

Information Collection Request Support Statement: Part A
Part 563, Event Data Recorders
OMB Control No. 2127-New

Abstract:¹

49 CFR Part 563, Event data recorders, specifies uniform, national requirements for vehicles equipped with event data recorders (EDRs) concerning the collection, storage, and retrievability of onboard motor vehicle crash event data. More specifically it requires manufacturers that voluntarily install EDRs in vehicles with a gross vehicle weight rating (GVWR) of 3,855 kilograms (8,500 pounds) or less to ensure that the EDRs:

- Record 15 essential data elements;
- Record up to 30 additional data elements if the vehicle is equipped to record these elements;
- Record these data elements in a standardized format, with specifications for range, accuracy, resolution, sampling rate, recording duration, and filter class;
- Function after full-scale vehicle crash tests specified in FMVSS Nos. 208 and 214; and
- Have the capacity to record two events in a multi-event crash.

In addition, Part 563 requires vehicle manufacturers to make a retrieval tool for the EDR information commercially available, and include a standardized statement in the owner's manual indicating that the vehicle is equipped with an EDR and describing its purpose (the owner's manual requirements will be incorporated into the consolidated owner's manual requirements information collection with OMB Control Number 2127-0541). Part 563 helps ensure that EDRs record, in a readily usable manner, data valuable for effective crash investigations and for analysis of safety equipment performance (e.g., advanced restraint systems). The information from EDRs are used by crash investigators and researchers to better understand the severity of the crash, operation of vehicle air bags, and what air bag deployment decision strategies were used during the event, which may in turn lead to the development of safer vehicle designs. Additionally, the agency's experience in handling unintended acceleration and pedal entrapment allegations has demonstrated that, if a vehicle is equipped with an EDR, the data from that EDR can improve the ability of both the agency and the vehicle's manufacturer to identify and address safety concerns associated with possible defects in the design or performance of the vehicle.

1. Explain the circumstances that made the collection of information necessary. Identify any legal and administrative requirements that necessitate the collection. Attach a copy of the appropriate statute or regulation mandating or authorizing the collection of information.

¹ The Abstract must include the following information: (1) whether responding to the collection is mandatory, voluntary, or required to obtain or retain a benefit; (2) a description of the entities who must respond; (3) whether the collection is reporting (indicate if a survey), recordkeeping, and/or disclosure; (4) the frequency of the collection (e.g., bi-annual, annual, monthly, weekly, as needed); (5) a description of the information that would be reported, maintained in records, or disclosed; (6) a description of who would receive the information; (7) if the information collection involves approval by an institutional review board, include a statement to that effect; (8) the purpose of the collection; and (9) if a revision, a description of the revision and the change in burden.

Under 49 U.S.C. 322(a), the Secretary of Transportation (the “Secretary”) is authorized to prescribe regulations to carry out the duties and powers of the Secretary. One of the duties of the Secretary is to administer the National Traffic and Motor Vehicle Safety Act, as amended. The Secretary has delegated the responsibility for carrying out the National Traffic and Motor Vehicle Safety Act to NHTSA.² Two statutory provisions, 49 U.S.C. 30182 and 23 U.S.C. 403, authorize NHTSA to collect motor vehicle crash data to support its safety mission. NHTSA collects motor vehicle crash information under these authorities to support its statutory mandate to establish motor vehicle safety standards and reduce the occurrence and cost of traffic crashes.³ NHTSA also utilizes crash data in the enforcement of motor vehicle safety recalls and other motor vehicle highway safety programs that reduce fatalities, injuries, and property damage caused by motor vehicle crashes.

In 2006, NHTSA exercised its general authority to issue such rules and regulations as deemed necessary to carry out Chapter 301 of Title 49, United States Code, to promulgate 49 CFR Part 563.⁴ NHTSA issued Part 563 to improve crash data collection by standardizing data recorded on EDRs to help provide a better understanding of the circumstances in which crashes and injuries occur, which will in turn lead to the development of safer vehicle designs.

2. Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.

Part 563 specifies requirements for vehicle manufacturers to make data retrieval tools and/or methods commercially available so that crash investigators and researchers are able to retrieve data from EDRs.⁵ Section 563.7 lists the data elements required for vehicles equipped with an EDR. These data elements are delineated into Table I, data elements required for all vehicles equipped with an EDR (15 essential data elements), and Table II, data elements required for vehicles under specified minimum conditions (30 additional data elements). Data collected from the EDR of a crash-involved vehicle can provide valuable information on the severity of the crash, operation of its air bags, and what air bag deployment decision strategies were used during the event. EDR data are used to improve the quality of crash data collection to assist safety researchers, vehicle manufacturers, and the agency in crash and defect investigations to understand vehicle crashes better and more precisely. Similarly, vehicle manufacturers are able to utilize EDRs in improving vehicle designs and in developing more effective vehicle safety countermeasures, and EDR data may be used by Advanced Automatic Crash Notification (AACN) systems to aid emergency response teams in assessing the severity of a crash and estimating the probability of serious injury.

Additionally, the agency’s experience in handling unintended acceleration and pedal entrapment allegations has demonstrated that, if a vehicle is equipped with an EDR, the data from that EDR

² 49 U.S.C. 105 and 322; delegation of authority at 49 CFR 1.95.

³ See 49 U.S.C. 30101 and 30111.

⁴ 71 FR 50997, August 28, 2006.

⁵ This information collection request does not cover retrieval of EDR data by NHTSA. To the extent that NHTSA collects EDR data to support crash investigations, those collections would be covered, to the extent applicable, by NHTSA’s information collections for crash investigations.

can improve the ability of both the agency and the vehicle's manufacturer to identify and address safety concerns associated with possible defects in the design or performance of the vehicle.

3. Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also, describe any consideration of using information technology to reduce burden.

An EDR is a function or device installed in a motor vehicle to automatically record technical information about the status and operation of vehicle systems for a very brief period of time (i.e., a few seconds) and in very limited circumstances (immediately before and during a crash), primarily for the purpose of post-crash assessment of vehicle safety system performance. Part 563 also requires vehicle manufacturers to make data retrieval tools and/or methods commercially available so that crash investigators and researchers are able to retrieve data from EDRs.

4. Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.

EDR data can supplement the information obtained from traditional crash investigations. While crash investigators gather insightful information about the dynamics of crashes, some of these parameters, e.g., change in velocity, cannot be determined or cannot be as accurately measured by traditional post-crash investigation procedures, which usually include visually examining and evaluating physical evidence such as the crash-involved vehicles and skid marks. Data collected by the EDR can provide a direct means for measuring these needed crash parameters.

5. If the collection of information involves small businesses or other small entities, describe the methods used to minimize the burden.

Part 563 only applies to manufacturers that voluntarily install EDRs in vehicles. Therefore, to the extent that this collection impacts small businesses, it does so only to the extent that those businesses have chosen to install EDRs on their vehicles. Additionally, NHTSA estimates that there is no incremental cost to manufacturers associated with ensuring that a voluntarily-installed EDR complies with the standardization requirements in Part 563.

6. Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.

Without the requirements in Part 563, crash investigators would be less able to collect information from the vehicle to understand the crash. It is important to be able to obtain EDR data generated by the crash experience of vehicles so that the agency has as much information as possible on the performance of crashworthiness countermeasures and of emerging advanced technologies. Additionally, EDR data can have significant value, as shown in the unintended

acceleration study, in aiding the agency in assessing the performance of a vehicle in the course of a safety defect investigation.

- 7. Explain any special circumstances that would cause an information collection to be conducted in a manner:**
- a. requiring respondents to report information to the agency more often than quarterly;**
 - b. requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;**
 - c. requiring respondents to submit more than an original and two copies of any document;**
 - d. requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records, for more than three years;**
 - e. in connection with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study;**
 - f. requiring the use of a statistical data classification that has not been reviewed and approved by OMB;**
 - g. that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or**
 - h. requiring respondents to submit proprietary trade secrets, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.**

There are no special circumstances that would cause this collection to be collected in a manner inconsistent with 5 CFR 1320.5(d)(2).

8. If applicable, provide a copy and identify the date and page number of publication in the Federal Register of the agency's notice, required by 5 CFR 1320.8(d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice and describe actions taken by the agency in response to the comments. Specifically address comments received on cost and hour burden. Describe efforts to consult with persons outside the agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format, and on the data elements to be recorded, disclosed, or reported.

A copy of the Federal Register notice published on August 26, 2021 (86 FR 47719) soliciting comments on this collection of information is attached. We received four comments in response to the notice. The commenters were the Insurance Institute for Highway Safety and Highway Loss Data Institute, the National Association of Mutual Insurance Companies, Advocates for Highway and Auto Safety, and the Center for Auto Safety. All commenters supported the information collection; however, the comments did not address the estimated cost and hour burden of this information collection. The comments instead made recommendations to NHTSA to mandate event data recorders and expand the number of data elements required in Part 563 and to make the data available to the public for certain vehicles. These comments, however, cannot be addressed by this process of seeking approval for the information collection for the current Part 563 because the recommendations would require rulemaking. NHTSA also notes that this information collection does not pertain to the submission of EDR data to NHTSA or the collection of EDR data by NHTSA. Instead, it only pertains to the requirement for manufacturers to ensure that EDRs voluntarily installed on vehicles subject to Part 563 collect certain minimum data in standardized formats. Any consideration of the public disclosure of EDR data in NHTSA's possession is outside of the scope of this information collection request. Additionally, NHTSA notes that such disclosure would be subject to the Driver Privacy Act of 2015 assigns ownership of EDR data to the vehicle owner, provides limitations on data retrieval from EDR data, and prohibits, with specific exemptions, access to EDR data.

NHTSA published a 30-day notice on March 17, 2022, that stated NHTSA's intention to submit this ICR to OMB for approval (87 FR 15302).

9. Explain any decision to provide any payment or gift to respondents, other than remuneration of contractors or grantees.

This information collection does not involve any payments or gifts to respondents.

10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy. If the collection requires a systems of records notice (SORN) or privacy impact assessment (PIA), those should be cited and described here.

Part 563 does not require vehicle manufacturers to retain or report information gathered by EDRs because the devices themselves continuously monitor vehicle systems and determine when to record, retain, and/or overwrite information. The information is collected automatically by electronic means. Manufacturers are only required to make data retrieval tools and/or methods commercially available. Accordingly, no confidential information is being collected from vehicle manufacturers.

11. Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reasons why the agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.

The information collection does not involve any information that would be considered of a sensitive nature. NHTSA has sought, in developing and establishing the EDR performance requirements, to minimize the types of data recorded and the duration of any recording for all voluntarily installed EDRs. We do not require the recording of data for prolonged intervals (i.e., several minutes) or audio/visual data that the public may associate with event data recorders in other modes of transportation. We believe that our objectives can be met by using a very brief snapshot of EDR data in the time period immediately surrounding a crash.

The current voluntary EDR requirements in 49 CFR Part 563 standardize EDR data recording for an extremely short duration (i.e., a few seconds immediately before and during a crash). EDRs compliant with Part 563 requirements continuously record and seconds later erase data unless and until a frontal air bag or in some cases, a side air bag deploys. If no frontal or side air bag ever deploys, no data are ever permanently captured and stored. Other types of events can result in storage of data that can be overwritten by subsequent events. Data are only required to be locked and cannot be overwritten when an air bag deploys in a crash event. When recordable events do occur, EDRs only capture data for a few seconds. EDRs do not record any personal information, including location identification information. They do not record any audio or video data.

12. Provide estimates of the hour burden of the collection of information on the respondents and estimates of the annualized labor cost to respondents associated with that hour burden.

The respondents are manufacturers of passenger cars, multipurpose passenger vehicles, trucks, and buses having a GVWR of 3,855 kg (8,500 pounds) or less and an unloaded vehicle weight of 2,495 kg (5,500 pounds) that voluntarily equip their vehicles with EDRs. The agency estimates that there are approximately 18 such manufacturers and that about 99.5% of model year 2021 light vehicles (approximately 15,045,600 vehicles) were equipped with an EDR.

There are no annual reporting or recordkeeping burdens associated with Part 563, except for the owner's manual statement requirement which will be incorporated into the consolidated owner's manual requirements information collection (OMB Control Number 2127-0541). Vehicle manufacturers are not required to retain or report information gathered by EDRs because the devices themselves continuously monitor vehicle systems and determine when to record, retain, and/or overwrite information. The information is collected automatically by electronic means. Therefore, NHTSA estimates that this information collection will not have a time burden. Instead, the only burden associated with this information collection is the additional cost associated with equipping vehicles with a compliant EDR in place of a non-compliant EDR.

13. Provide an estimate of the total annual cost burden to respondents or record keepers resulting from the collection of information. Do not include the cost of any hour burden already reflected in the response provided in question 12.

In the August 2006 final rule that established Part 563, the agency estimated that the costs associated with the final rule were negligible. Several factors contributed to this determination.

First, NHTSA estimated that about 64 percent of new light vehicles in 2005 already added the EDR capability to the vehicles' existing air bag control systems. Thus, the EDRs were simply capturing information that was already being processed by the vehicle. Additionally, in the final rule the agency sought to limit the number of EDR data elements and associated requirements to the minimum necessary to achieve our stated purposes. At that time, NHTSA determined that the industry's current state-of-the-art EDRs largely met the purposes of Part 563. Thus, it was unnecessary to specify requirements for additional sensors or other hardware that would increase EDR costs appreciably. NHTSA stated in the 2006 final rule that the most significant technology cost could result from the need to upgrade data storage.

However, in general, the cost of data storage, long-term or short-term, has drastically reduced over the years.⁶ Regardless of the storage type, costs are now a fraction of what they were even 10 years ago.⁷ A recent study from NHTSA looking at EDR technologies reported that information provided by industry indicated that a typical recorded event requires about 2 kilobytes (Kb) of memory depending on the manufacturer.⁸ Information from manufacturers also indicated that the typical microprocessor used in vehicle applications, in approximately the 2013 timeframe, had 32 Kb or 64 Kb of flash data as part of the air bag control module (ACM) and that only a fraction of the memory is dedicated to the EDR data. This study also estimated the total memory usage for all Table I and Table II data elements recorded for the minimum required duration and frequency requirements in Part 563. It reported that to record Table I and II data elements would require 0.072 Kb and 0.858 Kb of memory storage, respectively. More importantly, since the 2006 final rule, NHTSA estimates that 99.5 percent of model year 2021 light vehicles have a compliant EDR, meaning manufacturers have already incurred the cost of meeting the Part 563 requirements.

Given that EDRs are installed on nearly all new light vehicles, the large amount of storage that is part of the airbag control module (32 kb or 64 kb), the small fraction required for EDR data (<1 kb), and the negligible costs for data storage, NHTSA continues to believe that there would be no additional costs or negligible costs associated with the Part 563 requirements. Therefore, the cost burden for this information collection is discussed qualitatively.

Part 563 only applies to vehicles voluntarily-equipped with EDRs. Therefore, any burden is based on the differences in cost between a compliant and non-compliant-EDR. In considering additional burden for compliant EDRs, NHTSA considered:

1. The additional burden of meeting a 10-day data crash survivability requirement
2. The additional burden of meeting the data format requirements.

Part 563 requires that an EDR must function during and after the compliance tests specified in FMVSS Nos. 208 and 214. The EDR's stored data is required to be downloadable 10 days after the crash tests. This requirement provides a basic functioning and survivability level for EDRs, but does not ensure that EDRs survive extremely severe crashes, fire, or fluid immersion. The

⁶ <https://www.computerworld.com/article/3182207/cw50-data-storage-goes-from-1m-to-2-cents-per-gigabyte.html>

⁷ <https://hblok.net/blog/posts/2017/12/17/historical-cost-of-computer-memory-and-storage-4/>

⁸ DOT HS 812 929, <https://www.nhtsa.gov/document/light-vehicle-event-data-recorder-technologies>

burden for data survivability can include costs for an additional power supply and enhancements for computer area network (CAN) such as wiring, data bus, and harness. However, before Part 563 was established the agency had not documented an EDR survivability problem except in rare and extremely severe events such as fire and submergence. Thus, the agency does not believe vehicle manufacturers incur additional costs to comply with the ability to retrieve the essential data elements 10 days after the crash test.

With regard to the memory capacity required to meet the Part 563 data requirements, due to proprietary concerns the adequacy of existing memory capacity of Part 563 non-compliant vehicles is not known. However, we believe that the Part 563 requirements are comparable to the current industry EDR practices. In terms of the burden associated with software algorithm changes to meet the data format requirements, the agency believes that, in the event a vehicle manufacturer needs to redesign their software algorithm, the redesign would be minor (e.g., changing the specifications in their codes). The agency estimates that the cost of algorithm redesign would be negligible on a per vehicle basis and it would be an upfront cost (i.e., not a recurring burden).

14. Provide estimates of annualized costs to the Federal government. Provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information.

There are no additional costs incurred by the Federal Government as a result of this information collection.

15. Explain the reasons for any program changes or adjustments reported on the burden worksheet. If this is a new collection, the program change will be entire burden cost and number of burden hours reported in response to questions 12 and 13. If this is a renewal or reinstatement, the change is the difference between the new burden estimates and the burden estimates from the last OMB approval

This is a new information collection, but it is not expected to increase NHTSA's overall hour burden or cost totals because the burden imposed is negligible.

16. For collections of information whose results will be published, outline plans for tabulation and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions as applicable.

No results from the collection of information will be published.

17. If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that the display would be inappropriate.

NHTSA is seeking such approval because the information collection is only contained in a regulation, Part 563, and updating the expiration date would require rulemaking.

18. Explain each exception to the topics of the certification statement identified in "Certification for Paperwork Reduction Act Submissions." The required certifications can be found at 5 CFR 1320.9.

No exceptions to the certification statement are made.