



# Roadmap for Integrating Telematics Data into Traffic Records Ecosystems

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*Washington State Traffic Records Governance Council CMT  
Demonstration Project Final Report*

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## Executive Summary

State traffic safety programs rely on a network of data systems collectively known as the traffic records ecosystem. These systems traditionally include crash reports, roadway inventories, citation and adjudication records, and medical services data. While these datasets provide critical insight into traffic safety outcomes, they primarily describe events after crashes occur. This retrospective view limits the ability of agencies to identify emerging risks and intervene before serious crashes happen.

Recent advances in telematics technology provide an opportunity to augment traditional traffic safety datasets with continuous observations of driving behavior. Telematics data—derived from connected vehicles and mobile devices—can be aggregated and anonymized to estimate near real-time behavioral measures such as speeding, phone distraction, hard braking, and vehicle exposure. These data provide insight into driving behavior across large roadway networks and time periods that are difficult to measure using conventional methods.

To evaluate the potential of telematics data for improving traffic safety efforts, the [Washington State Traffic Records Governance Council](#) (TRGC) participated in a [pilot demonstration project](#) to evaluate the potential role of telematics data within the state’s traffic records ecosystem. Through a demonstration program supported by the [Association of Transportation Safety Information Professionals](#) (ATSIP) and [Cambridge Mobile Telematics](#) (CMT), a group of Washington traffic safety professionals were granted pre-release access to CMT’s [StreetVision](#) telematics data platform and asked to explore potential applications for their work.

The pilot demonstrated that telematics data can meaningfully enhance traffic safety analysis. Participants identified clear value across several domains, including identifying emerging risk patterns, informing strategic enforcement and engineering decisions, supporting safety planning and grant development, and enabling more timely program evaluation. In multiple cases, telematics data revealed elevated behavioral risk in locations not yet reflected in crash data, highlighting its potential as an early warning tool.

At the same time, the pilot underscored important considerations for responsible use. These include the need for strong governance structures, careful interpretation of behavioral metrics, transparency in vendor methodologies, and safeguards to protect privacy. Participants also noted limitations related to data representativeness and challenges with extracting and integrating telematics data into existing systems.

Overall, findings from the Washington pilot reinforce that telematics data is most effective when used as a complementary resource alongside traditional traffic records—not as a replacement. With appropriate governance, training, and policy guidance, telematics data can strengthen the ability of agencies to move from reactive, crash-based analysis toward proactive, risk-based safety management.



This report provides a roadmap for states and federal partners to responsibly adopt, scale, and integrate telematics data into traffic safety programs, with an emphasis on practical use, system alignment, and long-term sustainability.

## Background

Traffic safety analysis relies on several long-standing data systems that collectively support planning, policy development, and program evaluation. These systems include crash reporting systems maintained by law enforcement agencies, roadway inventory databases maintained by transportation departments, citation and adjudication records from courts, licensing and registration records from motor vehicle administrators, and injury outcome data from emergency medical services, hospital systems, and trauma registries.

Together, these datasets provide an essential foundation for understanding traffic safety outcomes. However, they share a common limitation: most describe events after crashes occur. Crash records provide detailed documentation of incidents, but they offer limited ability to observe driver behavior across the roadway network before crashes happen.

To address these limitations, traffic safety professionals have long relied on supplementary data sources such as observational surveys and targeted speed studies. These methods can provide insight into driver behavior, but they are often labor-intensive, limited in geographic scope, and conducted infrequently.

Advances in vehicle connectivity and mobile technology have created a new category of data that can help address these gaps. Telematics data is generated when vehicles or mobile devices transmit location and motion information. These data can be aggregated and processed to estimate driving behaviors and traffic conditions.

Commercial telematics data providers analyze large volumes of telematics data to produce behavioral metrics such as:

- Speed relative to posted limits
- Indicators of cell phone-related distraction
- Hard braking events
- Rapid acceleration events
- Vehicle exposure and trip patterns

Because telematics data are collected continuously, these datasets provide extensive geographic coverage and high temporal resolution. Analysts can examine driving patterns across entire roadway networks and evaluate changes in behavior by time of day, day of week, season, or event.



Recognizing the potential value of these data for traffic safety analysis, the Washington State TRGC participated in a national telematics demonstration effort designed to help states explore how telematics data might complement traditional traffic records systems.

## Washington Cambridge Mobile Telematics Pilot Demonstration Project

The Washington TRGC was provided access to CMT's StreetVision platform that aggregates anonymized driving data and presents behavioral metrics through an interactive mapping and analytics interface. A small group of traffic safety professionals from state and local agencies participated in the pilot and were asked to explore the platform's capabilities.

Participants included staff from agencies involved in traffic safety analysis, enforcement, and transportation planning. The goal of the pilot was not to fully integrate telematics data into state systems but rather to evaluate its potential value and identify appropriate use cases. Participants were asked to explore the data and document their findings through periodic user reports. These reports described analyses performed using the platform, insights gained from the data, and challenges encountered during the pilot.

The pilot evaluation focused on several key questions:

- Can telematics data reveal patterns of risky driving behavior that are difficult to measure using traditional traffic records datasets?
- Can the data support planning and evaluation of traffic safety programs?
- What governance considerations are necessary before adopting telematics data more broadly?
- What training or analytical capacity is required to interpret the data effectively?

Over the course of the pilot, participants conducted exploratory analyses on multiple corridors and locations throughout Washington using StreetVision. These analyses included examining speed patterns and distributions, identifying locations with high levels of phone distraction indicators, and patterns of hard braking events.

## Telematics Data Use Cases

Pilot participants identified several practical applications for telematics data during the pilot. These use cases demonstrate how near real-time behavioral data can support multiple disciplines within the traffic safety community.

### Safety Problem Identification

One of the most immediate and consistent uses of telematics data during the pilot was identifying patterns of risky driving behavior across the roadway network. Pilot participants used the platform to analyze driver behavior metrics across corridors and regions, often



beginning with known high-crash locations and expanding outward to assess broader behavioral patterns.

In several analyses, participants conducted multi-corridor comparisons. These analyses examined percent of trips exceeding posted speed thresholds, frequency of phone distraction indicators, and spatial clustering of hard braking events. Participants then compared these behavioral patterns to crash data and considered local knowledge of problem areas. In some cases, high-risk behavioral patterns aligned with known crash hotspots. In others, telematics data revealed corridors with elevated speeding or distraction that had not yet produced a high number of crashes, suggesting potential emerging risk.

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#### ***Pilot User Spotlight – Safety Problem Identification***

*A user conducted a statewide scan of speeding and distraction patterns across major corridors, identifying segments with consistently elevated behavioral risk. These segments were compared with crash datasets to assess alignment and identify potential “pre-crash” risk areas not yet reflected in crash frequency. These findings demonstrate that telematics data can function as an early warning system, helping agencies move from reactive crash analysis to proactive risk identification.*

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#### **Law Enforcement Planning**

Law enforcement rely largely on crash history and reported citizen concerns for identifying locations for enforcement. Law enforcement are aware of their hotspots (i.e., high-risk areas). Comparison of crash hotspots with StreetVision driver behavior hotspots revealed agreement, but not perfect alignment. For example, reviewing a crash hotspot on a state highway revealed that most of the high-risk driving behavior on the segment was happening up stream to the crash hotspot, indicating that enforcement may be more effective in the area preceding the crash hotspot rather than at the crash hotspot itself.

Law enforcement participants found telematics data particularly useful for contextualizing where and when risky driving behaviors occur, allowing for more strategic deployment of limited enforcement resources. Participants used telematics data to identify corridors with high rates of excessive speeding, locations with elevated phone distraction indicators, and time-of-day patterns. Telematics data value is realized through efforts to support strategic enforcement planning, identifying priority corridors for patrol deployment, and providing feedback on behavioral trends and impacts of enforcement over time.



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### ***Pilot User Spotlight – Law Enforcement Planning and Evaluation***

*A participant conducted a city scan to identify problem areas for excessive speeding, phone tapping, and hard braking for more efficiently deploying limited traffic safety resources. The scan confirmed anecdotal information from law enforcement officers about problem locations. Telematics data was used to evaluate a weekend enforcement emphasis on a high-risk corridor which showed notable decreases in excessive speeding, with some residual declines persisting for the following week.*

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### **Engineering and Corridor Analysis**

Telematics data is complementary to more robust and established evaluative methods addressing before/after travel speeds, or temporary events like work zones. StreetVision allows engineers and planners to see driver behavior information on the entire network over a long period of time, whereas traditional data collection methods are generally completed at a slow pace limited by resources and measurement equipment, and are limited point-in-time, which can introduce seasonality effects as a confounding factor. Telematics data can provide basic speed and travel pattern statistics quickly and easily and has the benefit of avoiding geometric restrictions for deploying traditional data collection resources (e.g. curves, hills, landscaping, multiple lanes, parking, etc.).

Participants used telematics data to explore how roadway design and geometry influence driver behavior. In particular, participants focused on speed distributions and hard braking events as indicators of potential design-related issues. Participants identified that concentrations of hard braking events were occurring near freeway on-ramps and off-ramps, at signalized intersections and roundabouts, and along corridors with noticeable grade changes. Participants noted that telematics data could be used as a screening tool for traditional field studies, helping agencies determine where to deploy radar speed studies, traffic counters, and field observations. This approach allows agencies to prioritize limited field resources by focusing on locations where telematics data indicates elevated risk.



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### ***Pilot User Spotlight – Engineering Analysis***

*In one case, a participant identified a corridor where drivers accelerated rapidly after a signalized intersection and into a downhill segment, resulting in elevated excessive speeding behavior. Based on this insight, the agency selected the location for installation of a speed feedback sign placed strategically after the intersection to target accelerating drivers.*

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### **Program Evaluation**

Telematics data demonstrated strong potential for evaluating the effectiveness of safety interventions, particularly due to its ability to provide near-real-time behavioral metrics. Telematics data provides timely feedback on intervention efforts, allowing traffic safety professionals to more quickly modify or expand safety approaches based on changes to driver behavior patterns, making it a valuable tool for short-term program evaluation. Participants explored how telematics data could be used to assess changes in speeding or distraction behavior over time, compare behavioral patterns before and after interventions, and provide context for crash events. Participants noted that this type of analysis could complement traditional evaluation approaches, which often rely on multi-year crash trends. Telematics data offers the ability to assess behavioral change much more quickly.

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### ***Pilot User Spotlight – Program Evaluation***

*A participant conducted an analysis to identify real-time changes to driver speeding behavior following a speed limit change on Interstate 5 in Skagit county, a 1.5-mile segment with a posted speed limit reduction from 70 mph to 60 mph. Following the change, excessive speeding behavior declined by nearly 50 percent and the 85<sup>th</sup> percentile speed was reduced by nearly 5 mph. The percent of traffic traveling over 70 mph was reduced from nearly 40 percent to less than 20 percent.*

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### **Safety Plans and Grant Support**

Participants also identified telematics data as a valuable resource for safety planning and funding justification, particularly for local jurisdictions and tribal governments with limited access to traditional traffic data. While no data from the pilot was used for a safety plan or grant application during the testing period, participants saw the value of using telematics data



for local safety plans, corridor prioritization efforts, funding applications, and council/community outreach.

Participants specifically noted the potential relevance for programs such as the Safe Streets and Roads for All (SS4A) initiative, where jurisdictions must demonstrate safety risk using data. Telematics metrics can provide objective, system-wide evidence of unsafe driving behavior, particularly in areas where crash data alone may not fully capture risk.

### **Strengths of Telematics Data**

Pilot participants consistently identified several advantages of telematics data for traffic safety analysis. Telematics data from CMT provides broad geographic coverage. Analysts can evaluate behavior across entire roadway networks rather than relying on a limited number of observation locations. Telematics data also provides high temporal resolution. Because the data is continuously collected, analysts can examine patterns by time of day, day of week, or month. This allows agencies to monitor behavioral trends and identify seasonal patterns or changes/displacement of driving patterns due to special events.

Telematics data provides direct measurement of risky driving behaviors such as speeding and phone distraction. Traditional safety datasets often capture the consequences of these behaviors through crashes, but telematics data allows analysts to observe the behaviors leading to serious crashes. Finally, the visualization tools available in CMT StreetVision make it easier to communicate findings to decision-makers. Interactive maps and charts help translate complex datasets into accessible insights for policy and planning discussions.

### **Limitations and Interpretation Considerations**

Despite its potential value, telematics data also has limitations that must be carefully considered. Because telematics data from CMT is derived from opt-in safe driving programs, the dataset may not represent all drivers equally. Coverage can vary depending on the penetration of connected vehicles or mobile applications in different areas. Furthermore, to protect privacy, telematics data is typically aggregated and anonymized before analysis. As a result, the data cannot identify demographic information about the people contributing the telematics insights and limits a user's ability to quantify population representativeness.

Certain behavioral metrics also require careful interpretation. For example, hard braking events may occur frequently in locations where drivers naturally slow down, such as freeway ramps or congested intersections. Participants in this pilot unanimously agree that hard braking events should not be universally interpreted as "near-miss crashes". Analysts must interpret these metrics within the context of roadway design and traffic conditions, and the same measure may mean different things depending on the area context.



It is important that telematics providers offer complete transparency to the data users regarding how data is collected and aggregated. Users must understand what the information means and how to apply it, which requires knowledge of the individual measures, the underlying data used to derive measures, and how to accurately interpret the information. With StreetVision, the telematics is largely contained only within the platform, with a few exceptions for charts and tables that can be extracted from the system. The inability to extract granular and spatial information from telematics platforms prevents any meaningful data integration with traditional traffic records, and limits comparisons with other data, such as information collected through speed studies.

For these reasons, telematics data should be used alongside and as a complimentary supplement to traditional datasets rather than as a replacement for them. Crash data, roadway inventories, and enforcement records remain primary essential components of the traffic records ecosystem.

### **Governance and Data Stewardship**

The pilot reinforced the importance of strong governance when introducing new data sources into traffic safety systems. State Traffic Records Coordinating Committees are well positioned to provide this oversight because they already coordinate the management of multiple traffic safety datasets. Governance responsibilities may include establishing appropriate uses of telematics data, ensuring privacy protections and vendor transparency, developing interpretation guidance and training, and coordinating telematics data use and access across agencies. By providing a centralized forum for discussion and oversight, Traffic Records Coordinating Committees can help ensure that telematics data is used responsibly and consistently across jurisdictions.

A survey was conducted among members of the TRGC to gather feedback on the governance of telematics data. The TRGC respondents reported they were at least somewhat familiar with telematics data use for traffic safety, with several reporting they had actually used telematics data. The TRGC ranked grant support as the highest value proposition for using telematics data, followed by engineering analysis and program evaluation. Respondents were split between telematics data being used to meaningfully inform decisions or actions with half identifying telematics data as somewhat informative and half identifying telematics data as very informative.

The majority of TRGC respondents reported that the TRGC should provide oversight and leadership of telematics data use for traffic safety efforts. The full TRGC survey results are included in Appendix A. Based on the TRGC survey responses and pilot experiences, the TRGC will play an active leadership role in Washington on how telematics data is accessed and used among our traffic safety stakeholders.



The Washington pilot represents an early step in understanding how telematics data can support traffic safety programs. As states continue to explore these datasets, several areas warrant further attention:

- Development of standardized metrics and definitions to support consistency across states
- Improved transparency in data methodologies and limitations
- Expanded training and technical assistance for analysts and practitioners
- Ongoing evaluation of how telematics-derived metrics relate to crash outcomes

With thoughtful implementation, telematics data has the potential to become a core component of modern traffic safety analysis, enhancing the ability of agencies to identify risk, deploy countermeasures, and ultimately reduce fatal and serious injury crashes.

## Future Opportunities

The CMT demonstration pilot suggests that telematics data has significant potential to expand beyond exploratory analysis into a more integrated and strategic role within traffic safety programs. While the pilot focused on evaluating feasibility and identifying initial use cases, participant experiences indicate several pathways for scaling and institutionalizing telematics data across state and local systems.

### Statewide Behavioral Risk Monitoring

One of the most immediate opportunities is the use of telematics data to support continuous monitoring of risky driving behaviors at the statewide level. Unlike traditional observational surveys, which are conducted periodically and at limited locations, telematics data enables agencies to track behaviors such as speeding and phone distraction across large geographic areas and over time. This capability could allow states to establish baseline measures of behavioral risk across different roadway types and regions; monitor temporal trends, including seasonal variation, day-of-week patterns, and time-of-day effects; and identify emerging areas with increasing risky behaviors that may not yet be reflected in crash data.

Over time, these behavioral trend indicators could serve as an early warning system, allowing agencies to respond to changing conditions before they result in increases in fatal and serious injury crashes. At the same time, some caution is warranted. Behavioral metrics derived from telematics data are not direct measures of crash risk, and changes in these metrics must be interpreted carefully. States will need to develop standardized approaches to trend analysis and interpretation to ensure consistent and meaningful use.

### Supporting Local and Tribal Safety Planning

The pilot highlighted the potential value of telematics data for local jurisdictions and tribal governments, many of which face limitations in data availability, technical capacity, and



resources for conducting traditional traffic studies. Telematics data could provide these partners with system-wide insight into driver behavior patterns without the need for field data collection and data to support prioritization of safety investments.

This capability is particularly relevant for communities participating in federal programs such as the Safe Streets and Roads for All (SS4A) initiative, where applicants must demonstrate safety needs using data. Telematics metrics can provide objective and geographically comprehensive evidence of risky driving behavior, even in areas where crash data is sparse or highly variable. However, successful adoption at the local level will depend on access to user-friendly tools, training and technical assistance, and clear guidance on appropriate data interpretation. Without these supports, there is a risk that telematics data could be underutilized or misinterpreted.

### **Integration with Existing Traffic Records Systems**

A longer-term opportunity involves integrating telematics data with traditional traffic records systems to support more comprehensive safety diagnostics. During the pilot, participants frequently compared telematics metrics with crash data, roadway characteristics/inventories, and enforcement activity. These comparisons suggest that combining datasets could help answer more complex safety questions. Integrated analysis could support a more complete understanding of how driver behavior, roadway design, enforcement strategies, and other safety interventions interact to influence safety outcomes.

At the same time, participants noted that full technical integration into centralized databases is not necessary or even desirable. In many situations, parallel access to telematics platforms combined with clear analytical guidance may provide sufficient value while reducing complexity and cost. To maximize potential, telematics providers should offer both a visualization platform to service all users, and extended capabilities to extract aggregate and anonymized telematics data, especially in the form of shapefiles, for integration with other datafiles maintained by the user. The ability to extract and view data outside of a visualization platform becomes especially relevant for developing local road safety plans or retaining data used for evaluating programs.

### **Accelerating Program Evaluation**

Telematics data also presents an opportunity to improve how agencies evaluate the effectiveness of safety programs and interventions. Traditional evaluation approaches often rely on crash data, which can require multiple years of data to detect statistically meaningful changes—particularly for fatal and serious injury crashes. This lag limits the ability of agencies to make timely adjustments to programs. Telematics data offers a complementary approach by enabling agencies to monitor short-term changes in driver behavior following interventions; evaluate the impact of enforcement campaigns, public information efforts, or engineering treatments; and identify whether behavioral changes are sustained over time. For example,



agencies could assess whether speeding levels decrease in a corridor following increased enforcement or installation of a speed feedback sign, rather than waiting for long-term crash trends to emerge.

However, it is important to recognize that changes in behavioral metrics do not always translate directly into crash reductions. Telematics data should therefore be used as part of a multi-layered evaluation framework, combining behavioral indicators with traditional outcome measures.

### **Advancing Proactive, Safe System Approaches**

More broadly, telematics data aligns closely with the principles of the Safe System Approach, which emphasizes proactive identification and mitigation of risk rather than reactive response to crashes. By providing continuous insight into behaviors that contribute to crashes, telematics data can help agencies shift from crash-based prioritization to risk-based prioritization; identify systemic safety issues across networks rather than isolated hotspots; and support data-driven decision-making across engineering, enforcement, and education programs. This shift represents a meaningful evolution in how traffic safety programs operate, moving toward a model that emphasizes prevention, system design, and shared responsibility.

At the same time, adopting this approach will require changes in how agencies interpret data, allocate resources, and evaluate success. Telematics data can support this transition, but it does not replace the need for strong governance, clear policy direction, cross-agency collaboration, and funding for data collection and system improvements.

### **Recommendations for Federal and State Partners**

Based on Washington's pilot experience, several actions could support the responsible adoption, scaling, and long-term integration of telematics data into traffic safety and traffic records programs. These recommendations reflect both the opportunities identified during the pilot and the practical challenges observed by participants.

### **Develop National Guidance on Use, Privacy, and Interpretation**

Federal agencies have an important role to play in establishing clear, consistent guidance for the use of telematics data in traffic safety programs. While individual states can develop their own approaches, the absence of national guidance may lead to inconsistent practices, uncertainty among stakeholders, and hesitation to adopt new data sources.

Guidance should address several key areas including appropriate and inappropriate uses of telematics data; privacy protections, including expectations for aggregation, anonymization, and data access controls; interpretation of behavioral metrics, including limitations and recommended analytical practices; and communication strategies to ensure transparency with



the public and stakeholders. Such guidance would help states adopt telematics data in a manner that is both consistent and defensible, while also reinforcing public trust.

At the same time, federal guidance should avoid being overly prescriptive. States vary in their data systems, governance structures, and program priorities. A balance is needed between national consistency and state flexibility.

### **Reinforce the Role of TRCCs in Governing Emerging Data Sources**

Traffic Records Coordinating Committees (TRCCs) are uniquely positioned to provide governance of using telematics data for traffic safety because they already bring together the stakeholders responsible for core traffic records systems. States should formalize the role of TRCCs in evaluating new data sources such as telematics, establishing approved use cases and boundaries, coordinating access across agencies, developing interpretation guidance and documentation, and ensuring alignment with broader traffic records and highway safety priorities.

Federal partners can support this role by explicitly recognizing TRCCs as the appropriate governance bodies for non-traditional traffic safety data and by encouraging their involvement in pilot programs and funding opportunities. A potential challenge is that some TRCCs may not currently have the capacity or technical expertise to evaluate complex datasets like telematics. In these cases, additional support and guidance will be needed to strengthen governance capabilities.

### **Invest in Capacity Building and Training**

A consistent finding from the Washington pilot was that access to telematics data alone is not sufficient to ensure meaningful use. Participants noted that interpreting behavioral metrics requires a combination of analytical skills, understanding of roadway context and local environment, and familiarity with the limitations of the data. States and local agencies will require investments in data access, training, development of user guidance and best practices, and providing technical assistance to smaller jurisdictions and tribal governments. In addition, tools and platforms must be accessible to a range of users—not just data specialists. Usability plays a critical role in adoption, particularly for law enforcement and local partners who may not have dedicated analytical staff.

Federal funding programs could support these efforts by allowing resources to be used for training and professional development, pilot projects and demonstration programs, and ongoing access to telematics platforms. Without these investments, there is a risk that telematics data will remain underutilized or confined to a small group of advanced users.



## Promote Data Transparency and Standardization

Transparency in how telematics data is generated and processed is essential for building confidence among users and ensuring appropriate interpretation. During the pilot, participants noted the importance of understanding how behavioral metrics are defined (e.g., thresholds for speeding or distraction events), denominators used in rate calculations, and the underlying data sources and coverage. Federal partners can encourage greater transparency by promoting expectations for clear methodological documentation and availability of supporting metadata.

Over time, there may also be value in developing standardized telematics-derived measures that can be used across states. Standardization supports comparability of results, consistent evaluation of safety programs, and stronger potential for future integration with national reporting systems. However, it is important to recognize that telematics data is generated by private-sector providers using proprietary methods. Full standardization may not be feasible, and flexibility will be necessary to accommodate different data products.

## Support Sustainable Funding and Access Models

A practical barrier identified during the pilot is the cost and sustainability of telematics data access. While pilot programs provide temporary access, long-term use will require ongoing funding and clear value propositions for participating agencies. States and federal partners should consider how telematics access can be supported through traffic records or highway safety funding streams, whether enterprise-level licensing models can improve access for multiple agencies, and how to ensure equitable access for local and tribal partners. Without a sustainable funding approach, there is a risk that telematics data will remain limited to short-term pilots rather than becoming an integrated component of traffic safety programs.

## Align Telematics with Safe System and National Safety Priorities

Telematics data aligns strongly with national efforts to advance the Safe System Approach, which emphasizes proactive identification and mitigation of risk. Federal partners can maximize the impact of telematics data by integrating it into existing initiatives, including Safe Streets and Roads for All (SS4A), Highway Safety Plan development and evaluation, and performance management and safety target setting. By positioning telematics data as a tool for proactive risk management, rather than solely as an analytical add-on, states can better integrate it into strategic decision-making processes. At the same time, agencies should be cautious not to overstate the capabilities of telematics data. Behavioral metrics provide valuable insight, but they must be used alongside traditional outcome measures to fully understand safety performance.



## Conclusion

Telematics data represents a significant advancement in the evolution of traffic safety analysis, offering the ability to observe and measure driving behavior at a scale and frequency not previously possible. By shifting insight upstream—from crash outcomes to the behaviors that contribute to them—telematics data enables a more proactive and prevention-oriented approach to roadway safety.

The Washington TRGC pilot demonstrates that this potential is real, but not automatic. Telematics data provides clear value in identifying risk, informing enforcement and engineering strategies, and accelerating program evaluation. However, its effectiveness depends on how it is implemented. Without thoughtful governance, clear interpretation guidance, and adequate training, there is a risk of misapplication or underutilization.

A central takeaway from this work is that telematics data should be integrated deliberately within the existing traffic records ecosystem. Traditional data systems—particularly crash data—remain foundational for understanding outcomes and measuring long-term impact. Telematics data adds value by filling critical gaps, offering timely behavioral insight that can guide earlier and more targeted interventions.

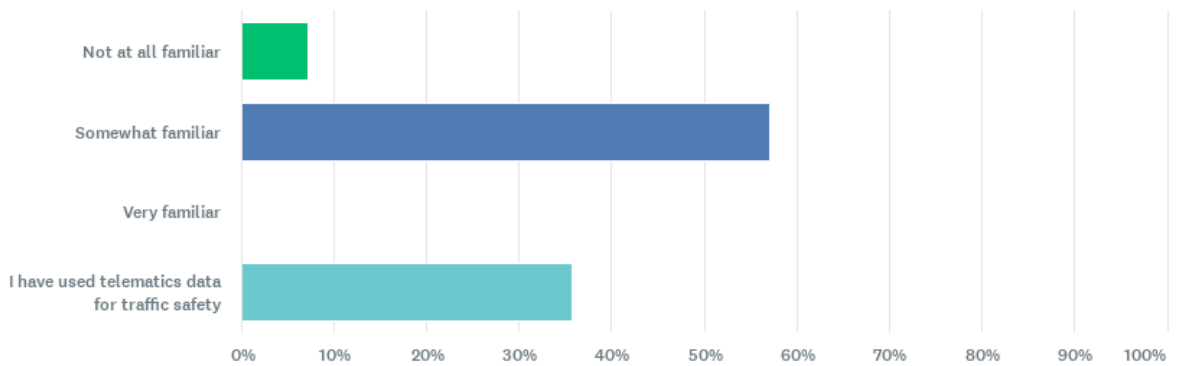
Looking ahead, broader adoption will require coordination across federal, state, and local partners. National guidance, investment in capacity building, improved data transparency, and sustainable funding models will all play essential roles in moving from pilot efforts to institutionalized use. Traffic Records Coordinating Committees are especially well positioned to lead this transition, ensuring that telematics data is applied consistently, responsibly, and in alignment with broader safety priorities.

There is also an important balance to maintain. While telematics data supports the goals of the Safe System approach and proactive risk management, it is not a standalone solution. Behavioral metrics must be interpreted within context and used alongside other data sources to fully understand safety conditions and outcomes. With these considerations in place, telematics data has the potential to become a core component of modern traffic safety practice, enhancing the ability of agencies to anticipate risk, deploy resources more effectively, and ultimately reduce fatal and serious injury crashes.



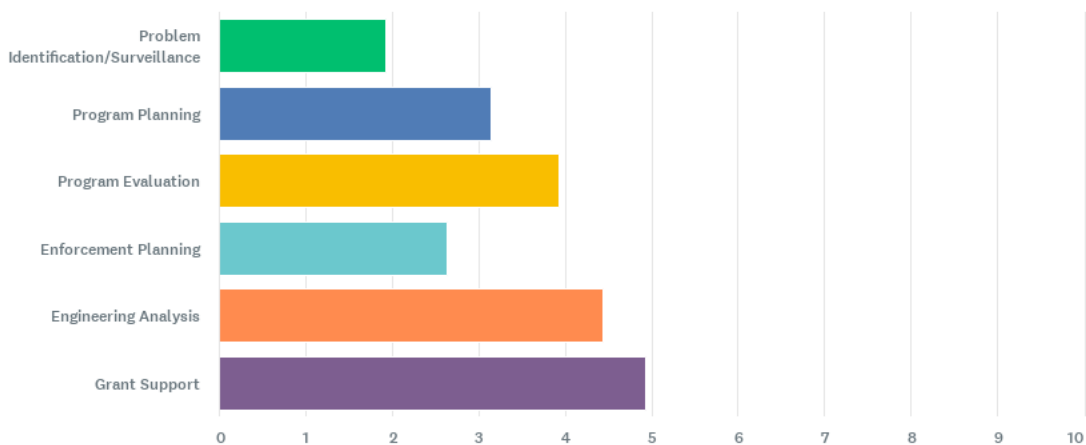
## Appendix A: TRGC Survey Results

Q1 How familiar are you with telematics data and its potential uses for traffic safety?



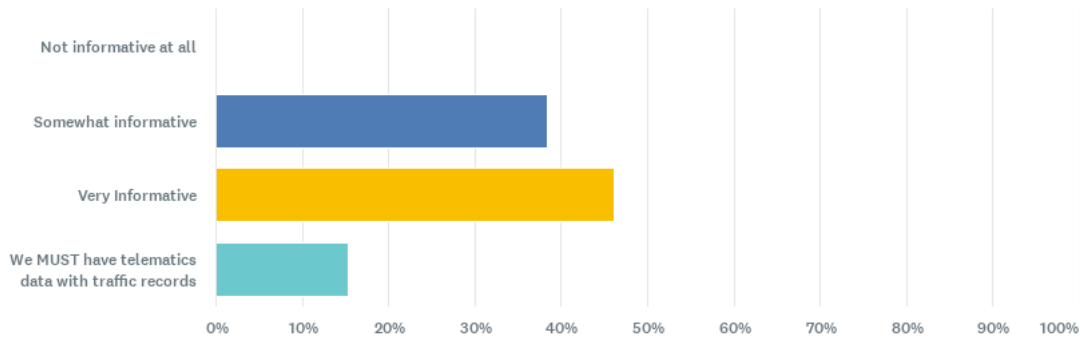
Additional Comment: "I love being able to utilize this new technology to assist us with problems that are fixable. It is another great tool for us in the field."

Q2 Considering telematics data use, please rank the following areas in order of most added value to traffic records, 1 being the most added value.



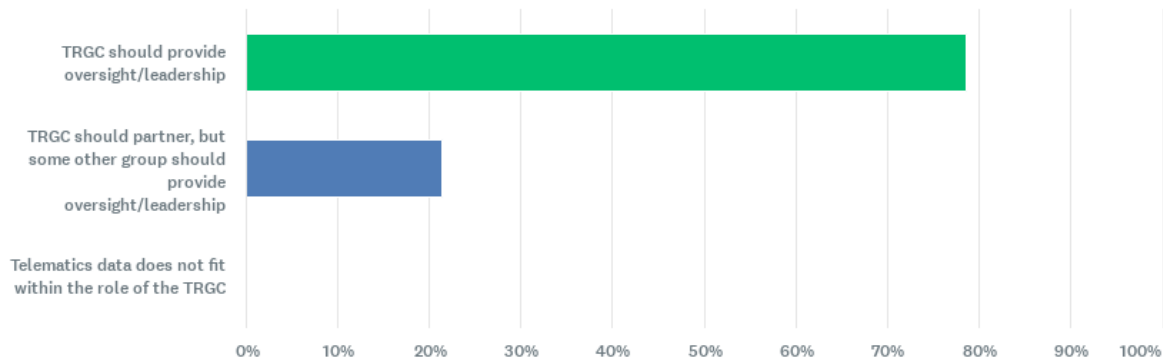


Q3 To what extent could telematics data meaningfully inform decisions or actions that are not already well supported by existing traffic records data?



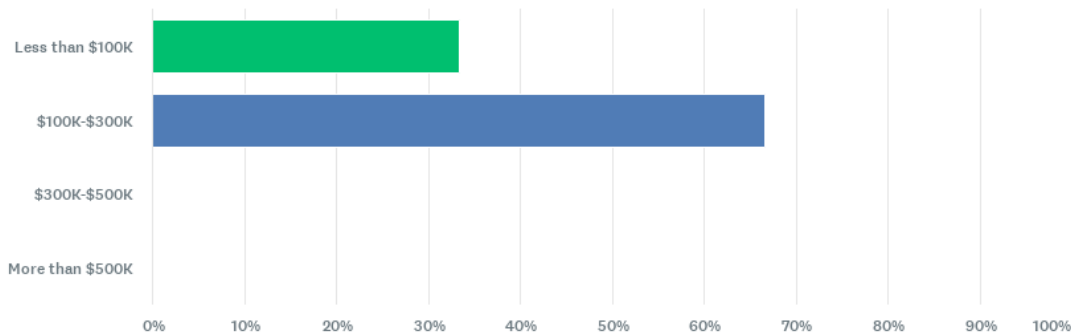
Additional Comment: "Supports systems already in use and further solidifies working knowledge."

Q4 What is the role of the Traffic Records Governance Council in guiding/overseeing telematics data use for traffic safety?





Q5 What is a reasonable annual cost range for accessing daily telematics data insight (real-time updates accessed on demand)?



Additional Comments: “I have no idea.” “Not Sure- Need additional research to provide value.” “No planned budget for this.”

Q6. Do you have specific use cases in mind where you or your agency may benefit from access to telematics data? What decisions, if any, could your agency make earlier or with more confidence if telematics data were routinely available?

- Identify areas prone to higher risk driving behavior and compare with MVC incidents and severity. Assess comparative access to EMS services and response times for such areas. Identify lower EMS resourced areas as priority for engineering safety intervention and/or additional EMS resources.
- We have specific use and have found it valuable if we move toward this as an agency culture.
- Evaluating effectiveness of driver education for novices and driver education intervention
- Augmenting driver education for novice drivers and drivers in an intervention program with real-time performance-based metrics for drivers to self-assess and address demonstrated driving behaviors.
- Augmenting initial and reexamination driver skills testing with objective performance-based metrics for evaluation of driver skills or deficiencies
- Creating performance-based driving resources for support of parents or mentors of novice drivers and caregivers of drivers further in the driving process to evaluate problem driver behaviors
- Supports grants. Highlights what we have believed and/or known
- We are already utilizing it to locate problem areas and working to fix it. This tool allows us real time data and a real time fix. We are able to see results almost immediately, which is beneficial when looking to solve traffic problems.



- Evaluation of countermeasure implementations, more informed decision making

Q7. What level of staff capacity or training would your agency need to meaningfully use telematics data?

- Basic data use training specific to telematics.
- I think we have the capacity, but need to change culture through time, training, messaging, and expectations.
- Little.
- End-user training. 1-2 hours for most users.
- This product just needs time to get used to it. After a few times of using it, you get the hang of it.
- Leadership training with awareness for the enforcement personnel.
- We have zero capacity so would need help.
- Could use existing staff who are data analysts but would need vendor support for training and transparency about data collection and models.

Q8. In five years, how do you envision telematics data being used (or not used) within the traffic records ecosystem?

- Addition of driving behavior as integrated indicator for emergency care metrics. Mapping of problem areas with combined telemetric, MVC incident and emergency care volume. Real-time driving behavior alerts for law enforcement monitoring or intervention.
- I would hope it is fully integrated!
- Blended use with current systems.
- Identifying "Hot Spot" and putting resources there through education, enforcement, and engineering.
- More effective picture for enforcement, reduction in crashes and injury collisions, etc.
- With reasonable access costs, I could see telematics being used by some groups daily and some only as needed, for example when writing a grant proposal or problem ID.

Q9. Are there any additional ideas or thoughts you would like to provide?

- Mid-level manager and above tool. Workers and first line supervisors already know the information. Telematics gives the data in visually appealing format.
- How do we access this data as a community or shared model, rather than each individual agency having to individually invest and not be allowed to share with others. How can the data be extracted in a meaningful way for more integration opportunities with traditional traffic records.