



U.S. Department of Transportation
Federal Motor Carrier Safety Administration



Commercial Motor Vehicle (CMV) Driver Restart Study

Frequently Asked Questions

STUDY FINDINGS

What were the study findings?

The Commercial Motor Vehicle Driver Restart Study found that drivers using the restart rule in effect through June 30, 2013, experienced safety outcomes no different from those using the restart in effect on and after July 1, 2013. The study did not find that the requirement for at least two nighttime periods of rest and the prohibition on taking more than one restart per week provided a greater net safety benefit than the previous restart regulation, which did not include those requirements.

The study found evidence that the restarts benefitted the ability of drivers to recover from fatigue and sleep loss regardless of the restart provision used (i.e., 34 consecutive hours off duty [Section 395.3(c)] and/or restarting in less than 168 hours [Section 395.3(d)]). It showed that there was an increase of more than 2 hours sleep obtained per 24 hours during the restart periods compared to duty days. This study provided evidence that drivers were in need of sleep when they undertook a restart, and when they slept, they slept much longer than when they were working.

Are the hours-of-service provisions going to remain suspended?

Based on the findings from the study, the 34-hour restart rule in operational effect on June 30, 2013, is restored to full force and effect. The requirement for two off-duty periods of 1:00 a.m. to 5:00 a.m. in section 395.3(c) of the Agency's hours-of-service rules will not be enforced, nor will the once-per-week limit on use of the restart in 395.3(d).

DATA

How were collected data used?

The data were analyzed to assess the operational, fatigue, safety, and health impacts of the two restart provisions (i.e., a 1-night rest period versus a 2-night rest period) on CMV drivers. The study team also analyzed the safety and fatigue effects of the restart provisions on participating drivers who had less than 168 hours between their restart periods and those who had at least 168 hours between their restart periods. After all data were stripped of personally identifiable information (PII), they were integrated into a public-use data set.



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What happened to the data after drivers completed the study?

Upon completion of analysis, and before being released in a public-use data set, these data were divested of personally identifiable information (PII), de-identified, and then reviewed by an Institutional Review Board (IRB) for compliance with Federal, departmental, and ethical guidelines.

Can study participants have their data?

No. Participating drivers' individual data were stripped of personally identifiable information (PII) and grouped with other drivers' data for analysis. The data collected during this study are meant solely for research purposes. Releasing driver-specific data could prove damaging if intercepted and distributed inappropriately. Unique data will not be disclosed except as required by law, in conjunction with a government inquiry, or pursuant to judicial order.

Will my data be connected to my commercial driver's license (CDL) or motor carrier (MC) number?

No.

Can the collected data be used against me?

No, the study team has not and will not share any carrier or driver personally identifiable information (PII) with FMCSA or other government agencies.

Will videos be included in the public-use data set?

No. Videos will not be made available to the public.

Did researchers access drivers' medical records?

No. But drivers were asked to self-report some medical conditions.

Did the study team monitor medications or stimulants?

Drivers were asked to self-report any medications and other over-the-counter stimulants as part of the survey questionnaire that they completed at the beginning of the study. However, medication use was not tracked during the 5-month data collection period. Drivers were asked to keep a caffeine log using a study-provided smartphone application.

Did FMCSA require access to back office data (data beyond hours-of-service [HOS] compliance, such as hard braking data, etc.) from an onboard fleet management system or electronic logging device (ELD)? Did the data sharing agreement address this?

The study contractor collected back-office HOS data from participating carriers' fleet management or ELD systems. However, under the data sharing agreement between the contractor and each carrier, all data collected during the study were stripped of personally identifiable information (PII) and developed into a public-use data set. FMCSA has no access to back-office data.



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Did the study team capture the drivers' off-duty data?

Yes, drivers used electronic logs. Drivers also wore actigraph watches that measured sleep duration while drivers were off duty.

Who reviewed the video collected to verify that a safety critical event (SCE) occurred?

The onboard monitoring system (OBMS) vendor for the study was Lytx (formerly DriveCam). Lytx reviewed and coded the naturalistic driving videos to verify SCEs.

How did the coding of safety critical events (SCEs) for this study compare to the coding Lytx uses for other customers?

Lytx coded the study videos in the same way that it codes videos for its commercial clients. The coded data for this study were securely transmitted to the study team; data were not shared with fleet managers or carriers. The coder did not know any details regarding driver schedules or restart durations.

STUDY DESIGN

What is the relationship of this study to the previous hours-of-service (HOS) field study completed under the Moving Ahead for Progress in the 21st Century Act (MAP-21)?

Compared to the MAP-21 HOS Restart Field Study, this study included more than twice as many drivers, from many sectors of the trucking industry. It also covered a longer period of data collection, and utilized additional technologies to monitor safety performance. This study used onboard monitoring systems for the collection of data on safety critical events (SCEs). Each driver was given an opportunity to participate and contribute data for a period of 5 months.

Did the study plan always include collecting information about driver health?

Yes. The Consolidated and Further Continuing Appropriations Act (2015) required the Secretary to initiate a naturalistic study of the operational, safety, health, and fatigue impacts of the restart provisions. The study looked at all four domains, including driver health.

Did the independent peer review panel also review the study findings and report?

Yes. The peer review panel reviewed the draft study design and the final study report.

Was the independent peer review panel made up of internal or external reviewers?

The peer review panel included statisticians and researchers not affiliated with the U.S. Department of Transportation (USDOT) or with the institutions associated with the research team.



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Were drivers separated into different groups based on use of restart provision?

Drivers were not separated into different groups. Participants drove their normal, revenue-producing routes and took restarts based on their regular work schedules. Some drivers took 1-night, 2-night, and/or 3-or-more-night restarts throughout the course of the 5 months of data collection. Also, many of these drivers used the other hours-of-service (HOS) provision (i.e., one or more restarts in less than 168 hours [1 week] as compared to a maximum of one restart in 168 hours).

Did participation in the study determine and/or impact a driver's schedule?

This was a naturalistic driving study where participants drove their normal routes. Drivers were not required to make any changes to their work-rest schedules. The study team recruited drivers who were likely to have variable restart lengths (both 1 and 2 nights) and restarts that occurred both less than and at least 168 hours (1 week) apart.

Did this study allow restarts with more than 2 nights?

Yes. This was a naturalistic driving study, so the study team simply observed what normally occurred to CMV drivers during their usual revenue-producing operations. The study team collected data to analyze restarts that lasted 1, 2, or 3 or more nights.

Did the study team accept drivers who drove fewer than 60 hours per week?

The study team recruited drivers whose duty schedules related to the timing and duration of duty shifts and use of the restart provision. The study team identified drivers who were likely to have different restart lengths (both 1 and 2 nights) and restarts that occurred both less than and at least 168 hours (1 week) apart. Drivers who were likely to use either of the two restart provisions were included in the study.

Were drivers compensated for their participation in the study?

Yes. Driver compensation was based on the amount of time that the driver was in the study, paired with completion rates of study activities on a pro rata basis. Drivers who participated in the study for a full 5 months and completed every possible study activity could earn a maximum amount of \$2,166. A detailed compensation plan was included in the informed consent agreement signed by all participating drivers (see Appendix D in the [CMV Driver Restart Study Work Plan](#)).

What if a driver wanted to leave the study?

While it would have been ideal for all drivers to participate for a full 5 months, some drivers did leave the study before their 5-month data collection period was complete. Driver compensation was based on the amount of time the driver was in the study, paired with completion rates of study activities on a pro rata basis.



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Were 207 drivers enough to represent the industry?

FMCSA's statisticians determined that 207 drivers were necessary; the study team's biostatistician confirmed this. The study plan was also reviewed by the independent peer review panel (which included two statisticians) and by statisticians in the U.S. Department of Transportation (USDOT) Office of Inspector General (OIG). All parties concluded that it is highly likely that 207 drivers will generate statistically significant results.

Was the targeted number of 207 part of the peer review?

Yes. Both the independent peer review panel and the U.S. Department of Transportation (USDOT) Office of Inspector General (OIG) reviewed the study design, including the sample size.

Did enough drivers participate in the study?

Yes. FMCSA exceeded its goal. A total of 235 drivers enrolled in the study and provided data for up to 5 months.

Most common operators are dry-van, followed by flat-bed and refrigerated. Did the study team try to get a representative sample of the industry?

Yes. The study team recruited drivers from fleets of all sizes (small, medium, and large) and operations (long-haul, regional, and short-haul) in various sectors of the industry (flatbed, refrigerated, tank, and dry-van).

What was the primary reason for including short-haul drivers? They do not use the restart provisions very often.

Short-haul drivers were specified in the legislation that called for the study. The study team recruited short-haul drivers who may use either of the two restart provisions.

Was there a gender requirement on the target sample for the study?

The legislation did not specify a gender requirement. The study team recruited a diverse sample of drivers, but has not and will not provide carrier or driver personally identifiable information (PII) to FMCSA or other government agencies.