Department of Transportation
Federal Motor Carrier Safety Administration

SUPPORTING STATEMENT PART A
Impact of Driver Detention Time on Safety and Operations
OMB Control Number: 2126-xxxx

SUMMARY

- This new information collection request (ICR) is for a research study that will collect data on commercial motor vehicle (CMV) driver detention times that are representative of the major segments of the motor carrier industry. The study will analyze those data to determine the frequency and severity of detention time and assess the utility of existing intelligent transportation systems (ITS) solutions to measure detention time. This study will be used to better understand the impact of driver detention time on safety and operations of CMV drivers and inform strategies that may be used to mitigate driver detention time.
- The research study will collect 12 months of safety and operational data from up to 80 commercial motor carriers (hereafter referred to as "carriers") and 2,500 of their CMV drivers. Data collected will include electronic logging device (ELD) records, GPS location information, telematics data, pickup/delivery details, information on tasks completed while at shipping and receiving facilities, crashes, violations, and carrier demographics.

INTRODUCTION

This is to request the Office of Management and Budget's (OMB's) review and approval of a new Federal Motor Carrier Safety Administration (FMCSA) ICR titled *Impact of Driver Detention Time on Safety and Operations*.

Part A. Justification

1. CIRCUMSTANCES THAT MAKE THE COLLECTION OF INFORMATION NECESSARY

"Detention time" refers to the extra time CMV operators wait at shipping and receiving facilities due to delays not associated with the loading and unloading of cargo. Drivers are often not paid for this time. Although there is currently no standard definition of detention time, the CMV industry, the U.S. Government, and academic detention research in the U.S. have typically used dwell time—the total amount of time spent at a facility—exceeding 2 hours to define when detention time occurs (regardless of the amount of time loading or unloading).[1,OBJ,2,OBJ,3,OBJ]

Detention time in the CMV industry is a longstanding issue and is consistently ranked as one of the top problems CMV operators face.[1,4,5] In February 2011, the GAO issued a report indicating that approximately two thirds of drivers had experienced detention time in the past month.[2] In 2018, the OIG estimated that detention time is associated with reduced driver annual earnings of $1.1 billion to $1.3 billion for certain sectors of the trucking industry.[3] Belella et al. reported that eliminating inefficiencies in loading and unloading could gain U.S. carriers $3.1 billion annually,

with society as a whole gaining $6.6 billion annually.[4] In addition, detention time affects CMV drivers' ability to meet hours of service (HOS) requirements by reducing their available driving time.[2,3] Drivers who experience detention time may be more inclined to drive faster to reach their destinations within the HOS limits or to operate beyond HOS limits and improperly log their driving and duty time to make deliveries on time.[2,6] The 2018 OIG study concluded that a 15-minute increase in average dwell time increases the average expected crash rate by 6.2%.[3] This translates to each 1-minute reduction in average detention time nationwide potentially preventing roughly 400 crashes per year.

An important first step in addressing detention time is understanding the factors that contribute to the issue. A 2014 FMCSA[7] study showed that CMV drivers experienced detention time on approximately 1 in every 10 stops, for an average duration of 1.4 hours beyond the 2-hour standard (the dwell time was 3.4 hours, of which 1.4 hours was detention time). This study also showed that medium-sized carriers had similar average detention times as large carriers, but they experienced detention times about twice as often as large carriers; 19% of stops made by medium-sized carriers resulted in detention time compared to 9% of stops made by large carriers. Although this 2014 study provided valuable initial insights, it had several limitations:

- The study included data from only 31 carriers, only two of which were small, resulting in a sample that was not representative of the entire trucking industry.
- Detention time was often estimated based on GPS coordinates, without requiring information from drivers on specific activities.
- Data were only recorded when a driver was on duty, which could result in detention time not being recorded if the driver was off duty.
- Time spent loading/unloading was not differentiated from time spent waiting to load/unload.
- Data were collected over a 6-month period, failing to account for seasonal variations.
- Stratification variables were limited to operation size, operation type, and freight type due to time constraints and other circumstances.

As discussed in detail below, this study will address these limitations to provide FMCSA with a robust assessment of the impacts of driver detention time on safety and operation in the trucking industry. Specifically, we will collect data from multiple sources to accurately identify detention time by differentiating the many activities drivers may perform at a facility while also considering the many nuances associated with detention and appointment times. A high-level summary of the approach is included in Table 1. This approach will provide FMCSA with precise and reliable answers to each of the research questions (Table 2).

Table 1. Comparison of 2014 Detention Time Study Approach and the Proposed Approach

2014 Detention Time Study (Dunn et al., 2014)	Current Approach
Data collected from 31 carriers, including two small carriers.	Customized ITS data will be collected from approximately 80 carriers (2,500 drivers) selected with input from FMCSA and with a median fleet size of ~3.8 vehicles.
Detention was estimated based on GPS coordinates.	The customized ITS will more accurately determine detention time based on near-real-time data provided by drivers within a geofenced facility location.
Detention time was only measured by on-duty (not driving) status in ELD data.	Drivers will use the customized ITS to report detention time and tasks performed at a facility, regardless of duty status, while within the geofenced facility location.
Detention time was measured using dwell time (including loading/unloading and waiting time) as a proxy.	Drivers will report time loading/unloading using customized ITS.
Data were collected over a 6-month period.	Data will be collected over a 12-month period.
Analysis did not include stratification by key carrier demographic features.	Analyses will consider carrier fleet size, operation type, geographic location, time of year, facility type, and other key features in terms of their impact on detention time and as possible model covariates in safety analysis.

Table 2. Research Questions to be Answered

No.	Research Question
1	What is the frequency and severity of driver detention time (measured by averages, medians, minimums, and maximums), in general and among sectors, geographic areas, carrier size groups, or types of facilities that can be identified in the data?
2	How does driver detention time fluctuate based on the time of day, day of week, time of year, etc.?
3	Does driver detention time influence the likelihood of crashes, HOS violations, or fatigue?
4	What are the costs of driver detention time in terms of lost productivity?
5	What are potential mitigation strategies to address driver detention time?
6	Are currently available ITS systems—i.e., fleet telematics, onboard monitoring/safety systems—capable of accurately and systematically measuring detention time?
7	Do vehicles with appointment times experience less detention time than those without appointment times?
8	Are differences in the definitions of “detention time” and related terminology a significant problem for the industry?
9	How does detention time at port terminals compare to other facilities or locations?

The Secretary of Transportation’s authority to conduct studies pertaining to CMV safety can be found in 49 U.S.C. 504, 31133, 31136, 31502, and is delegated to FMCSA at 49 CFR 1.73 (see Attachments A–E, respectively). Further, FMCSA is authorized to conduct research on CMVs under 49 U.S.C. 31108, “Motor Carrier Research and Technology Program.”

This information collection supports the USDOT Strategic Goal of “Safety.”

2. HOW, BY WHOM, AND FOR WHAT PURPOSE IS THE INFORMATION USED

2.1 Purpose of the Information Collection Effort

The purpose for obtaining data in this study is to evaluate the impact of driver detention time on safety and CMV operations. Specifically, there are three primary objectives for the data collection via ELDs, transportation management systems (TMS), vehicle telematic systems, safety records, and electronic questions: (i) assess the frequency and severity of driver detention time using data that is representative of the major segments of the motor carrier industry, (ii) assess the utility of existing ITS solutions to measure detention time, and (iii) prepare a final report that summarizes the findings, answers the research questions, and offers strategies to reduce detention time. Data and results from this study will provide insight into any relationship between driver detention time and CMV safety. Additionally, the findings from this study can contribute to a more complete understanding of these issues and facilitate private sector decisions that lead to reductions in detention time and improvements in safety and supply chain efficiency.

2.2 How Information Will Be Collected

The study includes data collection via electronic logging devices (ELDs), transportation management systems (TMS), vehicle telematic systems, safety records, and answers to questions delivered through the carriers' dispatching systems. The TMS, ELD, telematics, and safety data are already collected by carriers. The only additional data that will be collected will be the answers to questions submitted through the carriers' dispatching systems. This information will allow us to identify the severity and frequency of detention time, the factors that contribute to detention time, and the administrative, operational, and safety outcomes of detention time. After agreeing to participate in the study, carriers will collect and provide 12 months of data.

The carriers will be selected so that the sample is a close representative of the nation in terms of carrier size. To be selected, carriers must use one or more devices or apps with TMS and telematics capabilities that are (or can be) integrated with the research team's data collection system for delivery/pickup details, telematics and vehicle tracking metrics, and ELD data. The final sample will include up to 80 carriers with up to 2,500 total vehicles. This sample will include a variety of carrier operations, including long haul/short haul, private/company fleets and for-hire fleets, port servicing (primarily chassis), owner-operators, hourly and mileage-based operators, truckload/less-than-truckload, and dedicated local delivery. These carriers will range in size from single-vehicle owner-operators to carriers with hundreds of trucks, with a likely average fleet size of 31 vehicles. Each of the carrier datasets to be collected is discussed in detail below. Much of the requested data are already routinely collected, organized, and stored by these carriers, so this project will frequently only require combining and analyzing existing data, without actually collecting any genuinely new data.

2.2.1 Carrier information

At the start of data collection, each participating carrier will provide basic information about their operation, which will help link their data to data from other sources. Necessary carrier data will include the following variables:

- Carrier name

- Address
- DOT number
- Key contact information
- TMS access information (if needed; depending on the TMS, access may be automatically collected through the research team's data collection system via the TMS device or app)
- Telematics service provider (TSP) access information

2.2.2 Carrier-owned driver data

Information on each participating carrier's drivers will be collected twice (at the start and end of the 12-month data collection period). Driver data is needed to link carrier-owned datasets to Federal safety datasets, which includes crash and violation data that is only meaningful for the purposes of this project when it can be linked to specific drivers and precise times. Each row in the carrier-owned driver dataset will represent an individual driver employed by the participating carrier, including the following variables:

- Carrier-assigned driver ID number
- Carrier-assigned truck ID number (if driver is assigned to a truck)
- Driver's license number and/or name

Carriers already have this information on their drivers.

2.2.3 Carrier-owned TMS data

Data from each carrier's TMS will automatically be collected by the research team on a continual basis. These data include information on the carriers' contracts with the shippers/receivers and details on each delivery and pick-up. These data are needed to identify carriers' contractual language about detention time, shipper and receiver facility locations, appointment times, and planned trips, which will help the agency understand why detention time occurred and identify potential mitigation strategies. More details on TMS data are provided below.

2.2.3.1 Carrier-owned shipper/receiver contract data

As mentioned above, carriers' TMS data includes data on each shipper/receiver contract. Data from these contracts are needed to understand rules carriers may have negotiated with the shipper/receiver regarding detention time. Further, these data will identify delivery locations, which will indicate when vehicles enter a facility. Each record in the carrier-owned contract dataset will represent a different contract signed by the participating carrier, and each will include the following variables:

- Shipper/receiver name
- Shipper/receiver address
- Carrier-assigned pool of trailers (if available)
- Commitment for volume of deliveries (if available)
- Detention time rules (if available)
- Facility locations

These data are part of the TMS data that is already collected.

2.2.3.2 Carrier-owned delivery/pick-up order data

Carriers' TMS data also include detailed information on every delivery/pick-up order scheduled. These data are needed to identify details about carriers' planned trips and determine whether detention time occurred. Each row in the carrier-owned order dataset will be an individual order scheduled by the participating carrier, which should include most or all the following variables:

- Carrier-assigned trip identification number
- Carrier-assigned order identification number
- Carrier-assigned driver identification number
- Carrier-assigned truck identification number
- Carrier-assigned trailer identification number
- Carrier-assigned TSP identification number
- Carrier-assigned ELD identification number
- Order pick-up location
- Order delivery location
- Order type
- Earliest acceptable date and time for the truck to arrive at the facility
- Latest acceptable date and time for the truck to arrive at the facility
- Appointment date and time (if available)
- Scheduled arrival date and time
- Planned departure date and time
- Freight details
- Planned mileage to complete the order
- Billed amount for detention time (if available)
- Driver pay resulting from detention time (if available)

Most of these data are part of the TMS data that is already collected by carriers. These data will be automatically collected through the carrier's TMS device or app, which will be integrated with the research team's data collection system. Carriers will not be asked to provide data that are not already part of their existing TMS.

2.2.4 Carrier-owned telematics and ELD data

Data from ELDs and safety-related telematics data will automatically be collected from the carriers' TSPs during each trip during the 12 months of data collection, which will provide the needed information on drivers' HOS and safety performance. Most or all of the following variables will be collected:

- Carrier-assigned driver identification number
- Carrier-assigned trip identification number
- Carrier-assigned order identification number
- Carrier-assigned truck identification number
- Carrier-assigned trailer identification number
- Truck VIN
- Latitude

- Longitude
- Zulu (standardized) date and time
- Local date and time
- Vehicle speed
- Roadway speed limit
- Safety incident date and time
- Safety incident types
- Safety incident g-force
- Crash date and time
- Crash types
- Driver duty status
- Driver's remaining drive time
- Driver's remaining on-duty time
- Driver's remaining total hours
- Miles until the next stop

Most of these data are collected with the carriers' existing TSP. Carriers will not be asked to provide data that is not already part of their existing TSP.

2.2.5 Insurance claims data

Carrier-owned telematics and ELD data will be linked to existing carrier-owned data containing motor-vehicle insurance claims. These data are needed to assess the impact of detention time on safety. The insurance claims dataset will include the following variables:

- Carrier identification number
- Carrier-assigned driver identification number or driver license number/name
- Carrier-assigned truck identification number
- Claim date and time
- Claim type
- Claim description
- Number of injuries
- Number of fatalities

Carriers already have this information available and will be asked to provide the data, which can be submitted once for the full participation period when the study data collection period concludes.

2.2.6 Federal Safety Data

Information concerning each participating carrier's crashes and out-of-service violations will be obtained each month from FMCSA's Motor Carrier Management Information System (MCMIS) and Commercial Driver's License Information System (CDLIS) for the duration of the study. The MCMIS data will include a crash dataset with detailed data on all DOT-reportable crashes, and the CDLIS data will include a violation dataset with detailed data on all moving violation convictions. These data will be collected to ensure the study has a complete list of all DOT-reportable crashes and violations involving each driver from the participating carriers during the

study. Crashes occurring off public roads or those of low severity, which are not DOT-reportable, will be collected from carriers' TMS.

MCMIS and CDLIS contain information that could identify carriers and/or drivers. However, once the contractor (see section 2.3) links the MCMIS and CDLIS data to the carrier-owned data, all information that could immediately identify a carrier or driver will be deleted.

2.2.7 Electronic Questions

A critical aspect of this study is to distinguish between dwell time, loading/unloading time, active dwell time, and detention time. For this study, FMCSA defined these terms below.

- **Dwell Time** – the total time spent by a CMV driver at a shipping or receiving facility.
- **Loading or Unloading Time** – the time spent by a CMV driver at a shipping or receiving facility while cargo was actively loaded or unloaded into or from their trailer.
- **Active Dwell Time** – the time spent completing tasks associated with loading and unloading, including preparing bills of lading, inspecting the vehicle, or securing the load.
- **Detention Time** – any time a CMV driver spends at a shipping or receiving facility not associated with active dwell time or loading and unloading time (i.e., a delay in the start of the loading and unloading process that disrupts the CMV driver's available driving and/or on-duty time).

It is important to recognize that detention time is not linked directly to any particular driver duty status. That is, a driver may experience detention time while on-duty, off-duty, or in a sleeper berth. Thus, additional information from the driver is needed to identify the occurrence of detention time as defined above. At each delivery and pick-up, a driver at the participating carrier will be prompted to answer four questions (see Attachment F). Additionally, if the driver was identified as being late to the delivery or pick-up location (arrival time vs. planned arrival time as identified in the data automatically collected in the carrier's TMS), drivers will be asked why they were late (Question #5 in Attachment F).

2.3 Who Will Collect the Information

FMCSA has contracted with the Virginia Tech Transportation Institute (VTTI) at the Virginia Polytechnic Institute and State University (VT) to administer this study and analyze its results. The investigators currently assigned to perform this study are Matthew Camden, Richard Hanowski, Susan Soccolich, and Erin Mabry. Additionally, VTTI has subcontracted data collection tasks to Telematic and Video Services (TVS). TVS provides safety and operational services to commercial motor carriers. TVS will leverage its existing TSP and TMS integrations to capture the required data.

In accordance with USDOT's policy on research involving human subjects, this study was reviewed and approved by Virginia Tech's Institutional Review Board (IRB) prior to beginning data collection (see Attachment G).

3. EXTENT OF AUTOMATED INFORMATION COLLECTION

Nearly all the data collected in this project already exist in the participating carriers' TMS (i.e., the carrier-owned driver, TMS, and telematics/ELD datasets). Collection of these datasets will be carefully automated to ensure that only the necessary data are obtained. The electronic questions will be automatically submitted to the drivers, and the responses will be automatically submitted to the research team electronically. MCMIS and CDLIS data will be submitted to the research team via e-mail or via a link to a secure server via FTP. These methods of data delivery are designed to collect the necessary information with minimal time burden on carriers (and their drivers).

4. EFFORTS TO IDENTIFY DUPLICATION

In 2014, FMCSA conducted an initial study to assess average CMV detention time. Although the Phase I Detention Time study provided valuable initial insights, it had several limitations. These limitations included a restricted sample consisting of mostly large carriers, a rudimentary estimation of detention time, the inability to identify time spent loading/unloading, and data that did not cover an entire 12-months. Additional data is needed from a broader sample of carriers to understand the safety and operational impact of detention time and to better understand why detention time occurred.

5. EFFORTS TO MINIMIZE THE BURDEN ON SMALL BUSINESSES

FMCSA estimates that roughly 98 percent of trucking firms (NAICS code 484) are small businesses, having revenues less than the thresholds of $34 million or $43 million provided by the Small Business Administration for this industry.[8]

This study will attempt to recruit a sample of carriers that are representative of the major segments of the motor carrier industry with respect to carrier size and in consideration of operation type and geographic location. As mentioned earlier, the 2014 FMCSA study on detention only included two small carriers, while the 2022 FMCSA *Pocket Guide to Large Truck and Bus Statistics*[9] indicates that approximately 90% of FMCSA-regulated carriers in 2021 had 10 or fewer power units. So obtaining data from smaller carriers is a very important component of this project. Fortunately, participation in the study is voluntary, so no small business will have an imposed burden that it is not willing to bear. Furthermore, and as indicated above, nearly all data collection will be automated. This will significantly reduce the burden on all carriers that participate in the study, including small businesses.

6. IMPACT OF LESS FREQUENT COLLECTION OF INFORMATION

This is a new data collection effort. FMCSA has determined that the collection of this information is necessary since there is currently no existing source that addresses the questions this project intends to answer. Data from the 2014 FMCSA study was limited. While those data are valuable, they are insufficient to answer the research questions posed in this project, especially for distinguishing between dwell time, loading/unloading time, active dwell time, and detention time. Data will be collected during each trip made by participating carriers over a 12-month period. Less frequent data collection would mean missing the opportunity to collect data while the necessary methods and agreements are already in place (and the costs of collecting each additional piece of data are therefore very low) and could result in a final dataset that no longer accounts for seasonal effects on detention time.

7. SPECIAL CIRCUMSTANCES

There are no special circumstances related to this information collection.

8. COMPLIANCE WITH 5 CFR 1320.8 (d):

FMCSA published a notice in the Federal Register with a 60-day public comment period to announce this proposed information collection on August 24, 2023 (88 FR 58060) (Attachment H). A total of 171 comments were received from the public. These comments revolved around eleven issues, with many comments covering more than one issue, to varying degrees: (1) the relationship between detention time and driver compensation; (2) organizational issues at the shipper/receiver, carrier, and/or broker; (3) the relationship between detention time and pick-up/delivery appointment times; (4) shared examples of detention time characteristics as experienced by commenters; (5) the relationship between detention time and Hours-of-Service regulations; (6) the impact of detention time on logistics and the economy; (7) the impact of detention time on driver welfare; (8) the impact of detention time on driver and roadway user safety; (9) suggestions and support for detention time-related regulations; (10) considerations for defining and quantifying detention time and collecting necessary data; and (11) support for the study. Eighteen comments were specifically about the information collection effort (i.e., the final two topics). A description of the final two topics and corresponding comments is included below as they were directly related to the study. A full discussion of all comments is included in the 30-day Federal Register Notice, published on [insert date] (insert FR citation).

Five comments provided considerations regarding how to define detention time, accurately quantify detention time according to a standard definition, or collect the necessary data to conduct the study analyses. The definition of detention time has varied across industry, government, and research; however, it generally includes components regarding length of time the driver has been at the shipper/receiver, the duty status of the driver, and progress with loading/unloading. Comments reflected the difficulties in defining detention time with a single description and inflexible bounds. Comments emphasized the need to collect accurate and representative data. The current study will collect detention time data through multiple means: driver self-reported data, TMS data (such as shipper/receiver, order pick-up/delivery locations, appointment times, scheduled and planned arrival and departure times, billed amounts for detention time, etc.), and telematics/ELD data (such as latitude and longitude). One comment suggested broadening the sample universe to include more than one telematics service in our carrier eligibility requirements. The comment also suggested expanding the sample universe to include carriers who do not use telematics services or ELDs. To collect the necessary data to answer the study research questions, carriers must use a telematics and ELD service. However, the study documents have been revised to reflect a change in carrier eligibility by including telematics service options beyond the previously specified option. The team has partnered with one of the leading TMS, ELD, and telematics providers used by many small carriers. While the team may focus recruitment on clients of this provider, carriers using a different provider are also eligible to participate if they meet the data criteria and can integrate their data with the new technology provider. Thirteen comments specifically mentioned support for the study. Comments highlighted how updated detention time assessments could be utilized to address the frequency and severity of detention time.

9. PAYMENTS OR GIFTS TO RESPONDENTS

No compensation will be provided to participating carriers. However, carriers will receive an independent report with an analysis of their data. This may provide carriers with new insights into factors associated with detention time within their operation.

10. ASSURANCE OF CONFIDENTIALITY

Data collected from individual carriers will be kept strictly confidential. First, all participating carriers will be given the option to sign a non-disclosure agreement that specifies how the data will be used and anonymized. Carriers can choose to participate or not based on their comfort with how the data will be used.

Second, the research team will create unique, anonymous driver ID numbers (e.g., D1009856), unique, anonymous carrier ID numbers (e.g., CAR26), and unique, anonymous customer ID numbers (CUS12345) for each driver, carrier, and other participant, respectively. Before creating the unique IDs, the research team will use the driver name, license number, and/or carrier-assigned driver identification number (located in the carrier-provided datasets and MCMIS) to link all datasets. Once the link has been established, the unique driver and carrier ID will replace the driver name/identification number, driver license number, and carrier name in all datasets. Thus, any personally identifiable information (PII) will be removed from the main datasets at the earliest practical time. A master key linking these data will be kept separately for future data-linking needs and stored in a separate, password-protected folder.

Additionally, it is likely the research team will receive datasets with other carrier- and driver-identifying information (e.g., names of other carriers, names of employees). The research team will carefully review these data and remove all company and driver names, or other potentially identifying information as needed. Additionally, specific road names will be removed from all crash datasets. This scrubbing will ensure that none of the datasets include information which could identify participants.

FMCSA has requested that data collected in the study be made available to the public (using a legend and anonymous reference to the carriers and drivers in the data set). The dataset will be made available via FMCSA's Data Repository, which is housed at VTTI. This dataset will be completely de-identified with no PII or information that could be used to identify drivers and/or carriers (i.e., containing a subset of key variables from the study).

All study staff have received extensive training in best practices for the protection of human subjects and are acutely aware of the importance of prioritizing the protection of participant privacy in the execution of all study-related procedures. The research team will go through all necessary steps to ensure the confidentiality of participant data whenever possible.

11. JUSTIFICATION FOR COLLECTION OF SENSITIVE INFORMATION

This study will involve collecting data on carriers' operational and safety performance, including any safety-related events their drivers may have, including crashes, hard braking, and swerving. This sensitive information is a critical component of the project because these safety-related events may be at least partially due to detention time preceding the event. Without collecting this sensitive information, it is impossible to evaluate the safety implications of detention time. Any information that would allow for the identification of carriers and/or drivers (i.e., carrier/driver name and driver license number) will be de-identified at the earliest practical time.

12. ESTIMATE OF BURDEN HOURS FOR INFORMATION REQUESTED

It is estimated that approximately 80 carriers with a total of 2,500 power units will provide the requested existing data and responses to the electronic questions. Each carrier already maintains all but one of the requested datasets. Thus, respondent burden will be primarily limited to (i) reviewing study materials, (ii) granting permission to participate, (iii) providing carrier information to allow for the automated collection of existing data, and (iv) carrier drivers' responses to the electronic questions at each delivery/pick-up location (the fourth task is the only new data collection effort; see Attachment F). It is estimated that one national-level manager from each participating fleet will bear the burden of the first three tasks. One of each carrier's CMV drivers per power unit will bear the burden of answering the electronic questions at each delivery/pick-up location.

Reviewing the study materials, granting permission to participate in the study, and providing the carrier information to allow for the automated collection of existing data is estimated to take each carrier 2 hours. It is estimated that the team will contact 150 carriers to review study materials in order to recruit 80 carriers to participate in the study. It is estimated that drivers' responses to the delivery and pick-up questions will take 30 seconds per delivery. These estimates are conservative as the team expects the respondents to answer the questions more quickly as they become accustomed to them. To estimate the annual burden, the research team estimated an average of one delivery/pick-up per trip/day/driver (i.e., some drivers may have more than one trip/delivery per day while others will engage in one trip/delivery over the course of multiple days during over-the-road operations). The estimates of burden hours resulting from the participating respondents are presented below in Table 3.

Table 3. Respondent Tasks

Type of Respondent	Task Name	No. of Respondents	No. of Responses per Respondent	No. of Responses	Burden per Response (minutes)	Total Burden Hours
Fleet Manager	Review study materials	150	1	150	90 minutes	225
	Grant permission to participate	80	1	80	15 minutes	20
	Provide carrier information	80	1	80	15 minutes	20
CMV Driver	Respond to electronic questions at each delivery/pickup	2,500	365	912,500	0.5 minutes	7,604.17
	Study Total	–	–	**912,810 Responses**	–	**7,869.17 hours**

The data collection process will last 12 months. The total number of study responses is 912,810. Burden hours for the study total 7,869.17 hours.

As mentioned above, national-level fleet managers and CMV drivers will provide responses to the study tasks. Table 5 shows the corresponding Bureau of Labor Statistics (BLS) Occupational Employment Statistics (OES) occupations, Standard Occupational Classification (SOC) codes, and median hourly wages for May 2022 for these respondent types.

Table 4. Respondent Tasks

Type of Respondent	BLS OES Occupation Name	SOC Code	Median Hourly Wage
Fleet Manager	Transportation, Storage, and Distribution Manager	113071	$47.39[10]
CMV Driver	Heavy and Tractor-Trailer Truck Drivers	533032	$24.00[11]

To arrive at a loaded wage, we estimated load factors by dividing the total cost of compensation for private industry workers of the trade, transportation, and utilities industry ($34.59; for CMV drivers and $68.65 for management) by the median cost of hourly wages and salaries, as reported by the BLS in its 3rd quarter (FY) Employer Costs for Employee Compensation, published in March 2023 ($24.66 and $47.55, respectively).[12] The calculated load factors and the loaded wages are shown in Table 5.

Table 5. Respondent Occupation and Wage

BLS OES Occupation Code	BLS OES Occupation Description	Median Hourly Wage	Load Factor	Loaded Hourly Wage
11-3071	Transportation, Storage, and Distribution Manager	$47.39	1.44	$68.24
53-3032	Heavy and Tractor-Trailer Truck Drivers	$24.00	1.40	$33.60

The loaded hourly wage for each respondent task was multiplied by the total burden hours per task to arrive at the total cost per task. In all, these tasks involve 7,869.17 hours and cost $273,583.71. The breakdown is illustrated in Table 5.

Table 5. IC2: Respondent Task Costs

Type of Respondent	Task Name	Loaded Hourly Wage	Total Burden Hours	Cost per Task
Fleet Manager	Review study materials	$68.24	225	$15,354.00
	Grant permission to participate	$68.24	20	$1,364.80
	Provide carrier information	$68.24	20	$1,364.80
CMV Driver	Respond to electronic questions at each delivery/pickup	$33.60	7,604.17	$255,500.11
Study Total		**–**	**7,869.17 hours**	**$273,583.71**

Totals for this ICR:

- **Estimated Total Burden Hours:** 7,869.17 hours
- **Estimated Total Responses:** 912,810 responses
- **Estimated Total Respondents:** 2,500 CMV drivers and 150 fleet managers (including 80 fleet managers who elect to participate in the study)
- **Estimated Total Annual Burden Costs:** $273,583.71

13. ESTIMATE OF TOTAL ANNUAL COSTS TO RESPONDENTS

There are no additional costs to respondents beyond those associated with the hourly burden presented above.

14. ESTIMATE OF COST TO THE FEDERAL GOVERNMENT

The research design, protocol development, and implementation of the research methods will be completed between Fiscal Year (FY) 2022 and FY 2025. The total cost for the contract is $2,060,782.21. This includes the development of the research protocol, programing the driving simulator, participant recruitment, executing the study procedures, analyzing the data, and writing the final report.

Staff costs to the Government will include 20 percent of the full-time hours for one GS-13 Contracting Officer's Representative (COR). Assuming mid-level steps within grade and the Washington, D.C. locality adjustment, which are associated with an annual salary of $126,949, plus benefits of 28 percent, this represents a yearly cost of $32,498.94 [20 percent x $126,949 x 128 percent = $32,498.94]. The project will last 36 months, for a total cost of $97,496.83.

The total cost to the Federal Government then is $2,060,782.21 + $97,496.83 = $2,158,279.04.

15. EXPLANATION OF PROGRAM CHANGES OR ADJUSTMENTS

This is a new information collection.

16. PUBLICATION OF RESULTS OF DATA COLLECTION

The results of this information collection will be documented in a technical report that will be delivered to and maintained by FMCSA. The report will detail the data collected, analyses, results, and conclusions, which will help FMCSA develop a more complete understanding of issues associated with CMV detention time and facilitate private sector decisions that lead to reductions in detention time and improvements in safety and supply chain efficiency. All data collected in this effort will be reported in general terms such as "Only 14% of drivers experienced detention time, and detention time was found to be related to a 20% increase in vehicle speeds," and no specific company or driver names will be mentioned.

Only authorized project personnel and authorized employees of the research sponsors will have access to study data that personally identifies participants or that could be used to personally identify participants. The data from this study will be included in the FMCSA Data Repository (IRB #20-539). A de-identified public-use dataset will be posted online, and identifiable data will be available to qualified researchers who follow the necessary protocols to ensure the safety and confidentiality of all PII.

17. APPROVAL FOR NOT DISPLAYING THE EXPIRATION DATE OF OMB APPROVAL

No such approval is being requested.

18. EXCEPTIONS TO CERTIFICATION STATEMENT

None.

ATTACHMENTS:

A. Title 49 U.S.C. § 504 titled, *"Reports and records."*
B. Title 49 U.S.C. § 31133 titled, *"General powers of the Secretary of Transportation."*
C. Title 49 U.S.C. § 31136 titled, *"United States Government regulations."*
D. Title 49 U.S.C. § 31502 titled, *"Requirements for qualification, hours of service, safety, and equipment standards."*
E. Title 49 CFR § 1.87 titled, *"Delegation to the Federal Motor Carrier Safety Administrator."*
F. Prompted Driver Electronic Questions
G. Virginia Tech IRB approval letter
H. Federal Register 60-day notice (88 FR 58060).

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[2] Government Accountability Office. (2011). *Commercial motor carriers: More could be done to determine impact of excessive loading and unloading wait times on hours of service violations* (Report No. GAO-11-198). http://www.gao.gov/new.items/d11198.pdf

[3] Office of Inspector General. (2018). *Estimates show commercial driver detention increases crash risk and costs, but current data limit further analysis* (Report No. ST2018019). Federal Motor Carrier Safety Administration.

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[5] Knipling, R.R., & Bergoffen, G. (2011). *CTBSSP Synthesis 20: Potential safety benefits of motor carrier operational efficiencies: A synthesis of safety practice*. Transportation Research Board.

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[7] Dunn, N.J., Hickman, J.S., Soccolich, S., & Hanowski, R.J. (2014). *Driver detention times in commercial motor vehicle operations* (Report No. FMCSA-RRR-13-060). Federal Motor Carrier Safety Administration.

[8] Small Business Administration, Small Business Size Standards, available at: https://www.sba.gov/federal-contracting/contracting-guide/size-standards.

[9] Federal Motor Carrier Safety Administration, *2022 Pocket Guide to Large Truck and Bus Statistics*, Table 1-11.

[10] Bureau of Labor Statistics, U.S. Department of Labor, May 2021 National Industry-Specific Occupational Employment and Wage Estimates for NAICS 113071 – Transportation, Storage, and Distribution Managers.

[11] Bureau of Labor Statistics, U.S. Department of Labor, May 2021 National Industry-Specific Occupational Employment and Wage Estimates for NAICS 5330324 - Truck Transportation.

[12] Bureau of Labor Statistics, U.S. Department of Labor, Employer Costs for Employee Compensation –3rd quarter of 2022 Series id: CMU2014000000000D, CMU2014000100000D, accessed July 17, 2023.