



TELEMATICS IN THE CANADIAN TRUCKING INDUSTRY

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EXECUTIVE SUMMARY

This study builds on a previous project in which we examined the potential for telematics systems to streamline the data collection and reporting methods used in the SmartWay program. Here, we delve deeper into various aspects of the telematics industry in the heavy-duty trucking sector in Canada. This study catalogs the products and services available from leading telematics providers for trucking companies and discusses the ways fleets leverage the systems to improve their overall efficiency and safety. Industry interviews were the primary data collection method for this study. Our conversations with several types of fleets and telematics companies revealed the following key findings and recommendations.

KEY FINDINGS AND RECOMMENDATIONS

Telematics systems provide value to trucking fleets in several different ways. Across the telematics industry, there is significant variety in the functionality of the systems offered by various companies. Products range from basic systems that meet the minimum electronic logging regulatory requirements, to comprehensive fleet management platforms that provide features related to asset tracking, preventative maintenance, route optimization, and driver behavior and management. All of the interview participants expect that the trend towards the use of ‘big data’ will continue to accelerate, with telematics systems growing ever-more powerful and commonplace across the industry. The accelerated uptake of electronic logging and telematics systems in both Canada and the United States presents an important opportunity for the SmartWay program. If telematics is used to automate some of the SmartWay data collection and reporting processes, making it less labor-intensive for participating fleets, the SmartWay team could use the data to provide fleet-specific recommendations for fuel efficiency and operational improvements.

Canada’s electronic logging regulation is expected to accelerate the adoption of telematics systems in the trucking industry in Canada. Based on interview responses, we estimate that between 40% and 50% of trucking fleets in Canada are currently using telematics systems. The electronic logging device (ELD) mandates in the United States and Canada have created a ripe market for the adoption of telematics systems. In the United States, ELD regulation came into force in December 2017. Since 2015, the estimated adoption rate of telematics systems by U.S. trucking fleets has grown from roughly 35% to 90%. With Canada’s similar ELD requirements beginning in June 2021, many in the industry expect a similar rapid deployment of telematics systems in Canada over the next few years.

The top ten largest telematics providers represent roughly half of the telematics market for the trucking industry in Canada and the United States. Together, the three leading telematics companies—Verizon Connect, Trimble Transportation, and Omnitracs—represent about one-quarter of the total telematics market revenues. The next seven largest companies account for nearly one-quarter of the market. The remaining half of the telematics market is comprised of dozens of companies, including several new entrants in the trucking sector.

Several best practices are emerging to guide the adoption of telematics systems in trucking fleets. Industry interviews revealed a wide range of experiences, attitudes, and expectations for telematics systems in the trucking sector. No two fleets engage

with telematics systems in exactly the same way given the tremendous diversity in how fleets manage their operations. Nevertheless, the survey participants revealed several similarities regarding strategies for integrating telematics systems for the first time. These include performing due diligence before purchasing a system, requesting a trial period, engaging various individuals and departments within the company, considering integration issues if multiple systems are acquired, and initially using data collected for a targeted area of fleet performance improvement.

INTRODUCTION

Telematics technology merges telecommunications and information processing and is typically used for monitoring mobile assets. Telematics systems automatically collect multitudes of operations data related to vehicle location, speed, and various internal vehicle systems such as the engine, transmission, and chassis.

Two technologies form the foundation of telematics systems: global positioning systems (GPS) and on-board diagnostics (OBD). GPS is a satellite-based navigation system that provides geo-spatial positioning using small electronic receivers to precisely determine location. OBD enables telematics systems to access information about various systems in an individual vehicle. As shown in the upper left of Figure 1, OBD systems draw data continuously from several systems on the vehicle, including the engine and emissions aftertreatment system, transmission and driveline, and other systems on the chassis and body. The OBD supplies vital automobile diagnostics data and important feedback about maintenance and repair needs. In the most recent OBD systems, the external electronic logging device (ELD) or telematics unit connects directly to a portal in the vehicle to access OBD data. In Canada and the United States, emissions regulations targeting heavy-duty vehicles have required OBD systems since the early 2010s (Posada and Bandivadekar, 2015).

In addition to vehicle systems data, telematics systems collect, organize, and report information about the driver. As shown in the upper right of Figure 1, these types of data include driver identification, speed, acceleration, braking statistics, hours-of-service, fuel economy, idle time, and other hours-or-service compliance information. Increasingly, telematics providers offer fleets forward and rear facing cameras that can be used to monitor driver behavior.

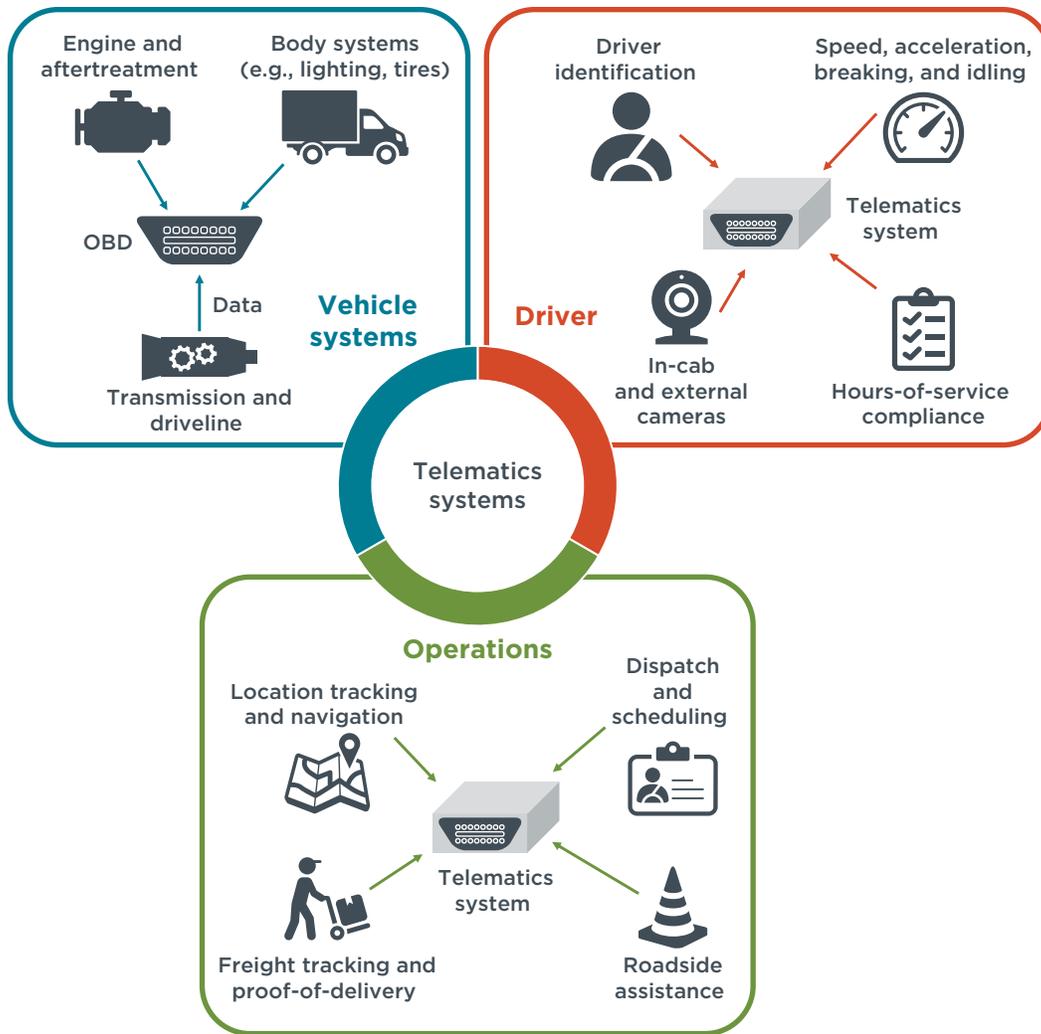


Figure 1: The three types of data collected or generated by telematics systems

The third major area where telematics systems provide value to fleets is with operations data. These features can touch virtually all aspects of a fleet’s operations but most commonly include location tracking for equipment and shipments, routing and navigation services, asset management, dispatch and scheduling, and roadside assistance.

This paper builds on a previous ICCT study that presented a conceptual framework for how data collection and submission for the SmartWay program¹ can potentially be automated by leveraging telematics systems (Sharpe, 2019). In this study we delve deeper into the telematics industry in the heavy-duty trucking sector in Canada. The primary objectives of this research is to:

- » Gather information about the use of telematics systems in the trucking industry from fleets, telematics providers, and other industry experts;

¹ SmartWay is a voluntary program that aims to improve the efficiency of the freight sector by providing trucking fleets and shipping companies with real-world performance data. The U.S. Environmental Protection Agency founded SmartWay in 2004, and Natural Resources Canada launched a highly aligned program for the Canadian trucking industry in 2012.

- » Estimate the adoption rates of ELDs and telematics systems in the Class 7 and 8 trucking sector in Canada and profile the leading telematics companies in North America; and
- » Synthesize the information gleaned from 6 in-person and telephone interviews and 8 online surveys into best practices about the use of telematics systems in trucking fleets.

The subsequent sections of the report address each of these objectives, and briefly summarize the key findings and recommendations from the study.

ADOPTION OF TELEMATICS SYSTEMS IN THE TRUCKING INDUSTRY IN CANADA AND THE UNITED STATES

In 2015, the U.S. Federal Motor Carrier Safety Administration finalized an electronic logging device (ELD) regulation in order to create a safer work environment for truck drivers by making it easier and faster to accurately collect, manage, and share hours-of-service records (Federal Motor Carrier Safety Administration, 2019). Implementation of the U.S. regulation began in December 2017 and required drivers using paper records to begin using ELDs. In 2019, Transport Canada codified a regulation that is highly aligned with the U.S. requirements and goes into effect in June 2021 (Transport Canada, 2019).

The ELDs that can send information wirelessly are technically telematics systems, as they use telecommunications technology and are capable of data processing. There are also basic ELD systems that cannot transfer data wirelessly but meet the minimum regulatory requirement to be capable of exporting data via USB. In the remainder of the paper, unless otherwise specified, “ELD” will refer to an ELD that cannot communicate wirelessly, and “telematics” and “telematics system” will refer to devices with wireless communication capabilities.

Largely driven by the ELD mandates in the United States and Canada, there has been a surge in the uptake of ELDs and telematics systems in the trucking industry in North America. According to C.J. Driscoll & Associates (2019), between 2010 and 2018 the number of telematics systems in tractor trucks in the United States and Canada grew from about 650 thousand to 3 million and is projected to grow to 3.7 million by 2022. The number of devices on trailers and containers has grown from about 650 thousand in 2010 to approximately 1.5 million in 2018, and more accelerated growth is expected in the coming years—reaching roughly 2.5 million by 2022. From 2015 to 2018, the number of driver behavior management systems in use roughly doubled from about 300 to 600 thousand and is projected to reach around 1.2 million units by 2022.

Figure 2 illustrates the impact of the ELD mandate on device adoption rates. The top bar column represents the estimated adoption of ELDs and telematics systems in Class 7 and 8 tractor trucks the United States. In 2015, about 35% of U.S. trucks had ELDs or telematics units, and this has surged to over 90% according to our industry interviews. Of these, between 50% and 60% of fleets use a comprehensive telematics solution, while the balance, mostly owner-operators and smaller fleets, only operate ELDs with basic functionality. In Canada, we estimate that roughly 60% of tractor trucks are equipped with ELDs or telematics units, as shown in the bottom bar column of the figure. As the June 2021 regulatory deadline approaches in Canada, trucking fleets and industry experts are expecting a rapid uptake of ELDs and telematics systems that mirrors what has occurred in the U.S. market.

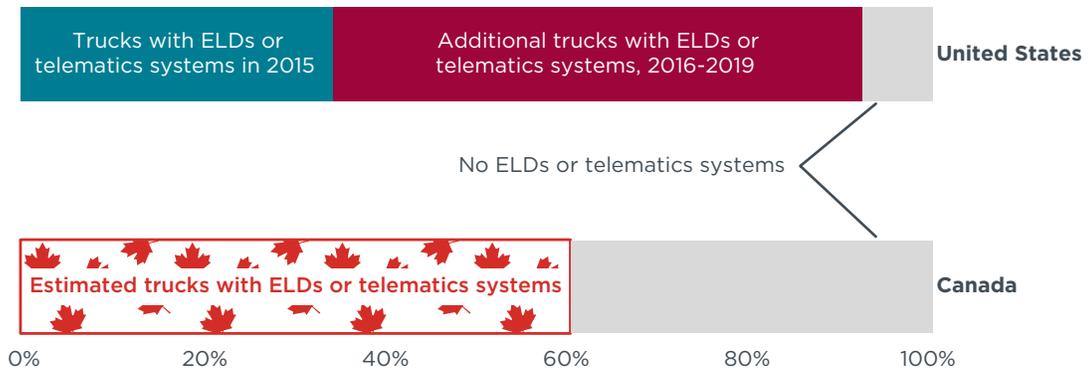


Figure 2: Estimated adoption rates of electronic logging devices (ELDs) and telematics systems in the trucking industry in the United States and Canada

In Canada and the United States, the telematics industry in trucking accounted for about \$1.2 billion CAD² in revenues in 2018, and this is projected to nearly double to \$2.3 billion by 2022. Telematics-related revenue in trucking is expected to increase by over \$130 billion in 2019 (Driscoll, 2019). Figure 3 shows the revenue breakdown of the ten largest telematics companies in North America. With 11% of the sector’s revenues, Verizon Connect is the current market leader, followed by Trimble Transportation (formerly PeopleNet) and Omnitrac (formerly Qualcomm), who each account for about 8% of the market. The remaining seven companies—Lynx, Geotab, ORBCOMM, Zonar Systems, Fleet Complete, Teletrac Navman, and Keep Truckin’—each control 5% or less of the telematics market in North America. Together, these ten companies make up just over half of revenues in the telematics sector. With the telematics industry growing so quickly, mergers and acquisitions are commonplace, and the market share dynamics are likely to be fluid in the coming months and years.

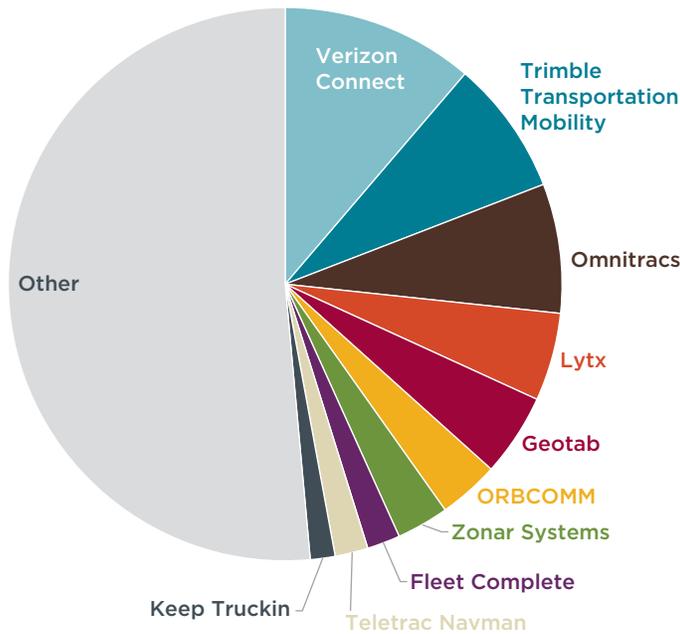


Figure 3: Market shares of the ten largest telematics providers in North America

² All financial figures in this report are reported in Canadian dollars, unless otherwise specified.

The six of the largest telematics providers headquartered in Canada are highlighted in Figure 4. BSM Technologies, BlackBerry Radar, Geotab, and Fleet Complete have their corporate headquarters in the Toronto area; Isaac Instruments and FleetMind are in the Montreal area.

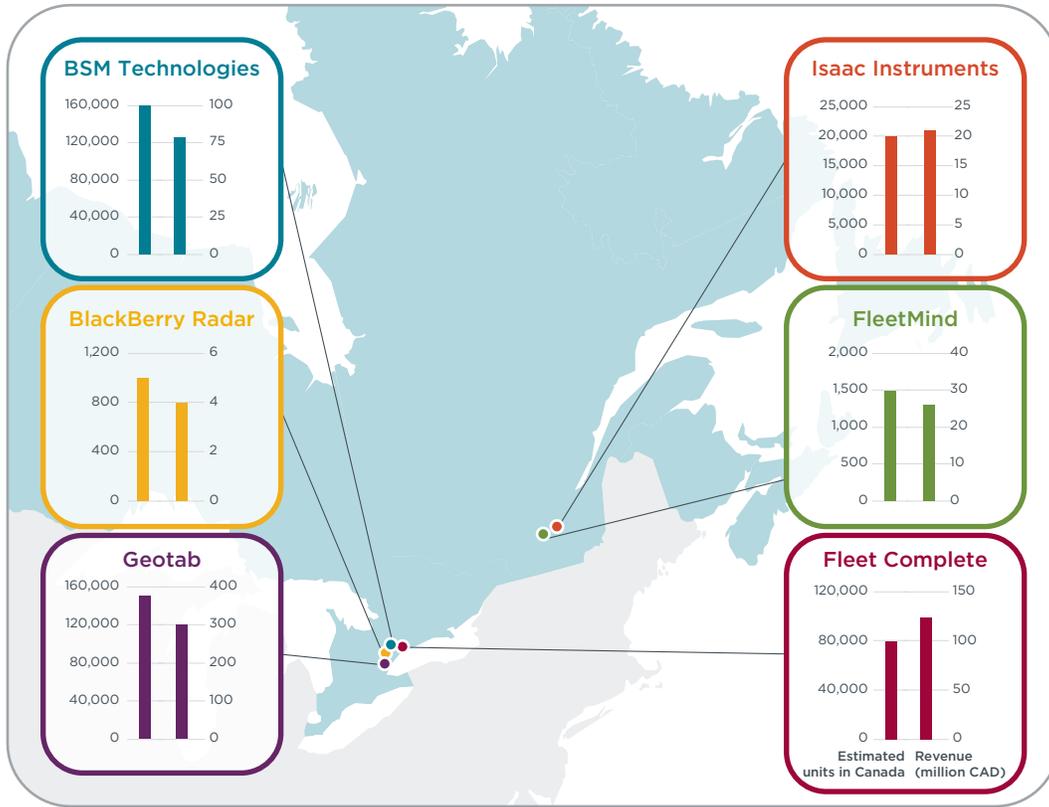


Figure 4: Telematics companies based in Canada: estimated number of telematics units deployed in Canada and revenue in 2018.

BSM Technologies was founded in 1996 and primarily serves the construction, rail, government and service industries. BSM has roughly 80,000 telematics systems installed in Canada (Driscoll, 2019), and their total company revenue was about \$80 million in 2018 (Markets Insider, 2018).

BlackBerry, a global software and services company, entered in the telematics sector in 2017 with their BlackBerry Radar division. BlackBerry Radar provides asset management products for non-powered equipment such as trailers and containers chassis. Based on Driscoll (2019), we estimate that they have deployed about 1,000 units in Canada. BlackBerry has not disclosed Radar's revenues in its financial statements, but Business Quant (2019) estimates annual revenues of between \$3 and \$5 million.

Since its inception 2000, Geotab has offered in-vehicle telematics systems and services. Geotab's products are sold worldwide through over 200 authorized resellers. In addition, Geotab has partnership agreements in the United States with AT&T, T-Mobile, and Sprint, and with TELUS in Canada. From Driscoll (2019), we estimate that Geotab has sold approximately 150,000 units in Canada. Their annual revenue is about \$300 million, making them the fifth largest telematics company in North America.

Isaac Instruments was founded in 1999 and has been in the transportation sector since 2008. Isaac has a suite of telematics products and services, and the company aims to distinguish itself by offering more driver-centric solutions such as in-cab consoles that provide real-time feedback on driving performance. They have roughly 20,000 units installed in commercial trucks in Canada. In 2018, they generated \$21 million in revenues (Growjo, 2019).

FleetMind Solutions was established in 1997 and focuses primarily on fleet and route management for waste and recycling fleets, municipal governments, and private haulers. We estimate that they have sold 1,500 units in Canada and had revenues of about \$25 million in 2018 (Owler, 2019a).

Fleet Complete got its start in 2000 and provides connected mobility solutions for a wide range of transportation and mobile workforce applications. Their targeted fleet segments include government, emergency response, freight, field service, delivery, and construction fleets. They have distribution partnerships with AT&T in the United States and TELUS in Canada. We estimate that they have 80,000 units in use in Canada. Their revenues were roughly \$120 million in 2018, making them the eighth largest telematics company in North America (Owler, 2019b).

Table 1 summarizes the services offered by the three largest telematics providers in North America, as well as the six Canadian companies profiled above. Telematics products and services are grouped into the following seven areas: GPS fleet tracking and asset management, routing and navigation, video capability, ELDs, dispatch and scheduling, proof-of-delivery, and roadside assistance. Universal features across the various companies include GPS fleet tracking and asset management, routing and navigation, ELDs, and dispatch and scheduling.³ All of the companies except one offer video cameras and/or video integration as part of their software platform. Proof-of-delivery services are also very commonplace in the market. Only three of the companies profiled currently offer roadside assistance as an in-house service.

³ The exception is BlackBerry radar, which sells asset tracking products for trailers and non-powered equipment.

Table 1: Profiles of the three largest telematics providers in North America and six Canada-based telematics companies

Company	Start date of telematics product offerings	Estimated number of telematics systems deployed in Canada and the United States	Services						
			GPS fleet tracking and asset management	Routing and navigation	In-cab video and/or external cameras	Electronic logging device (ELD)	Dispatch and scheduling	Proof of delivery	Roadside assistance
Largest telematics providers in North America									
Verizon Connect	2012	1,800,000	X	X	X	X	X	X	X
Trimble Transportation / PeopleNet	1997	600,000	X	X	X	X	X	X	X
Omnitracs	1998	500,000	X	X	X	X	X	X	
Telematics providers based in Canada									
Geotab	2000	1,000,000	X	X	A	X	A	A	X
Fleet Complete	2000	400,000	X	X	X	X	X	X	
BSM Technologies	1996	170,000	X	X		X	X		
Isaac Instruments	2008	20,000	X	X	C	X	X	X	
BlackBerry Radar^D	2017	8,000	X						
FleetMind	1997	7,500	X	X	X	B	X		

Notes

A - Geotab can integrate various services from other companies through its Geotab Marketplace platform.

B - FleetMind targets the waste management industry, which is not subject to the electronic logging mandate.

C - In addition offering an in-cab dash camera, Isaac Instruments offers an in-cab driver coaching system that provides the driver a real-time score based on several operating parameters.

D - BlackBerry Radar provides products for monitoring trailers, shipping containers, chassis, and other powered and non-powered assets.

INTERVIEW PARTICIPANTS

In the fall of 2019, we conducted 14 interviews with trucking fleet representatives and telematics industry experts, which are summarized in Table 2. Questionnaire templates were used for the trucking fleet representatives to help ensure that roughly the same material was gathered from all participants. We used a slightly different set of questions for the telematics providers and other experts. Both of the templates are included in the Appendix. In addition to enquiring about the company and their operations, we asked the fleet operators several questions about the experience of integrating telematics into their operations. The telematics companies were able to provide unique insights into the significant growth of the industry in recent years, as well as their expectations for future trends. Six of the interviews were conducted in-person or over the telephone, and each of these discussions lasted between 30 minutes and one hour. Out of the 9 trucking fleet representatives that participated in the study, 8 provided their responses via an online survey. Eight of the carriers operate Class 7 and 8 tractor-trailers, while one of the fleets exclusively uses Class 6 and 7 trucks.⁴

Table 2: Industry survey participants

Stakeholder group	Number of interviews	Method(s)
Trucking fleets		
For-hire	6	Telephone, online
Private	2	Online
Private (Class 6 vocational trucks, Class 7 tractor-trailers)	1	Online
Mobile resource management companies		
Telematics providers	2	In-person, telephone
Tire pressure management company	1	Telephone
Other experts		
Telematics industry consultant	1	Telephone
Representative from a provincial trucking association	1	Telephone

The fleet company representatives who participated in the study cover a wide range of sizes, business segments, and geographic locations. Five of the fleets are based in Canada, and the remaining four have their corporate headquarters in the United States. Eight out of the nine fleets operate in both Canada and the U.S., while one of the carriers solely operates in a specific metropolitan region in Canada.⁵ The trucking companies interviewed cover various types of freight hauling, including for-hire truckload, less-than-truckload, intermodal, drayage, and private. Five of the fleets are members of the SmartWay program.

Figure 5 summarizes the number of tractor trucks and trailers operated by the 9 fleets, as well as the average annual kilometers traveled per truck reported in the interviews. Truck ownership ranges from approximately 200 to 20,000; for trailers, the range is

⁴ In Canada and the United States, trucks are classified based on the gross vehicle weight rating (GVWR)—i.e., maximum allowable weight. Class 6: 19,501 – 26,000 lbs. (8,846 – 11,794 kg); Class 7: 26,001 – 33,000 lbs. (11,794 – 14,969 kg); Class 8: greater than 33,000 lbs. (14,969 kg). Over-the-road trucking in North America is dominated by Class 7 and 8 tractor-trailers.

⁵ To preserve anonymity, we are not disclosing the specific metropolitan area in Canada where this fleet operates.

from 800 to 100,000. The fleets reported average per-truck activity between 36,000 and 177,000 kilometers per year.

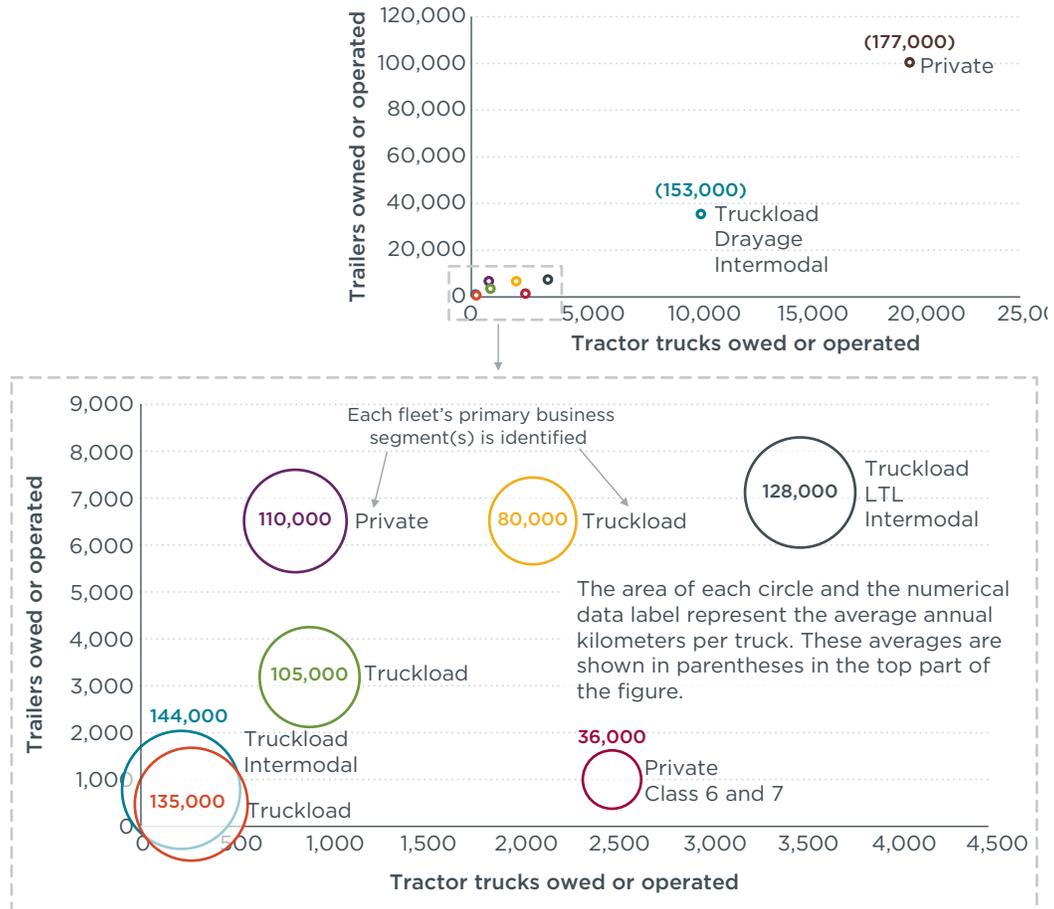


Figure 5: Number of trucks and trailers owned or operated and average annual kilometers per truck reported by study participants. Each of the data points represents one trucking company interviewed for this study.

The interviews performed with these companies form the basis of our analysis, and information from these conversations is synthesized in the following section.

USER EXPERIENCES WITH TELEMATICS SYSTEMS

The industry participants in the project revealed an assortment of different experiences, attitudes, and expectations about telematics in the trucking industry. We identified four common themes that seemed to be shared by all of the interviewees.⁶

“Fleets can no longer afford to ignore telematics. Those who do are going to be left behind.”

“There is no one-size-fits-all [telematics] solution.”

“Telematics is like any other truck technology—you only see the benefits if you’re using the technology the right way.”

“The driver is still the most important ‘technology’ on the truck.”

In reviewing the interview and survey responses, several other shared sentiments emerged. We have synthesized these widespread beliefs into the following best practices, which are roughly organized in chronological order beginning with the fleet’s initial interest in adopting a telematics system.

- » **Do your due diligence.** With the ELD mandate driving significant growth in the uptake of ELDs and telematics systems, there is a significant amount of information online about various products and services. However, conversations with trusted colleagues can often be the most valuable resource. If possible, reach out to other companies with similar fleets that have already implemented telematics systems and to discuss the advantages and disadvantages of different products and services.
- » **Ask for a trial period.** Once a short list of potential providers has been selected, ask each company if they can accommodate a real-world demonstration and/or allow your fleet to pilot the system on a small number of vehicles. During the trial, consider the following:
 - » *Scalability:* What is the process for rolling out the system to the entire fleet? And, as the fleet evolves and faces new challenges, how will the telematics system adapt to the changing needs?
 - » *Integration:* How will the telematics platform integrate with the existing ELD platform and/or other operations management software?
 - » *Training and customer service:* Does the company have a robust training program in place for implementation as well as during normal operations? Will you have a dedicated account manager as your point-of-contact? For troubleshooting, is there support available 24 hours a day with a live representative?
 - » *Contract terms:* each telematics provider should present a straightforward explanation of the terms of the agreement and the roles and responsibilities of both parties. A well-informed decision requires a robust understanding of the contract terms, including payment provisions, penalties, and privacy controls.
- » **Make the telematics roll-out a company-wide process.** The implementation of a new telematics system impacts virtually all of the employees in your fleet operation,

⁶ To preserve anonymity, we do not attribute the quotes to any company or individual.

including drivers, fleet managers, technicians, and admin staff. Soliciting a variety of perspectives about how best to integrate a new telematics product or service into the fleet can help smooth the transition and foster greater enthusiasm for the new system.

- » **Start small and focus on specific areas for improvement.** With access to such large quantities of data, it may be challenging to know where to begin. Particularly if your company has less experience with data management and analytics, start with a few basic data outputs. Bring on additional data and functionality in a as you become more familiar with the system and its impacts on your operations.
- » **Be careful when considering multiple telematics systems.** With the growth of telematics companies and products in the trucking industry, using to use hardware and/or software from multiple providers may better fit the needs of your specific fleet. Gather many perspectives about whether the marginal benefit of adding another telematics provider will outweigh the added complexity and integration issues.⁷
- » **Have low-tech backup plans in case of a malfunctioning telematics system.** With telematics becoming ever-more integrated into trucking operations, system failures can be severely disruptive. To the extent possible, develop contingency plans to mitigate the damage while remaining operational, compliant, and safe in the interim.

During the fleet interviews, the participants were asked what was the biggest value-add of their telematics system, as well as the most important area where their system can be improved. The most common responses are summarized in Figure 6. Over half of the fleets reported that telematics systems and ELDs are most valuable for automating driver records and hours-of-service compliance. The next most frequently cited benefit of telematics is in improving driver behavior and promoting increased safety. The only other benefits cited multiple times were improving fuel efficiency and preventative maintenance. To the question of priority improvements for telematics systems, the most common responses were increased access to data and better integration with other telematics providers.

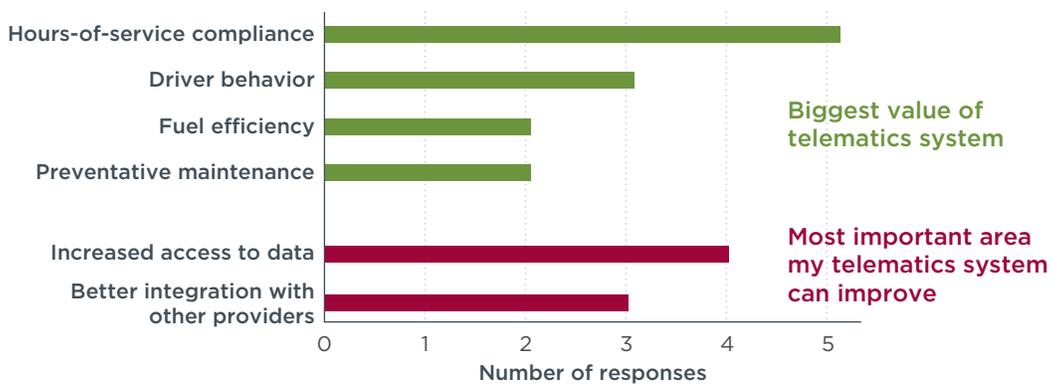


Figure 6: Most frequent responses regarding the value of telematics systems and the areas that need to be improved

⁷ There are various non-profit groups that provide unbiased information to assist with decisions on telematics systems. For example, the Smart Transportation Council, made up of fleets, truck manufacturers, and technology companies, aims to create more streamlined telematics and operations management solutions for the trucking industry.

With so many telematics companies and new providers drawn to the trucking market to take advantage of the ELD mandate-driven demand, there is a tremendous variety of products and services available to fleets. However, despite the diversity of companies in the space, there are a few types of telematics data reports that are popular in the industry according to information gathered from the interviewees. Table 3 summarizes these telematics outputs.

Table 3: Typical data reports from telematics system in the trucking industry

Area	Typical reports
Average fuel efficiency	<ul style="list-style-type: none"> • Fleet average fuel efficiency • Driver-specific breakdowns • Metrics such as miles per gallon or liters per 100 kilometers • Trends over time
Fuel costs	<ul style="list-style-type: none"> • Total distance, driving time, and number of stops • Idling hours and costs • Fuel costs per mile or per hour
Drive behavior	<ul style="list-style-type: none"> • Average speeds • Number of harsh braking, acceleration, or cornering events • Speeding instances
Preventative maintenance	<ul style="list-style-type: none"> • Maintenance reminders • Customizable maintenance parameters and alerts • Integration with parts procurement software • Maintenance service scheduling
Telematics device health	<ul style="list-style-type: none"> • Breakdown of the health and performance all telematics units • Device performance summaries • Fault types and troubleshooting instructions

Regarding contractual agreements and payment terms for telematics products and services, the respondents described arrangements that are very similar to the mobile phone industry. We compiled a range of upfront and monthly service costs from the interviews as well as from online sources, which are shown in Figure 7. Upfront costs are typically related to the purchase or lease of hardware and range from about \$150 to nearly \$1,700 per unit or truck. Hardware devices at the lower end of this spectrum are typically more simplistic and only provide ELD compliance. The more expensive devices are fully functional telematics systems that offer additional fleet management features, increased access to data, and customization. Monthly fees are between \$10 and \$70 per unit, and these costs vary according to the level of service provided and the amount of data consumed.

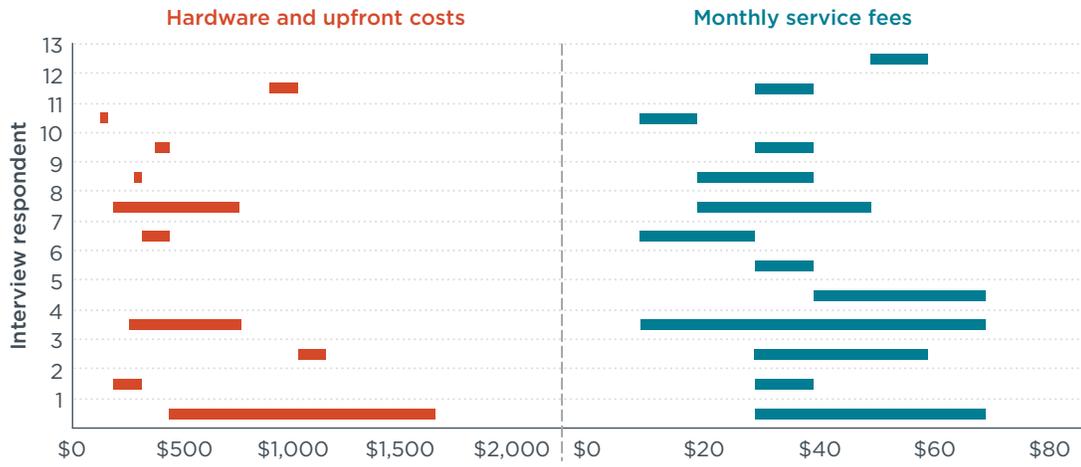


Figure 7: Ranges in upfront costs and monthly service fees for various telematics systems

CONCLUSIONS

The adoption of telematics systems by the trucking sector in recent years has been boosted by electronic logging regulations in the United States and Canada. Modern telematics systems touch virtually all aspects of fleet operations and provide a variety of benefits to users, including increased fleet efficiency and safety.

Interviews with 14 trucking fleet representatives and industry experts provided valuable information to add to the body of knowledge regarding the use of telematics in the North American trucking sector. We have synthesized our findings from the interviews into select key takeaways and best practices, which we summarize below.

KEY FINDINGS

Telematics systems provide value to trucking fleets in several ways. Modern telematics systems touch every aspect of fleet operations. Across the telematics industry, there is significant variety in the functionality of the systems offered by various companies. Products range from basic systems that meet the minimum electronic logging regulatory requirements to comprehensive fleet management platforms that provide features related to asset tracking, preventative maintenance, route optimization, and driver behavior and management. All interview participants expect that the trend towards the use of 'big data' will continue to accelerate, with telematics systems growing ever-more powerful and commonplace across the industry. The rapid adoption of ELDs and telematics systems in the United States and Canada presents the SmartWay program with an attractive opportunity. If a framework is created by which fleets and telematics providers can agree to share a subset of operations data with the SmartWay program, it could greatly reduce SmartWay's paperwork burden on fleet managers and give SmartWay program staff the ability to better provide more tailored data to their partner fleets.

Canada's electronic logging regulation is accelerating the adoption of telematics systems in the trucking industry in Canada. Based on interview responses, we estimate that between 40% and 50% of trucking fleets in Canada are currently using telematics systems. The electronic logging device (ELD) mandates in the United States and Canada have created a ripe market for the adoption of telematics systems. In the United States, ELD regulation came into force in December 2017. Since 2015, the estimated adoption rate of telematics systems by U.S. trucking fleets has grown from roughly 35% to 90% (Driscoll, 2019). With Canada's very similar ELD requirements beginning in June 2021, the representatives and experts interviewed for this study expect a similar rapid deployment of telematics systems in Canada in the next few years.

The top ten largest telematics providers represent roughly half of the telematics market for the trucking industry in Canada and the United States. Together, the three leading telematics companies—Verizon Connect, Trimble Transportation, and Omnitracs—represent about one-quarter of the total revenues from the telematics market. The next seven largest companies account for nearly one-quarter of the market. The remaining half of the telematics market is comprised of dozens of companies, including several new entrants in the trucking sector.

Several best practices are emerging to guide the adoption of telematics systems in trucking fleets. The industry interviews revealed a wide range of experiences, attitudes,

and expectations for telematics systems in the trucking sector. No two fleets engage with telematics systems in exactly the same way, given the tremendous diversity in how fleets manage their operations. Nevertheless, the survey participants revealed several similar strategies for integrating telematics systems for the first time. These include: performing due diligence, requesting a trial period, creating a company-wide roll-out process, focusing data use on specific areas for improvement, considering integration issues from the use of multiple systems, and establishing a low-tech backup plan in case of a malfunction.

APPENDIX: QUESTIONNAIRE TEMPLATES

FLEET INFORMATION

1. Where does your fleet operate? Please describe your operations in Canada (if applicable). What types of payload do you typically haul?

--

2. For your average tractor, how many miles / kilometers do you operate annually?

--

3. Is your fleet a member of the SmartWay program, and, if so, for how long?

--

ELD AND TELEMATICS SYSTEMS

- 4. What type of electronic logging device (ELD) and/or telematics system do you currently use in your fleet? How long have you been using this system (these systems)? What was your primary motivation for installing these systems?

- 5. What types of data and/or reports from your ELD / telematics system are most valuable? What have been the most significant impacts to your operations?

6. How could your ELD / telematics system better meet your needs?

7. What are the terms of payment for your ELD / telematics system? No need to provide specific dollar amounts. For example, writing “monthly” or “annual” will suffice.

8. From your experiences using ELD / telematics, have any best practices emerged? Is there anything else you'd like to add?

TELEMATICS AND SMARTWAY (FOR SMARTWAY MEMBERS ONLY)

9. What is your primary motivation for being a member of the SmartWay program?

10. Imagine that your telematics system could automate the data collection and submission process for your participation in the SmartWay program, and there would be significantly less time required for fulfilling your SmartWay obligations. In this scenario, how could the SmartWay program evolve to better meet your needs?

COMPANY INFORMATION

1. What types of products do you offer to the trucking industry? How long have you been active in the trucking sector?

2. What types of services and data analysis do you currently offer? How do you differentiate from competitors in the space? How have your services offered evolved over time?

3. What percentage of trucking fleets in Canada and the U.S. use some type of telematics system? An estimate is just fine.

TELEMATICS IN TRUCKING

4. From your interactions with trucking customers, what types of data and/or reports are of most interest to fleets?

5. What are the main factors driving product innovations for the trucking sector?

6. What are the ways that you market to fleets?

7. How do you expect that the telematics industry in trucking is going to change over the next 5 years?

8. From your experiences interacting with trucking companies, have any best practices emerged in terms of how fleets can best integrate telematics systems into their operations? Is there anything else you'd like to add?

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