



MINISTRY OF  
CONSTRUCTION AND TRANSPORT  
TRANSPORTATION SAFETY BUREAU

## FINAL REPORT (EXTRACTION)



2024-0841-5  
(HU-10595)

**Railway accident / Level crossing accident**  
Pusztaszabolcs - Adony (AS 50), 10<sup>th</sup> August 2024

## Translation

This document is the translation of Points 1, 5 and 6 of Hungarian version of the Final Report. Although efforts have been made to translate the mentioned parts of the Final Report as accurately as possible, discrepancies may occur. In this case, the Hungarian Final Report is the authentic, official version.

## Basic principles of the safety investigation

The purpose of the safety investigation fulfilled by Transportation Safety Bureau (TSB) as National Investigation Body of Hungary is to reveal the causes and circumstances of serious railway accidents, railway accidents and railway incidents and propose recommendations in order to prevent similar incidents. The safety investigation is not intended to examine and determine fault, blame or liability in any form.

The findings of the safety investigation are based on an assessment of the evidence available and obtained by TSB in the course of the investigation, taking into account the principles of a fair and impartial procedure. In the Final Report, the persons involved in the occurrence shall be referred to by the positions and duties they had at the time of the occurrence.

The Final Report shall not have binding force and no appeal proceedings may be initiated against it.

This safety investigation has been carried out by TSB pursuant to relevant provisions of

- Act CLXXXIV of 2005 on the safety investigation of aviation, railway and marine accidents and incidents;
- Commission Implementing Regulation (EU) 2020/572 of 24 April 2020 on the reporting structure to be followed for railway accident and incident investigation reports;
- in the absence of other related regulation of the Act CLXXXIV of 2005, the TSB conducts the investigation in accordance with Act CL of 2016 on General Public Administration Procedures.

Act CLXXXIV of 2005 is to serve compliance with Directive (EU) 2016/798 of the European Parliament and of the Council of 11 May 2016 on railway safety.

The competence of the TSB is based on Government Regulation № 230/2016. (VII.29.) on the assignment of a transportation safety body and on the dissolution of Transportation Safety Bureau with legal succession.

The safety investigation is independent of other investigations, administrative infringement or criminal proceedings, as well as proceedings initiated by employers in connection with the accident or incident.

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## 1. SUMMARY

On August 10, 2024, at 2:10 pm, a freight train collided with a passenger car's trailer at a level crossing equipped with warning lights (AS 50) and half-barriers between the stations of Pusztaszabolcs and Adony.

Due to the inaccuracy of the report, the TSB only investigated the incident after it became clear during the subsequent data collection that the light barrier had not given a signal to the public road and the barrier arms had been open at the time of the occurrence.

The direct cause of the occurrence was that the driver, contrary to the relevant road traffic regulations, drove into the level crossing without stopping or looking, but the malfunction of the warning light also contributed to the occurrence.

The investigation covered the maintenance system of the warning light, which is not able to repair occasional temporary faults with sufficient efficiency, as well as the accident reporting process.

Given that measures were also taken by other authorities in relation to maintenance at the time of the investigation, the IC does not consider it necessary to issue safety recommendations.

## **5. CONCLUSIONS**

### **5.1 Summary**

#### **5.1.1 Direct causes**

Acts, mistakes, events or conditions or a combination thereof the elimination or avoiding of which could probably have prevented the accident or incident:

- a) the driver entered the crossing despite the approach of a railway vehicle; while
- b) the light barrier was malfunctioning due to a broken wire when the train was approaching, so it gave no flashing red signal to the road, and
- c) the red-light extension function is not installed in it.

#### **5.1.2 Indirect causes**

Acts, mistakes, events or conditions which influenced the occurrence by increasing its probability, accelerating the effects or the severity of the consequences, but the elimination of which would not have prevented the occurrence:

- a) the traffic controller did not report the malfunction of the light barrier which occurred at 11:56;
- b) the warning light was not inspected after the first malfunction was successfully rectified.

#### **5.1.3 Systemic factors**

Causal or contributing factors of organisational, management, social or regulatory nature which are likely to have an effect on similar or related occurrences, particularly including regulatory framework conditions, the design and use of the safety management systems, the skills of the personnel, the procedures and maintenance:

- a) the safety equipment maintenance system does not search for the causes of occasional, temporary faults.

### **5.2 Actions taken**

During the investigation, the Railway Authority Department ÉKM, as part of its official procedure, ordered MÁV Zrt. to, among other things, renew the instructions for the maintenance of safety equipment and ensure that the supply of spare parts and the number of staff are adequate for the tasks to be performed, by 1 January 2026.

### **5.3 Additional notes**

Risk increasing factors that are unrelated to the occurrence of the incident:

- a) Despite the uncertain information regarding the operation of the warning lights, the reporting process indicated that the barrier system was functioning properly.

### **5.4 Proven procedures, good practices**

In order to prevent the accident and mitigate its consequences, the traffic controller attempted to stop the train using the “Danger” function of the line safety equipment after noticing the malfunction of the warning light, but this was ineffective due to the design of the safety equipment.

## **5.5 Lessons learnt**

The basis for preventing such incidents is compliance with the road traffic rules governing traffic at level crossings.

However, the probability of accidents can be reduced if dark warning lights do not occur or occur less frequently.

- by reporting and investigating faults;
- the installation of red-light extension function.

## **6. SAFETY RECOMMENDATION**

Such cases can be avoided primarily by complying with road traffic rules. In addition, the implementation of official requirements, therefore the IC does not consider it necessary to issue a safety recommendation.

Human factors relating to safety-critical communication in the reporting process can be improved through relevant training. In May 2025, the TSB issued safety recommendations for such training extensions in connection with the railway incident registered under number 2022-0345-5, which it also confirms as the conclusion of this occurrence.