

GAO

Report to the Ranking Member,
Subcommittee on Highways and
Transit, Committee on Transportation
and Infrastructure, House of
Representatives

January 2011

COMMERCIAL MOTOR CARRIERS

More Could Be Done to Determine Impact of Excessive Loading and Unloading Wait Times on Hours of Service Violations



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Highlights of [GAO-11-198](#), a report to the Ranking Member, Subcommittee on Highways and Transit, Committee on Transportation and Infrastructure, House of Representatives

Why GAO Did This Study

The interstate commercial motor carrier industry moves thousands of truckloads of goods every day, and any disruption in one truckload's delivery schedule can have a ripple effect on others. Some waiting time at shipping and receiving facilities—commonly referred to as detention time—is to be expected in this complex environment. However, excessive detention time could impact the ability of drivers to perform within federal hours of service safety regulations, which limit duty hours and are enforced by the Federal Motor Carrier Safety Administration (FMCSA).

This report discusses: (1) How regularly do truck drivers experience detention time and what factors contribute to detention time? (2) How does detention time affect the commercial freight vehicle industry? (3) What federal actions, if any, could be taken to address detention time issues? GAO analyzed federal and industry studies and interviewed a nongeneralizable sample of truck drivers, as well as other industry stakeholders and FMCSA officials.

What GAO Recommends

GAO recommends that FMCSA examine the extent to which detention time contributes to hours of service violations in its future studies on driver fatigue and detention time. We provided a draft of this report to DOT for review. DOT officials provided technical comments, which we incorporated into the report, as appropriate.

View [GAO-11-198](#) or key components. For more information, contact Susan Fleming, 202-512-2834, flemings@gao.gov.

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What GAO Found

While there are no industry-wide data on the occurrence of detention time, GAO interviews with over 300 truck drivers and a number of industry representatives and motor carrier officials indicate that detention time occurs with some regularity and for a variety of reasons. About 59 percent of interviewed drivers reported experiencing detention time in the past 2 weeks and over two-thirds reported experiencing detention time within the last month. Drivers cited several factors that contribute to detention time. About 43 percent of drivers identified limitations in facilities, such as the lack of sufficient loading and unloading equipment or staff. These limitations can occur when facilities overschedule appointments, creating a backlog of vehicles. Another factor cited by about 39 percent of drivers was the product not being ready for shipment. Other factors include poor service provided by facility staff, facility scheduling practices that may encourage drivers to line up hours before the facility opens, and factors not under the control of the facility, such as drivers filing paperwork incorrectly. Some facilities are taking steps to address these factors, such as using appointment times.

Detention time can result in reduced driving time and lost revenue for drivers and carriers. For those drivers that reported previously experiencing detention time, about 80 percent reported that detention time impacts their ability to meet federal hours of service safety requirements—a maximum of 14 hours on duty each day, including up to 11 hours of driving—by reducing their available driving time. About 65 percent of drivers reported lost revenue as a result of detention time from either missing an opportunity to secure another load or paying late fees to the shipper. Some practices can mitigate these economic impacts, such as charging detention time fees and developing relationships with facilities so drivers become familiar with a facility's process. According to industry representatives, carrier companies are better positioned than independent owner operators to use such practices and are better able to handle logistical challenges that may result from detention time.

While FMCSA collects data from drivers during roadside inspections, which provide information on the number of hours of service violations, the agency currently does not collect—nor is it required to collect—information to assess the extent to which detention time contributes to these violations. Agency officials stated that FMCSA does not identify the factors that contribute to hours of service violations, and detention time could be just one of many factors. To date, FMCSA research has focused on an overview of freight movement, but not the extent to which detention time occurs or how it may impact hours of service violations. FMCSA plans to conduct a 2012 study to better understand the extent to which detention time occurs. Obtaining a clearer industry-wide picture about how detention time contributes to hours of service violations could help FMCSA determine whether additional federal action might be warranted. However, any additional federal actions to address issues associated with detention time beyond hours of service would require careful consideration to determine if any unintended consequences may flow from federal action to regulate detention time.

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Abbreviations

DOT	Department of Transportation
FHWA	Federal Highway Administration
FMCSA	Federal Motor Carrier Safety Administration

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Accountability * Integrity * Reliability

United States Government Accountability Office
Washington, DC 20548

January 26, 2011

The Honorable Peter A. DeFazio
Ranking Member
Subcommittee on Highways and Transit
Committee on Transportation and Infrastructure
House of Representatives

The interstate commercial motor carrier industry moves a huge assortment of raw materials and goods to and from locations throughout the United States to meet the needs of thousands of shippers. As of 2008, over 61 percent of our nation's cargo by weight, and over 66 percent by value, are transported by trucks. The transportation demands of shippers are diverse, dynamic, and often time-sensitive. To efficiently service these needs, trucking companies and their clients must plan, coordinate, and staff the complex shipment and receipt of thousands of truckloads every day. They must also deal with ever-changing circumstances, such as short-notice shipping needs and unforeseen delays that require resources to be reshuffled. Any given disruption in one truckload's delivery can have a variety of ripple effects, including for the truck driver whose delivery was initially delayed, other truck drivers who are waiting to load or unload their shipment at the same facility, the shipping facilities, and the ultimate customers who are waiting to receive their shipments. Therefore, the long waiting and loading and unloading times that truck drivers can experience at shipping and receiving facilities—commonly referred to as detention time—are a concern for the industry.¹ A 2009 Department of Transportation (DOT) study identified detention time as a major loss of productivity in the industry and estimated that addressing this issue could result in a potential gain to carriers of about \$4 billion annually.² While a certain amount of detention time is to be expected given the system's complexities, drivers are subject to federal hours of service regulations, which specify, among other things, the allowable number of duty hours

¹While there is no standard definition, detention time is commonly defined by the industry as any time drivers have to wait beyond 2 hours, which is the average time it takes to load or unload their cargo.

²The study's methodology included a literature review, industry stakeholder outreach sessions, and follow-up industry interviews. The study did not cite any data used to estimate the \$4 billion potential gain. The estimated \$4 billion includes the waiting time loading and unloading, and waiting in ports. *Motor Carrier Efficiency Study Phase I*, Federal Motor Carrier Safety Administration, Washington D.C., February 2009.

during a standard work day and work week.³ Excessive detention time could impact the ability of drivers to meet their delivery schedules within these federal requirements.

Given the importance of freight transportation to our nation's economy and the potential impact that detention time has on the commercial motor vehicle industry, you asked us to provide information on the issue of detention time. More specifically, this report focuses on the following questions: (1) How regularly do truck drivers experience detention time and what factors contribute to detention time? (2) How does detention time affect the commercial freight vehicle industry, including the impact on federal hours of service requirements? (3) What federal actions, if any, could be taken to address the issues associated with detention time?

To accomplish these objectives, we reviewed hours of service regulations, legislation related to the regulation of the trucking industry, and relevant Federal Motor Carrier Safety Administration (FMCSA) regulations; agency reports such as motor carrier efficiency studies; Federal Highway Administration (FHWA) freight facts and figures; and an Office of Motor Carriers study on trucking operations and hours of service. We also reviewed information about the trucking industry and driver safety overviews, such as trucking logistics overviews and background information on warehouse and distribution centers. To capture the various perspectives of the diverse trucking industry, we interviewed officials and representatives from federal agencies, port authorities, carrier companies, trucking associations, manufacturing associations, warehouse facilities, and research firms. To conduct these interviews, we contacted officials and representatives across the country by phone, and we conducted site visits to Chicago, Illinois; Newark, New Jersey; and Port Arthur, Texas. Finally, we conducted 302 structured interviews with truck drivers at four truck stops—Ashland, Virginia; Baytown, Texas; Walcott, Iowa; and North Bend, Washington—in July and August 2010 to obtain reactions about detention time factors and impacts. We chose these sites to obtain geographic dispersion and based on input from industry stakeholders. Results from this nongeneralizable sample cannot be used to make inferences about the population. We performed our work from March 2010 through January 2011 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable

³49 C.F.R. part 395. Hours of service regulations apply to interstate truck drivers.

basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. (See app. I for a more detailed discussion of our scope and methodology. See app. II for the results of the structured interview close-ended questions.)

Background

The nation's interstate commercial motor carrier industry is extensive and includes a number of stakeholders, including carriers, shippers, receivers, and intermediaries.

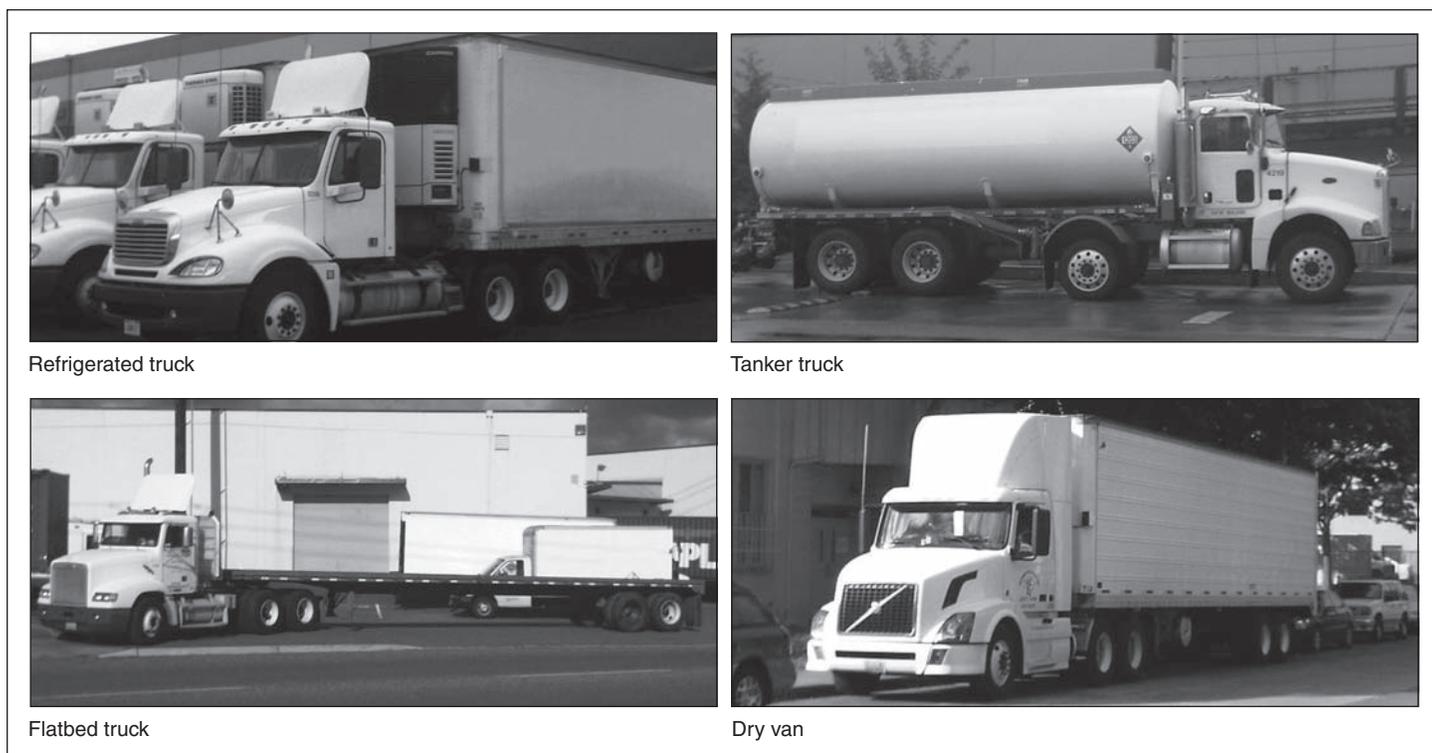
- *Motor carriers* are companies or individuals that transport cargo using motor vehicles. According to FMCSA⁴ officials, there are about 737,000 interstate carriers registered with FMCSA.⁵ While the largest motor carriers operate upward of 50,000 vehicles, approximately 80 percent of carriers are small independent-owner operators or trucking companies, operating between 1 and 6 vehicles. Within the industry, there is a variety of types of carriers. For example, carriers are either for-hire, transporting cargo to the public on a fee basis, or private, running a vehicle fleet to transport only the company's own products. There are also two principal classes of for-hire carriers: truckload carriers transport a single shipper's cargo between two locations, while less-than-truckload carriers transport cargo for multiple customers that may require pick-up or delivery at multiple locations. In addition, some carriers primarily provide long-haul service—which is generally considered to be intercity service—while other carriers primarily provide service within a metropolitan region, referred to as short haul. Finally, carriers use vehicles that differ by body types—including dry trailers, refrigerated trailers, flat beds, and tank trailers—some of which can carry a variety of cargo, while others are used for only one type of cargo.⁶ (See fig. 1 for examples of vehicles.)

⁴The Federal Motor Carrier Safety Administration was formerly a part of the Federal Highway Administration.

⁵There are 737,000 interstate motor carriers that have active DOT numbers, but out of these motor carriers, only 505,000 motor carriers have had any activity within the last 3 years. FMCSA officials stated they are starting to use the lower numbers for public information.

⁶For example, dry trailers can carry cargo ranging from electronic products to dry food products. Tanker trailers are more limited in that a tanker that carries milk will not carry gasoline.

Figure 1: Examples of Different Vehicle Body Types



Refrigerated truck

Tanker truck

Flatbed truck

Dry van

Source: GAO.

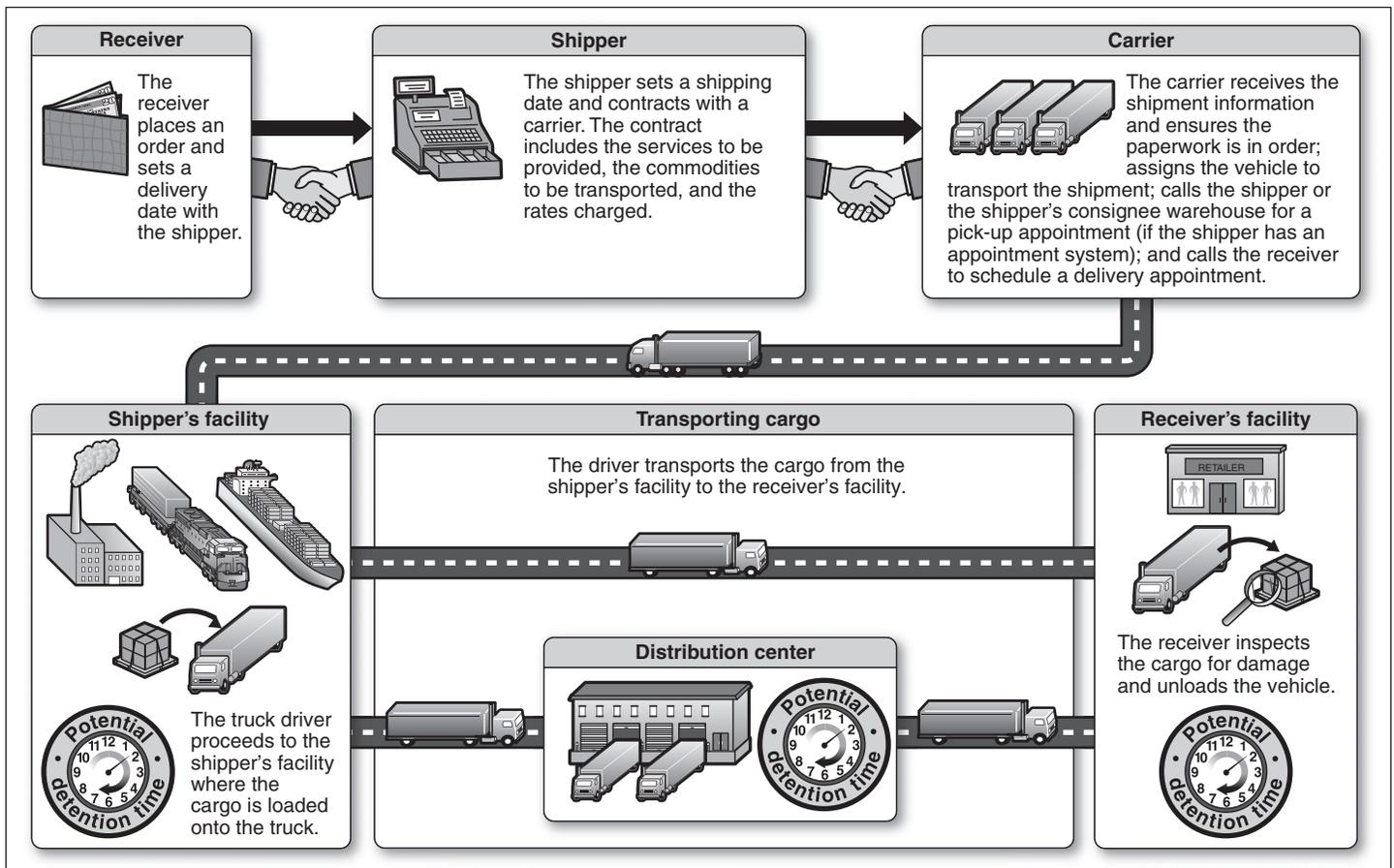
- *Shippers* are the cargo owners that hire the carriers to transport their cargo. For example, a shipper could be a product manufacturer that hires a carrier to transport its product from the manufacturing plant to the end customer, or a retail company that hires a carrier to pick up its finished products, such as clothing or electronics, from a seaport terminal or other location for transport to a distribution center.
- *Receivers* are those who are scheduled to receive and take ownership of the cargo. The receiver could be the customer of the shipper, such as a retail company or manufacturing plant, which takes ownership of the cargo to sell or use in a production process.
- *Intermediaries* arrange for the transportation of goods between the shippers and receivers. For example, a freight forwarder acts as an agent on the behalf of the shipper and will consolidate shipments from several shippers and then contract with carriers to transport these shipments. In

addition, a freight broker will arrange the pick up and delivery of a shipper's good by a carrier without having physical control of the cargo.

- *Third-party logistical companies* provide warehousing and supply chain services for the shippers and can arrange transportation of the shippers' products. For example, carriers could transport cargo to a third-party distribution center, which can repackage the cargo for further distribution.

Figure 2 provides a description of the steps typically involved in moving cargo through the system.

Figure 2: Description of the Steps Typically Involved in Moving Cargo

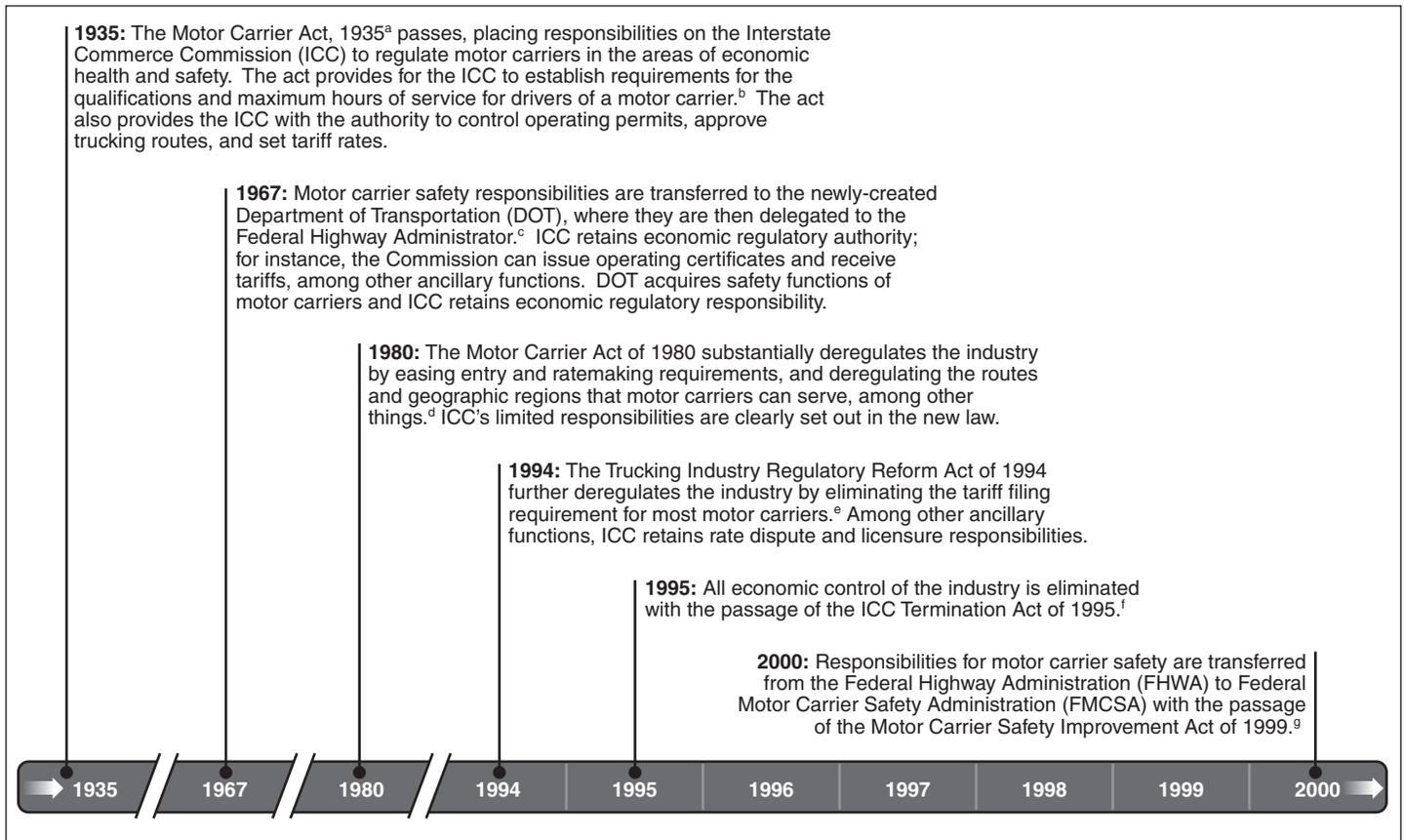


Source: GAO.

The decisions of the various stakeholders—carriers, shippers, receivers, and others—direct the logistics (or operation) of the interstate commercial motor carrier industry, and consequently can affect the occurrence and amount of detention time. Each stakeholder plans and organizes its own activities within this large industry in an effort to meet its critical objectives. Carriers attempt to minimize their travel time and the miles they drive with no cargo, while at the same time meeting the needs of shippers. Shippers try to minimize the costs of their transportation needs while ensuring delivery in a timely manner. As each stakeholder makes its own logistical decisions, it faces tradeoffs in the costs and benefits of various options for how to schedule and manage resources. Given the numerous activities that need to be scheduled and coordinated within the industry on a daily basis, some level of trucker detention time is expected. If a shipper provides its own trucking services through a private fleet, one of the shipper's goals will likely be to schedule shipments in a way that minimizes detention time and thus increases productivity. However, if, for example, an on-time pick up is a high priority for a particular shipment, then the shipper may choose to schedule a truck to arrive early, thus potentially increasing the likelihood or amount of detention time. Conversely, when a shipper uses a for-hire carrier, the shipper may be less inclined to fully take the extent of detention time into consideration when making its scheduling decisions because the shipper does not fully bear the costs of the detention time it may impose on truckers. Therefore, some detention time in the industry likely results because shippers' and receivers' decisions can affect the extent of detention time, but the costs of detention time are largely born by truckers.

The federal role in regulating the interstate commercial motor carrier industry has changed over time, as shown in figure 3.

Figure 3: History of Relevant Legislation Affecting Motor Carrier Regulation



Source: GAO.

Note: This chart represents a brief history of major pieces of motor carrier legislation that have had an impact on regulation of the motor carrier industry and that are relevant to this report. This chart does not represent a complete history of major legislation in the motor carrier industry

^aPub. L. No. 74-255, 49 Stat. 543 (1935). Prior to the passage of this act, the industry was regulated by the states.

^bPub. L. No. 74-255, § 204, 49 Stat. 543, 546 (1935).

^cDepartment of Transportation Act, Pub. L. No. 89-670, § 6, 80 Stat. 931, 940 (1966). The act became effective on April 1, 1967.

^dPub. L. No. 96-296, 94 Stat. 793 (1980).

^ePub. L. No. 103-311, Title II, 108 Stat. 1673 (1994).

^fPub. L. No. 104-88, 109 Stat. 803.

^gPub. L. No. 106-159, § 101, 113 Stat. 1748, 1750 (1999). The transfer provision became effective on January 1, 2000. See section 107 of the act.

Currently, the federal role in the industry is focused on regulating safety aspects of the trucking industry and funding transportation infrastructure, which are managed by two agencies within DOT. FMCSA's primary mission is to prevent commercial motor-vehicle-related fatalities and injuries.⁷ It carries out this mission by issuing, administering, and enforcing federal motor carrier safety regulations—including hours of service requirements—and gathering and analyzing data on motor carriers, drivers, and vehicles, among other things. FMCSA also takes enforcement actions, and funds and oversees enforcement activities at the state level through Motor Carrier Safety Assistance Program grants. FHWA is responsible for overseeing the federal-aid highway program, which funds highway infrastructure. Within FHWA, the Office of Freight Management and Operations is tasked with promoting efficient, seamless, and secure freight flows—including freight transported by the interstate commercial motor carrier industry—on the U.S. transportation system and across the nation's borders. The office advances its mission by building a greater understanding of freight transportation issues and trends, improving operations through advanced technologies, and educating and training freight transportation professionals. The office also conducts operational tests of intelligent transportation system technologies and promotes the development of standards for freight information exchange.

Federal hours of service regulations place restrictions on operations of a property-carrying commercial motor vehicle driver by setting limits on duty periods. There are three hourly limitations for these drivers, including a 14-hour "driving window" after coming on duty following 10 consecutive hours off duty,⁸ 11 hours of which can be "driving time,"⁹ and a prohibition

⁷FMCSA was established in 2000 pursuant to the Motor Carrier Safety Improvement Act of 1999. Pub. L. No. 106-159, § 101, 113 Stat. 1748, 1750 (1999).

⁸49 C.F.R. § 395.3(a)(2). On-duty time means all the time from the time a driver begins to work or is required to be in readiness to work until the time the driver is relieved from work and all responsibility for performing work. See 49 C.F.R. § 395.2 for examples of "on-duty time." According to FMCSA, any time spent doing something other than those tasks listed in 49 C.F.R. § 395.2 constitutes off duty time.

⁹49 C.F.R. § 395.3(a)(1). Driving time means all time spent at driving controls of commercial motor vehicle in operation. 49 C.F.R. § 395.2. This includes detention time if a driver is in control of the vehicle.

on driving after 60 or 70 hours of on duty time per week, with certain exceptions and exemptions.¹⁰ Specifically:

- *14-hour “driving window”*: A driver is allowed a period of 14 consecutive hours after coming on duty, following 10 or more consecutive hours off duty, in which to drive.¹¹ This 14-hour period begins when the driver starts any kind of work or is required to be in readiness to work,¹² and once the driver has completed the 14-hour period, the driver cannot drive again without first being off duty for at least 10 consecutive hours. The 14-hour period covers both on duty and off duty time.
- *11-hour driving limit*: During the 14-consecutive-hour driving window, the driver is limited to 11 total hours of actual driving time. The 11 hours can be consecutive or nonconsecutive within the 14-hour period.¹³
- *60/70-hour on duty limit*: A driver is required to adhere to one of two duty hours weekly limits, which is specified by the driver’s carrier.¹⁴ A driver may restart the 60- or 70-hour “week” by taking at least 34 consecutive hours off duty.¹⁵
- If a driver’s carrier (employer) does not operate commercial motor vehicles every day of the week, the driver may not drive after being on duty 60 hours during any 7 consecutive days.¹⁶
- If a driver’s carrier does operate commercial motor vehicles every day of the week, a 70-hour/8-day schedule is permitted. The driver may not drive after being on duty 70 hours in any 8 consecutive days.”¹⁷

¹⁰49 C.F.R. § 395.3(b). See 49 C.F.R. § 395.1 for exceptions and exemptions to all duty period limitations..

¹¹49 C.F.R. § 395.3(a)(2).

¹²See definition of “on-duty time.” 49 C.F.R. § 395.2.

¹³49 C.F.R. § 395.3(a)(1).

¹⁴49 C.F.R. § 395.3(b).

¹⁵49 C.F.R. § 395.3(c)(1), (c)(2).

¹⁶49 C.F.R. § 395.3(b)(1).

¹⁷49 C.F.R. § 395.3(b)(2).

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- A driver may restart the 60- or 70-hour “week” by taking at least 34 consecutive hours off duty.^{18,19}

According to hours of service regulations, on duty time includes all of the time from when a driver begins work for a motor carrier or is required to be in readiness to work by that motor carrier, whether paid or not, until the time the driver is relieved from work and all responsibility for performing work.²⁰ Some examples of on-duty time may include:

- driving time, to include all time spent at the driving controls of a commercial motor vehicle in operation;
- time at a plant, terminal, or other facility of a motor carrier or shipper, or on any public property, waiting to be dispatched;
- time loading, unloading, supervising, or attending the truck or handling receipts for shipments; and
- all other time in or upon a commercial motor vehicle unless the driver is resting in a sleeper berth.

¹⁸49 C.F.R. § 395.3(c).

¹⁹On December 29, 2010, FMCSA issued a Notice of Proposed Rulemaking (NPRM) proposing to revise the regulations for hours of service for drivers of property-carrying commercial motor vehicles. 75 Fed. Reg. 82170 (Dec. 2010). Among other things, the proposed rule would make seven changes from current requirements, including: (1) limiting drivers to either 10 or 11 hours of driving time following a period of at least 10 consecutive hours off duty; (2) limiting the driving window to 14 hours, while allowing that number to be extended to 16 hours twice per week; (3) limiting actual duty time within the driving window to 13 hours; (4) allowing driving only if seven hours or less have passed since a driver’s last off-duty or sleeper-berth period of at least 30 minutes; (5) retaining the 34-hour restart provision, subject to certain limits: the restart must include two periods between midnight and 6 a.m. and could be started no sooner than 168 hours (7 days) after the beginning of the previously designated restart; (6) altering the definition of “on duty” to provide flexibility to team drivers to allow some time spent in the passenger seat to be logged as “off duty”; and (7) clarifying the oilfield operations exception language on waiting time. Comments must be submitted on the proposed rule by February 28, 2011. This NPRM is in response to a 2008 legal challenge by Public Citizen and other organizations to the 2008 iteration of the hours of service rules. *Public Citizen v. FMCSA*, No. 09-1094 (DC Cir. filed March 9, 2009). The parties entered into a settlement agreement on October 26, 2009 where they agreed to hold the case in abeyance pending issuance of a new NPRM on the hours of service regulations promulgated in 2008. In accordance with the agreement, FMCSA must publish a final rule by July 26, 2011, and according to FMCSA officials, they are on track to issue the final rule on time.

²⁰49 C.F.R. § 395.2.

Federal hours of service regulations require drivers to maintain a “record of duty status”²¹—commonly referred to as a driver’s log, daily log, or log book²²—either in written form or electronically using an automatic or electronic on-board recording device.²³ Drivers must account for all hours of every day in their log, including days off, and must also have a log for each day of the last 8 days they were required to log.

One means to ensure compliance with various safety requirements, including hours of service, is for authorized FMCSA and state officials to conduct driver and vehicle inspections of commercial vehicle motor carriers.²⁴ During certain types of inspections, these inspectors check the drivers’ logs for compliance with hours of service regulations.²⁵ If the inspector finds that a driver has not complied with the hours of service regulations, the violation can result in a driver being fined and/or being placed out of service.

In addition, FMCSA ensures that motor carriers comply with safety requirements through compliance reviews of carriers already in the

²¹49 C.F.R. § 395.8.

²²See app. III for example of a driver log book.

²³In April 2010, FMCSA issued a new rule that requires interstate commercial truck and bus companies with serious patterns of hours of service violations to install electronic on-board recorders in all their vehicles. Electronic on-board recorders are devices attached to commercial vehicles that automatically record the location, miles traveled, and number of hours drivers spend operating the vehicle. Additionally, the rule allows other compliant carriers to install on-board recorders to document compliance with hours of service requirements and updates existing performance standards for on-board recording devices. 75 Fed. Reg. 17208 (April 2010). According to FMCSA, nearly 5,700 interstate carriers will use electronic on-board recorders after the final rule’s first year of implementation. The rule will go into effect on June 1, 2012. FMCSA officials stated they will soon initiate a rulemaking to consider an electronic on-board mandate for a broader population of commercial motor carriers.

²⁴Inspections are part of the Motor Carrier Safety Assistance Program (MCSAP), which is a federal grant program that provides financial assistance to states to reduce the number and severity of crashes and hazardous materials incidents involving commercial motor vehicles. The MCSAP also sets forth the conditions for participation by states and local jurisdictions and promotes the adoption and uniform enforcement of safety rules, regulations, and standards compatible with Federal Motor Carrier Safety Regulations and Federal Hazardous Materials Regulations for both interstate and intrastate motor carriers and drivers. 49 C.F.R. § 350.101.

²⁵See app. IV for more detailed descriptions of the six levels of inspections.

industry and safety audits of carriers that have recently started operations. Compliance reviews and safety audits help FMCSA determine whether carriers are complying with federal safety requirements—including hours of service regulations—and, if not, to take enforcement action against carriers, including placing carriers out of service.²⁶

Some Truck Drivers May Experience Detention Time Regularly Due to Several Contributing Factors

About Two-Thirds of Interviewed Drivers Experienced Detention Time within the Last Month

While there are no industry-wide data providing information on the occurrence of detention time, interviews with drivers, industry representatives, and motor carrier officials indicate that detention time occurs with some regularity. During our structured interviews with truck drivers, we found that the majority of these drivers had experienced detention time within the last month.²⁷ Overall, 204 of the 302 drivers interviewed—about 68 percent—had reported experiencing detention time within the last month. Most of these drivers—178 of the 302, or about 59 percent—reported experiencing detention time within the last 2 weeks. About 11 percent of the drivers—32 drivers—reported they last experienced detention time more than 1 month ago. For those drivers that reported previously experiencing detention time, the amount of detention time ranged from less than 2 hours to over 8 hours,²⁸ and occurred at a variety of different facilities, including production facilities and

²⁶Safety audits and compliance reviews also provide education and outreach opportunities for motor carriers and drivers on safety and hazardous materials regulations.

²⁷GAO asked drivers when the last time was they experienced detention time.

²⁸In our structured interviews, we defined detention time as having to wait more than 2 hours before truckers could load or unload their cargo. Despite this definition, 4 truckers considered a wait time of less than 2 hours to be detention time.

distribution centers. Finally, about 22 percent of drivers reported they had never experienced detention time.²⁹

In addition, a number of motor carrier officials stated that their truck drivers experience detention time regularly enough to institute systems to track detention time for their individual companies. For example, officials from one company that tracks detention time noted that their drivers experienced detention time on 12 percent of deliveries over a 3-month time period. While detention time can happen to all types of carriers, several industry representatives noted that drivers of some vehicle types experience a higher degree of detention time, while drivers of other types do not typically experience as much detention time. For example, some industry representatives noted that refrigerated trailer drivers tend to experience detention time to a greater extent than others because refrigerated trailers can maintain cargo at the required temperature, and can therefore wait for cargo from other nonrefrigerated trailers to be unloaded. In some cases, drivers with refrigerated trailers have had to wait overnight in order to keep the product stored at the proper temperature until it could be unloaded the next morning. In contrast, while tanker trucks can experience detention time, some industry representatives noted that tanker truck drivers do not typically experience as much detention time as some other types of trailers.

Several Factors Can Contribute to Detention Time

Truck drivers, industry representatives, and company officials identified several factors that can contribute to detention time. Based on our interviews, the 236 drivers that had reported previously experiencing detention time—either within the last month or more than 1 month ago—facility limitations, arriving for a scheduled pick-up and finding the product was not ready for shipment, poor service provided by facility staff, and facility scheduling practices were the most frequently cited contributing factors. Other stakeholders also cited these same factors as contributing to detention time.³⁰

²⁹Of the 302 truck drivers we interviewed, 230 identified themselves as only long-haul drivers, 21 drivers identified themselves as only short-haul drivers, 40 identified themselves as providing both long- and short-haul service, and 11 drivers did not provide a response.

³⁰Percentages do not add up to 100 because drivers could provide more than one factor. Percentages are based on the number of drivers who experienced detention time previously.

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- *Facility limitations:* About 43 percent of drivers reported they experienced detention time because the facilities were not adequately staffed, lacked sufficient loading and unloading equipment, or had an insufficient number of bays for loading and unloading trucks. These limitations can occur, for example, when facilities overschedule appointments for pickup or delivery or do not have enough staff or equipment to handle the number of trucks scheduled, thereby creating a backlog of vehicles that need to be loaded or unloaded.
 - *Product not ready for shipment:* About 39 percent of drivers reported they experienced detention time because the product was not ready for shipment when they arrived at the facility for pick up. This could be due to a number of reasons, such as manufacturing problems that delayed the production of the finished product. Industry representatives and company officials also highlighted that fresh produce often is not ready for shipment when drivers arrive at the loading facility. For example, one reason fresh produce might not be ready for shipment is that weather, such as heavy rains, can delay harvesting and packaging of the produce for shipment before the drivers' scheduled pick-up time.
 - *Poor service provided by facility staff:* About 39 percent of drivers reported that poor service by the facility staff was the reason they experienced detention time. Some drivers stated that once they arrived at the facility, the facility staff were indifferent to the drivers' schedules and would take their time before starting the loading or unloading process.
 - *Scheduling practices:* About 34 percent of drivers reported that facility scheduling practices at some facilities led to detention time. One of these scheduling practices cited by industry representatives was a "first come, first serve" system, in which the facility loads the vehicles in the order of arrival at the facility. For example, some seaport terminals use this system, which results in drivers lining up at the gate to the terminal before the facility opens to make sure they can get their containers as quickly as possible. The time waiting at the gate is not considered detention time by the terminals.
 - *Other factors:* Drivers, industry representatives, and company officials noted there are some other factors not under the control of the facility that can contribute to detention time. For example, about 6 percent of drivers we interviewed reported that the driver was responsible for the detention time due to the driver's paperwork not being in order. In these cases, the facility would either have to push back its overall schedule, potentially impacting all truck drivers scheduled for loading and unloading at that

facility that day, or have the delayed driver wait for an available opening. Some company officials also noted that loading or unloading could be delayed if the driver is not familiar with either the shipper's facilities or its loading and unloading procedures. Two other factors cited by officials include shipping facility staff calling in sick and leaving the facility short of staff, and a breakdown in loading or unloading equipment, which can have a cascading effect on the facility's schedule.

Shippers may implement practices to reduce detention time at their facilities. Some shippers have established appointment systems, which allow the facility to better manage available bays, staff, and loading equipment. For example, one facility we visited schedules carriers to arrive every 30 minutes, with a goal of having the carrier either loaded or unloaded within 90 minutes. If a carrier misses an appointment, the facility will unload that carrier whenever possible, but will not bump another carrier that makes the scheduled appointment time. Another practice to reduce detention time is to use technology, such as improved communication and vehicle inspection technology, to improve the process. For example, some seaport terminal operators have installed video cameras at the gate to speed up the process for inspecting the cargo containers as trucks enter the facility. This practice reduces the wait time at the facility's front gate.

Detention Time Can Result in Reduced Driving Time and Lost Revenue

Detention Time Can Impact the Ability of Drivers to Make Scheduled Deliveries within the Hours of Service Requirements

Detention time can impact drivers' ability to make scheduled deliveries within the hours of service requirements by putting drivers behind schedule and reducing available driving time. For those drivers that reported previously experiencing detention time, 80 percent reported that detention time reduced their available driving time. For example, some drivers noted that since the federal hours of service regulations allow them a "driving window" of no more than 14 consecutive hours—limited to 11 hours of driving time—detention time can significantly reduce the available driving window and driving time. Therefore, if a driver experiences 6 hours of detention time, that driver can only drive for 8 hours, at most, before being required to rest for 10 hours. Some drivers

noted that this could delay their next scheduled delivery and, in some cases, result in the receiver charging the driver a late delivery fee. According to industry representatives, drivers who experience detention time and lose available duty and driving time may sometimes be faced with a choice of not making their scheduled delivery time, violating the speed limit, or violating the hours of service requirements to make up for lost time.

Detention time can in some cases lead drivers to operate their vehicles beyond the hours of service requirements and improperly log duty time in order to make scheduled deliveries on time. When asked how detention time impacts them, about 4 percent of drivers responded they have driven beyond the hours of service limits and misrepresented their hours in their log books. Although we did not specifically ask the question during the structured interviews, a number of drivers we spoke with stated they kept multiple log books in order to disguise incidents where they violate hours of service requirements due to detention time.

Detention Time Can Result in Lost Revenue, Particularly for Independent Owner Operators

Detention time can also result in lost revenue for drivers, as well as carrier companies. Based on our structured interviews, of those drivers that reported previously experiencing detention time, 65 percent reported that detention time had caused them to lose pay. According to industry representatives, the lost revenue can result from either missing an opportunity to secure another load or having to pay late fees to the receiver. Detention time has a greater potential to result in lost revenue for independent owner operators than drivers employed by carrier companies. In general, drivers that are employed by private companies are paid by the hour. Owner operators—including owner operators that are leased to carrier companies—are typically paid by the number of miles driven or by the number of loads delivered. Because the typical owner operator's pay structure is based on actual driving time, these drivers do not get paid for time spent waiting to load or unload. In fact, drivers have an adage that says "when the wheels ain't turning, you're not earning."

Carrier companies have some ability to mitigate the economic effects of detention time through a variety of means, such as charging detention fees to shippers, developing relationships with customers, using efficient

loading and unloading operations, and no longer providing service to customers with persistent detention time.³¹

- First, according to vehicle safety association officials, larger carrier companies have the leverage to include detention fee clauses in their contracts with shippers. For example, a number of carrier companies we talked with charged detention time fees to the shippers for any time over 2 hours that their vehicle was at the facility. The detention time fee varied based on the specific contract; examples provided to us ranged from \$40 to \$80 per hour. Based on our structured interviews, 53 percent of drivers that reported previously experiencing detention time reported that their company collected detention fees. However, according to some carrier officials, not all carriers collect detention fees, even if provided for in the contract, due to their reluctance to charge their customers, particularly their larger customers with whom they conduct significant business. One carrier official explained that detention time is simply a cost of doing business in today's freight environment. In addition, collecting detention time fees can sometimes be challenging if the shipper does not agree with the amount of detention time that occurred. For example, during a 3-month time period, one carrier billed over \$4,300 in detention time fees but received less than \$500.
- Second, some carriers work closely with their customers to reduce detention time. According to industry representatives, some carriers develop relationships with shippers and receivers as they make routine visits to their facilities and establish a familiarity with the process. For example, according to one motor carrier company, its work with customers to track and measure detention time information has, in many situations, resulted in some decrease in detention time.
- Third, some carriers use a more efficient loading and unloading operation called the "drop and hook" method, which limits detention time. Drop and hook operations prevent the driver from having to wait for a trailer to be loaded or unloaded at the shipper's facility. The driver will arrive at the facility with an empty trailer, drop off the empty trailer, and hook up the loaded trailer. The shipper will load the cargo into the trailer prior to the

³¹If a motor carrier's mitigation efforts reduce detention time for their drivers, then there could be a corresponding effect on the drivers' ability to make scheduled deliveries within the hours of service requirements. For example, less detention time would allow for greater productivity within the 14- and 11-hour limits; and drivers would spend more time making deliveries than waiting.

scheduled pick-up time. According to company officials and industry researchers we spoke to, the drop and hook method does reduce detention time. However, according to carrier officials, drop and hook requires the carrier to invest in additional trailers. For example, one carrier that used the drop and hook method had 1.5 trailers for each tractor, resulting in additional costs to purchase and maintain the trailers.

- Finally, some motor carrier officials stated that if they experience significant occurrences of detention time at a particular facility, the carrier could stop providing transportation services for that client if it had sufficient business with other shippers.

In addition, some larger carrier companies are better able to handle logistical challenges that could result from detention time. For example, a carrier may have one of its vehicles held up because of detention time; however, a larger carrier can adjust the schedule of other vehicles to ensure the carrier is able to meet its commitments, therefore limiting the impact of the detention time. Smaller carrier companies or independent owner operators with only a few vehicles may not be able to react in a similar manner.

According to industry representatives, independent owner operators have limited ability to mitigate the economic effects of detention time. For example, some industry representatives stated that since independent owner operators that do not lease on a regular basis to carrier companies generally use intermediaries to arrange for cargo, those operators do not have established contracts with shippers and thus have less leverage to charge detention time fees. Depending on their contractual arrangements, independent owner operators that are leased by a large carrier also may not receive detention time fees, even if the motor carrier charges and collects those fees. In addition, even if an independent owner operator that is leased by a motor carrier receives detention fees from the motor carrier, the fees may not fully compensate the driver for the detention time. That is because detention time compensation typically falls short of the amount of compensation that drivers would receive when they are actually driving since most of their compensation is based on miles driven. Finally, according to an industry representative, some carrier companies opt to send drivers from leased independent owner operators—who, unlike some carrier companies' own drivers, are not paid by the hour—to facilities that frequently cause detention time. In so doing, the motor carrier does not have to pay the driver for the time spent waiting to load and unload.

Furthermore, in some cases, independent owner operators do not transport cargo to the same facilities as frequently as carrier companies, which limits a driver's familiarity with the procedures of specific facilities and could lead to detention time. For example, according to one warehouse representative we talked with, the drivers that encounter the most detention time are associated with independent owner operators that are not familiar with the requirements and rules of the facility, which includes not having the proper paper work, enough fuel for their refrigerated trailer, or the trailer is not in the proper condition. That representative's facility will not check in trucks that do not meet these core requirements. Finally, independent owner operators generally do not have the financial resources to purchase additional trailers to take advantage of the drop and hook method or to simply absorb the costs of detention time.

Additional Information on Factors Contributing to Hours of Service Violations Could Help FMCSA Determine the Impact of Detention Time on These Violations

Although FMCSA collects data from roadside inspections, which provides information on the number of hours of service violations, the agency currently does not collect—nor is it required to collect—information to assess the extent to which detention time contributed to these violations.³² In 2009, FMCSA and state officials conducted over 3.5 million roadside inspections of interstate and intrastate motor carriers and almost 6 percent of these inspections resulted in at least one out-of-service violation.³³ As shown in table 1, according to FMCSA data, hours of service violations were among the top 10 cited out-of-service violations. Specifically, violations of all three types of hours of service requirements—the 14-hour “driving window” rule, 11-hour driving rule, and 60/70-hour weekly on-duty rule—ranked in the 10 most frequently cited types of violations. Further, according to FMCSA officials, 14-hour rule violations were the most common out-of-service violations from U.S. roadside inspections in 2009, as well as in 2007 and 2008. FMCSA officials stated that 14-hour rule violations are straightforward and easier to detect during roadside inspections compared to other types of violations, which partially explains the more common occurrence of this type of violation.

³²According to FMCSA officials, 90 percent of these inspections are conducted by state officials.

³³An out-of-service violation is a violation that must be corrected before the driver and vehicle resume operation. Federal hours of service requirements do not apply to intrastate carriers, although states are required under the Motor Carrier Safety Assistance Program grant program to adopt hours of service rules that are “compatible” with federal regulations (49 C.F.R. part 350).

While FMCSA does not collect information on what factors contribute to hours of service violations, officials and industry representatives stated that detention time could be one of many such factors. Other factors could include a driver needing to leave the property of a facility and drive to a parking or rest area a number of miles away, having already used up the available driving hours for that day.

Table 1: Top 10 Driver Out-of-Service Violations from U.S. Roadside Inspections in 2009

Violation	Percentage of out-of-service violations
1. 14-hour rule violation	15.4
2. No driver's record of duty status	13.3
3. False report of driver's record of duty status	13.2
4. Driver failing to retain previous 7 days' logs	12.5
5. 11-hour rule violation	9.2
6. Operating a commercial motor vehicle without a commercial driver's license	6.0
7. Not licensed for vehicle type being operated	5.5
8. Local laws (general)	4.7
9. Driving a commercial motor vehicle while disqualified	4.0
10. 60/70-hour rule violation	2.6

Source: Federal Motor Carrier Safety Administration Motor Carrier Management Information System.

Notes:

Roadside inspections are based on inspection levels I, II, III, and VI.

2009 data as of December 18, 2009, snapshot.

These data include violations from both interstate and intrastate carriers. According to FMCSA, most of the states have adopted FMCSA regulations under state law, which would then capture intrastate carriers. Also, many of the states require intrastate carriers to acquire United States DOT numbers, and are thus captured in the Motor Carrier Management Information System.

Because FMCSA does not currently collect and analyze data on the factors that contribute to hours of service violations, its ability to assess the impact of detention time on hours of service violations, which may affect driver safety, is limited. Agency officials stated that, while FMCSA does not identify the factors that contribute to out-of-service violations, including hours of service violations, during roadside inspections, inspectors may acquire some information on these factors during compliance reviews. However, agency officials also stated they do not currently have other data that would help them determine either how often detention time occurs or how often detention time contributes to drivers violating hours of service requirements. For example, driver log

data that FMCSA reviews during inspections—either in hard copy or electronically—do not include or identify detention time. While drivers are not required to specifically note detention time in their log books, they must note the time they arrived and departed a facility. However, if the driver did experience some detention time with the recorded time at the facility, it does not necessarily mean that it was a contributing factor to a violation in hours of service. To make that determination, an inspector would have to ask the driver what happened. As a result, it may be difficult to link hours of service violations to detention time based solely on log book data.

To date, research conducted by FMCSA has not specifically included efforts to determine the extent to which detention time occurs. Instead, FMCSA research has focused on an overview of freight movement, including identifying inefficiencies in freight transportation and evaluating safety and productivity improvements. For example, FMCSA’s Motor Carrier Efficiency Study,³⁴ a 2007 Annual Report to Congress, examined the application of wireless technology to improve the safety and efficiency of trucking operations in the United States.³⁵ The analysis estimated that the motor carrier industry incurs financial losses in the tens of billions of dollars per year because of operating inefficiencies, and noted that “time loading and unloading” was the most costly inefficiency identified³⁶ by motor carriers. While “time loading and unloading” is a key determination for whether detention time has occurred, the study does not specifically address instances of detention time or differentiate between expected

³⁴The study conducted a detailed literature review revealing that motor carrier operations, specifically profitability and safety, are subject to a broad array of inefficiencies. U.S. Department of Transportation, Federal Motor Carrier Safety Administration, *The Motor Carrier Efficiency Study: 2007 Annual Report to Congress* (Washington, D.C., March 2009).

³⁵The specific objectives of the study include the following: (1) identify inefficiencies in freight transportation; (2) evaluate safety and productivity improvements made possible through wireless technologies; and (3) demonstrate wireless technologies in field tests.

³⁶FMCSA reported on other inefficiencies aside from time loading and unloading, such as: waiting in ports, paperwork delay at borders, time in weigh stations, incident-related delay, urban routing problems, management tools, vehicle safety, driver safety, compliance review inspections, processing capacity at borders, driver turnover, excessive speed, cargo theft and pilferage, empty intermodal moves, empty miles, and vehicle maintenance.

time loading and unloading, and detention time.³⁷ Also, FMCSA has conducted research on hours of service and driver fatigue with many studies completed, ongoing, or planned for the future. For example, FMCSA recently completed a study examining whether additional sleep would more effectively restore driver performance compared to the current 34-hour restart provision.³⁸ In addition, FMCSA officials noted that the agency has several ongoing hours of service studies.

Although FMCSA does not currently have data on detention time, the agency plans to conduct three studies addressing driver fatigue, driver compensation, and detention time. First, agency officials stated that a driver fatigue study is planned for July 2011. FMCSA officials stated that as part of this study, they plan to conduct an annual driver survey on driver fatigue to obtain an understanding of the impact of changes in the commercial driver workforce to ensure safety and well-being of its members.³⁹ The results will be used to develop and evaluate rules, regulations, policies, and enforcement activities for the motor carrier industry. However, while FMCSA has developed a problem statement, it has yet to finalize the details on this study's scope and methodology. Second, FMCSA plans to conduct a study examining the impact of driver compensation, such as pay per mile, on driver safety.⁴⁰ Finally, FMCSA has requested funding for a study on detention time, which it plans to conduct

³⁷DOT has also looked at how other factors, such as congestion, affect the flow and volume of freight. For example, FHWA produced a 2009 report that provides an overview of the volume and value of freight flows in the United States. (U.S. Department of Transportation, Federal Highway Administration, Office of Freight Management and Operations, *Freight Facts and Figures 2009* (Washington, D.C., November 2009)). The report does not discuss detention time specifically, but instead reports on traffic congestion and its impact on freight flow and volume. FHWA officials noted they do not collect detention time data, and also stated they have no current or planned studies specific to detention time.

³⁸U.S. Department of Transportation, Federal Motor Carrier Safety Administration, *Investigation into Motor Carrier Practices to Achieve Optimal Commercial Motor Vehicle Driver Performance: Phase I*, (Washington, D.C., December 2010).

³⁹FMCSA stated that these annual driver surveys provide a means for FMCSA to canvass commercial motor vehicle drivers to obtain demographic information as well as information pertinent to upcoming rulemakings.

⁴⁰FMCSA officials stated that the driver compensation study will likely be conducted by the Transportation Research Board and will largely be a literature review of carrier companies' payment structures. FMCSA will work with other federal agencies and the Transportation Research Board to assess the safety implications of commercial driver compensation and exemptions from overtime pay requirements in the Fair Labor Standards Act. The study will examine the process by which changes to the current system could be made.

in 2012. While FMCSA officials said they plan to survey drivers on the amount of time they wait to load or unload shipments, FMCSA has to date only developed a problem statement. The purpose of the study will be to better understand the nature of the problem of detention or waiting time in the industry. Agency officials stated the study will also identify any changes in current regulations that would reduce driver wait times. In addition, officials stated they will use the prior two studies to develop the detention time study's scope or methodology. Therefore, it is not clear whether the detention time study will address, among other things, the extent to which detention time contributes to drivers violating hours of service requirements.

In addition to FMCSA's planned studies on detention time, collecting information on the factors that contribute to detention time through driver and vehicle inspections or other means could help FMCSA determine whether detention time is a significant factor in contributing to drivers violating hours of service requirements and, consequently, whether additional federal action by DOT or Congress might be warranted to mitigate detention time as a potential safety issue. For example, FMCSA could collect this type of information through level IV special inspections, which are typically one-time examinations based on an existing or potential problem and administered for data collection purposes—such as investigating defects in brakes or intermodal equipment—typically conducted in support of a study or to verify or refute a suspected trend. In 2009, FMCSA conducted over 16,500 level IV special roadside inspections in the United States. According to agency officials, level IV inspections are effectively level I standard inspections plus some additional questions for data collection, and the actual work and resources remain the same. These types of inspections can be administered in a designated period of time, such as a 3-day period when many inspections would be scheduled to occur. In addition, FMCSA could use a study-specific data collection form to acquire information on factors contributing to hours of service violations during inspections, similar to the methodology used in an unpublished FHWA study examining the violation of hours of service requirements in relation to the origin of the load.⁴¹ The study used an inspection form and a data collection form to acquire additional

⁴¹U.S. Department of Transportation, Federal Highway Administration, Office of Motor Carrier and Highway Safety, *The Violation of Hours of Service Regulations in Relation to the Origin of the Load* (Washington, D.C., unpublished).

information outside of the standard inspection.⁴² Hours of service requirements are designed to ensure that truck drivers get the necessary rest to perform safe operations, to help continue the downward trend in commercial motor vehicle fatalities, and to maintain motor carrier operational efficiencies. All three goals further FMCSA's primary mission to prevent fatalities and injuries involving commercial motor vehicles. Therefore, information on the factors that contribute to hours of service violations could help FMCSA in developing any future policy, rules, regulations, or programs to improve commercial vehicle safety.

Any federal action to address issues associated with detention time beyond hours of service requirements would require careful consideration. Since there is no current federal regulation of detention time, any potential federal action would need to be based on a full understanding of the complexities of the industry. For example, a standard definition of detention time would need to be established. However, as we have shown, there are often disagreements between shippers and carriers regarding how much detention time occurred in a particular case, so finding a commonly agreed to definition in the industry could be challenging. It would also need to be decided which stakeholders any new federal action would target since there is a wide variety of stakeholders involved. Finally, the federal government would need to evaluate whether any unintended consequences may flow from a new federal action, and if so, how to avoid or mitigate those consequences.

Conclusions

Detention time is a complex issue involving many stakeholders. While it is not uncommon for drivers to experience detention time, there are no data available that can provide any definitive information on how often it occurs, how long detention time lasts, or what types of carriers or facilities experience the most detention time. In fact, detention time can be difficult to measure as there are different interpretations of what constitutes detention time. Detention time can be caused not by one predominant factor, but instead by a wide variety of factors, primarily related to facility operations. Furthermore, some detention time likely results because shippers' decisions affect the extent of detention time, but the costs of detention time are largely born by truckers. While detention time can have

⁴²Based on this study's findings, a driver is almost two times as likely to have an hours of service violation if the load originated with a broker. Thus, the study suggested that the statistical evidence showed a direct relationship of broker-oriented loads with violating hours of service requirements.

an economic impact on drivers and carrier companies, the current federal role in the industry focuses on safety—including hours of service requirements—rather than economic regulation. FMCSA’s plans to look at detention time in upcoming studies may shed further light on the contributing factors and extent of detention time, but the agency is still in the initial planning stages and has not determined the scope of these studies. Without information on the extent to which detention time occurs and the extent to which detention time contributes to hours of service violations, FMCSA may not have key information to help reduce these types of violations.

Recommendations for Executive Action

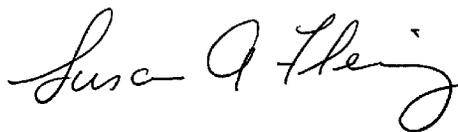
To support the primary mission of FMCSA in improving the safety of commercial motor vehicles, we recommend the Secretary of DOT direct the Administrator of FMCSA to examine the extent to which detention time contributes to drivers violating hours of service requirements in its future studies on driver fatigue and detention time, and through data collected from its driver and vehicle inspections.

Agency Comments and Our Evaluation

We provided a draft of this report to DOT for review and comment. DOT officials provided technical comments which we incorporated into the report, as appropriate.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. The report also will be available at no charge on the GAO Web site at <http://www.gao.gov>.

If you or your staff have any questions about this report, please contact me at (202) 512-2834 or flemings@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix V.



Susan A. Fleming
Director, Physical Infrastructure Issues

Appendix I: Objectives, Scope, and Methodology

To determine how regularly truck drivers experience detention time, the factors that contribute to detention time, and how detention time affects the interstate commercial motor carrier industry, we reviewed hours of service regulations, legislation related to the regulation of the trucking industry, and relevant Federal Motor Carrier Safety Administration (FMCSA) regulations; agency reports such as motor carrier efficiency studies; Federal Highway Administration (FHWA) freight facts and figures; and an Office of Motor Carriers study on trucking operations and hours of service. We also reviewed information about the trucking industry and driver safety overviews such as trucking logistics overviews, and background information on warehouse and distribution centers. To capture the various perspectives of the diverse trucking industry, we interviewed officials and representatives from FMCSA and FHWA, port authorities, carrier companies, trucking associations, manufacturing associations, warehouse facilities, and research firms. To conduct these interviews, we contacted officials and representatives across the country by phone, and we conducted site visits to Chicago, Illinois; Newark, New Jersey; and Port Arthur, Texas.

In addition, we conducted structured interviews with truck drivers to gain a general understanding of (1) the frequency truck drivers experience detention time, (2) what truck drivers perceive to be the factors that contribute to detention time, and (3) how detention time affects them. After initially developing, reviewing, and modifying the interview questions, we conducted two pretests with truck drivers at truck stops in North Bend, Washington, and Baltimore, Maryland. The two pretests were conducted by GAO team members who approached respondents asking if they would like to answer a short questionnaire on detention time. The GAO team members asked the respondents the structured questions and noted any questions, comments, and lack of clarity to the questions on the part of the pretest respondents. The final changes made to the structured interview questions were made on the basis of observations from the pretests. A copy of the structured interview questions and results of the closed-ended questions are included in appendix II.

The targeted population for the structured interviews was truck drivers. We conducted the interviews at four truck stops: Baytown, Texas; Ashland, Virginia; Walcott, Iowa; and North Bend, Washington. We chose these sites to obtain geographic dispersion and based on input from industry stakeholders. The GAO team members stationed themselves on-site where the highest volume of drivers was located, such as the front entrance. The GAO team members self-selected the respondents and therefore the results from this nongeneralizable sample cannot be used to

make inferences about the population. Of the 549 truck drivers approached, 247 drivers declined to be interviewed, yielding a 55 percent response rate. Of the 302 truck drivers we interviewed, 230 identified themselves as only long-haul drivers, 21 drivers identified themselves as only short-haul drivers, 40 identified themselves as providing both long- and short-haul service, and 11 drivers did not provide a response.

The structured interview of truck drivers contained a mixture of closed-ended and open-ended questions. In order to analyze drivers' verbal responses to the open-ended questions, two analysts independently coded the responses and resolved any discrepancies in the categorization.

To determine what federal actions, if any, could be taken to address the issues associated with detention time, we reviewed existing research and studies conducted by the Department of Transportation, such as FMCSA's Motor Carrier Efficiency Study and FHWA's report that provided an overview of the volume and value of freight flows in the United States. Further, we reviewed FMCSA's plans for future research studies on detention time, driver fatigue, and driver compensation. In addition, we reviewed hours of service requirements; documentation on FMCSA's enforcement of safety regulations, such as the types of driver and vehicle inspections; relevant laws and regulations related to the federal government's role in the trucking industry, such as the Motor Carrier Act of 1935,¹ the Motor Carrier Act of 1980,² and the ICC Termination Act of 1995³; and other relevant trucking industry requirements and rules, such as 49 C.F.R. part 395, and the electronic on-board recorder rule.⁴ Furthermore, we relied on FMCSA North American Free Trade Agreement Safety Statistics on out-of-service violations from roadside inspections for information on the number of hours of service violations. We did not independently verify those statistics since we reported them for contextual purposes, and they do not materially affect our findings. As such, we did not conduct a data reliability assessment of these data. Finally, we interviewed officials and representatives from FMCSA and FHWA, port authorities, carrier companies, trucking associations, manufacturing associations, warehouse

¹Pub. L. No. 74-255, 49 Stat. 543 (1935).

²Pub. L. No. 96-296, 94 Stat. 793 (1980).

³Pub. L. No. 104-88, 109 Stat. 803 (1995).

⁴75 Fed. Reg. 17208 (April 2010).

**Appendix I: Objectives, Scope, and
Methodology**

facilities, and research firms to get their perspective on potential federal actions that could be taken to address detention time issues.

Appendix II: Truck Driver Structured Interview Questions and Results for Closed-Ended Questions

1. When was the last time you experienced detention time? Was it:

In the last 7 days	51.0% (154)
In the last 2 weeks	7.9% (24)
In the last month	8.6% (26)
More than 1 month ago	10.6% (32)
Does not experience detention time	21.9% (66)

2. Did you collect detention fees?

Yes	35.3% (83)
No	62.6% (147)
Sometimes	2.1% (5)

3. Does the company you work for collect detention fees?

Yes	53.4% (125)
No	18.4% (43)
Sometimes	2.1% (5)
Don't know	26.1% (61)

4. During your last detention time, how long did you wait from gate to gate?

5. Did you have any wait time before you got to the gate?

Yes	21.2% (49)
No	78.8% (182)

6. If so, what were the reasons for the wait time before you got to the gate?

7. Did you have an appointment time?

Yes	79.5% (186)
No	20.5% (48)

8. For the last time you experienced detention time, what was the reason?

Appendix II: Truck Driver Structured Interview Questions and Results for Closed-Ended Questions

9. For the last time you experienced detention time, how did the detention time impact you, if at all?
10. What type of freight were you hauling?
11. What type of facility were you delivering to or picking up freight from?
12. In general, does detention time impact your ability to meet federal hours of service requirements?

Yes	87.2% (204)
No	12.8% (30)

13. If yes, in what way does it impact?
14. Besides the reason you mentioned previously, are there other reasons for why you have experienced detention time in the past?
15. Besides the impacts you mentioned, has detention time impacted you in other ways in the past?
16. Are you an owner operator, an owner operator leased, or a company driver?

Owner operator	30.4% (89)
Owner operator leased	10.2% (30)
Company driver	59.0% (173)

17. Are you paid according to your mileage or by a percentage, hourly, or by some other method?

Mileage	64.7% (189)
Percentage	25.7% (75)
Hourly	2.7% (8)
Other	6.8% (20)

**Appendix II: Truck Driver Structured
Interview Questions and Results for Closed-
Ended Questions**

18. Are you a long-haul or short-haul driver?

Long haul	79.0% (230)
Short haul	7.2% (21)
Both long haul and short haul	13.7% (40)

19. Are you an individual or team driver?

Individual	88.0% (257)
Team	11.3% (33)
Both individual and team	0.7% (2)

Appendix III: Example of a Driver Log Book

Figure 4: Components of a Sample Driver Log Book

The diagram shows a 'DRIVER'S DAILY LOG' form from the U.S. DEPARTMENT OF TRANSPORTATION. The form includes the following components and labels:

- Date:** (MONTH) (DAY) (YEAR)
- Name of carrier:** (NAME OF CARRIER OR CARRIERS)
- Main office address:** (MAIN OFFICE ADDRESS)
- 24-hour period starting time:** MID-NIGHT
- Total miles driving today:** (TOTAL MILES DRIVING TODAY)
- Vehicle number:** VEHICLE NUMBERS - (SHOW EACH UNIT)
- Driver's signature/certification:** (DRIVER'S SIGNATURE IN FULL)
- Name of co-driver:** (NAME OF CO-DRIVER)
- Total hours:** TOTAL HOURS
- Shipping document number(s), or name of shipper and commodity:** Pro or Shipping No.
- Remarks:** A section for notes at the bottom of the grid.

The 24-hour grid is divided into four sections: 1: OFF DUTY, 2: SLEEPER BERTH, 3: DRIVING, and 4: ON DUTY (NOT DRIVING). The grid has columns for hours 1 through 11, a NOON column, and another set of columns for hours 1 through 11. A 'MID-NIGHT' label is at the start and 'NOON' is between the two sets of columns. A 'TOTAL HOURS' column is on the right side of the grid.

Source: Federal Motor Carrier Safety Administration.

According to FMCSA, the regulations do not say what a log form must look like. However, it must include a 24-hour graph grid, in accordance with regulations, and the following information on each page, according to the agency:

- *Date:* Drivers must write down the month, day, and year for the beginning of each 24-hour period. (Multiple consecutive days off duty may be combined on one log page, with an explanation in the “Remarks.”)
- *Total miles driving today:* Drivers must write down the total number of miles driven during the 24-hour period.

- *Motor coach/bus number:* Drivers must write down either the vehicle number(s) assigned by their company, or the license number and licensing state for each truck (and trailer, if any) driven during the 24-hour period.
- *Name of carrier:* Drivers must write down the name of the motor carrier(s) they are working for. If drivers work for more than one carrier in a 24-hour period, they must list the times they started and finished work for each carrier.
- *Main office address:* Drivers must write down their carrier's main office address.
- *Signature:* Drivers must certify that all of their entries are true and correct by signing their log with their legal name or name of record.
- *Name of co-driver:* Drivers must write down the name of their co-driver, if they have one.
- *Time base to be used:* Drivers must use the time zone in effect at their home terminal. Even if they cross other time zones, they must record time as it is at their terminal. All drivers operating out of their home terminal must use the same starting time for the 24-hour period, as designated by their employer.
- *Total hours:* Drivers must add and write down the total hours for each duty status at the right side of the grid. The total of the entries must equal 24 hours (unless you are using one page to reflect several consecutive days off duty).
- *Remarks:* This is the area where drivers must list the city, town, or village, and state abbreviation when a change of duty status occurs. Drivers should also explain any unusual circumstances or log entries that may be unclear when reviewed later, such as encountering adverse driving conditions.
- *Shipping document number(s), or name of shipper and commodity:* For each shipment, drivers must write down a shipping document number (such as a charter order or a bus bill) or the name of the shipper and what they are hauling.

Appendix IV: North American Standard Driver and Vehicle Inspection Levels

Level	Type	Description
I	North American Standard inspection	An inspection that includes examination of driver's license; medical examiner's certificate and waiver, if applicable; alcohol and drugs; driver's record of duty status as required; hours of service; seat belt; vehicle inspection report; brake system; coupling devices; exhaust system; frame; fuel system; turn signals; brake lamps; tail lamps; head lamps; lamps on projecting loads; safe loading; steering mechanism; suspension tires; van and open-top trailer bodies; wheels and rims; windshield wipers; and emergency exits on buses and hazardous materials requirements, as applicable.
II	Walk-around driver/vehicle inspection	An examination that includes each of the items specified under the North American Standard Inspection. As a minimum, level II inspections must include examination of: driver's license; medical examinees certificate and waiver, if applicable; alcohol and drugs; driver's record of duty status as required; hours of service; seat belt; vehicle inspection report; brake system; coupling devices; exhaust system; frame; fuel system; turn signals; brake lamps; tail lamps; head lamps; lamps on projecting loads; safe loading; steering mechanism; suspension; tires; van and open-top trailer bodies; wheels and rims; windshield wipers; emergency exits on buses; and hazardous materials requirements, as applicable. It is contemplated that the walk-around driver/vehicle inspection will include only those items that can be inspected without physically getting under the vehicle.
III	Driver-only inspection	A roadside examination of the driver's license, medical certification and waiver, if applicable; driver's record of duty status as required; hours of service; seat belt; vehicle inspection report; and hazardous materials requirement, as applicable.
IV	Special inspections	Inspections under this heading typically include a one-time examination of a particular item. These examinations are normally made in support of a study or to verify or refute a suspected trend.
V	Vehicle-only inspection	An inspection that includes each of the vehicle inspection items specified under the North American Standard Inspection (level I), without a driver present, conducted at any location.
VI	Enhanced North American standard inspection for radioactive shipments	An inspection for select radiological shipments, which include inspection procedures, enhancements to the level I inspection, radiological requirements, and the enhanced out-of-service criteria. Select radiological shipments include only highway route controlled quantities as defined by title 49 section 173.403 and all transuranics.

Source: Federal Motor Carrier Safety Administration.

Appendix V: GAO Contact and Staff Acknowledgments

GAO Contact

Susan Fleming, (202) 512-2834 or flemings@gao.gov

Staff Acknowledgments

In addition to the name above, key contributors to this report were Sara Vermillion (Assistant Director), Amy Abramowitz, Richard Bulman, Lauren Calhoun, Delwen Jones, Sara Ann Moessbauer, Joshua Ormond, Tim Schindler, Elizabeth Wood, and Adam Yu.

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