



DEPARTMENT OF TRANSPORTATION

Federal Transit Administration

Safety Advisory 14–2

Verification of Rail Vehicle Safe Stopping Distances in Terminal Stations

AGENCY: Federal Transit Administration (FTA), Department of Transportation (DOT).

ACTION: Notice of Safety Advisory.

SUMMARY: Today the Federal Transit Administration (FTA) is issuing Safety Advisory 14–2 to provide guidance to rail fixed guideway public transportation agencies of the need to assess the adequacy of safe stopping distances for rail transit trains in terminal stations. This safety advisory recommends specific and immediate action for rail transit agencies not overseen by the Federal Railroad Administration (FRA), and provides supporting technical resources. FTA is issuing this guidance in response to preliminary investigative findings from the National Transportation Safety Board (NTSB) of the collision and derailment that occurred at the Chicago Transit Authority (CTA) on March 24, 2014.

Further, FTA is directing each State Safety Oversight (SSO) agency designated to implement FTA’s SSO program specified at 49 CFR part 659 and 49 U.S.C. 5329(e) to coordinate with every rail transit agency within its jurisdiction to review and approve, as necessary, corrective action plans to be implemented to address Safety Advisory 14–2, “Verification of Rail Vehicle Safe Stopping Distances in Terminal Stations” by [INSERT DATE 60 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]. Additionally, FTA directs SSO agencies to provide a summary of actions taken by each rail transit agency in the next Annual SSO Program Report.

FTA's Safety Advisory 14-2, "Verification of Rail Vehicle Safe Stopping Distances in Terminal Stations," is available in its entirety on the agency's public Web site (http://www.fta.dot.gov/tso_15922.html).

FOR FURTHER INFORMATION CONTACT: For program matters, Thomas Littleton, Associate Administrator for Transit Safety and Oversight, telephone (202) 366-1783 or Thomas.Littleton@dot.gov. For legal matters, Scott Biehl, Senior Counsel, telephone (202) 366-0826 or Scott.Biehl@dot.gov.

SUPPLEMENTARY INFORMATION: On Monday, March 24, 2014, about 2:49 a.m., central daylight time, a CTA Blue Line train derailed after colliding with an end-of-track bumper post at the Chicago-O'Hare International Airport Station. The lead car derailed and struck a station escalator used by the public to access the airport terminals. The train operator and 32 train passengers were transported to hospitals. The damage to the equipment and the station was estimated to be \$9.1 million.

On April 7, 2014, the NTSB issued "Preliminary Railroad Report DCA14FR007," which describes initial findings from the ongoing investigation into this collision and derailment. The NTSB determined that seconds before the derailment, the train was traveling about 26 mph as it crossed a fixed trip stop that activated the train emergency braking system. Due to the train speed, the distance from the fixed trip stop to the track bumper post was too short to stop the train, and it collided with the bumper post.

This accident confirms the critical importance of ensuring the appropriate configuration of the systems, technology and procedures designed to guarantee safe stopping for a train in emergency braking at a terminal station. Results of analysis from the accident scene indicate a discrepancy between the original safe braking design for Chicago-O'Hare International Airport Station and its sufficiency during the actual

emergency event. This discrepancy resulted in a lack of stopping space available for the passenger train, which entered the station at authorized speed but failed to slow as required.

Based on this information, FTA is issuing Safety Advisory 14-2 to urge each rail transit agency to ensure that enough space is available for trains in emergency braking to stop in terminal stations before collision with bumper posts or other end-of-the-line equipment.

Over time, changes made to authorized train speeds, the design or layout of the terminal station, or the placement of signals and trip stops can affect the minimum safe stopping distance required for trains in emergency braking. To protect rail transit passengers and employees, FTA's advisory recommends each rail transit agency to immediately review the performance of its automatic signals and trip stops under the actual operating speeds and conditions present for each terminal station.

If insufficient stopping space is identified, FTA's advisory requests the rail transit agency to undertake an analysis to evaluate and resolve the deficiency. Speed restrictions, re-configuring automatic signals and trip stops, modifying the placement and performance of bumper posts and installations, and recalculating safe braking rates are all steps that rail transit agencies can take to address this critical safety concern.

Further, FTA is directing the SSO agencies to confirm actions taken to address Safety Advisory 14-2 and approve any required corrective actions to be implemented by rail transit agencies by [INSERT DATE 60 DAYS AFTER PUBLICATION IN THE FEDERAL REGISTER]. FTA is also directing SSO agencies to provide a summary of actions taken

by each rail transit agency in their jurisdiction when providing their annual report to FTA's Office of Safety and Oversight.

NTSB's initial investigative findings necessitated issuing this safety advisory. FTA is calling for immediate action from the rail transit agencies and subsequent follow-up verification from the SSO agencies to execute the recommendations in Safety Advisory 14-2.

FTA's issuance of Safety Advisory 14-2 is in accordance with the Federal Transit Administrator's authority to "investigate public transportation accidents and incidents and provide guidance to recipients regarding prevention of accident and incidents." 49 U.S.C. 5329(f)(5). The requests for information and data from the SSOAs and the rail transit agencies within their jurisdiction are based on FTA's authority to request program information pertinent to rail transit safety under the State Safety Oversight rule, 49 CFR 659.39(d).

Issued in Washington, DC this 6th day of June, 2014.

Dorval R. Carter, Jr.

Chief Counsel, Federal Transit Administration

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