separation Measures • Incident Warnings
Impaired Driver/Unrestrained Occupant	• High-Visibility Saturation Patrols • Publicized Sobriety Checkpoints • Integrated Enforcement	• Alternative Transportation • Mass Media Campaigns • High-Visibility Saturation Patrols
Young Drivers	• S.A.F.E. Program in High Schools	• Kansas Education Programs for New Drivers

6.3 Recommended Projects

While the countermeasures listed in the previous section represent a menu of potential strategies, this planning effort also identified **targeted locations with documented safety issues** where one or more countermeasures should be combined into projects for design, funding, and implementation. This section documents how those locations were identified and prioritized, and ultimately provides planning-level recommendations at these critical locations.

6.3.1 Prioritization Methodology

Projects for Finney County were identified using three criteria:

- Locations scoring highest on the High-Risk Network (HRN) and the High-Injury Network (HIN)
- Locations identified during public and/or stakeholder engagement
- Locations/projects previously identified in the County's Local Road Safety Plan (LRSP)

Projects were prioritized based on the criteria above. Priority 1 locations satisfied all three criteria, Priority 2 locations satisfied two criteria, and Priority 3 locations satisfied one criterion. Projects which were previously identified in the County's LRSP were considered "Priority 1 (LRSP) projects". Many of LRSP projects also scored highly on the HRN/HIN or also had stakeholder/public feedback. LRSP projects are only located on County-maintained roads (i.e., no city streets or state highways)

A map visualizing the identified projects by their prioritization is shown in **Figure 11** for the whole county. Since many of the projects near Garden City and Holcomb are clustered together, maps depicting a zoomed in view of those areas are also provided in **Figure 12** and **Figure 13**. Next to each project is the corresponding project number. Project numbers are in no particular order. A corresponding table, which lists projects alongside a brief description, is shown in **Table 5**. Additional details of each project are available in **Appendix E**: Recommended Projects.

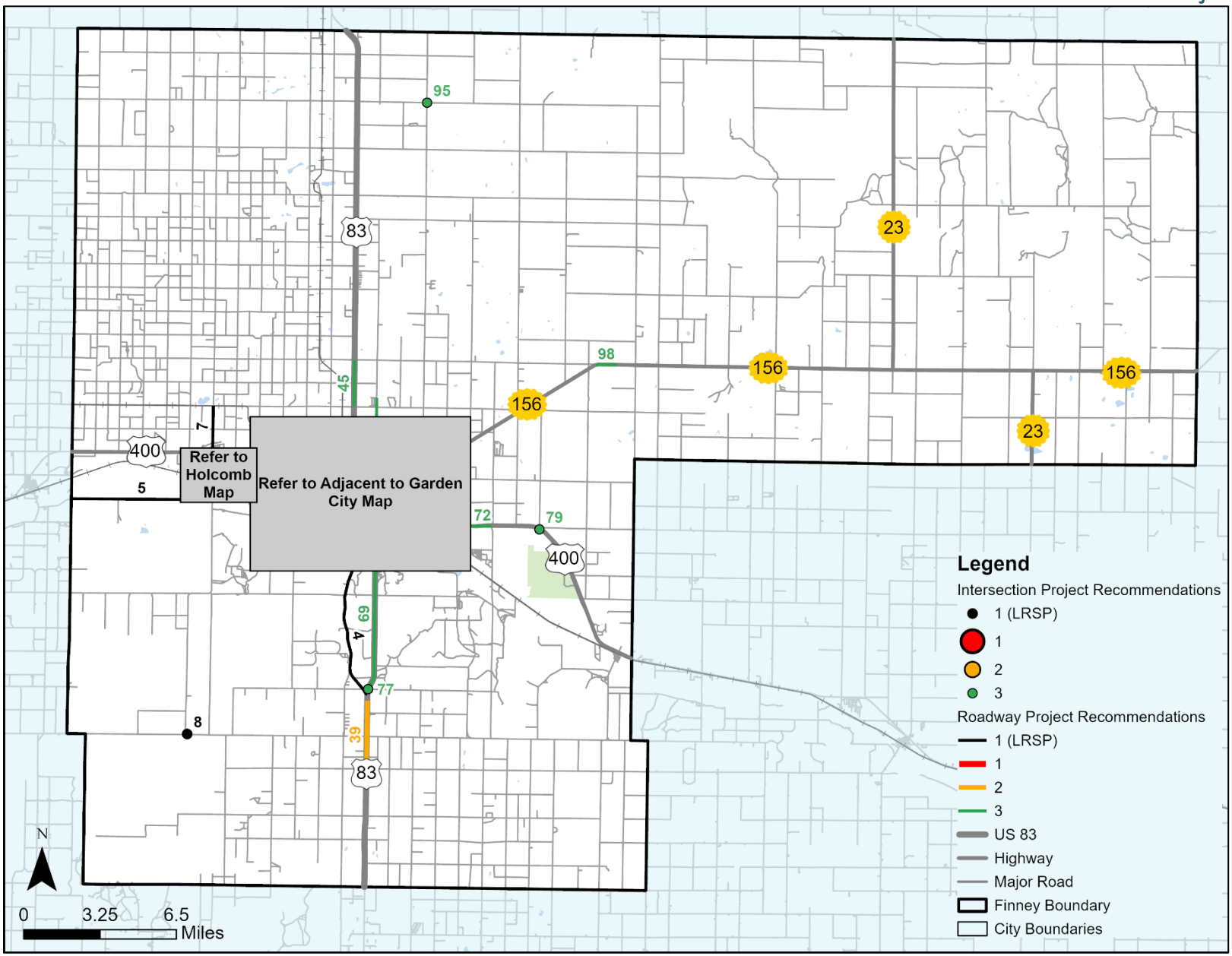

Figure 11: Finney County Recommended Projects by Priority Level

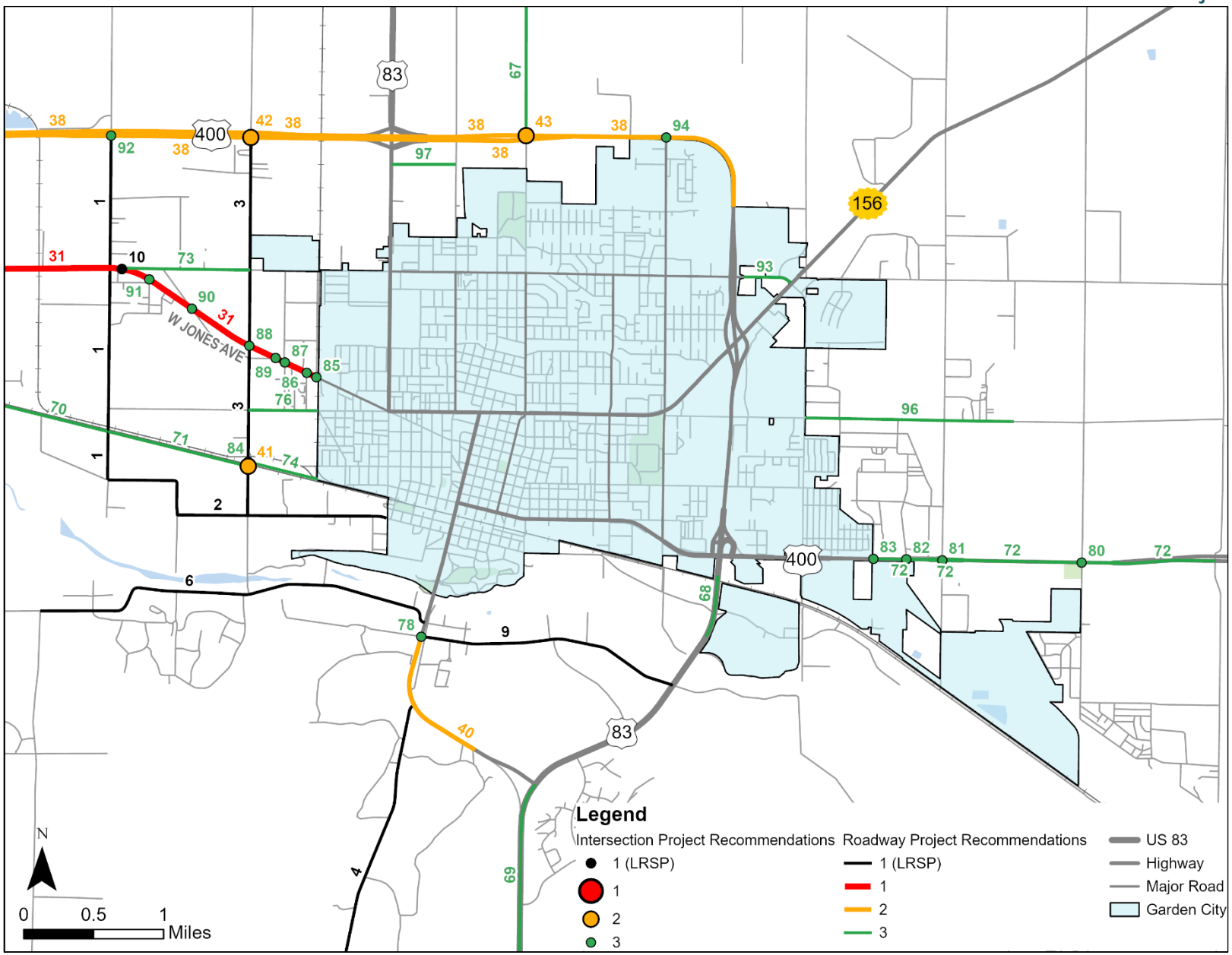

Figure 12: Recommended Projects by Priority Level Adjacent to Garden City

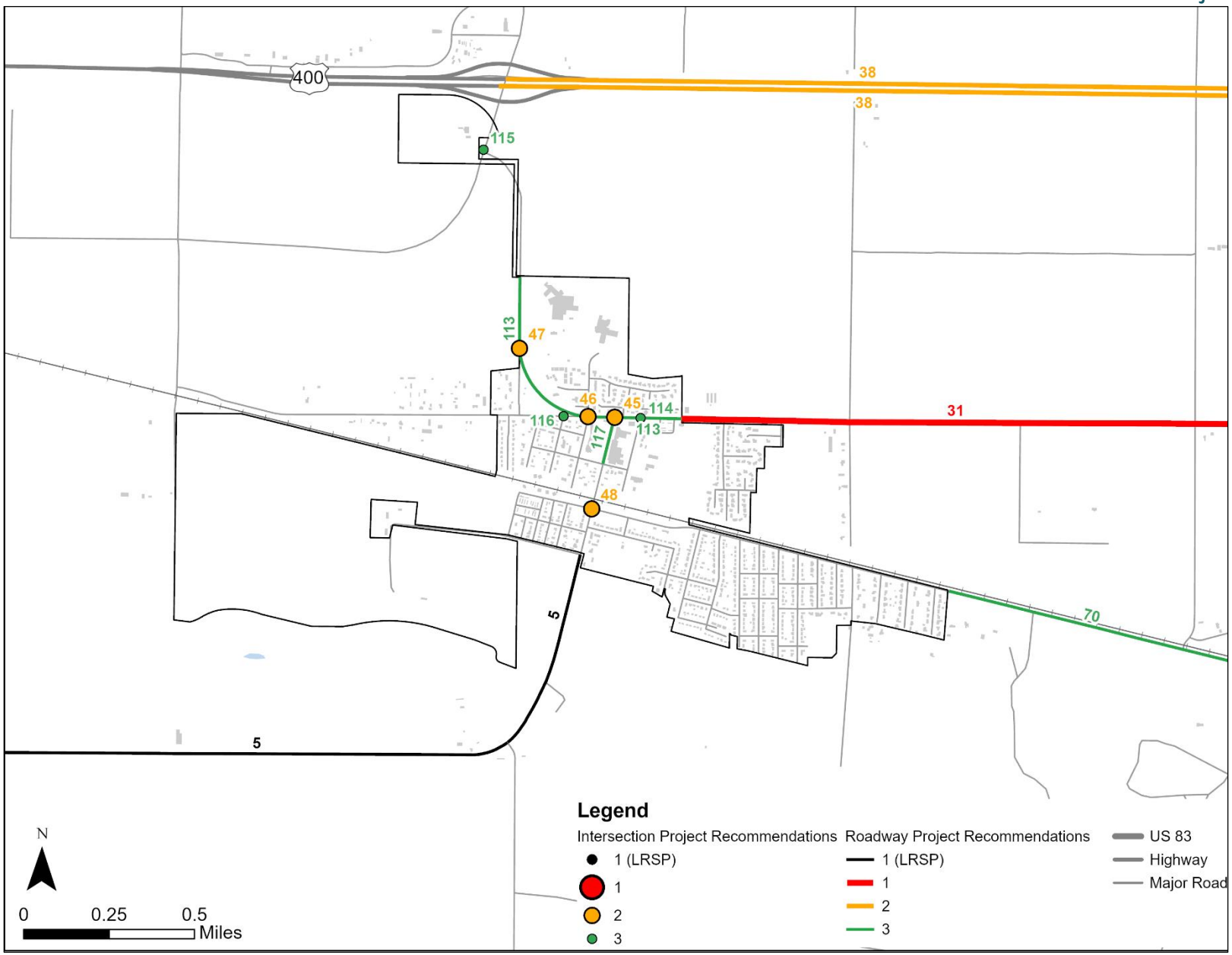

Figure 13: Recommended Projects by Priority Level for the City of Holcomb

6.3.2 Summary Table

Table 5: Summary Table of Recommended Projects

#	Project	Cost Estimate		HIN	HRN	Public/ Stakeholder Input
		Short Term	Long Term			
Priority 1						
31	W Jones Ave from Holcomb to Garden City	$200,000	$2,073,000	Yes	Yes	Yes
Priority 1 (LRSP)						
1	Anderson Rd from US-50 to Maple St	$100,000	$1,440,000	No	Yes	No
2	Maple St from Anderson to Taylor Ave	$120,000	$1,530,000	No	Yes	No
3	VFW Rd from US-50 to Maple St	$130,000	$1,580,000	Yes	Yes	No
4	Old Hwy 83 from Business US-83 to US-83	$320,000	$3,940,000	No	Yes	No
5	River Rd from Kearny County Line Rd to Oak Ave	$370,000	$3,420,000	No	Yes	No
6	Sagebrush Rd from Circle Land Rd to Business US-83	$170,000	$2,300,000	Yes	Yes	No
7	Big Lowe Rd from Lowe Rd to Turner Ave	$90,000	$1,080,000	No	No	No
8	Intersection of Holcomb Ln and Parallel Rd	$30,000	$310,000	No	No	Yes
9	Burnside Dr from Business US-83 to US-83	$160,000	$1,080,000	No	Yes	Yes
10	Intersection of Jones Ave and Mary St	$50,000	$650,000	No	Yes	Yes
Priority 2						
38	US-50 from Big Lowe Rd to Garden City	n/a	n/a	Yes	Yes	No
39	US-83 from Old Hwy 83 to E Plymell Rd	n/a	n/a	Yes	Yes	No
40	US-83 Business Hwy from S Old Hwy 83 to E Burnside Dr	n/a	n/a	Yes	Yes	No
41	Intersection of VFW Rd and Railroad Ave	n/a	n/a	No	Yes	Yes
42	Intersection of US-50 East Bound and VFW Rd	n/a	n/a	Yes	Yes	No
43	Intersection of US-50 West Bound and 3rd St	n/a	n/a	Yes	Yes	No
45	Intersection of N Jones Ave and N Main St	n/a	n/a	No	Yes	Yes
46	Intersection of N Jones Ave and N Henderson St	n/a	n/a	No	Yes	Yes
47	Intersection of N Jones Ave and Park St	n/a	n/a	No	Yes	Yes
48	Intersection of Main St and Railroad Ave	n/a	n/a	No	Yes	Yes
Priority 3						
Priority 3 projects are listed in **Appendix E**: **Recommended Projects**						

7. Progress and Transparency

7.1 Progress Evaluation

Monitoring progress over time in an open and transparent way is essential for meeting the objectives set in Finney County's Vision Zero Resolution. Regular progress tracking promotes public accountability, and fosters trust between the public and the responsible cities, counties, and agencies for road safety. This transparency supports informed decision-making, allowing for adjustments based on the effectiveness of chosen interventions. Additionally, it provides a clear sense of direction, ensuring that teams and individuals can witness the tangible outcomes of their work.

7.1.1 Vision Zero Resolution

A Vision Zero resolution is an official commitment to end roadway deaths. Resolutions often incorporate specific actions that will be taken is important to ensure that goals are met. Adopting safety policies like Vision Zero ensure that future roadway projects will be viewed through a lens of safety. There are many resources available to help communities draft Vision Zero resolutions and reach their Vision Zero goals. The Vision Zero Resolution adopted by Finney County Commissioners is provided in **Appendix A**: Vision Zero Resolution.

7.1.2 Measuring Progress

After developing the SAP, 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 SAP online.

7.1.3 Annual Evaluation

When the previous year's crash data is available, Finney 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.

7.2 Next Steps

The Finney County SAP 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 SAP.

7.2.1 Plan Leadership

The Finney County Board of Commissioners assumes leadership of this plan and will support implementation. As part of this role, Finney 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.

7.2.2 Implementation Meetings

Finney County will convene members of the Safety Task Force a minimum of one meeting per year to discuss progress and associated challenges with implementing the SAP.

7.2.3 Stakeholders

Key stakeholders for the SAP 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.

7.2.4 Other Planning Efforts

Finney County will remain informed of current and new local and statewide safety programs, policies, plans, guidelines, and/or standards. Based on this information, Finney County can continue to identify opportunities to build upon the current Implementation Plan. Securing funds is the next step for many infrastructure projects; a list of potential funding sources is provided below.

7.3 Funding Sources

Funding is critical to implement the strategies and action items in this SAP and may come from a variety of sources, many of which are outside the County. Potential funding sources for safety projects include:

KDOT Programs: KDOT administers a variety of programs for funding projects at the local level. KDOT publishes a Local Program Opportunities Guide for communities that details various programs and information about how to apply. This includes state-funded programs as well as federal programs that KDOT has discretion to allocate. As an example, the High-Risk Rural Roads (HRRR) program, which is a subset of KDOT's federal Highway Safety Improvement Program (HSIP) funding, can be used to fund improvements identified in the County's Local Road Safety Plan. There are several other HSIP sub-programs that can be used for safety-specific infrastructure improvements, as well as other programs that could be used for projects that incorporate safety benefits (e.g., Cost Share, Transportation Alternatives, Safe Routes to School, Railway-Highway Grade Crossing Program). Finally, there opportunities for funding education and enforcement activities through KDOT's Behavioral Safety Program.

Federal Discretionary Grants: There are dozens of competitive grant opportunities available directly from the federal government (i.e., not administered by KDOT). Notably, the Bipartisan Infrastructure Law (BIL) established the Safe Streets and Roads for All (SS4A) discretionary program, which funded this SAP and will provide $5-6 billion in grants over the five-year program period through 2026. With the completion of this SAP, Finney County is eligible to apply for SS4A Implementation funding. For other grant opportunities available through BIL, the state of Kansas has also established the Kansas Infrastructure Hub to assist communities in accessing funding from the Bipartisan Infrastructure Law. This resource center offers technical assistance and guidance for identifying and connecting with appropriate funding sources.

Existing Local Programs: Beyond competitive funding opportunities at the state and federal levels, many of the countermeasures described in the previous chapter could also be implemented using local funds and existing budgets. For example, road resurfacing and maintenance activities represent an ideal opportunity for incorporating safety countermeasures such as wider edge lines, rumble strips, and enhanced signing and marking (i.e., make low-cost safety improvements as part of road resurfacing activities).

Appendices

Appendix A: Vision Zero Resolution

(Published in the Garden City Telegram on the ___ day of _____, 2025)

RESOLUTION 17-2025

A RESOLUTION OF THE BOARD OF COUNTY COMMISSIONERS OF FINNEY COUNTY, KANSAS, ADOPTING A VISION ZERO POLICY PROCLAIMING FINNEY COUNTY'S COMMITMENT TO END TRAFFIC FATALITIES AND SERIOUS INJURY ACCIDENTS IN FINNEY COUNTY AND IMPLEMENTATION OF A SAFE STREETS AND ROADS FOR ALL ACTION 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 2022 Finney County joined the cities of Liberal, Oberlin, Oakley, Scott City, and Garden City and the counties of Decatur, Logan, Scott, Seward, and Haskell 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, Finney County's 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, 22 individuals were needlessly killed, and 228 individuals injured on Finney County roadways outside Liberal between 2018 and 2022; and,

WHEREAS, the Finney County Board of Commissioners recognizes the need for action to increase safety and to prevent deaths and injuries on Finney County roads; 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, Finney 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,

WHEREAS, Finney 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, Finney County's participation in US-83 Communities Roadway Safety Plan Task Force recognizes the need for action to increase safety and to prevent deaths and injuries on streets in Finney County; and,

WHEREAS, Finney County commits to the ongoing collaboration of the US-83 Communities Roadway Safety Plan Task Force to advance a shared vision and future for improvements along US-83 and within the individual communities comprising the task force; and,

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

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

NOW, THEREFORE, BE IT RESOLVED by the Governing Body of the County of Finney, Kansas:

Section 1. Finney County's Vision Zero policy is adopted with the goal of achieving zero fatalities and serious injuries by the year 2035.

Section 2. The Finney County Safe Streets for All Action Plan, attached hereto as Exhibit A, is adopted.

PASSED, APPROVED AND ADOPTED by the Governing Body of the County of Finney, Kansas, on this **16th day of June, 2025.**

_____
Gerry Schultz, Chairperson

_____
Mike Utz, Member

_____
Kevin Bascue, Member

_____
Vicki Germann, Member

_____
Larry Jones, Member

ATTEST:_____
Dori J. Munyan, County Clerk

WHEREAS, the City of Holcomb's participation in US-83 Communities Roadway Safety Plan Task Force recognizes the need for action to increase safety and to prevent deaths and injuries on streets in Finney County; and,

WHEREAS, the City of Holcomb commits to the ongoing collaboration of the US-83 Communities Roadway Safety Plan Task Force to advance a shared vision and future for improvements along US-83 and within the individual communities comprising the task force; and,

WHEREAS, the City of Holcomb commits to build and sustain leadership, collaboration and accountability in partnership with public health, law enforcement, policy makers, 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 Holcomb recognizes the need for action to increase safety and to prevent deaths and injuries on our streets; and,

NOW, THEREFORE, BE IT RESOLVED by the Governing Body of the City of Holcomb, Kansas:

Section 1. The City of Holcomb's Vision Zero policy is adopted with the goal of achieving zero fatalities and serious injuries by the year 2040.

Section 2. The Finney County Safe Streets for All Action Plan, attached hereto as Exhibit A, is adopted.

PASSED, APPROVED AND ADOPTED by the Governing Body of the City of Holcomb, Kansas, on this **11th day of June, 2025.**

CITY OF HOLCOMB, FINNEY CO. OFFICIAL SEAL CITY KANSAS

CITY OF HOLCOMB, KANSAS

BY: _____

NICOLE FAULCONER, MAYOR

ATTEST:

_____

MYA GODINEZ, CITY CLERK

Appendix B: HIN/HRN Methodology

Appendix B: HIN/HRN Methodology

The **High-Injury Network (HIN)** scoring methodology was developed to identify and prioritize roadway segments and intersections with the highest rates of fatal and severe injury (KSI) crashes. This data-driven approach to the analysis incorporates crash severity, frequency, and roadway characteristics to highlight areas where focused safety improvements will yield the most significant reductions in severe crashes.

Crash Severity Weighting

To evaluate the relative severity of crashes, we employ the **Equivalent Property Damage Only (EPDO)** scoring method. This method assigns weights to different crash types based on their crash costs (insurance cost, costs of life, EMS, medical care, etc.), as provided by **KDOT**[1]. The more severe a crash, the higher its weight in the scoring calculation. This helps prioritize locations with fatal and serious injury crashes over those with minor or property-damage-only (PDO) crashes.

Crash Severity Weights:

- Fatal (K): 1197.47
- Suspected Serious Injury (A): 64.05
- Suspected Minor Injury (B): 20.57
- Possible Injury (C): 11.43
- No Apparent Injury (PDO): 1.00

Formula: The crash severity score for a location is calculated as:

Crash Severity Score=(K×1197.47)+(A×64.05)+(B×20.57)+(C×11.43)+(PDO×1.00)

For each location, the sum of the weighted crash scores were used to determine hotspots.

[1] KDOT crash costs (2023):
- Fatal (K): $13,999,597
- Suspected Serious Injury (A): $748,852
- Suspected Minor Injury (B): $240,505
- Possible Injury (C): $133,671

Crash Summarization

Crashes were summarized by using a 150-foot buffer along the roadway segments and intersections to capture and summarize key crash point attributes, including the number of fatalities and injuries as they relate to the KABCO scale. These values were then entered into the formula above to get a crash severity weight by location.

HIN Thresholds and Prioritization

To establish a High Injury Network (HIN), we calculate the crash severity score for each segment and intersection and then analyze the resulting network to establish thresholds. This ensures that the HIN captures a significant yet focused portion of the network, representing the historically most dangerous areas for intervention.

Geographic Threshold Differentiation

Given the large project area, there are several differences between areas that suggest thresholds should be localized to the geography (i.e. rural vs urban road segments).

We utilized the **Natural Jenks Method** of distribution to normalize geographies, which scales the data based on the total number of segments and intersections in each city, and places data points into five categories from low to high. This allows for an accurate representation of data clusters and natural breaks.

Garden City and Liberal were evaluated independently as large cities, while the smaller incorporated areas (e.g., Scott City, Oberlin) were grouped with rural areas into a separate category. The analysis distinguishes between urban and rural geographies to account for differing traffic patterns and road types.

For **rural segments**, a **minimum threshold of 1/2 mile** was implemented to prevent elevating small sections with low crash rates. This method ensured that locations with meaningful crash data were prioritized.

For **counties and small cities**, the methodology emphasizes systemic issues over individual crash hotspots. This approach enables broader safety strategies, targeting areas with lower crash frequencies but higher risks.

Prioritization

As mentioned, we used the **Natural Jenks Method** to distribute crash severity scores into five categories, based on the natural distribution of the data. This process helps reveal the inherent groupings in the data by minimizing variance within each category and maximizing the variance between them.

After applying the Natural Jenks Method, only the **top two categories**, corresponding to the highest crash severity scores, were used for prioritization. These categories represent the highest-risk locations in the network, scoring **4** and **5** on the five-point scale.

1. Generating a New Priority Field

A new field was created in the dataset to house the values for these top two priority levels (scores 4 and 5). This field helps identify the most critical intersections and segments across each geography. By isolating these higher-priority areas, we can focus safety interventions on the locations with the greatest potential for reducing severe crashes.

2. Application Across Geographies

This process was applied consistently across all geographies—both urban and rural. For every segment and intersection analyzed:

- **Intersections and segments** that scored in the top two categories (4 and 5) based on crash severity were flagged in the newly generated field as a "priority" location.
- The analysis was repeated for different areas (e.g., Garden City, Liberal, smaller cities, and rural areas) to ensure that the top-priority locations in each geography were highlighted for targeted intervention.

By using the top two categories from the Jenks distribution, we were able to narrow our focus to the locations with the most severe safety concerns, ensuring that limited resources are allocated to the areas with the highest risk of fatal or severe injury crashes.

GIS Visualization

A key component of the HIN is its integration with **GIS**, allowing for spatial analysis and the mapping of crash data. The resulting HIN list should be mapped alongside other project data to help drive project recommendations.

High Risk Network (HRN) Scoring Methodology

The **High-Risk Network (HRN)** scoring methodology was developed to identify and prioritize roadway segments and intersections with the highest *risk* of fatal and severe injury (KSI) crashes based on facility attributes. This data-driven approach to the analysis incorporates roadway characteristics, intersection attributes, and location context to highlight areas where focused safety improvements will yield the most significant reductions in severe crashes.

Risk Scoring

To evaluate the fatal and serious injury crash risk of locations across the study area, we scored attributes of the roadways and intersections based on their correlation to KSI crashes. The facilities were categorized into four groups:

- County Intersections
- City Intersections
- County Corridors
- City Corridors

City facilities refer to roadways or intersections located within the six participating cities: Garden City, Liberal, Holcomb, Scott City, Oberlin, and Oakley. In contrast, county facilities include roadways or intersections located outside of the six participating city boundaries. The scoring between city and county facilities were separated based on differing crash patterns depending on the context of the roadway or intersection. Although there are distinct crash patterns within individual cities or counties, many of the communities analyzed lacked enough crashes to draw reliable conclusions about crash risk without aggregating data across multiple jurisdictions.

Representative Ratios

The risk scoring is based on the ratio of fatal and serious injury crashes to the centerline miles of roadways or the number of intersections, grouped by various roadway or intersection attributes. The scoring was aggregated for city and county facilities separately. The ratios compared the percentage of fatal and serious injuries crashes occurring in a specific attribute category to the percentage of locations that fall into that category. **Table 6** provides an example calculation of the representative ratios for county intersections.

Table 6: Sample Representative Ratio Calculation for County Intersections

Daily Entering Vehicles (DEV)	Number of Fatal and Serious Injury Crashes	Number of Intersections	Percentage of Fatal and Serious Injury Crashes	Percentage of Intersections	Representative Ratios
<500	13	2,405	14.8%	67.0%	0.22
500-1,999	26	804	29.5%	22.4%	1.32
2,000-4,999	19	234	21.6%	6.5%	3.31
5,000-9,999	24	130	27.3%	3.6%	7.53
>=10,000	6	18	6.8%	0.5%	13.60

A representativeness ratio of less than 1.0 indicates that a facility with that attribute (e.g., a county intersection with a DEV of <500) is at a lower risk of having a fatal or serious injury crash. A representative ratio of 1.0 indicates that the attribute does not correlate with an increased or decreased risk of fatal and serious injury crashes. Lastly, a ratio greater than 1.0 indicates an increased risk of fatal and serious injury crashes on facilities with that attribute.

7.3.1 Scoring Adjustments

After calculating representative ratios for each facility type and attribute, adjustments were made to finalize scoring values. Adjustments were made for the following reasons:

- To avoid overweighting any single attribute
- To balance the scoring of the same attributes between different groups, such as consistently scoring equity across all facility types and contexts
- To better align scoring with the Local Road Safety Plans, particularly for county facilities
- To account for incomplete or small data subsets leading to high variability

Intersection Risk Scoring

Table 7 and **Table 8** display the scoring used for both county and city Intersections, respectively. Overall, intersection scoring is similar between county and city intersections. The main differences between the two scoring methodologies are as follows:

- In a city context, the number of entering lanes correlated to a higher risk of KSI crashes. As a result, the number of entering lanes is a scoring criterion for city intersections, but not for county intersections.
- The intersection control type was given greater weight in cities compared to counties. In both cities and counties, signalized intersections had a higher rate of KSI crashes compared to other intersection control types. However, there were not enough signalized intersections in the counties to assign elevated scoring for signalized intersections. This is why the intersection control type is weighted higher in cities compared to counties.
- In a city context, the skew of an intersection had a stronger correlation to KSI crashes and was therefore weighted higher.

The total score for county intersections was out of 21, while the total score for city intersections was out of 33. For each intersection, a score was assigned for each attribute based on its intersection characteristics. These scores were then summed, multiplied by 100, and divided by 21 or 33 depending on the location of the intersection. This resulted in a score out of 100 for each intersection.

Table 7: County Intersection Scoring

Attribute	Total Score	Range/Value	Representative Ratio	Score
DEV	8	<500	0.22	**0**
		500-1,999	1.32	**1**
		2,000-4,999	3.31	**2**
		5,000-9,999	7.53	**5**
		>=10,000	13.60	**8**
Control Type	4	Uncontrolled	1.33	**1**
		No Data	0.46	**0**
		TWSC	1.86	**2**
		AWSC	0.00	**0**
		Signal	40.73	**4**
Skew	3	No	0.83	**0**
		Yes	2.97	**3**
Equity*	2	No	0.70	**0**
		Yes	1.57	**2**
FSI Crash History	2	No	Scoring Adjustment	**0**
		Yes		**2**
Proximity to Schools	2	No	Scoring Adjustment	**0**
		Yes		**2**

**Note: "Equity" denotes if the location is in a census tract that is considered disadvantaged or in an equity area. See project documentation on equity resources and communities.*

Table 8: City Intersection Scoring

Attribute	Total Score	Range/Value	Representative Ratio	Score
DEV	8	<500	0.00	**0**
		500-1,999	0.11	**0**
		2,000-4,999	1.52	**2**
		5,000-9,999	3.79	**4**
		>=10,000	8.01	**8**
Control Type	13	Uncontrolled	0.00	**0**
		No Data	0.09	**0**
		TWSC	2.09	**2**
		AWSC	3.97	**4**
		Signal	13.45	**13**
Skew	4	No	0.82	**0**
		Yes	3.94	**4**
Equity	2	No	0.58	**0**
		Yes	1.24	**2**
FSI Crash History	2	No	Scoring Adjustment	**0**
		Yes		**2**
Proximity to Schools	2	No	0.89	**0**
		Yes	1.20	**2**
Number of Entering Lanes	2	4	0.77	**0**
		5	2.36	**2**
		6	1.16	**1**
		8	2.56	**2**

**Note: "Equity" denotes if the location is in a census tract that is considered disadvantaged or in an equity area. See project documentation on equity resources and communities.*

Corridor (Segment) Risk Scoring

Table 9 and **Table 10** show the scoring used for both county and city corridors (roadway segments), respectively. Overall, roadway scoring is similar between county and city intersections. The main differences between the two scoring methodologies are as follows:

- In County Scoring:
  - Crash history included roadway departure crashes.
  - For corridors, access density and the presence of edge line markings were included in the scoring.
- In City Scoring:
  - Vulnerable Road Users (VRU) crash history was included.
  - For corridors, the number of lanes and jurisdictional ownership were included in the scoring.
  - Roadway width was weighted higher than in counties. As a stronger correlation between roadway width to KSI crashes was found in cities.

The maximum score county and city roadways may attain was 24. For each roadway segment, a score was assigned for each attribute based on its intersection characteristics. These scores were then summed, multiplied by 100, and divided by 24. This resulted in a score out of 100 for each segment.

Table 9: County Corridor Scoring

Attribute	Total Score	Range/Value	Representative Ratio	Score
AADT	8	<500	0.31	**0**
		500-1,999	3.02	**3**
		2,000-4,999	8.37	**5**
		5,000-9,999	10.79	**8**
		>=10,000	8.51	**8**
Roadway Width	3	No Data	0.25	**0**
		<22	1.40	**1**
		22+	2.95	**3**
Proximity to Schools	2	No	0.98	**0**
		Yes	2.36	**2**
Equity*	2	No	0.67	**0**
		Yes	1.76	**2**
Roadway Departure Crash History	2	No	Scoring Adjustment	**0**
		Yes		**2**
Access Density	5	No Data	0.24	**0**
		< 5.0	3.07	**3**
		5 - 9.9	2.23	**3**
		10 - 14.9	4.44	**5**
		>=15	4.80	**5**
Edgeline Markings	2	No Data	0.92	**0**
		Not Present	1.39	**2**
		Present	0.95	**0**

**Note: "Equity" denotes if the location is in a census tract that is considered disadvantaged or in an equity area. See project documentation on equity resources and communities.*

Table 10: City Corridor Scoring

Attribute	Total Score	Range/Value	Representative Ratio	Score
AADT	8	<500	0.32	**0**
		500-1,999	0.54	**1**
		2,000-4,999	1.79	**2**
		5,000-9,999	4.33	**5**
		>=10,000	5.85	**8**
Roadway Width	4	No Data	0.46	**0**
		<30	3.04	**3**
		30-40	2.06	**2**
		40+	3.76	**4**
Proximity to Schools	2	No	Scoring	**0**
		Yes	Adjustment	**2**
Equity*	2	No	0.17	**0**
		Yes	1.38	**2**
VRU Crash History	2	No	Scoring	**0**
		Yes	Adjustment	**2**
Number of Lanes	4	1	0.00	**0**
		2	0.71	**0**
		3	0.00	**4**
		4	3.93	**4**
Ownership	4	City	0.75	**0**
		County	1.55	**2**
		KDOT	3.59	**4**

**Note: "Equity" denotes if the location is in a census tract that is considered disadvantaged or in an equity area. See project documentation on equity resources and communities.*

HRN Thresholds and Prioritization

To establish a High-Risk Network (HRN), the overall attribute risk score for each intersection and roadway segment was calculated. The resulting network was then analyzed to establish thresholds. This ensures that the HRN captures a significant yet focused portion of the network, representing areas of highest need for intervention.

Geographic Threshold Differentiation

Given the large project area, there are several differences between areas that suggest thresholds should be localized to smaller sub-geographies, similar to what was done for the HIN.

To align with the HIN methodology, we utilized the Natural Jenks Method of distribution to normalize geographies, which scales the data based on the total number of segments and intersections in each city and county, and places them into 5 categories from low to high. This allows for an accurate representation of data clusters and natural breaks.

Differing from the HIN methodology, each jurisdiction was evaluated independently to show a reasonable number of facilities within the High-Risk Network for each jurisdiction. This methodology ensured that an actionable HRN was created for each jurisdiction.

Prioritization

As mentioned, the **Natural Jenks Method** was used to distribute crash severity scores into five categories, based on the natural distribution of the data. This process helped reveal the inherent groupings in the data by minimizing variance within each category and maximizing the variance between them.

After applying the Jenks Natural Breaks, only the **top two categories**, corresponding to the highest crash severity scores, were used for prioritization. These categories represent the highest-risk locations in the network, scoring **4** and **5** on the five-point scale.

1. Generating a New Priority Field

A new field was created in the dataset to house the values for these top two priority levels (scores 4 and 5). This field helps identify the most critical intersections and segments across each geography. By isolating these higher-priority areas, safety interventions are focused on the locations with the greatest potential for reducing severe crashes.

2. Application Across Geographies

This process was applied consistently across all geographies—both city and county. For every segment and intersection analyzed:

- **Intersections and segments** that scored in the top two categories (4 and 5) based on risk attributes were flagged in the newly generated field.
- The analysis was repeated for each individual jurisdiction that is a part of the US-83 safety coalition to ensure that the highest priority locations in each geography were highlighted for targeted intervention.

By using the top two categories from the Jenks distribution, the focus was narrowed to the locations with the most severe safety concerns, ensuring that limited resources are allocated to the areas with the highest risk of fatal or severe injury crashes.

GIS Visualization

A key component of the HRN is its integration with **GIS**, allowing for spatial analysis and the mapping of crash data. The resulting HRN list should be mapped alongside other project data to help determine project recommendations.

HIN/HRN Overlay / Use

After the HIN and HRN were created, the two networks were then overlaid to identify locations with both crash history and risk attributes. **Table 11** shows the priority level based on the HIN and HRN scoring groups.

Table 11: Priority Scoring Matrix

HRN Score \ HIN Score	5	4	3	2	1
5	1	2			
4	2	3	4		
3		4	Not Prioritized		
2					
1					

As shown in the table, Priority 1 locations are corridors and intersections that score a 5 on both the HRN and the HIN. Priority 2 locations include corridors and intersections that score a 5 on either the HIN or HRN. Priority 3 locations include facilities that score a four on both the HRN and HIN. Lastly, Priority 4 locations include facilities that score a 4 on either the HIN or HRN. All other facilities were not prioritized.

Appendix C: Equity Methodology

Equity Considerations

In the context of transportation planning and infrastructure projects, equity analysis plays a crucial role in ensuring that resources and interventions are distributed fairly and address the needs of all communities. Equity analysis involves identifying and addressing disparities and inequities in access, mobility, and safety across different demographic groups. Through an equity analysis, areas and populations that may be disproportionately impacted by transportation challenges or have higher rates of traffic crashes were identified.

Several sources of data and information can be used for equity analysis – mainly, demographic data and transportation data. Demographic data includes information on individuals' race, income, age, and disability status. Transportation data includes information on individuals travel patterns, access to transit, and crash data. It is important to gather comprehensive and accurate data to understand the unique challenges faced by different communities.

What constitutes a disadvantaged community can be defined by a variety of attributes, including disparities in employment, access to green space, poverty levels, and homeownership, among others. These attributes are often correlated with other characteristics, such as educational attainment and the percentage of people with low English proficiency in an area. Multiple federal agencies provide tools to assess the level of disadvantage or equity needs facing a community. These tools all rely primarily on census data to identify disadvantaged populations. It is important to note that these tools place emphasis on different attributes depending on the agency's mission. The first section of this chapter summarizes several available equity tools and looks at areas they consider to be disadvantaged along the US-83 Corridor. The second section of this chapter articulates how equity was used to assess roadway risk and how it was incorporated into project prioritization.

By integrating equity considerations into the prioritization process, we can help create a more equitable and inclusive transportation system. This approach ensures that interventions are targeted toward areas with the greatest need, while also addressing the specific challenges faced by different communities.

Equity Resources

This section summarizes tools available for various equity-related analyses. Items 1-4 are specifically identified on USDOT's SS4A Resources page under "Equity / Data Sources for Identifying Problems".

***SS4A Underserved Communities Census Tracts** (USDOT) – "Historically Disadvantaged Communities"*

- Refers specifically to USDOT's "Disadvantage Index" layer.
- Data can be downloaded here.
- Historically Disadvantaged Communities are census tracts that exceed 50th percentile across at least 4 of 6 of the following disadvantage indicators:
    - **Transportation access** - communities that spend more time and money to get places
    - **Health** - variables associated with disease risk or disability
    - **Environmental** - poor environmental quality or high levels of pollution
    - **Economic** - high poverty, low wealth, lack of jobs, low homeownership, low education
    - **Resilience** - vulnerable to hazards caused by climate change
    - **Equity** - high percentage of people with limited English proficiency
- Scoring provides binary 1/0 for whether the Census tract qualifies as historically disadvantaged (above 50th percentile for 4 of the 6 categories above).

Study Area Locations Considered to be Disadvantaged by this tool:

- Two tracts in Finney County, west of Garden City (see **Figure 14** at right).

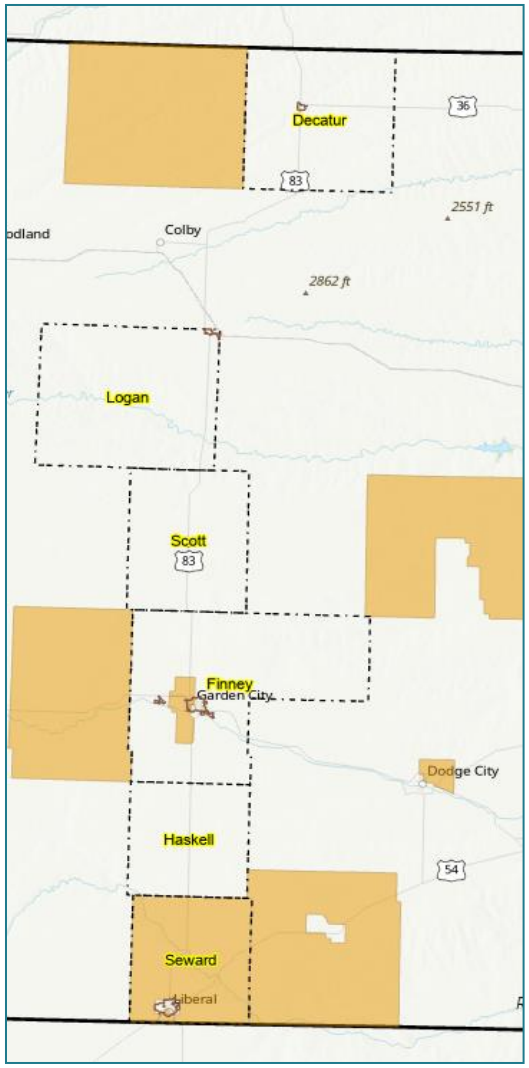

Figure 14: USDOT Historically Disadvantaged Communities

EJ Screen: Environmental Justice Screening and Mapping Tool (EPA)

- Data can be downloaded here.
- ***The EPA does not use EJ Screen to identify or label an area as a binary yes/no "EJ Community", but rather to screen areas for further review.***
- Combines environmental and demographic indicators into an EJ index
    - **13 environmental indicators** - primarily based on EPA data; lead paint, superfund proximity, wastewater discharge, particulate matter, etc.
    - **7 socioeconomic indicators** - people of color, low income, limited English speaking, over 64, under age 5, less than HS education, etc.
- From this data, two indexes were created:
    - Demographic index - people of color, low income, etc.
    - Supplemental index - low-income, unemployment, less than HS education, low life expectancy, etc.
- 13 EJ indexes - these are the percentile of 13 environmental factors multiplied by the demographic index
- 13 supplemental indexes - these are the percentile of 13 environmental factors multiplied by the supplemental index
- Disadvantage is scored on a gradient scale based on "EJ Indexes Over the 80th Percentile" and "Supplemental Indexes Over the 80th Percentile" can be used to show a color gradient for tracts scoring the highest, however no binary score is available.

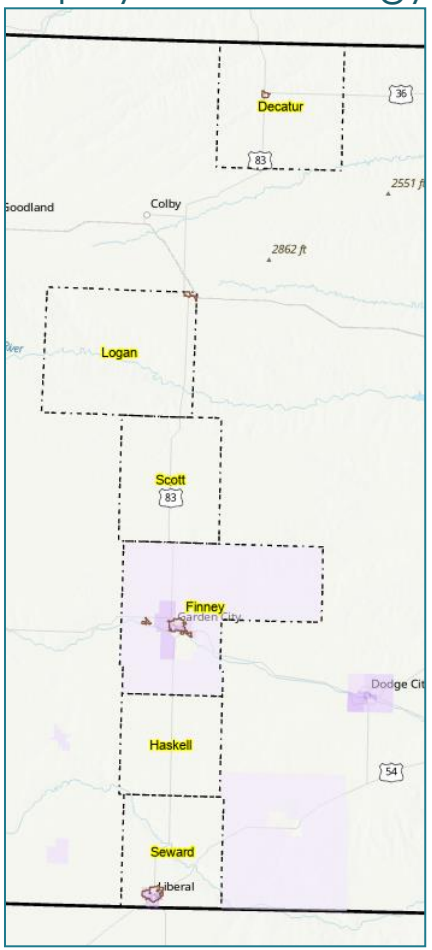

Figure 15: EPA Environmental Justice Screening and Mapping Tool

Study Area Locations

- Finney County: nearly entire county, especially tracts in Garden City and immediately west, have at least one factor showing above the 80th percentile. See **Figure 15** at right.

FHWA – HEPGIS Maps: Socioeconomics and Equity Analysis (FHWA)

- Has a sub-tab for "Equity in Transportation GIS Resources" and within that another sub-tab for "Planning and Equity Tool" with data for the 3 sources below.
- (a) USDOT disadvantaged communities - this is the same as (1) above, filtered to only the disadvantaged tracts. See **Figure 16** below.
- (b) CEJST (Climate and Economic Justice Tool) disadvantaged areas - similar to (2) above, but only tracts above a certain threshold. See **Figure 17** below.
- (c) Department of Energy (DOE) disadvantaged communities - separate; also scored on the Census tract level; 36 different indicators. See **Figure 18** below.

Study Area Locations

- CEJST disadvantaged areas:
  - Finney County: tracts in and around Garden City
- DOE disadvantaged communities:
  - Two tracts in Finney County west of Garden City.

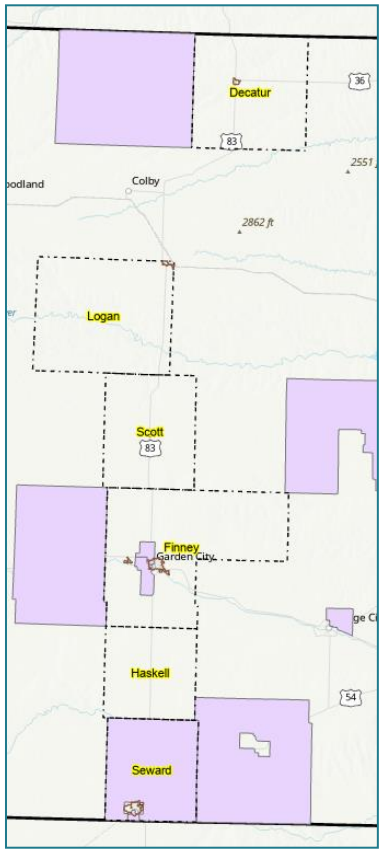

Figure 16: USDOT Disadvantaged Communities

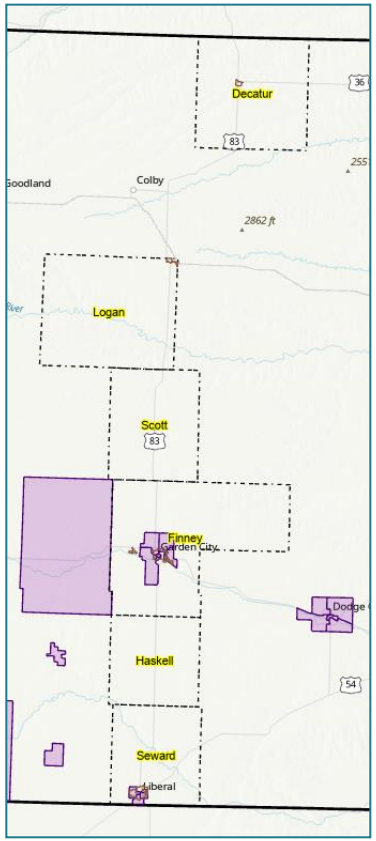

Figure 17: CEJST Disadvantaged Areas

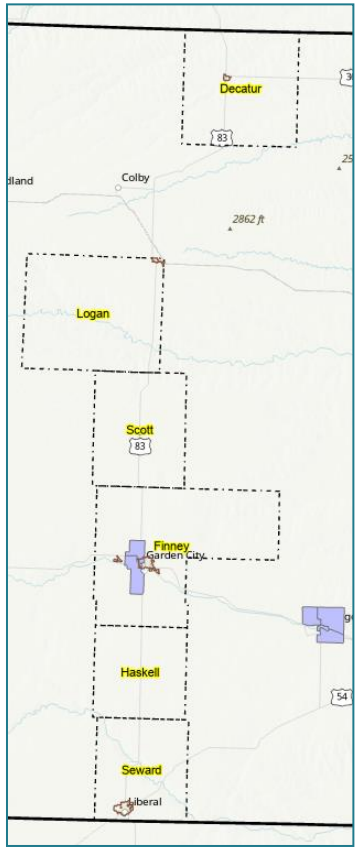

Figure 18: USDOE Disadvantaged Communities

CDC Social Vulnerability Index *(CDC)*

- This tool evaluates communities at the *block group* level. See **Figure 19** at right.
- Four "themes" with percentile rankings for each:
  - Socioeconomic Status Theme
  - Household Characteristics Theme
  - Racial and Ethnic Minority Theme
  - Housing Type and Transportation
- There are two summary metrics that can be used to define disadvantage:
  - The first is the average of the four themes listed above (1-100%)
  - The second is the count of themes that score in the top 10% of block groups (1-4).
- Uses Census Data to determine the social vulnerability of each block group:
  - Social vulnerability - how a community will respond to hazardous events (tornado, disease outbreak, chemical spill, etc.) based on poverty, transportation access, crowded housing, etc.
  - Each tract is ranked based on 16 social factors aggregated across 4 themes (mentioned above)
  - Users can map specific themes to emphasize their concern, such as housing or transportation.

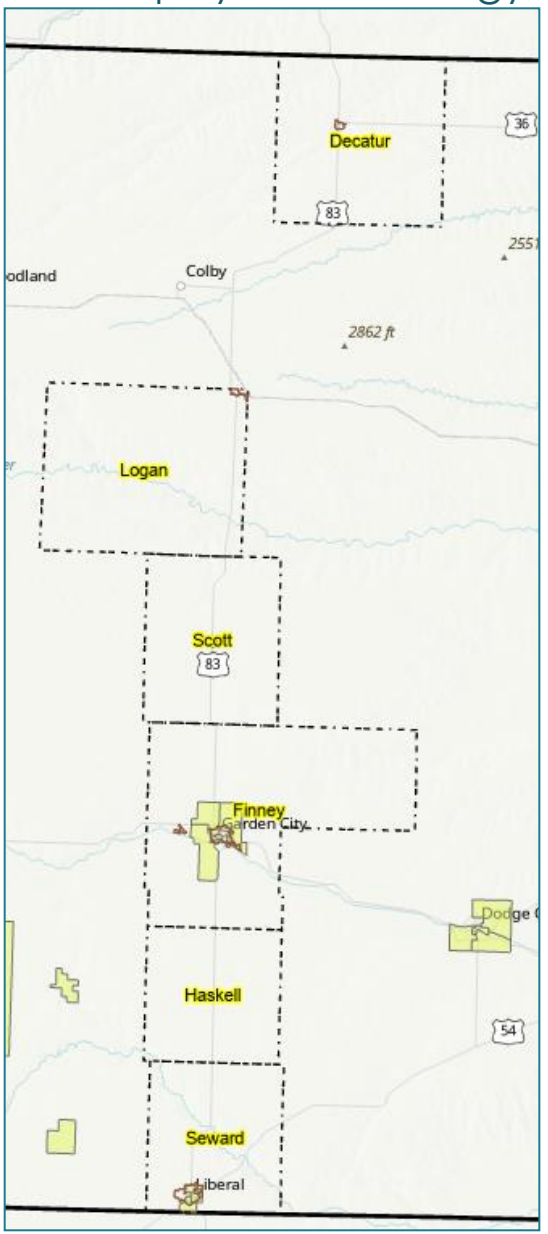

Figure 19: CDC Social Vulnerability Index

Justice40 Tracts (November 2022, Version 1.0) (ESRI, via CEJST)

- From Climate & Environmental Justice Screening Tool (CEJST) – *see above.*
- Assesses/identifies disadvantaged communities according to Justice40 criteria; online Web map color-codes based on the number of disadvantaged categories in each tract.
- "Total Categories Exceeded" field can be used to show a color gradient for tracts scoring the highest, but no binary "disadvantaged"/"not disadvantaged" field. Darker colors on the map indicate more categories are exceeded.
- Provides 8 scores related to disadvantage:
    - Climate change
    - Energy
    - Health
    - Housing
    - Legacy pollution
    - Transportation
    - Water and wastewater
    - Workforce development

Study Area Locations

- Finney County: Tracts in Garden City and immediately west, especially southwest. See **Figure 20** at right.

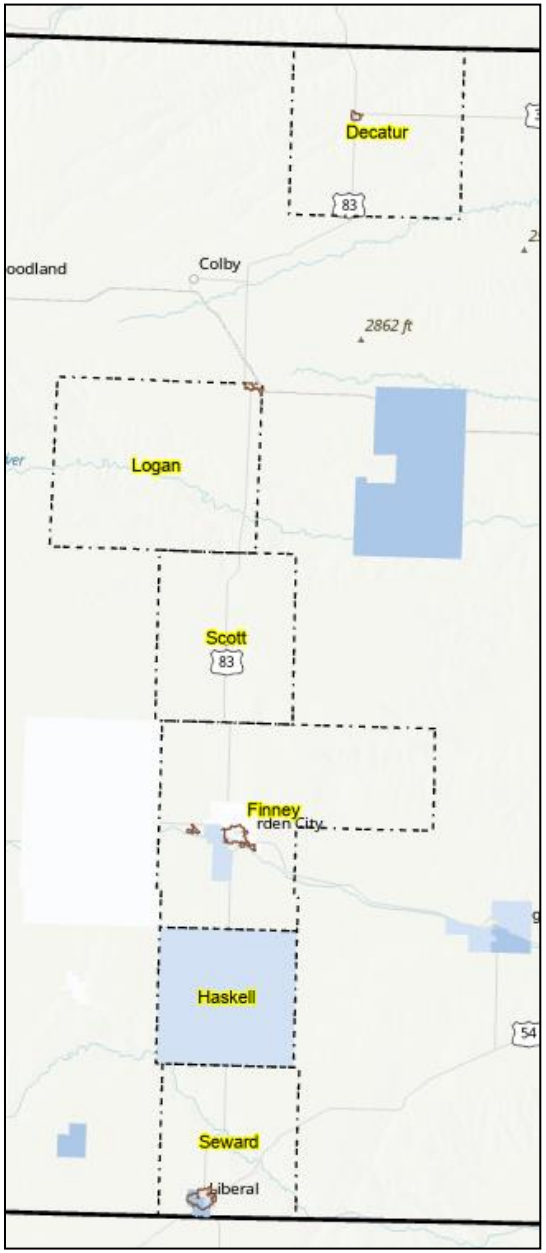

Figure 20: Justice40 Tracts

Equity Analysis in US-83 Communities' Safety Action Plans

Equity is a fundamental component of a safety action plan and was incorporated into both the **High-Risk Network (HRN) scoring** and **project prioritization**. The High-Risk Network, which identifies intersections and roadway segments with characteristics correlated with fatal and serious injury crashes, is described further in Appendix B.

HRN scoring

The following equity definitions were overlaid for use in the HRN:

- SS4A Underserved Communities Census Tracts (USDOT)
- EJ Screen: Environmental Justice Screening and Mapping Tool (EPA)
- HEPGIS Maps: Socioeconomics and Equity Analysis (FHWA)
- Social Vulnerability Index (CDC)
- Justice40 Tracts (CEJST)

These five equity definitions were aggregated at the census tract level. If a tract was considered disadvantaged or an equity area by any of the equity tools, it was labeled as an equity area. Any intersections or roadways located in an equity area were scored higher than non-equity areas.

Project Prioritization

The USDOT Equitable Transportation Community (ETC) Explorer was utilized to define disadvantage when prioritizing projects throughout the US-83 corridor. Projects in disadvantaged areas were given higher priority than non-disadvantaged areas.

However, this methodology presented challenges. Due to the low population density, many Census tracts encompass entire counties, which provides a low-resolution picture of where disadvantaged populations live. Entire jurisdictions which had no indicators of disadvantage were counted as disadvantaged because they were part of a larger Census Tract or Block Group which was disadvantaged as a whole. This aspect of the evaluation tools made it challenging to use disadvantaged areas as a differentiator when prioritizing projects. This was the case for the following counties and cities:

- Haskell County
- Scott County
- Logan County
- Decatur County
- Holcomb
- Scott City
- Oakley
- Oberlin

In these instances, equity conditions were noted for specific projects. Seward County and Finney County have multiple Census Tracts. In these Counties, as well as Garden City and Liberal, projects in equity tracts were prioritized over non-equity locations.

Appendix D: Countermeasure Toolbox

Countermeasure Resources

The recommended safety countermeasures for Finney County were developed in coordination with the project Task Force as well as coordination with local County stakeholders. These countermeasures are rooted in established national guidance, such as FHWA's Proven Safety Countermeasures[2] (focused on infrastructure strategies) and the National Highway Traffic Safety Administration's (NHTSA's) Countermeasures That Work[3] (focused on behavioral strategies). Many of these strategies have been adopted by KDOT and were included in Finney County's Local Road Safety Plan, and many of these are already in place in the County and in neighboring communities.

FHWA Countermeasures and Crash Modification Factors

FHWA's Proven Safety Countermeasures is a collection of infrastructure-based countermeasures that have been repeatedly proven to reduce fatalities and serious injuries. These countermeasures can be applied to a variety of roadway types, including rural highways and local streets, and are tailored toward specific focus areas (e.g., roadway departure). In addition to FHWA's PSCs, additional countermeasures have been identified using the Crash Modification Factors (CMF) Clearinghouse[4], which provides a searchable database of countermeasures along with guidance on calculating their estimated effectiveness at reducing crashes.

---

[2] https://highways.dot.gov/safety/proven-safety-countermeasures

[3] https://www.nhtsa.gov/book/countermeasures/countermeasures-that-work

[4] https://cmfclearinghouse.fhwa.dot.gov/. The Crash Modification Factor (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 1.0 are expected to reduce crashes if applied, while those countermeasures with CMFs greater than 1.0 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. 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 because of these countermeasures.

NHTSA Countermeasures

NHTSA's Countermeasures That Work guide provides a suite of effective, science-based traffic safety countermeasures for major highway safety problem areas, generally focused around strategies to influence driver behavior (as opposed to physical infrastructure deployments). The guide describes major countermeasure strategies and specific countermeasures; summarizes their use, effectiveness, costs, and implementation time; and provides references to the most important research summaries and individual studies. NHTSA countermeasure effectiveness is shown using a five-star rating system in **Figure 21** below:

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.

Figure 21: NHTSA Countermeasure Effectiveness Rating

Recommended Countermeasures

The tables below and on the following pages outline countermeasures identified that provide a significant opportunity to reduce traffic-related fatalities and serious injuries in Finney County. The countermeasures below are organized around which emphasis area the countermeasure aims to improve. Where available, the relative cost and estimated crash reduction factor (CRF) percentage is based on the CMF of the countermeasure.

Table 12: Roadway Departure Countermeasures

Countermeasure	Description	Cost (Relative)	CRF (%)
Rumble Strip	Textures installed into paved roadways, running parallel with the directions of travel, that create a physical vibration and an audible warning whenever a motorist crosses them. Three types of rumble strips are commonly used: center line, shoulder, and edge line.	$	20%
Roadside Design Improvements	Improvements to the side of the roadway including the establishment of Clear Zones, flattening slopes, adding or widening shoulders, or installing roadside barriers, which allow for a safe recovery for a motorist who has left the roadway or to stop safely.	$-$$	20%
Safety Edge	Installing a strong, durable 30-degree transition between the edge of a paved roadway and the adjacent graded material, mitigating the problems associated with a vertical drop-off (such as tire scrubbing and motorists losing control of their vehicle trying to return to the roadway).	$$	50%
Enhanced Curve Delineation	Retroreflective chevron signs around curves and advance curve warning signage; these are shown to significantly reduce crashes along curves, especially nighttime crashes and in rural areas.	$	30%
Striping Center Lines/Edge Lines	Striping of center lines and edge lines, which separates the opposing flows of traffic and indicates the edge of the paved roadway from the shoulder/the adjacent graded materials. Striping center lines and edge lines, especially in areas where nighttime driving causes cues to changes in alignment to be unclear, can help motorists position their vehicle correctly in the roadway and avoid collisions with other vehicles.	$	25%
Widening Edge Lines	A "wider" edge line measuring at six inches wide (the maximum normal line width), which is two inches wider than what edge lines are typically painted. This makes the edge of the travel lanes more visible and easier for motorists to identify, and these and are the most effective in reducing crashes on rural two-lane highways (especially single-vehicle crashes).	$	20%
Pavement Friction Management (PFM)(Not at Intersections)	Measuring, monitoring, and maintaining pavement friction to maintain skid resistance. PFM should be implemented at locations where vehicles often slow down, stop, and/or turn, as well as curves or slopes. For Roadway Departure crashes a high friction surface treatment (HFST) - a layer of specialized aggregate locked onto the roadway surface - should be used at interchange ramps, horizontal curves, and locations with a history of rear-end and weather-related crashes.	$$	55%

Table 13: Occupant Protection Countermeasures (Seat Belts and Child Restraints)

Countermeasure	Description	Cost (Relative)	CRF (%)
Short-Term, High-Visibility Seat Belt Law Enforcement	The most common high-visibility seat belt law enforcement method consists of short (typically lasting for 2 weeks), intense, highly publicized periods of increased belt law enforcement, frequently using checkpoints (in States where checkpoints are permitted), saturation patrols, or enforcement zones.	$$$	n/a
Nighttime, High-Visibility Seat Belt Law Enforcement	Research has shown that short-term HVE programs are effective at increasing nighttime seat belt use. In 2021 some 57% of passenger vehicle occupants killed in crashes at nighttime were unrestrained. In contrast, 43% of fatally injured passenger vehicle occupants in daytime crashes were unrestrained.	$$$	n/a
Communication Strategies for Low-Belt-Use Groups as Part of HVE	Communications and outreach campaigns directed at low-belt-use groups have been demonstrated to be effective for targeted programs that support, and are supported by, enforcement.	Varies	n/a
Programs for Increasing Child Restraint and Booster Seat Use	Abundant research has shown that correctly using an appropriate child restraint or seat belt is the single most effective way to save lives and reduce injuries in crashes. However, unrestrained children continue to be overrepresented in motor vehicle fatalities, which indicates that additional lives can be saved by further increasing restraint use among children.	Varies	n/a

Table 14: Intersection Related Countermeasures

Countermeasure	Description	Cost (Relative)	CRF (%)
Intersection Warning Signage	Additional signage installed in advance of the intersection (e.g., Stop Ahead, Yield Ahead, Signal Ahead) to notify unaware motorists and increase conspicuity and compliance with the traffic control.	$	30%
Retroreflective Sign Post Panels	A strip of retroreflective material attached to the front of an existing sign post to increase the visibility of the sign, particularly at night; these should be implemented at locations with issues of poor visibility of existing signage and/or compliance with intersection traffic control.	$	30%
Double Up / Enlarged Signage	Double-up signage is when signage is posted on both the right and left side of the roadway on the approach to an intersection (e.g., having "Stop Ahead" signs on both sides of the road). By doubling-up and enlarging signage, it increases the visibility of the signage for road users to increase compliance with the posted signage.	$	30%
Cross Traffic Does Not Stop / Double Arrow Warning	The Cross Traffic Does Not Stop (W4-4P) sign can be used at two-way stop-controlled intersections, mounted below the stop signs, in areas that potentially or currently are misinterpreted as an all-way stop. This sign can be used with a Two-Direction Large Arrow (W1-7) for side streets at a T-intersection to remind motorists to look both ways before turning left or right.	$	30%
Approach Rumble Strips	Transverse rumble strips installed into the pavement in advance of stop-controlled approaches that create a physical vibration and audible warning to alert the motorist of the upcoming approach so they can safely stop in time.	$	30%
All-Way Stop Control Conversion	Converting an unwarranted signalized intersection or a two-way (side street only) stop-controlled intersection to be stop-controlled on all approaches. All-way stops, as compared to two-way stops, reduce the need for drivers to wait for a safe gap in traffic to go and are more predictable. This countermeasure can also serve as a temporary solution for other, more expensive traffic control solutions, such as roundabouts. Note that the MUTCD has warrants for all-way stop control and signalization, and it is important to review current data to understand if a location meets warrants.	$	60%

Countermeasure	Description	Cost (Relative)	CRF (%)
Pavement Friction Management (Intersections)	Measuring, monitoring, and maintaining pavement friction to maintain skid resistance. PFM should be implemented at locations where vehicles often slow down, stop, and/or turn, as well as curves or slopes. For Intersection crashes specifically, high friction surface treatment (HFST) - a layer of specialized aggregate locked onto the roadway surface - should be used on intersection approaches (especially intersections with steep downward grade and higher-speed stop-controlled and signalized intersections), crosswalk approaches, and locations with a history of crashes due to weather, failure to yield, red-light running, and/or rear-end.	$$	55%
Lighting	Installing lighting at spot locations such as intersections to reduce nighttime crashes. The nighttime fatality rate is three times the daytime rate because at nighttime, vehicles traveling at higher speeds may not have the ability to stop once a hazard or change in the road becomes visible by a vehicle's headlights.	$$	35%
Intersection Daylighting	Intersection daylighting improves the sight distance for road users as they enter and navigate an intersection by restricting curbside vehicle parking spaces or clearing of sight distances leading up to an intersection. Restrictions can be accomplished through the use of pavement markings and flexible guideposts	$	30%
Roundabouts	An intersection with a circular configuration that safely and efficiently moves traffic. They are designed with channelized, curved approaches that reduce vehicle speed, entry yield control that gives right-of-way to circulating traffic, and counterclockwise flow around a central island that minimizes conflict points. The net result of lower speeds and reduced conflicts at roundabouts is an environment where crashes that cause injury or fatality are substantially reduced.	$$$	45%

Table 15: Large Commercial Vehicle Countermeasures

Countermeasure	Description	Cost (Relative)	CRF (%)
Roadway Measures	Safety features which are applied to the roadway structure or immediately adjacent to it to mitigate safety risks for all vehicles, including CMVs. These features include high-friction surface treatments, cross-slope break limits, drainage structures to remove precipitation, higher-performance barriers, and rumble strips.	n/a	n/a
Adding Lanes and Ramps	Safety improvements which expand the roadway footprint to mitigate the risks of CMV interactions with other vehicles in certain circumstances. These improvements include escape ramps, climbing lanes, interchange bypass lanes, and exclusive truck roadways.	n/a	n/a
Signs and Signals	Safety treatments involving roadside communication of particular safety risks or operational conditions of concern to CMV drivers. These treatments include Static warning signs, sign retroreflectivity and uniformity, dynamic warning devices, and detection-control systems for traffic signals.	n/a	n/a
Pavement Markings	Safety-related communication treatments involving markings on the pavement because drivers regularly watch the pavement ahead for lane directions and possible obstructions. These treatments include lane assignments or wayfinding markings, wider edge lines, and contrast markings.	n/a	n/a
Incident Warnings	Safety communication treatments which address CMV safety in higher-risk environments that may be temporary or weather-related. These treatments include queue detection warning systems, work zone and incident electronic notification systems, and visibility and wind detection systems.	n/a	n/a
Compliance with Safety Rules	Countermeasures associated with roadside equipment that aids in inspection and enforcement activities or safety rules compliance. These countermeasures include Parking systems to help commercial motor vehicle drivers comply with mandatory rest rules, Infrared braking detection systems to identify overheating brakes, Electronic screening to facilitate inspection while the vehicle is in motion, and virtual (unmanned) weigh stations.	n/a	n/a
Truck Separation Measures	Regulatory measures to separate truck movements from the rest of traffic. These measures include oversize/overweight (OS/OW) corridors can help manage common problems associated with OS/OW vehicle movements as well as lane restrictions separate slow-moving trucks from faster-moving vehicles.	n/a	n/a

Countermeasures sourced from FHWA Infrastructure Safety Practices for Commercial Motor Vehicles.

Table 16: Impaired Driver/Unrestrained Occupant Countermeasures

Countermeasure	Description	Cost (Relative)	CRF (%)
High-Visibility Saturation Patrols	A saturation patrol (also called a blanket patrol or dedicated DWI patrol) consists of a large number of law enforcement officers patrolling a specific area looking for impaired drivers. These patrols usually take place at times and locations where impaired-driving crashes commonly occur. Like publicized sobriety checkpoint programs, the primary purpose of publicized saturation patrol programs is to deter driving after drinking by increasing the perceived risk of arrest. To do this, saturation patrols should be publicized extensively and conducted regularly, as part of an ongoing program.	$$	NA
Publicized Sobriety Checkpoints	Sobriety Checkpoints are highly visible, regularly conducted stops of motorists at predetermined locations to investigate whether motorists are impaired. Stops are conducted per vehicle or at a regular interval (e.g., every third vehicle). Although the primary purpose of checkpoints is to deter driving after drinking among the general population due to the perceived risk, sobriety checkpoints also remove impaired drivers from the road.	$$	10%
Integrated Enforcement	Integrated Enforcement is a type of high visibility enforcement focused primarily on behavioral activities, such as driving under the influence, speeding, and seat-belt usage, and is seen in both regular traffic enforcement and crash investigations to specialized checkpoints and saturation patrols. Special enforcement activities focused on speeding or seat-belt use offer an additional opportunity to detect impaired drivers, especially at night, as impaired drivers often speed or fail to wear seat belts.	$$	Varies
Alternative Transportation	Alternative Transportation Programs reduce the need for individuals to drive while under the influence; these include for-profit rideshare services, nonprofit safe ride programs, and public transportation (such as buses).	$$	Varies
Mass Media Campaigns	Mass Media Campaigns are intensive communication and outreach activities focusing on key topics regarding safety, health, and well-being (such as driving under the influence) that use radio, television, print, social, and other mass media platforms. Some campaigns publicize a deterrence or prevention measure, such as a change in a State's DWI laws or through a highly visible enforcement program; others promote specific behaviors (such as designated drivers) illustrating the repercussions of these actions. Campaigns vary enormously in quality, size, duration, funding, and many other ways. Effective campaigns identify a specific target audience and communications goal and develop messages and delivery methods that are appropriate to—and effective for—the audience and goal.	$$	Varies

Table 17: Young Drivers Countermeasures

Countermeasure	Description	Cost (Relative)	CRF (%)
S.A.F.E. Program in High Schools	SAFE (Seatbelts Are For Everyone) is a free, student-led program for high school students in Kansas focusing on peer-to-peer promotion of traffic safety. Through education, rewards, and enforcement, SAFE highlights the importance of wearing a seatbelt, driving alert, and following traffic laws with the goal of decreasing the number of teen injuries and deaths from vehicle crashes.	State Funded	NA
Kansas Education Programs for New Drivers	Several programs are available for new drivers in Kansas to increase and promote education on how to drive and how to do it safely, including a Driver Education Toolkit, driving schools, driver improvement programs, and financial assistance for individuals for driver's education. • The KTSRO offers a Driver Education Toolkit, which includes information about the Kansas Graduated Driver's License, the stages of getting licensing, restrictions, distractions, and resource materials for relevant laws (i.e., occupant protection, DUI, distracted driver, etc.) • The Kansas Highway Patrol's AAA Driver Improvement Program operates similarly, providing a student guidebook to discuss these topics. • To encourage and support the education of safe and lawful driving, KDOT has a driver's education reimbursement grant that provides financial assistance to driver's education programs for individuals who may otherwise not have been able to participate.	$$	NA

Appendix E: Recommended Projects

Priority 1 Locations

One project was categorized as Priority 1 in Finney County.

Project 31: W Jones Ave from Holcomb to Garden City

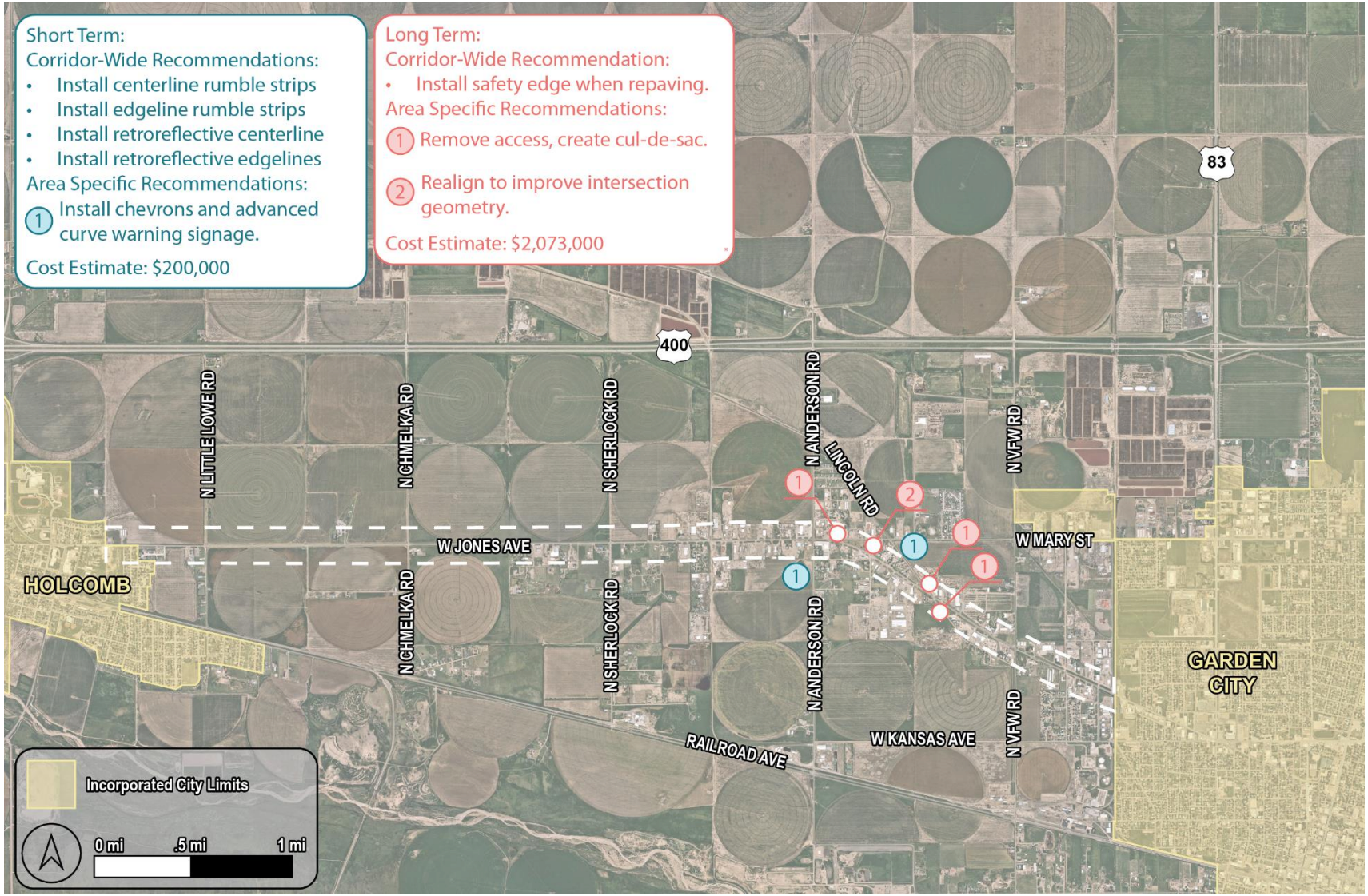

Figure 22: W Jones Ave from Holcomb to Garden City (Project 31)

Identified Safety Issues:

This project scored highly on the High-Risk Network (HRN) and High-Injury Network (HIN). Additionally, this project received stakeholder feedback. Stakeholder feedback focused on the awkward geometry of many of the intersections along this roadway, specifically at the intersection of N Anderson Rd, N Jones Ave and W Mary St. Furthermore, this corridor has high access density contributing to the density of angle crashes along the corridor. Other crash types along this corridor include head on and roadway departure crashes.

Priority 1 (LRSP) Locations

Ten projects were previously identified in the Finney County LRSP and are described in the following section. For more information on these projects, please refer to the Finney County LRSP.

Project 1: Anderson Rd from US-50 to Maple St

In addition to being identified on the LRSP, this segment scored highly on the HRN.

Short-Term Recommendations:

- Install retroreflective edge lines on both sides of the road
- Install retroreflective centerline
- Delineate roadside hazards with retroreflective markers
- Clear and grub
- Review pavement conditions and install edge line/centerline rumble strips (if feasible)

Short-Term Cost Estimate: $100,000

Long-Term Recommendations:

- Remove/relocate fixed objects in clear zone
- Pave shoulder with safety edge
- Install edge line/centerline rumble strips
- Flatten and widen foreslopes
- Extend culverts
- Improve edge rut conditions
- Install post-mounted delineators

Long-Term Cost Estimate: $1,440,000

Project 2: Maple St from Anderson to Taylor Ave

In addition to being identified on the LRSP, this segment scored highly on the HRN.

Short-Term Recommendations:

- Install retroreflective edge lines on both sides of the road
- Install retroreflective centerline
- Delineate roadside hazards with retroreflective markers
- Clear and grub, review pavement conditions and install edge line/centerline rumble strips (if feasible)
- Review and upgrade curve signage to meet standards
- Install curve signage to meet standards (if needed)
- Install in-lane curve warning pavement markings
- Install retroreflective strips on curve signage

Short-Term Cost Estimate: $120,000

Long-Term Recommendations:

- Remove/relocate fixed objects in clear zone
- Pave shoulder with safety edge
- Install edge line/centerline rumble strips
- Flatten and widen foreslopes
- Correct superelevation on curves
- Install aggregate shoulder treatment
- Improve edge rut conditions at edge drop off locations
- Install post-mounted delineators

Long-Term Cost Estimate: $1,530,000

Project 3: VFW Rd from US-50 to Maple St

In addition to being identified on the LRSP, this segment scored highly on the HRN and HIN.

Short-Term Recommendations:

- Install retroreflective edge lines on both sides of the road
- Install retroreflective centerline
- Delineate roadside hazards with retroreflective markers
- Review pavement conditions and install edge line/centerline rumble strips (if feasible)

Short-Term Cost Estimate: $130,000

Long-Term Recommendations:

- Remove/relocate fixed objects in clear zone
- Pave shoulder with safety edge
- Install edge line/centerline rumble strips
- Install/upgrade guardrail with reflectors
- Flatten and widen foreslopes
- Extend culverts

Long-Term Cost Estimate: $1,580,000

Project 4: Old Hwy 83 from Business US-83 to US-83

In addition to being identified on the LRSP, this segment scored highly on the HRN.

Short-Term Recommendations:

- Install retroreflective edge lines on both sides of the road
- Install retroreflective centerline
- Delineate roadside hazards with retroreflective markers
- Clear and grub
- Improve edge rut conditions at edge drop-of locations
- Review pavement conditions and install edge line/centerline rumble strips (if feasible)
- Review and upgrade curve signage to meet standards
- Install in lane curve warning pavement markings
- Install retroreflective strips on curve signage

Short-Term Cost Estimate: $320,000

Long-Term Recommendations:

- Remove/relocate fixed objects in clear zone
- Pave shoulder with safety edge
- Install edge line/centerline rumble strips
- Flatten and widen foreslopes
- Correct superelevation on curves
- Install aggregate shoulder treatment

Long-Term Cost Estimate: $3,940,000

Project 5: River Road from Kearny County Line Rd to Oak Ave

In addition to being identified on the LRSP, this segment scored highly on the HRN.

Short-Term Recommendations:

- Install retroreflective edge lines on both sides of the road
- Install retroreflective centerline
- Delineate roadside hazards with retroreflective markers
- Clear and grub
- Review pavement conditions and install edge line/centerline rumble strips (if feasible)
- Install post-mounted delineators
- Review and upgrade curve signage to meet standards
- Install in-lane curve warning pavement markings
- Install retroreflective strips on curve signage

Short-Term Cost Estimate: $370,000

Long-Term Recommendations:

- Remove/relocate fixed objects in clear zone
- Pave shoulder with safety edge
- Install edge line/centerline rumble strips
- Install/upgrade guardrail with reflectors
- Flatten and widen foreslopes
- Extend culverts

Long-Term Cost Estimate: $3,420,000

Project 6: Sagebrush Road from Circle Land Rd to Business US-83

In addition to being identified on the LRSP, this segment scored highly on the HRN and HIN.

Short-Term Recommendations:

- Install retroreflective edge lines on both sides of the road
- Install retroreflective centerline
- Delineate roadside hazards with retroreflective markers
- Clear and grub
- Improve edge-rut conditions
- Review pavement conditions and install edge line/centerline rumble strips (if feasible)
- Review and upgrade curve signage to meet standards
- Install curve signage to meet standards
- Install in-lane curve warning pavement markings
- Install retroreflective strips on curve signage

Short-Term Cost Estimate: $170,000

Long-Term Recommendations:

- Remove/relocate fixed objects in clear zone
- Pave shoulder with safety edge
- Install edge line/centerline rumble strips
- Flatten and widen foreslopes
- Extend culverts
- Install high friction surface treatment on curve
- Correct superelevation on curves
- Install speed feedback sign on curve warning sign

Long-Term Cost Estimate: $2,300,000

Project 7: Big Lowe Rd from Lowe Rd to Turner Ave

This segment did not meet any prioritization metrics outside of being identified on the LRSP.

Short-Term Recommendations:

- Install retroreflective edge lines on both sides of the road
- Install retroreflective centerline
- Delineate roadside hazards with retroreflective markers
- Review pavement conditions and install edge line/centerline rumble strips (if feasible)

Short-Term Cost Estimate: $90,000

Long-Term Recommendations:

- Remove/Relocate fixed objects in clear zone
- Pave shoulder with safety edge
- Install edge line/centerline rumble strips
- Install/upgrade guardrail with reflectors
- Flatten and widen foreslopes
- Extend culverts
- Install aggregate shoulder treatment

Long-Term Cost Estimate: $1,080,000

Project 8: Intersection of Holcomb Ln and Parallel Rd

In addition to being identified on the LRSP, this intersection received stakeholder feedback.

Short-Term Recommendations:

- Install retroreflective strips on stop sign posts
- Clear and grub
- Upgrade signs and pavement markings

Short-Term Cost Estimate: $30,000

Long-Term Recommendations:

- Realign intersection approaches to reduce/eliminate skew
- Curve improvements

Long-Term Cost Estimate: $310,000

Project 9: Burnside Dr from Business US-83 to US-83

In addition to being identified on the LRSP, this segment received stakeholder feedback and scored highly on the HRN.

Short-Term Recommendations:

- Install retroreflective edge lines on both sides of the road
- Install retroreflective centerline
- Delineate roadside hazards with retroreflective markers
- Review pavement conditions and install edge line/centerline rumble strips (if feasible)
- Install post-mounted delineators
- Install curve signage to meet standards
- Install in lane curve warning pavement markings
- Install retroreflective strips on curve signage

Short-Term Cost Estimate: $160,000

Long-Term Recommendations:

- Remove/relocate fixed objects in clear zone
- Pave shoulder with safety edge
- Install edge line/centerline rumble strips
- Install/upgrade guardrail with reflectors
- Flatten and widen foreslopes
- Improve edge rut conditions at edge drop off locations

Long-Term Cost Estimate: $1,080,000

Project 10: Intersection of Jones Ave and Mary St

In addition to being identified on the LRSP, this intersection received stakeholder feedback and scored highly on the HRN.

Short-Term Recommendations:

- Install retroreflective strips on stop sign posts
- Clear and grub
- Review pavement condition and install transverse rumble strips
- Upgrade signs and pavement markings
- Install second stop sign and stop ahead signs
- Install beacon on stop sign

Short-Term Cost Estimate: $50,000

Long-Term Recommendations:

- Improve intersection lighting
- Realign intersection approaches to reduce/eliminate skew

Long-Term Cost Estimate: $650,000

Priority 2 Locations

Ten projects met the metrics to be classified as Priority 2.

Project 38: US-50 from Big Lowe Rd to Garden City

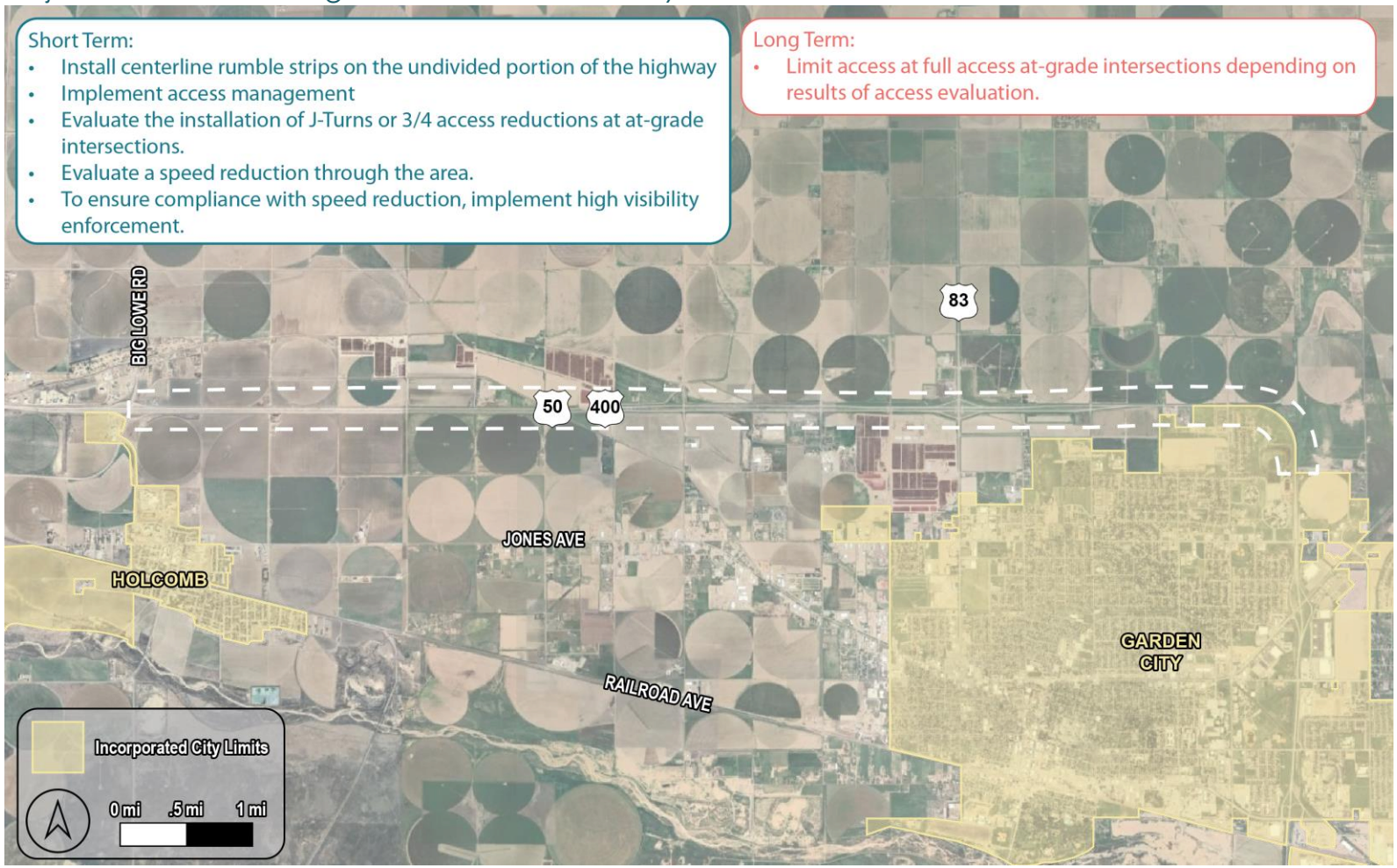

Figure 23: US-50 from Big Lowe Rd to Garden City (Project 38)

Identified Safety Issues:

This project scored highly on the High-Risk Network (HRN) and High-Injury Network (HIN). There were seven fatalities and six serious injury crashes along this corridor between 2018-2022. Crashes along this corridor were

primarily roadway departure and intersection-related crashes. These issues combined with a posted speed limit of 70 mph, high access density, and high truck volume makes this area a safety concern.

Project 39: US-83 from Old Hwy 83 to E Plymell Rd

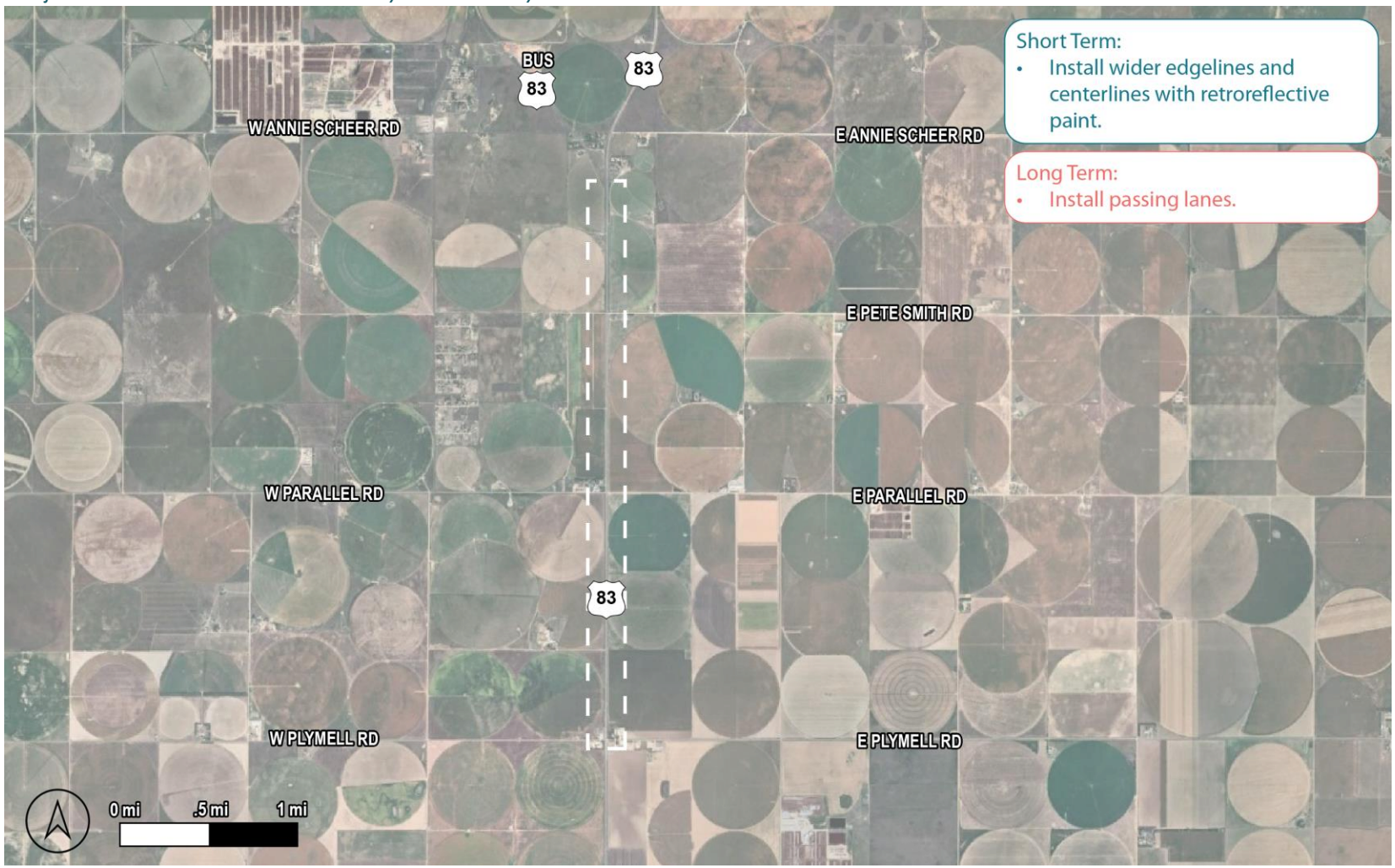

Figure 24: US-83 from Old Hwy 83 to E Plymell Rd (Project 39)

Identified Safety Issues:

This project corridor scored highly on the HIN and HRN. Between 2018-2022, four fatal or serious injury crashes occurred. Three of the four crashes were roadway departure crashes. High speeds, high Annual Average Daily Traffic (AADT) and high occurrence of roadway departure crashes make this corridor a safety concern.

Project 40: US-83 Business Hwy from S Old Hwy 83 to E Burnside Dr

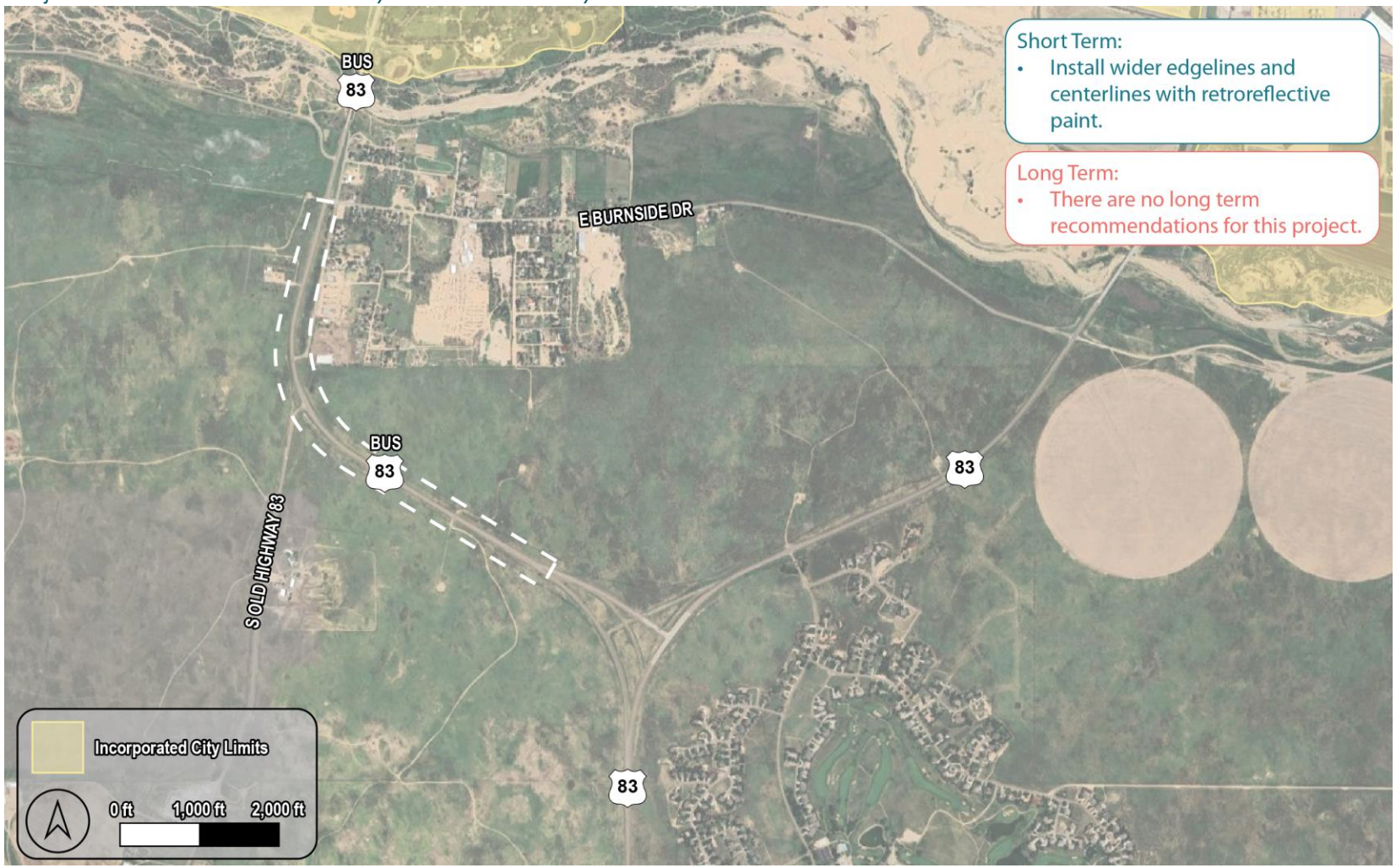

Figure 25: US-83 Business Hwy from S Old Hwy 83 to E Burnside Dr (Project 40)

Identified Safety Issues:

This project corridor scored highly on the HIN and HRN. Crashes primarily occurred at access points and along the curve. Non-intersection-related crashes were primarily roadway departures. High speeds, high AADT, roadway curve and high density of roadway departure crashes make this corridor a safety concern.

Project 41: Intersection of VFW Rd and Railroad Ave

Figure 26: Intersection of VFW Rd and Railroad Ave (Project 41)

Identified Safety Issues:

This project intersection scored highly on the HRN and received stakeholder feedback. Roadway departure crashes and angle crashes are the most common. Despite no reported crashes with a train between 2018-2022, the intersection's proximity to the railroad combined with the intersection skew makes this intersection a safety concern.

Project 42: Intersection of US-50 East Bound and VFW Rd

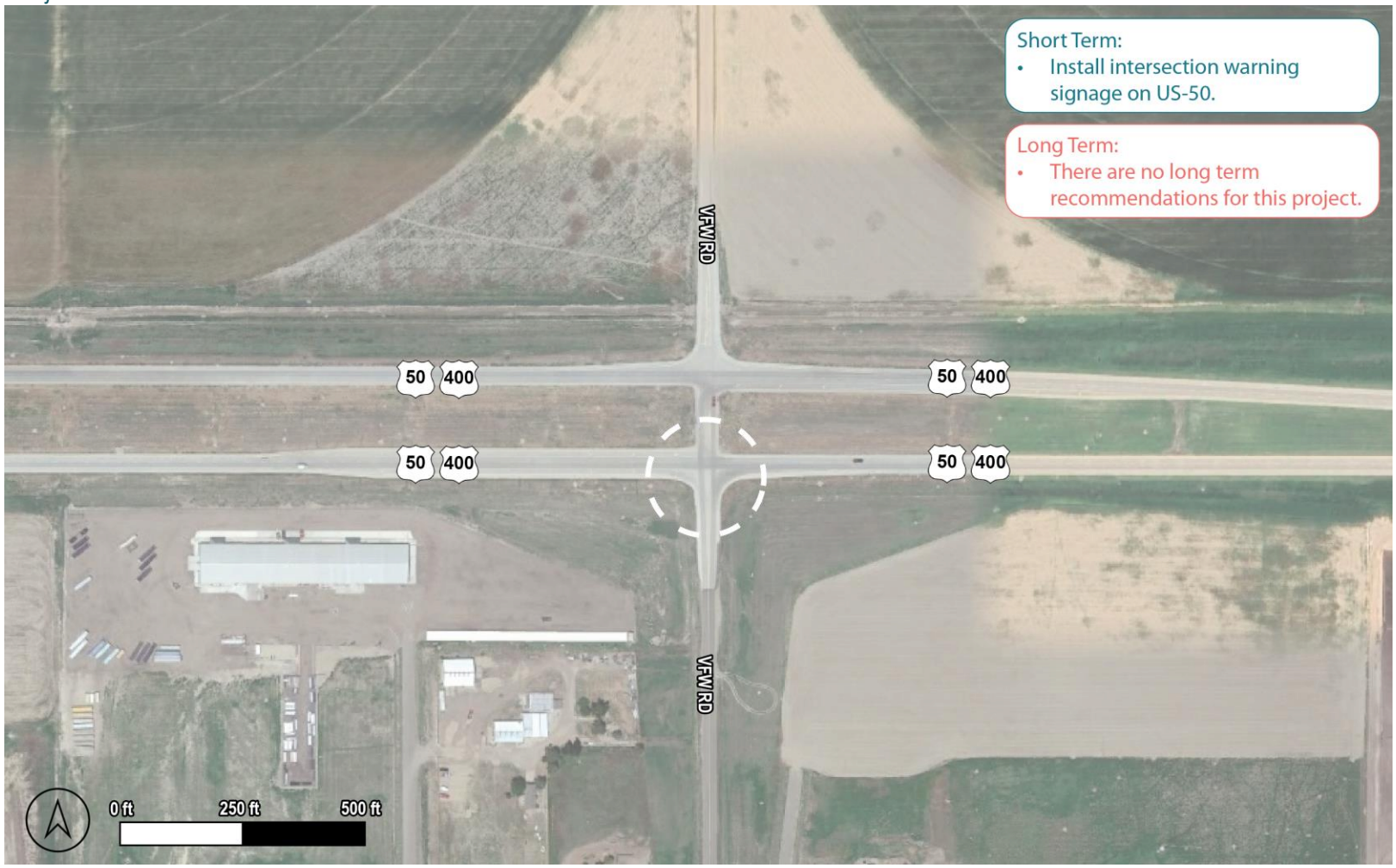

Figure 27: Intersection of US-50 East Bound and VFW Rd (Project 42)

Identified Safety Issues:

This project intersection scored highly on the HRN and HIN. There was one fatal crash at this intersection between 2018-2022. The fatality was an angle crash that involved an unrestrained occupant. Angle crashes are the most common crash type at this intersection. High speeds and high AADT at this intersection make it a safety concern.

Project 43: Intersection of US-50 West Bound and 3rd St

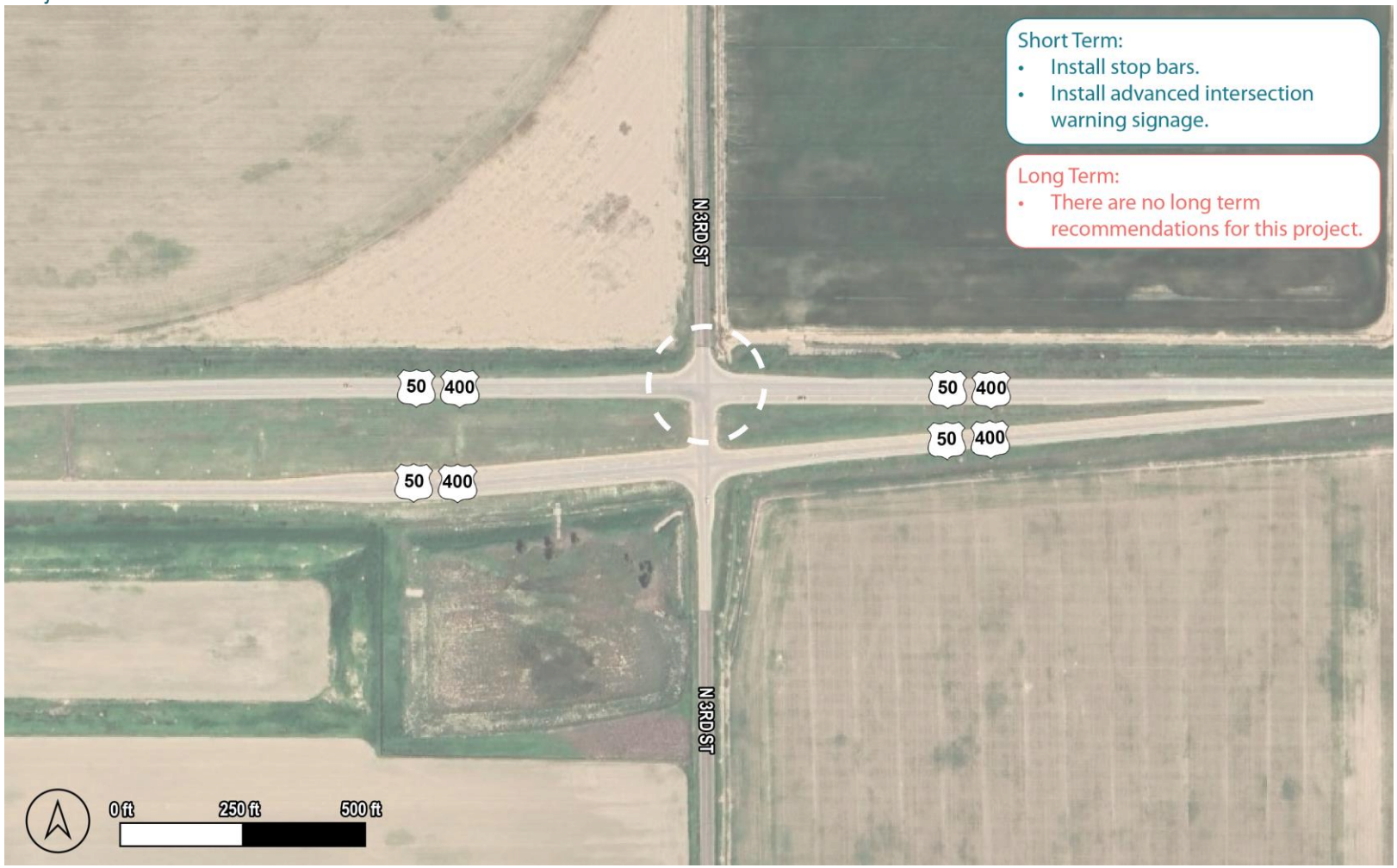

Figure 28: Intersection of US-50 West Bound and 3rd St (Project 43)

Identified Safety Issues:

This project intersection scored highly on the HRN and HIN. There was one fatal crash at this intersection between 2018-2022. Almost all of the crashes at this intersection are angle crashes. High speeds and high AADT at this intersection make it a safety concern.

Project 45: Intersection of N Jones Ave and N Main St

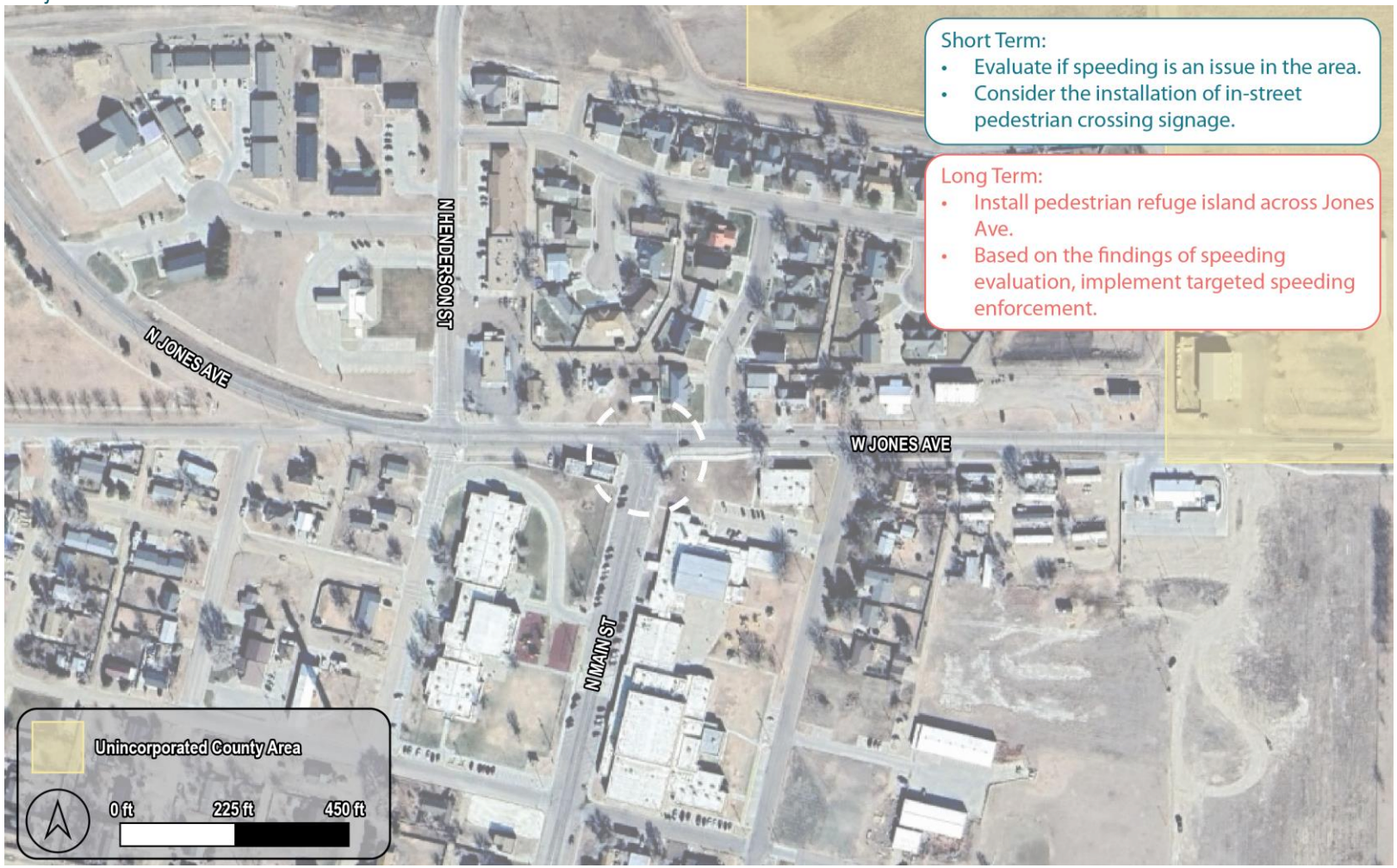

Figure 29: Intersection of N Jones Ave and N Main St (Project 45)

Identified Safety Issues:

This project intersection scored highly on the HRN and received stakeholder feedback. Stakeholder feedback focused on congestion due to nearby plant facilities and during school arrival/dismissal. There are four schools

within a half mile of this intersection. A bicycle crash has occurred at this intersection between 2018-2022. Close proximity to schools, high congestion, and high access density makes this intersection a safety concern.

Project 46: Intersection of N Jones Ave and N Henderson St

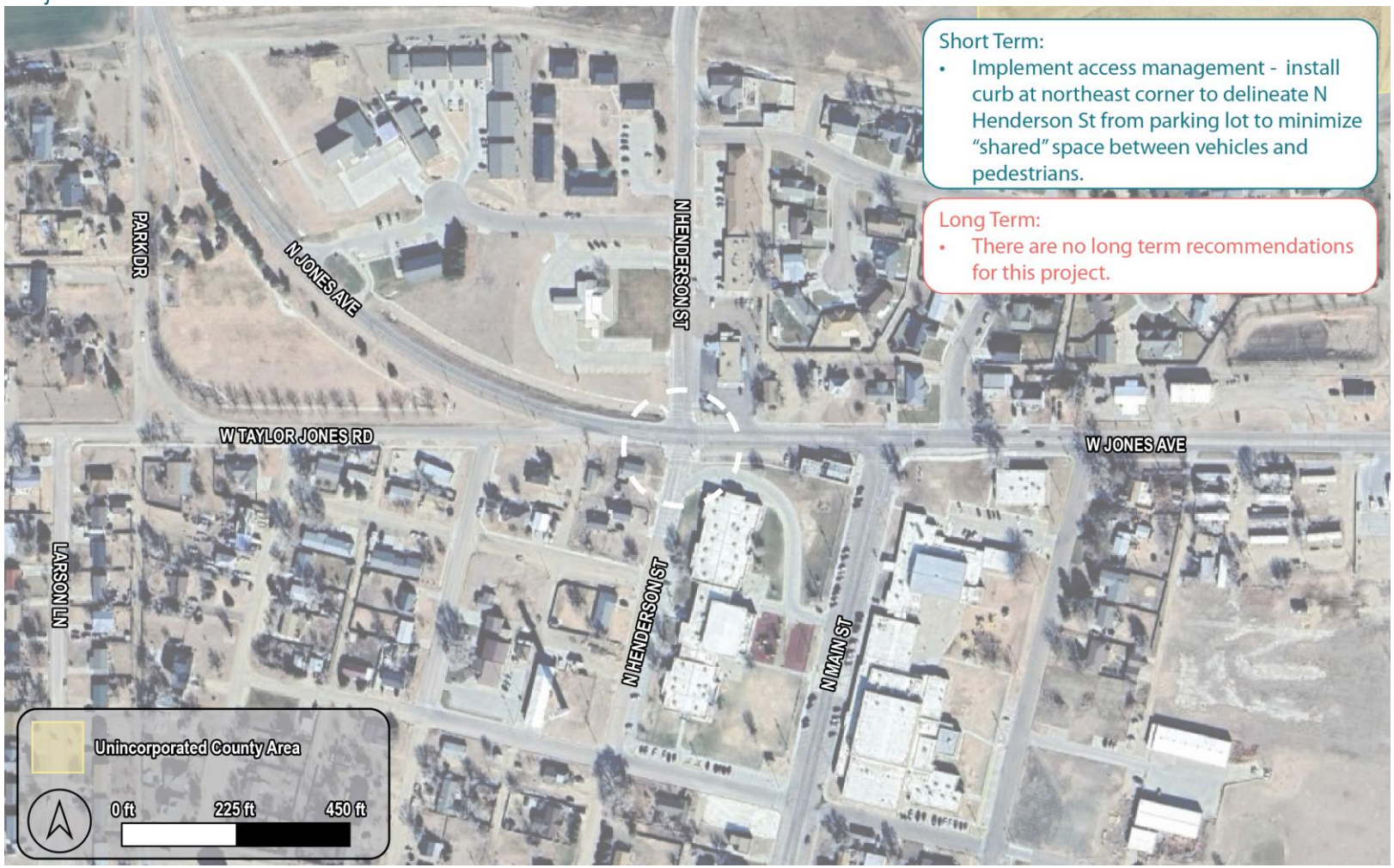

Figure 30: Intersection of N Jones Ave and N Henderson St (Project 46)

Identified Safety Issues:

This project intersection scored highly on the HRN and received stakeholder feedback. Stakeholder feedback focused on concerns about proximity to schools, as this is a major route for pedestrians and cyclists going to school. Additionally, a few roadway departure crashes occurred during 2018-2022. Close proximity to schools and high access density makes this intersection a safety concern.

Project 47: Intersection of N Jones Ave and Park Dr

Figure 31: Intersection of N Jones Ave and Park Dr (Project 47)

Identified Safety Issues:

This project intersection scored highly on the HRN and received stakeholder feedback. Stakeholder feedback focused on congestion due to nearby plant facilities and during school arrival/dismissal. The intersection skew limits sight distance and makes the intersection dangerous. Close proximity to schools and intersection skew makes this intersection a safety concern.

Project 48: Intersection of Main St and Railroad Ave

Figure 32: Intersection of Main St and Railroad Ave (Project 48)

Identified Safety Issues:

This project intersection scored highly on the HRN and received stakeholder feedback. This is the only rail crossing in the City of Holcomb. Stakeholder feedback focused on backups of 20-30 vehicles at peak times. Stop signs are only present on Railroad Ave and there is no clear signage to warn those turning at this intersection that it is not an all-way stop.

Priority 3 Locations

The following 37 projects met one priority metric and should be evaluated for safety improvements once priority 1 and 2 locations have been improved.

- 67: N 3rd St from Koehn Ave to US-50
- 68: US-83 curve South of US-83/US-50 Interchange
- 69: US-83 from S Main St to Old Hwy 83
- 70: W Railroad Ave from Anderson Rd to VFW Rd
- 71: W Railroad Ave from Holcomb to Anderson Rd
- 72: US-50 from Garden City to S Raceway Rd
- 73: W Mary St from W Jones Ave to VFW Rd
- 74: W Fulton St from VFW Rd to Garden City
- 75: US-83 from E 6 Mile Rd to W Lowe Rd
- 76: W Kansas Ave from VFW Rd to Garden City
- 77: Intersection of US-83 and Annie Scheer Rd
- 78: Intersection of US-83 Business and E Burnside Dr
- 79: Intersection of US-50 and E Poline Line Rd
- 80: Intersection of US-50 and N Towns Rd
- 81: Intersection of US-50 and Farmland Rd
- 82: Intersection of US-50 and N Industrial Dr
- 83: Intersection of US-50 and Air Links Rd
- 84: Intersection of VFW Rd and W Fulton St
- 85: Intersection of Jones Ave and Humphrey Rd
- 86: Intersection of Jones Ave and Massey Furgson Rd
- 87: Intersection of Jones Ave and Boots Rd
- 88: Intersection of VFW Rd and Jones Ave
- 89: Intersection of Jones Ave and Lincoln Rd
- 90: Intersection of Jones Ave and Lincoln Rd
- 91: Intersection of Jones Ave and Menke St
- 92: Intersection of US-50 East Bound and Anderson Rd
- 93: E Mary St from Garden City to Kansas Ave
- 94: Intersection of US-83 and Campus Dr

- 95: Intersection of E Mead Rd and N Jennie Barker Rd
- 96: E Schulman from Garden City to Private Drive
- 97: Hickory St from Taylor Ave to N 8th St
- 98: K-156 Hwy East of W Six Mile Rd
- 113: N Jones Ave through Holcomb
- 114: Intersection of N Jones Ave and Wiley St
- 115: Intersection of Big Low Rd and IBP Plant Rd
- 116: Intersection of W Jones Rd, N Jones Ave and Old US-50
- 117: N Main St near Wiley and Holcomb Elementary Schools


NORTH
83
EXTRACT