



U.S. Department  
of Transportation  
**Federal Transit  
Administration**

Administrator

1200 New Jersey Avenue S.E.  
Washington DC 20590

October 4, 2013

Subject: Urgent Safety Advisory – Unintended Train Movements

Dear Colleague:

I write to call your immediate attention to an urgent safety recommendation issued by the National Transportation Safety Board (NTSB). As you know, on September 30, 2013, two Chicago Transit Authority (CTA) trains collided on the Blue Line at the Harlem (Forest Park Branch) Station. One train carried passengers and was stationary at the time of the collision. The train in motion at the time of the collision appears to have been unoccupied. Forest Park (IL) first responders arrived within minutes and assisted a great many injured people; 33 of whom were transported to the hospital. The National Transportation Safety Board (NTSB) launched an investigative team from their headquarters in Washington DC to investigate the accident. The Federal Transit Administration (FTA) also responded and is a party to the investigation.

While the investigation is ongoing, very early findings indicate the potential of a safety vulnerability that may require your immediate attention. Specifically, the NTSB has identified certain practices pertaining to propulsion and brake systems that may facilitate the unintended movement of stored unoccupied trains. The purpose of this safety advisory is to ask you to immediately review your own operating practices and attend to the Board's recommendation to utilize redundant train stopping mechanisms such as wheel chocks and/or derails. A copy of the NTSB's safety recommendation is attached.

We at the FTA and the U.S. Department of Transportation hold safety as our number one priority. If you or your staff have questions regarding this safety advisory, please contact Duana Love at 312-353-3882 or you can contact me directly at 202-366-4040. Thank you for your immediate attention to this advisory and your continued commitment to transit safety.

Sincerely,

Peter M. Rogoff

Attachment (1)



# National Transportation Safety Board

Washington, DC 20594

## Safety Recommendation

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**Date:** October 4, 2013

**In reply refer to:** R-14-03 (Urgent)

The Honorable Peter M. Rogoff  
Administrator  
Federal Transit Administration  
1200 New Jersey Avenue SE  
Washington, DC 20590

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The National Transportation Safety Board (NTSB) is an independent federal agency charged by Congress with investigating every civil aviation accident in the United States and significant accidents in other modes of transportation—railroad, highway, marine, and pipeline. The NTSB determines the probable cause of the accidents and issues safety recommendations aimed at preventing future accidents. In addition, the NTSB carries out special studies concerning transportation safety and coordinates the resources of the federal government and other organizations to provide assistance to victims and their family members affected by major transportation disasters. We are providing the following information to urge the Federal Transit Administration (FTA) to take action on the urgent safety recommendation issued in this letter.

The recommendation addresses the need for redundant protection for unintended train movements to prevent run-away trains. The recommendation is derived from the NTSB's ongoing investigation of the collision between two Chicago Transit Authority (CTA) trains that occurred on September 30, 2013, in Forest Park, Illinois. As a result of our investigation to date, the NTSB is issuing one urgent safety recommendation to FTA and two urgent safety recommendations to the CTA.

### Background

On September 30, 2013, at 7:42 a.m. central daylight time, an unoccupied CTA train consisting of four cars collided with a CTA train in revenue service that was stopped at the Harlem Station on the Blue Line. There were about 40 passengers on the in-service CTA train. CTA reported that 33 passengers were transported to three local hospitals. All were treated and released. There were no fatalities.

The unoccupied train had been stored at Forest Park Repair Terminal awaiting repairs when it began moving under power and departed the terminal entering main line track. The train



traveled almost one mile downhill through five mechanical train stop mechanisms<sup>1</sup> before reaching the Harlem Station. The emergency brakes were applied and the train was momentarily stopped several times by the mechanical train stop mechanisms as it proceeded to the Harlem Station. Following each stop, train movement resumed because the master lever on the operator console had been left in a setting that allowed the train car brakes to recover and reset from the emergency brake application and proceed through a mechanical train stop mechanism after a momentary stop. The investigation into the cause of unintended movement continues.<sup>2</sup> The investigation has raised concerns about the need for improved protection against unintended movement.

### **Protection for Unintended Movements**

Unoccupied CTA trains are routinely left powered-up while stored and with the brake setting that would allow movement through a mechanical train stop mechanism after a momentary stop. De-energizing propulsion power and using an alternate brake setting could prevent unintended movement and ensure that a train that does move unintentionally would remain stopped at a mechanical train stop mechanism.

In addition, there are several effective redundant means to stop the unintended movement of a train. Rail car repair shops often use wheel chocks to prevent movement of rail cars. Wheel chocks are placed on the rail immediately in front of a wheel to prevent the wheel from rolling in the direction of the chock.

Federal Railroad Administration regulated railroads throughout the country commonly use derails to stop unintended train movements. A derail is a mechanical device placed on the track that forces the wheels of a moving train off the rail, derailing the train, causing it to stop. Derails are commonly placed in locations to prevent rail cars from entering main tracks where they could collide with other trains.

The NTSB believes that had a wheel chock and/or a derail been in use at the Forest Park Terminal, the train could have been stopped before it entered mainline track and the accident could have been prevented. Therefore, the NTSB makes the following urgent safety recommendation to FTA:

Issue a safety advisory to all rail transit properties asking them to review their operating and maintenance procedures for stored unoccupied cars to ensure the propulsion and brake systems are left in a condition that would not facilitate unintended movement and that redundant means of stopping unintended rail car movements, such as wheel chocks and/or a derails are used. (R-14-03) (Urgent)

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<sup>1</sup> A mechanical train stop mechanism is a device that is affixed to the track structure near the running rail. The train stop is in the raised position when the signal displays a “stop” aspect and in the lowered position when the signal displays a “proceed” aspect. If a train passes the train stop in the raised position, the train stop will strike a brake trip arm lever on the side of the rail car and place the train in an emergency brake application.

<sup>2</sup> Upon inspection one of the cars of the unoccupied train was found to have thermally damaged wiring and water in electrical connection boxes on the car. CTA has begun inspecting its fleet of similar cars to determine if similar conditions exist on other cars.

NTSB investigators are still examining issues related to the Forest Park Illinois, accident. At this time, the NTSB has not yet determined the probable cause of this accident. Nonetheless, the NTSB has identified the safety issue described above, which needs to be addressed expeditiously to prevent a recurrence.

The NTSB is vitally interested in this recommendation because it is designed to prevent accidents and save lives. We would appreciate receiving a response from you within 30 days detailing the actions you have taken or intend to take to implement it. When replying, please refer to Safety Recommendations by number. We encourage you to submit your response electronically to [correspondence@ntsb.gov](mailto:correspondence@ntsb.gov). If your response exceeds 10 megabytes, including attachments, please e-mail us at the same address for instructions. Please do not submit both an electronic copy and a hard copy of the same response.

Acting Chairman HERSMAN, and Members HART, SUMWALT, ROSEKIND, and WEENER concurred in these recommendations.

*[Original Signed]*

By: Deborah A. P. Hersman  
Acting Chairman