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High Five Rural Seat Belt Program Demonstration and Evaluation

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16. Abstract

The *High Five* Rural Traffic Safety Project was designed by Iowa's Governor's Traffic Safety Bureau and implemented in 2014 to address the high number of fatalities on rural roadways. State and rural stakeholders focused on increasing seat belt use and safety issues on problematic roadway segments in program counties. *High Five* used a systemic, data driven, multi-disciplinary approach to achieve increased seat belt use and hinged on the development of a Rural Traffic Safety Advisory Board (RTSAB), collaborative program planning, and the "three E's": enforcement, education, and engineering. RTSAB's traffic safety professionals built the program and monitored implementation that coordinated multi-jurisdictional law enforcement, publicity, and outreach over a 12-month program. RTSAB identified low-cost engineering solutions for problem roadways while sheriff's offices conducted observational seat belt surveys. Program developers in Iowa reported promising results after the first year of implementation and highlighted strengthened interagency relationships. The program was implemented in Arkansas and Kentucky over 12 months, evaluating the processes and outcomes on observed seat belt use. Statistically significant increases in seat belt use were measured in several Kentucky counties, but the increase could not be clearly tied to the program.

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Table of Contents

Acknowledgements ..... **x**

Executive Summary ..... **xi**

Part 1. *High Five* Demonstration **1**

Introduction and *High Five* Program Overview 1
High Five Program Elements 2

Program Fundamentals 3
Essential Components 6

State Selection for a *High Five* Demonstration Project 12

Site Requirements / Selection Process 12
Site Characteristics 13
Memorandums of Understanding 13

High Five Demonstration Program Development 14

Action Plans 14
RTSAB Development 15
County Site Selection 17
Program Material 17
Informational Meetings 18
Program Publicity and Outreach 18
Seat Belt Enforcement 19
Road Safety Audits 19
Seat Belt Observations 20
Agency Roles and Local Program Requirements 20

Program Implementation 23

Arkansas 23
Kentucky 42

Qualitative Insights 63

Lessons Learned 64
Limitations 65
Future Adjustments 65
Steps to Replicate High Five 66

Part 2. *High Five* Demonstration Results **71**

Introduction 71
Methodology 71

Site Selection 71
Scheduling 72
Observers 72
Observation Site Details 72
Data Collection Procedures 73

Quality Control 73
Building a Data Set 73
Arkansas 74
Observational Survey Results 74
Kentucky 76
Observational Survey Results 76
Pre-Post Analyses 77
Pre-Post 2 Analyses 79
Summary and Conclusions 80
References 85
Appendix A: Iowa *High Five* Poster A-1
Appendix B: Action Plan Template for SHSO/RTSAB B-1
Appendix C: Action Plan Template for Participating CSOs C-1
Appendix D: *High Five* Publicity and Outreach Activity Report Form D-1
Appendix E: *High Five* Enforcement Activity Report Form E-1
Appendix F: Observational Seat Belt Survey Instructions for CSOs F-1
Appendix G: *High Five* Poster - Arkansas G-1
Appendix H: Program Material Developed for Arkansas *High Five* H-1
Appendix I: Material Reviewed With CSOs at Informational Meetings in Arkansas I-1
Appendix J: Arkansas Kickoff – News Release and Local Media Advisory J-1
Appendix K: Arkansas Road Safety Audit Report K-1
Appendix L: Support Opportunities and Possible Funding Options to Implement Low-Cost Engineering Solutions L-1
Appendix M: Landing Page for *High Five* Giveaway in Arkansas M-1
Appendix N: News Release Template for *High Five* Giveaway in Arkansas N-1
Appendix O: Landing Page Analytics for *High Five* Giveaway in Arkansas O-1
Appendix P: Kentucky Educational Card and Poster P-1
Appendix Q: Kentucky Kickoff – News Release and Media Advisory Q-1
Appendix R: Program Material Developed for Kentucky *High Five* R-1
Appendix S: Kentucky Social Media Examples S-1
Appendix T: *High Five* Road Safety Assessment - Kentucky T-1
Appendix U: Seat Belt Observation Protocols for Preusser Research Group Observers U-1
Appendix V: Binary Logistic Regressions Arkansas V-1

Appendix W: Model Specifications and Regression Outputs – Kentucky W-1
Appendix X: Binary Logistic Regressions Kentucky X-1
Appendix Y: Historical Citation Data..... Y-1

List of Tables

Table 1. Summary of Iowa *High Five* County Program Requirements 10
Table 2. *High Five* Demonstration Program Site Characteristics 13
Table 3. Suggested Composition of RTSAB for *High Five* Demonstration 16
Table 4. County Program Activity Requirements for *High Five* Demonstration 22
Table 5. Arkansas *High Five* Demonstration Timeline 23
Table 6. Arkansas' *High Five* Rural Traffic Safety Advisory Board 24
Table 7. Arkansas *High Five* Counties 26
Table 8. Reported Publicity and Outreach Activity for Arkansas *High Five* 31
Table 9. Summary of Reported *High Five* Enforcement Activity in Arkansas 32
Table 10. Summary of Reported *High Five* Enforcement Activity in Arkansas 33
Table 11. Hours of Reported *High Five* Enforcement by Month in Arkansas 35
Table 12. Summary of Road Safety Audits for Arkansas *High Five* 36
Table 13. Summary of County Sheriff's Offices Seat Belt Observation in Arkansas 37
Table 14. Amount of Grant Funds Used by CSOs in Arkansas 40
Table 15. Cost to Produce *High Five* Material in Arkansas 40
Table 16. Kentucky *High Five* Demonstration Timeline 42
Table 17. Kentucky's *High Five* Rural Traffic Safety Advisory Board 43
Table 18. Kentucky *High Five* Counties 46
Table 19. *High Five* County Kickoff Events in Kentucky 50
Table 20. Summary of Reported Publicity and Outreach Activity in Kentucky 52
Table 21. Summary of Reported High Five Enforcement Activity in Kentucky 53
Table 22. Days of Reported *High Five* Enforcement by Month - Kentucky 55
Table 23. Reported Hours of *High Five* Enforcement by Month for Kentucky Demonstration 57
Table 24. Summary of Road Safety Assessments for Kentucky *High Five* 59
Table 25. Summary of County Sheriff's Offices Seat Belt Observations in Kentucky 60
Table 26. Amount of Grant Funds Used by CSOs in Kentucky 62
Table 27. N Observations by County, per Wave, Arkansas *High Five* 74
Table 28. Belt Use by Wave and Site (% belted), Arkansas *High Five* 75

Table 29. Seat Belt Use by County and Wave, Arkansas *High Five* 76
Table 30. N Observations by County, per Wave, Kentucky *High Five* 77
Table 31. Belt Use by Wave and Site (% belted), Kentucky *High Five* 77
Table 32. Seat Belt Use by County and Wave, Kentucky *High Five* 78

List of Figures

Figure 1. *High Five* Logo 4
Figure 2. Iowa *High Five* Educational Card 8
Figure 3. *High Five* Logic Model 11
Figure 4. *High Five* Demonstration Program, State Selection Process 12
Figure 5. Roles of Participating Organizations in *High Five* Program Development 21
Figure 6. Participating *High Five* Counties in Arkansas 25
Figure 7. Two-sided Educational Card (Arkansas) 27
Figure 8. Example Fatal and Severe Injury Map Provided to CSO at Informational Meetings 28
Figure 9. Ready-to-Use Social Media Created by RTSAB for CSO Use 29
Figure 10. *High Five* Kickoff Event in Little Rock, AR 30
Figure 11. *High Five* Flyer - Arkansas 38
Figure 12. Custom Dashboard Used for *High Five* County Site Selection 44
Figure 13. Kentucky's *High Five* Counties 45
Figure 14. Map of Roadway Segments Provided to CSOs at Informational Meetings in KY 48
Figure 15. Kickoff Media Coverage 49
Figure 16. Suggested Steps to Replicate *High Five* 69
Figure 17. Belt Use Rate by Wave and Site (% belted) - Arkansas 75
Figure 18. Belt Use Rate by Wave and Site (% belted) - Kentucky 78
Figure 19. County by Wave Interactions (% belted) - Kentucky 79

List of Abbreviations

AADT	annual average daily traffic
AHSO	Arkansas Highway Safety Office
ArDOT	Arkansas Department of Transportation
ASP	Arkansas State Police
CSO	County Sheriff's Office
DOT	Department of Transportation
FARS	Fatality Analysis Reporting System
FHWA	Federal Highway Administration
GTSB	Governor's Traffic Safety Bureau
HSIP	Highway Safety Improvement Program
HPMS	Highway Performance Monitoring System
HVE	high visibility enforcement
IDOT	Iowa Department of Transportation
ISP	Iowa State Patrol
KOHS	Kentucky Office of Highway Safety
KSP	Kentucky State Police
KYTC	Kentucky Transportation Cabinet
LEA	law enforcement agency
LEL	Law Enforcement Liaison
MOU	Memorandums of Understanding
NHTSA	National Highway Traffic Safety Administration
OT	Overtime
PIO	Public Information Officer
P&O	Publicity and Outreach
POC	Point of Contact
PRO	Public Resource Officer
RSA	Road Safety Audits/Assessments
RTSAB	Rural Traffic Safety Advisory Board
SBO	seat belt observations
SCRP	Safety Circuit Rider Program
SHSO	State Highway Safety Offices
SPSS	Statistical Package for the Social Sciences
SRO	School Resource Officer
TEAP	Traffic Engineering Assistance Program
VMT	vehicle miles traveled

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Executive Summary

The State of Iowa developed the *High Five Rural Traffic Safety Project* in 2014 in response to a stagnant rate of unrestrained occupant fatalities and lower seat belt usage in the State's rural counties compared to the non-rural counties. Program participants reported an increase in seat belt use after the program's first year and stakeholders attributed a small decrease in the overall number of crashes in the *High Five* counties and a slight percentage point decrease in unrestrained occupant fatalities to program efforts.

High Five uses a systemic, data-driven, multi-disciplinary approach to address the disproportionate number of fatalities on rural roadways and revolves around three core elements: enforcement, education, and engineering. The program uses data to justify program activities, develop program plans and assess efforts. Essential to the program is the development of a multidisciplinary Rural Traffic Safety Advisory Board (RTSAB); members of the board are responsible for selecting counties for participation and overseeing program development and implementation. The program requires local law enforcement in participating *High Five* counties to conduct publicity and outreach events, multi-jurisdictional enforcement activities with State police, and local observational seat belt surveys to monitor the effect of program efforts. Multiagency teams, including State and local officials, are also formed to conduct Road Safety Audits (RSAs) to address existing problems on rural roadways in participating communities. The RTSAB provides recommendations for low-cost engineering solutions and suggestions for possible funding solutions.

Information on Iowa's program was gathered and insight from inaugural RTSAB members to demonstrate the program in two States: Arkansas and Kentucky. Mini-grants of up to $10,000 were available to each of the five participating counties and up to $50,000 for State police to implement a 12-month *High Five* program in each demonstration State. State police and county sheriff's offices were responsible for carrying out monthly seat belt enforcement and publicity and outreach. County sheriff's offices tracked seat belt usage using observational surveys.

The evaluation of the two *High Five* demonstration programs included observational surveys of seat belt use. The impact of the program on seat belt use was mixed but showed some potential for the program. Both States showed an increase in seat belt use from pre- to post-program, but the change in one State could not be attributed to the program since the control location showed a similar improvement. In the other State, the combined program data was near significance ($p<.07$). A look at individual counties showed some significant increases in seat belt use pre- to post-program in two counties, but these were not greater than what was found in the control county. There was some small evidence of lingering effects approximately 3 months after the demonstration concluded, but these were not shown to be a result of the program.

From a process point of view, RTSABs were established in both States and collaboration was built between State and local level shareholders using face-to-face meetings and enforcement agency grant opportunities. RSAs were completed in all counties, but like in Iowa, no fixes were put into place during the implementation's time frame. Law enforcement in the counties that showed the greatest improvement were able to implement more multi-jurisdictional enforcement details than other participating counties.

Part 1 of this report presents an overview of the program's fundamentals and essential components, an account of the *High Five* demonstration program's development and implementation processes and feedback about *High Five* from program participants. Qualitative

insights are provided including lessons learned, program limitations, suggested adjustments for future implementation, and steps to replicate the program. Part Two presents the results of scientific seat belt observations (performed separately from program implementation) conducted to evaluate the program and conclusions drawn about the *High Five* program.

Part 1. *High Five* Demonstration

Introduction and *High Five* Program Overview

Iowa's Governor's Traffic Safety Bureau created the *High Five* Rural Traffic Safety Project (*High Five*) in 2014 out of concern that motorists on the State's rural roadways were not buckling up despite an enforceable seat belt law. Crash data and observed seat belt usage from 2008-2012 showed a decrease in roadway fatalities and an increase in belt use statewide. However, a closer look at the data revealed a stagnant number of unrestrained occupant fatalities each year and lower seat belt usage in rural counties compared to statewide (Governor's Traffic Safety Bureau, Iowa Department of Public Safety, 2016). These compelling findings motivated Iowa's GTSB to prioritize occupant protection in rural counties and subsequently develop *The High Five Rural Traffic Safety Project* (Hoye, 2020).

Iowa's GTSB conceptualized *High Five* as a data-driven, multi-agency endeavor. Program planners sought to "use education, enforcement, and engineering through partnerships with local, county, and State agencies" to lower the number of unrestrained occupant fatalities in the State's rural counties (Governor's Traffic Safety Bureau, Iowa Department of Public Safety, 2016).

GTSB and the Iowa Department of Transportation met to develop a plan to increase seat belt use in rural areas. The meetings revealed that rural residents often held misconceptions about seat belt use and made excuses for nonuse. With that knowledge, meeting attendees decided to form an advisory committee to develop a plan to address these common misconceptions and to increase seat belt use. GTSB's bureau chief took the lead role and assembled an advisory committee which came to be known as the Rural Traffic Safety Advisory Board. This group of subject matter experts guided the program development process and implementation (Hoye, 2020).

High Five's unique design adds an engineering element to complement the familiar two-pronged strategy often used by State highway safety offices to identify problem road segments and offers some low-cost engineering solutions through the completion of a Road Safety Audit/Assessment[1] for the participating counties.

Iowa's *High Five* program design provides crucial support to rural counties that might otherwise lack the necessary physical and financial resources to successfully implement the program. The program relies on active communication and coordination among agencies at the county, State, and Federal levels to develop and implement program plans. RTSAB members help to promote

[1] *High Five* program documents describing the first few years of the program use the term "Road Safety Audit." Program developers in Iowa explained that the process is now referred to as a "Road Safety Assessment."

the project's potential to foster collaboration between rural sheriff's offices and State patrol, especially in areas where strong relationships between the two agencies do not always exist.

Iowa's GTSB typically allocated $100,000 to the project annually, to ensure that participating law enforcement have the necessary funds to fulfill program requirements. These funds are divided between the Iowa State Patrol ($50,000) and the five participating county sheriff's offices ($10,000 for each county).

Iowa's GTSB first formed the concept of *High Five* in January 2014 and 3 months later the pilot program launched an 18-month implementation period.[2] The participating CSOs reported an increase in seat belt use and an increase in the number of seat belt convictions issued in the county after the program's first year. Stakeholders attributed a small decrease in the overall number of crashes in the *High Five* counties over the implementation period and a slight percentage point decrease in unrestrained occupant fatalities (2013-2014) to program efforts. Additionally, RTSAB members in Iowa highlighted that *High Five* strengthened relationships between local and State agencies and brought a broad range of stakeholders to the table with a focus on passenger safety. Encouraged by these initial positive results, the RTSAB continued the program for two consecutive years (Governor's Traffic Safety Bureau, Iowa Department of Public Safety, 2016).

The National Highway Traffic Safety Administration recognized the growing interest in *High Five*, and sought to learn more about the program, its essential elements, and the feasibility of replicating the program. NHTSA decided to study the Iowa program and subsequently assist with a demonstration of similar programs in two States over a 12-month period in 2022-2023.

Part 1 of this two-part report outlines fundamentals of *High Five* and its essential components, provides the steps researchers used to identify two States in which to demonstrate "like programs," details the process of program development, describes implementation of both demonstration programs, and shares qualitative insights, lessons learned, and suggested steps to replicate the program. Part 2 presents an outcome evaluation to assess measurable changes brought on by the intervention.

High Five Program Elements

Iowa's *High Five* program was designed to revolve around three core elements: enforcement, education, and engineering. Like many other grant-funded traffic safety programs, traffic enforcement officers are largely responsible for carrying out the program. But, unlike programs that primarily focus on citing law violators, Iowa's *High Five* program model incorporates education and engineering elements, attempting to bolster the program's applicability.

[2] The initial pilot program in Iowa was 18 months. The second iteration and all ensuing *High Five* programs including this demonstration have included a 12-month implementation.

Program Fundamentals

Enforcement

Iowa program leaders recognized that county law enforcement was not regularly focused on seat belt compliance, and if so, it was not implemented in any sustained fashion. Reasons for that included some typical hurdles like lack of budget, lack of staffing, and a lack of interest due to social or political factors. The *High Five* program was developed to offer solutions to increase seat belt compliance enforcement to save lives.

Iowa's RTSAB members felt that coordinating multijurisdictional projects would help show engagement toward seat belt usage over a longer time period in each rural community. To that end, the RTSAB helped to establish a standard of cooperation between CSOs and ISP to coordinate monthly *High Five* project activities. RTSAB members believed coordinating multijurisdictional projects would not only help keep participating law enforcement agencies actively engaged in seat belt efforts, but also build rapport between State and local law enforcement, who otherwise might not work together. Program developers in Iowa encouraged law enforcement participation with overtime grant funding that included at least two multijurisdictional enforcement projects per month, over a 12-month implementation period.

Law enforcement officers working the *High Five* enforcement project in Iowa were asked to educate motorists about seat belt safety during roadside stops, promote compliance with seat belt laws, and give reassurance of community safety as the primary goal, rather than focus on punitive recourse for noncompliance (i.e., fines). Officer's discretion on citing traffic violations was typically left up to the individual officer and his or her command staff.

High Five grant funds and multi-jurisdictional planning were used in Iowa to help rural enforcement agencies overcome shortcomings, like low staffing levels and priorities, and lead to a more unified front focused on solving an important health and safety problem facing the county.

The RTSAB members in Iowa understood that data was crucial to help advance *High Five* program objectives. Maps and summary tables were created to provide information about fatal or serious injury crashes involving unrestrained motorists in each *High Five* county. Sharing this material helped garner local law enforcement participation and provided a rationale for local stakeholders to justify their participation.

The RTSAB in Iowa typically produced 5 years of crash data to show crash causation, time of day, day of week, and basic driver information. That information helped law enforcement better understand and justify efforts when talking within their rural communities about the problems of low seat belt compliance. The RTSAB encouraged participating law enforcement agencies to use the data to plan the best tactical approach for monthly *High Five* enforcement projects. For example, educational cards with data and explanations were developed at the State level to hand out during monthly enforcement projects, regardless of the violation type.

Program planners in Iowa provided an example of multi-jurisdictional enforcement for *High Five*. It included a "trooper in charge" who leads a group of State patrol officers, county deputies, and sometimes local police through an entire day of patrol in the county twice a month. The group of officers regularly stopped for lunch at the same restaurant to establish a presence. GTSB reported community members quickly noticed the increase in law enforcement presence, and local Facebook groups augmented traditional word-of-mouth to ensure people across the

county were aware of the program. GTSB also stated that community members who were initially disgruntled by the presence of increased enforcement were often won over after learning about the problem at hand.

Education

The educational component of Iowa's *High Five* program used publicity and outreach strategies designed to promote seat belt usage and raise awareness of the program. P&O methods included distributing printed material, engaging traditional media, delivering presentations at schools, and using social media (e.g.,, Facebook posts on Iowa GTSB's page). Participating LEAs were asked to conduct at least five educational P&O activities over the program period (Governor's Traffic Safety Bureau, Iowa Department of Public Safety, 2016).

The *High Five* education element designed for the Iowa program was relatively straightforward: share information about *High Five* and/or seat belt safety with as many motorists as possible. Law enforcement was the preferred means by which the message was distributed. Participating law enforcement officers were asked to verbally exchange information with motorists during roadside stops or through interactions with people at *High Five* outreach activities. The message was reinforced by distributing printed program material during these interactions within the community. Iowa program developers described this method of engagement as part of an overall 'safe communities' approach.

The use of *High Five* program material was an integral part of Iowa's program, particularly the two-sided educational card (size 4½" x 9½"). Participating LEAs used the cards as tools to educate the public during traffic stops and other *High Five* activities. *High Five* printed material included a general description of the program and data-driven messaging to highlight the problem with unrestrained occupants in crashes in rural areas. The *High Five* logo (Figure 1), created specifically for the program, was featured on all program material, and played a crucial role in maintaining consistent branding and messaging throughout program implementation.

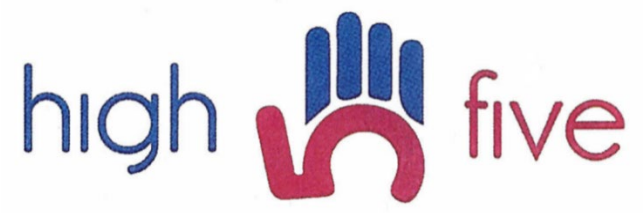


Figure 1. High Five *Logo*

Another program strategy was to engage local media to focus attention on program efforts. Program participants were encouraged to plan and implement outreach events/activities to draw attention from local and State media or community groups. Program planners also used media attention to build the perception that State and local law enforcement were working in conjunction with one another to address the seat belt use and crash problem in the community.

The Iowa program included launching *High Five* efforts with a kickoff event to announce the program to the community. GTSB reported extensive media coverage generated by inaugural events (Governor's Traffic Safety Bureau, Iowa Department of Public Safety, 2016). Program managers encouraged participating law enforcement agencies to maintain program visibility

throughout the implementation period using letters to the editor, high school presentations, and social media as well as other actions mentioned above.

Engineering

A unique feature of *High Five*, when compared to other occupant protection programs, was the inclusion of engineering as a key component. State-level stakeholders at IDOT, Iowa State University's Local Technical Assistance Program, and the Federal Highway Administration collaborated to develop a road safety audit process aimed to enhance the safety of rural roadways. The process included the identification of problematic roadways in the county, recommendations for low-cost engineering improvements, and suggestions for possible funding sources.

RSA teams used data to identify problematic roadways. Also, the teams invited local law enforcement and county engineers to help with the identification of hazardous locations within the county because Iowa program planners recognized that law enforcement personnel and county engineers may have the same experiential knowledge of hazardous locations. However, they may not have an open dialogue with each other to address the problem. The *High Five* program included State-level engineers working with local or regional engineers to plan RSAs in each participating county. Typically, RSAs took place within the first few months of the project's initiation.

RSAs focused primarily on county roads or State highways and not all road types. Gravel roads were included if known as a high-crash roadway. The RSAs provided recommendations for low-cost safety improvements such as upgrading curves, adding or replacing signs, installing rumble strips, blading shoulders to address pavement edge dropoff, determining proper advisory speeds, and conducting speed studies to identify the most effective times for speed enforcement.

The *High Five* program requirements stipulated that grant funds could not be used to complete engineering improvements identified in the audits. This stipulation was included to maintain the structure developed in Iowa. Therefore, the RSA process served to establish communication lines and reveal potential revenue streams to local stakeholders, providing them with a reference document for future prioritization. The Iowa team recognized that rural stakeholders might not be aware of the State's Strategic Highway Safety Plan and the information it provides about available grant programs for local, site-specific projects (e.g., All-Town/City Sign Program, Traffic Engineering Assistance Program, Horizontal Curve Program). RTSAB members in Iowa explored alternative funding options through Federal and State resources and assisted *High Five* counties in identifying potential funding to implement the engineering solutions identified in the RSA.

Iowa program administrators explained the engineering aspect of the *High Five* program was a "selling point" when soliciting county participation. Typically, a rural county's engineering request was better articulated due to the RSA process and more likely to receive attention from State-level engineers and speed up the review process. Additionally, having an RSA document to provide when funding requests are submitted has helped counties receive funding.

Essential Components

High Five is rooted in a data-driven, multidisciplinary approach to program development and implementation. The program's essential components exhibit these characteristics. The program uses data to justify program activities, develop program plans and assess efforts. The multidisciplinary aspect brings together an array of stakeholders from county, State, and federal governments. The program design necessitates the formation of a multiagency RTSAB to select counties for participation and help develop and support programs that take place in each *High Five* county.

The following sections describe the essential components of *High Five* and information about how the program came together in Iowa.

Rural Traffic Safety Advisory Board

Iowa's *High Five* program administrators emphasized that buy-in from leadership, especially at the State level, was crucial for the project to succeed. Forming the RTSAB helped to secure the initial buy-in that created momentum among safety experts who share responsibility for roadway safety. The RTSAB's main roles were to analyze and review county-specific data for site selection, foster partnership between State and local law enforcement, collaborate to establish the RSA process, and work with and support county stakeholders to meet program objectives.

Iowa's GTSB director and select staff, along with a small group of safety engineers from IDOT, established the initial *High Five* RTSAB. This initial team then sought out subject matter experts to make up the complete RTSAB and used their expertise to determine the best course of action before soliciting participation from counties. The list of experts included enthusiastic and motivated representatives of ISP, Iowa State University, and a local sheriff.

Iowa's RTSAB was comprised of:

- GTSB – The bureau chief took the leadership position, a program evaluator/State traffic records coordinator handled data aspects, and a program administrator managed the contracts.
- IDOT – State engineer(s) queried pertinent data and created an actionable plan for an RSA.
- ISP – Lieutenant and the Public Resource Officer helped develop and implement enforcement and publicity efforts.
- Sheriff – A sheriff who was well-respected among peers and willing to help work "Sheriff-to-Sheriff" to recruit counties for participation and implement the program.
- Institute for Transportation at Iowa State University – Provided seat belt usage data and insight about how to design and develop protocol for county level seat belt surveys.

The RTSAB used available data and drew upon members' experiences and knowledge about prospective counties to identify counties for participation. A participating State DOT engineer, for instance, provided insight on county engineers who might be eager participants. Similarly, the GTSB staff contributed information about which sheriff's offices had experience working State grant programs, and the sheriff provided recommendations about which CSOs might be suitable and interested in participating in the program.

RTSAB members representing law enforcement also proved to be instrumental in the program development process. Their insight, experience, and professional relationships within the law enforcement community facilitated the successful recruitment of prospective *High Five* counties and ensured effective management of OT enforcement officer participation.

Early RTSAB meetings focused on county site selection and development of program material. Once *High Five* counties were selected, RTSAB members communicated directly with participating sheriff's offices on an ongoing basis.

Iowa's RTSAB began developing the program about 3 to 4 months prior to program kickoff. Members dedicated approximately 5 to 6 hours per month during the program development phase and only a few hours per month during the implementation period. Meetings that took place during the implementation period were most often informational progress updates.

High Five County Site Selection

To identify the five participating counties, the RTSAB studied data from the Iowa statewide annual seat belt surveys and confirmed that the lowest compliance rates were in rural areas. The RTSAB then identified rural counties with lower seat belt use rates and compared crash rates in those counties. Rural counties that had low belt usage rates and higher-than-average crash rates were identified. This process provided 15 to 18 viable counties from which to choose. The RTSAB narrowed down the selection by considering the interest of county leaders and the ability to coordinate with State patrol enforcement. The group ended up selecting one *High Five* county per ISP Troop to avoid overburdening any single troop with more work than feasible.

The county represented by the sheriff on the RTSAB was selected as one of the *High Five* counties. The RTSAB's rationale for involving the sheriff in the program was two-fold: 1) to facilitate buy-in from other prospective sheriffs and 2) to yield valuable, first-hand insight based on real-world experience, shaping future iterations of *High Five*.

Program Material

The Iowa team designed *High Five* program material to educate the community about rural road crash dangers and to promote the program. They created a logo and printed material. The logo appeared on nearly all printed material and was displayed in most publicity and outreach efforts, such as social media posts and news releases. They did this to create interest and increase brand awareness.

The RTSAB developed two signature items for the *High Five* educational component, which the GTSB printed and distributed to each participating law enforcement agency. These items included a double-sided 4½ x 9½" educational card (Figure 2) and a poster.

Figure 2. Iowa High Five *Educational Card*

The educational card was designed for use in the program counties and other State counties that may participate in the future, and included statewide statistics, information emphasizing the importance of wearing a seat belt, and a general description of the *High Five* program.

Law enforcement handed out these cards to motorists during traffic stops of all types, not just seat belt violations, and used them in other *High Five* activities. The cards were said to soften the conversation between enforcement officers and the public by pointing out the disproportionate number of unrestrained occupant fatalities on rural roadways. Iowa program administrators reported a positive public response to the cards.

Program developers created a unique poster (Appendix 1) for each *High Five* county. The posters were intended to capture the reader's attention with the question, "Are YOU part of the Problem or part of the Solution?" The poster's contents included general traffic safety messages about high-risk driving behaviors and the increased likelihood of crashes on rural roads. Each county's poster was personalized with the participating sheriff's office badge/logo along with the logos of participating State agencies, GTSB and ISP. Law enforcement distributed the posters in the community and hung them for display in public areas.

Informational Meetings

County-level informational meetings played an integral role in the program development process. Program planners disseminated program information at these meetings and highlighted the multi-disciplinary approach. The meetings facilitated detailed discussions about program components and kick-started the program planning process, while building rapport among State and county-level participants.

Representatives from the RTSAB, including the GTSB program administrator and an IDOT engineer, met with each county engineer and sheriff for the first meeting. They discussed measurable outcomes and RSA timelines and planned a follow-up meeting one month later with a wider group of county stakeholders.

The second meeting included representatives from all agencies involved in the program. RTSAB representatives reviewed and discussed program goals and objectives, site selection (including data used to identify the county for participation in *High Five*), grant funding, RSAs, and the multi-disciplinary approach. They instructed county-level participants on conducting observational seat belt surveys and provided information about IDOT programs available for funding engineering-related projects identified in the RSAs.

The following people typically attended county-level meetings:

- The sheriff from RTSAB who could engage in sheriff-to-sheriff discussions.
- A representative from SHSO/RTSAB to explain data.
- The ISP District Commander to coordinate enforcement with the local sheriff's office.
- The ISP PRO from the respective district, who could commit to conducting outreach (e.g., presenting at local schools).
- The county sheriff and other sheriff's office employees involved in implementing the program (e.g., traffic enforcement, Public Information Officer, grant organizers).
- The county engineer or a representative who could provide insight, help plan, and coordinate roadway safety audits and engineering solutions.

Seat Belt Observations

Iowa's RTSAB asked CSOs to conduct seat belt observations to keep law enforcement engaged in the program and to generate content for publicity and outreach. The results provided insight into each *High Five* county's seat belt problem and helped to evaluate program efforts.

During the 18-month implementation period, CSOs conducted four SBO surveys in each *High Five* county. The first wave of observations took place just before or during the first few weeks of the campaign. The RTSAB asked that the other three surveys be scheduled in 6-month increments, with the last wave of observations happening close to or immediately following the end of program implementation.

RTSAB representatives gave each participating sheriff instructions on setting up and conducting SBOs at the informational meetings. Instructions were to select four observation sites known for low belt usage and then use those same observation sites in all four surveys. CSOs dispersed SBOs throughout the day with two sites in the morning and two sites in the afternoon, alternating

morning and afternoon sites after each round of observations. Survey sites were visited for 30 minutes or until 50 vehicles were observed.

Program Activity Requirements

Iowa's RTSAB established measurable objectives for completion within the 18-month program period. Participation in the program required CSOs to report on completed activities and results of observations of seat belt usage. Table 1 summarizes the program activities established for Iowa's *High Five* program.

Table 1. Summary of Iowa High Five *County Program Requirements*

Iowa *High Five* Summary of County-Level Program Activity Requirements
Seat Belt **E**nforcement
• Conduct at least two multi-jurisdictional enforcement projects per month across the program period (CSO and State patrol collaborate to determine the tactical approach). • Relay the message at roadside stops that multi-jurisdictional efforts are underway to keep the community safe by increasing belt use; officer has discretion to cite. • Distribute educational cards at roadside stops (when appropriate, regardless of violation). • Report enforcement activity monthly.
Education (Publicity & Outreach)
• Conduct five media outreach events over the duration of the program period. Includes community outreach, school programs, and local media sources. • Distribute *High Five* educational cards at local events. • Hang posters at public locations throughout the county.
Engineering (Road Safety Audits)
• Discuss State and Federal funding that may be available to rural counties to implement engineering solutions (RTSAB). • Assemble RSA team and conduct RSA. • Complete one engineering solution identified in the RSA, ideally.
Evaluation (Seat Belt Observations)
• Conduct four observational surveys of seat belt usage: at the start of the program, 6 months out, 12 months out, and then at the end of the 18-month program. • Provide training to law enforcement so they can conduct SBOs.

Figure 3 illustrates the logic model used for the *High Five* Demonstration Program.

Figure 3. High Five *Logic Model*

State Selection for a *High Five* Demonstration Project

Site Requirements / Selection Process

The site selection process relied on quantitative data analysis, collaboration between NHTSA regions and headquarters, and qualitative insights. Consideration was also given to where the program was needed and where it would likely be implemented as planned.

Site selection started with an examination of Iowa's problem identification and what program planners indicated as important for conducting the *High Five* program: a primary seat belt law and a predominance of rural roads. The primary belt law created a level playing field to test the intervention. Project planners believed that introducing the dynamics of a secondary law into the site selection equation would have blurred how the results relate to the program.

Following this, FHWA Public Road Length data (2018) of rural and urban road miles by State were studied. Data was charted by seat belt law status to identify which States with most rural roads also had a primary seat belt law.

Researchers then used crash data from the Fatality Analysis Reporting System, specifically the fatality rate per 100 million vehicle miles traveled, to identify the presence of a traffic safety problem in rural areas in States. Some States showing less of a rural crash problem were excluded.

Lastly, researchers identified States that showed an interest in participating in the project, as well as the necessary leadership, support, and initiative to commit and follow through as planned. Figure 4 summarizes the steps taken to select States for participation in the *High Five* demonstration project.

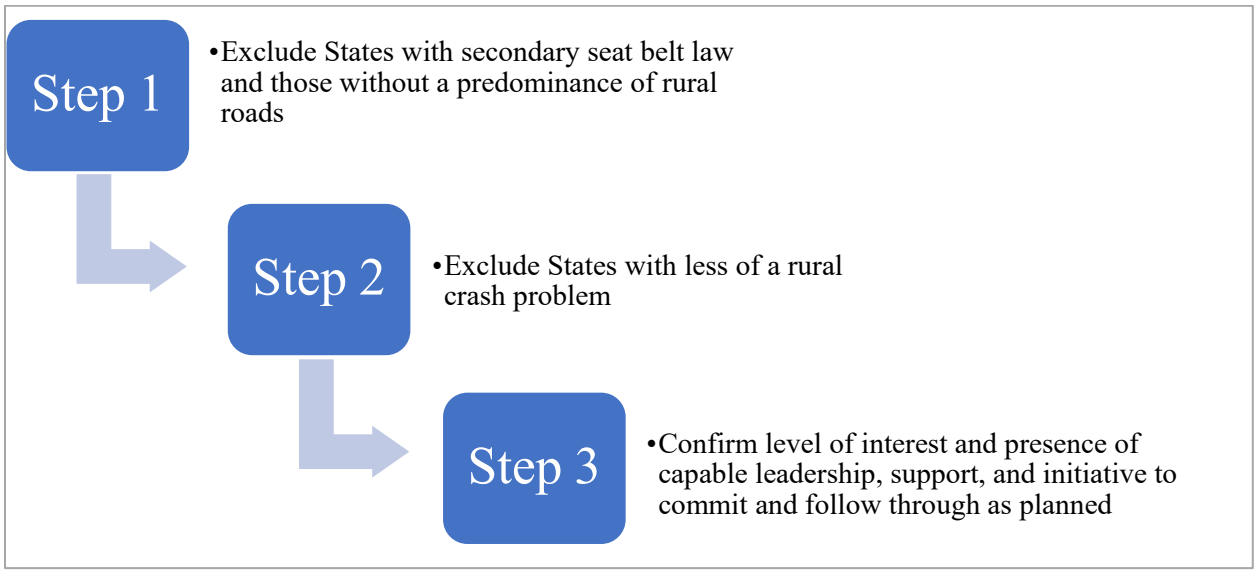


Figure 4. High Five *Demonstration Program, State Selection Process*

Site Characteristics

After considering both quantitative and qualitative aspects, respective NHTSA regional offices invited the Arkansas Highway Safety Office and the Kentucky Transportation Cabinet to participate in the project and they agreed. Table 2 provides characteristics of the two States.

Table 2. High Five *Demonstration Program Site Characteristics*

***High Five* Demonstration Program Site Characteristics**				
	Arkansas	**Kentucky**	**Iowa**	**U.S.**
Population	2,915,918	4,339,367	3,046,355	308,745,538
Seat Belt Use (Law type)	78.0% (primary)	89.9% (primary)	93.9% (primary)	89.6%
Rural Road Miles (% Rural Roads)	85,367 (83.2%)	65,027 (81.1%)	102,018 (88.9%)	2,951,481 (70.7%)
Rural Fatality Rate per 100 million VMT	1.72	1.93	1.29	1.68

Sources:
U.S. Census Bureau. (2010). 2010 Census. www.census.gov/quickfacts/
Federal Highway Administration. (2019, August) *Public Road Length – 2018 Miles by Functional System* www.fhwa.dot.gov/policyinformation/statistics/2018/hm20.cfm
National Center for Statistics and Analysis. (2020, May). *Rural/urban comparison of traffic fatalities: 2018 data* (Traffic Safety Facts. Report No. DOT HS 812 957). National Highway Traffic Safety Administration. https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812957
National Center for Statistics and Analysis. (2019, June). *Seat belt use in 2018—Use rates in the states and territories* (Traffic Safety Facts Crash Stats. Report No. DOT HS 812 763). National Highway Traffic Safety Administration https://crashstats.nhtsa.dot.gov/Api/Public/ViewPublication/812763

Memorandums of Understanding

Each project included execution of Memorandums of Understanding with participating States. The MOUs outlined the program's purpose, requirements, grant funds, and established a procurement process. The MOU process affirmed the SHSO's support for the program and their commitment to secure backing from State police, State DOT, and other stakeholders.

SHSOs agreed to complete the following through collaboration.

- Develop an RTSAB
- Identify and recruit *High Five* counties
- Work with the State's DOT to plan and organize/arrange RSAs
- Assist in the development of material and plans for publicity and outreach
- Ensure State police and local law enforcement provide a local seat belt enforcement presence
- Ensure CSOs conduct local observational seat belt surveys
- Provide data for evaluation purposes

The MOU clarified that participating counties in each State could receive mini grants of up to $10,000, and State police could receive up to $50,000 ($10,000 per participating county). It also stated that NHTSA and the SHSO would develop and agree on an action plan. Similar MOUs were established with each participating CSO. Templates used for drafting MOUs can be found in Appendices 2 and 3.

High Five Demonstration Program Development

Unique characteristics of each program location significantly influenced the program development process. Factors such as organizational structure, staffing levels, information technology systems, and financial resources shaped the development and implementation of the program at both the State and county level, leading to distinct developments in each program.

The creation of action plans and face-to-face informational meetings with participating CSOs, State police, and county engineers were crucial to the program development process. Using the Iowa model as a guide, action plan templates were crafted for the two demonstration States and the *High Five* counties within each State. The RTSAB used one action plan to develop the statewide program, and county-level action plans were used to organize programs in each *High Five* county. The project team conducted informational meetings in each participating *High Five* county to review and refine respective action plans.

Technical and program support was provided to the RTSAB and participating counties as needed throughout the program development process and implementation. The experience and availability of program participants influenced the amount and type of program support provided. For example, in Kentucky a State Law Enforcement Liaison helped with program administration. The Arkansas team did not have an LEL and additional hands-on support and direct communication with individual counties was provided.

Action Plans

Action plan templates were developed for use as an organizational tool to guide program development and ensure that program goals and objectives were addressed. Project teams used action plan templates to tailor State and local programs to fit resources and characteristics of the location. Plans provided program participants with an overview of the program, a comprehensive description of key program elements, a list of requirements that needed to be met, and ideas and examples of activities that could be implemented to satisfy program requirements. Program requirements were established based on standards set with Iowa's program.

A customized action plan was developed for each State's RTSAB and each of the *High Five* counties within the States. Action plans described the projected role and expectations for members and involved organizations and provided a timeline for each stage of the project and details about grant funding, procurement, and information needed for the *High Five* evaluation. Action plans were used to keep a record of who would be involved with the planning and implementation processes for each program element.

The action plan for the SHSOs covered the following elements.

- Development of a Rural Traffic Safety Advisory Board
- Execution of *High Five* county site selection
- Program material development

- Program publicity and outreach
- Seat belt enforcement
- Seat belt observations
- Road Safety Audits

Action plans developed for CSOs guided the development of local programs. These county-level action plans were similar in design and structure to the State plans but did not address RTSAB development and *High Five* County Site Selection. Examples of State and county action plans are presented in Appendices 4 and 5.

RTSAB Development

SHSO directors formed the RTSAB with high-level traffic safety professionals in State and county law enforcement, DOT, FHWA, university faculty, and other stakeholders who could lend relative expertise to program efforts. Expectations of the RTSAB stated in the action plan included:

- Provide data and analysis of State and local crash data for selection of *High Five* counties,
- Select and recruit counties to participate in the program,
- Appoint RTSAB members to travel to selected counties to assist with explaining local crash statistics and problem identification,
- Work with county engineers to plan and conduct RSAs,
- Assist with support acquisition from other traffic safety organizations, as needed for a multi-agency approach,
- Oversee the distribution of grant funds to State patrol,
- Support the program goals and objectives, and
- Work with the project team to complete program elements as stated in the action plan.

The RTSAB assembled 3 to 4 months prior to program kickoff to select the *High Five* counties and begin program development. Most RTSAB meetings were held via video conference. The group also frequently communicated through email.

Table 3 provides the composition of a *High Five* RTSAB as suggested from Iowa's project team.

Table 3. Suggested Composition of RTSAB for High Five *Demonstration*

***High Five* DEMONSTRATION RTSAB Composition**	
Agency	**Expectations for *High Five***
State Highway Safety Office (SHSO)	• Take the lead role: recruit appropriate entities/people, collaborate within RTSAB and with other entities/agencies as needed. • Coordinate conversations and introductory meetings with key RTSAB personnel. • Provide data and insight to help determine which counties will participate. • Reach out to county-level stakeholders in the *High Five* counties. • Provide data and insight to county-level stakeholders. • Coordinate meetings with each *High Five* county. • Monitor program progress throughout duration of program.
State Department of Transportation	• Support the overall purpose of the project. • Lead roadway audits in local communities through lending expertise and insight. • Collaborate within the RTSAB and on the county level. • Visit counties to review data and steps of local roadway audit. • Help identify low-cost engineering solutions to problems identified by local roadway audit. • Provide information (if available) to counties related to available grant funds for roadway repairs or engineering solutions.
State Police	• Lend insight and expertise during the planning phase of the project. • Collaborate with local law enforcement in the counties. • Visit participating counties to help introduce the program and discuss enforcement requirements. • Plan to create a multi-jurisdictional presence in participating counties. • Spread *High Five*'s message of rural roadway safety. • Provide motivation and support to State Troopers and other participating law enforcement throughout the implementation period. • Support program goals, objectives, and requirements.
Sheriff	• Try to obtain involvement from a motivated and respected sheriff from a rural county (ideal). • Visit participating *High Five* counties to help introduce the program and get local enforcement on board. • Help spread *High Five's* message of rural roadway safety. • Lend insight and expertise. • Provide motivation and support to participating law enforcement.
University representative	• Provide historical and current statewide and local seat belt usage data (if available). • Lend insight about how to design and implement local seat belt surveys.

County Site Selection

RTSABs for the two demonstration programs used a process like Iowa's to identify *High Five* counties. RTSABs reviewed available data, particularly observational belt use data and historical crash data and county urban/rural designations. RTSABs also considered county characteristics to identify viable counties for participation in the program. Arkansas recruited a sheriff to the RTSAB and included the sheriff's home county as one of the five program counties. Kentucky chose to include their four LELs on the board in lieu of a sheriff.

The criteria and process for selecting program counties were straightforward: *High Five* counties needed to be rural and have a crash problem, as per the RTSAB, to qualify for participation. The path forward for each State varied a little due to local circumstances, but the general rubric of a data-driven process geared towards achievable results was maintained. Subsequently, counties selected as the *High Five* counties were not necessarily the "highest five" (i.e., counties with the highest fatality rates or with the highest unbelted rate in crashes). Ultimately, counties with a crash problem coupled with a sheriff's office that was willing to participate in the program were selected for participation.

Data used to qualify counties for selection in the program were shared with CSOs during the initial informational meetings and used to create program material.

Program Material

The review of program material used in Iowa led to the creation of similar material for this demonstration program. Teams in Arkansas and Kentucky developed additional material to suit their program needs.

A two-sided educational card and poster served to communicate the demonstration program. These items used crash data to highlight the problem with rural crashes, used words and imagery to promote seat belt compliance, and provided a brief description of the *High Five* program. The design of the educational card allowed for their use in all five counties and for future program iterations. Project team members designed posters that had a local feel by including county names and/or logos of the sheriff's office. The SHSO printed and distributed the material to participating local and State law enforcement before the program period began. They printed additional quantities as needed throughout the implementation period. NHTSA approved all printed material used in the demonstration program.

The program, by design, required law enforcement to distribute printed material. Law enforcement distributed the educational cards during roadside stops, regardless of violation type or if a citation was issued, when conducting *High Five* enforcement details and distributed them at publicity and outreach events. Law enforcement distributed the posters locally and hung them in public areas throughout the community.

The RTSAB provided CSOs additional material before program kickoff for use throughout the program period. In some cases, CSOs lacked the staff, time and/or experience to create material like social media posts, flyers, and news releases. These ready-made items were created by the RTSAB and provided to support CSOs in their effort to fulfill program requirements. Other items, like banners and large posters, were created for media events and could be used upon request. Use of the additional material was not required but its use was encouraged to help CSOs meet program requirements.

Informational Meetings

RTSAB members organized county-level meetings in each of the *High Five* counties prior to program kickoff. action plan templates were used to guide the meeting and tailor program plans. These meetings served to build rapport between State and county agencies, review program requirements and processes, discuss ideas for program activity, establish points of contact (POCs) for each program element. The meetings also helped assess the type and level of support CSOs might need from the RTSAB and/or State police to meet program requirements.

The sheriff on the RTSAB initially contacted local sheriffs to introduce the program and gauge the level of interest. After that, the RTSAB provided the local sheriffs with more details about the program including program requirements and grant funding. Once sheriffs confirmed their interest in participating in the program, face-to-face meetings were scheduled at the county level.

County meetings, usually in a working lunch format, encouraged attendees to contribute ideas and information to start developing plans for implementation. These meetings followed a consistent agenda and covered the following topics: the introduction and history of the rural *High Five* program, review of data, action plan, program publicity, seat belt enforcement, SBOs, RSAs, grant funding, collection of citation data (for program evaluation), and discussion of action items.

During the meetings, RTSAB members reviewed data that qualified counties for the *High Five* program, providing a rationale for participation. They also shared local crash data to aid in planning enforcement strategies and to serve as talking points for CSOs when discussing the program with the public.

Attendees received a copy of the Action Plan template to guide their efforts. The RTSAB and local participants established POCs for each program element and discussed and recorded plans for fulfilling program requirements laid out in the action plan. They also reviewed the protocol for reporting enforcement and publicity activity for program evaluation. After the meeting, the action plan was updated to reflect meeting outcomes and distributed to the project team.

At the informational meetings, the RTSAB provided CSOs with training on how to set up and conduct local observational seat belt surveys that included a review of data collection forms and protocols for conducting SBOs. CSOs could choose to have their employees conduct SBOs or another responsible party designated by the CSO.

Program Publicity and Outreach

The *High Five* program in Iowa required each program location to conduct a minimum of five publicity or outreach activities per county during the program period. These activities could take the form of participation in community outreach events, school presentations, and/or attention from local media sources. Additionally, the program required the distribution of program material, specifically educational cards, and posters, throughout the county. This demonstration project carried the same requirements but specified that one of the five outreach activities should be participation in a kickoff event.

Administrators of Iowa's *High Five* program also used Facebook in publicity and outreach efforts. Following Iowa's lead, the *High Five* demonstration program requested that CSOs make two social media posts per month related to *High Five*. The required posts could originate from the CSO's social media platform or be a "like" or "share" from State police or another

participating CSO. CSOs had the option to generate their own *High Five* content or use pre-made social media posts provided by the RTSAB.

CSOs and the State police were encouraged to collaborate in planning multi-jurisdictional activities. The action plan offered ideas for planning and implementing publicity and outreach at the county-level. Program administrators were encouraged to reflect the culture and trends of the participating county when planning activities. CSOs were encouraged to involve community members when planning activities, either through sponsorship or by recruiting assistance with legwork. For example, CSOs could request School Resource Officers to distribute educational cards or hang up *High Five* posters at schools. The project team was also available to assist.

Project teams developed report forms (Appendix 6) and asked CSOs to report on the type and frequency of publicity and outreach activities on a quarterly basis, as well as the number of hours to manage and implement the activities.

Seat Belt Enforcement

The demonstration program set similar expectations as Iowa did for enforcement agency participation. Action plans outlined these expectations for both county and State law enforcement to agree to and follow. For example, the plan required law enforcement officers to conduct at least two multi-jurisdictional enforcement projects, focused on seat belt usage, every month of the 12-month program period. The plan also required law enforcement to hand out *High Five* educational cards during traffic stops throughout the duration of the program period.

During informational meetings that took place prior to program kickoff, RTSABs requested that State police and CSOs schedule two enforcement dates per month throughout the 12-month enforcement period. Proactive scheduling aimed to maintain visibility of the required two enforcement activities and promote the fulfillment of program requirements. Law enforcement teams in each of the *High Five* counties could determine the tactical approach and issue seat belt citations or warnings based on agency policy and the discretion of the law enforcement officer. Project teams requested that CSOs and State police report *High Five* enforcement activity each month. An example form used to report *High Five* enforcement can be found in Appendix 7.

The RTSAB in each State analyzed 5 years of crash data (2016-2020, 2017-2021) to identify areas and times with a high occurrence of crashes with unrestrained injuries and fatalities in program counties. Given the low number of crashes, which is typical for rural locations, a crash rate per 100,000 population was calculated. The RTSAB shared this data with participating law enforcement agencies during informational meetings and requested they use it in planning law enforcement activities.

Road Safety Audits

The aim of the RSA process was to provide low-cost engineering solutions for problematic roadways and identify possible State or Federal resources to cover the cost of implementing these solutions. Program planners hoped to see the completion of at least one engineering improvement, identified in the RSA, in each *High Five* county during the 12-month program period.

Each State's RTSAB and respective POCs in each *High Five* county assembled RSA teams. These teams included county and State engineers (or similar professionals), first responders, and others familiar with the county road system. Teams in each participating State established a

process to identify, submit, assess, and review problematic road sections in the *High Five* counties. DOT and FHWA representatives on the RTSAB explored potential Federal and State resources and shared their findings with the RSA teams.

Seat Belt Observations

The demonstration required participating CSOs to conduct three observational seat belt surveys during the 12-month implementation period: before the start of the program period (baseline), 6 months into the program period (mid), and at or soon after the conclusion of the program period (post). These SBOs aimed to keep CSOs engaged in the program by providing insight about the level of seat belt use in the community and to engage the community by using survey results in publicity and outreach efforts.[3]

Sheriffs in the *High Five* Counties designated law enforcement personnel to conduct the local SBOs. Project teams provided hands-on training, written instructions, and data collection forms to local observers during the pre-program informational meetings (Appendix 8). To avoid confounding survey results, CSOs were asked to conduct SBOs, if possible, when there were no State or national traffic safety enforcement campaigns occurring (e.g., *Click It or Ticket* mobilization).

CSOs were instructed to identify three to four survey sites where enough traffic passes so a sufficient sample size could be collected, and to use these same sites throughout the three waves of data collection. Observers were instructed to observe seat belt use for 45 minutes at selected sites. CSOs had the option to compute their own results and share with the project team or provide completed data forms and have the project team compute results.

Agency Roles and Local Program Requirements

Action plan templates for RTSABs and *High Five* counties were developed to guide the development of distinct programs. The SHSO began the process by first assembling a RTSAB. Each RTSAB took responsibility for *High Five* county selection and customized action plans and program material. *High Five* CSOs were asked to collaborate with the RTSAB and State police to tailor county level Action Plans to fit the organization and resources of the local agency and reflect the characteristics of the community. CSOs also conducted observational seat belt surveys prior to program kickoff. Figure 5 summarizes the roles of participating organizations in the program development process.

[3] This demonstration project required an additional level of data collection and analysis as part of the program evaluation. Separate scientific seat belt observations were conducted to accomplish that task.

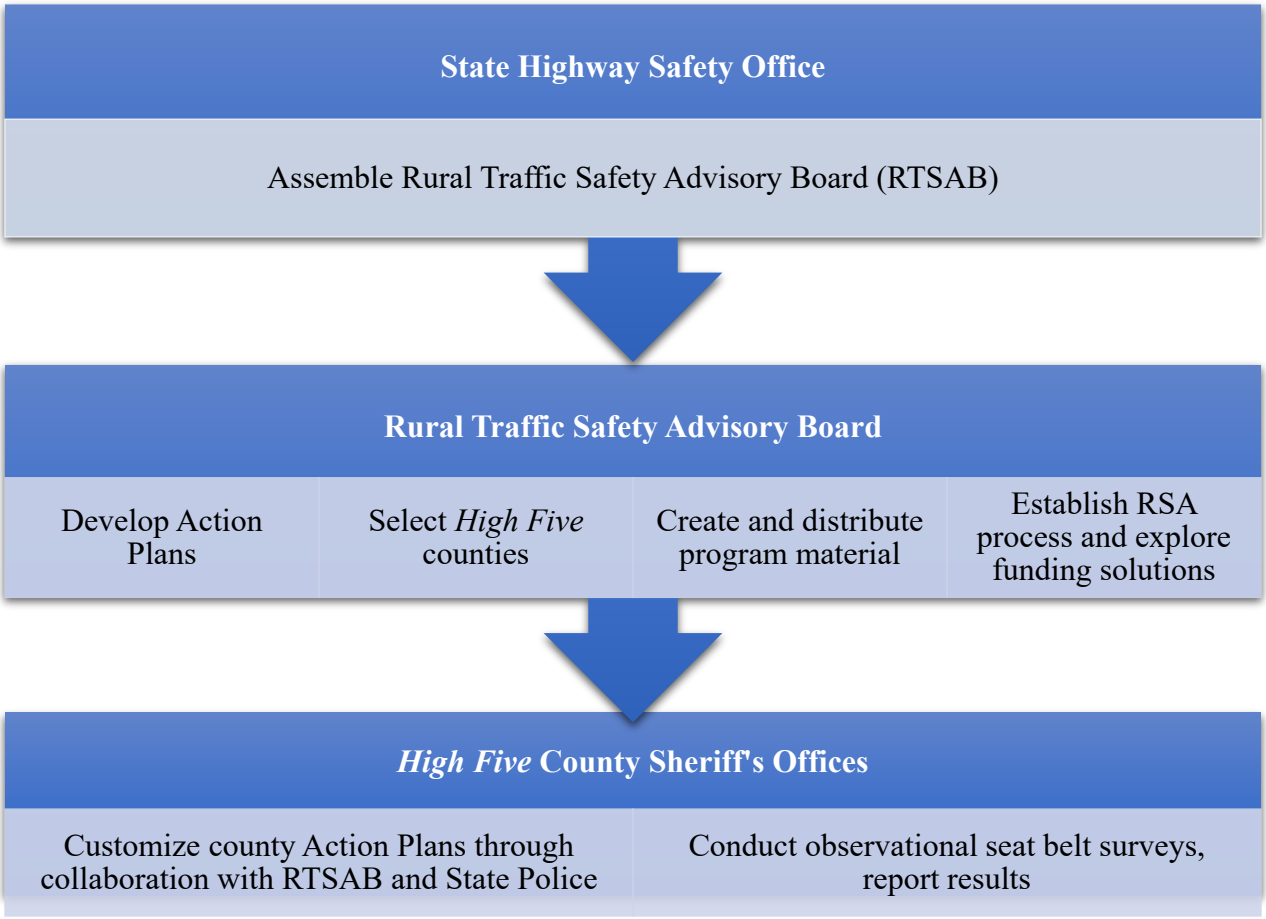


Figure 5. Roles of Participating Organizations in High Five *Program Development*

Program requirements for this demonstration project were developed based on reports provided by Iowa's GTSB and conversations with members of Iowa's original *High Five* RTSAB. Table 4 summarizes the *High Five* Demonstration Program requirements for P&O, Seat Belt Enforcement, RSA, and SBOs as previously discussed. Requirements for program activity were presented in action plans.

Table 4. County Program Activity Requirements for High Five *Demonstration*

***High Five* Demonstration** **Summary of County Program Activity Requirements**
Publicity & Outreach
• Conduct five publicity and outreach events/activities – one of which is a kickoff event. • Distribute educational handouts at roadside stops, regardless of the reason for the stop (when appropriate). • Present *High Five* at all high schools in the county. • Hang posters at public locations throughout the county. • Make two *High Five* social media posts per month. • Report publicity and outreach activity quarterly.
Seat Belt Enforcement
• Conduct two multi-jurisdictional enforcement projects per month. • Hand out educational cards during traffic stops and at any other appropriate times while discussing the disproportionate number of unbelted fatalities on rural roads. • Employ a "safe communities approach" (defined for this program as educating the community about traffic safety). • Issue seat belt citations and/or warnings to violators depending on local policy and officer discretion. • Report enforcement activity monthly.
Road Safety Audits
• Assemble RSA Team. • Identify problematic road segments in the participating county. • Help implement road safety audits in the county and identify low-cost engineering solutions. • Collaborate between RTSAB and RSA Teams to identify possible funding options through Federal or State resources. • Ideally, implement at least one engineering improvement before the program implementation period ends.
Seat Belt Observations
• Conduct three observational surveys of seat belt usage: pre-program, mid program, post program. • Provide observational survey training (RTSAB). • Report results (or provide completed data forms) to project team.

Program Implementation

Arkansas

Program Development

AHSO operates within the Arkansas State Police division of the Department of Public Safety. AHSO took the lead in administering the *High Five* program. NHTSA met with high-level employees from AHSO, ASP, and the Arkansas Department of Transportation to discuss *High Five*'s goals and program fundamentals and to extend an invitation to participate in the demonstration program. ArDOT explained that they address "5 E's" in their Strategic Highway Safety Plan (education, engineering, enforcement, evaluation, and emergency management) and thought *High Five* would fit the prescribed requirements of the plan. Program development began after an MOU was established. AHSO staff assembled the RTSAB and continued to be involved with the program from start to finish.

Timeline

An MOU and timeline (Table 5) were established in December 2021 and development of the overall action plan began promptly thereafter. The first task was to assemble the RTSAB who identified five counties to participate in the program. Program material was started in January 2022 and informational meetings were held with program participants in the *High Five* counties in March and April 2022. CSOs conducted baseline seat belt surveys in April and May 2022, prior to kicking off the implementation period in June 2022. RSAs were planned and conducted during the implementation period. CSOs were asked to complete two more observational seat belt surveys, one midway through the program and one immediately following the implementation period in June 2023. Program administration support was provided throughout the program development process and implementation period and acted as a member of the project team.

Table 5. Arkansas High Five *Demonstration Timeline*

Task	Implementation Time Frame
Develop Action Plans	December 2021 – March 2022
Assemble Rural Traffic Safety Advisory Board (RTSAB)	December 2021
Select *High Five* Counties	January 2022 – March 2022
Develop Program Material	January 2022 – June 2022
Hold Informational Meetings with *High Five* Counties	March/April 2022
Conduct CSO Seat Belt Observations - Baseline	April/May 2022
Hold Program Kickoff	June 22, 2022
Conduct Implementation Period	June 2022 – June 2023
Produce Road Safety Audits	June 2022 – June 2023
Conduct CSO Seat Belt Observations - Mid	December 2022
Conduct CSO Seat Belt Observations - Post	June/July 2023

Rural Traffic Safety Advisory Board

The initial members of the RTSAB were three high-level employees from AHSO. This initial group, in collaboration with the AHSO director, invited other traffic safety professionals to serve on the RTSAB. Decisions about who to include on the RTSAB were based on suggestions listed in the action plan and the anticipated needs of the project. The full RTSAB was comprised of 13 high-level professionals. Table 6 lists the organizations represented on the RTSAB and the titles of the individuals who served.

The RTSAB met more often during the planning phase (prior to program kickoff) and less frequently as the program period progressed. The full RTSAB met a total of seven times: three times prior to the start of program implementation, 1 week after implementation began, 6 weeks after program implementation, 5 months after implementation, and 8 months into the implementation period.

Smaller teams with more specific focus met when necessary. For example, the full RTSAB did not participate in the meetings needed to develop program material. Instead, select RTSAB members with publicity and outreach experience met and reported outcomes to the full RTSAB.

Table 6. Arkansas' High Five *Rural Traffic Safety Advisory Board*

Arkansas RTSAB Members	
Organization	**Members' Job Title**
Arkansas Highway Safety Office (AHSO)	• Program Manager/Impaired Driving Program Specialist (Program Manager) • Occupant Protection Program Manager • Highway Safety Office Manager • Public Information & Education Program Manager
Arkansas Department of Transportation (ArDOT)	• Strategic Highway Safety Plan Coordinator, Transportation Planning & Policy Division • Traffic Safety Analyst • Traffic Services Specialist
Arkansas State Police (ASP)	• Captain
County Sheriff's Office (CSO)	• Sheriff
Federal Highway Administration (FHWA)	• Safety/Traffic Operations Engineer
CJRW (Advertisement Firm)	• Vice President Senior Account Manager • Public Relations Account Manager
University of Arkansas College of Engineering	• Assistant Professor

High Five County Selection in Arkansas

RTSAB members reviewed data provided by AHSO, ArDOT and the U.S. Census Bureau to identify prospective counties to participate in the *High Five* program. ArDOT provided county crash and severe injury data[4] with county population data to calculate rates of injury. All counties in the State were classified as Completely Rural, Mostly Rural, or Mostly Urban based on the U.S. Census Bureau's rurality index. Counties were then ranked from highest to lowest injury rates within each of the three rurality classes.

The RTSAB met to review and discuss rankings and then identified possible counties for inclusion (i.e., rural counties that were identified by the RTSAB as having a crash problem). A list of five counties was generated and the sheriff on the RTSAB reached out to sheriffs of those counties, but only one county responded with interest. The RTSAB reconvened to identify additional prospective *High Five* counties by including "a willingness to participate" as a selection criterion.

A new list of viable counties was established, and each sheriff in the updated counties indicated they were willing to participate in the program. Figure 6 displays the *High Five* counties in Arkansas (red stars) and ASP Troop jurisdictions.

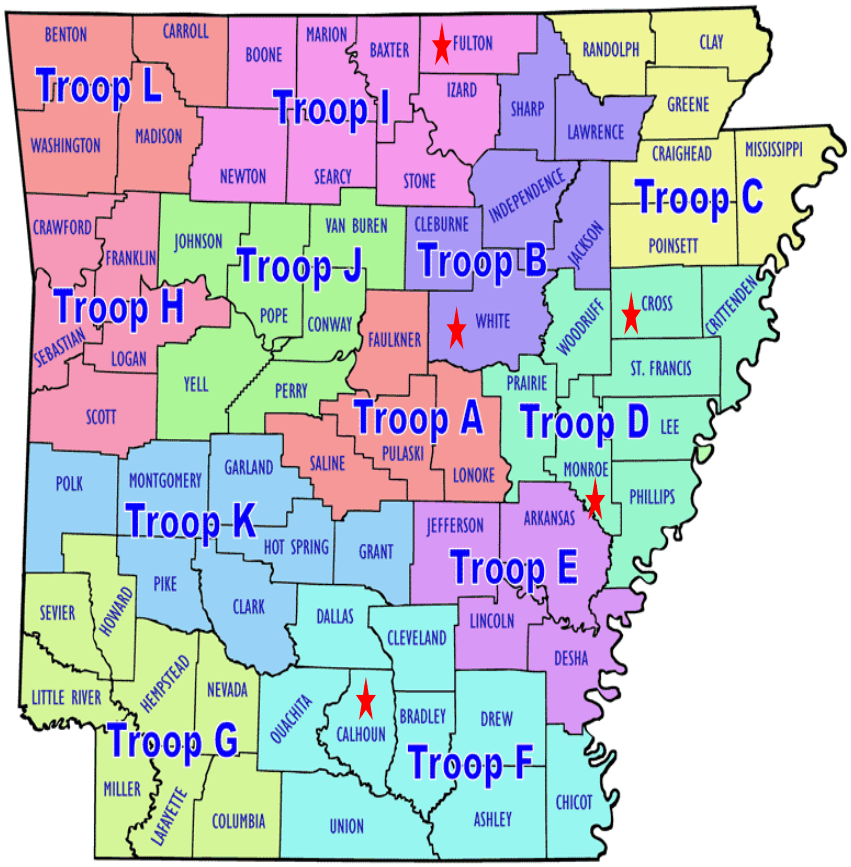


Figure 6. Participating High Five *Counties in Arkansas*

[4] Excluding motorcycles and commercial vehicles

Four of the five *High Five* counties have a population under 20,000. White County is an exception with a population of 76,822. It is classified as "mostly rural" despite the relatively large population. Searcy, its county seat, holds about 30 percent of the county's population and is surrounded by rural areas.

Four of the five participating CSOs are smaller agencies. The smallest CSO reported having three sworn deputies. The person assigned to *High Five* at that agency was a jailer who became a sworn deputy within the first 6 months of the program. The largest CSO that participated in the program has 58 sworn deputies, 27 of them assigned to work traffic safety.

The RTSAB tried to distribute the five participating counties to ensure one *High Five* county per ASP troop. However, circumstances prevented this ideal distribution. As a result, Troop D's jurisdiction included two *High Five* counties, and ASP agreed to adapt to the situation. Table 7 provides information about Arkansas' inaugural group of *High Five* counties.

Table 7. Arkansas High Five *Counties*

County	**2020 Population[1]**	**# of CSO Sworn Deputies (# assigned to traffic enforcement)**	**ASP Troop**	**Notes[2]**
Calhoun	4,739	10* (4)	Troop F	Classified as Completely Rural; Ranks #4 for all injuries (2.81)
Cross	16,833	19 (12)	Troop D	Classified as Mostly Rural; Sheriff is RTSAB member; Ranks #9 in fatal & serious injuries (6.72)
Fulton	12,075	11 (6)	Troop I	Classified as Mostly Rural; Ranks #1 in fatal & serious injuries (8.9); Ranks #3 unrestrained fatal & serious injuries (2.94)
Monroe	6,799	3 (3)	Troop D	Classified as Mostly Rural; Ranks #1 unrestrained fatal & serious injuries (3.56)
White	76,822	58 (27)	Troop B	Classified as Mostly Rural; Ranks #1 for all injuries (5.15)

[1] U.S. Census Bureau Quick Facts (April 1, 2020).
[2] Crash rates determined using data provided by ArDOT. Fatal and serious injury and all injuries ranked per 100 population; Unrestrained fatal and serious injuries ranked per 1,000 population.
*7 full-time sworn deputies, 3 part-time.

Program Material

The project team incorporated data from AHSO, ArDOT and NHTSA into the material developed for the Arkansas demonstration program. The RTSAB oversaw the printing of educational cards (Figure 7) and posters (Appendix 9) that were distributed to *High Five* counties and ASP at the time of program kickoff. The RTSAB created media kits containing ready-made material, such as news releases and social media posts, and emailed them to CSOs before the program kickoff meeting held in the Capitol City, Little Rock, Arkansas. The team created additional material as needed throughout the program period. AHSO funded the cost to print material and mailing to the CSOs. A description of all the program material created for the Arkansas *High Five* Demonstration Program can be found in Appendix 10.

Figure 7. Two-sided Educational Card (Arkansas)

Informational Meetings

The Arkansas RTSAB recognized that county-level informational meetings were important to solidify local participation and show a sincere interest from both State- and county-level participants. The RTSAB arranged informational meetings with each of the CSOs 1 to 2 months before the start of the implementation period and they asked CSOs to invite relevant county-level stakeholders. Attendees typically included representatives of the RTSAB and those who would be responsible for local program implementation: the county sheriff, designated CSO program

administrators, the county judge[5], and the respective State police troop who would be participating locally.

Meetings took place in each of the participating counties except for Monroe and Cross counties. As these two counties fall within the same ASP Troop (Troop D), the meeting occurred at the Troop D Headquarters, equidistant from both CSOs.

The RTSAB provided a copy of the action plan to meeting attendees and reviewed crash data indicating locations in the county where fatal and severe injury crashes had occurred over a 5-year period (Figure 8). Data presenting the number of crashes by injury level, days of week and times of day were also supplied. A copy of the documents reviewed with each participating CSO can be found in Appendix 11. The information was meant to serve as a tool to help LEAs plan publicity and enforcement activities and observational seat belt surveys.

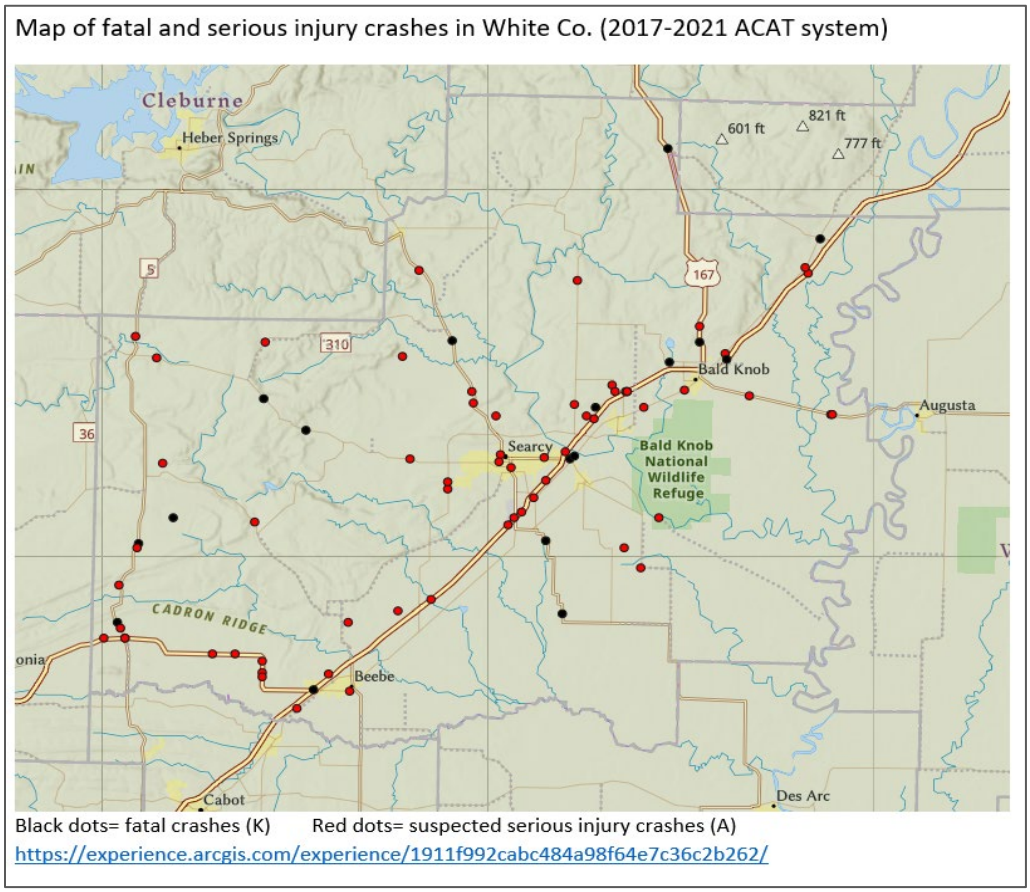


Figure 8. Example Fatal and Severe Injury Map Provided to CSO at Informational Meetings

Informational meetings were also used to train CSO employees to conduct observational seat belt surveys and choose dates to conduct *High Five* enforcement each month of the implementation period.

During the informational meetings with CSOs, several POCs indicated their agency lacked the necessary staff and/or experience to create and post on social media platforms. To address this,

[5] In Arkansas, the county judge is responsible for the operation of the county road system.

the Arkansas State Police PIO planned and conducted *High Five* social media training with each participating CSO. The training involved meeting with the person responsible for each county's *High Five* publicity to ensure they understood the two-posts-per-month requirement and to ensure the CSO's social media sites were operational. The ASP PIO provided instructions for posting on social media and informed them that graphics and information related to the cause and purpose of the program would be provided throughout the campaign. The ASP PIO welcomed questions and encouraged CSOs to reach out if they needed further instruction or information. AHSO's PIO created ready-to-use social media posts for each *High Five* county (Figure 9).

Post: TOUCHDOWN! Make sure those Friday night lights are coming from the football field not because you were stopped by law enforcement for failing to wear your seat belt. Either way, the Cross County Sheriff's Office will be there to explain to you the importance of wearing your seat belt day and night. #HighFiveAR

Figure 9. Ready-to-Use Social Media Created by RTSAB for CSO Use

Program Activity

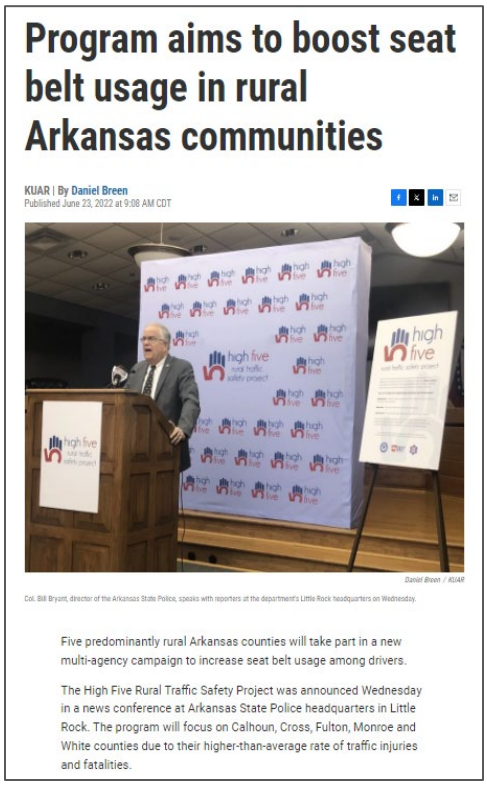
High Five counties and State police conducted publicity and outreach and sustained an enforcement presence for the program. Program activity (in both States) is discussed with county identifiers obfuscated so that the focus of this paper remains on evaluating the program and not the performance of an individual county.

Program Publicity & Outreach

Arkansas' program publicity activity kicked off in June 2022 with a large media event at the ASP headquarters in Little Rock, Arkansas. The RTSAB believed that a large multiagency kickoff event would attract more media attention than separate smaller events in each of the *High Five* counties. CSO representatives who would be involved in the *High Five* program at the county level were invited to attend the event and reminded that attendance counted towards one of the five required media events/activities.

Top-level representatives from ASP, AHSO, ArDOT, and NHTSA announced the program, explaining its goals, objectives, and intended outcomes. The RTSAB prepared an agenda and talking points and distributed news releases and media advisories to statewide and local media outlets in the *High Five* Counties (Appendix 12). News releases created for the *High Five* counties were localized by including a quote from the respective sheriff. The RTSAB also used a

High Five step-and-repeat banner and podium banner created for the event and other program activities. (Figure 10). AHSO posted information about the *High Five* program on the State's Toward Zero Deaths website. News outlets in the State covered the kickoff event resulting in 13 stories on the Internet, TV, radio, and print.



Program aims to boost seat belt usage in rural Arkansas communities

KUAR | By Daniel Breen
Published June 23, 2022 at 9:08 AM CDT

Daniel Breen / KUAR

Col. Bill Bryant, director of the Arkansas State Police, speaks with reporters at the department's Little Rock headquarters on Wednesday.

Five predominantly rural Arkansas counties will take part in a new multi-agency campaign to increase seat belt usage among drivers.

The High Five Rural Traffic Safety Project was announced Wednesday in a news conference at Arkansas State Police headquarters in Little Rock. The program will focus on Calhoun, Cross, Fulton, Monroe and White counties due to their higher-than-average rate of traffic injuries and fatalities.

Figure 10. High Five *Kickoff Event in Little Rock, AR*

Two CSOs chose to host a local kickoff event. Local media attended and ran a story about the program. In another county, the CSO hosted a July 4th community cookout. They served free hot dogs and water donated by a local bank. A local contestant for the Miss Arkansas pageant attended the event and helped serve food. At the event, CSO personnel distributed *High Five* educational cards and spoke with attendees about the program.

High Five kickoff events produced the most news media publicity for the program than any other events or activities. After the kickoff, the most common type of publicity and outreach event reported by agencies was the distribution of the educational card at locations or events other than roadside stops. CSOs also made *High Five*-related posts on their Facebook page.

Reports from CSOs indicated that none completed the set amount of publicity and outreach indicated in the action plan, but several came close. Table 8 presents the publicity and outreach requirements for the program and the reported activity submitted by the participating *High Five* counties.

Table 8. Reported Publicity and Outreach Activity for Arkansas High Five

***High Five* - Arkansas** **Summary of Reported Publicity & Outreach Activity**					
REQUIREMENT	**ACTIVITY LEVEL**				
	County A	County B	County C	County D	County E
Attend kickoff event at State HQ or hold local event	State & Local	State	Local	State	State
Social media 2 x month (total # of *High Five* related posts made over the 12-month program period)	Some (11)	None (0)	Some (2)	Some (12)	Some (11)
Presentation at all High Schools in the county	All	None	Some	Some	Some
Roadside distribution of info cards	Yes	Yes	Yes	Yes	Yes
Poster distribution	Yes	Yes	Yes	Yes	Yes
Complete 4 other events/activities	Yes	Some	Some	Yes	Yes
TOTAL P&O HOURS REPORTED	**25**	**0**	**4**	**27**	**49**

Note that some counties, notably Counties B and C, reported publicity and outreach activity through email or conversation but did not report hours for conducting the activity. For example, County B emailed pictures of deputies hanging *High Five* posters in locations in the county but did not quantify the hours for that activity. Similarly, County C reported passing out coupons for free menu items to people seen wearing a seat belt at a local fast food restaurant but did not report hours for that activity. Hence, the hours reported in Table 8 represent the hours reported by participating CSOs.

Four of the five counties attended the State kickoff event and two held local events (one county did both). Four of the five counties reported posting on social media, but staffing issues and lack of familiarity with posting made it difficult to keep up with updates, and as such, none of the counties met the requirement of posting twice a month over the duration of the program period. Facebook was the sole social media platform CSOs reported using. One county reported presenting *High Five* at all high schools in the county. One county reported not visiting high schools since a tornado destroyed one of the large high schools prior to their visit. The other three counties reported some activity at high schools.

All counties fulfilled the requirement to distribute educational cards at roadside stops and hang posters in public areas in the community. Three of the five counties reported completing four other publicity and outreach activities/events over the course of the program period. Distributing the educational card at locations or events other than roadside stops was the activity reported most often to meet this requirement.

The RTSAB initially provided 2,000 educational cards and 25 posters to the CSOs and the ASP. The White County CSO received twice as many (4,000 cards and 50 posters) due to its large population. Two counties requested additional cards after the initial distribution.

Seat Belt Enforcement

The *High Five* demonstration program kicked off June 22, 2022. Prior to kickoff, a few CSOs indicated they wanted to provide a traffic enforcement presence right away while others said they could not schedule *High Five* enforcement until July. For this reason, the timeline for the program was set for June 22, 2022, through June 21, 2023. This gave all agencies the opportunity to work a full 12 months. A summary of reported enforcement activity is presented in Table 9.

Table 9. Summary of Reported High Five *Enforcement Activity in Arkansas*

Summary of Reported *High Five* Enforcement Activity - Arkansas					
ACTIVITY	County A	County B	County C	County D	County E
*Conduct at least two multi-jurisdictional enforcement projects per month?	No	No	No	No	No
*Hand out Hi5 cards during traffic stops?	Yes	Yes	Yes	Yes	Yes
Number of months (out of 12) '*2 Hi5 enforcement projects per month'* conducted by CSO **and/or** ASP	9	7	6	9	12
TOTAL # Enforcement Hours Reported (ASP and CSO combined)	**116**	**136.25**	**271**	**184**	**199.25**
SB Citations & Warnings/Total Citations & Warnings (ASP and CSO combined)	**59/155**	**78/270**	**95/133**	**87/268**	**79/673**

*Program requirement

Saturation patrols and checkpoints stood out as two methods for deploying traffic enforcement. Saturation patrols appeared most often and checkpoints less often.

Three of the five CSOs had no experience working with the State on a grant-funded project. Despite coordinated enforcement plans, nearly all participating enforcement agencies (CSOs and ASP troops) reported personnel shortages or other uncontrollable issues that limited collaboration.

Although days of *High Five* enforcement occurred most months in most counties, the requirement of "two multi-jurisdictional enforcement projects per month" was not achieved.

The data in Table 10 provide insight into the level of effort reported by/for each county. The *High Five* CSOs conducted enforcement on 115 days during the program year, almost 2.5 times that of the four ASP troops (43 days) who worked the program. There were two documented occurrences of the "two multi-jurisdictional enforcement projects per month" requirement.

Table 10. Summary of Reported High Five *Enforcement Activity in Arkansas*

DAYS of Reported *High Five* Enforcement by Month in Arkansas												
MONTH	County A		County B		County C		County D		County E		***High Five***	
	CSO	ASP	CSO	ASP	CSO	ASP	CSO	ASP	CSO	ASP	**CSO**	**ASP**
*June '22	1	0	1	0	0	0	0	0	1	0	**3**	**0**
July '22	3	0	2	0	3	0	0	0	2	0	**10**	**0**
August '22	3	0	2	0	8	0	3	0	2	0	**18**	**0**
September '22	4	0	1	0	15	0	2	0	4	2	**26**	**2**
October '22	3	0	1	0	0	0	2	1	1	2	**7**	**3**
November '22	0	0	0	2	0	0	2	2	2	0	**4**	**4**
December '22	3	0	0	2	0	3	2	2	2	0	**7**	**7**
January '23	0	0	0	2	0	0	0	2	2	0	**2**	**4**
February '23	6	0	0	2	0	0	0	2	1	2	**7**	**6**
March '23	2	0	0	2	0	0	0	1	4	1	**6**	**4**
April '23	0	0	0	0	0	0	0	0	14	1	**14**	**1**
May '23	2	0	0	1	0	2	0	2	5	0	**7**	**5**
*June '23	4	0	0	0	0	3	0	2	0	2	**4**	**7**
TOTAL DAYS	31	0	7	11	26	8	11	14	40	10	**115**	**43**
Total months with *at least two days of Hi5 enforcement*	9	0	2	5	3	3	5	6	9	4	**13**	**9**
Total months when the program requirement of 'two multi-jurisdictional enforcement efforts' was met	0		0		0		1		1		**2**	

*Partial month – implementation period ran from June 23, 2022 – June 22, 2023

County E was the only county where *High Five* enforcement was implemented at least twice for 12 months. Counties A and D experienced 9 months of *High Five* enforcement from the respective CSO and/or ASP. Counties B and C implemented 7 months and 6 months of *High Five* enforcement, respectively. Although enforcement in County C reported the most seat belt citations and warnings (n=95), they reported working enforcement the fewest months (n=3).

ASP and CSOs in Arkansas reported a total of 907 hours of *High Five* enforcement over the 12-month program period. The hours reported from CSOs make up about 73 percent of the effort.

Although ASP did not conduct as many hours of enforcement, ASP often conducted enforcement in months when CSOs did not, and vice versa. (The exception is County A where there was no

reported ASP enforcement.) CSOs in Counties B, C, and D reported enforcement in the first half of the program and none in the second half. ASP reported enforcement in the last half of the program for those same counties.

Enforcement in County E appeared the most consistent. The CSO reported efforts every month of the program period for a total of 166 hours and ASP reported 6 months of enforcement in the county for a total of 33 hours.

Table 11 presents the number of hours of reported *High Five* enforcement by month as reported by CSOs and ASP.

Table 11. Hours of Reported High Five *Enforcement by Month in Arkansas*

HOURS of Reported *High Five* Enforcement by Month in Arkansas																		
MONTH	**County A**			**County B**			**County C**			**County D**			**County E**			***High Five***		
	CSO	ASP	Total	CSO	ASP	Total	CSO	ASP	Total	CSO	ASP	Total	CSO	ASP	Total	**CSO**	**ASP**	**Total**
*June '22	5	0	5	17	0	17	0	0	0	0	0	0	11	0	11	**33**	**0**	**33**
July '22	14	0	14	29	0	29	14	0	14	0	0	0	10	0	10	**67**	**0**	**67**
August '22	13	0	13	14	0	14	85	0	85	26	0	26	15	0	15	**153**	**0**	**153**
September '22	14	0	14	5	0	5	120	0	120	16	0	16	20	5	25	**175**	**5**	**180**
October '22	6	0	6	3	0	3	0	0	0	16	6	22	4	4	8	**29**	**10**	**39**
November '22	0	0	0	0	12	12	0	0	0	16	18	34	11	0	11	**27**	**30**	**57**
December '22	6	0	6	0	16	16	0	16	16	16	12	28	9	0	9	**31**	**44**	**75**
January '23	0	0	0	0	16	16	0	0	0	0	15	15	11	0	11	**12**	**31**	**43**
February '23	21	0	21	0	10	10	0	0	0	0	13	13	6	9	15	**27**	**32**	**59**
March '23	8	0	8	0	11	11	0	0	0	0	9	9	12	8	20	**20**	**28**	**48**
April '23	0	0	0	0	0	0	0	0	0	0	0	0	47	4	51	**47**	**4**	**51**
May '23	11	0	11	0	3	3	0	10	10	0	7	7	10	0	10	**21**	**20**	**41**
*June '23	18	0	18	0	0	0	0	26	26	0	14	14	0	3	3	**18**	**43**	**61**
TOTAL HOURS	116	0	116	68	68	136	219	52	271	90	94	184	166	33	199	**660**	**247**	**907**
# months Hi5 enforcement occurred	9	0	9	5	6	11	3	3	6	5	8	10	12	6	12	**12**	**10**	**12**

*Partial month – implementation period ran from June 22, 2022 – June 21, 2023

Road Safety Audits

The RTSAB and CSO POCs collaborated to complete RSAs. CSOs assembled an RSA Team typically consisting of CSO staff members, the county judge[6], and one or two others familiar with the county's road conditions. ArDOT established the RSA process and worked with each county-level RSA Team to complete the process.

ArDOT considered rules and regulations when establishing the RSA process. Because ArDOT already had a federally approved list of prioritized road safety projects, it could not commit funds or work on roadways identified in the *High Five* RSAs. With this and other ArDOT rules and regulations in mind, the RSA Teams established a straightforward process for the RSA.

RSA Teams were to identify five problem road segments in the county and submit those segments to ArDOT for review. Road segments chosen for the RSA included local roads or roads not currently maintained by ArDOT. After reviewing the road segments, ArDOT scheduled a time to conduct the RSA and the RSA Team was invited to join the ArDOT engineer on site. ArDOT then completed a report of the RSA findings, shared it with the RSA Team, and suggested low-cost engineering solutions. A copy of an RSA report prepared by ArDOT for one of the *High Five* counties in Arkansas is shown in Appendix 13.

Although the RTSAB didn't find any local, State, or Federal funding sources to directly cover the costs of implementing the low-cost engineering solutions suggested in the RSAs, they provided RSA Teams with information about possible State and Federal funding sources for low-cost road improvements and State-provided educational resources (Appendix 14). Table 12 provides a summary of the activity performed for the RSA in each *High Five* county.

Table 12. Summary of Road Safety Audits for Arkansas High Five

***High Five* - Arkansas** **Status of Road Safety Audit Process**					
REQUIREMENT	**REQUIREMENT MET?**				
	County A	County B	County C	County D	County E
Assemble RSA team	Yes	Yes	Yes	Yes	Yes
Choose five problematic road segments and submit to ArDOT for review	Yes	Yes	Yes	Yes	Yes
Conduct RSA (ArDOT)	Yes	Yes	Yes	No	Yes
Review results with RSA Team (ArDOT/RTSAB)	Yes	Yes	Yes	No	Yes
Implement suggested solutions (county)	No	No	No	No	No

[6] County Judges in Arkansas manage the county road system.

Four of the *High Five* counties in Arkansas completed an RSA. One county assembled an RSA Team but submitted road segments that did not meet the established criteria (i.e., local roads not maintained by ArDOT). The most common suggestions for low-cost countermeasures in the RSAs involved signage (i.e., installing, replacing, or removing signs), followed by adding or repainting pavement markings. None of the counties reported implementing any of the recommendations provided in the RSAs.

CSO Seat Belt Observations

CSOs were asked to conduct three observational seat belt surveys: baseline, mid, and post. A member of the project team trained designated POCs from CSOs to conduct SBOs and provided them with written instructions and data collection forms to ensure consistency in survey protocol, if the same observer could not conduct the three required surveys, which often was the case.

Initially, teams used crash data to identify potential observation sites (i.e., a location to stand and observe traffic) for SBOs. However, due to light traffic on many rural roads, obtaining an adequate sample size within a reasonable time frame proved challenging. Therefore, teams identified observation sites based on traffic volume, rather than relying solely on crash data.

After completing the baseline survey, the project team modified the data collection form in response to feedback received from CSO observers. The initial data collection form included several variables, (i.e., vehicle type, driver sex and belt use, passenger sex and belt use). However, CSO observers found it difficult to collect variables, so the form was modified to collect only driver and passenger belt use.

All participating *High Five* counties completed baseline surveys. Four of the five counties reported completing a mid-program survey, and three of the five counties reported completing a post survey. Table 13 summarizes if the CSO completed SBOs.

Table 13. Summary of County Sheriff's Offices Seat Belt Observation in Arkansas

***High Five* Arkansas** **Summary of Seat Belt Observations**					
REQUIREMENT	**REQUIREMENT MET?**				
	County A	County B	County C	County D	County E
Baseline (April/May 2022)	Yes	Yes	Yes	Yes	Yes
Mid (December 2022)	Yes	Yes	No	Yes	Yes
Post (June 2023)	Yes	Yes	No	No	Yes

Notable High Five Program Activity in Arkansas

he RTSAB designed a flyer (Figure 11) to promote the program through the announcement of a prize giveaway. The RTSAB members who were experienced in marketing explained that flyers usually are used as "a call to action" and challenged the group to develop a reader action. Subsequently, a flyer was designed that asked the reader to pledge to wear a seat belt and then be entered to win a prize. The flyer's design included a Quick Response (QR) Code that connected users to a *High Five* landing page. Users could enter the drawing for a prize giveaway. Screen shots of the *High Five* landing page can be found in Appendix 15.

Figure 11. High Five *Flyer - Arkansas*

The idea of the flyers was presented to CSOs during the informational meetings. They were given the option to participate and told that participation would fulfill one of the requirements for publicity and outreach outlined in the Action Plan. The RTSAB would provide the flyers to the CSOs that chose to do it and a news release template to announce the winners to the community (Appendix 16). CSOs would be responsible for planning, promoting, and implementing the prize giveaway. All CSOs opted in and indicated they would recruit local sponsors to donate a $100 prize.

The RTSAB created unique flyers and printed 2,000 for each CSO to distribute. CSOs were asked to promote the giveaway in conversations with community members, on social media and by contacting local media outlets. Entries from the landing page were collected by the RTSAB and sent directly to respective CSOs.

While all CSOs confirmed they would participate in the flyer initiative, at the conclusion of the implementation period, only one county had conducted a prize drawing. The *High Five* landing page received a total of only 133 unique visitors and a total of 13 submissions during the program period.

Summary of Program Activity in Arkansas

The AR project team hosted a large press event attended by participating CSOs, State police and other high-level traffic safety professionals to kick off the program. At the conclusion of the year-long program period, AR *High Five* CSOs reported working a total of 105 hours of publicity and outreach and CSOs and ASP combined reported 907 hours of enforcement.

The most frequently reported publicity and outreach activity was the distribution of educational cards at locations and events other than roadside stops. The cards were distributed at community events in the community that typically draw a large crowd, such as school sporting events and community fairs. AR teams were provided with pre-made social media posts created by the project team and received training on how to post on social media platforms. However, none of the CSOs met the stated requirement to post twice a month on social media.

Participating CSOs and ASP troops reported 158 days of *High Five* enforcement. CSOs reported about 73 percent of the total enforcement hours. All Arkansas teams reported distributing *High Five* cards during enforcement projects. Most Arkansas teams reported distributing around 3,000 educational cards over the course of the program period during enforcement projects and publicity and outreach events.

All but one county completed an RSA process. This included establishing an RSA team, identifying problematic road segments, completing an RSA, and reviewing results. The most common suggestions for low-cost countermeasures identified by the RSA process involved signage (i.e., installing, replacing, or removing signs), followed by adding or repainting pavement markings. The last step of the RSA process involved sharing local, State, or Federal funding sources to directly cover the costs of implementing the low-cost engineering solutions suggested in the RSAs. However, the RTSAB was unable to identify direct funding avenues to implement suggestions in the RSA. Instead, *High Five* counties were provided with information about possible State and Federal funding sources for low-cost road improvements and educational resources.

All participating *High Five* counties in Arkansas completed observational surveys of seat belt use prior to the beginning or soon after program kickoff. Four of the five counties reported completing a mid-program survey, and three of the five counties reported completing a post survey. However, inconsistent data collection processes produced unreliable and inconsistent results in several instances.

Program Costs

Each CSO had an amount up to $10,000 that could be used to reimburse for hours spent on enforcement efforts, publicity and outreach, and program management. Funds could also be used to purchase equipment or supplies related to program implementation. Table 14 presents the amount of grant funds each CSO used for the *High Five* program.

Table 14. Amount of Grant Funds Used by CSOs in Arkansas

***High Five* Grant Fund Distribution - Arkansas**				
County A	County B	County C	County D	County E
$4,050.49	$3,153.13	$6,690.56	$9,986.40	$5,790.77

The AHSO funded the cost to develop and print material used for the program and created the landing page used as part of the prize drawing process. Table 15 summarizes the reported costs AHSO incurred to produce material for the Arkansas program.

Table 15. Cost to Produce High Five *Material in Arkansas*

Program Material	**Cost**
Step & Repeat Banner*	$ 1,522.99
Podium Sign*	$ 179.71
Logo re-creation*	$ 255.00
Info Cards	$ 3,999.59
Posters	$ 1,199.71
Flyers	$ 3,903.78
Project Management	$ 5,376.25
Landing Page*	$ 4,653.75
TOTAL	**$ 21,090.78**

*one-time cost

The items marked with an asterisk in Table 15 have one-time costs totaling $6,611.45. These costs would not be incurred should the State decide to repeat the project.

Arkansas Post-Program Feedback

AHSO independently distributed a survey to program participants at each of the *High Five* CSOs to gather feedback about the program. Three counties completed the survey. Responses are summarized in the bulleted list below.

- Program successes: the appearance of increased seat belt use in the area and "getting the message out."
- Most significant traffic safety problem in the area/county: speeding or distracted driving.
- Concern: *High Five* is better suited for counties with smaller populations.
- Challenges: staffing issues.
- Suggestion to make *High Five* more successful: more advertising.
- Feedback from community: CSOs reported receiving mostly positive feedback from the community about *High Five* program activities. One CSO reported negative feedback in that "some [people] do not believe seat belts are important."
- CSOs received little to no response from the public related to the *High Five* program itself. One CSO reported that "most (people) believed it was a good program and responded well to our social media outreach."
- CSOs provided their understanding of the goals of the *High Five* program: increase awareness of the importance of seat belts, further safety compliance, show CSO investment in the program, and make the streets safer.
- Recommendations for improving the *High Five* program: promote the program more and provide funds for road improvements.
- The survey asked CSOs to share feedback received from the public on how *High Five* could be improved. The only suggestion provided was to also address distracted driving.

General Feedback from State and Local Program Participants

- State-level program administrators believed that the absence of LELs stunted the program's development and implementation. LELs would have been beneficial to streamline communication between State and local program participants and help overcome challenges resulting from staffing issues, both at the State and local levels (e.g., staffing shortages, changes in leadership positions).
- Several participating law enforcement officers reported that they liked having the discretion to issue a seat belt citation or distribute the educational card to unbelted motorists at roadside stops.
- County C's POCs stated that the RSA provided an opportunity to connect with the State DOT, beginning a relationship that was not in place prior to *High Five*.

Kentucky

Program Development

Program development for the *High Five* Demonstration in Kentucky began after establishing an MOU in spring of 2022. KYTC staff then assembled the RTSAB that included KSP. Both institutions continued to be integral in the process from start to finish.

Timeline

Severe winter weather caused a 3-month delay in the program development process compared to the original timeline. However, by April 2022 KYTC's leadership was prepared to undertake the planning process. In addition, there were further disruptions caused by severe flooding in two counties just before implementation. One county adhered to the original program kickoff schedule and used flood recovery events to promote the *High Five* message. Another county affected by the severe flooding opted for a shorter implementation of 9 months, launching their program 3 months after the other four participating counties. Table 16 provides a timeline of the Kentucky *High Five* Demonstration Program.

Table 16. Kentucky High Five *Demonstration Timeline*

Task	Implementation Time Frame
Develop Action Plans	April 2022 – July 2022
Assemble Rural Traffic Safety Advisory Board (RTSAB)	April 2022
Select *High Five* Counties	April 2022 – May 2022
Develop Program Material	April 2022 – August 2022
Hold Informational Meetings with *High Five* Counties	July & September 2022
Conduct CSO Seat Belt Observations - Baseline	October 2022
Hold Program Kickoff	October 17-20, 2022; Jan. 5, 2023
Define Implementation Period	October 2022 – September 2023
Conduct Road Safety Assessments*	October 2022 – September 2023
Conduct CSO Seat Belt Observations - Mid	March 2023
Conduct CSO Seat Belt Observations - Post	October 2023

*KYTC intentionally uses the term 'Assessment' instead of 'Audit' as it contains fewer negative connotations. To that end, the *High Five* program used 'Road Safety Assessment' from the time of the first in-person meeting.

Rural Traffic Safety Advisory Board

The Kentucky RTSAB members included actively engaged stakeholders and subject matter experts' intent on following the Iowa model. However, one deviation from the Iowa model did occur. KYTC leadership opted to include the State's four LELs to fill the suggested role of a motivated sheriff on the RTSAB. These LELs possessed decades of law enforcement experience and maintained strong working relationships across the commonwealth. Their connections with the counties played a pivotal role in county selection and overall program coordination. Table 17 provides a description of Kentucky's RTSAB members.

Table 17. Kentucky's High Five *Rural Traffic Safety Advisory Board*

Kentucky RTSAB Members	
Organization	**Member's Job Title**
Kentucky Transportation Cabinet	• KOHS Assistant Director • Assistant State Highway Engineer • Public Information Officer (PIO)
Kentucky Office of Highway Safety	• Executive Director • Financial Manager • Systems Consultant IT • Four Law Enforcement Liaisons* • Safety Education Branch Manager • Occupant Protection (OP) Coordinator
Kentucky State Police	• East Troop Commander • Justice Program Administrator for Critical Incident Response Team
Federal Highway Administration	• Safety Engineer
University of Kentucky	• Research Engineer and Adjunct Asst. Professor

*Kentucky opted to include all four LELs on their RTSAB in lieu of a motivated sheriff as per the Iowa model. This decision was approved by the NHTSA COR(TO).

High Five County Selection in Kentucky

Kentucky's RTSAB implemented a data-driven process for selecting program counties, led by a KYTC consultant who also served on the RTSAB. This board member had previously created a dashboard of all 120 counties in the commonwealth that is often used to show a county's relative ranking for many traffic safety considerations. The dashboard was already designed to highlight the "Top 40" in a defined category as well as the "Top 40" in overall traffic safety concerns. The dashboard is also available to the public.[7]

Data included on the public-facing version include rankings out of 120 counties for:

- Commercial Vehicle Collisions
- Fatalities
- Serious Injuries
- Fatal And Serious Injury Rate per 100 million vehicle miles (MVM)
- Impaired Driving Collisions

[7] The public-facing version that is always up can be found at: https://app.powerbigov.us/view?r=eyJrIjoiYmZkZGM4YmQtNWE4NS00MzgwLWE3OWMtMmQ1NDA2MThkZGYxIiwidCI6ImQ3N2M3ZjRkLWQ3NjctNDYxZi1iNjI1LTA2Mjg3OTJlOWUyYSJ9

- Motorcycle Collisions Total
- Population (2020 estimated)
- Speed Involved Collisions Total
- Total Collisions
- Unbelted Percentage for Fatalities

To determine the rurality of the county's roadways, the RTSAB used the Highway Information System that is part of the Highway Performance Monitoring System (HPMS) submittal system that ranks roadways by rurality as such:

- Type 1 - Rural Area (population < 5,000)
- Type 2 - Small Urban Area (population 5,000 to 50,000)
- Type 3 - Small Urbanized Area (population 50,000 to 200,000)
- Type 4 - Large Urbanized Area (population > 200,000)

The RTSAB members added a category for fatalities and serious injuries per 100 miles of roadway to use in the selection process. The team then created a custom dashboard for *High Five* that included all counties with at least 75 percent of their roadways defined as either Type 1 or Type 2 (Figure 12). Each of the counties was then ranked according to this smaller pool. The RTSAB used this dashboard to inform discussions concerning which counties were suitable candidates considering their geography, election cycle, and historical experience.

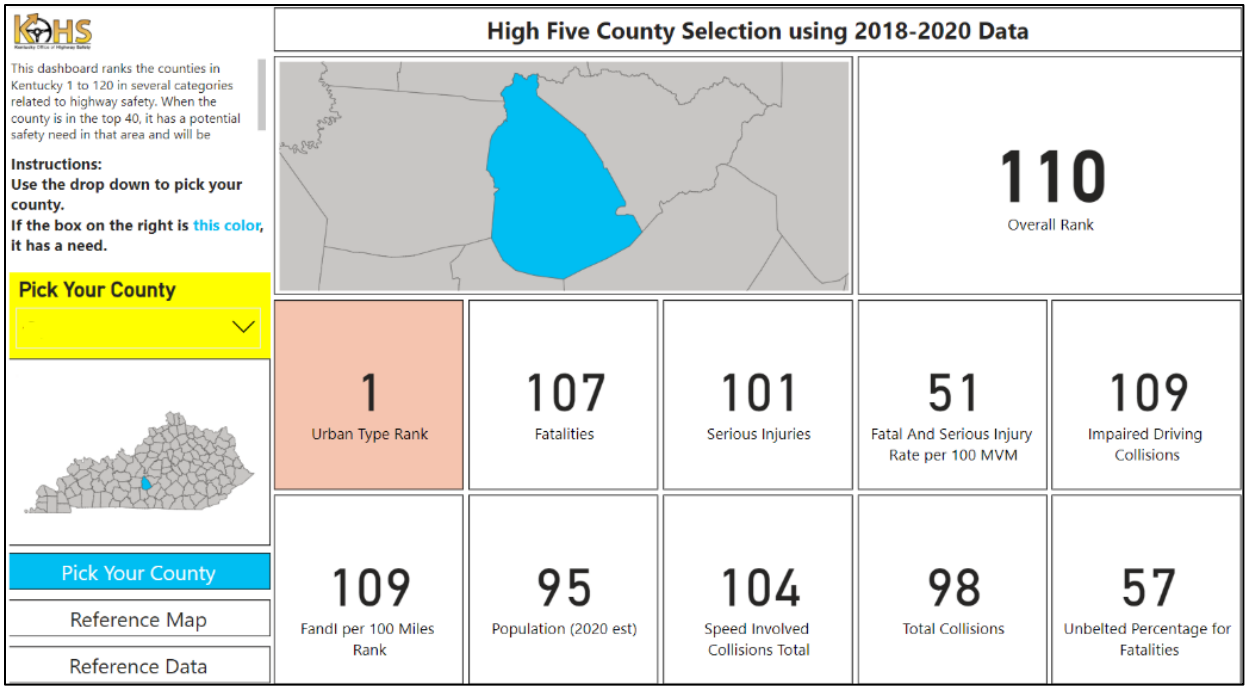


Figure 12. Custom Dashboard Used for High Five *County Site Selection*

The RTSAB prioritized counties for inclusion using "fatal and serious injury per 100 MVM" along with population and unbelted percentage data points. The lower the "unbelted percentage" rank, the stronger the candidate. Other factors given consideration for county selection included geographic spread to include KSP Troops, November 2022 elections, and input from LELs to recruit sheriffs.

Figure 13 illustrates the *High Five* counties selected for participation in the demonstration program (circled in yellow).

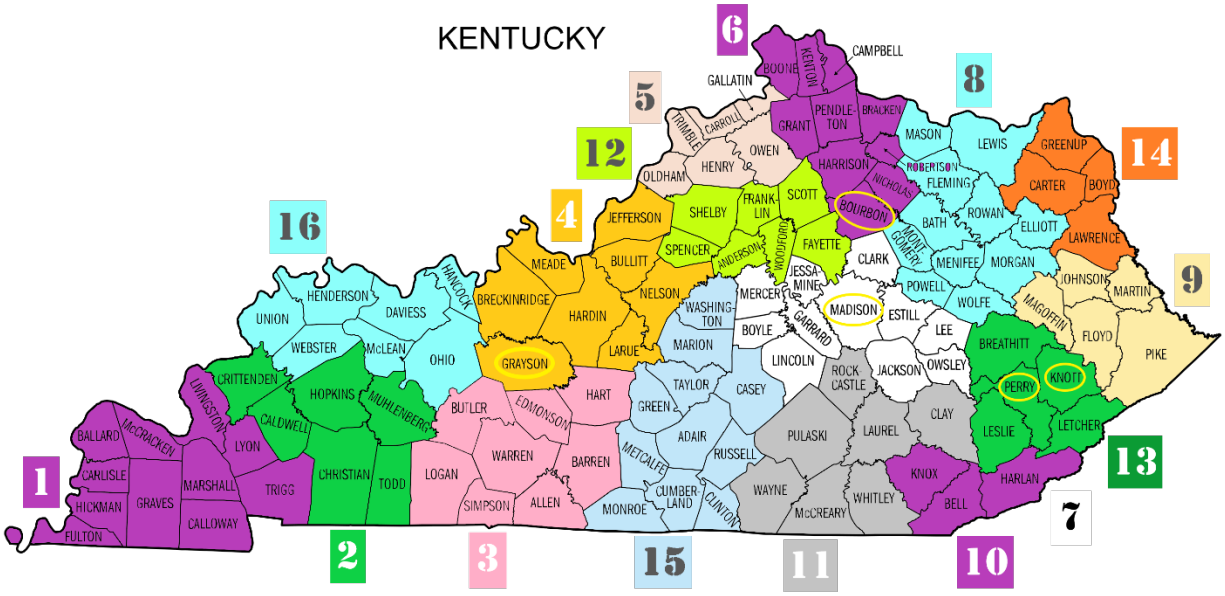


Figure 13. Kentucky's High Five *Counties*

Kentucky has 120 counties and 16 different KSP troops. While five counties were selected for this demonstration, there were more than a dozen viable locations. LELs believed additional counties would like to implement *High Five* if results show effective outcomes.

Table 18 presents information about each of the *High Five* counties selected for Kentucky's demonstration program.

Table 18. Kentucky High Five *Counties*

County	2020 Population[1]	CSO # Sworn deputies (# assigned to traffic enforcement)	KSP Troop	Crash Data Notes
Bourbon	20,252	11	Troop 6	• Ranked 10th/120 for fatal and serious injury rate by miles travelled and 9th/120 for unbelted fatalities. • Despite being ranked 57th/120 for population (middle of the pack), Bourbon Co. ranks 31st (top 25%) in total fatalities.
Grayson	26,420	9	Troop 4	• Ranked 21st/120 for total fatalities. • Ranked 32nd/120 for total serious injuries. • Ranked 33rd/120 in speed-related collisions and 35th/120 in impaired driving collisions.
Knott	14,251	3	Troop 13	• Ranked 13th/120 for percentage of fatalities that were unbelted. • Ranked 81st/120 for total fatalities. • Ranked 96th/120 for total serious injuries.
Madison	92,701	41 (12)	Troop 7	• Ranked 11th/120 for total serious injuries. • Ranked 16th/120 for total fatalities. • Ranked 9th/120 for total collisions and 7th/120 for impaired driving collisions.
Perry	28,473	7	Troop 13	• Ranked 1st/120 for percentage of traffic fatalities that were unbelted. • Ranked 18th/120 for rate of serious injuries per vehicles miles travelled. • Ranked 14th/120 for total fatalities and 24th/120 for total serious injuries.

[1] U.S. Census Bureau Quick Facts (April 1, 2020)

Program Material

The project team developed program material using data provided by KYTC officials. Material designed and approved for the Arkansas demonstration program (that launched 3 months ahead of the Kentucky program) served as the starting point for Kentucky's program messaging. KYTC developed, printed, and distributed *High Five* logos, educational cards, and posters. A step-and-repeat banner was created for use at local kickoff events and made available upon request. The educational card and poster used for Kentucky's *High Five* program can be found in Appendix 18.

The project team provided each CSO and KSP with 1,000 educational cards and 5-10 posters to distribute. Each county distributed all their cards so a second and then third order of 1,000 cards was printed for each county. Additionally, some counties reported making extra copies on their office copy machine. Most counties distributed between 2,000 and 3,000 educational cards by the end of the program period. Posters were printed and delivered in February 2023 after implementation was in motion. There was very little feedback on poster distribution, and none of the counties requested additional posters.

The project team provided a news release and media advisory to counties to announce the program and scheduled events (Appendix 19). Media kits were also developed and distributed to local news agencies at kickoff events. A summary of all program material developed for the Kentucky *High Five* Demonstration Program can be found in Appendix 20.

Informational Meetings

Kentucky's RTSAB recognized that county-level informational meetings were important to display sincere interest and participation from both State- and county-level participants. The LELs on the RTSAB arranged informational meetings with each of the CSOs 2 months before the start of the implementation period. Attendees typically included representatives of the RTSAB and those who would be responsible for local program implementation: the sheriff and deputies, the county judge-executor[8], and State troopers who would be participating locally. Each sheriff's office included one deputy who would serve as the general POC for the *High Five* program. Meetings took place in each of the participating counties. The initial trip included a combined meeting in neighboring counties, Knott, and Perry. The RTSAB provided meeting attendees with a map, highlighting the top 10 roadway segments with the highest collision rates and the segments that experienced the most fatal and serious injuries between 2017 and 2021. This information helped inform LEA's plans for enforcement activities and locations for conducting observational seat belt surveys. During the meetings, project team members trained CSO employees to conduct observational seat belt surveys. They encouraged CSOs to use the provided map of high crash areas and choose observation locations at or near the indicated locations. Project team members advised CSOs to choose locations with higher traffic volume. The project team also provided data collection forms asking observers to collect only driver belt use and passenger belt use. The in-person trips included RSA plan discussions on the agenda. RTSAB members used that time to have preliminary roadway safety conversations with county roads supervisors in two counties during the September 2022 trips.

[8] In Kentucky, the County Judge-Executor is responsible for the operation of the county road system.

Figure 14 is a map of roadway segments provided to attendees of informational meetings in KY.

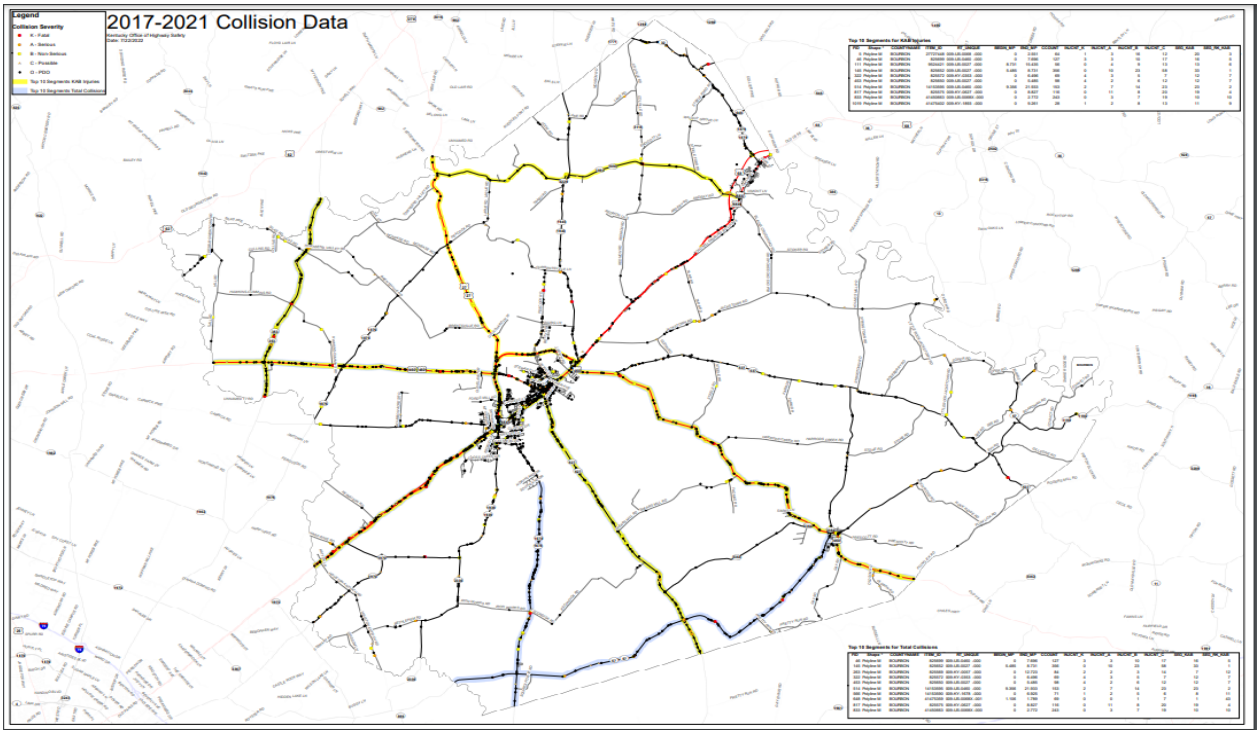


Figure 14. Map of Roadway Segments Provided to CSOs at Informational Meetings in KY

Program Activity

As in the Arkansas section, program activity in Kentucky is discussed with county identifiers concealed so that the focus of this paper remains on evaluating the program and not the performance of individual counties.

Program Publicity & Outreach

Kentucky sheriffs unanimously favored hosting kickoff events in participating counties. During the September informational meetings, RTSAB members discussed the possibility with the local stakeholders and developed a coordinated plan. Program implementation was slated to begin the third week of October 2022.

Kickoff events included the local sheriff and a trooper speaking about the program. Several counties had the county judge-executor participate and most events included additional law enforcement officers in uniform to support the media visuals (Figure 15). Select RTSAB members attended the kickoff and used the visit to plan for the roadway assessment process, where possible. This included meetings with KYTC engineers and county roads supervisors.

The first four kickoff events helped to create a strong publicity push at the outset of implementation. As discussed above, County E elected to delay implementation by 3 months due to flood recovery and staffing shortages. Their kickoff event in January 2023 followed the general pattern of the prior events and included the recently hired executive director of KOHS who introduced the program and the chief deputy from a neighboring county in attendance.

Four of the five kickoff events had varying levels of local media in attendance. This included local newspapers in four and local television media at three kickoff events. Table 19 provides a list of attendees and earned media generated by kickoff events in Kentucky.

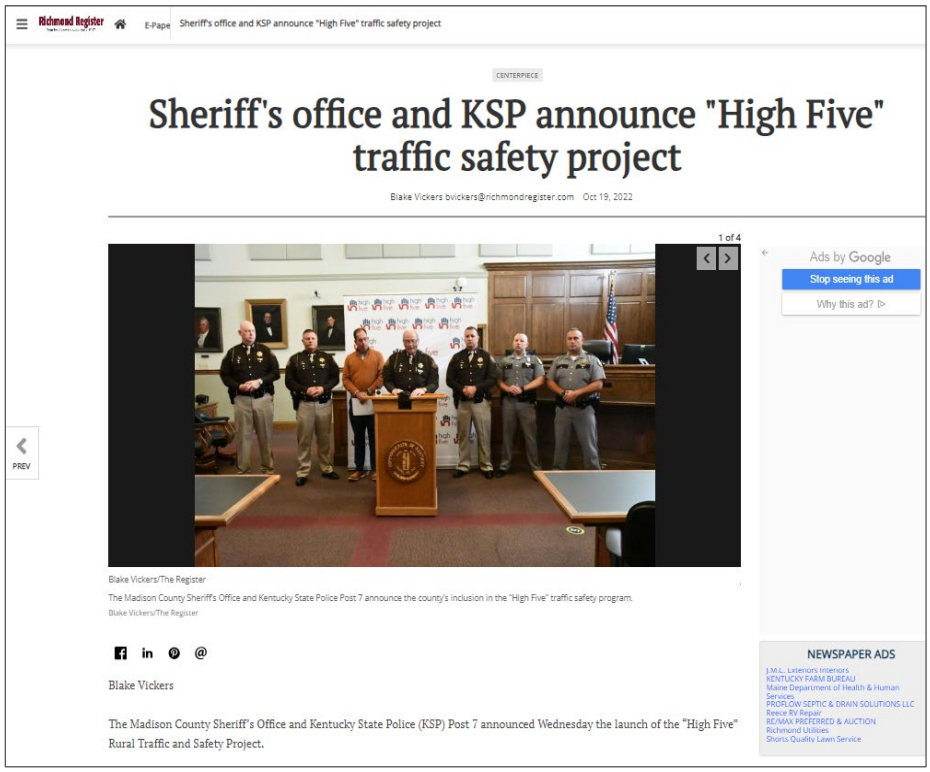


Figure 15. Kickoff Media Coverage

Table 19. High Five *County Kickoff Events in Kentucky*

County & Date	Attendees		Media Summary

County A
October 17, 2022
	• County Sheriff's Office
	  ○ Sheriff
	  ○ Chief Deputy
	  ○ Two Deputies
		• County Judge-Executor
		• County Roads Supervisor
		• State Police
		  ○ Lieutenant
		  ○ Two State Troopers
		• KYTC PIO
			• WKYT (Vid – local CBS)
			• WTVQ (Print – local ABC)

County C
October 18, 2022
	• County Sheriff's Office
	  ○ Sheriff
	  ○ Chief Deputy
	• KYTC PIO
		• State Police
		  ○ Captain
		  ○ Lieutenant
		  ○ Two Troopers
			Due to ongoing flood recovery, the local news media that was scheduled to attend was pulled to a competing story on the morning of the kickoff event.

County D
October 19, 2022
	• County Sheriff's Office
	  ○ Sheriff
	  ○ Chief Deputy
	  ○ Two Deputies
	• County Judge-Executor
		• State Police
		  ○ Lieutenant
		  ○ Trooper
		• KYTC PIO
		• KOHS Training Dev. Specialist
			• WKYT (Vid – local CBS)
			• WTVQ (Vid – local ABC)
			• WYMT (Vid – local ABC)
			• Richmond Register (Print Media)
			• Fox 56 News (Vid – local Fox)
			• WEKU (Print Media)

County & Date	Attendees	Media Summary

County B
October 20, 2022
	• County Sheriff's Office
	  ○ Sheriff
	• State Police
	  ○ Two State Troopers
	• KYTC
	  ○ District Engineer
	  ○ Two Engineers
		• K105 (Print Media)
		• The News-Enterprise (Print Media)
		• Z93 Country (Print Media)
		• KSP website (Print Media)

County E
January 5, 2023
	• County Sheriff's Office
	  ○ Sheriff
	  ○ Chief Deputy from County C
	• KOHS Executive Director
	• State Police
	  ○ Captain
	  ○ Lieutenant
	• Trooper
		• WYMT (Vid – local CBS)

Kentucky's program publicity began with a consistent media push of kickoff events in four counties in four days. From there, each county approached this program element in a slightly different way. There were obvious consistencies in the material used, the media kits provided, and in the seat belt messaging, but as is evidenced in Table 20, each county produced a distinct output of activities. Ongoing flood recoveries, staffing availability, and the specific relationships between the sheriff's office and the public at large affected the frequency of events.

Table 20 summarizes the reported publicity and outreach activities for the Kentucky demonstration program.

Table 20. Summary of Reported Publicity and Outreach Activity in Kentucky

Kentucky Summary of Reported Publicity & Outreach Activity					
REQUIREMENT	**ACTIVITY LEVEL**				
	County A	County B	County C	County D	County E*
Local kickoff event	Yes	Yes	Yes	Yes	Yes
Social media 2 x month (Total # of *High Five* related posts made over the 12-month program period)	Some (10)	None (0)	Most (18)	Some (5)	None (0)
Presentation at all high schools in the county	Yes	Yes	Yes	Yes	Yes
Roadside distribution of educational cards	Yes	Yes	Yes	Yes	Yes
Poster distribution**	No	No	Yes	No	No
Completion of four other events/activities	Yes	Yes	Yes	Yes	Yes
TOTAL P&O HOURS REPORTED	**105**	**59**	**77**	**15**	**305**

*County E had a 9-month implementation due to severe flooding and ongoing recovery in their county.
** Two counties gave no feedback regarding poster hanging.

RTSAB members encouraged CSOs to use existing program material or NHTSA graphics as social media content and CSOs opted to create their own social media posts but, ultimately, the expectation of two social media posts per county per month was not met. Two counties had regular engagement on social media that included *High Five* messaging.

Each county team presented *High Five* material at all high schools in the county with several of those activities pairing the CSO with KSP and reinforcing *High Five* messaging alongside safe prom events. A rollover simulator was also used at the same events where law enforcement worked to publicize *High Five* including the county fair in County B. Two counties never reported on use of posters while two reported they did not hang any. County C reported displaying the posters during several public events. Social media posts were also a shortcoming in each county. Examples of social media posts used in Kentucky's program are presented in Appendix 21.

Also of note in Kentucky was the effort put forth in County E. As is echoed in the Enforcement section below, the sheriff's office in County E favored a strategy wherein deputies stood on

county roadways, shopping center plazas, and other frequently traveled roadways. Deputies were uniformed but handing out educational cards was prioritized, and they were generally handed out to all automobiles, regardless of belt use. Because very few enforcement activities logged warnings and citations, only those hours are counted as enforcement and all other hours have been categorized as P&O.

In addition to the required high school presentations, two counties presented *High Five* material at elementary schools. County A and KSP worked together to organize drawing contests and bike giveaways in local elementary schools and ensured that the educational handout was sent home with students for a parent or guardian to review. County C used elementary school events and ongoing flood recovery events held at the local schools as an environment to hand out educational cards and emphasize the importance of belt safety in the county. Other public events that law enforcement used for *High Five* publicity and outreach included town festivals, a town art walk, kid's day at a small airport, and local shopping centers.

Seat Belt Enforcement

The stated requirement for *High Five* enforcement was to complete "two multi-jurisdictional enforcement efforts per month" of implementation. Only one county, County C, was able to achieve this standard. Other LEAs faced challenges meeting these program expectations. Two of the five counties reported very little enforcement activity but one of those counties was County E, which was faced with ongoing flood recovery and ongoing manpower shortcomings. The other, County D, had sporadic reporting of *High Five* activity throughout implementation. KSP troops and CSOs collectively presented a robust effort to the public with *High Five* enforcement activity carried out in each county. Two counties (County A and County C) had enforcement activity each month between the sheriff's office and KSP troop, though the standard of multi-jurisdictional events was only achieved in County C. A summary of reported enforcement activity for the Kentucky *High Five* demonstration program is listed in Table 21.

Table 21. Summary of Reported High Five *Enforcement Activity in Kentucky*

Summary of Reported Enforcement Activity - Kentucky					
ACTIVITY	County A	County B	County C	County D	County E
* At least two multijurisdictional enforcement projects conducted per month	No	No	Yes	No	No
*Educational cards handed out during traffic stops	Yes	Yes	Yes	Yes	Yes
Number of months (out of 12) '2 Hi5 enforcement projects per month' conducted by CSO **and/or** KSP	12	8	12	5	6
TOTAL # Enforcement Hours Reported (KSP and CSO combined)	**194.5**	**119.5**	**242**	**114**	**112**
SB Citations & Warnings/Total Citations & Warnings (KSP and CSO combined)	**112/294**	**89/159**	**100/320**	**91/174**	**135/430**

*Program requirement

KSP reported activity for all 12 months of program implementation. The staffing shortages experienced at CSOs were echoed in State police. Some troops were more able to participate than others but efforts across the State were consistently strong and each county saw their enforcement efforts enhanced by State police. Counties B and C used checkpoints (7 and 11, respectively) along with saturation patrols and these checkpoints generally included KSP working with the CSO. KSP reported checkpoints also in County D, but these were not multi-jurisdictional events. Counties A and E only reported saturation patrols.

Counties C and E are both in Troop 13 but the CSOs had distinct implementation profiles. County C worked with KSP twice a month every month 12 months and used a combination of saturation patrols and checkpoints, the only participating county to meet the stated objective. During those events, KSP troopers filled out all citations and warnings and reported the enforcement activity summaries to the RTSAB. The sheriff's office reported their hours worked each month and the type of event, but they did not write the citations or warnings.

The sheriff's office in County E favored a more aggressive educational approach logging most of their hours on local roadways but with deputies handing out educational cards to all drivers, totaling over 3,000 by their estimation. The majority of these educational saturation events were conducted in the final 2 months of the program. County E's sheriff's office recorded a total of four belt citations and seven citations marked as "other" in their dozens of activities.

Table 22 presents the number of days each LEA conducted *High Five* enforcement in each month of program implementation.

Table 22. Days of Reported High Five *Enforcement by Month - Kentucky*

DAYS of Reported *High Five* Enforcement by Month in Kentucky												
MONTH	**County A**		**County B**		**County C**		**County D**		**County E**		***High Five***	
	CSO	KSP	CSO	KSP	CSO	KSP	CSO	KSP	CSO	KSP	**CSO**	**KSP**
October '22*	1	1	1	1	1	1	0	0	--	--	3	3
November '22	0	2	2	2	2	2	2	1	--	--	6	7
December '22	1	2	1	0	2	2	0	1	--	--	4	5
January '23	0	1	2	2	2	2	0	0	0	0	4	5
February '23	1	3	1	0	2	2	0	3	0	2	4	10
March '23	0	2	4	1	2	2	1	0	0	3	7	8
April '23	1	2	2	0	2	2	1	1	0	2	6	7
May '23	2	1	0	0	2	2	0	0	0	2	4	5
June '23	2	1	0	0	2	2	0	0	0	1	4	4
July '23	1	2	2	0	2	2	0	0	0	2	5	6
August '23	7	1	0	4	2	2	0	3	1	2	10	12
September '23	4	3	1	3	2	2	0	8	1	0	6	16
TOTAL DAYS	20	21	16	13	23	23	4	17	2	14	65	88
Total months with *at least two Hi5 enforcement days**	5	8	6	5	12	12	1	3	0	6	12	12
Total months when the program requirement of 'two multi-jurisdictional enforcement efforts' was met	1		3		12		0		0		12	

*Due to implementation kickoff events taking place after the 15th of October, only 1 multi-jurisdictional enforcement effort was expected for that month. When calculating the number of enforcement events for that first month, one event fulfilled the stated requirement.

While the anticipated standard of "two multi-jurisdictional efforts per month" was not always achieved, several participating LEAs did show a concerted effort to work together when possible. Each CSO conducted at least one enforcement activity with KSP, and three counties (A, B, & C) showed a consistent effort throughout implementation to work with KSP.

Some counties had a more consistent enforcement effort throughout implementation, but all five counties combined with KSP showed consistent activity in each county. Some counties and KSP troops struggled with program expectations month to month, but the overall hours of enforcement shown in Table 23 indicate a sizeable effort in each county. While CSOs and KSP troops combined displayed consistent enforcement effort, enforcement strategies differed in each county.

Table 23. Reported Hours of High Five *Enforcement by Month for Kentucky Demonstration*

HOURS of Reported *High Five* Enforcement by Month in Kentucky																		
MONTH	**County A**			**County B**			**County C**			**County D**			**County E**			***High Five***		
	CSO	KSP	Total	CSO	KSP	Total	CSO	KSP	Total	CSO	KSP	Total	CSO	KSP	Total	CSO	KSP	Total
October '22	4	14	18	11	4	15	12	10	22	0	0	0	--	--	0	27	28	55
November '22	0	6	6	10	12	22	38	13	51	8	3	11	--	--	0	56	34	90
December '22	4	13.5	17.5	3	0	3	11	18	29	0	9	9	--	--	0	18	40.5	58.5
January '23	0	2	2	10	0*	10	16	8	24	0	0	0	0	0	0	26	10	36
February '23	5	19	24	2	0	2	10	11	21	0	10	10	0	18	18	17	58	75
March '23	0	10	10	11	0*	11	10	6	16	7	0	7	0	28	28	28	44	72
April '23	6	9	15	7	0	7	10	6	16	0	4	4	0	18	18	23	37	60
May '23	5	2	7	0	0	0	10	0*	10	0	0	0	0	18	18	15	20	35
June '23	7	4	11	0	0	0	10	0*	10	0	0	0	0	5	5	17	9	26
July '23	6.5	16	22.5	6	0	6	10	0*	10	0	0	0	0	9	9	22.5	25	47.5
August '23	22	8	30	0	23	23	13.5	6	19.5	0	11	11	4	9	13	39.5	57	96.5
September '23	9.5	22	31.5	3	17.5	20.5	13.5	0*	0	0	62	62	3	0	3	29	101.5	130.5
TOTAL HOURS	69	125.5	194.5	63	56.5	119.5	1645	78	242	15	99	114	7	105	112	318	464	782
# months Hi5 enforcement occurred*	8	12	12	9	4	10	12	11	12	2	6	7	2	7	8	12	12	12

*Troopers in some months worked *High Five* enforcement events, evidenced by submitting an Enforcement Summary Sheet, but did not claim the time spent as part of the *High Five* Program. This has led to a few instances of Troopers submitting evidence of enforcement that is not then identified as being part of this program in KSP's summary data sets.

Road Safety Assessments

The RSA process in Kentucky was considered from the earliest RTSAB meetings but took longer than anticipated to reach fruition. From the second on-site meeting, RTSAB members tried and were successful in most counties at speaking with various people involved in county road design, from the county road supervisors to State-level engineers. Everyone involved at every level showed a willingness and a capability, but because the program was being brought in as part of a total package and did not form naturally, it took time to establish an effective procedure. The result for each *High Five* county was a report for current and future use (Appendix 22).

RTSAB members from KYTC initially thought that people who lead Kentucky's Highway Safety Improvement Program (HSIP) would be best suited to lead the RSA. HSIP members even presented as part of the kickoff, discussing the importance of local knowledge and a diverse Assessment Team including first responders to ensure all available perspectives from within the community are considered. That helped bring to light the details that are not generally captured in a crash report. The HSIP presentation also showed and discussed a typical RSA as an example of the sort of process that sheriff's offices should expect.

RTSAB members spoke with two county supervisors in County C and County A. They discussed specific roadways as well as systemic problems they face keeping roadways safe year-round. RTSAB members drove some roadways in two of the counties, noting the RSA deficiencies. RTSAB members also had a detailed discussion with a KYTC district-level engineer in County B. All these meetings helped shed considerable light on how to use available data to select roadway segments that should fit the general "no-cost and low-cost improvements" rubric.

The RTSAB also included a research engineer from the University of Kentucky, an expert in traffic safety involved with the Safety Circuit Rider Program. SCRP provides free technical advice for communities across the State and is funded by the FHWA in Kentucky and KYTC. SCRP uses crash data to locate high incident sites along roadways and assist local governments in finding low-cost roadway safety improvements such as the removal of trees, brush, stumps, etc. and installing signage.

Through the course of implementation, RTSAB members discussed the best use of these assessments and the emphasis on local roadways was the determining factor. Due to the rural nature of the program, and the broader goal of building lines of communication from the local to the State and Federal, they focused on minor and major collectors in rural areas with a local road functional class. The RTSAB member from the University of Kentucky already used this expertise to develop safety plans and identify innovative treatments for safety and operational needs and so the SCRP was deemed most suitable to conduct an assessment.

The RSA took place in the last week of September and the first week of October 2023. Kentucky's SCRP then created a final report for each county and distributed the material to the RTSAB to forward onto the county stakeholders.

The suggestions for low-cost countermeasures made most often in the RSAs were related to vegetation maintenance, removal of fixed objects, signage (i.e., installing, replacing, or removing signs), guard rails, and drainage considerations.

The anticipated process included the RTSAB developing an RSA team for each county that would then conduct the roadway assessment. Kentucky had capable State-level agencies, and the RTSAB decided to utilize people from these agencies, mimicking an organic program from within the State. That process took longer than anticipated but ultimately landed with the SCRP. By the time the RSA document was finalized, the *High Five* program had concluded, but the reports were distributed to county stakeholders.

The RTSAB provided the *High Five* Counties with information about possible State and Federal funding sources available for low-cost road improvements. However, none of the funding sources identified directly covered costs to implement the type of low-cost countermeasures suggested in the RSAs. None of the counties reported that any of the recommendations provided in the RSAs were implemented. Table 24 summarizes the RSA effort for Kentucky's *High Five* program.

Table 24. Summary of Road Safety Assessments for Kentucky High Five

***High Five* Kentucky** **Summary of Road Safety Assessments**					
REQUIREMENT	**REQUIREMENT MET?**				
	County A	County B	County C	County D	County E
Assemble RSA Team	No	No	No	No	No
Choose five problematic road segments and submit to SCRP for review	Yes	Yes	Yes	Yes	Yes
Conduct RSA (SCRP)	Yes	Yes	Yes	Yes	Yes
Review results with RSA Team (SCRP/RTSAB)	No	No	No	No	No
Implement suggested solutions (county)	No	No	No	No	No

CSO Seat Belt Observations

All participating *High Five* counties completed baseline surveys. Three of the five counties reported completing a mid-program survey, and four of the five counties reported completing a post survey. Table 25 summarizes the CSO SBOs conducted in Kentucky for the *High Five* demonstration.

Table 25. Summary of County Sheriff's Offices Seat Belt Observations in Kentucky

High Five - Kentucky ***Summary of Seat Belt Observations***					
REQUIREMENT	**REQUIREMENT MET?**				
	County A	County B	County C	County D	County E
Baseline (October 2022)	Yes	Yes	Yes	Yes	Yes
Mid (March/April 2023)	Yes	No	Yes	No	Yes
Post (October 2023)	Yes	Yes	No	Yes	Yes

Notable High Five Program Activity in Kentucky

- One main component of Kentucky's implementation of the *High Five* Program was the inclusion of a rollover simulator at many events where *High Five* cards were distributed. KSP used the simulator at public events, presentations at high schools, and in several counties.
- County C used the ongoing flood recovery to spread *High Five* messaging. Deputies attended as many public events as they were able and handed out educational cards alongside the personal items of recovery.
- Representatives from four of five participating sheriff's offices and a State trooper spoke at the Kentucky Lifesavers Conference in Louisville in 2023. This means that a broader swath of the State-level and some county-level stakeholders were made aware of the program during implementation. The conference gave people on the RTSAB the opportunity to introduce the program in-person, mid-program, to law enforcement statewide.
- The Kentucky RTSAB decided that using the SCRP was the most efficacious avenue to complete the RSA. The SCRP operated within the University of Kentucky and had institutional experience advising rural county road supervisors on low-cost roadway improvements on local roads.

Summary of Program Activity in Kentucky

The *High Five* program in Kentucky kicked off with local events that included State and local stakeholders in all five participating counties. Two counties experienced severe flooding shortly before program activity was scheduled to begin. As a result, one county delayed kickoff by 3 months and implemented the program for 9 months instead of 12.

In total, Kentucky *High Five* counties reported 561 hours of publicity and outreach over the course of the program period. The type of publicity and outreach activity reported most often was the distribution of the educational card at places other than roadside stops.

All Kentucky *High Five* teams reported presenting *High Five* at all high schools in the respective counties, distributing educational cards, and conducting four other events/activities over the course of the 12-month program period. Most counties distributed between 2,000 and 3,000 educational cards by the end of the program period.

High Five activities at schools were described as part of a bigger safety focused presentation coordinated with KSP that often included a rollover simulator. *High Five* was discussed during the presentations and educational cards were distributed to students. County A reported working with KSP to present *High Five* at elementary schools. County C also presented at elementary schools and used ongoing flood recovery events as an opportunity to distribute *High Five* educational cards and emphasize the importance of safety in the county. Sheriff's offices and a State trooper also presented *High Five* at the Kentucky Lifesavers Conference in Louisville during the program period.

None of the teams in Kentucky fulfilled the requirement of posting about *High Five* twice a month on social media. County C made 18 social media posts related to *High Five*, more than any of the other counties and was the only county to report hanging *High Five* posters in public areas in the community.

Participating law enforcement in Kentucky reported 782 hours of enforcement over 153 days, CSO's reported approximately 40 percent of the total hours, KSP had about 60 percent. Three counties reported enforcement during at least 10 months of *High Five*, one county reported enforcement for 7 months and one reported 8 months. Notable enforcement methods were reported by Counties B and C who reported using multiagency checkpoints (KSP and CSO) along with saturation patrols. KSP in County D reported conducting checkpoints but not in conjunction with the CSO.

One *High Five* team in Kentucky, County C, fulfilled the requirement of "two multi-jurisdictional enforcement efforts per month for all 12 months of implementation." Four of the five CSOs conducted at least one enforcement activity with KSP, and three counties (Counties A, B, and C) showed a consistent effort throughout implementation to work with KSP. Several counties were able to demonstrate cooperation across agencies, but County C was able to give a more consistent performance across the program period.

The Kentucky RTSAB proved to be proactive in their approach to the RSA. Because they observed that the process occurred too late in the program period to successfully pursue any recommendations, the RTSAB plans to improve the process in a second iteration of *High Five* in 2024. KYTC stakeholders and RTSAB members intend to use the data-driven process that SCRP implemented in this initial effort, but before the kickoff events occur in each county. They can

then use the report to inform conversations with local stakeholders at the beginning of the process and should increase the likelihood of enacting some low-cost and no-cost improvements.

The RSA process in Kentucky took longer than anticipated to be finalized. Local RSA teams in the *High Five* counties were not formed, but State-level groups were formed instead. The RTSAB opted to choose problematic road segments using crash data, and the State's SCRP conducted the RSA. The result was a usable report designed for participating counties. Suggestions for low-cost countermeasures made most often in the RSAs were related to vegetation maintenance, removal of fixed objects, signage (i.e., installing, replacing, or removing signs), guard rails, and drainage considerations. RSA reports were not reviewed with local program participants due to time constraints, but the reports were distributed to them.

The RTSAB provided the *High Five* counties with information about possible State and Federal funding sources available for low-cost road improvements suggested in the RSAs. However, none of the funding sources identified directly covered costs to implement the type of low-cost countermeasures suggested in the RSAs. None of the counties reported that any of the recommendations provided in the RSAs were implemented.

All *High Five* teams in Kentucky completed observational seat belt surveys before program implementation began. Three of the five counties reported completing a survey midway through the program, and four of the five counties reported completing a survey after the program period ended.

Program Costs

The *High Five* Demonstration Program included mini grants of up to $10,000 for each of the five participating counties and up to $50,000 to the State police. The funds were used to pay for hours dedicated to *High Five* program management, enforcement, and program-related equipment/supplies. KYTC funded the cost of printing program material. Table 26 presents the amount of grant funds each CSO used for the *High Five* program. KSP spent a total of $45,597 of their $50,000 (not shown in Table).

Table 26. Amount of Grant Funds Used by CSOs in Kentucky

***High Five* Grant Funds Used by CSOs**				
County A	County B	County C	County D	County E
$7,719.19	$4,783.86	$10,000	$1,385.81	$9,975.62

Program Feedback from Kentucky *High Five* Stakeholders

Everyone who provided feedback on the program mentioned they appreciated the ability for law enforcement officers to use discretion about issuing citations. Participating law enforcement embraced being able to choose whether to educate (hand out *High Five* educational card) or issue a citation and educational card based on the circumstances of the interaction. This aspect of the program was unanimously praised as a positive component. A participating deputy and LEL both believed the program positively influenced how some law enforcement interacted with the public and would have lasting effects on emphasizing seat belt safety in day-to-day enforcement duties.

A deputy and trooper both commented on the power of the schools in this belt program. The trooper emphasized that high school social and sporting events make excellent times for educational outreach. The deputy described that sending educational material home with elementary school students is an excellent vehicle to ensure *High Five* educational material are seen by county residents. Both law enforcement officers also expressed an appreciation for the increased communication between the sheriff's office and State police.

Regarding the RSA process, county roads supervisors indicated they were aware of problematic roadway segments, including ones that could use low-cost and no-cost improvements, but they were often unable to tend to them. Echoing several LEA's struggles with staffing, a county supervisor illuminated the problem stating he was unable to get enough competent mechanics on his team to keep machines fully operational. County roads supervisors indicated that the priorities of roadway maintenance are often necessarily delayed due to staffing, equipment, and broader systemic shortcomings.

The abiding takeaway from participants in Kentucky was one of positivity, and Kentucky will use State funds to continue the *High Five* program for another round in 2024-2025. KYTC and law enforcement stakeholders are confident in the feedback and results and view the *High Five* program as a valuable lifesaving program.

Qualitative Insights

Both Arkansas and Kentucky teams saw value in the potential benefits of the *High Five* program and voiced interest in continuing it in the future. In Arkansas, staffing issues at the State and local levels caused challenges with both planning and implementation. The absence of an LEL in Arkansas was a large hurdle for the project team to overcome. Arkansas did not have plans to implement *High Five* the year immediately following the demonstration program.

Kentucky was particularly well-suited to implement the program. The KYTC had well-respected LELs, established standards of data collection, and established networks for working with local stakeholders throughout the State. The consistent mood of positivity and active engagement from State and local law enforcement and from RTSAB members drew several remarks from stakeholders concerning a general desire to continue the program in an additional set of counties.

The *High Five* program necessitates agencies from local to State-level working together. Many counties and States across the country do not have strong existing relationships between government agencies or institutional experiences of multi-level cooperation. While the *High Five* program has the potential to create new working relationships (e.g., RTSAB, State and local enforcement), it may work better in locations where the history of constructive collaboration is already established.

Lessons Learned

- Participating in *High Five* can be a new experience for CSOs that have never participated in grant-funded programs of this nature. Program planners should anticipate that guidance will be needed throughout the planning process and implementation period. LELs can facilitate communication between agencies and help coordinate program activity.
- The Iowa team made the point that it is important to include an enthusiastic law enforcement representative on the RTSAB to help bridge the gap between State and county enforcement. Involving a leader with the right disposition for law enforcement on the RTSAB should help promote engagement between agencies but it is not always an option.
- CSOs in small, rural locations likely have little experience posting on social media and not much of a digital presence. They will need support.
- *High Five* branding is good and available, making development of program material easier.
- Law enforcement seemed more likely to conduct enforcement if they scheduled enforcement dates at the beginning of the program.
- Electronic crash data are helpful and can lend to confident decision-making.
- Action plans should be reviewed with program participants shortly before program activity begins to ensure everyone is familiar with program plans.
- Due to challenges with staffing, CSOs found it difficult to ensure consistency with SBOs. RTSABs should check in with CSOs before the scheduled baseline, mid, and post surveys. If the same observer(s) cannot conduct the SBO, ensure the replacement observer follows established data collection protocol. Ensuring consistency is more likely to yield trustworthy data. This is important if an agency is evaluating efforts using these surveys. If staffing shortages are an issue, capable and trustworthy citizens (e.g., retired law enforcement officers, college students) can conduct SBOs but will need to be trained.
- Program participants preferred the term "Assessment" over "Audit" when referring to RSAs.
- A dynamic and effective RSA team is important. Ensuring participants have the experience or skill set to see the process through is key to success. The *High Five* RSA process should use available and cost-efficient resources to achieve safety goals. Effective RSA team members would likely be found in local law enforcement agencies, county roads departments, State DOT offices, and other local stakeholder agencies. It's about getting the right people on the team rather than ensuring each agency has representation.
- The *High Five* program offers local and State enforcement the discretion for providing either education or enforcement when working enforcement details. Post program feedback from law enforcement indicate those who worked the program appreciated the discretion and often elected to provide educational material in lieu of a citation.

Limitations

- *High Five's* 12-month implementation period is long and monitoring program efforts is necessary to adjust and sustain program activities. States and CSOs should consider the staffing levels that are needed to fill necessary roles before starting the program. Staffing shortages or changes in leadership at all levels can have an impact on the level of success.
- Funding for low-cost solutions identified in the RSAs was not found and none were implemented during the program period.

Future Adjustments

- Involve LELs or someone in a similar role to help coordinate and monitor rural county programs through the implementation period.
- RTSABs should try to establish an RSA process before program implementation begins. Discuss plans for how to provide support to counties if grant funding does not seem feasible. Support could be in the form of help with completing grant applications or providing supplemental educational material or hands-on training.
- The RSA process did not result in the completion of recommended safety improvements identified in the RSA during this demonstration program. It seems unlikely that many States would be able to implement actionable improvements in the first iteration of *High Five* considering the length of time for the (DOT or State) process. RTSABs should work to streamline the process so the selected *High Five* counties can reap the benefits of the program during or soon after implementation. RTSABs should consider revisiting past county participants to follow up on RSA recommendations when appropriate.
- Expectations for "multi-jurisdictional enforcement" should be discussed with all *High Five* participants. Clarify that the term means jurisdictions working enforcement projects *at the same time.* Discuss the possibility of staffing issues and stress the importance of conveying a "united front." If the two agencies do not have the staff to work enforcement simultaneously, they can plan multiagency publicity and outreach events, or create the perception of working together by announcing the multi-jurisdictional effort in press releases and on social media. Law enforcement can also mention to motorists at roadside stops that State and local agencies are working on the program together.

Steps to Replicate High Five

Below are suggested steps for SHSOs to take to replicate the *High Five* program along with insightful suggestions from program participants.

1. **Assemble a RTSAB.**
    - Form a well-rounded RTSAB comprised of traffic safety professionals to represent each program element (enforcement, education, engineering) and someone who can organize observational seat belt surveys in each county.
    - Include a well-respected sheriff or LELs who can relate to local and State law enforcement.
    - Provide clear expectations to prospective board members about their role and estimated time commitment.
2. **Develop action plans.**
    - Create action plan templates (one for the RTSAB and one for *High Five* counties) to shape the statewide program and individual county programs.
    - Include a timeline and requirements for program activity in the plan and assign points of contact for each program element.
    - Use action plan templates like a "workbook" and update or add information as plans are refined and processes are established.
    - Provide updated copies to RTSAB members and points of contact in respective counties.
3. **Select *High Five* counties.**
    - Identify rural counties and use crash data to rank order those with the highest crash injury rates. Data queries can be used to rank order counties, such as restrained/unrestrained crashes and fatal/severe/all injury crashes. Consider the top ranked counties for participation in the program.
    - Consider leadership interest and willingness to participate when choosing counties for the program.
    - Consult the law enforcement representative(s) on the RTSAB for insight and ask them to reach out to prospective CSOs to gauge interest.
4. **Develop program material.**
    - Incorporate the *High Five* logo into all material.
    - Print the signature two-sided educational card and poster and distribute to participating law enforcement prior to program kickoff.
    - Include statewide crash data and seat belt use rates in content.
    - Create and provide news release and media advisory templates and readymade social media posts to county participants.

- Provide social media training to county participants if needed.
- Make sure printed material is distributed to participating counties prior to program kickoff.

5. **Establish a process for Road Safety Assessments.**
    - Use crash data to identify problematic road segments in each *High Five* county.
    - Explore State and Federal funding options for recommended low-cost engineering solutions. If there is no available funding, explore other ways to lend support (e.g., related workshops or educational opportunities).
    - Build an RSA team in each county comprised of representatives from the RTSAB, local law enforcement, county engineers, and others who have insight into county road conditions.
6. **Conduct informational meetings.**
    - Schedule informational meetings in each *High Five* county prior to kickoff.
    - Attendees should include RTSAB representatives and local program participants.
    - Review crash data to provide rationale to program participants about why their county was selected for the program.
    - Establish a point person at the county and State levels for each program element.
    - Review problematic road segments identified for the RSA. Have local participants weigh in about road segments deemed problematic by the community.
    - Train local observers to conduct SBOs.
    - Stay in touch with local teams to ensure enthusiasm and engagement with the program does not wane prior to program kickoff.
7. **Kick off *High Five* in participating counties.**
    - Plan a press event, invite local and State media, and announce the program via a news release. RTSAB representatives and local and State enforcement should attend.
    - Provide talking points to local and State program participants.
    - Conduct baseline SBOs before program kickoff.
8. **Sustain *High Five* publicity and enforcement for 12 months.**
    - Coordinate State and local enforcement details to portray a "unified front."
    - Maintain communication with participating CSOs and State police.
    - Ensure LEAs report enforcement and publicity and outreach activities.
    - Check in with local teams to ensure seat belt observations are completed on time and according to protocol. Provide refresher training if needed.

9. Implement Road Safety Assessments.

- State level DOT and local RSA teams work together to complete an RSA in each *High Five* county.
- Begin work on the engineering solution identified in the RSA in each county before the program period ends.

10. Monitor progress, adjust plans if needed.

- Have local teams report enforcement and publicity and outreach activity and monitor efforts. Support local teams to fulfill program requirements.
- Ask for feedback from program participants about what works well and what can be improved. Adjust program plans accordingly.

Figure 16 summarizes the steps to replicate a *High Five* program.

Figure 16. Suggested Steps to Replicate High Five

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Part 2. *High Five* Demonstration Results

Introduction

The Rural *High Five* Seat Belt Demonstration Project was a 12-month demonstration program conducted in two States: Arkansas and Kentucky. NHTSA implemented and evaluated the *High Five* Rural Traffic Safety Project based on an Iowa program of the same name begun in 2014. The project aimed to decrease risky driving behavior (i.e., seat belt violations) in five preselected rural counties using a systemic, multiagency approach to program development based on the three E's (enforcement, education, and engineering).

Local programs were developed in each State's participating *High Five* counties that included seat belt focused education, outreach, and enforcement activities as well as an RSA of selected problematic road segments. Collaboration between local and State enforcement and stakeholders was encouraged to develop and implement program plans largely following Iowa's program model.

The program development process was documented and program activity was summarized. The results of the process evaluation are presented in Part I of this report. The results presented in this section (Part II) explore the effects the intervention had on seat belt usage in participating counties.

Methodology

Evaluating demonstration programs included choosing one county per State to serve as a control site. Evaluators matched the control counties demographically, in so far as possible, with the *High Five* counties. The control counties also did not have any known ongoing or planned seat belt programs to interfere with comparability.

Observational seat belt data was collected over four distinct waves to determine changes in seat belt usage due to program implementation. Observational surveys were conducted before the start of the 12-month implementation period (pre), midway through the program period (mid), immediately following the program period (post), and 3 months after the program period ended (post2). The mid measurement was not intended to be part of the evaluation but to be feedback data for the agencies to let them know "how they are doing." The results of the mid was reported but not analyzed. Trained observers recorded seat belt use in each *High Five* county two weekdays and one weekend day and in one control county in each State. Observation schedules were replicated each wave of observations (i.e., pre, mid, post, post2) by the same observers standing at the same sites on the same day of week at the same time of day and observing the same traffic flow.

Site Selection

Site selection in each county began by identifying locations for observers to stand using annual average daily traffic data. However, due to the small number of high-volume roadways in rural counties, the selection was limited. Therefore, the largest determinable volume roadways were used to select observation sites.

Specific road segments determined to be of an adequate volume and a distinct traffic flow from other observations were used. The exact observation locations (i.e., where data collectors stood to observe vehicles) were selected by trained observers the first time the site was used for

observation. Observers created a site map to indicate exactly where the observer stood to observe seat belt use. Maps included the lane(s) of traffic observed and significant landmarks (names of intersecting roadways, traffic lights, nearby buildings, etc.) so that any observer returning to the site could conduct observations the same way each iteration of the survey.

Scheduling

Observation sites were organized into clusters of five sites based on geographical proximity. Each cluster was randomly assigned a single day of week for observation with the first site for each day being similarly randomly selected. Each county had three days of site observations, either Sunday to Tuesday or Thursday to Saturday. A time efficient route, starting with the randomly selected first site, was developed to determine the order of the remaining sites in the cluster. Observers were given a schedule and a mapped-out route for each cluster. The schedule specified site order, day of week to conduct observations, site times, and name of road segment to observe. Observers followed the same schedule for each observational survey (i.e., baseline, mid, post, post 2).

Observations were prescheduled for all days of the week except Wednesday during daylight hours between 8 a.m. and 6 p.m. Observers were provided with a time frame to use as a guide to schedule sites throughout the day. For each observer, the time from 8 a.m. to 6 p.m. was divided into 2-hour time periods. Time of day was specified as one of five time periods: 8 – 10 a.m., 10 a.m. – noon, noon – 2 p.m., 2 – 4 p.m., and 4 – 6 p.m. Exact timing of the periods was subject to adjustment but ultimately resulted in approximately an equal number of sites being observed throughout the individual 8 a.m. – 6 p.m. time frames. In all cases, each survey period lasted exactly 45 minutes and was required to take place entirely within the broader allowable time frame.

Observers

Three trained observers completed all observational surveys for the Rural *High Five* Demonstration Project evaluation. All remained constant for all four rounds of observations. Prior to any data collection, procedures specific to the *High Five* survey were explained to observers in a training session. Additionally, observers were trained in procedures to follow during conditions such as bad weather or temporary traffic impediments which may require rescheduling of sites.

Observation Site Details

Most locations for data observation (i.e., observation sites) were tentatively selected based on available online mapping information such as satellite images and ground-level photos. Complete road segments were also described by map details such as road name or number and segment length.

Preference was given to observation points where traffic appeared to naturally slow or stop. For street locations, and assuming they represent segments with generally equivalent traffic along the entire segment, a suitable location to observe closest to the mapped latitude and longitude pinpoint was sought; but any location along the segment where accurate observations could be made was acceptable. Preferred locations were those that are near intersections which may cause vehicles to slow, increasing the time for observation and improving data completeness and accuracy.

Data Collection Procedures

Passenger vehicles with a gross vehicle weight up to 10,000 pounds were included in the survey. Passenger vehicle drivers and right front seat passengers (excluding children in child safety seats) were observed for seat belt use. Observers noted vehicle type (Car, Truck, SUV, Van), sex of drivers and passengers, race/ethnicity (White, Black, Hispanic, other) of drivers and passengers, and belt use on the data collection form. A copy of the data collection form can be found in Appendix 23.

Observers recorded pertinent site information on the data collection form including site number and exact roadway location, observer's initials, date, day of week, time, weather condition, and direction of traffic flow. Each one-page form included space to record information on 50 vehicles. When more than 50 observations were made at a site, additional sheets were used and all sheets for the observation site-period were fastened together. When qualified passengers were present, data were recorded even if "Unknown;" passenger fields in the data form were left blank only if no qualified passenger was present.

Observers were instructed to reschedule data collection at the same site for the same time of day and day of week if data could not be collected at a site due to a temporary problem such as bad weather or a traffic impediment. If the site could not be used due to a more permanent factor such as construction, a pre-selected alternate road segment was used.

Quality Control

As noted above, all observers received training which included both classroom instruction and field (roadside) practice. All observation data were reviewed for anomalies, and none were found, suggesting the data did not reflect anything other than proper on-site seat belt use observations. Some cues to the contrary would have included repeating patterns within the observation data, unusual proportions of vehicle type, driver or passenger sex, presence of passengers, seat belt use, excessive unknown seat belt use, or very high or low total numbers of observations. Some variation in these values is normal. If any suspicious data patterns had been noted, appropriate verification of observations was conducted. Invalid data would have been replaced in such cases. Again, no problems were detected and thus, corrective actions were not necessary for these survey iterations.

Building a Data Set

Statistical Package for the Social Sciences software was used to run frequencies and correlations to identify any outliers or coding errors. A thorough check of the data indicated minimal coding or key-punch errors, all of which were corrected pre-analysis.

Results

The original data analysis plan called for combining seat belt observation data from all intervention counties and comparing them to the control county. However, the process evaluation reported in Part 1 of this report shows that participating counties varied widely in level of activity and on meeting the *High Five* program requirements set forth at the beginning of the project. Hence, in addition to the overall program-control comparisons, additional county-based analyses were conducted. That is, individual counties were compared to the control county in each implementation State. As was the case with the process evaluation, each participating State

is discussed in turn and county identifiers concealed so that the focus of the results remains on evaluating the program and not the performance of an individual county.

Five years of citation data from participating county and State enforcement agencies was collected to examine the number of occupant restraint and speeding citations and warnings issued during previous years compared to the number issued during the yearlong *High Five* demonstration program. The collection of reliable and complete data was not feasible in Arkansas due to the absence of electronic historical data for local enforcement agencies. Additionally, data were not accessible for the control county. In Kentucky, analyses of historical citation data did not show any notable differences in citations issued during *High Five* implementation compared to the previous years studied. Note that during *High Five*, citations for violations were discretionary and often educational information was used in lieu of a citation or formal warning.

There are no quantifiable results to report for the RSA process in either State. RTSABs in both States assembled RSA teams and conducted assessments in most participating counties but none of the counties were able to implement recommendations within the program period. While the outcomes for the RSA are not immediately evident, the insights gained are discussed in the Program Implementation section of this report.

Arkansas

Observational Survey Results

Nearly 25,000 occupants (N=24,940) in 19,610 vehicles were observed over the course of this project (19,610 drivers and 5,330 front seat passengers), and data collected over four waves of observations (baseline, mid, post, and 3-month post) in the five intervention counties and one control county.

Table 27 shows the number of vehicles observed in each county, per wave.

Table 27. N Observations by County, per Wave, Arkansas High Five

Arkansas N Seat Belt Observations					
SITE	**WAVE**				**TOTAL**
	Pre	**Mid**	**Post**	**Post 2**	
County A	629	585	701	650	2,565
County B	977	1,037	1,110	989	4,113
County C	1,572	1,442	1,445	1,370	5,829
County D	681	674	693	590	2,638
County E	1,268	1,231	1,267	1,384	5,150
Control	*1,071*	*1,041*	*1,244*	*1,289*	*4,645*
Total	**6,198**	**6,010**	**6,460**	**6,272**	**24,940**

To test the impact of the intervention on belt use, data from the five intervention counties were combined and compared to the control site data. Although observation data from all waves are reported in the tables below, statistical analyses were only conducted comparing pre and post data as the focus is the change in seat belt use from baseline to post intervention.

Observers noted seat belt use (Belted, Unbelted, Unsure) for drivers and front seat outboard passengers, along with sex (Male, Female, Unsure), race (White, Black, Hispanic, Other, Unsure), and vehicle type (Car, Pickup truck, SUV, Van). Only known belt use (i.e., excluding unsure) is reported below and used in the analyses. Belt use was reported as "unsure" in less than one percent (0.6%) of all observations. The overall seat belt use results are presented in Table 28 and presented graphically in Figure 17.

Table 28. Belt Use by Wave and Site (% belted), Arkansas High Five

Arkansas Seat Belt Use Rate				
SITE	**WAVE**			
	Pre	**Mid**	**Post**	**Post 2**
Program (% belted) (N Observed)	73.6% (5,113)	77.2% (4,949)	79.5% (5,206)	75.9% (4,972)
Control *(% belted)* *(N Observed)*	*72.7%* *(1,051)*	*76.2%* *(1,013)*	*76.9%* *(1,229)*	*78.5%* *(1,262)*

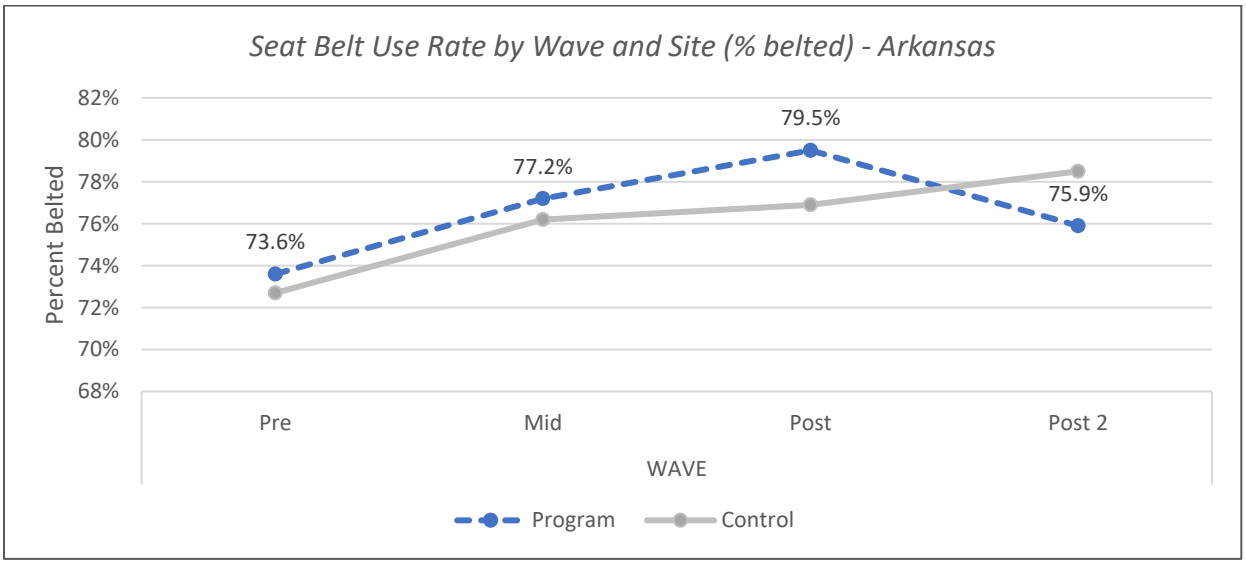

Figure 17. Belt Use Rate by Wave and Site (% belted) - Arkansas

A binary logistic regression was conducted looking at the interaction of pre/post and program/control on seat belt use. Although the main effect of Wave was significant ($\chi^2(1) = 5.31$, $p<.05$), the main effect of Site ($\chi^2(1) = 0.40$, NS) and the Wave x Site interaction ($\chi^2(1) = 0.98$, NS) were not significant. Although belt use generally increased from baseline to post, there is little indication that the increase was due to the program since program and control sites showed

a similar increase: +5.9 percentage in the program sites and +4.2 percentage points in the control area. Although the overall belt use increase is welcome news, there is no apparent effect of intervention when looking at all intervention counties combined.

Since the process evaluation suggests that counties were not equivalent in meeting the requirements of the *High Five* program, the data were further investigated comparing each individual county to the control county. Table 29 shows the observed belt use rate for each county across all four waves of observations. Although all counties showed an increase in belt use from pre to post, the range of improvement varied. The increase in Counties B and D (3.2 and 3.3 percentage points, respectively) was lower than the change observed in the control county (+4.2). County A showed an increase comparable to the control (+4.7) and County C (+7.6) had the highest change, followed by County E (+7.4).

Table 29. Seat Belt Use by County and Wave, Arkansas High Five

Arkansas Seat Belt Use Rate by County				
SITE	**WAVE**			
	Pre	**Mid**	**Post**	**Post 2**
County A	77.1%	78.9%	81.8%	80.7%
County B	79.2%	79.9%	82.4%	76.2%
County C	72.0%	75.7%	79.6%	76.4%
County D	67.4%	71.3%	70.7%	68.6%
County E	73.0%	79.3%	80.4%	76.1%
Control	*72.7%*	*76.2%*	*76.9%*	*78.5%*

A binary logistic regression was conducted comparing belt use by Wave and County. The *pre* wave and *control* counties were used as points of comparison. There was a significant main effect of Wave ($\chi^2(1) = 5.31$, $p<.05$) and County ($\chi^2(5) = 35.50$, $p<.0001$), but no significant Wave x County interaction overall ($\chi^2(5) = 6.34$, NS). Furthermore, none of individual County x Wave interactions reached significance. Thus, despite some differences between individual counties, there is no evidence that these differences in seat belt use were associated with the intervention. Tables showing binary logistic regressions conducted for Arkansas are presented in Appendix 24.

Kentucky

Observational Survey Results

More than 25,000 occupants (N=25,887) in 20,626 vehicles were observed over the course of this project (20,626 drivers and 5,261 front seat passengers). Data were collected over four waves of observations (baseline, mid, post, and 3-month post) in the five intervention counties and one control county. Table 30 shows the number of vehicles observed in each county, per wave. Tables showing the model specifications and regression outputs for Kentucky can be found in Appendix 25.

Table 30. N Observations by County, per Wave, Kentucky High Five

Kentucky N Seat Belt Observations					
SITE	**WAVE**				**TOTAL**
	Pre	**Mid**	**Post**	**Post 2**	
County A	1,082	1,006	1,039	804	3,931
County B	1,441	1,339	1,290	778	4,848
County C	1,404	1,511	1,433	1,341	5,689
County D	1,147	1,023	1,095	936	4,201
County E	1,091	1,069	1,047	952	4,159
Control	*831*	*703*	*803*	*722*	*3,059*
Total	**6,996**	**6,651**	**6,707**	**5,533**	**25,887**

Pre-Post Analyses

To test the impact of the intervention on belt use, data from the five intervention counties were combined and compared to the control site data. Although observation data from all waves are reported in the tables below, only the pre and post data were used in the statistical analyses as the focus is the change in seat belt use from baseline to post intervention.

Observers noted seat belt use (Belted, Unbelted, Unsure) for drivers and front seat outboard passengers, along with sex (Male, Female, Unsure), race (White, Black, Hispanic, Other, Unsure), and vehicle type (Car, Pickup truck, SUV, Van). Only known belt use (i.e., excluding unsure) is reported below and used in the analyses. Belt use was reported as "unsure" in less than one percent (0.7%) of all observations.

The overall seat belt use results are presented in Table 31 and presented graphically in Figure 18.

Table 31. Belt Use by Wave and Site (% belted), Kentucky High Five

Kentucky Seat Belt Use Rate				
SITE	**WAVE**			
	Pre	**Mid**	**Post**	**Post 2**
Program (% belted) (N Observed)	77.9% (6,105)	82.0% (5,903)	83.4% (5,864)	86.5% (4,764)
Control *(% belted)* *(N Observed)*	*77.6%* *(831)*	*80.4%* *(703)*	*79.7%* *(803)*	*79.4%* *(722)*

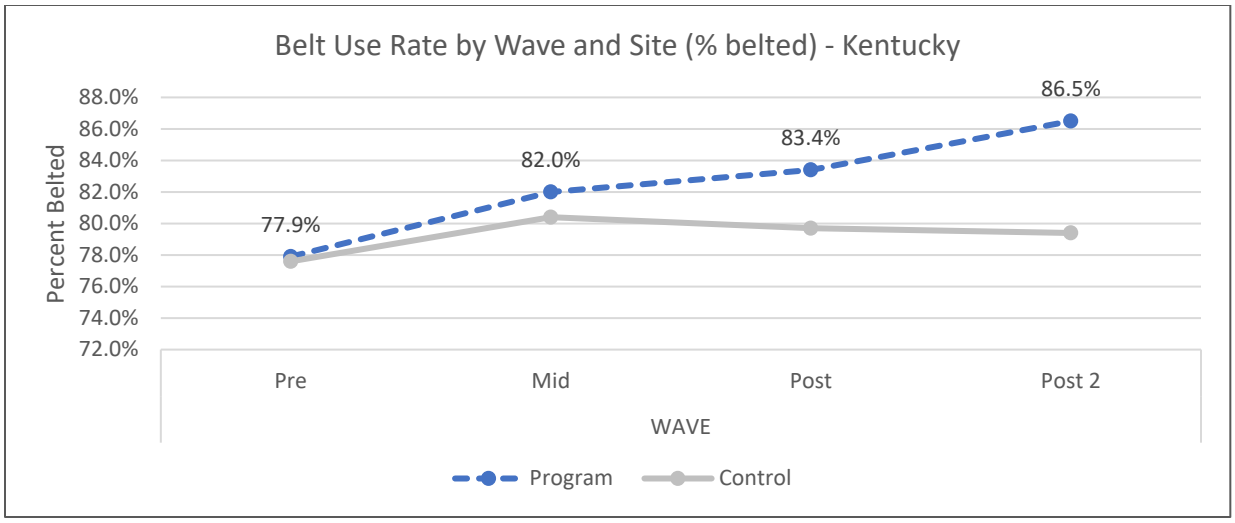

Figure 18. Belt Use Rate by Wave and Site (% belted) - Kentucky

Overall, the control site showed a 2.1-percentage-point increase in belt use from pre to post whereas the program sites showed a 5.5percentage-point increase in the same time frame. A binary logistic regression was conducted looking at the interaction of pre/post and program/control on seat belt use (Appendix 26). The main effect of Wave was not significant ($\chi^2(1) = 1.06$, NS), neither was the main effect of Site ($\chi^2(1) = 0.31$, NS). The Wave x Site interaction approached significance ($\chi^2(1) = 3.26$, p=.07). The difference between program and control sites was not quite large enough to reach significance.

As was the case in Arkansas, the process evaluation in Kentucky suggests that counties were not equivalent in meeting the requirements of the *High Five* program. Thus, the data were further investigated comparing each individual county to the control county. All program counties showed an increase in belt use from pre to post, ranging from +1.2 percentage points (County D) to +8.7 percentage points (County C). Meanwhile, the control county showed a +2.1-percentage point increase in the same period. Table 32 shows the observed belt use rate for each county across all four waves of observations.

Table 32. Seat Belt Use by County and Wave, Kentucky High Five

Kentucky Seat Belt Use Rate by County				
SITE	**WAVE**			
	Pre	**Mid**	**Post**	**Post 2**
County A	83.4%	85.9%	85.1%	91.0%
County B	73.6%	77.3%	81.7%	78.8%
County C	73.9%	82.9%	82.6%	87.4%
County D	86.7%	89.8%	87.9%	92.3%
County E	73.8%	75.0%	80.3%	82.1%
Control	*77.6%*	*80.4%*	*79.7%*	*79.4%*

A binary logistic regression was conducted comparing belt use by Wave and County. The *pre* wave and *control* counties were used as points of comparison. The main effect of Wave was not significant ($\chi^2(1) = 1.06$, NS). The main effect of County was significant ($\chi^2(5) = 105.37$, $p<.0001$), as was the Wave x County interaction ($\chi^2(5) = 15.15$, $p<.05$). Specifically, there was a significant pre/post by control/program interaction in County B ($\chi^2(1) = 5.13$, $p<.05$, 95% CI [0.52, 0.95]) and County C ($\chi^2(1) = 6.77$, $p<.01$, 95% CI [0.50, 0.91]. The pre-to-post belt use increase in counties B & C was significantly greater than the increase in the control county.

Figure 19 shows that while seat belt use in the control site stayed relatively stable, counties B and C showed a large increase in seat belt use rate from pre to post.

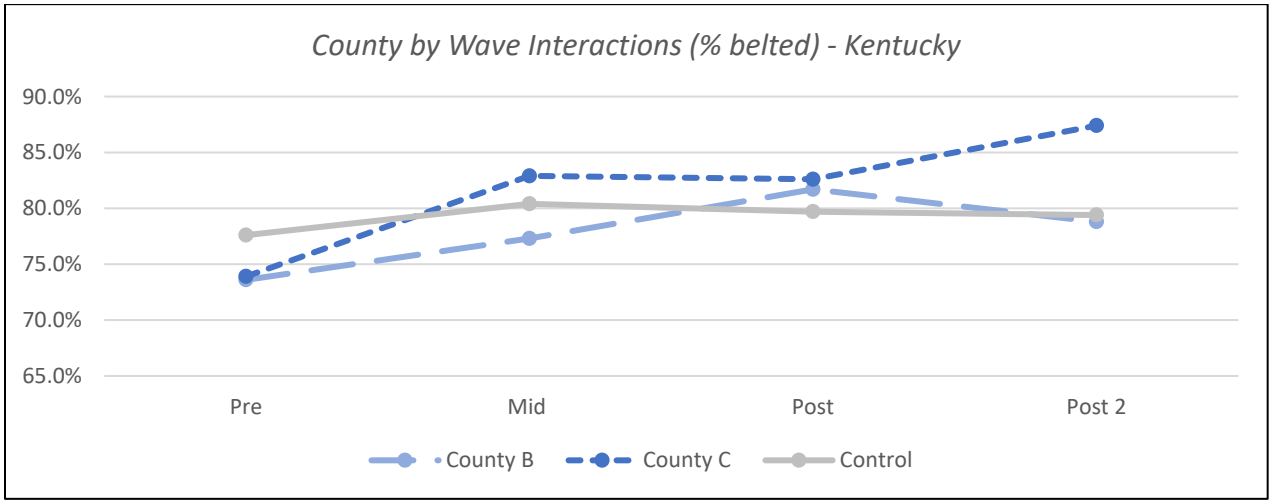

Figure 19. County by Wave Interactions (% belted) - Kentucky

Pre-Post 2 Analyses

Another round of SBOs was conducted 3 months after the intervention. This section will examine the change in seat belt use from pre to post 2 to assess any long-term (or delayed) impact of the program.

Overall, the program sites showed an increase in belt use from 77.9 to 86.5 percent (+.8.6 percentage points) between pre and post 2. The control site showed a small increase from 77.6 to 79.4 percent (+1.8 percentage point) in the same period. The binary logistic regression showed a significant Wave by Site interaction ($\chi^2(1) = 13.72$, $p<.0001$, 95% CI [0.47, 0.79]), suggesting the intervention had a lasting impact on seat belt use (i.e., belt use remained higher than the baseline 3 months after the intervention had concluded). Tables presenting binary logistic regressions conducted for Kentucky are found in Appendix 26.

Seat belt use in the program sites did not only remain high but kept improving post-intervention. Indeed, a chi-square analyses looking at the change in belt use from post to post 2 was significant ($\chi^2(1) = 19.68$, $p<.0001$). Looking at individual counties, 4 of the 5 program counties (Counties A, C, D, and E) kept improving from post to post 2. Chi-square analyses showed that 3 of those 4 increased significantly from post to post 2: County A ($\chi^2(1) = 14.85$, $p<.0001$). County C ($\chi^2(1) = 12.24$, $p<.001$), and County D ($\chi^2(1) = 10.63$, $p<.01$).

Summary and Conclusions

Research has long established the positive effect of seat belt laws and associated enforcement on seat belt use (Kirley et al., 2023). Knowing that enforcement of seat belt laws saves lives, the *High Five* program shows the potential for making a positive impact on traffic safety in rural America and creates a model for replication in other areas.

High Five is a program that introduces a data-driven multi-agency approach to increase seat belt use and improve problematic roadways using five rural counties at a time, hence the *High Five* appellation. The program emphasizes the three E's (enforcement, education, and engineering) of traffic safety and encourages local law enforcement agencies to collaborate with others to promote an increase in seat belt usage. *High Five* requires networking between State and county agencies as well as across various stakeholders at the State level. In addition to an increase in seat belt usage in participating counties, program administrators highlight the benefits the program brings including building new traffic safety partners and strengthening relationships between both State and local agencies.

Essential to *High Five* is the formation of a RTSAB that is tasked with using a data-driven approach to identify rural counties that could benefit from the safety-focused intervention. Data are also used to guide program development. The RTSAB develops program material using data that primarily highlights seat belt usage and crash problems on the State's rural roadways. The *High Five* program asks law enforcement officers to use discretion during traffic stops, but also requires them to distribute *High Five* educational cards at all roadside stops, no matter the violation.

The RTSAB stays in touch with each county team and members are available for technical support during program implementation. Grant funds of up to $10,000 were made available to participating CSOs in each *High Five* county and up to $50,000 was available to State police.

An additional signature feature of the *High Five* program is the engineering element. RSAs are conducted by multiagency teams to identify problematic road segments and address existing problems on rural roadways in *High Five* counties. The RSA provides recommendations for low-cost engineering solutions and suggestions for possible funding solutions.

The *High Five* demonstration programs implemented in Arkansas and Kentucky attempted to follow Iowa's *High Five* model that was first implemented in 2014. County teams comprised of CSOs and State police in both program States were not able to successfully coordinate and implement all the stated requirements established for the demonstration program, but strong efforts were reported. As is often the case in naturalistic implementations, some out of control factors can have an impact, no matter how well a program is planned, through no fault of the parties involved. Staffing changes, personnel shortages, and natural disasters are some of the elements that impeded efforts. Notably, staffing shortages among publicity and outreach and enforcement personnel were the most common reason provided by county teams for not being able to fully complete program requirements.

Selected counties in both States were able to sustain some level of seat-belt focused publicity and outreach and enforcement activities over the 12-month program period. Arkansas teams reported a total of 105 hours of publicity and outreach and 907 hours of enforcement over the program period. Kentucky reported 561 hours of publicity and outreach and 769 hours of enforcement. It should be noted however that they failed to reach the majority of program requirements.

RTSABs in both States were able to establish an RSA process that identified low-cost engineering solutions for problematic rural roadways in participating counties but the goal of completing at least one engineering solution identified in RSAs during the program period was not realized. RSA teams were unable to identify funding for the low-cost countermeasures suggested in the RSAs.

Program effectiveness was assessed using four waves of seat belt observation surveys conducted in each *High Five* counties, as well as in a comparable control county (untouched by implementation). Results were mixed. Arkansas did show a general increase in seat belt use from pre to post, albeit a non-significant increase, in the program counties. However, the control county showed a similar improvement, suggesting that any such increases in the program counties were not due to the program. Perhaps even more puzzling is the fact that the control county kept improving from immediate post-implementation to 3-month post implementation. The program counties showed a drop in belt use during the same period. Given some variations in meeting the requirements of the *High Five* program across the program areas, comparisons were also made based on individual counties. Only two of the five Arkansas counties showed a seat belt use increase from pre to post that was notably greater than the control county. Yet, that difference was not large enough to be statistically significant. Any improvement seen in the immediate post was not maintained in the 3-month post. Thus, overall, the results in Arkansas were not indicative of an impact of the program.

The results of the implementation of the *High Five* program in Kentucky showed greater signs of success. There was a non-significant Wave x Site interaction. The increase in belt use in the five program sites combined was larger than the one seen in the control site, but the difference was not quite large enough to reach significance (p=.07).[9] Comparisons based on individual counties showed that implementation was very successful in some counties. Counties B & C, specifically, showed a significantly larger increase from pre to post than did the control county, and it appears that the program had a lasting effect 3 months after its completion. Indeed, there was a significant Wave x Site interaction from pre to 3-months post (p<.0001). Seat belt use in the control county remained relatively flat whereas belt use in all program counties combined continued to increase at 3 months post program.

A review of program activity reveals notable differences in program implementation in each State. Kentucky teams reported a similar number of hours of enforcement (158 hours) as Arkansas (151 hours) but reported more days (+32 days) of *High Five* enforcement over the program period. Arkansas teams reported conducting enforcement using mainly saturation patrols and very few multi-jurisdictional enforcement projects over the course of the program period. Kentucky reported using a mix of checkpoints and saturation patrols for *High Five* enforcement projects and more instances of multi-jurisdictional efforts. In Arkansas, CSOs reported 73 percent of enforcement hours and in Kentucky, the KSP reported 60 percent of enforcement hours.

[9]Typically, 0.05 indicates a change that is likely caused by the intervention (i.e. not by chance). A non-significant effect of 0.07 could indicate that more observations may have led to a significant increase, but more data may just as easily result in lower significance levels. Indeed, one could argue that since the researchers predicted a direction of change (increase belt use in the program group) and that a one-tailed test (indicating a p< .04) could be used but one-tailed tests are not typically done despite the predicted direction.

There were also differences in the way program publicity and outreach were implemented. In Arkansas, the program kicked off with a large multiagency press event at the State police headquarters in the State capital of Little Rock. Kentucky held local kickoff events in each county with a multiagency presence. Reports from Arkansas teams indicate they were unable to present *High Five* to all high schools in the participating counties (a program requirement). Reports from Kentucky teams indicated they were able to fulfill this requirement and additionally presented *High Five* at some elementary schools.

A closer look at reported publicity and enforcement activity in the two Kentucky counties (Counties B and C) where a significant increase in belt use from pre to post occurred indicated there were more instances of multi-jurisdictional enforcement projects in the area. Although saturation patrols were reported, these counties also reported regular efforts of multi-jurisdictional checkpoints, a distinction only reported in those two counties. County C worked with KSP twice a month every month of the 12-month program period and used a combination of saturation patrols and checkpoints. Reports of enforcement activity show that KSP reported seven checkpoints in County D, but these were not multi-jurisdictional events. Other *High Five* counties in Kentucky and Arkansas reported mostly saturation patrols.

After reviewing the results and seeing only slim evidence of the program producing a change in seat belt use, the researchers visually examined (i.e. no statistical analyses were conducted) 5 years of seat belt and speeding citation data. The researchers felt that there was little difference between the number of citations issued during the *High Five* program and earlier years. Thus, it is unclear whether the involved LEAs fully implemented the program. Post program feedback from law enforcement indicate those who worked the program appreciated the discretion allowed and often elected to provide educational material in lieu of a citation. Graphs to illustrate the number of seat belt and speeding citations issued by CSOs and corresponding State police in Kentucky and Arkansas from 2018 through the end of the program period can be found in Appendix 27.[10]

At the State level, the composition of the RTSAB is likely to make a difference. There are many components to the *High Five* program and a well-rounded RTSAB needs to have all the bases covered (i.e., enforcement, education, engineering, evaluation). Enthusiastic law enforcement and members of a variety of State agencies can lead to a successful program.

Law enforcement partners at the State and county level are at the heart of a *High Five* program. Providing them with the structure and means to carry out the simple program model makes it a viable and attractive alternative to other enforcement centric program choices. Kentucky LELs successfully leveraged pre-existing relationships to improve program implementation. In future iterations of the program, local LELs can be utilized in a similar manner to encourage engagement among and participation by local and State law enforcement. We can also learn from the counties that struggled with implementation as there are valuable lessons to glean from their efforts to set up and administer a *High Five* program. Adequate staffing is key for planning sustained efforts, and *High Five* tries to remedy staffing problems by asking multi-agencies to collaborate. Some pre-planning between jurisdictions might help to sustain the monthly presence over the 12-month program.

[10]Complete historical citation data could not be obtained from AR. The data that could be collected has been organized, graphed, and included in Appendix 27.

The RSA process is another distinguishing characteristic of *High Five* that can make it attractive to participants. However, funding options should be considered to implement RSA recommendations. Arkansas and Kentucky RSA solutions were not implemented because funding could not be identified.

It is possible that a complete and full implementation of the *High Five* program may have had produced improvement in seat belt usage rates in rural counties. Iowa contacts explained the importance of an engaged RTSAB sharing program responsibilities is key for a successful program. Likewise, law enforcement liaisons who know rural law enforcement leaders are important to gather enforcement participants. Future complete implementations of the *High Five* program will tell us more about how the various elements contribute to any success in making our roadways safer.

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Appendix A: Iowa *High Five* Poster

Are YOU part of the Problem or part of the Solution?

Join with others in our cities and counties and be Part of the Solution

Everyone wants their friends and loved ones to return safe every day from school, work, day-care or wherever they may be. Together we can make safety a reality for everyone and can end needless tragedies on Iowa roads.

♦Buckle Up ♦ Drive Focused ♦ Don't Speed

Nearly every day someone loses their life in a crash on an Iowa road. Most crashes occur on rural roads and they usually involve only one vehicle. What is happening to cause such needless loss of life? We are driving too fast, not paying attention, not wearing our seat belts and we are paying a very high price for these actions.

The single most effective thing any of us can do to be safe in our cars is to wear a safety belt. Nearly all people ejected from a vehicle in any crash are killed. Yet every day, hundreds of Iowans are driving or riding with no protection at all. You might think it's the "other guy" out there who is not paying attention but that you are in control. How will you protect yourself from that other guy?

Make life a priority. Choose to be safe. Tell those you love that you want them to be safe too. It takes you, me and everyone to make a change. Together we can make Iowa a better and safer place to live work and enjoy.

Since April 1, 2014, the Marion County Sheriff's Office, the County Engineer and the Iowa State Patrol have been working to make our roads safer as part of the High 5 Rural Traffic Safety Project. The project is funded by the Iowa Governor's Traffic Safety Bureau and uses traffic data to target areas of the state with a high crash rate and low seat belt usage. The goal is to increase seat belt use and decrease crashes by improving roadways and changing driver behavior. Drivers need to take driving seriously. Buckle up, pay attention to the road, and slow down. Be part of the solution by being a safe driver.

zero Fatalities
A Goal We Can All Live With

MARION COUNTY SHERIFF

GTSB

IOWA STATE PATROL

high five rural traffic safety project

Appendix B: Action Plan Template for SHSO/RTSAB

High Five Rural Seat Belt Program Demonstration
[State] Highway Safety Office

ACTION PLAN

Date Revised:

Project Description

The purpose of this project is to implement and evaluate a 12-month *High Five* rural seat belt program modeled after the successful Iowa campaign of the same name. The purpose of [State]'s *High Five* Rural Traffic Safety Program is to increase seat belt use and reduce crashes in rural areas with a systemic multidisciplinary approach using law enforcement, education, and engineering. The project includes the development of a Rural Traffic Safety Advisory Board (RTSAB) that will include high level support from the SHSO, the Department of Transportation, and leading enforcement officials (State police and sheriff), among other key stakeholder groups. The RTSAB will use data to identify five rural counties in the State for participation in the program, help to recruit county participation, and assist county engineers (or someone similar) to identify low-cost engineering solutions to existing problems.

This program will include mini-grants of up to $10,000 to each of the five participating counties in the demonstration and up to $50,000 to State police. Mini-grant awardees will be primarily responsible for conducting a 12-month program implementation period and providing necessary project data. State police and local law enforcement agencies shall be responsible for monthly seat belt enforcement patrols, media and outreach, school presentations and tracking seat belt usage using observational surveys.

This action plan will be used to outline and describe expectations of all parties related to the planning and implementation of the program and will establish a timeline for each stage of the project.

This action plan will address the following.

- Rural Traffic Safety Advisory Board (RTSAB)
- *High Five* County Site Selection
- Publicity and Outreach
- Program Material
- Seat Belt Enforcement
- Seat Belt Observations
- Road Safety Assessments
- Data Needs for Program Evaluation
- Grant Funding

Rural Traffic Safety Advisory Board (RTSAB)

The RTSAB will include high level support from the SHSO, Department of Transportation, and law enforcement officials (State police and sheriffs), among other key stakeholder organizations. Expectations of the RTSAB are as follows.

- Provide data and analysis of State and local crash data for selection of *High Five* counties.
- Select and recruit counties to participate in the program.
- Appoint RTSAB members to travel to selected counties to assist with explaining local crash statistics and problem identification.
- Work with county engineers to plan and conduct road safety assessments.
- Assist with support acquisition from other traffic safety partners, as needed for a multi-agency approach.
- Support the program goals and objectives.
- Participate in scheduled meetings or as needed.
- Work with the project team to complete program elements as stated in this action plan.

DUE DATE: (RTSAB members will be established by this date)

Initial RTSAB meeting time and location:

SHSO/DOT/State police representative(s) for this task:

(name)

(contact info)

(name)

(contact info)

Proposed RTSAB members will lend their insight to help choose *High Five* counties, for planning program activities and evaluation, and will represent the RTSAB when speaking about the *High Five* program at meetings with *High Five* counties. Other, more specific, roles are listed in the following table.

2024/2025 Rural Traffic Safety Advisory Board Members

Name, Title, Organization	**Projected Role**
Name **Organization/Agency** Title Contact Information	

I. *High Five* County Site Selection

The RTSAB should use available crash and seat belt data to help identify *High Five* counties. RTSAB members should analyze data and lend their knowledge and insights regarding local county characteristics to select five viable counties to participate in the program. Data used for site selection will also be used on program material developed for this project.

EXAMPLE Data Needs for *High Five* County Site Selection:

CRASH DATA

2010-2020 annually by county (passenger vehicles only; exclude motorcycles)[11]

- Total number of passenger vehicle crashes
- Total number of injuries
- Total number of fatalities
- Total number of severe injuries

2016-2020 annually by county, restrained/unrestrained (passenger vehicles only; exclude motorcycles)

- Total number of fatalities (K)
- Total number of severe injuries (A)
- Total number of minor injuries (B, C)
- Passenger vehicle injuries and fatalities by age, day of week, time of day, road type[12]

NOTE: Iowa reported that their crash data contained animal-related crashes, and it accounted for a significant number of crashes in rural counties because of car/deer collisions. They suggested the overall impact of animal-related collisions be considered during data analysis since many of the crashes could be minor property-damage-only crashes.

DUE DATE: Data needed to select *High Five* counties is due by (date)

SHSO/DOT/State police representative(s) for this task:

(name)

(contact info)

(name)

(contact info)

[11] Monthly for *High Five* counties (once selected)
[12] Grouping ages (e.g., <2, 2-6, 7-15) and time of day is acceptable

2025 *High Five* Counties

County/Count Seat	2020 Population	Sheriff	KSP Troop	Notes

NOTES:

DUE DATE: *High Five* counties will be established by (date)

SHSO/DOT/State police representative(s) for this task:

(name)

(contact info)

(name)

(contact info)

II. Program Publicity and Outreach

Iowa's program incorporated five required media outreach events across the program period per county, and at least one visit to each high school in the county. Below are publicity and outreach events that were conducted for the Iowa *High Five* program:

- Kickoff event
    - Invite media (TV, print, radio).
    - Attempt to get coverage during prime time local news broadcasts statewide.
    - Conduct a statewide kickoff event and one in each participating county.
- Social media
    - Stakeholders posted information about the *High Five* project, importance of wearing a seat belt, rural traffic safety, etc. on Facebook, and/or other appropriate social media platforms.
- Letters to the editor
    - State Patrol Safety Education Officers wrote letters to the editor of local papers reinforcing seat belt usage and the involvement of the county in the project and why additional enforcement would be seen.
- Presentations at schools
    - State Patrol Educational Officers participated in assemblies at each high school to talk about seat belts, rural traffic safety, and why the *High Five* program was going on in their county.
- Other
    - State police troopers ate lunch at popular local establishments and spoke with county residents about why the program was going on in their county.
    - Iowa had an idea of making tent cards to be placed on the tables at popular local restaurants.
    - RTSAB members, law enforcement, and stakeholders are encouraged to share ideas and suggestions for publicity and outreach activities.

DUE DATE: Media Outreach Events will be established by (date)

SHSO/DOT/State police representative(s) for this task:

(name)

(contact info)

(name)

(contact info)

III. Program Material

Program material will include State-specific data and graphics and county-specific graphics. The county sheriff's office and State police will largely be responsible for disseminating material. State program material will be developed prior to the implementation phase of the project and distributed throughout the program period.

At minimum, the SHSO will develop the following material for the program.

- Two-sided 4½" x 9½" educational card/handout
    - Use State-specific data (not county-specific) to allow for use in all *High Five* counties.
    - For use by enforcement officers to provide information to motorists
    - To be distributed at various locations in *High Five* counties including at roadside stops for traffic violations
- Poster
    - Personalized for each county using logo of participating CSOs
    - To be distributed and displayed in public areas in the *High Five* counties

The following statewide data is needed to help develop project material.

- State's national ranking for miles of public roadways
- Number of miles of secondary rural roadways (include percentage of total miles)
- Percentage of fatal crashes on secondary rural roads
- Percentage of unbelted fatal crashes on secondary rural roads
- Statewide seat belt use rate
- Number of rural fatalities per 100 million VMT (over the last 5 years)

Other questions to be answered:

- Do rural counties/communities in the State have smaller budgets and manpower for law enforcement and engineering type projects?
- Is there a statewide seat belt awareness survey that can be used to indicate the percentage of people who report wearing/not wearing a seat belt?

DUE DATES: Develop program material (date)

Printing of material (date)

SHSO/DOT/State police representative(s) for this task:

(name)

(contact info)

(name)

(contact info)

IV. Seat Belt Enforcement

- Deploy data-driven high-visibility seat belt enforcement using overtime.
- At least two multi-jurisdictional enforcement projects per month across the program period (24 HVEs).
- Employ a safe-communities approach to show that law enforcement is enforcing compliance with the seat belt law to keep the community safe.
- Each *High Five* county, with assistance of State patrol, can determine the tactical approach to conduct enforcement and special projects.
- Seat belt citations and/or warnings should be issued to violators depending on local policy and officer discretion.
- According to Iowa, participating law enforcement handed out educational cards during traffic stops – all types, not just seat belt violations – and any other appropriate times while discussing the disproportionate number of unbelted fatalities on rural roads.
- Participating LEAs (local and State police) will submit monthly Enforcement Activity Reports.

In Iowa, crash data was used to develop a data-driven approach to HVEs. Historical crash data (the last 5 years) was analyzed to identify problematic areas and times for unrestrained crashes.

- Location of crashes (pinpointed on a map)
- # of crashes by time of day
- # of crashes by day of week
- # of fatally and severely injured individuals
- Ages of fatally and severely injured individuals
- Road class where fatal and severe injury crashes occurred

DUE DATE:

SHSO/DOT/State police representative(s) for this task:

(name)

(contact info)

(name)

(contact info)

V. Seat Belt Observations

- In Iowa, observations were used to evaluate the program and provide insight about the seat belt problem in the county.
- In each of the *High Five* counties, local observers will conduct three observational seat belt surveys: baseline, mid, and post.
- Baseline observations should be completed at a time where *Click It or Ticket* or other grant programs do not interfere with results (after May 1, 2022).
- Local observers will be approved by local law enforcement and the RTSAB.
- Survey sites will be identified, and observation training will be completed as part of the informational meetings held in each of the *High Five* counties.
- The RTSAB will provide hands-on seat belt observation training and written instructions/protocol to local observers.
- In Iowa, the RTSAB created a pin map of crash data to help identify survey sites.
- Expectations for seat belt observations will be outlined in the county action plan.

Data needs for survey site selection:

- Locations of high crash areas in the county

DUE DATE:

SHSO/DOT/State police representative(s) for this task:

(name)

(contact info)

(name)

(contact info)

VI. Road Safety Assessments

- The purpose of road safety assessments (RSAs) is to identify low-cost engineering solutions in each *High Five* county.
- The RTSAB will work with local or regional engineers (or someone with similar job duties) to plan RSAs in each of the *High Five* counties.
- Funds from this project shall not be used to complete improvements identified in the assessments.
- The RTSAB will explore alternate funding options through Federal or State resources and help counties identify possible funding to implement engineering solutions.
- Ideally, at least one engineering improvement identified in the assessments should be implemented in each participating county before program implementation period ends.
- In Iowa, an RSA team was formed that included representatives from the RTSAB.

County	Assessment Date	Report Completed Yes/No	Name/Date of Person Who Reviewed RSA Report With County	Name/Contact Info for County Representative	Notes

DUE DATE:

SHSO/DOT/State police representative(s) for this task:

(name)

(contact info)

(name)

(contact info)

VII. Data Needs For Program Evaluation

The RTSAB should develop a process for participating law enforcement to submit monthly activity reports for enforcement and publicity efforts. Respective forms for reporting activity should be developed and provided as well.

Data needs from participating law enforcement:

- Participating agencies submit monthly **Enforcement Activity Summary** form
- Participating agencies submit monthly **Publicity Activity Summary** form

DUE DATE:

SHSO/DOT/State police representative(s) for this task:

(name)

(contact info)

VIII. Grant Funding

- SHSO will reimburse State police an amount up to $50,000 for overtime seat belt enforcement in each participating county ($10,000 per county x 5 counties = $50,000). SHSO will reimburse a participating county for additional enforcement, production of program material, and any other direct costs spent in implementation of this program.
- All requests for grant funds will be pre-approved by SHSO.
- After the program, any physical resources obtained for this project may be retained by the participating CSO as property and can continue to be used in traffic safety operations and for occupant protection programs.
    - Grant funds can be used to pay for:
        - Hours put into program management and coordination (e.g., planning, training, and conducting local seat belt observations; planning and conducting outreach activities; completing enforcement/publicity activity summary reports);
        - Overtime enforcement hours for this program;
        - Equipment purchases (per NHTSA's approval);
        - Development of program material (e.g., printing posters or handouts); and
        - Expert help (per RTSAB's approval).
    - Reimbursements will be made within __ calendar days from the day the invoice is received.
    - Mail or email invoices to:

SHSO/DOT/State police representative(s):

(name)

(contact info)

HIGH FIVE PROGRAM TIMELINE		
Task	**Estimated Completion Date**	**Involved Parties**
Confirm participation		SHSO
Finalize MOU		SHSO
Assemble Rural Traffic Safety Advisory Board (RTSAB)		SHSO/DOT/SP
Analyze and review data for county selection		RTSAB
Finalize selection of *High Five* counties		RTSAB
Informational meetings with *High Five* counties		RTSAB/SO/SP/RSA Team
Seat belt observation training		RTSAB/CSO
Seat belt observations (pre)		RTSAB/CSO
Implementation Period		
Complete road safety assessments		RTSAB/CSO/RSA Team
Plan engineering solutions		RTSAB/CSO/RSA Team
Implement engineering solutions		RTSAB/CSO/RSA Team
Conduct enforcement	Monthly	SP/CSO
Conduct publicity and outreach	Monthly	SP/CSO
Report enforcement activity summary	Monthly	SP/CSO
Seat belt observations (mid)		RTSAB/CSO
Seat belt observations (post)		RTSAB/CSO
Last day to submit reimbursements		SP/SO
Post program review / gather feedback		RTSAB/ASP/SO/RSA Team

SHSO = State Highway Safety Office
DOT = Department of Transportation
SP = State police
CSO = County sheriff's office

Appendix C: Action Plan Template for Participating CSOs

High Five Rural Seat Belt Program Demonstration

COUNTY ACTION PLAN

[County Name, State]

Project Description

The purpose of this project is to implement and evaluate a 12-month *High Five* rural seat belt program modeled after the successful Iowa campaign of the same name. The purpose of the *High Five* Rural Traffic Safety Program is to increase seat belt use and reduce crashes in rural areas with a systemic multidisciplinary approach using "the three E's": enforcement, education, and engineering.

This program will include mini-grants of up to $10,000 to each of the five participating counties in the demonstration and up to $50,000 to State police. Mini-grant awardees will be primarily responsible for conducting a 12-month program implementation period and providing necessary project data. State police and county sheriff's offices (CSOs) shall be responsible for monthly seat belt enforcement patrols, media and outreach, school presentations and tracking seat belt usage using observational surveys.

RTSAB/DOT will work with CSOs and county judges/road departments to identify low-cost engineering solutions to existing problems.

The RTSAB and each of the *High Five* counties will follow this action plan developed and approved by both organizations. It will be used to outline and describe expectations of involved organizations related to the planning and implementation of the program and will define a timeline for each stage of the project.

This action plan will address the following.

- Program Publicity and Outreach
- Program Material
- Seat Belt Enforcement
- Seat Belt Observations
- Road Safety Assessments
- Data Needs for Program Evaluation
- Grant Funding

The RTSAB is a group of traffic safety professionals from different organizations within the State. The RTSAB will assist agencies with program planning and will provide support during the implementation period.

2024/2025 RTSAB Members

Name, Title, Organization	Projected Role
Name **Organization/Agency** Title Contact Information	

Program Publicity and Outreach

Iowa's program required five media outreach events per county throughout the implementation period and at least one visit to each high school in the county. Distribution of educational cards and posters was also required. The *High Five* program in [State] will require the same. Listed below are the requirements for publicity and outreach activities, as well as examples that will satisfy the requirement of "five media outreach events." State police and CSOs will work together to plan multijurisdictional events to show collaboration between the two agencies. The RTSAB will provide publicity activity summary forms to collect information about frequency and type of publicity and outreach events. These forms will be submitted to the RTSAB monthly.

Required Events/Activities

- **Kickoff event – DATE:**
    - Invite media (TV, print, radio).
    - Attempt to get coverage during prime time local news broadcasts statewide.
    - Ideally State police, CSO, and county judge will be present at the event to demonstrate multidisciplinary effort.
    - The kickoff event counts as one of the five required events.
- **Social media**
    - State police and CSO will come up with ideas for social media posts related to seat belt use and that refer to the *High Five* program. Posts should reflect local culture and/or trends in the area.
    - Two social media posts per month will be required.
    - Posts can be made by either State police or the CSO, partnering agencies should "like" and share each other's posts.
- **Presentation at high schools**
    - State Patrol Educational Officers and Sheriff's deputies will participate in an assembly at each high school to talk about seat belts and rural traffic safety, and why the *High Five* program is going on in the county.
- **Roadside distribution of educational cards**
    - State police and CSOs will distribute educational cards when citations are issued. This pertains to any violation–not just seat belts.
- **Poster distribution**
    - Posters will be hung in public areas by State police and CSOs.

The required local kickoff event will satisfy one of the five required events. Participating CSO and respective State patrol troops will work together to plan at least four other publicity and outreach events to satisfy program requirements. Examples of activities that can be implemented are provided below. CSO and State police are encouraged to come up with their own ideas for publicity and outreach that reflect the culture and trends of the county. Any planned events and

activities for the *High Five* program should be approved by the RTSAB prior to implementation and reported in the publicity summary form provided.

- Letters to the editor
    - In Iowa, State Patrol Safety Education Officers and sheriffs wrote letters to the editors of local papers, reinforcing seat belt usage and explaining the involvement of the county in the project and additional enforcement. Local law enforcement could send letters to the editors of newspapers in the county. RTSAB can provide a sample or template of a letter.
- Tent cards at local eating establishments
    - Iowa had the idea of making tent cards to be placed on the tables at popular local restaurants. SHSO will design the card to mimic other program material–-using the same branding and statistics. SHSO will print the cards.
- Flyer distribution
    - Contact elementary schools and arrange for flyers to go out in school backpacks or be distributed at organized school meetings. SHSO will print, or local counties will print using grant funds.
    - Work with local utility company to insert flyers in bills that go out to county residents.
- Local poster competition
    - Schools or local businesses can hold a poster or essay contest that focuses on the *High Five* rural seat belt program. A poster competition could have students come up with a unique slogan and poster design for their county that encourages seat belt use. Local businesses could donate a prize, or the winner could be recognized at an assembly. The winning entries could be made into a banner and displayed at the school. (Cost for production of banner would come out of county grant funds.) Example essay themes for competition include "Why I Wear My Seat Belt", "Who Should Buckle Up?" or "The Importance of Wearing a Seat Belt."
- Multijurisdictional activities
    - In Iowa, State patrol and sheriff's deputies visited popular local establishments together and spoke informally with county residents about the program, shared information about local crash rates with patrons and why the program was going on in their county.
- Distribution of educational cards at local events
    - State police and CSOs can set up a booth at a local event and distribute cards. Engage attendees in conversation that focuses on the program, share local data and information about rural crashes and why the program is being implemented in the county.

PLANS FOR REQUIRED PUBLICITY & OUTREACH EVENTS

*Event 1: Kickoff Date(s):

Event Description:

*Event 2: _____ Date(s):

Event Description:

*Event 3: _____ Date(s):

Event Description:

*Event 4: _____ Date(s):

Event Description:

_____

*Event 5: _____ Date(s):

Event Description:

_____

Event 6 (optional): _____ Date(s):

Event Description:

*Program Requirement

The following material will be provided by SHSO.

- Two-sided 4½" x 9½" educational card/handout
  - Includes State-specific data (not county-specific) to allow for use in all *High Five* counties
  - For use by enforcement officers to provide information to motorists
  - To be distributed at various locations in *High Five* counties including at roadside stops for traffic violations
- Poster
  - Personalized for each county using CSO logo
  - Content will include *High Five* logo and information about the program, including county crash data stats.
  - To be distributed and displayed in public areas in the *High Five* counties

- Flyers
    - Educational card printed on one side of 8½" x 11" paper
    - Can be distributed (e.g., at schools and gas stations) and mailed out (e.g., with utility bills)

HOW MANY HIGH SCHOOLS ARE IN THE COUNTY? _____

Details about distribution of program material (i.e., how many, where, when, and how often) should be reported to the RTSAB using the publicity summary form provided.

CSO contact:

State police contact:

RTSAB contact:

IX. Seat Belt Enforcement

Seat belt enforcement is critical to this program. State police and participating CSOs will work together to determine the tactical approach to conduct enforcement and special projects. In Iowa, saturation-type patrols were primarily used. County sheriffs and State police should coordinate their efforts and use crash data to plan deployment in problematic areas during problematic times (see DOT map provided). Specific requirements and specifications for the *High Five* rural seat belt program are listed below.

- Conduct at least two multi-jurisdictional enforcement projects per month across the implementation period. (12-month program period = 24 HVEs)
- Employ a safe communities approach to show that law enforcement is enforcing compliance with the seat belt law to keep the community safe.

- Each *High Five* county, with assistance of State police, can determine the tactical approach to conduct enforcement and special projects.
- Seat belt citations and/or warnings should be issued to violators depending on local policy and officer discretion.
- Participating law enforcement should hand out educational cards during traffic stops (all stops—not just seat belt violations) and at any other appropriate times while discussing the disproportionate number of unbelted fatalities on rural roads.
- Participating law enforcement agencies (local and State police) will report enforcement activity to the RTSAB each month using the enforcement activity summary form provided.

Planned enforcement dates:

CSO contact:

State police contact:

RTSAB contact:

Seat Belt Observations

In Iowa, local enforcement agencies conducted observations of seat belt use throughout the program period. Results were used to provide insight about the seat belt problem in the county and evaluate program efforts.

- In each of the *High Five* counties, local observers will conduct three observational seat belt surveys: baseline, mid, and post.
- **Baseline observations should be completed before [date].**
- Local observers will be appointed by the CSO.
- RTSAB will train local observers to conduct the seat belt observations using a methodological approach; RTSAB will provide hands-on training and written instructions/protocol to local observers.
- RTSAB will work with counties to identify three to four survey sites where enough traffic passes to collect a sufficient sample size.
- The initial three to four observation sites should remain the same throughout the duration of the program.
- CSOs can compute their own results and submit use rates to the RTSAB; a form will be provided during the seat belt observation training session.

Baseline Survey Date:

Mid Survey Date:

Post Survey Date:

Observation site locations (provide day of week observations occurred for each location as well as time of day and direction of traffic observed):

Site 1:

Site 2:

Site 3:

Site 4:

CSO contact:

State police contact:

RTSAB contact:

X. Road Safety Assessment

The road safety assessment (RSA) is an essential element of the *High Five* program. The goal of the RSA is to identify low-cost engineering solutions in each *High Five* county and to provide counties with possible funding sources to implement the solutions.

- The RTSAB and [name of other organizations involved, if any] will work with the CSO and county judge/county engineer to form an RSA team.
- The RSA team will collaborate with the RTSAB to plan and implement road safety assessments in the county and identify low-cost engineering solutions.
- The RTSAB and RSA teams will explore alternate funding options through Federal or State resources to help identify possible funding to implement engineering solutions identified in the RSAs.
- Funds from this project shall not be used to complete improvements identified in the RSAs.
- Ideally, at least one engineering improvement identified in the RSAs should be implemented before the program implementation period ends.

RSA Team Members:

DUE DATE: Road safety assessments will be completed by: [date]

CSO contact:

RTSAB contact:

XI. Activity Reporting / Data Needs For Program Evaluation

The RTSAB requests the following information from participating CSOs and State police. Completed activity forms are due monthly. The RTSAB will provide the activity summary forms.

- Participating agencies submit monthly **enforcement activity summary** form*
- Participating agencies submit monthly **publicity activity summary** form*

CSO contact:

State police contact:

RTSAB contact:

XII. Grant Funding

- **SHSO** will reimburse the CSO up to $10,000 for seat belt enforcement hours and other approved program costs.
- All requests for grant funds will be pre-approved by the SHSO**.**
- After the program, any physical resources obtained for this project may be retained by the participating CSO as property and can continue to be used in traffic safety operations and for occupant protection programs.
- Grant funds can be used to pay for:
    - Hours put into program management and coordination (e.g., planning, training, and conducting local seat belt observations; planning and conducting outreach activities; completing enforcement/publicity activity summary reports);
    - Seat belt enforcement hours for this program; and
    - Equipment purchased to conduct this program (per SHSO approval).
- Mail or email invoices to:

CSO contact:

State police contact:

RTSAB contact:

HIGH FIVE TIMELINE		
Task	**Estimated Completion Date**	**Involved Parties**
Introductory meeting with *High Five* counties		RTSAB/CSO/SP/ Team
Seat belt observation training		RTSAB/CSO
Seat belt observations (pre)		RTSAB/CSO
Implementation Period		
Complete road safety assessment		RTSAB/CSO/RSA Team
Plan engineering solutions		RTSAB/CSO/RSA Team
Implement engineering solutions		RTSAB/CSO/RSA Team
Conduct two multi-jurisdictional enforcement details	Monthly	SP/CSO
Conduct publicity and outreach	Ongoing	RTSAB/SP/CSO
Report enforcement and publicity activity	Monthly	SP/CSO
Seat belt observations (mid)		RTSAB/CSO
Seat belt observations (post)		RTSAB/CSO
Last day to submit reimbursements		RTSAB/SP/CSO
Exit interviews		RTSAB/SP/CSO

SP = State police
CSO = County sheriff's office

Appendix D: *High Five* Publicity and Outreach Activity Report Form

Publicity & Outreach Activity Summary
High Five Rural Demonstration

Reporting agency: _____ Today's date: _____

Information reflects publicity/outreach for the month of: _____

Total # project management hours: _____

Total # officers participating in publicity: _____

Rank of officer(s) who participated in publicity/outreach events: _____

- **Please provide the total number of publicity events that occurred for this program**:

Press release: _____ PSA: _____ Printed story: _____ TV news story: _____
Press conference/News briefing: _____ Other (describe): _____

- **Please provide the name of any media outlets that aired a story/article related to this program:**_____

- **Please indicate the type of content contained in messaging (check all that apply):**

☐ Enforcement-centered ☐ Seat belt observation results ☐ Health-related data
☐ Economic/societal costs ☐ Other (describe) _____

Project Management/Publicity/Outreach Activity Summary

The items below relate to *all* publicity and outreach used for this seat belt demonstration program (i.e., enforcement, educational, general program messaging).

- Indicate type(s) of social media used (check all that apply):

□ X □ Instagram □ Snapchat □ Facebook □ Agency website
□ Other (describe) _____
Please provide applicable X handle(s), hashtags, Facebook page, website URLs,

etc.:_____

- Indicate types of signage used (check all that apply):

□ Roadside signs □ Posters □ Electronic message boards □ Memes
□ Other (describe) _____
Approximate location of signs: _____

Brief description of message: _____

- Describe any community outreach efforts (e.g., speaking engagements, attending community events, handing out flyers) in which your agency or community partners participated for this program.

- Please provide the names of partnering agencies or community partners who may have helped with publicity or outreach efforts this month.

- Please provide and describe any costs associated with the development and distribution of any earned media this month.

Appendix E: *High Five* Enforcement Activity Report Form

Arkansas State Police Highway Safety Office
High Five Daily Worksheet

Agency: Officer:

Date: Start Time: Stop Time: Hours Worked:

Officer Signature:

Supervisor Signature:

Vehicle Stop Information

1				
2				
3				
4				
5				
6				
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30				

Seat Belt Citations	
Seat Belt Warnings	
Child Restraint Citations	
Speed Citations	
Speed Warnings	
Distracted Driving Citations	
Distracted Driving Warnings	
DWI - Alcohol &/or Drugs	
Other Traffic Stop	
Hours Worked	

If participating in Checkpoint: ☐

Revised 05/11/2022

Appendix F: Observational Seat Belt Survey Instructions for CSOs

Safety Belt Observation Instructions

- Qualifying vehicles include:
    - passenger automobiles,
    - pickup trucks,
    - SUVs, and
    - vans (private, public, and commercial).
- Pickup trucks should be coded as "trucks." Jeeps, Broncos, Blazers, and other vehicles of that type should be coded as SUVs. Eligible vehicles should be observed regardless of the State in which they are registered.
- Belt use will be observed for drivers only.

The following procedures will be used in conducting observations of seat belt use:

- For best visibility, observe standing on the side of the road (and not from your vehicle). Choose a safe location that does not impede the flow of traffic and provides you a good vantage point to see inside vehicles as they pass by.
- As you observe a qualifying vehicle, record the type of vehicle (car, truck, SUV, van) and shoulder restraint use (yes or no) of the driver.
- Make sure you observe ***various*** vantage points as part of confirming driver usage or non-usage as vehicles approach:
    - from the front windshield as they move toward you
    - from the side windows when they are in front of you
    - as they pass (look for the belt strap coming across the neck/shoulder area)
- If the person is using the shoulder belt improperly, e.g., has the shoulder strap under his/her arm or behind the back, this should be recorded as **not restrained.**
- If you notice a lap belt in use without a shoulder belt, it should be recorded as **not restrained**. Only shoulder belts are to be counted. Even if the vehicle likely has no shoulder belts, code the occupant(s) as **not restrained**.
- If you are observing a multi-lane roadway, if traffic is light enough and you can see well, observe traffic in all lanes. If traffic is too heavy to observe every vehicle, you should determine a reference point (e.g., a sign) up the road for the appropriate lane(s). Observe the next vehicle to pass the reference point after the last vehicle has been recorded.
- If you are observing at a stop light, wait for cars to collect during a red light. Then skip the first car and walk along the line of cars, recording driver belt use as you go. When the light turns green and traffic resumes, walk back towards the light and begin again with the next cycle.

Appendix G: *High Five* Poster - Arkansas

high five

rural traffic safety project

High Five is an ongoing statewide Rural Traffic Safety Project that is designed to increase seat belt use and make rural roads safer. **Fulton County** was selected to participate in this year's program due to a higher proportion of serious injury crashes compared to other Arkansas counties.

The 3 E's of High Five: Engineering, Education and Enforcement

Engineering – Identify unsafe road segments in Fulton County and work to find low-cost solutions

Education – Teach the community seat belt safety facts

Enforcement – Enforce seat belt use among Fulton County residents

The goal of the High Five Program is to draw public attention to the tragedies caused by traffic crashes and to emphasize that the safest way to travel on Fulton County roadways is with your seat belt buckled.

The Arkansas High Five Program is sponsored by the Arkansas State Police, the Arkansas Highway Safety Office and the Arkansas Department of Transportation.

Appendix H: Program Material Developed for Arkansas *High Five*

Program Material Developed for Arkansas High Five Demonstration	
Material	**Notes**
Logo	Recreated Iowa's logo in multiple formats and sizes. Each participating sheriff's office was provided with electronic versions of the logo and encouraged to use it on material created by the CSO (e.g., social media posts).
Two-sided educational card (9½" x 4½")	Each CSO and ASP was initially given 2,000 cards to distribute except White County received 4,000 cards since its population is much larger than the other counties. Two counties requested additional quantities. Most counties had cards left after the implementation period concluded.
Poster	Posters created for each county included the county's name in the text. CSOs were provided with 25 posters; White County received 50 posters.
Flyer	Created to promote a prize giveaway and encourage people to buckle up. The use of the flyer was an optional special event. CSOs were responsible for planning, promoting, and implementing prize giveaway.
Social Media Posts	Readymade *High Five* social media posts were provided to CSOs and training, if needed, to create and post information on the agency's Facebook page. Some CSOs opted to create their own social media posts.
News Release & Media Advisory	News releases and media advisories were provided to CSOs to distribute to local media to announce the program and advise of scheduled events.
Banners	A step-and-repeat banner and podium banner were created and used at the kickoff event held at ASP Headquarters. The banners were available to CSOs upon request for use at local events.

Appendix I: Material Reviewed With CSOs at Informational Meetings in Arkansas

High Five Rural Seat Belt Program

What is the *High Five* rural seat belt program?

The original *High Five* program was developed and piloted in Iowa in 2014 to increase seat belt use and reduce crashes in rural areas. Promising findings from the Iowa pilot, along with the rural traffic safety problem in the United States, motivated the National Highway Traffic Safety Administration (NHTSA) to demonstrate the *High Five* program. This demonstration project will implement and evaluate the Rural *High Five* program as conducted in Iowa in two States to provide evidence for its continued use across the country.

The *High Five* program is unique in that it employs the "three E's": education, enforcement, and engineering. Local, county and State agencies will partner to use a data-driven, multidisciplinary approach to increase seat belt use and reduce serious injury and fatal crashes on rural roads. Evaluation (the "fourth E") is also an important program element.

Who is involved in the program?

Traffic safety professionals from Arkansas State Police (ASP), Arkansas Department of Transportation (ARDOT), Arkansas Highway Safety Office (AHSO), Federal Highway Administration (FHWA), University of Arkansas, and Cross County Sheriff's Office have formed a Rural Traffic Safety Advisory Board to plan and implement the program.

Where in Arkansas will the program be focused?

The Rural Traffic Safety Advisory Board will analyze State crash data to identify counties with the lowest seat belt usage and highest crash rates. Five counties will be selected to participate in the *High Five* program.

Why was Calhoun County, Arkansas, chosen as a *High Five* County?

Five years of crash data revealed Calhoun County had one of the highest rates of injuries in the State. ARDOT 2016-2020 passenger vehicle crash data showed Calhoun County's rate of injury (including severe and fatal injuries) per 100 population was 2.81, the fourth highest of all Arkansas counties classified as "completely rural."

What is required of the Calhoun County Sheriff's Office?

- Work with ASP to plan and conduct outreach events in the community (Education)
- Conduct at least two (2) multi-jurisdictional enforcement projects per month using a safe-communities approach (Enforcement)
- Participate in a local road safety audit to identify problematic or unsafe road segments/intersections or high crash areas and relevant low-cost engineering solutions (Engineering)
- Conduct three observational seat belt surveys: pre-program, mid-program, and post-program; training will be provided by PRG (Evaluation)
- Complete enforcement and outreach activity summary forms (Evaluation)

What else do I need to know?

- CCSO will receive up to $10,000 for enforcement (overtime or straight time), program management or equipment/supplies
- 12-month program period
- CCSO, with assistance of State police, can determine tactical approach and special projects. (In Iowa, the county sheriff and State patrol coordinated efforts and conducted primarily saturation-type patrols.)

Appendix J: Arkansas Kickoff – News Release and Local Media Advisory

FOR IMMEDIATE RELEASE
June 22, 2022

High Five initiative aims to make roads in rural Arkansas counties safer through education and awareness

LITTLE ROCK, Ark. (June 22, 2022) – Today marks the launch of the *High Five* Rural Traffic Safety Project (*High Five*), a 12-month public safety initiative aimed at increasing seat belt use and decreasing overall serious crashes in five participating rural Arkansas counties: Calhoun County, Cross County, Fulton County, Monroe County, and White County.

Conducted in partnership between the National Highway Traffic Safety Administration, Arkansas Highway Safety Office, Arkansas Department of Transportation, and Arkansas State Police, *High Five* has a local focus and functions through the local sheriff's offices in each of the five participating counties.

The initiative has three primary focus points aimed at encouraging residents of the *High Five* counties to buckle up: education, enforcement, and engineering.

The education and enforcement aspects of the *High Five* initiative will be spearheaded by local Sheriff's offices in the five participating counties. Each traffic stop will serve as an opportunity for officers to present residents with information on the crucial role of seat belt compliance in improving roadway safety. Representatives of local departments will also conduct *High Five* presentations at local high schools and maintain an active presence on social media.

"Nobody enjoys being pulled over by a law enforcement officer. But throughout the *High Five* initiative, every traffic stop will be an opportunity for law enforcement to educate and interact with members of their communities – including through the distribution of informational materials," said Colonel Bill Bryant, Director of the Arkansas State Police.

ARDOT will work with the local Sheriff's offices to identify problem road segments and conduct road safety audits. ARDOT will then recommend low-cost engineering options to improve the safety of roadways in the counties. The Federal Highway Administration will help identify possible funding sources to help the counties to implement ARDOT's recommendations.

The Arkansas *High Five* initiative is based on a previous *High Five* initiative conducted in Iowa from April 2014 to April 2015.

#

Media Contact:

[Link to Media Kit]: Contains graphics (for digital, print, and broadcast use), logos, and additional promotional pieces (flyers and posters).

MEDIA ADVISORY
June 15, 2022
Media Contact:
Daniel Foster
dfoster@calhouncountyar.com

ARKANSAS *HIGH FIVE* RURAL TRAFFIC SAFETY PROGRAM TO LAUNCH JUNE 22 IN LITTLE ROCK

LITTLE ROCK, Ark. (June 15, 2022) – A news conference announcing the launch of the *High Five* Rural Traffic Safety Project (*High Five*) will be held 10 a.m. on Wednesday, June 22, at the Arkansas State Police Headquarters. The 12-month public safety initiative, successfully piloted in Iowa, will aim to increase seat belt use, and decrease overall serious crashes in five participating rural Arkansas counties.

What: *High Five* Rural Traffic Safety Project launch news conference

Who:

- Susan DeCourcy – Regional Administrator (Region 7) of the National Highway Traffic Safety Administration
- Lorie Tudor – Director of the Arkansas Department of Transportation
- Col. Bill Bryant – Director of the Arkansas State Police

When: Wednesday, June 22, 2022

- Meet-and-Greet at 9 a.m. (coffee and light refreshments provided)
- Press Conference at 10 a.m.

Where: Arkansas State Police Headquarters – 1 State Police Plaza Dr., Little Rock, AR 72209

Appendix K: Arkansas Road Safety Audit Report


FAIRVIEW ROAD
INSTALL
W1-2L
36"X36"
500'
SPEED LIMIT
35
CONSIDER INSTALLING
ADDITIONAL SPEED LIMIT
SIGNS SPACED APPROPRIATELY
ALONG ENTIRE ROUTE
NO SHOULDER
W8-23
36"X36"
CONSIDER INSTALLING
W8-23 SIGN ALONG
COUNTY ROAD
ALBION ROAD
Albion Rd
ALBION ROAD
Albion Rd
REPLACE EXISTING
SPEED LIMIT SIGNS
WITH
R2-1
24"X30"
INSTALL
W1-2R
36"X36"
500'
Fairview Rd
FAIRVIEW ROAD
Fairview Rd
NOTES: PAVEMENT ROUGH / PATCHES
REPAINT CENTER LINE
PAINT EDGE LINES
NO SHOULDERS
NARROW TRAVEL LANES
SHOULDER DROP OFFS
REPAINT PATCHED AREAS
MARK CURVES WITH SIGNS, MOST NOT MARKED
REMOVE PASSING ZONES
ROAD IS HILLY AND CURVY
DRAWING NOT TO SCALE
WHITE COUNTY
35 20'19"N
91 44'52"W


HWY 31
Lake Barnett
30 MPH
INSTALL
W1-1R
36"X36"
W13-1
24"X24"
REMOVE
HOWARD LANE
STRAIGHTEN
LAKE BARNETT
Bayou Des Arc
MOVE UP 25'
SHOULD SPEED LIMIT
BE THIS HIGH ON
A COUNTY ROAD
REMOVE ?
SPEED LIMIT 55
HOWARD LANE
REMOVE
LAKE BARNETT RD
75'
INSTALL
W1-1L
36"X36"
W13-1
24"X24"
30 MPH
NO SHOULDER
W8-23
36"X36"
CONSIDER INSTALLING
W8-23 SIGN ALONG
COUNTY ROAD
GRAVEL HILL ROAD
NOTES: DOWNHILL
NO SHOULDERS
SHOULDER DROP OFFS
ADD REFLECTORS TO GUARDRAIL
REPAINT CENTER LINE
REPAINT EDGE LINES
WHITE COUNTY
GRAVEL HILL ROAD
35 13'15"N
91 59' 01"W
DRAWING NOT TO SCALE


NO SHOULDER
W8-23
36"X36"
CONSIDER INSTALLING W8-23 SIGN ALONG COUNTY ROAD
CONSIDER INSTALLING ADDITIONAL SPEED LIMIT SIGNS SPACED APPROPRIATELY ALONG ENTIRE ROUTE
SPEED LIMIT 35
REPLACE EXISTING SPEED LIMIT SIGNS WITH R2-1 24"X30"
INSTALL OM-3L 12"X36"
INSTALL OM-3R 12"X36"
FOSTER CHAPEL ROAD
INSTALL OM-3R 12"X36"
INSTALL OM-3L 12"X36"
MULTIPLE CULVERTS
NOTES: PAVEMENT ROUGH / PATCHES
NEW AND OLD PAVEMENT
NO SHOULDERS
SHOULDER DROP OFFS
REPAINT CENTER LINE
REPAINT EDGE LINES
REPAINT PATCHED AREAS
NARROW TRAVEL LANES
WHITE COUNTY
35 17'04"N
91 49'14"W
DRAWING NOT TO SCALE
Google Earth


MIDGE LANGLEY ROAD
500'
REPLACE EXISTING WITH
R2-1
24"X30"
SPEED LIMIT
35
INSTALL
W2-1
36"X36"
W13-1
24"X24"
30
MPH
NO SHOULDER
W8-23
36"X36"
CONSIDER INSTALLING
W8-23 SIGN ALONG
COUNTY ROAD
OK
STOP
WAGNER LANE
SONNY LANE
STOP
REPLACE EXISTING WITH
R1-1
36"X36"
NOTES: PAVEMENT ROUGH / PATCHES
POTHOLES WHERE ASPHALT MEETS GRAVEL
NO SHOULDERS
SHOULDER DROP OFFS
REPAINT CENTER LINE
REPAINT EDGE LINES
500'
INSTALL
W2-1
36"X36"
W13-1
24"X24"
30
MPH
REPLACE
EXISTING WITH
SPEED LIMIT
35
R2-1
24"X30"
MIDGE LANGLEY ROAD
WHITE COUNTY
MIDGE LANGLEY ROAD
35 18'00"N
91 58'33"W
DRAWING NOT TO SCALE
Google


Chinquapin Creek
INSTALL OM-3L 12"X36"
INSTALL OM-3R 12"X36"
INSTALL OM-3L 12"X36"
INSTALL OM-3R 12"X36"
INSTALL OM-3L 12"X36"
INSTALL OM-3R 12"X36"
INCREASE EXISTING SIZE OF R2-1 TO 24"X30"
SPEED LIMIT 35
CONSIDER INSTALLING ADDITIONAL SPEED LIMIT SIGNS SPACED APPROPRIATELY ALONG ENTIRE ROUTE
NO SHOULDER
W8-23 36"X36"
CONSIDER INSTALLING W8-23 SIGN ALONG COUNTY ROAD
NOTES: PAVEMENT ROUGH / PATCHES
REPAINT CENTER LINE
REPAINT EDGE LINES
NO SHOULDERS
NARROW TRAVEL LANES
SHOULDER DROP OFFS
REPAINT PATCHED AREAS
MARK CURVES WITH SIGNS, MOST NOT MARKED
REMOVE PASSING ZONES
ROAD IS HILLY AND CURVY
WHITE COUNTY
35 22'05"N
91 37'19"W
DRAWING NOT TO SCALE

Appendix L: Support Opportunities and Possible Funding Options to Implement Low-Cost Engineering Solutions

Subject: *High Five* road safety resources

Hi everyone,

As you know, one of the elements of the *High Five* program is the Road Safety Audit (RSA) process. The RTSAB was tasked to find possible funding solutions to implement the low-cost countermeasures identified in the *High Five* RSAs. PRG and members of the RTSAB have explored funding options but have yet to find available Sate or Federal funding to cover the cost of implementing the suggestions listed in your *High Five* RSA Report.

While we haven't uncovered direct funding, we have found opportunities and resources that may be of benefit to your county road department and/or RSA Team.

1. There is a webinar next week (May 3, 2023) hosted by the Federal Highway Administration (FHWA) geared towards helping local agencies understand how they can benefit from technical assistance from the FHWA. See more information about the event and how to register below or by following this link. https://content.govedelivery.com/account/MTRRSC/bullitns/3547de8
2. The Safe Streets and Roads for All (SS4A) program provides grants to fund local and regional initiatives. Applications are due July 10, 2023. An Action Plan must be developed as part of the application process. Examples of low-cost countermeasure provided on the SS4A website are larger projects than the suggestions provided in the *High Five* RSAs. The RSA team may be able to apply for the SS4A funds to implement a larger road safety project and include recommendations from the *High Five* RSAs into the Action plan. https://www.transportation.gov/grants/ss4a/how-to-apply

Please share this email with your RSA team or others in your county who you think could benefit from this information. Feel free to give me a call if you have any questions.

View as a webpage / Share

National C
Rural Pos

April 12, 2023

Rural Champions,

Don't miss out on this upcoming webinar from Federal Highway Administration.

FHWA Local Road Technical Assistance
Date: May 3, 2023
Time: 1:00 pm to 2:30 pm ET
Organization: Federal Highway Administration (FHWA)

Learn how local agencies have continued to benefit from FHWA roadway safety technical assistance!

This upcoming FHWA webinar will showcase the benefits realized by two county agencies, one city, and one Tribal transportation agency. The safety benefits received from the technical assistance will be discussed which have extended beyond the boundaries of these specific agencies. The Office of Safety technical assistance program most recently coordinated with local and Tribal agencies to develop local road safety plans and corridor-level safety analyses complete with safety strategies and implementation recommendations.

The webinar will provide information on accessing available technical assistance, the different format technical assistance can take, and feature the benefits realized by the participating agencies. Technical assistance included workshops and trainings, data enhancement and analysis, safety issue and countermeasure identification, and safety planning. These efforts featured collaboration between county, local, and Tribal agencies, State DOTs, FHWA, and LTAP Centers to tackle priority road safety issues.

To register for this webinar, click here.
Link: https://forms.office.com/r/75NrDYFKKK

Appendix M: Landing Page for *High Five* Giveaway in Arkansas

High Five is an ongoing statewide Rural Traffic Safety Project that is designed to increase seat belt use and make rural roads safer.

The goal of the High Five Program is to draw public attention to the tragedies caused by traffic crashes and to emphasize that the safest way to travel on county roadways is with your seat belt buckled.

The Arkansas High Five Program is sponsored by the Arkansas State Police, the Arkansas Highway Safety Office and the Arkansas Department of Transportation.

High Five Pledge

Name*

Phone Number | Email*

Address

County*

☐ I PLEDGE TO ALWAYS WEAR MY SEAT BELT.

Submit

*The High Five Project will not give or sell your information to any party. Information will only be used in notifying prize winners.

Appendix N: News Release Template for *High Five* Giveaway in Arkansas

Media Contact:
Name:
Phone:
Email:
FOR IMMEDIATE RELEASE

[Insert name of County Sheriff's Office] encourages residents to sign seat belt pledge, all eligible participants to be entered into prize giveaway

(INSERT MUNICIPALITY) (INSERT DATE) – [Insert name of County Sheriff's Office] and the Arkansas State Police are asking residents to sign the *High Five* Pledge – a pledge to always wear a seat belt when driving or riding in an automobile.

The pledge aims to highlight one of the simplest precautions that can be taken to decrease the chances of roadway tragedies – seat belt use. As an incentive to commit to the pledge, all eligible individuals who sign the *High Five* Pledge will be automatically entered into a giveaway and have a chance to win (insert prizes) donated by (name of business providing the prize).

The *High Five* Pledge is part of *High Five* Rural Traffic Safety Project, an ongoing statewide initiative that is designed to increase seat belt use and make rural roads safer through awareness campaigns in five rural Arkansas counties with high rates of fatal and severe injury rates.

In 2019, 68% of fatal crashes in Arkansas occurred on rural roads and 82% of Arkansas roads are rural. [Insert name of County Sheriff's Office] and the Arkansas State Police Troopers are working in conjunction to bring awareness to this issue.

In addition to increasing awareness of the crucial role of seat belt use in highway safety, the *High Five* initiative is also working with local, state, and national partners to conduct safety audits on roadways in the five participating counties – Calhoun, Cross, Fulton, Monroe and White.

Residents of [insert county] have until [insert giveaway entry deadline] to sign the *High Five* Pledge to be entered into the prize giveaway. Giveaway winners will be announced via [Insert name of County Sheriff's Office] social media accounts.

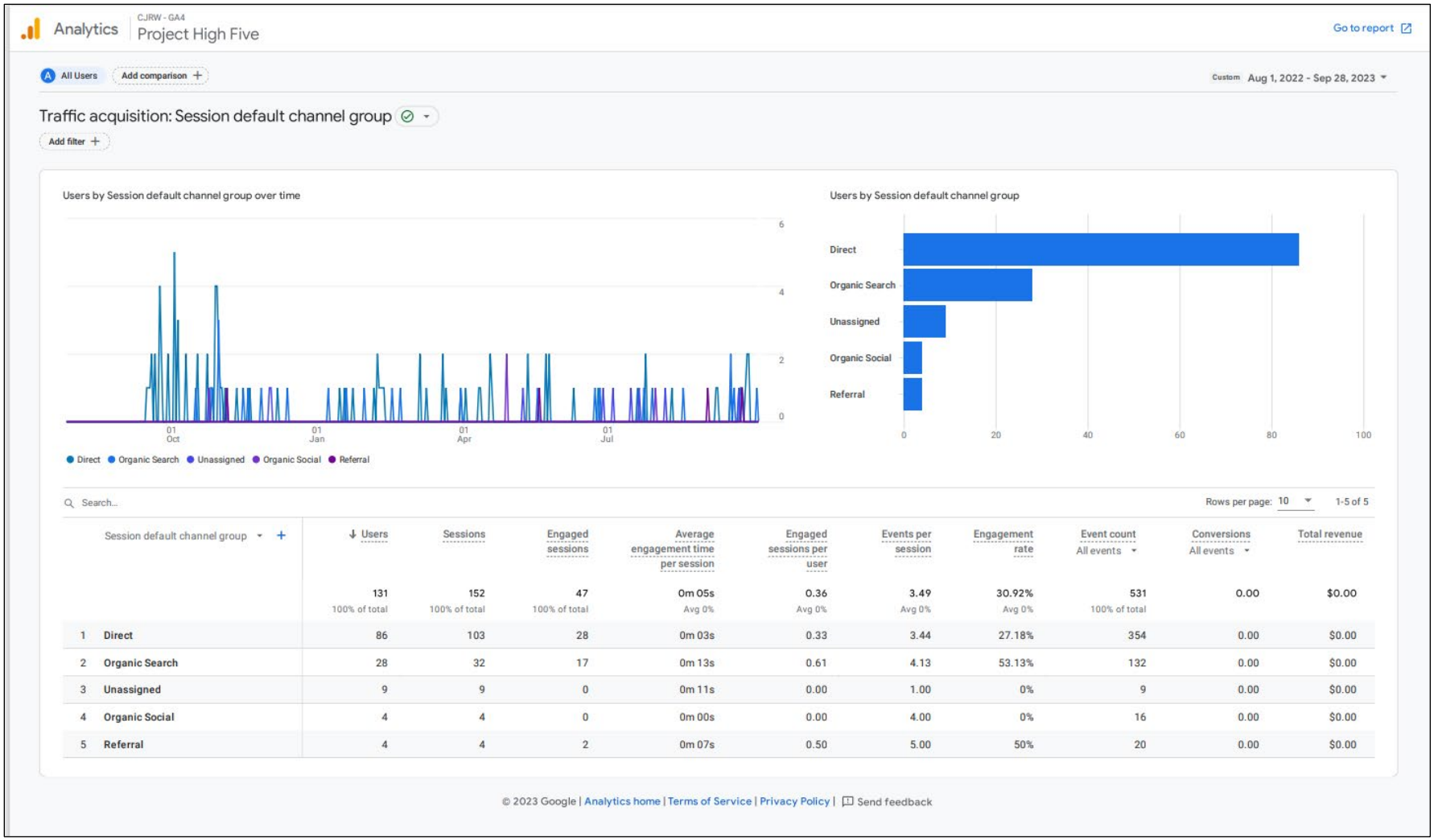
To sign the *High Five* Pledge and be entered into the prize giveaway, visit https://highfiveprojectarkansas.com/.

#

About *High Five* Rural Traffic Safety Project

High Five is an ongoing statewide Rural Traffic Safety Project that is designed to increase seat belt use and make rural roads safer. The goal of the *High Five* program is to draw public attention to the tragedies caused by traffic crashes and to emphasize that the safest way to travel on county roadways is with your seat belt buckled. The Arkansas *High Five* program is sponsored by the Arkansas State Police, the Arkansas Highway Safety Office, and the Arkansas Department of Transportation.

Appendix O: Landing Page Analytics for *High Five* Giveaway in Arkansas


Analytics
CJRW - GA4
Project High Five
Go to report
All Users
Add comparison
Custom Aug 1, 2022 - Sep 28, 2023
Traffic acquisition: Session default channel group
Add filter
Users by Session default channel group over time
6
4
2
0
01 Oct
01 Jan
01 Apr
01 Jul
Direct
Organic Search
Unassigned
Organic Social
Referral
Users by Session default channel group
Direct
Organic Search
Unassigned
Organic Social
Referral
0
20
40
60
80
100
Search...
Rows per page: 10
1-5 of 5
Session default channel group
Users
Sessions
Engaged sessions
Average engagement time per session
Engaged sessions per user
Events per session
Engagement rate
Event count All events
Conversions All events
Total revenue
131 100% of total
152 100% of total
47 100% of total
0m 05s Avg 0%
0.36 Avg 0%
3.49 Avg 0%
30.92% Avg 0%
531 100% of total
0.00
$0.00
1 Direct 86 103 28 0m 03s 0.33 3.44 27.18% 354 0.00 $0.00
2 Organic Search 28 32 17 0m 13s 0.61 4.13 53.13% 132 0.00 $0.00
3 Unassigned 9 9 0 0m 11s 0.00 1.00 0% 9 0.00 $0.00
4 Organic Social 4 4 0 0m 00s 0.00 4.00 0% 16 0.00 $0.00
5 Referral 4 4 2 0m 07s 0.50 5.00 50% 20 0.00 $0.00
© 2023 Google | Analytics home | Terms of Service | Privacy Policy | Send feedback

Appendix P: Kentucky Educational Card and Poster

high five rural traffic safety project

Q: What is the High Five Rural Traffic Safety Project?

A: A data-driven, multi-agency effort to increase seat belt use and reduce serious injury and fatal crashes on rural roads in Kentucky through the use of education, engineering and enforcement.

Q: Where in Kentucky will the program be focused?

A: In five rural counties that KYTC crash data show have high fatal and severe injury rates.

Q: Don't most crashes occur on major roadways?

A: In 2021, 65% of fatalities in Kentucky occurred on rural roads and 81% of Kentucky roads are rural.

Q: What are the main causes of rural traffic crashes?

A: Most rural road crashes involve only one vehicle. Contributing factors include loss of control, lane departure, excessive speed, failure to yield, and impaired driving.

Q: What will be done to reduce crashes & save lives?

A: Through enforcement, media and community outreach efforts, participating local agencies in selected counties will educate drivers on the benefits of complying with traffic laws, especially Kentucky's primary seat belt law.

Q: Why is increasing seat belt usage so important?

A: Proper and regular seat belt use is the single most effective way to reduce deaths and injuries. *Eighty-two* percent of vehicle occupants ejected during a crash are killed.

Q: Can more be done to make rural roads safer?

A: Yes. The High Five project includes local and state engineers and traffic safety professionals working together to identify road hazards and make upgrades wherever possible.

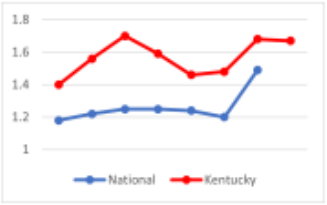
**Data Sources: Kentucky Transportation Cabinet*
National Highway Traffic Safety Administration

high five

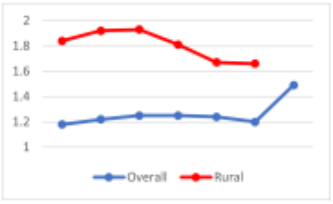
The High 5 Rural Traffic Safety Project recognizes:

- The chances of surviving a traffic crash are 45% higher when properly restrained in a seat belt.
- In the US, based on known restraint use in fatal crashes, 52% of rural passenger vehicle occupants killed in 2020 were unrestrained.
- Airbags are designed to work with seat belts. To help yourself in an accident, make sure you're buckled up.
- While Kentucky's statewide seat belt usage is 89.8%, over 100,000 drivers plus 20,000 passengers are still unbelted on Kentucky roadways every day.

Kentucky has a higher fatality rate than the national average.



Rural Kentucky Roadways have fatal crashes at a higher than average rate.



The High Five Program is sponsored by the Kentucky Office of Highway Safety, Kentucky Transportation Cabinet and Kentucky State Police:

TEAM KENTUCKY TRANSPORTATION CABINET

KENTUCKY STATE POLICE

highwaysafety.ky.gov
transportation.ky.gov
kentuckystatepolice.org

high five

rural traffic safety project

Did you know that ??% of {Bourbon County} roadways are rural?

Did you know that ??% of {Bourbon County} roadway fatalities are unrestrained?

That is why **{Bourbon County}** was selected to participate in the High Five Rural Traffic Safety Project which is designed to increase seat belt use and make rural roads safer using the **3 E's of High Five:**

Engineering—Identify high-crash roadway segments in **{Bourbon County}** and work to find low-cost solutions

Education—Teach the community seat belt safety facts

Enforcement—Enforce seat belt use among **{Bourbon County}** residents

A seat belt is your best defense against injury and death. Please, buckle up **{Bourbon County}!**

The Kentucky High Five Program is sponsored by the Kentucky Transportation Cabinet (KYTC), the KYTC Office of Highway Safety and Kentucky State Police.

DEPUTY SHERIFF BOURBON COUNTY KENTUCKY

TEAM KENTUCKY TRANSPORTATION CABINET

KENTUCKY STATE POLICE

Appendix Q: Kentucky Kickoff – News Release and Media Advisory

Contact:
{Name}
{phone}
{Email}

FOR IMMEDIATE RELEASE

***High Five* Rural Traffic Safety Project begins in {County}**

New initiative aims to save lives in rural Kentucky counties

{City}, Ky. (Date, year) – Today marks the launch of the *High Five* Rural Traffic Safety Project (*High Five*) in {County Name}, a 12-month public safety initiative aimed at increasing seat belt use and decreasing serious crashes in five rural Kentucky counties.

Conducted in partnership between the National Highway Traffic Safety Administration (NHTSA), Kentucky Office of Highway Safety, Kentucky Transportation Cabinet (KYTC) and Kentucky State Police, *High Five* has a local focus and functions through the Sheriff's office in each county. Based on KYTC crash data, {County Name} was selected along with Bourbon County, Grayson County, Knott County, Madison County, and Perry County to participate. {delete your county name from the listing of the 5 counties}. {Insert Sheriff quote} {Insert county-specific data}

In 2021, 65% of fatalities in Kentucky occurred on rural roads and 81% of Kentucky roads are rural. *High Five* focuses on education, enforcement and engineering. Through traffic safety checkpoints, social media, school programs and other community outreach activities, law enforcement will promote the crucial role of seat belts in saving lives. Additionally, local and state engineers and traffic safety professionals will work together to identify road hazards and make upgrades wherever possible.

{Insert Local KSP Post quote}

According to NHTSA, when worn correctly, seat belts reduce the risk of death by 45%for front-seat vehicle occupants and by 60% for pickup truck, SUV and minivan occupants. Properly fastened seat belts contact the strongest parts of the body, such as the chest, hips and shoulders. A seat belt spreads the force of a crash over a wide area of the body, putting less stress on any one part, and allows the body to slow down with the crash, extending the time when the crash forces are felt by the occupant.

The Kentucky *High Five* initiative is based on the Iowa *High Five* initiative conducted from April 2014 to April 2015.

###

[Link to Media Kit]: Contains graphics (for digital, print, and broadcast use), logos, and additional promotional pieces (flyers and posters).

MEDIA ADVISORY

Contact:
{Contact Name}
{phone}
{Email}

Kentucky *High Five* Rural Traffic Safety Project to Launch {Date} in {County}

{City}, Ky. (Date, Year) – A news conference announcing the launch of the *High Five* Rural Traffic Safety Project (*High Five*) in {county} will be held at {time} on {Day}, October {date} at {location}. The 12-month public safety initiative, successfully piloted in Iowa, aims to increase seat belt use and decrease overall serious crashes in five participating rural Kentucky counties.

What: *High Five* Rural Traffic Safety Project launch news conference

Who:

- Sheriff {Name}
- {Kentucky State Police}
- {County Judge}
- {Kentucky Transportation Cabinet}

When: {Day}, Date}, Year

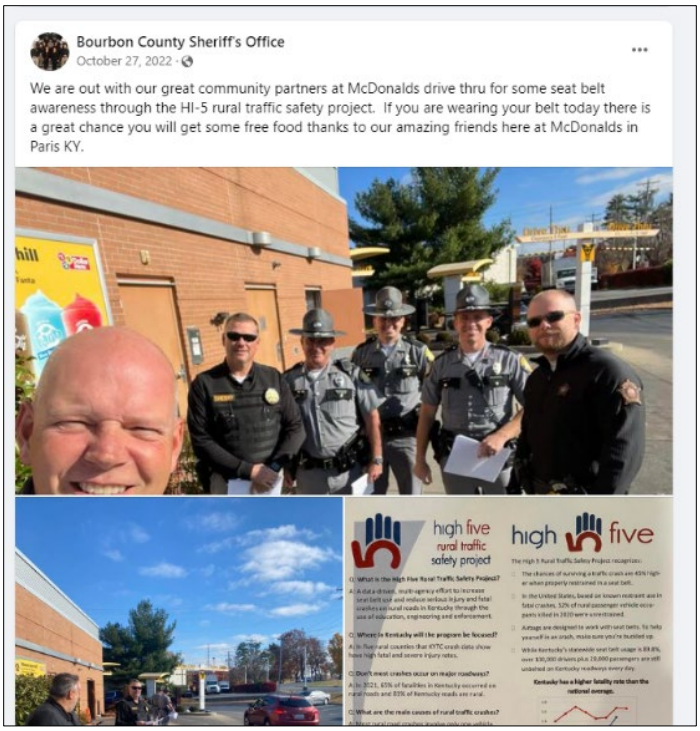
- Meet-and-Greet at 9 a.m. (coffee and light refreshments provided)
- Press Conference at 10 a.m.

Where: {Location} – {Street Address}

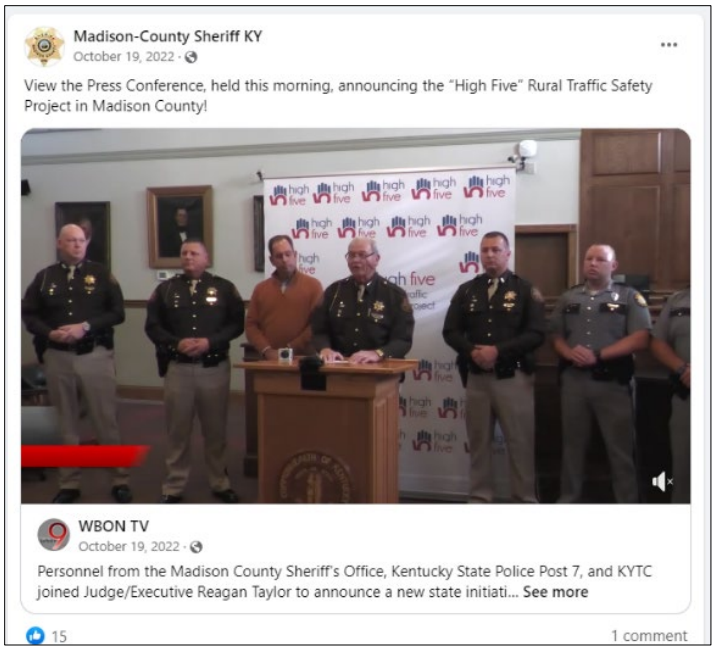
Appendix R: Program Material Developed for Kentucky *High Five*

Program Material Developed for Kentucky *High Five* Demonstration	
Material	**Notes**
Logo	Recreated Iowa's logo in multiple formats and sizes. Each participating sheriff's office was provided with electronic versions of the logo and encouraged to use it on material created by the CSO (e.g., social media posts).
Two-Sided Informational Card	Each CSO and KSP were initially given 1,000 cards to distribute. Each county distributed all of those cards so a second and then third order of 1,000 cards was printed for each county. Additionally, some counties made extra copies on their office copy machine. Many counties had cards left after the implementation period concluded. • Included State-specific data for use in all high five counties • For distribution by law enforcement at roadside stops and at planned *High Five* events/activities
Poster	Posters created for each county included the county's name in the text. CSOs were provided with 5-10 posters. • Featured large *High Five* logo and included general program information • Separate poster created for each county, includes the county name and county statistics in the text • Some counties hung posters in public places (e.g., county buildings, gas stations, restaurants) and brought them to public events in each of the *High Five* counties.
Social Media Posts	CSOs were encouraged to use existing program material and NHTSA graphics as social media content. Some CSOs opted to create their own social media posts. The initial expectation of two media posts per county per month was ultimately not met. Two counties had regular engagement on social media and this included *High Five* messaging.
News Release & Media Advisory	News releases and media advisories were provided to CSOs to distribute to local media to announce the program and advise of scheduled events.
Banner	A step-and-repeat banner was created and used at the kickoff events. The banner was available to CSOs upon request for use at local events.

Appendix S: Kentucky Social Media Examples


Bourbon County Sheriff's Office
October 27, 2022 ·
We are out with our great community partners at McDonalds drive thru for some seat belt awareness through the HI-5 rural traffic safety project. If you are wearing your belt today there is a great chance you will get some free food thanks to our amazing friends here at McDonalds in Paris KY.
high five rural traffic safety project
high five


Bourbon County Sheriff's Office
May 2, 2023 ·
Major Brent Wilson had the privilege to speak about seatbelt safety at legion hall last Friday at the annual Safety Day. Students from various schools here in Bourbon County participated. Students received coloring books, crayons and some Rural Hi-5 information flyers to take home as well as sticker badges. We appreciate the opportunity to speak during this great event.


Madison-County Sheriff KY
October 19, 2022 ·
View the Press Conference, held this morning, announcing the "High Five" Rural Traffic Safety Project in Madison County!
WBON TV
October 19, 2022 ·
Personnel from the Madison County Sheriff's Office, Kentucky State Police Post 7, and KYTC joined Judge/Executive Reagan Taylor to announce a new state initiati... See more
15
1 comment


Knott County Sheriff's Department @KnottSheriff · Dec 15, 2022
687 people have died on Kentucky's roadways so far this year. Make a difference...Make it click. Seatbelts save lives.
high five rural traffic safety project
high five

Appendix T: *High Five* Road Safety Assessment - Kentucky

HIGH-FIVE

RURAL TRAFFIC SAFETY PROJECT

2023

MADISON COUNTY

KENTUCKY

College of Engineering
Kentucky Transportation Center

TECHNOLOGY TRANSFER PROGRAM

high five

Table of Contents

Introduction 1
Countywide Crash Analysis 2
Priority Locations for Safey Improvements 3
Road Safety Assessments 4
Goggins Lane 4
Meadowbrook Road 11
Conclusions 17
Appendix A: Additional Countermeasures Information A-1
Appendix B: Advisory Speeds for Horizontal Curves B-1

Table of Figures

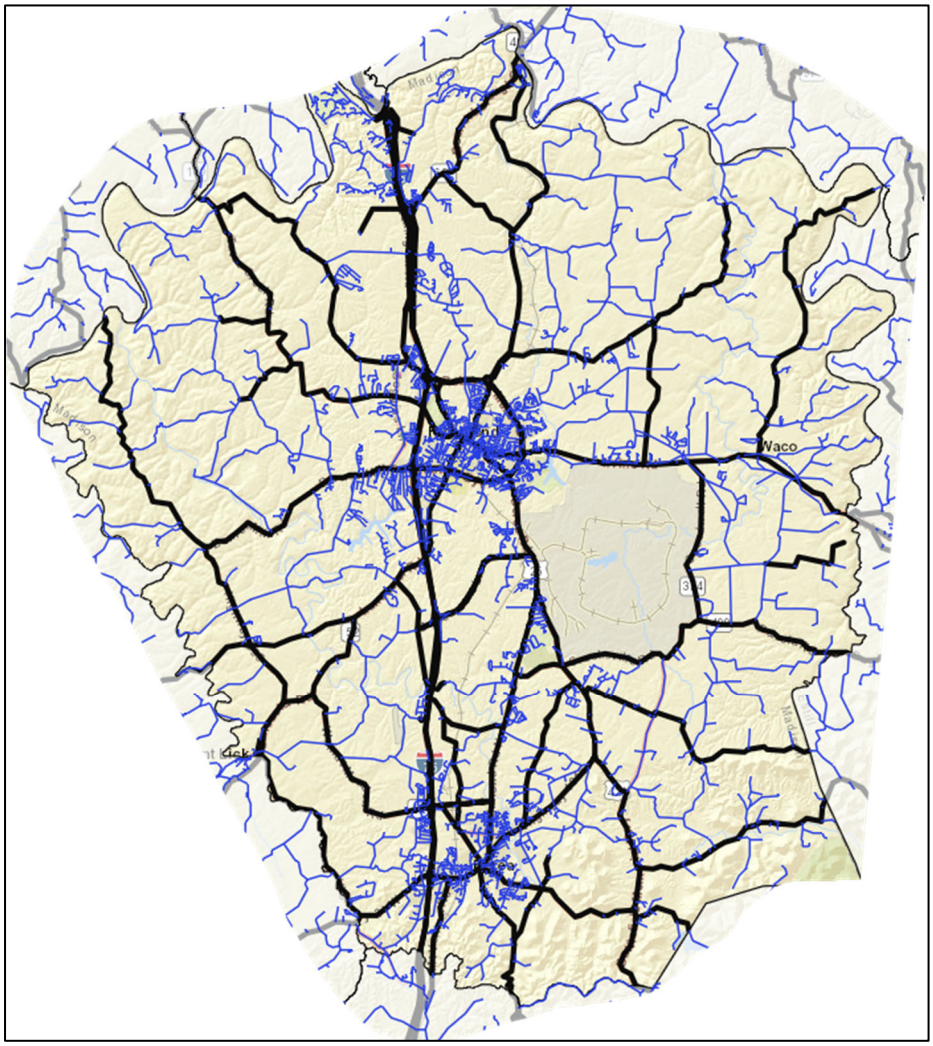
Figure 1. Madison County Roadways 1
Figure 2: Crashes (2017-2021) 2
Figure 3: Crashes by Type 3
Figure 4: County and Route Outline 4
Figure 5: Crashes on Selected Roadway 5
Figure 6: Identified Roadway Hazards 6
Figure 7: Fixed Objects 7
Figure 8: Horizontal Curve 8
Figure 9: Visibility Obstructions 9
Figure 10: County and Route Outline 11
Figure 11: Crashes on Selected Roadway 12
Figure 12: Identified Roadway Hazards 13
Figure 13: Edge Drop Off 14
Figure 14: Fixed Object 15
Figure 15: Horizontal Curve 16

Introduction

The High Five Rural Traffic Safety project is a data-driven, multi-agency effort to reduce serious injury and fatal crashes on rural roads in Kentucky. The project is being conducted by a partnership between the National Highway Traffic Safety Administration, Kentucky Office of Highway Safety, Kentucky Transportation Cabinet, Kentucky Transportation Center, and Kentucky State Police. Based on crash data Madison County was selected to participate in the program along with Bourbon County, Grayson County, Knott County, and Perry County.

The High Five Rural Traffic Safety project will involve a three-part approach to include enforcement, engineering, and education with the ultimate goal of building a safer community. The focus of this report is on engineering-related safety improvements. The report will select priority roadways and identify low-cost safety countermeasures that can be implemented. The first half of this report outlines the methodologies used in selecting priority roadways. The second half of the report provides site specific analysis of existing conditions on the priority roadways and recommends safety countermeasures that can be implemented. The focus is on low-cost improvements that have the potential to mitigate crashes on the selected roadways.

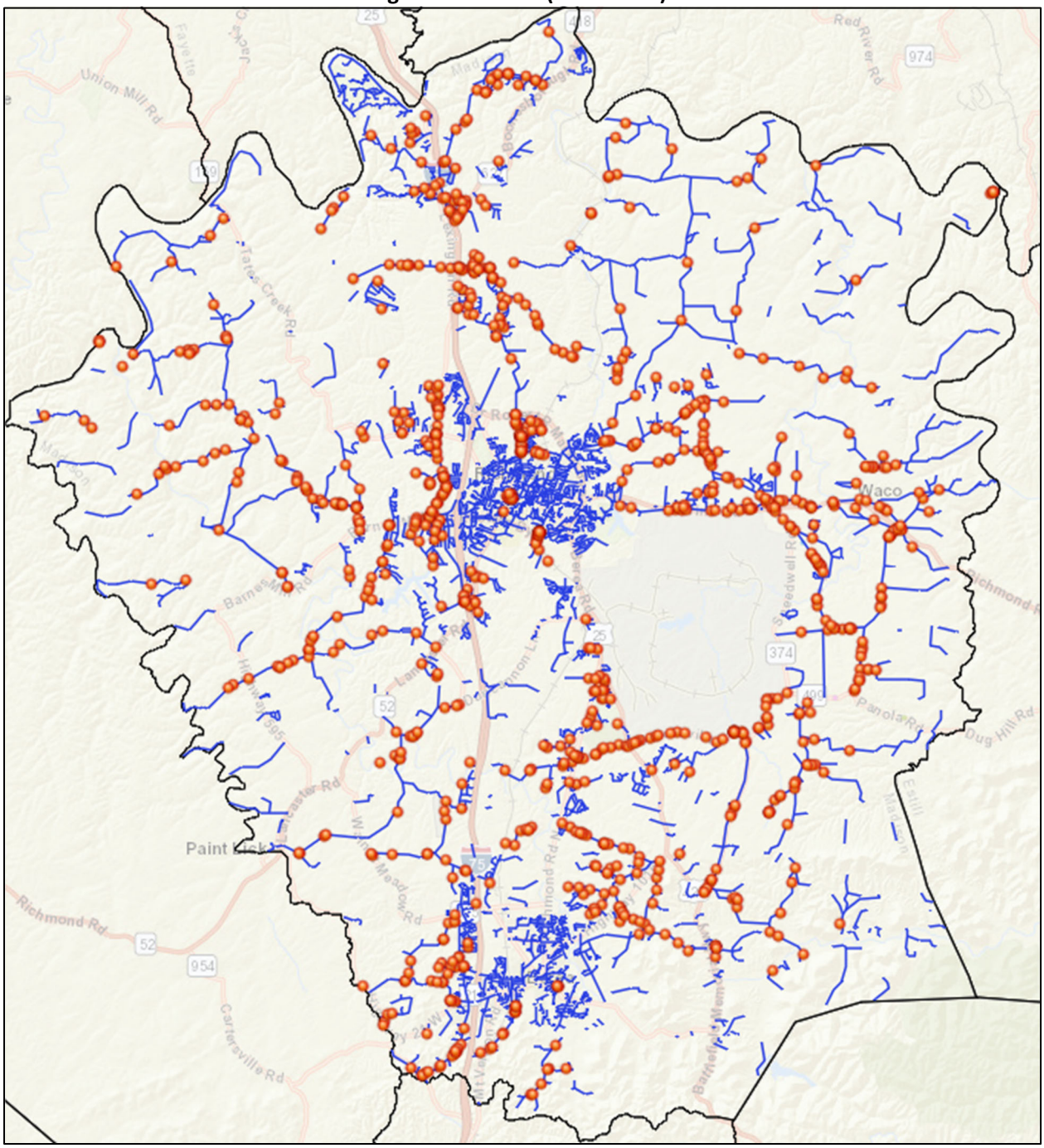
Figure 1. Madison County Roadways



Countywide Crash Analysis

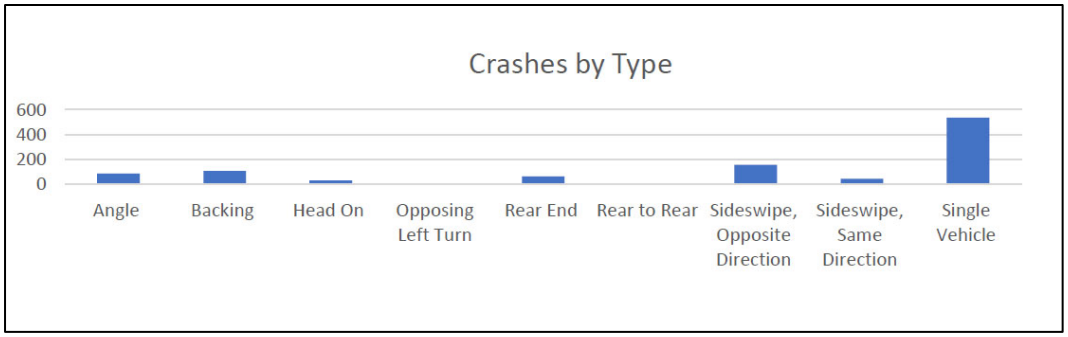
Crash data for all Madison County roadways was extracted from the Kentucky Crash Database maintained by the Kentucky State Police. Crash data was analyzed for a 5-year period from January 1, 2017 to December 31, 2021. During this 5-year period, 1020 crashes occurred on the county roadway system resulting in 124 injury crashes and 2 fatal crashes. **Figure 2** shows all crashes on the county road system in the study period.

Figure 2: Crashes (2017-2021)



Crashes by type on Madison County's local road system over the study period are shown in **Figure 3**. Single vehicle crashes are the dominant crash type within Madison County. The total number of single vehicle crashes is greater than all other categories combined. In addition, the majority (>70%) of severe crashes with Madison County were single vehicle crashes. Single vehicle crashes are predominantly roadway departure crashes. The prevalence of single vehicle roadway departure crashes seen within Madison County is typical of other rural roads within Kentucky.

Figure 3: Crashes by Type



The crash analysis presented here can assist in identifying emphasis crash types, and subsequently, potential mitigation measures to implement on the county's roadway system. The high number of single vehicle roadway departure crashes identified indicates there is a significant need to address this crash type. Specific treatments to address this crash type are presented in subsequent sections of the report.

Priority Locations for Safey Improvements

An Equivalent Property Damage Only (EPDO) analysis, which uses a weighted rating technique based on crash severity, was used to target areas with frequent severe crashes. The EPDO formula used in this analysis assigned a weight of 10 to crashes resulting in a fatality, 5 for crashes resulting in an injury, and 1 to crashes resulting in property damage only (PDO). Spatial analysis was used to match crash data to each segment and each was then ranked based on their EPDO values. **Table 1** lists the 10 locally owned roads with the highest EPDO rating. Goggins Lane and Meadowbrook Road were selected for road safety assessments based off their high EPDO scores.

Table 1: Madison County EPDO Analysis

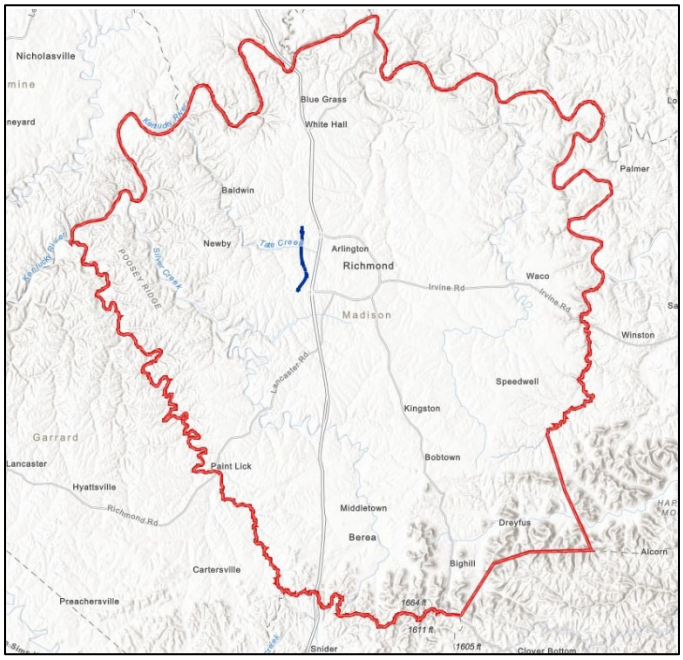
ROAD NAME	INJURY	PDO	EPDO
GOGGINS	10	36	86
MEADOWBROOK	5	24	49
FOUR MILE	7	12	47
SIMPSON	5	22	47
BOGGS	4	25	45
BRASSFIELD	4	20	40
DOGWOOD	5	9	34
CURTIS	2	22	32
BOONE TRAIL	2	18	28
3RD	2	16	26

Road Safety Assessments

Goggins Lane

Goggins Lane connects from KY 876 to KY 1156 on the west side of the City of Richmond in Madison County. It was originally a rural roadway, over time, commercial and residential development has occurred closer to the city of Richmond. From KY 876 to KY 169 it is a city street, from KY 169 to KY 1156 it is county roadway. The AADT was measured at 6,757 near the intersection with Covington Way and 1,323 north of KY 169 in 2020. The speed limit is 35 MPH north of KY 169 and 45 MPH south of KY 169.

Figure 4: County and Route Outline

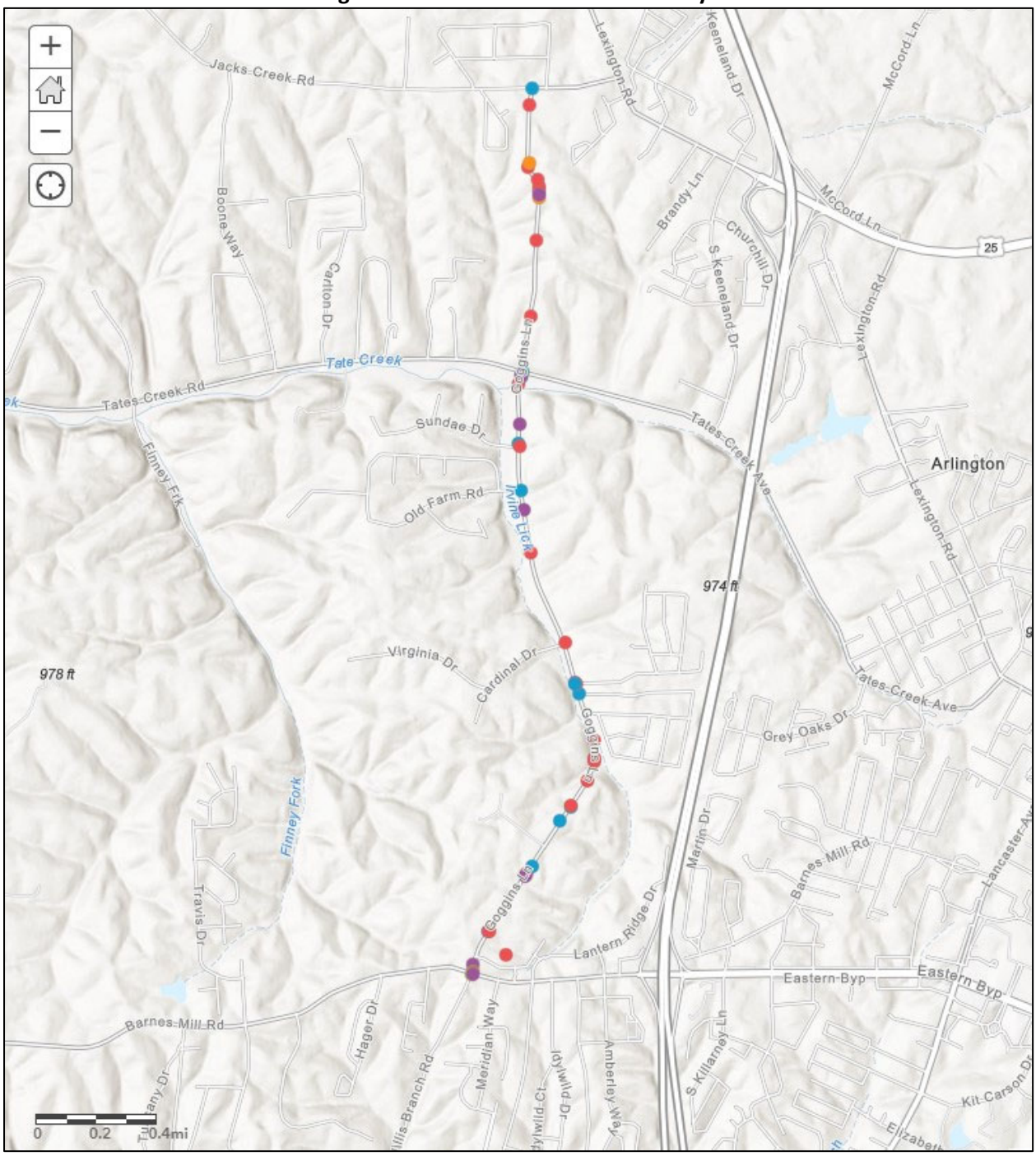


The crash types from the 5-year study period are shown in **Table 2**. Single vehicle crashes were the most common crash type on Goggins Lane, followed by angle and rear end crashes. Angle and rear end crashes generally occur at intersections, looking at the crash map in **Figure 5**, we can confirm that this is the case. Given that, countermeasures focused on intersections and single vehicle roadway departures would both be appropriate for Goggins Lane.

Table 2: Crash Types

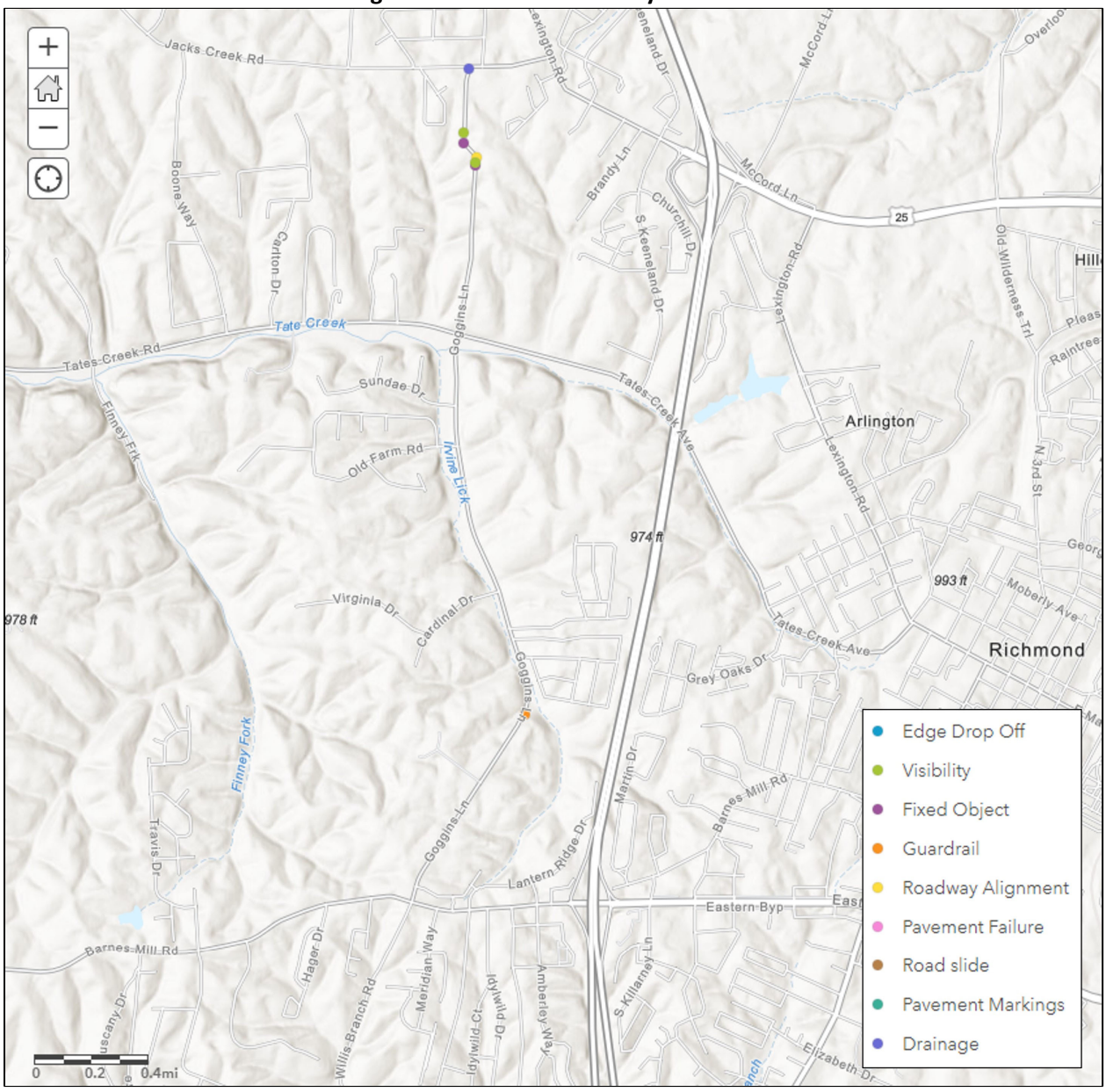
MANNER OF COLLISION	INJURY	PDO	TOTAL
ANGLE	4	7	11
BACKING	0	1	1
OPPOSING LEFT TURN	0	1	1
REAR END	1	9	10
SIDESWIPE, OPPOSITE DIRECTION	0	2	2
SIDESWIPE, SAME DIRECTION	0	1	1
SINGLE VEHICLE	5	15	20
TOTAL	10	36	46

Figure 5: Crashes on Selected Roadway



A field review of Goggins Lane was conducted and identified several issues along the roadway which are shown in **Figure 6**. Each of these issues is discussed below.

Figure 6: Identified Roadway Hazards



Fixed Objects

Existing Conditions

Fixed objects adjacent to the roadway were noted along Goggins Lane. These objects present a safety hazard to drivers who depart the roadway. Trees were the most common fixed object type encountered, but utility poles were also observed. **Figure 7** shows examples of fixed object (utility pole) on the outside of a horizontal curve on Goggins Lane.

Figure 7: Fixed Objects

Recommendations

It is recommended that fixed objects adjacent to the roadway be evaluated for removal so that a clear zone of a consistent width can be established along the roadway. On low volume rural roads, providing a clear zone consistent with the AASHTO Roadside Design Guide is not cost-effective or practical to implement. For these types of roadways, the following recommendations may be applied:

- Tangents: Provide a minimum clear zone of 2 feet.
- Horizontal Curves: Provide a minimum clear zone of 5 feet on the outside of the curve.
- If an established clear zone exists, such as a fence line, and isolated encroachments are present they should be removed if feasible and cost effective.

Common examples of obstructions in the clear zone include trees, utility poles, headwalls, signs, guardrails, and other fixed objects. Vegetation may be present in the clear zone, but trees must not be greater than 4 in. in diameter.

Larger clear zones may be warranted by crash history, expected future traffic growth, and the presence of wide vehicles/loads. When a larger clear zone can be established at a low cost and with minimum impact, it should be considered.

Horizontal Curve Signing

Existing Conditions

North of KY 169, Goggins Lane is straight except two horizontal curves near an electric substation. Curve signing is present at these curves, but modifying the existing sign layout may provide additional safety benefits. **Figure 8** shows a partially obscured horizontal curve with vegetation blocking the warning sign on Goggins Lane.

Figure 8: Horizontal Curve

Recommendations

The MUTCD provides guidance for the use of horizontal alignment warning signs on roadways based on the speed differential between prevailing speed on the roadway and the horizontal curve's advisory speed. These warning signs are required on arterial and collector roadways with more than 1,000 AADT but may be used on other roadways based on engineering judgment.

It is recommended that Goggins Lane have MUTCD compliant horizontal curve signing installed. Additional information on horizontal curve signing can be found in Appendix A. Advisory speeds for curves along Goggins Lane can be found in Appendix B.

Visibility

Existing Conditions

Visibility of signs, oncoming traffic, and roadway geometry was obscured by vegetation at several locations along Goggins Lane. **Figure 9** shows an example of vegetation obscuring driver's views.

Figure 9: Visibility Obstructions

Recommendations

It is recommended that vegetation along Goggins Lane be evaluated and removed as needed to ensure that it is not creating safety hazards. Particular attention should be given to vegetation that is blocking signs, hindering sight distance at intersections, and preventing drivers from seeing horizontal curves.

Additional Recommendations

Pavement Markings

The pavement markings along Goggins Lane have deteriorated. This may make it difficult for motorists to read the markings, particularly at night. It is recommended that these markings be replaced. Installation of stop bars should be considered at the end of Covington Way, Palomino Drive, and Paso Fino Drive.

Repair Guardrail

Damaged guardrail was noted in the horizontal curve between KY 876 and KY 169. It is recommended that that all guardrail installation along the roadway be evaluated and repaired/updated as needed to meet current standards. Additional information on guardrail installation can be found in Appendix A.

SafetyEdge^{SM}

When the roadway is resurfaced, it is recommended that a SafetyEdge be installed. Additional information on SafetyEdge can be found in Appendix A.

Meadowbrook Road

Meadowbrook Road is a county roadway which connects from KY 52 to KY 938 in eastern Madison County. The roadway is approximately 4.3 miles long and had a measured AADT of 541 at the Muddy Creek bridge in 2021. The speed limit is posted at 35 MPH and the land use along the roadway is primarily agricultural/rural with residences scattered along its length. The focus of the assessment was between KY 374 and KY 938 because that section of road has higher traffic volumes and more crashes.

The crash types during the study period are displayed in **Table 3**. Single vehicle crashes were the dominant crash type (21/29 total crashes, 4/5 injury crashes). This is consistent with the countywide crash analysis. Given that, safety countermeasures aimed at single vehicle roadway departure crashes should be prioritized. These crashes are mapped in **Figure 11**.

Figure 10: County and Route Outline

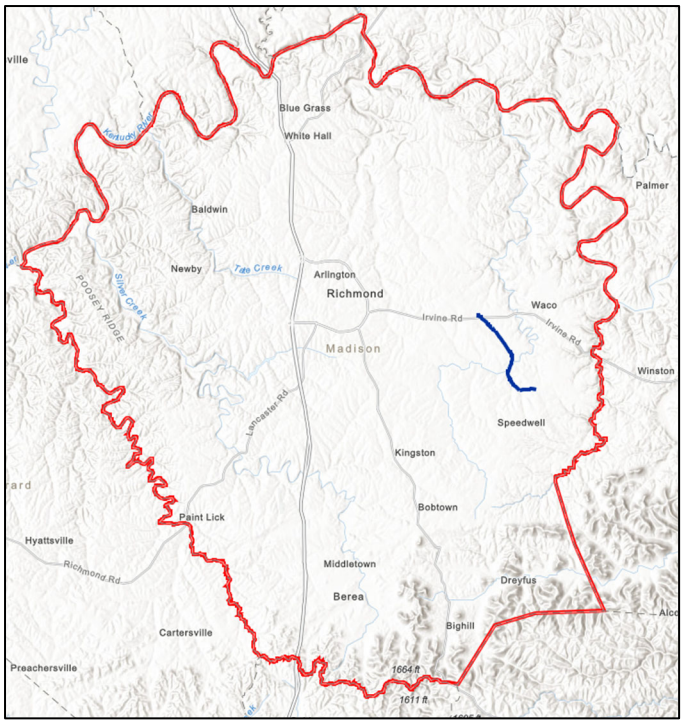
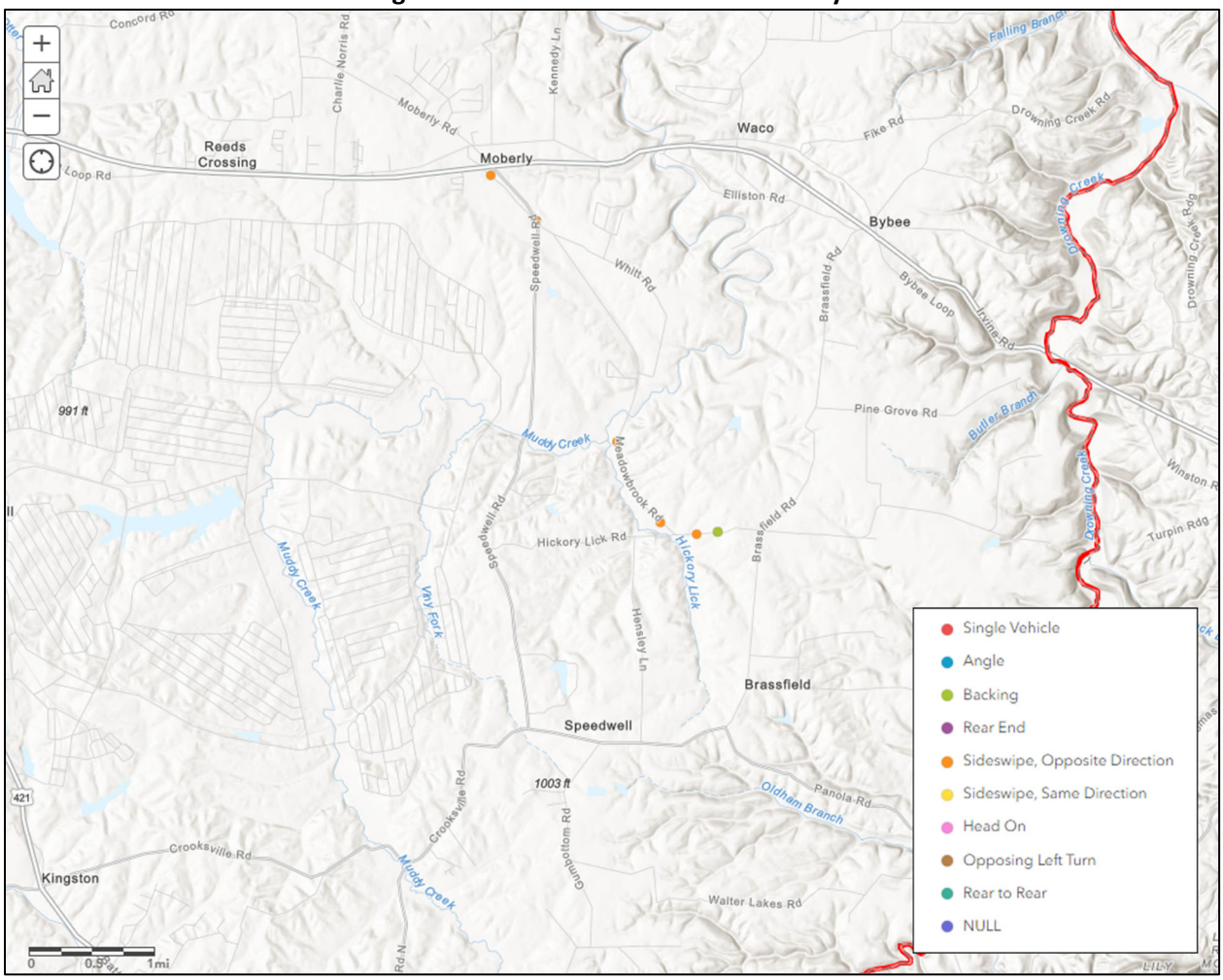


Table 3: Crash Types

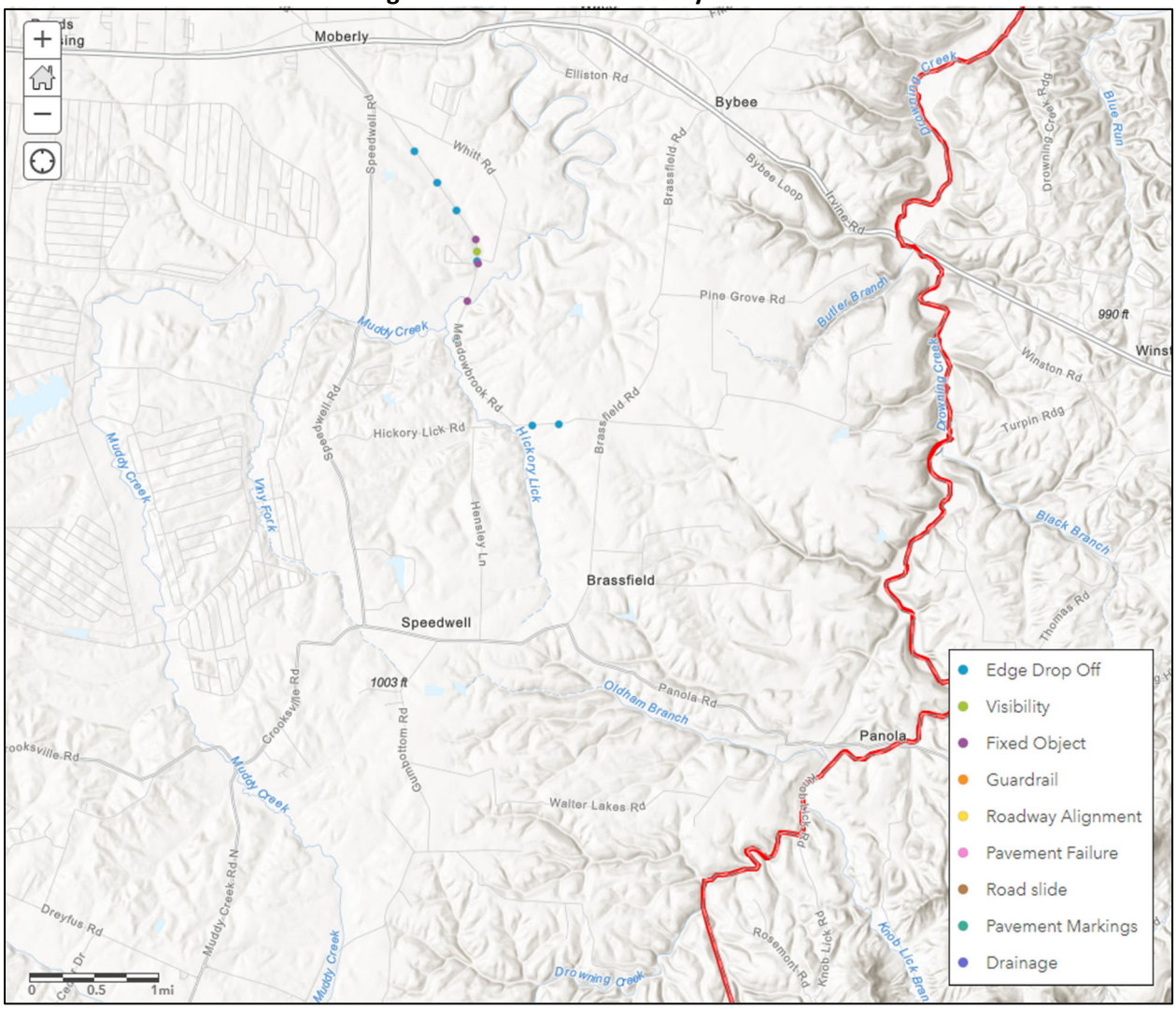
MANNER OF COLLISION	INJURY	PDO	TOTAL
BACKING		1	1
REAR END		1	1
SIDESWIPE, OPPOSITE DIRECTION	1	5	6
SINGLE VEHICLE	4	17	21
TOTAL	5	24	29

Figure 11: Crashes on Selected Roadway



A field review of Meadowbrook Road was conducted and identified several issues along the roadway which are shown in **Figure 12**. Each of these issues is discussed below.

Figure 12: Identified Roadway Hazards



Edge Drop Offs

Existing Conditions

At several locations noted in **Figure 12**, drop offs are adjacent to the edge of the pavement. Due to the drop offs, errant vehicles may bottom out if a wheel goes off the side of the road or depart the roadway. Some of these edge drop offs are caused by drainage culverts that are only nominally wider than the roadway, while others are caused by erosion of the shoulder. **Figure 13** shows an example of an edge drop off along Meadowbrook Road caused by a drainage culvert.

Figure 13: Edge Drop Off

Recommendations

Many of the edge drop offs identified were due to drainage culverts. It is recommended that culverts be extended to eliminate the edge drop off. Ditching and shouldering may be required to realign the drainage ditch to match the extended culvert inlet. For edge drop offs caused by erosion, repair the shoulder, realign the ditch, and stabilize the area as needed. For edge drop offs that are not feasible to correct, Type 2 object markers may be placed at edge drop offs to warn motorists of the hazard. Additional information on object marker placement can be found in Appendix A.

If it is not practical to correct all edge drop offs, it is recommended that areas with an increased likelihood of severe crashes be prioritized. Drop offs along horizontal curves**,** at intersections, on road segments with higher traffic volumes, and that are closer to the pavement can be identified and addressed as resources become available.

Fixed Objects

Existing Conditions

Fixed objects adjacent to the roadway were noted along Meadowbrook Road. These objects present a safety hazard to drivers who depart the roadway. Trees and utility poles were the most common fixed object type encountered. **Figure 14** shows a utility pole on the outside of a horizontal curve.

Figure 14: Fixed Object

Recommendations

It is recommended that fixed objects adjacent to the roadway be evaluated for removal or relocation so that a clear zone of a consistent width can be established along the roadway. On low volume rural roads, providing a clear zone consistent with the AASHTO Roadside Design Guide is not cost-effective or practical to implement. For these types of roadways, the following recommendations may be applied:

- Tangents: Provide a minimum clear zone of 2 feet.
- Horizontal Curves: Provide a minimum clear zone of 5 feet on the outside of the curve.
- If an established clear zone exists, such as a fence line, and isolated encroachments are present they should be removed if feasible and cost effective.

Common example of obstructions in the clear zone include trees, utility poles, headwalls, signs, guardrails, and other fixed objects. Vegetation may be present in the clear zone, but trees must not be greater than 4 in. in diameter. If it is not practical to relocate a fixed object, object markers may be used to warn motorists of the hazard. Additional information on object markers can be found in Appendix A.

Larger clear zones may be warranted by crash history, expected future traffic growth, and the presence of wide vehicles/loads. When a larger clear zone can be established at a low cost and with minimum impact, it should be considered.

Horizontal Curve Signing

Existing Conditions

Meadowbrook Road contains several horizontal curves, some of these are obscured by vertical curves or hillsides that do not allow drivers to see the full degree of curvature on the approach. While some curve signing is present on the roadways, it is inconsistent. **Figure 15** shows an example of a partially obscured horizontal curve along Meadowbrook Road.

Figure 15: Horizontal Curve

Recommendations

The MUTCD provides guidance for the use of horizontal alignment warning signs on roadways based on the speed differential between prevailing speed on the roadway and the horizontal curve's advisory speed. These warning signs are required on arterial and collector roadways with more than 1,000 AADT but may be used on other roadways based on engineering judgment.

It is recommended that Meadowbrook Road have MUTCD compliant horizontal curve signing installed. Additional information on horizontal curve signing can be found in Appendix A. Advisory speeds for curves along Meadowbrook Road can be found in Appendix B.

Additional Recommendations

Vegetation Trimming

Given the alignment of the roadway and the proximity of vegetation to the pavement, there is a high potential for signs, oncoming traffic, and roadway geometry to be obscured by vegetation. During the assessment vegetation was not noted as a significant issue, however, it is recommended that vegetation along Meadowbrook Road be evaluated on a regular basis and removed as needed to ensure that it is not creating safety hazards. Particular attention should be given to vegetation that is blocking signs, hindering sight distance at intersections, and preventing drivers from seeing horizontal curves.

Pavement Markings

Intersections that are within horizontal curves and with state routes may benefit from the installation of stop bars. Installation of stop bars should be considered at KY 374, Whitt Road, Hickory Lick Road, and KY 938.

SafetyEdge^{SM}

When the roadway is resurfaced, it is recommended that a SafetyEdge be installed. Additional information on SafetyEdge can be found in Appendix A.

Conclusions

This Road Safety Analysis identifies implementable countermeasures at a specific project-based level. However, many of the countermeasures highlighted in this report can be applied to other sections of roadway where the same identifiable issues exist.

This safety study should be shared with local agencies to communicate safety concerns and potential improvements for locally owned and maintained roadways. Seat belt use, distracted driving, impaired driving, and speeding are elements that may be addressed by coordinating with local law enforcement agencies. Developing law enforcement and education strategies, such as speed feedback signs and awareness programs, may help address these issues, which are scattered throughout the County but more concentrated in areas with roadway safety concerns.

Appendix A: Addi. onal Countermeasure Information

Roadway Signing

The Manual on Uniform Traffic Control Devices (MUTCD) allows for reduced signing on low-volume local roads. While enhanced signing is not required, signing can be implemented to improve safety for all users.

Horizontal Alignment Signing

The MUTCD provides for three placements of signing to address horizontal alignment issues. These include 1) in advance of the horizontal curve, 2) at the beginning of the horizontal curve and 3) guidance throughout the horizontal curve.

Advanced sign placement includes the Turn, Curve, Reverse Turn, Reverse Curve and Winding Road Signs, shown in **Figure A1** below. Advisory speed plaques are recommended by the MUTCD in conjunction with these signs when the advisory speed is 5 MPH or less than the prevailing speed on the roadway.

Figure A1: Horizontal Alignment Signs

The MUTCD allows for these signs to be repeated as supplemental signs at the beginning of curvature. Additionally, a combination turn or curve sign with advisory speed is also permitted at the beginning of the curve as shown in **Figure A2**.

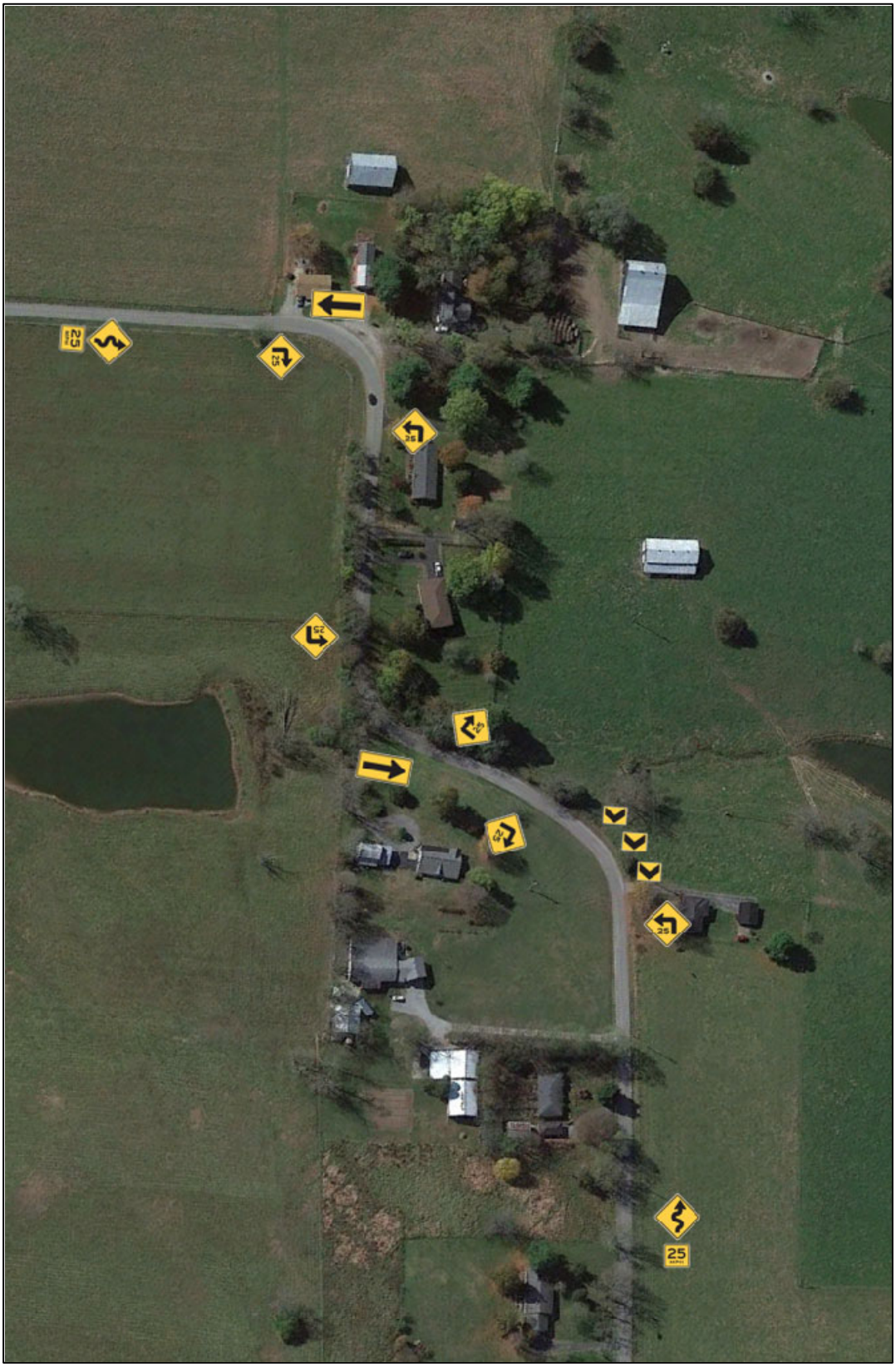
Figure A2: Horizontal Alignment Signs with Advisory Speeds

Finally, directional guidance signs including the chevron and large arrow board are recommended by the MUTCD to provide additional guidance through the curve **(Figure A3)**.

Figure A3: Large Board Arrow & Chevrons

Figure A4 shows a conceptual sign layout for a roadway based on the guidance from the MUTCD and the proposed practice resulting from the safety study. All Horizontal Alignment Warning signs should follow guidance for placement, location and spacing as specified in Chapter 2 of the MUTCD.

Figure A4: Conceptual Sign Layout



Object Markers

On low volume local roadways, it may not be cost effective to remove or relocate fixed objects within the clear zone due to the lower exposure. In those cases, object markers are recommended by the MUTCD to demarcate roadside obstacles. The MUTCD provides standards for type 2 and type 3 markers as shown in **Figure A5** below. It is recommended that Type 3 object markers be used to mark significant obstacles directly adjacent to the roadside, such as culvert headwalls (**Figure A6a**), while type 2 markers may be used to delineate frequent occurrences such as utility pole locations (**Figure A6b**).

The recommended minimum height for object markers is lower than standard signing, with a minimum height of 4 feet above the edge of the roadway. This lowered height allows for the object markers to be within the direct eye line of the driver and indicate the obstacle position relative to the vehicle. Additionally, when placing Type 2 and Type 3 object markers the near edge of the object marker should be placed in-line with the near edge of the obstacle to provide further guidance to the driver.

Figure A5: MUTCD Object Marker

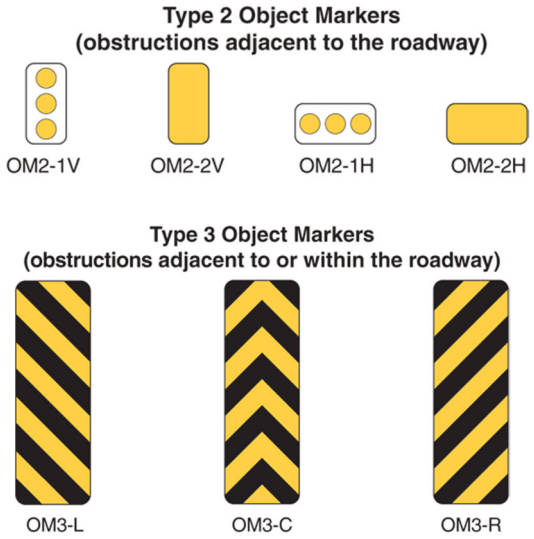


Figure A6: Object Marker Application a) Type 3 and b) Type 2

Stop Controlled Intersections

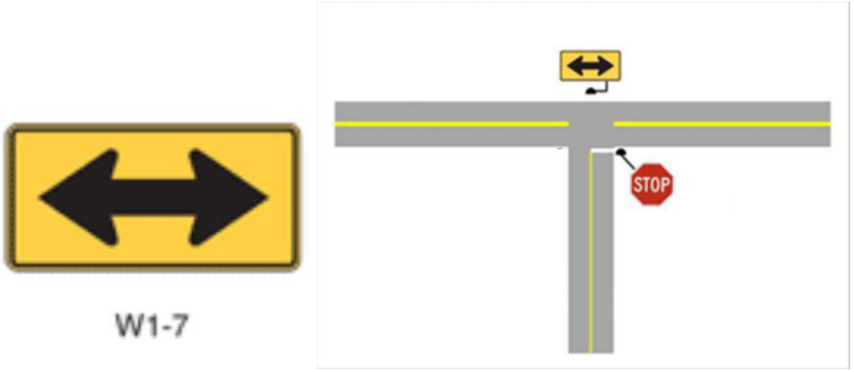
Many roadways have minimally placed traffic control at intersections, particularly at 'T' intersections. These intersections typically only have a single stop sign and in some cases the stop sign is misplaced or on the opposite side of the roadway.

In addition to signing, pavement markings, specifically painted stop bars, can be effective in delineating the intended stopping point of vehicles at intersections and indicating the presence of the intersection. While pavement markings can present additional maintenance requirements, they are recommended for installation at:

1. Wide or skewed access points and intersections within curves which increase driver uncertainty as to the intended stop location,
2. At intersections or on corridors with a documented intersection crash history or
3. At intersections with high exposure for sever crashes, such as high volume / high speed uncontrolled cross streets, e.g., state highways.

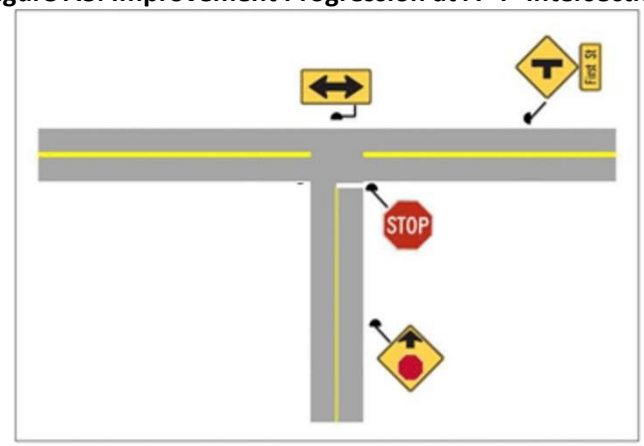
At 'T' intersections, especially in unlit areas, the presence of the intersection may be even more difficult to discern for some drivers. In addition to the risk associated with entering the intersection, fixed object crashes if a driver proceeds through a 'T' intersection are also common. A Two Direction Large Arrow signs (W1-7) is another low-cost method to reinforce stop control at T- intersections. It is proposed that Crittenden County adopt the use of the Two Direction Large Arrow (W1-7) sign at all 'T' intersections on rural roads as shown in **Figure A7**.

Figure A7: Large Arrow Board Placement At T-Intersections



In cases where vegetation partially or fully blocks existing signs, vegetation should be trimmed back. In cases where other sight distance limitations exist that block signs from view, such as horizontal or vertical curves, advance traffic control signs should be utilized, such as stop ahead signing (W3-1). For intersections with persistent crash history or demonstrated high frequency and high severity of crashes, dual mounted signing may be used as shown in **Figure A8** below.

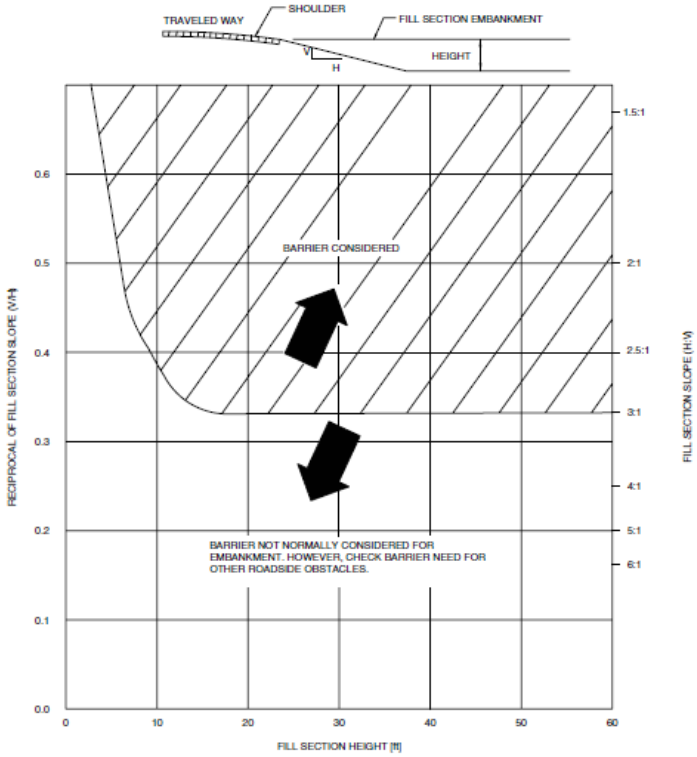
Figure A8: Improvement Progression at A 'T' Intersection



Guardrail

Select guidance based on KYTC standards for guardrail installation is provided below. Additional guidance can be found in KYTC Standard Roadway Drawings and the AASHTO Roadside Design Guide.

Based on AASHTO guidance from the Roadside Design Guide, guardrail should be considered on critical slopes steeper than 3:1 with a fill height over 10 feet (**Figure A9**). To give vehicles sufficient opportunity to recover without impacting an obstacle, guardrails should be placed as far away from the traveled way as practical.



Barrier Installation

To protect against rollover crashes, the guardrail should be 31" (+/- 1") above the road surface and should have a minimum of 2 foot of soil backing at a slope of 10:1 or flatter (**Figure A10**). If placing 2 feet of fill material behind the barrier is not practical, longer post lengths (e.g., 7-foot) may be used.

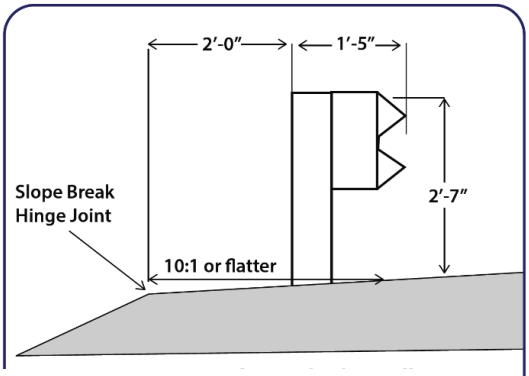


Figure A10: Normal Guardrail

Barrier End Treatments

If the end of barrier systems (e.g., guardrail) are located within the clear zone, they must be anchored and shielded with end treatments. Guardrail end treatments are frequently used to minimize the severity of impacts with fixed objects by gradually decelerating an impacting vehicle to a stop or redirecting it around the object of concern. Barrier end treatments should comply with MASH guidelines.

Figure A11: Preferred Guardrail End Treatments


Type 3 End Treatment


Type 2A End Treatment

Type 1 End Treatment

The preferred end treatment for guardrail sections is to anchor the guardrail in a backslope terminal, known as a Type 3 end treatment at appropriate height (**Figure A11**). If the guardrail can be anchored out of the clear zone an anchored end treatment Type 2A may be used which installs a terminal Section No. 1. When these types of end treatments are not feasible, a Type 1 (Energy Absorbing Straight-Line Terminal) is preferred.

Type 7, commonly known as a turn down end treatment (**Figure A12**) does not meet MASH crash guidelines and are only permitted on low speed / low volume roadways. These should be used only when adequate recovery zones are unavailable for other preferred end treatment types.


Type 7 End Treatment

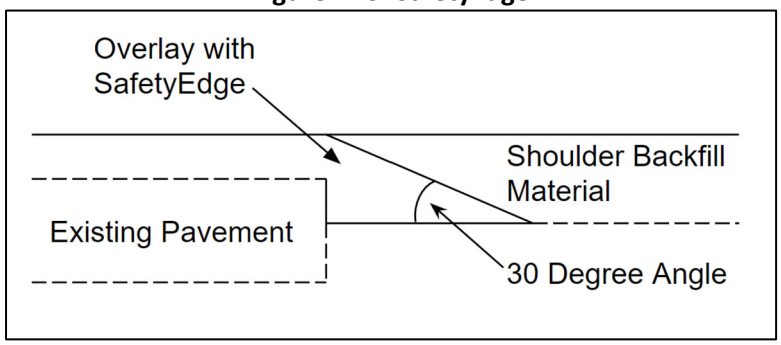
SafetyEdge[SM]

Pavement edge drop offs make it difficult for a vehicle that gets a wheel off the pavement to safely re-enter the roadway. The steering overcorrec. on necessary to overcome the drop off can cause the vehicle to re-enter the roadway abruptly and at an excessive angle. This can result in the vehicle swerving into oncoming traffic or rolling over. Due to the severity of this crash type, it is important for agencies to limit pavement edge drop offs on their roadways.

Pavement edge drop offs often form on aggregate and earth shoulders as a result of erosion, rutting, and settlement. Preventing drop offs requires continual maintenance which can be difficult for agencies to keep up with. One technique which has been successfully implemented to mitigate this issue is the SafetyEdge. The SafetyEdge **(Figure A13)** shapes the edge of the pavement at approximately a 30-degree angle. This is done by attaching a special device to the paving screen during resurfacing. The additional asphalt cost to form the safety edge is negligible, but some additional cost may be incurred to cut back and restore the shoulder prior to and after the installation of the SafetyEdge. If the shoulder material is displaced over time, the exposed pavement wedge allows vehicles that get a wheel off the pavement to safely re-enter the roadway.

The use of SafetyEdge and proper maintenance of the shoulders can also increase the life of the pavement by providing additional support at the edge and allowing for water to drain away from the roadway. It is recommended that SafetyEdge be installed on all pavements when they are resurfaced.

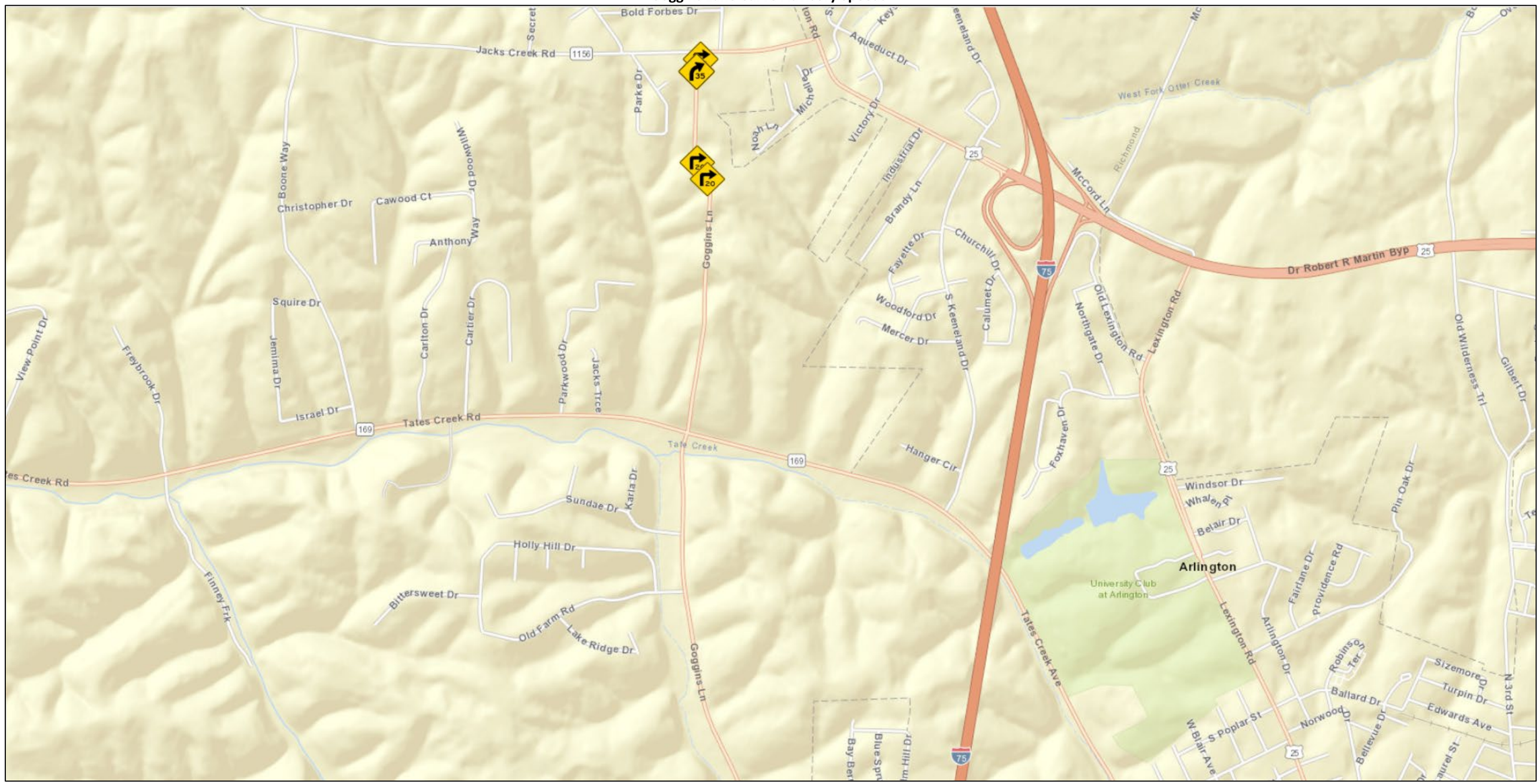
Figure A13: SafetyEdge



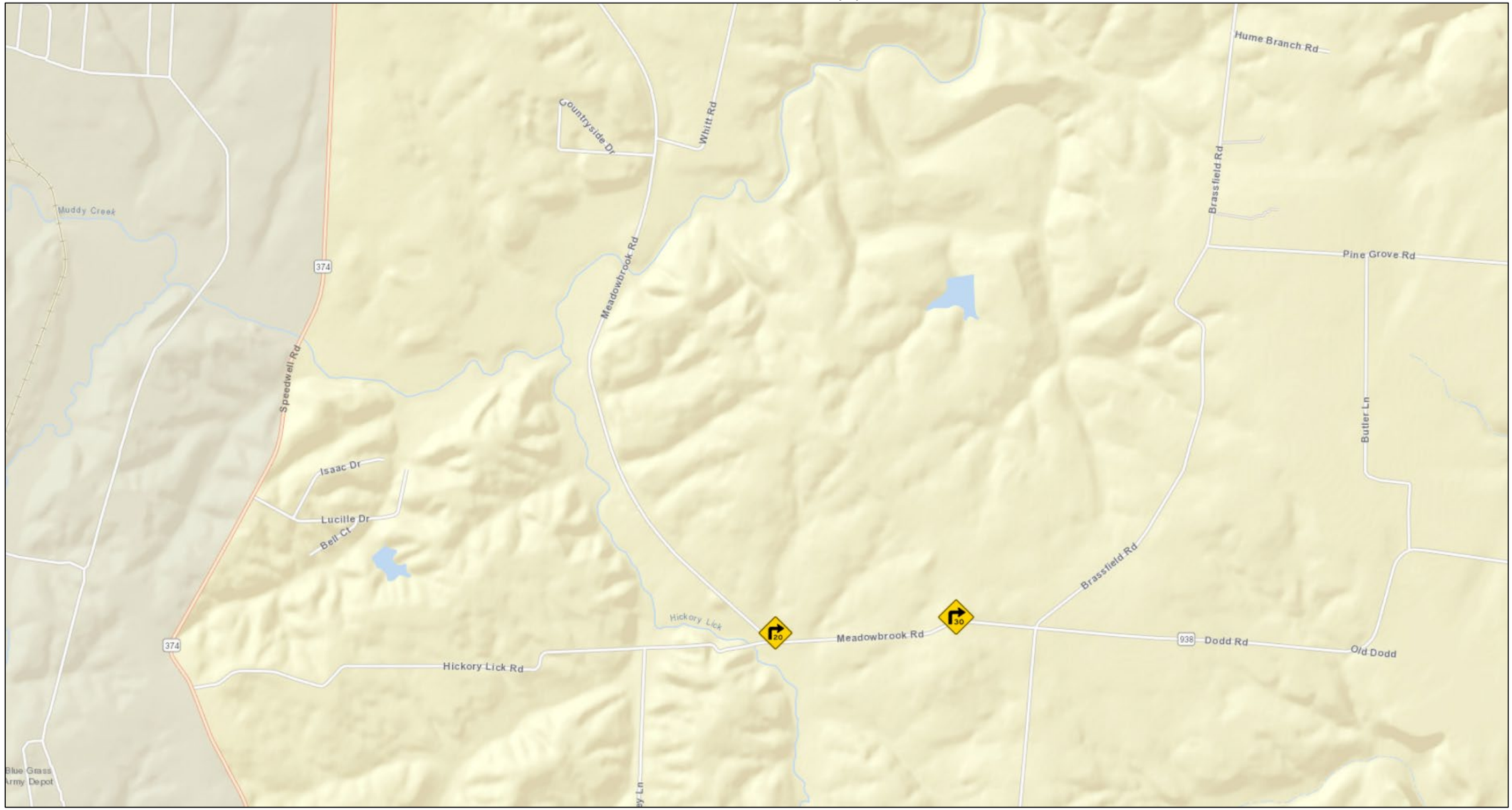
Appendix B: Advisory Speeds for Horizontal Curves

Appendix B: Advisory Speeds for Horizontal Curves

Goggins Lane Curve Advisory Speeds



Meadowbrook Road Curve Advisory Speeds



Appendix U: Seat Belt Observation Protocols for Preusser Research Group Observers

These instructions describe procedures for observing adult seat belts including where to stand, what to look for, and coding information. Please read through these instructions before starting your observations.

If you must choose a new location from which to observe, please follow #'s 1-3 below. If you are returning to a site that has been used in the past, find the site map and skip to #4 below.

1. Choosing Observation Sites - In your packet of material is a list of observation sites, together with maps, descriptive information (road names, cross streets, etc.), and schedule. Each map will be pinpointed in Google maps. Using a GPS system can make finding locations easy but, due to the possibility of equipment failure and the remote location of some of the sites, you will be provided with a paper printout of all your sites.

When you arrive to the general location of a site, your first task is to find a specific location suitable for observing seat belt use. Select a spot that allows you to safely park your car and observe, without risk to yourself or traffic (e.g., by being a distraction or by impeding the driver's view), and where you can readily make accurate observations of belt use. Avoid standing on private property if possible (use sidewalks when available). Find a reference point and use it throughout the observation period.

It is recommended that you first look for a place where traffic must slow naturally, like a stop sign, traffic signal (stop signs are better than traffic signals) or a sharp curve. It is acceptable to move "up or down the street" away from the pin a little (as far as the next major intersection on either side of the pin) if this helps you locate a better spot for making observations. However, you must observe traffic on the same roadway indicated on your map and the flow of traffic must be the same stream of traffic that passes where the pin is located on your map.

When you have selected the exact location for observing, mark the location on your general map and draw a detailed "site map" on the form provided. (See #3)

2. Direction to Observe –Only one direction of travel will be observed (normally the traffic lane closest to the observation point). On roads with two-way traffic, the direction of traffic to observe must be chosen randomly by flipping a coin. Record travel direction on the Observation Form.

3. Drawing a Site Map - A site map is a diagram that provides us with the information we need to replicate your procedures at each site. Use the Seat Belt Observation Site Map form to draw site maps for each site. A good site map indicates where the observer parked their car and stood to make observations, the traffic flow observed, point of reference, prominent landmarks (names of intersecting roadways, traffic lights, nearby buildings, etc.) as well as a north arrow. **MOST IMPORTANTLY, *DOCUMENT* EXACTLY WHAT YOU DID AT EACH OBSERVATION SITE, SO IN FUTURE VISITS WE CAN MEASURE THE SAME WAY.**

4. Alternate Sites – If you arrive at a site and find it is unsuitable for making observations, an alternate site will need to be used. Find your Alternate Site List and call the program manager.

5. Observation Days and Times – Your schedule indicates the day of week, time, and location you will conduct observations for each site. You must adhere to this schedule. If you see that changes are necessary, contact the program manager to discuss. You will need to observe for a **continuous 45 minutes from the time you start observing**. Observe in poor weather if you can stay dry (enough) and your ability to make accurate judgments is not compromised. Please start

your observation within the timeframe defined on your schedule. It is ok to start a little before or after the start time indicated on schedule if doing so will help you get to your next site on time or you are running a little late. However, if there is more than a 15-minute discrepancy between when you start and the time indicated on your schedule, please inform the program manager.

6. Vehicles to Observe – Qualifying vehicles include passenger vehicles under 10,000 pounds - automobiles, pickup trucks, recreational vehicles, jeeps, or vans (private, public, and commercial). Pickup trucks should be coded as "trucks". Jeeps, Broncos, Blazers, and other vehicles of that type should be coded as SUVs. *Commercial vehicles of the same vehicle type are to be included in the observations* (E.g., Telephone Company vehicle that is a box truck would not be included in sample, but a Telephone Company van would be included.) Eligible vehicles should be observed regardless of the state in which they are registered.

7. Heavy Traffic Conditions – At some sites you will be able to observe every vehicle but do not rush to do this – **accuracy is a product of "ease of observation" and accuracy is far more important than speed**. The idea here is randomness. If you will not be observing every vehicle, use a reference point(s) to determine which vehicles to observe. Pick your reference point(s) some distance up the road and the next car to pass the point(s) is the next vehicle to observe. In other words, after recording data for that vehicle, look up and record data for the next car passing your reference point(s). A reference point should ideally be a permanent fixture (not a parked car) and should be included on the site map.

8. Observation Period – The observation period for each site is ***45 continuous minutes***. If a site must be cut short due to weather, do not go back at a different time of the day to make up what time might be remaining. Call the program manager if an observation period must be cut short.

9. Whom to Observe – **Front seat drivers and outboard front seat passengers.** If there are more than two occupants in the front seat of a passenger vehicle, only observe the driver and the passenger closest to the passenger-side door. Thus, if there are three occupants in the front seat, the observer would ignore the middle occupant. A qualifying passenger is any person not in a child car seat.

10. Completing Data Sheets – As you observe a qualifying vehicle, record the type of vehicle (car, truck, SUV, van), the occupants' sex (male or female), race (white, black, Hispanic, other), and shoulder restraint use (yes "+" or no "-") of front and rear seat occupants (front seat "outboard" passenger only).

WRITE LEGIBLY! We realize that it is not always easy to write neatly when out in the field, but the data collected will be no good if the data entry team cannot decipher what is written on the form. If you make a mistake, please ensure the correct response is written clearly. Please look over your form and tidy it up after the observation period is over.

Completed observation forms should be gathered and stapled at the end of each observation period. Indicate page numbers at the bottom of each page in the packet and complete the top portion of each page. This ensures all the data is entered correctly should a page get separated.

11 Returning Material After Completing Observations – Ensure you have put everything you brought with you back into your vehicle before leaving the observation site and pick up your trash. Use a folder or envelope (one will be provided) to keep data forms away from food and drink. Return all materials to PRG office as soon as possible.

Tips for Conducting Seat Belt Observations

Conducting seat belt observations is not particularly hard work, but it is tedious work. Conditions are often hot and humid in the summer and cold and wet in the winter. Observers must make a special effort to maintain the quality of the observations. Here are some tips and recommendations based on years of conducting these observations.

1. Dress for the work. At day and in the summertime, a hat, sunscreen, bug spray, and sunglasses are essential. If you do not have the complexion that will allow several hours in the sun, you should wear long pants and a long-sleeved shirt. The discomfort that comes with the heat is much more bearable (and considerably shorter) than a severe sunburn. At night and in the wintertime, wear layers of clothing and take care of your feet and hands with proper foot and head wear. Polarized sunglasses can help reduce glare making it easier to observe belt use. Inexpensive polarized glasses can be found at discount stores.
2. **Always wear an orange safety vest while stationed at the observation site.** Not only does it provide increased visibility for your safety, but it also gives you an "official" appearance that helps put people at ease. Drivers and property owners are wary of people hanging around corners peering into cars, especially if there are children in the vicinity. The vest helps reassure that you are not some stranger lurking around peering into cars. Still, do not be insulted by windows going up, doors locking, etc.
3. Keep the project letter handy. Included in the letter are PRG contact names and numbers as well as contact information of our contacts at the local law enforcement agency. Although local police departments have been informed that we are conducting research in the area, rank-and-file police officers may or may not have been informed that you have permission to observe. If the police ask what you are doing, show them the letter.
4. People are sensitive about observations of their license plates. If a motorist asks what you are doing, go ahead and reassure motorists that you are not recording anything identifying or personal, like license plate information.
5. Be thoroughly familiar with all data collection procedures. Just one person consistently making the same mistakes can bias the results. The point of this research is to get an accurate reading of seat belt usage so education campaigns can be developed for low-usage groups. Accurate information is vital.
6. Each observer is ultimately responsible for his/her work, as well as safety. Remember, observation requires that you stand close to traffic. Stay alert and be ready to react.

FAQs

What vehicles do I observe? *Commercial vehicles of the same vehicle type listed on the observation form are to be included in the observations.* (E.g., Telephone Company vehicle that is a box truck would not be included in sample, but a Telephone Company van would be included.)

INCLUDE:	**DO NOT INCLUDE:**
Passenger cars (including limousines & taxis)	Box trucks
4-wheel pickup trucks (private or commercial)	Semis or trucks with more than 4 wheels
Recreational vehicles (RVs)	Tow trucks
Jeeps	Buses
Vans (private, public, or commercial)	Street sweepers
SUVs	Emergency Vehicles

Who do I observe? Belt use for drivers and the front seat occupant seated closest to the door. Do not record data for passengers riding in the middle of the front seat. If a child is present in the front seat in a child restraint seat, do not record anything. However, a child riding in the front seat, regardless of age, who is not in a child restraint seat, should be observed as any other front seat passenger.

What if weather conditions are poor when I arrive at the site? If you arrive at a site and weather conditions make it impossible to see accurately or record information, do not collect data. Find a dry place and wait 15 minutes. Begin observing again once the weather has cleared and extend the observation period to make up for the time missed. Otherwise, we will have to reschedule the site. (Note: observations may continue in light fog, drizzle, or mist).

Some people have the shoulder strap behind their back. Does that qualify as "belted"? No. If you notice a lap belt in use without a shoulder belt, it should be recorded as not restrained. Only shoulder belts are to be counted. Even if the vehicle likely has no shoulder belts, code the occupant(s) as not restrained. If the person is using the shoulder belt improperly, e.g., has the shoulder strap under his/her arm or behind the back, this should be recorded as not restrained.

What if the site is not safe? ***If you feel your personal safety is at risk for any reason, leave immediately and call the PRG project manager.***

What if there is road construction or an accident that causes traffic difficulty at the site? If this occurs, move up or down the same street so that you are observing the same stream of traffic that would have normally been observed had there been no obstruction. If moving up or down one block will not solve the problem, do not conduct the observation. You should select an alternate site to use. **Call the PRG project manager if you must use an alternate site**.

What do I do if the police or a property owner asks, "What are you doing?" Stay calm, this happens quite often. Tell them you are conducting seat belt observations for a Department of Transportation project. Offer the permission/summary letter included in your folder to the person questioning your presence. Continue observing. It is okay for them to see your data sheet and maybe even watch you conduct a few observations. Confirming you are who you say you are might put them at ease. If you are told to leave the site, leave, and then call the project manager.

Appendix V: Binary Logistic Regressions Arkansas

Belt Use by Wave and Site: Pre-Post Overall

Variables in the Equation									
								95% C.I. for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Wave(1)	.223	.097	5.312	1	.021	1.250	1.034	1.511
	SITETYPE(1)	.048	.076	.398	1	.528	1.049	.904	1.218
	SITETYPE(1) by Wave(1)	.107	.108	.982	1	.322	1.112	.901	1.373
	Constant	.979	.069	199.993	1	.000	2.662		
a. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.									

Belt Use by Wave and County: Pre-Post

Variables in the Equation									
								95% C.I. for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[a]	Wave(1)	.223	.097	5.312	1	.021	1.250	1.034	1.511
	County			35.504	5	.000			
	County(A)	.238	.118	4.035	1	.045	1.268	1.006	1.599
	County(B)	.358	.105	11.637	1	.001	1.430	1.165	1.757
	County(C)	-.035	.089	.154	1	.695	.966	.811	1.150
	County(D)	-.253	.107	5.565	1	.018	.777	.630	.958
	County(D)	.017	.094	.033	1	.856	1.017	.846	1.222
	County * Wave			6.340	5	.275			
	County(A) by Wave(1)	.064	.168	.146	1	.702	1.066	.767	1.483
	County(B) by Wave(1)	-.014	.148	.009	1	.923	.986	.738	1.317
	County(C) by Wave(1)	.197	.130	2.304	1	.129	1.217	.944	1.570
	County(D) by Wave(1)	-.070	.152	.215	1	.643	.932	.692	1.255
	County(E) by Wave(1)	.194	.136	2.046	1	.153	1.214	.931	1.584
	Constant	.979	.069	199.993	1	.000	2.662		
a. Variable(s) entered on step 1: Wave, County, County * Wave.									

Belt Use by Wave and Site: Pre-Post2 Overall

Variables in the Equation							
		B	**S.E.**	**Wald**	**df**	**Sig.**	**Exp(B)**
Step 1[a]	Wave(1)	.318	.097	10.620	1	.001	1.374
	SITETYPE(1)	.048	.076	.398	1	.528	1.049
	SITETYPE(1) by Wave(1)	-.196	.108	3.314	1	.069	.822
	Constant	.979	.069	199.993	1	.000	2.662
a. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.							

Appendix W: Model Specifications and Regression Outputs – Kentucky

Pre-Post DRIVER

Variables in the Equation[a]									
								95% C.I. for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[b]	Wave(1)	-.253	.137	3.417	1	.065	.776	.593	1.015
	SITETYPE(1)	-.053	.098	.289	1	.591	.948	.782	1.150
	SITETYPE(1) by Wave(1)	-.072	.147	.243	1	.622	.930	.698	1.240
	Constant	-1.184	.092	165.181	1	.000	.306		

a. OccType = Driver
b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Pre-Post2 DRIVER

Variables in the Equation[a]									
								95% C.I. for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[b]	Wave(1)	-.066	.136	.232	1	.630	.936	.717	1.223
	SITETYPE(1)	-.053	.098	.289	1	.591	.948	.782	1.150
	SITETYPE(1) by Wave(1)	-.543	.148	13.384	1	.000	.581	.435	.777
	Constant	-1.184	.092	165.181	1	.000	.306		

a. OccType = Driver
b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

postPASSENGER

Variables in the Equation[a]									
		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1[b]	Wave(1)	.346	.263	1.736	1	.188	1.413	.845	2.365
	SITETYPE(1)	.145	.207	.487	1	.485	1.156	.770	1.735
	SITETYPE(1) by Wave(1)	-.852	.284	8.985	1	.003	.427	.245	.745
	Constant	-1.490	.196	57.985	1	.000	.225		

a. OccType = Passenger
b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Pre-Post2 PASSENGER

Variables in the Equation[a]									
		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1[b]	Wave(1)	-.286	.302	.897	1	.344	.751	.415	1.358
	SITETYPE(1)	.145	.207	.487	1	.485	1.156	.770	1.735
	SITETYPE(1) by Wave(1)	-.304	.326	.868	1	.351	.738	.389	1.398
	Constant	-1.490	.196	57.985	1	.000	.225		

a. OccType = Passenger
b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Model Specifications and Regression Outputs – Kentucky (continued)

Pre-Post MALE

Variables in the Equation[a]									
		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1[b]	Wave(1)	-.177	.145	1.494	1	.222	.838	.630	1.113
	SITETYPE(1)	.016	.106	.024	1	.877	1.017	.826	1.251
	SITETYPE(1) by Wave(1)	-.158	.156	1.025	1	.311	.854	.629	1.159
	Constant	-.958	.099	94.115	1	.000	.384		

a. SEX = Male

b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Pre-Post2 MALE

Variables in the Equation[a]									
		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1[b]	Wave(1)	-.039	.149	.068	1	.794	.962	.718	1.288
	SITETYPE(1)	.016	.106	.024	1	.877	1.017	.826	1.251
	SITETYPE(1) by Wave(1)	-.556	.162	11.827	1	.001	.573	.418	.787
	Constant	-.958	.099	94.115	1	.000	.384		

a. SEX = Male

b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Pre-Post FEMALE

Variables in the Equation[a]									
		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1[b]	Wave(1)	.041	.227	.032	1	.858	1.042	.667	1.627
	SITETYPE(1)	.065	.171	.145	1	.703	1.067	.763	1.493
	SITETYPE(1) by Wave(1)	-.512	.243	4.422	1	.035	.599	.372	.966
	Constant	-1.833	.162	127.386	1	.000	.160		

a. SEX = Female
b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Pre-Post2 FEMALE

Variables in the Equation[a]									
		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1[b]	Wave(1)	-.121	.236	.262	1	.609	.886	.558	1.407
	SITETYPE(1)	.065	.171	.145	1	.703	1.067	.763	1.493
	SITETYPE(1) by Wave(1)	-.587	.256	5.270	1	.022	.556	.337	.918
	Constant	-1.833	.162	127.386	1	.000	.160		

a. SEX = Female
b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Model Specifications and Regression Outputs – Kentucky (continued)

Pre-Post CAR

Variables in the Equation[a]									
		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1[b]	Wave(1)	.095	.209	.208	1	.648	1.100	.731	1.656
	SITETYPE(1)	.237	.154	2.368	1	.124	1.267	.937	1.713
	SITETYPE(1) by Wave(1)	-.401	.225	3.186	1	.074	.669	.431	1.040
	Constant	-1.574	.144	119.089	1	.000	.207		

a. VEHICLE = Car
b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Pre-Post2 CAR

Variables in the Equation[a]									
		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1[b]	Wave(1)	.149	.221	.453	1	.501	1.161	.752	1.791
	SITETYPE(1)	.237	.154	2.368	1	.124	1.267	.937	1.713
	SITETYPE(1) by Wave(1)	-.753	.241	9.775	1	.002	.471	.294	.755
	Constant	-1.574	.144	119.089	1	.000	.207		

a. VEHICLE = Car
b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Pre-Post TRUCK

Variables in the Equation[a]									
								95% C.I. for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[b]	Wave(1)	-.234	.192	1.480	1	.224	.791	.543	1.154
	SITETYPE(1)	.113	.140	.650	1	.420	1.119	.851	1.471
	SITETYPE(1) by Wave(1)	-.164	.207	.626	1	.429	.849	.566	1.274
	Constant	-.808	.130	38.873	1	.000	.446		

a. VEHICLE = Truck
b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Pre-Post2 TRUCK

Variables in the Equation[a]									
								95% C.I. for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[b]	Wave(1)	-.247	.203	1.476	1	.224	.781	.524	1.164
	SITETYPE(1)	.113	.140	.650	1	.420	1.119	.851	1.471
	SITETYPE(1) by Wave(1)	-.220	.221	.993	1	.319	.803	.521	1.237
	Constant	-.808	.130	38.873	1	.000	.446		

a. VEHICLE = Truck
b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Model Specifications and Regression Outputs – Kentucky (continued)

Pre-Post SUV

Variables in the Equation[a]									
								95% C.I. for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[b]	Wave(1)	-.621	.283	4.810	1	.028	.537	.308	.936
	SITETYPE(1)	-.510	.200	6.507	1	.011	.601	.406	.889
	SITETYPE(1) by Wave(1)	.289	.299	.937	1	.333	1.335	.744	2.397
	Constant	-1.245	.189	43.309	1	.000	.288		

a. VEHICLE = SUV
b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Pre-Post2 SUV

Variables in the Equation[a]									
								95% C.I. for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[b]	Wave(1)	-.426	.259	2.705	1	.100	.653	.393	1.085
	SITETYPE(1)	-.510	.200	6.507	1	.011	.601	.406	.889
	SITETYPE(1) by Wave(1)	-.341	.282	1.460	1	.227	.711	.409	1.236
	Constant	-1.245	.189	43.309	1	.000	.288		

a. VEHICLE = SUV
b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Pre-Post VAN

Variables in the Equation[a]									
								95% C.I. for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[b]	Wave(1)	1.024	.522	3.848	1	.050	2.785	1.001	7.750
	SITETYPE(1)	.473	.454	1.087	1	.297	1.605	.659	3.906
	SITETYPE(1) by Wave(1)	-1.437	.565	6.474	1	.011	.238	.079	.719
	Constant	-2.058	.434	22.544	1	.000	.128		

a. VEHICLE = Van
b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Pre-Post2 VAN

Variables in the Equation[a]									
								95% C.I. for EXP(B)	
		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
Step 1[b]	Wave(1)	1.142	.552	4.282	1	.039	3.133	1.062	9.243
	SITETYPE(1)	.473	.454	1.087	1	.297	1.605	.659	3.906
	SITETYPE(1) by Wave(1)	-1.532	.590	6.731	1	.009	.216	.068	.688
	Constant	-2.058	.434	22.544	1	.000	.128		

a. VEHICLE = Van
b. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Appendix X: Binary Logistic Regressions Kentucky

Belt Use by Wave and Site: Pre-Post Overall

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1[a]	Wave(1)	-.124	.121	1.055	1	.304	.883	.697	1.119
	SITETYPE(1)	-.016	.089	.031	1	.861	.985	.827	1.172
	SITETYPE(1) by Wave(1)	-.234	.130	3.255	1	.071	.791	.614	1.020
	Constant	-1.244	.083	223.237	1	.000	.288		

a. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

Belt Use by Wave and County: Pre-Post

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1[a]	Wave(1)	-.124	.121	1.055	1	.304	.883	.697	1.119
	County			105.367	5	.000			
	County(A)	-.368	.117	9.973	1	.002	.692	.551	.870
	County(B)	.218	.102	4.511	1	.034	1.243	1.017	1.520
	County(C)	.204	.103	3.900	1	.048	1.227	1.002	1.503
	County(D)	-.628	.120	27.240	1	.000	.534	.422	.676
	County(E)	.206	.109	3.619	1	.057	1.229	.994	1.521
	County * Wave			15.146	5	.010			
	County(A) by Wave(1)	-.005	.170	.001	1	.976	.995	.713	1.388
	County(B) by Wave(1)	-.346	.153	5.133	1	.023	.707	.524	.954
	County(C) by Wave(1)	-.398	.153	6.771	1	.009	.672	.498	.907

Variables in the Equation

		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
	County(D) by Wave(1)	.008	.175	.002	1	.962	1.008	.715	1.422
	County(E) by Wave(1)	-.241	.160	2.266	1	.132	.786	.574	1.075
	Constant	-1.244	.083	223.237	1	.000	.288		

a. Variable(s) entered on step 1: Wave, County, County * Wave.

Belt Use by Wave and Site: Pre-Post2 Overall

Variables in the Equation

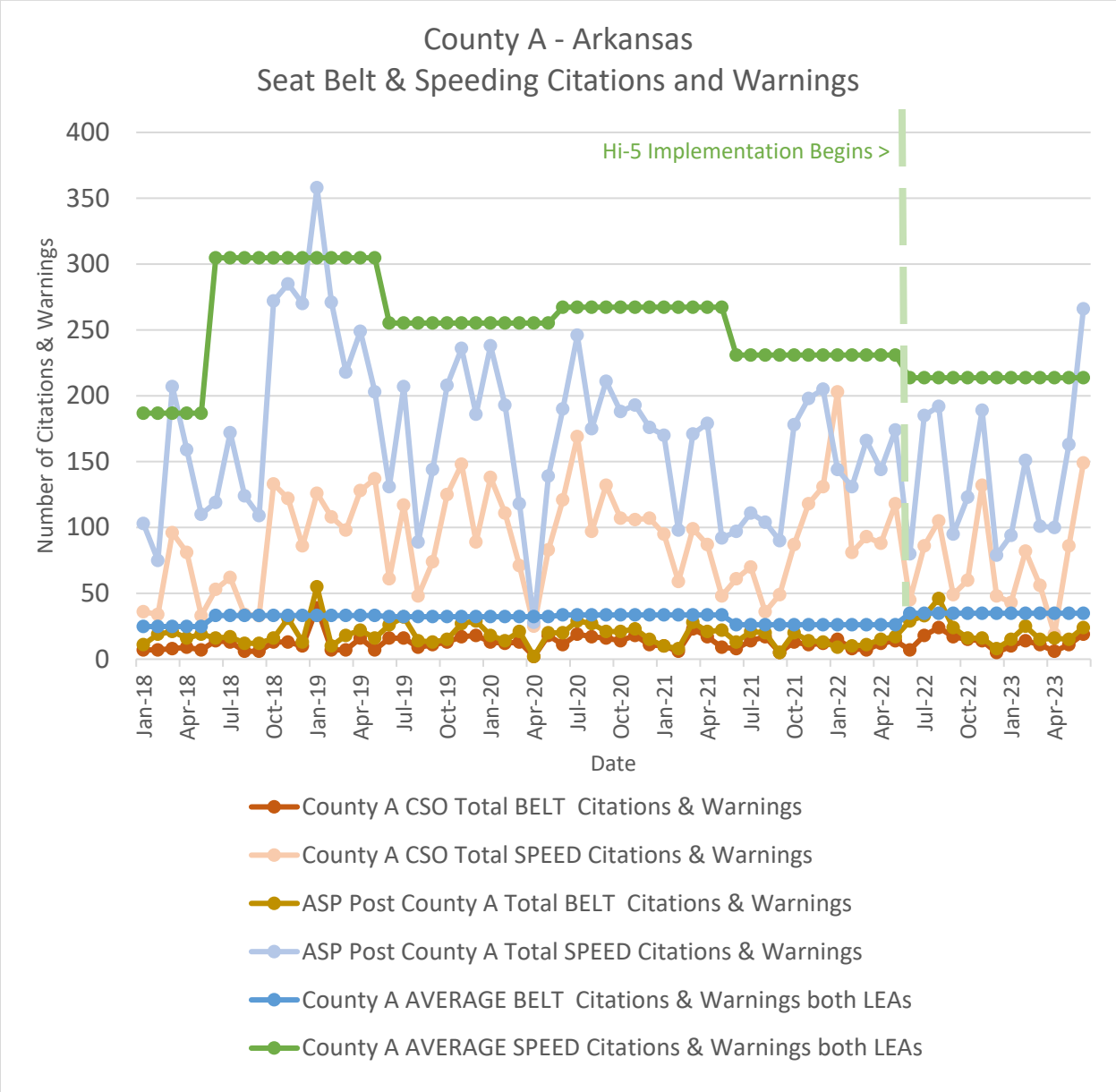
		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
Step 1[a]	Wave(1)	-.103	.124	.695	1	.404	.902	.707	1.150
	SITETYPE(1)	-.016	.089	.031	1	.861	.985	.827	1.172
	SITETYPE(1) by Wave(1)	-.499	.135	13.717	1	.000	.607	.466	.791
	Constant	-1.244	.083	223.237	1	.000	.288		

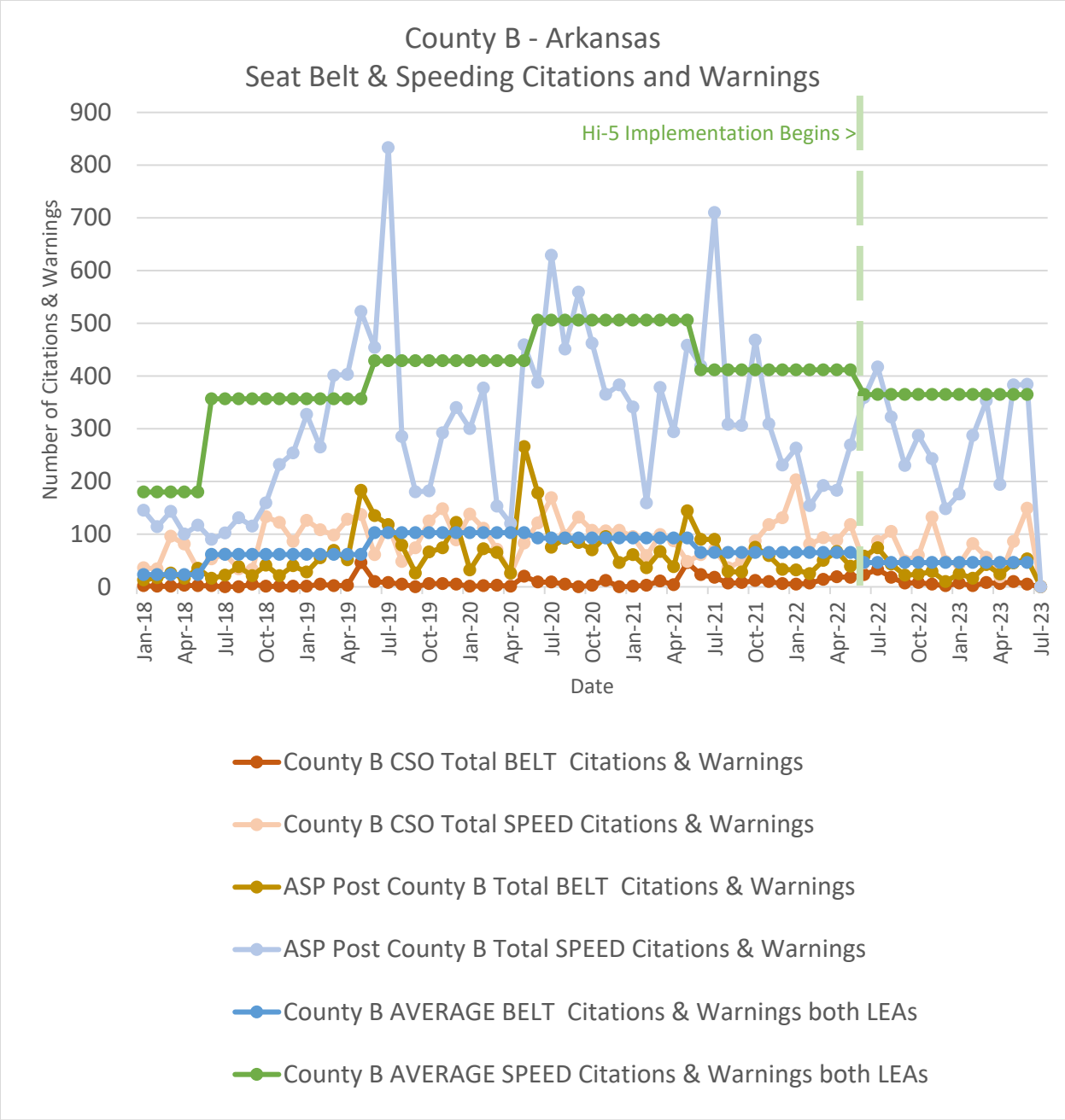
a. Variable(s) entered on step 1: Wave, SITETYPE, SITETYPE * Wave.

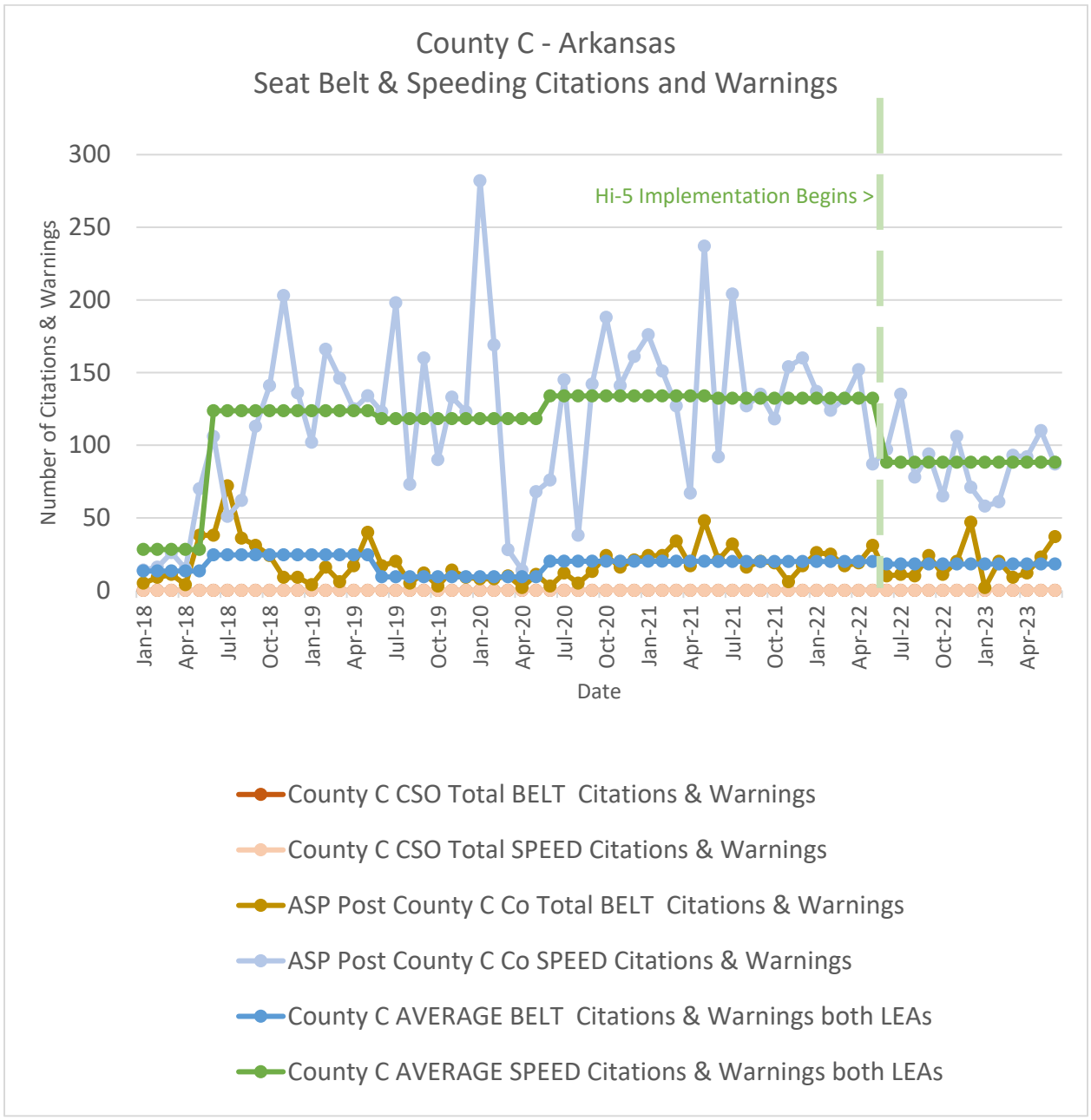
Appendix Y: Historical Citation Data

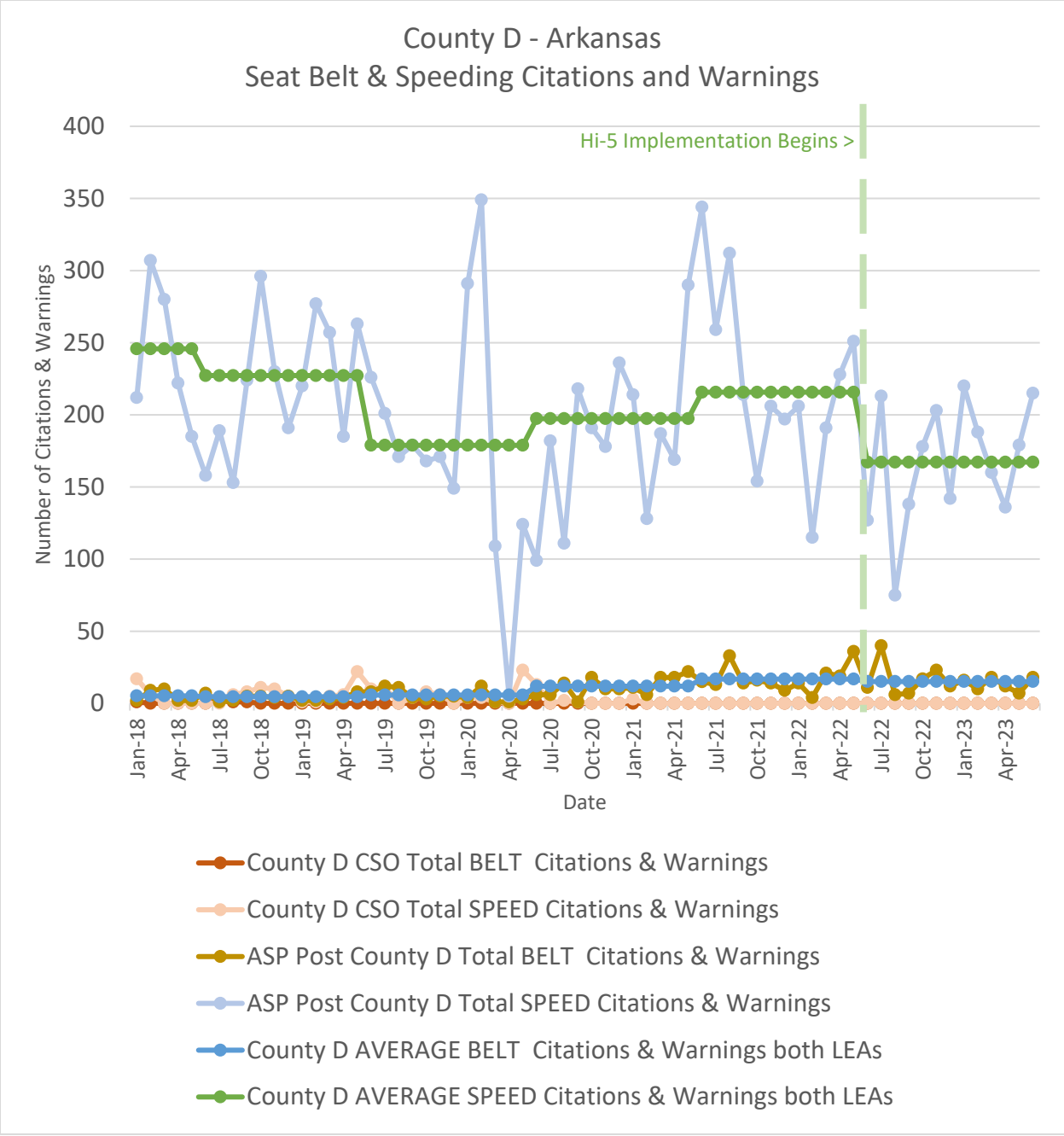
Arkansas Historical Citation Charts

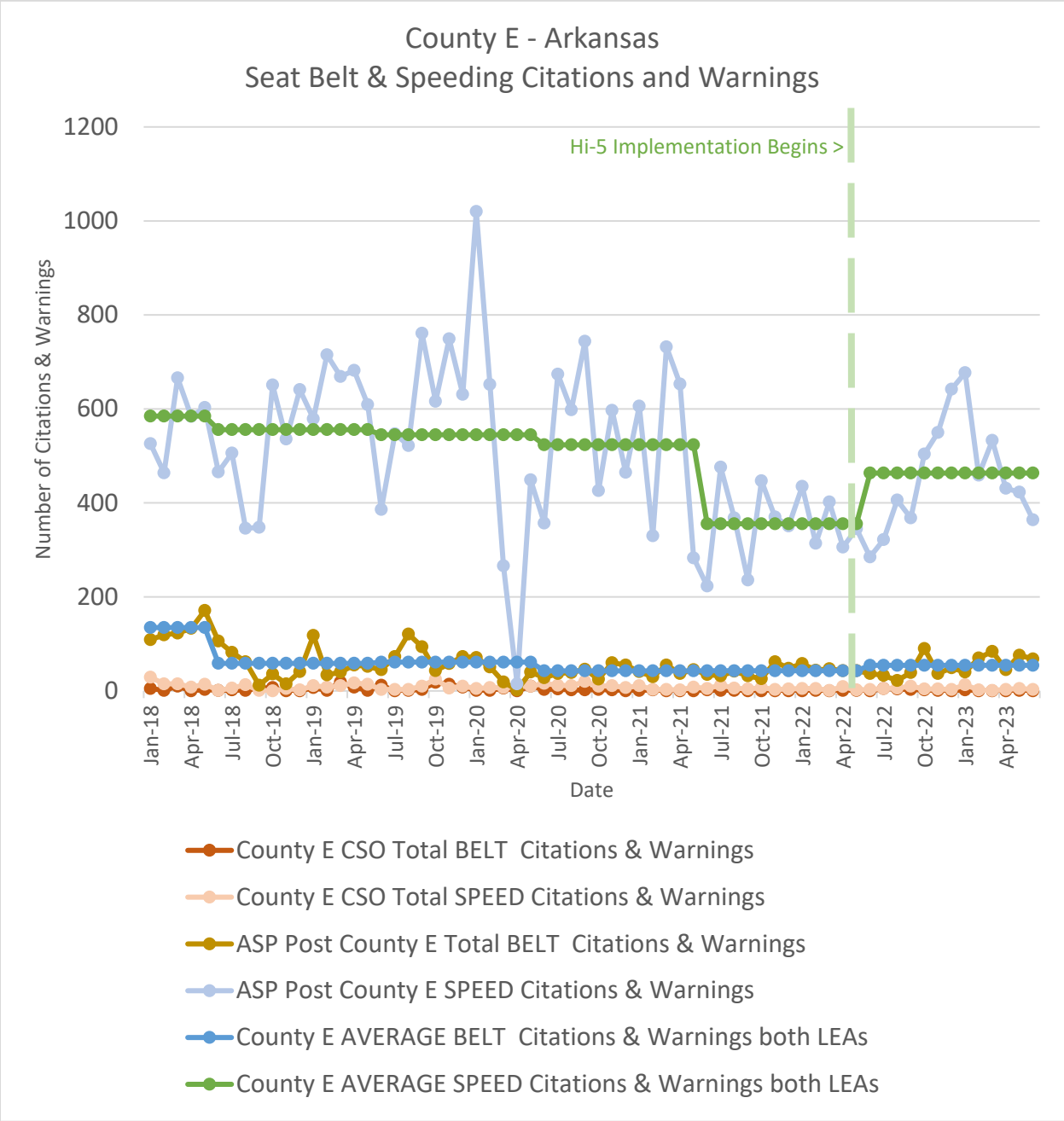
(Information for the AR control county was unavailable)



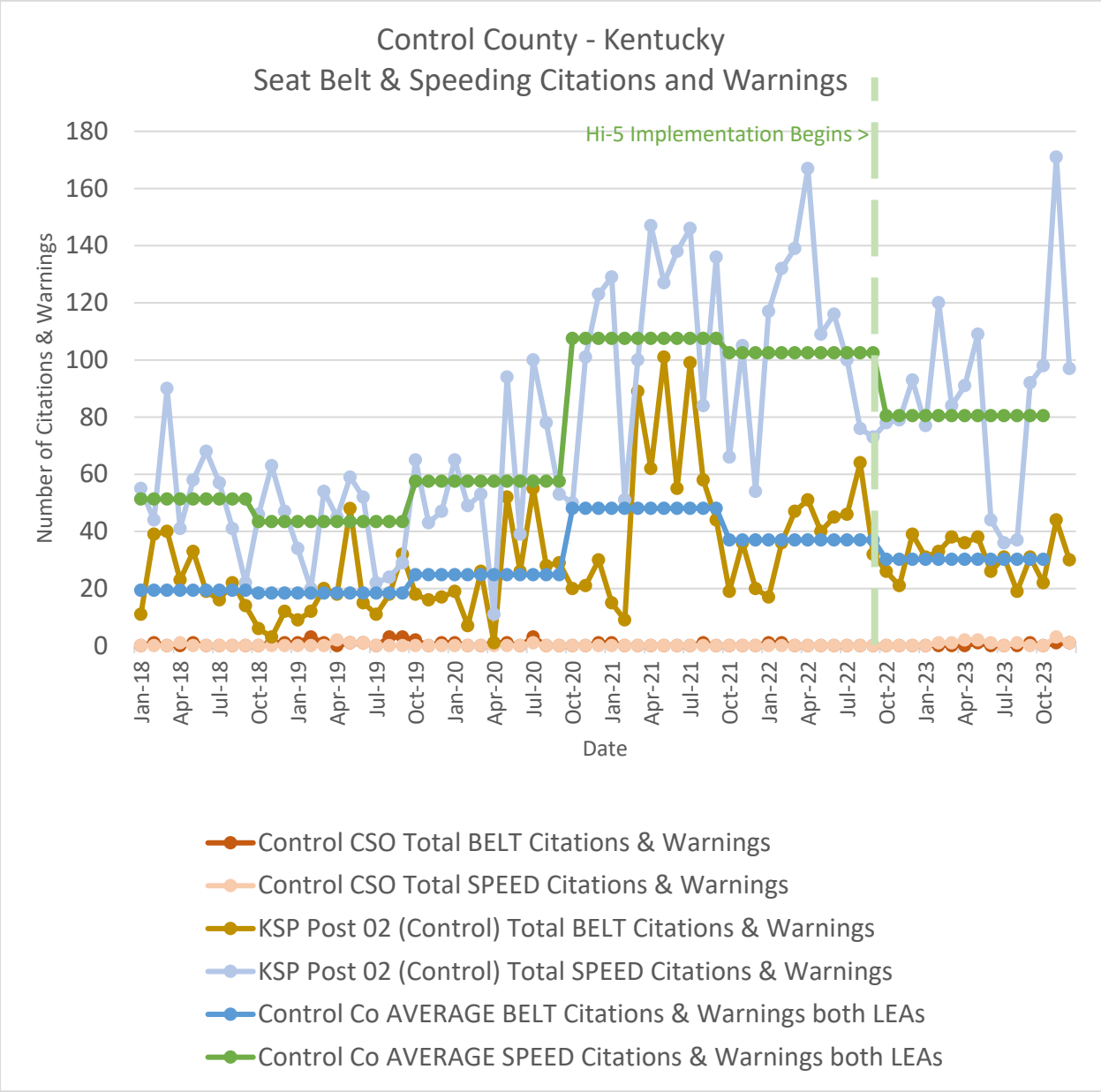

County B - Arkansas
Seat Belt & Speeding Citations and Warnings
Hi-5 Implementation Begins >
Number of Citations & Warnings
900
800
700
600
500
400
300
200
100
0
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
Jul-19
Oct-19
Jan-20
Apr-20
Jul-20
Oct-20
Jan-21
Apr-21
Jul-21
Oct-21
Jan-22
Apr-22
Jul-22
Oct-22
Jan-23
Apr-23
Jul-23
Date
County B CSO Total BELT Citations & Warnings
County B CSO Total SPEED Citations & Warnings
ASP Post County B Total BELT Citations & Warnings
ASP Post County B Total SPEED Citations & Warnings
County B AVERAGE BELT Citations & Warnings both LEAs
County B AVERAGE SPEED Citations & Warnings both LEAs

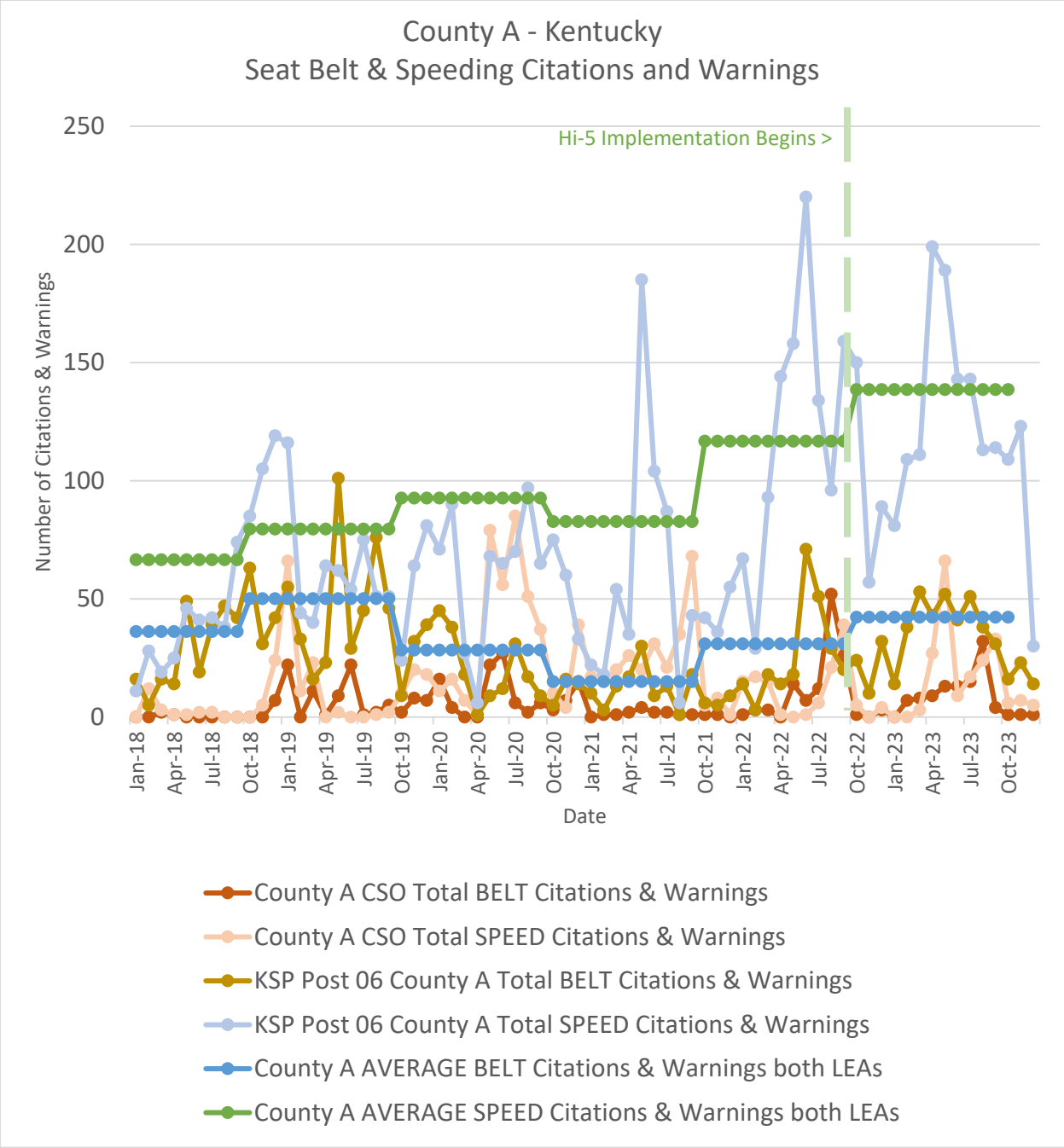

County C - Arkansas
Seat Belt & Speeding Citations and Warnings
Number of Citations & Warnings
300
250
200
150
100
50
0
Hi-5 Implementation Begins >
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
Jul-19
Oct-19
Jan-20
Apr-20
Jul-20
Oct-20
Jan-21
Apr-21
Jul-21
Oct-21
Jan-22
Apr-22
Jul-22
Oct-22
Jan-23
Apr-23
Date
County C CSO Total BELT Citations & Warnings
County C CSO Total SPEED Citations & Warnings
ASP Post County C Co Total BELT Citations & Warnings
ASP Post County C Co SPEED Citations & Warnings
County C AVERAGE BELT Citations & Warnings both LEAs
County C AVERAGE SPEED Citations & Warnings both LEAs

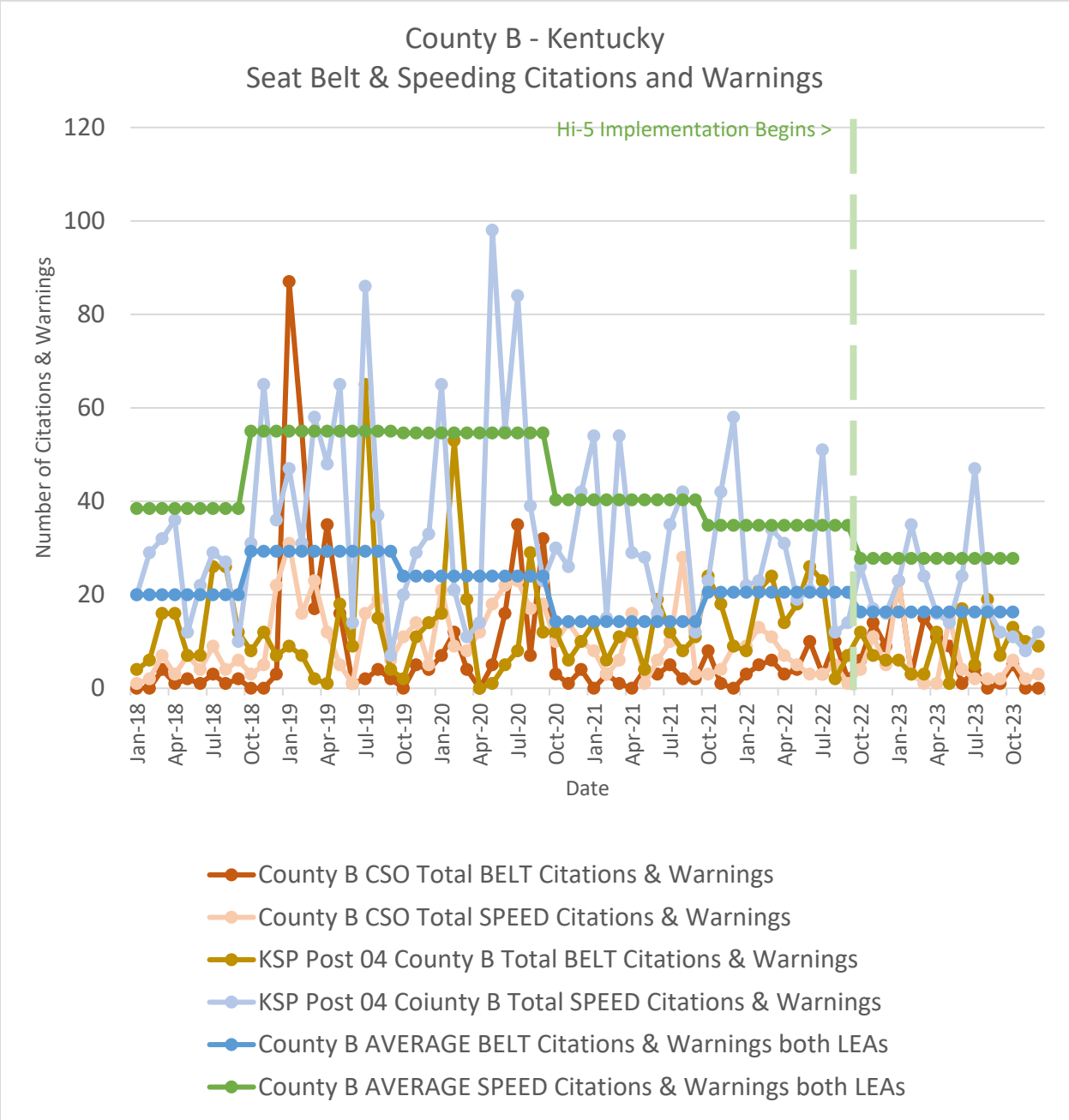

County D - Arkansas
Seat Belt & Speeding Citations and Warnings
Hi-5 Implementation Begins >
Number of Citations & Warnings
400
350
300
250
200
150
100
50
0
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
Jul-19
Oct-19
Jan-20
Apr-20
Jul-20
Oct-20
Jan-21
Apr-21
Jul-21
Oct-21
Jan-22
Apr-22
Jul-22
Oct-22
Jan-23
Apr-23
Date
County D CSO Total BELT Citations & Warnings
County D CSO Total SPEED Citations & Warnings
ASP Post County D Total BELT Citations & Warnings
ASP Post County D Total SPEED Citations & Warnings
County D AVERAGE BELT Citations & Warnings both LEAs
County D AVERAGE SPEED Citations & Warnings both LEAs

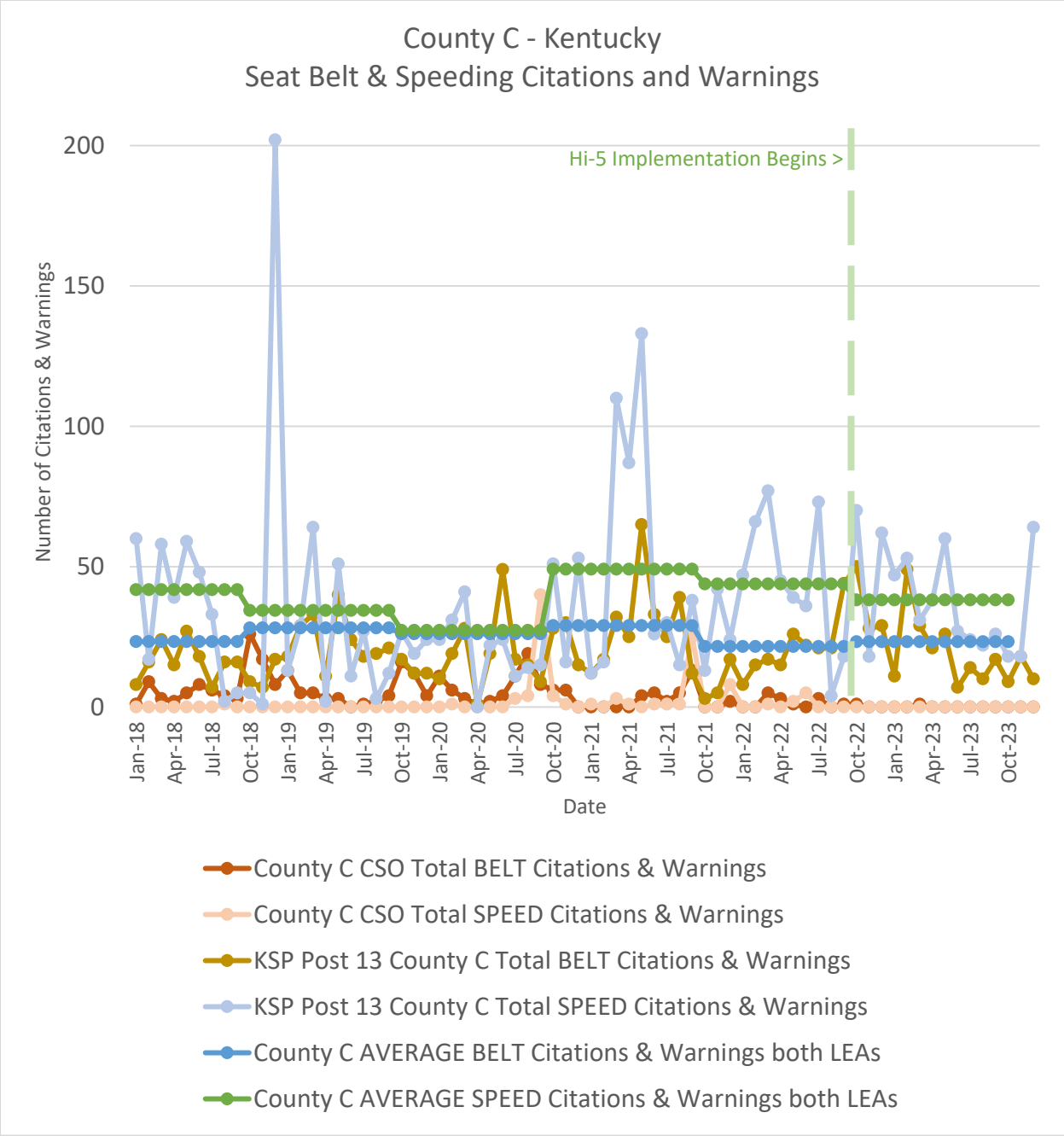

County E - Arkansas
Seat Belt & Speeding Citations and Warnings
Hi-5 Implementation Begins >
Number of Citations & Warnings
1200
1000
800
600
400
200
0
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
Jul-19
Oct-19
Jan-20
Apr-20
Jul-20
Oct-20
Jan-21
Apr-21
Jul-21
Oct-21
Jan-22
Apr-22
Jul-22
Oct-22
Jan-23
Apr-23
Date
County E CSO Total BELT Citations & Warnings
County E CSO Total SPEED Citations & Warnings
ASP Post County E Total BELT Citations & Warnings
ASP Post County E SPEED Citations & Warnings
County E AVERAGE BELT Citations & Warnings both LEAs
County E AVERAGE SPEED Citations & Warnings both LEAs

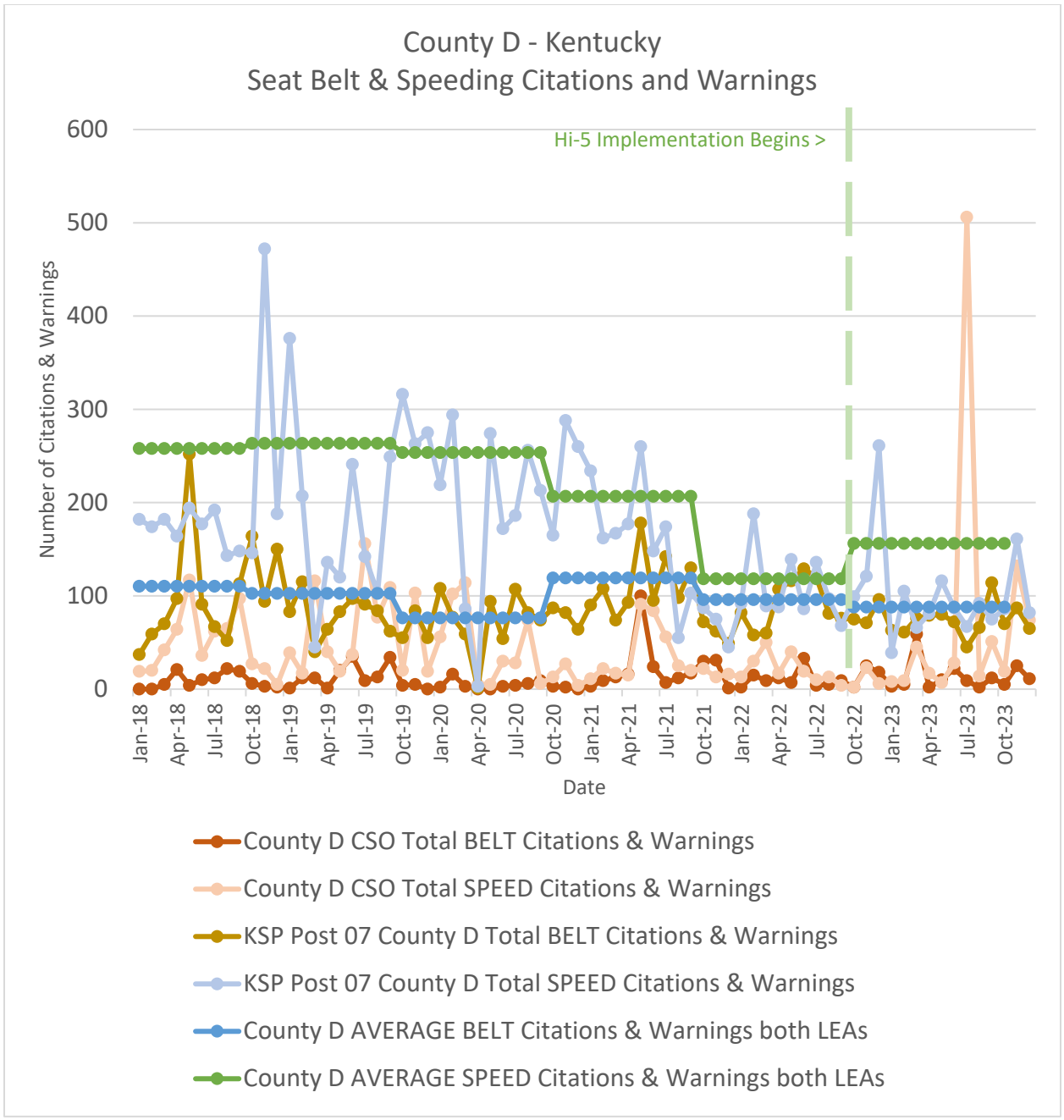
Kentucky Historical Citation Charts

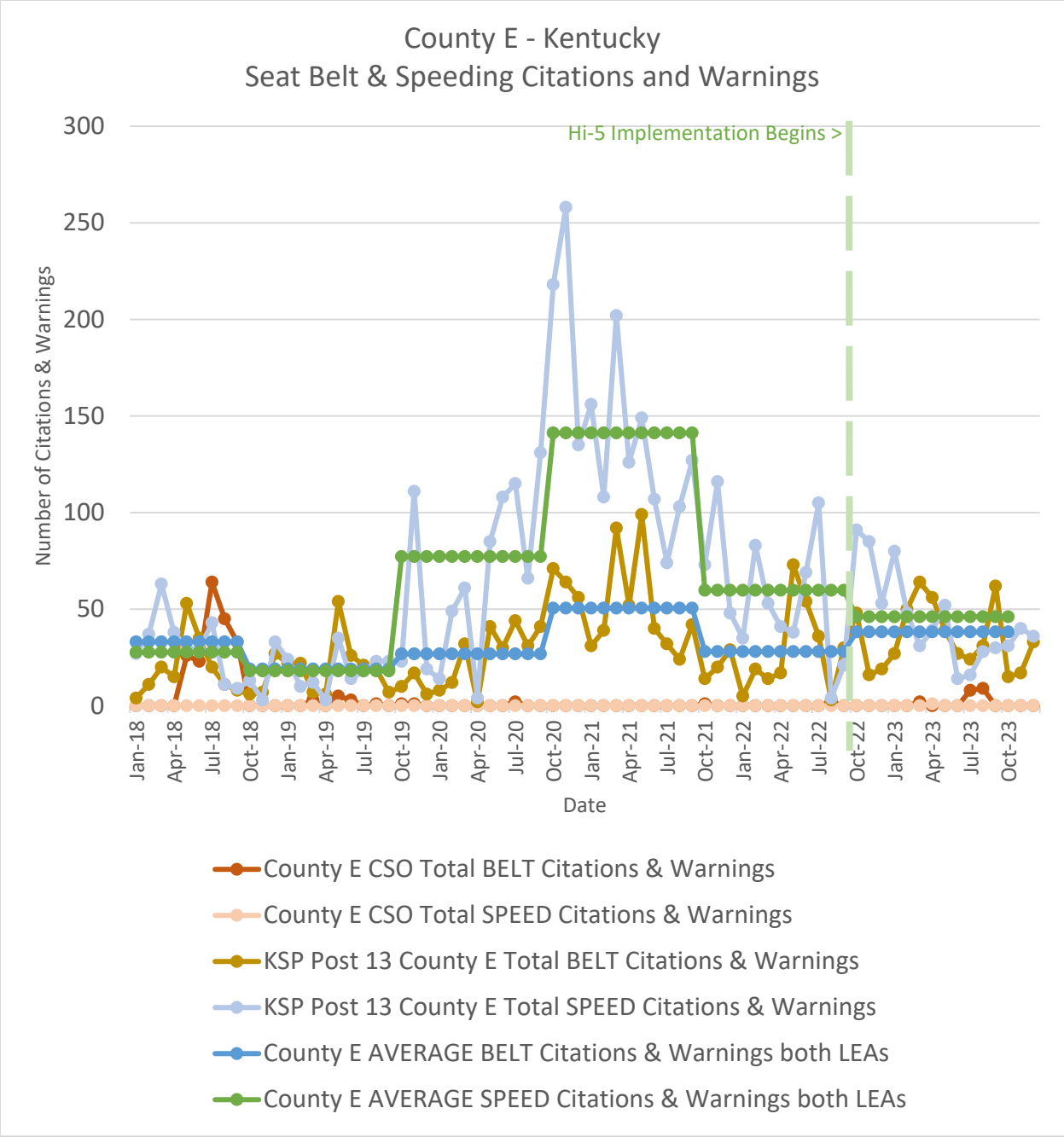



County A - Kentucky
Seat Belt & Speeding Citations and Warnings
Hi-5 Implementation Begins >
Number of Citations & Warnings
250
200
150
100
50
0
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
Jul-19
Oct-19
Jan-20
Apr-20
Jul-20
Oct-20
Jan-21
Apr-21
Jul-21
Oct-21
Jan-22
Apr-22
Jul-22
Oct-22
Jan-23
Apr-23
Jul-23
Oct-23
Date
County A CSO Total BELT Citations & Warnings
County A CSO Total SPEED Citations & Warnings
KSP Post 06 County A Total BELT Citations & Warnings
KSP Post 06 County A Total SPEED Citations & Warnings
County A AVERAGE BELT Citations & Warnings both LEAs
County A AVERAGE SPEED Citations & Warnings both LEAs


County B - Kentucky
Seat Belt & Speeding Citations and Warnings
Hi-5 Implementation Begins >
Number of Citations & Warnings
120
100
80
60
40
20
0
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
Jul-19
Oct-19
Jan-20
Apr-20
Jul-20
Oct-20
Jan-21
Apr-21
Jul-21
Oct-21
Jan-22
Apr-22
Jul-22
Oct-22
Jan-23
Apr-23
Jul-23
Oct-23
Date
County B CSO Total BELT Citations & Warnings
County B CSO Total SPEED Citations & Warnings
KSP Post 04 County B Total BELT Citations & Warnings
KSP Post 04 Coiunty B Total SPEED Citations & Warnings
County B AVERAGE BELT Citations & Warnings both LEAs
County B AVERAGE SPEED Citations & Warnings both LEAs


County C - Kentucky
Seat Belt & Speeding Citations and Warnings
Hi-5 Implementation Begins >
Number of Citations & Warnings
200
150
100
50
0
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
Jul-19
Oct-19
Jan-20
Apr-20
Jul-20
Oct-20
Jan-21
Apr-21
Jul-21
Oct-21
Jan-22
Apr-22
Jul-22
Oct-22
Jan-23
Apr-23
Jul-23
Oct-23
Date
County C CSO Total BELT Citations & Warnings
County C CSO Total SPEED Citations & Warnings
KSP Post 13 County C Total BELT Citations & Warnings
KSP Post 13 County C Total SPEED Citations & Warnings
County C AVERAGE BELT Citations & Warnings both LEAs
County C AVERAGE SPEED Citations & Warnings both LEAs


County D - Kentucky
Seat Belt & Speeding Citations and Warnings
Hi-5 Implementation Begins >
Number of Citations & Warnings
600
500
400
300
200
100
0
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
Jul-19
Oct-19
Jan-20
Apr-20
Jul-20
Oct-20
Jan-21
Apr-21
Jul-21
Oct-21
Jan-22
Apr-22
Jul-22
Oct-22
Jan-23
Apr-23
Jul-23
Oct-23
Date
County D CSO Total BELT Citations & Warnings
County D CSO Total SPEED Citations & Warnings
KSP Post 07 County D Total BELT Citations & Warnings
KSP Post 07 County D Total SPEED Citations & Warnings
County D AVERAGE BELT Citations & Warnings both LEAs
County D AVERAGE SPEED Citations & Warnings both LEAs


County E - Kentucky
Seat Belt & Speeding Citations and Warnings
Hi-5 Implementation Begins >
Number of Citations & Warnings
300
250
200
150
100
50
0
Jan-18
Apr-18
Jul-18
Oct-18
Jan-19
Apr-19
Jul-19
Oct-19
Jan-20
Apr-20
Jul-20
Oct-20
Jan-21
Apr-21
Jul-21
Oct-21
Jan-22
Apr-22
Jul-22
Oct-22
Jan-23
Apr-23
Jul-23
Oct-23
Date
County E CSO Total BELT Citations & Warnings
County E CSO Total SPEED Citations & Warnings
KSP Post 13 County E Total BELT Citations & Warnings
KSP Post 13 County E Total SPEED Citations & Warnings
County E AVERAGE BELT Citations & Warnings both LEAs
County E AVERAGE SPEED Citations & Warnings both LEAs

DOT HS 813 764
February 2026

U.S. Department
of Transportation

**National Highway
Traffic Safety
Administration**

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