



4910-06-P

DEPARTMENT OF TRANSPORTATION

Federal Railroad Administration

[Docket No. FRA-2017-0002-N-9]

**Proposed Agency Information Collection Activities; Comment Request: Cab
Technology Integration Lab (CTIL) Head-up Display Survey**

AGENCY: Federal Railroad Administration (FRA), Department of Transportation (DOT).

ACTION: Notice and comment request.

SUMMARY: Under the Paperwork Reduction Act of 1995 (PRA), this notice announces that FRA is forwarding the new Information Collection Request (ICR) abstracted below to the Office of Management and Budget (OMB) for review and comment. The ICR describes the information collection and its expected burden. On November 2, 2016, FRA published a notice providing a 60-day period for public comment on the ICR.

DATES: Comments must be submitted on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

FOR FURTHER INFORMATION CONTACT: Mr. Robert Brogan, Information Collection Clearance Officer, Office of Railroad Safety, Regulatory Analysis Division, RRS-21, Federal Railroad Administration, 1200 New Jersey Avenue, SE, Mail Stop 25, Washington, DC 20590 (Telephone: (202) 493-6292); or Ms. Kim Toone, Information Collection Clearance Officer, Office of Administration, Office of Information Technology, RAD-20, Federal Railroad Administration, 1200 New Jersey Avenue, SE,

Mail Stop 35, Washington, DC 20590 (Telephone: (202) 493-6132). (These telephone numbers are not toll free.)

SUPPLEMENTARY INFORMATION: The PRA, 44 U.S.C. 3501–3520, and its implementing regulations, 5 CFR part 1320, require Federal agencies to issue two notices seeking public comment on information collection activities before OMB may approve paperwork packages. 44 U.S.C. 3506, 3507; 5 CFR 1320.5, 1320.8(d)(1), and 1320.12. On November 2, 2016, FRA published a 60-day notice in the Federal Register soliciting comment on the ICR for which it is now seeking OMB approval. See 81 FR 76411. FRA received three comments in response to this notice.

Comments were received from the Brotherhood of Locomotive Engineers and Trainmen (BLET), the SMART Transportation Division (SMART-TD), and the Association of American Railroads (AAR). FRA has contacted all three organizations to address any comments and concerns, and will be working with these organizations to help facilitate the research study. All three commenting organizations were open to participation in the design or execution of the study.

BLET’s Summary of Recommendations/Concerns:

- BLET is supportive of FRA’s efforts to study distraction, and suggests getting feedback from locomotive engineers as a method to gauge the degree of distraction that exists within the locomotive cab;
- BLET is concerned the FRA study is limited to the craft of locomotive engineer; and
- BLET is also concerned the FRA study is not addressing other sources of distraction, such as Trip Optimizer or Leader. BLET encourages FRA to

follow up with a study that captures Trip Optimizer or Leader experiences in conjunction with the other potential distractors.

FRA responses:

- FRA will seek feedback from multiple locomotive engineers throughout the course of the study, including but not limited to: the design of the study; execution of the study; and the analysis of the results;
- FRA will consider conducting a follow-on study related to cab distraction and its impact on crew-interaction; and
- FRA acknowledges this study will not address any potentially distracting effects from Trip Optimizer or Leader. FRA has conducted prior studies of Trip Optimizer and continues to investigate Trip Optimizer and Leader systems' safety-related issues as they are brought to FRA's attention.

SMART TD's Summary of Recommendations/Concerns:

- SMART-TD is concerned the Head-Up Display (HUD) will be another electronic device that takes crew members' eyes off the tracks; and
- SMART-TD recommends the following alternative ways to deal with in-cab distractions: issuing train crew size rules; limiting access by others to radio channels trains use; limiting use of defect detectors; investigating distractive effects of Leader and Trip Optimizer; and increasing implementation of positive train control (PTC).

FRA responses:

- FRA will consider initiating future studies into other potential in-cab issues. In the meantime, FRA is reviewing SMART-TD's concerns and is working

with the railroads to review their locomotive engineer certification programs to ensure the programs include training on Leader and Trip Optimizer systems or other new technology, if utilized. Each railroad's certification program must address how the railroad responds to changes such as the introduction of new technology, new operating rule books, or significant changes in operations – including alteration of the territory over which engineers are authorized to operate. FRA has done, and will do further, onboard observation inspections regarding Leader and Trip Optimizer interaction.

AAR's Summary of Recommendations/Concerns:

- AAR recommends their member railroads be included as active participants in the design and execution of the study.

FRA Response:

- FRA communicated with AAR after receiving its written response to the 60-day Federal Register notice. FRA welcomes the participation of the AAR's member railroads and believes such participation will contribute to the validity of the study results. FRA is currently working with AAR to arrange participation throughout the study to address any concerns and answer any questions.

Before OMB decides whether to approve the proposed collection of information, it must provide 30 days for public comment. 44 U.S.C. 3507(b); 5 CFR 1320.12(d).

Federal law requires OMB to approve or disapprove paperwork packages between 30 and 60 days after the 30-day notice is published. 44 U.S.C. 3507(b)–(c); 5 CFR 1320.12(d); see also 60 FR 44978, 44983, Aug. 29, 1995. OMB believes the 30-day notice informs the regulated community to file relevant comments and affords the agency adequate time

to digest public comments before it renders a decision. 60 FR 44983, Aug. 29, 1995.

Therefore, respondents should submit their respective comments to OMB within 30 days of publication to best ensure having their full effect. 5 CFR 1320.12(c); see also 60 FR 44983, Aug. 29, 1995.

The summary below describes the ICR and its expected burden. FRA is submitting the new request for clearance by OMB as the PRA requires.

Title: Cab Technology Integration Lab (CTIL) Head-up Display Survey

OMB Control Number: 2130-New.

Abstract: FRA is proposing a study which will focus on locomotive engineers. Distraction is a common problem in locomotive cabs and preliminary research suggests the dispatch radio may have significant effects on train crew workload and performance. There are generally two categories of dispatcher-engineer communications. Some require immediate action and should be provided in the usual manner (over the radio). However, others do not require immediate action and could be provided as a written message.

FRA seeks to understand how the dispatch radio could potentially lead to human-performance degradation for a locomotive engineer, and if a HUD would be an alternative and superior technology to communicating information usually conveyed over the dispatch radio.

HUDs have been incorporated and researched extensively in aviation and motor vehicle applications because of their relative advantage over head-down displays (HDD). Research in the CTIL, FRA's locomotive simulator at Volpe, The National Transportation Systems Center in Cambridge, MA, has shown that in-cab displays, such

as moving maps, can lead to prolonged heads-down time (Young, et al., 2015). Additionally, research done in the field in naturalistic studies using passenger vehicles has also shown that looking inside a vehicle for interface control features increases the risk of an accident/incident (Liang, Lee, & Yekhsatyan, 2012). Thus, a HUD has real advantages over a HDD. FRA believes investigating alternative technologies that increase forward-track viewing time is worth pursuing.

To test the hypothesis that display communications on a HUD can reduce workload and distractions while increasing the time locomotive engineers keep their eyes on the forward track, an experiment will be run in the CTIL with four different conditions: HUD presence (present or absent) will be crossed with radio communications (present or absent). Forty locomotive engineers will participate in the simulator study and survey data collection. The Massachusetts Institute of Technology will develop and install the HUD.

FRA will use a subjective measure of workload, such as the National Aeronautics and Space Administration Task Load Index (NASA-TLX), in this study and provide it to the locomotive engineers after the simulator experiment. In addition, locomotive engineers will rate the usability of the system with a usability scale. Analysis of the simulator data, workload data, and usability survey data will allow FRA to assess whether a HUD has a relative advantage over a HDD in rail, and if it could mitigate any radio-distraction related performance declines.

Type of Request: Approval of a new information collection.

Affected Public: Railroad Workers

Form(s): FRA F 6180.168

Total Estimated Annual Responses: 40.

Total Estimated Annual Burden: 260 hours.

Addressee: Send comments regarding the information collection to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, DC 20503, Attention: FRA Desk Officer. Comments may also be sent via email to OMB at the following address: oir-submissions@omb.eop.gov.

Comments are invited on the following: Whether the proposed collection of information is necessary for DOT to properly perform its functions, including whether the information will have practical utility; the accuracy of DOT's estimates of the burden of the proposed information collection; ways to enhance the quality, utility, and clarity of the information to be collected; and ways to minimize the burden of the collection of information on respondents, including the use of automated collection techniques or other forms of information technology.

A comment to OMB is best assured of having its full effect if OMB receives it within 30 days of publication of this notice in the Federal Register.

Authority: 44 U.S.C. 3501–3520.

Sarah L. Inderbitzin,

Acting Chief Counsel.

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