

1 Background

The Federal Highway Administration (FHWA) developed the Safe Streets and Roads for All (SS4A) community of practice (CoP) to facilitate the exchange of insights, experiences, and noteworthy practices among SS4A grant recipients and enhance their safety-related outcomes.

CoP Peer Exchanges provide a small group forum for SS4A grant recipients to learn from and share solutions with each other. The SS4A team will host regular peer exchange meetings as an opportunity for grant recipients to share challenges and insights, identify opportunities for collaboration, and request feedback from one another.

The March 20, 2024, peer exchange meeting focused on data collection and analysis practices in rural communities. The following is a summary of key takeaways from the meeting.

2 Main Takeaways from Data Collection Overview Presentation

To kick off the peer exchange discussion, Scott Himes and Ian Hamilton from VHB gave a brief overview on data collection methodologies. Roadway departure crashes (or any crash where the vehicle leaves the traveled way) account for 45 percent of the nearly 38,000 traffic fatalities that occur each year nationally, and roughly 70 percent of these lane departure fatalities occur on rural roads.¹ Scott explained that, while roadway departure crashes occur haphazardly (in other words, specific crash locations may vary year over year²), the crashes tend to be *predictable* based on crash types and risk factors. SS4A grant recipients can use this knowledge to explore a systemic approach to address crashes by proactively treating roadways with shared characteristics (e.g., curve radii, roadside barriers, lane width, shoulder width) that contribute to fatal and serious injury crash risk.

Ian noted the purpose of the safety plan is to be proactive, and data analysis can help identify and prioritize countermeasure installation locations based on risk. He explained data can come from many quantitative and qualitative sources, and that grant recipients should consider non-traditional data sources. Grant recipients should prioritize data based on their safety priorities and can draw from available state or regional resources. For grant recipients beginning planning efforts, they can potentially use the state's strategic highway safety plan as a guide. Other data sources like aerial imagery, demographics and socioeconomic characteristics, land use and zone, and businesses and employment centers can also provide more detail for data analysis. Ian reminded attendees qualitative data from stakeholders and the public can be helpful. While larger datasets can be helpful, grant recipients should keep in mind that statewide or national datasets, such as crash and traffic volume inventories, may take some time to process. These databases may not capture the most recent trends based on the time of the analysis (in other words, 2023 crash data may not be available until late 2024 or early 2025). In addition, agencies should also use qualitative data as it may capture trends that larger datasets may miss.

¹ <https://highways.dot.gov/safety/RwD#:~:text=Every%20year%20nearly%2012%2C000%20people,Proven%20Countermeasures>

² See the Highway Safety Manual for more information on regression to the mean. <https://www.highwaysafetymanual.org/documents/hsm-1.pdf>

3 Main Takeaways from Breakout Rooms

Topic/Question	Response
Access to reliable crash data	- Participating grant recipients reported a wide range of access to and comfort level with reliable crash data. - Several grant recipients have State Departments of Transportation (DOT) with current, user-friendly data portals they can easily access for crash data. - Other grant recipients reported needing to request data from their State DOT or were unsure where to start with the data they did receive from the State. - Some grant recipients, such as college campuses, may have access to crash data for some locations but suspect significant under-reporting or gaps in the data for their planning study area.
Common challenges with data collection	- Grant recipients frequently noted the challenge of working with small sample sizes for crash data. - Several grant recipients detailed the process for requesting data files, which often require additional staff hours to analyze the information or review the crash reports in more detail. - Others noted a challenge with using crash data is the delay in information, as documented crash data can be several years behind. - Grant recipients mentioned a lack of staffing to collect and analyze risk factor data, necessitating contractor support, which can be expensive relative to the overall cost of plan development. - Several recipients added that they do not have the in-house expertise to store and integrate data or to maintain existing data over time. - Some recipients noted they are not aware of existing data sources or best practices for obtaining roadway inventory data. - Some recipients noted that they were interested in assessing safety risk without crash data (i.e., how to assess risk on corridors before crashes occur) but were not sure of the best data resources for this approach (e.g., near misses, desire paths, other leading indicators). Many roadways exist on jurisdictional boundaries, requiring inter-agency coordination to obtain full supporting information.
Other quantitative data sources	Grant recipients explained how they are using other quantitative data sources to better understand crashes, including: Ambulance and hospital data: Grant recipients reported working with privately owned ambulance companies and hospitals to obtain additional records related to known crashes or injuries associated with unreported crashes. Speed limits and probe/connected vehicle data: Grant recipients mapped speed limit data to High Injury Networks and other crash maps. Tow truck data: Grant recipients said this data source helped identify unreported lane departure crashes. Curvature, linear referencing system, and other GIS layers: Grant recipients reported using this data for more system data analyses. Some grant recipients were not aware of existing tools to develop curve inventories from existing linear referencing system data.

Other qualitative data sources	Grant recipients provided examples of how they are using other data sources for their analyses, including: • Interviews with city officials and first responders provided more context for the crashes and behaviors happening on the roadways. • Survey data from community members highlighted perceived risks and other challenges. Several grant recipients suggested using open ended questions for more thoughtful responses. • Road Safety Audits gave grant recipients the opportunity to explore specific sites and corridors in more detail to better understand the safety challenges. Road Safety Audits may be especially helpful for smaller agencies that may not be familiar with safety-specific tools and method and have transportation generalist staff leading safety planning
Challenges and Opportunities	Grant recipients shared many stories and challenges, including the following: • The SS4A funding opportunity is the first time several agencies are collaborating with neighboring jurisdictions. This is creating a lot of learning opportunities for the agencies involved. • Many grant recipients either have hired, or plan to hire, an outside consultant to conduct the data analysis. ◦ Grant recipients should understand the data they are expecting the consultants to use and how the analysis will be conducted. It is also helpful for grant recipients to know the types of existing data analysis tools and resources that can complement or supplement contractor analysis tasks (e.g., using online databases versus manual data collection). • Several grant recipients felt that focusing on crashes alone is reactive and expressed interest in more proactive approaches. • One commonly expressed challenge was balancing public complaints with known safety problems. The transportation agency needs to investigate if there are risk characteristics in the public complaints that could lead to a bigger safety problem.

4 How does data help you tell your safety story in your Action Plan?

Grant recipients' jurisdictions vary in size and geography, and their stories and challenges vary as well. However, these stories all start with the end in mind: a shared common goal of eliminating roadway fatalities and serious injuries. Comprehensive safety action plans are one of the many chapters in the journey to zero. Using data as the foundation, comprehensive safety action plans prioritize safety improvements and create justification for future investment decisions.

Beyond understanding where and why crashes are happening on the roadway, a data-driven approach will help:

- Pinpoint locations for using additional investigation tools, like Road Safety Audits, to understand the deeper safety story.
- Prioritize projects based on crash history and risk.
- Balance future investment decisions like addressing many locations with low-cost improvements or improving one location with many safety challenges.

While, on the surface, data looks like a number, each data point represents a person with loved ones that could have benefited from safer streets and roads. Your safety story begins—and ends—with data.

5 Resources

Rural Road Resources

- FHWA, [Rural Roadway Departure Resources](#)
- FHWA, [Local Road Safety Plans DIY](#)
- FHWA, [Every Day Counts News – Focus on Reducing Rural Roadway Departures](#)

High Friction Surface Treatments

- FHWA, [High Friction Surface Treatment Site Selection and Installation Guide](#)
- FHWA, [High Friction Surface Treatments FAQs](#)

Rumble Strips

- FHWA, [Rumble Strips: The Sweet Sound of Safety](#)
- FHWA, [Decision Support Guide for the Installation of Shoulder and Center Line Rumble Strips on Non-Freeways](#)

Tribal

- FHWA, [Tribal Transportation Program Safety Fund \(TTPSF\)](#)

Data Tools

- FHWA, [Data-Driven Safety Analysis](#)
- FHWA, [Road Safety Audits](#)
- FHWA, [Crash Modification Factor \(CMF\) Clearinghouse](#)
- National Highway Traffic Safety Administration (NHTSA), [Fatality Analysis Reporting System](#)
- NHTSA, [Fatality and Injury Reporting System Tool \(FIRST\)](#)
- NHTSA, [State Traffic Safety Information](#)