Translation of an excerpt of the investigation report

“Level crossing accident Großwalbur halt – Meeder halt on 27/07/2020”

Status as of 22/07/2025, version 1.0.

Note:

In accordance with Article 3 of Implementing Regulation (EU) 2020/572, points 1, 5 and 6 of Annex I of an investigation report shall be written in a second official European language. This translation should be available no later than three months after the delivery of the report.

The following English translation is a corresponding excerpt of the investigation report. The German language version is authoritative.

Excerpt translation:

1 Summary

The first section contains a brief description of the event, as well as information on the consequences, primary causes and safety recommendations provided in the individual case.

1.1 Brief description of the event

On 27/07/2020 at around 6:15 pm, the passenger train DPN-G 84553, which was travelling from Bad Rodach to Coburg, collided with a car on the unprotected level crossing at km 8.615 between Großwalbur halt and Meeder halt.

1.2 Consequences

Due to the collision, the two occupants of the car were fatally injured, and the driver of the passenger train DPN-G 84553 sustained minor injuries. Material damage with a value of around EUR 180,500 was caused.

1.3 Causes

During the investigation of the event, the following actions, failures, incidents or circumstances were identified as safety-critical factors. These are differentiated into causal or contributing and systemic factors according to Implementing Regulation 2020/572. Identified shortcomings in the emergency management are also addressed.

A system with designations in square brackets is used to provide better clarity about the factors and aspects of emergency management.

A detailed assessment of the event with classification as safety-critical factors is provided in the sections below.

What happened: Date/time, and action/failure/circumstance/incident	Causal factor	Contributing factor	Systemic factor
27/07/2020, 06:15 PM Priority for rail traffic not observed.	Priority for rail vehicles ignored [F1]		
After 13/05/2020 Rail vehicle not always visible when approaching		Visible area not correct [F2]	Definition and location of the visible area [S2]
After 13/05/2020 Rail vehicle concealed by rapidly growing corn plants		Inspection interval during the local growing period [F3]	Fulfilment of duties by the authority responsible for road construction [S3]
Demonstrably from 2015 The responsible people involved did not exchange basic technical information.		Exchange of safety information [F4]	

Table 1: Summary of influencing factors

1.4 Safety recommendations

The following safety recommendation (13/2025) is made in accordance with Section 6 of the EUV [German railway accident investigation regulation] and Article 26(2) of Directive (EU) 2016/798:

It is recommended that the effectiveness of the communication channels set up with the authorities involved with level crossings as per Regulation (EU) 2018/762, Annex II, point 4.4.1 must be examined, and it must be ensured that safety-relevant information is comprehensible for the intended users as per Regulation (EU) 2018/762, Annex II, point 4.4.3a) and consistent as per point 4.4.3d).

5 Conclusions

The following section contains a summary of the identified causal, contributing and systemic factors. In addition, two further subsections are provided containing information about measures already taken, and additional comments

5.1 Summary and conclusion

The level crossing accident was caused by the road user not observing the priority for rail traffic at the level crossing as per Section 19(1) StVO [German Road Traffic Regulations] [F1]. According to Section 11(7)(2) EBO [German Ordinance on the Construction and Operation of Railways], the level crossing should have been protected by the clear view of the railway track combined with audible signals from the railway vehicles. The protection of the level crossing consisted of the two measures audible signals from the approaching railway vehicle as well as the visual identification of this vehicle by the road users.

The driver should have sounded the whistle for roughly three seconds in each case at the level crossing 4 signals. According to the driver, he followed this instruction at both level crossing 4 signals before the collision. The road user himself was solely responsible for observing the requirement for priority by looking for the approaching rail vehicle. The road user approached the level crossing in his car within the permitted speeds and needed to consciously observe the railway systems to the left and right in order to identify a rail vehicle. According to official investigations, the car driver did not exceed the permitted maximum speed of 20 km/h. It would only have been possible for the road user to identify a rail vehicle in good time if the rail vehicle was not completely concealed by an obstruction within the approach route. At the start of the stopping distance at view point A_{2o}, the view was impeded by the growth in the corn field on the day of the event. The principles for defining and locating the visible area [S2] did not consider the particular circumstances in the location and increased the likelihood of a level crossing accident.

In relation to the causal factor “Priority for rail vehicles” [F1]

It was no longer possible for the Federal Authority for Railway Accident Investigation to determine whether the road user involved in the accident heard the warning whistles, or why he did not observe the priority for rail traffic.

In relation to the contributing factor "Visible area not correct" [F2]

According to the requirements of guideline 815, the condition of the visible area for the level crossing should have meant that the railway vehicle remained visible throughout the entire approach route from view point B_{20} to the level crossing from view point A_{20} and from the subsequent stopping distance. If the view is obstructed, it can be deemed that there is a clear view if the front of the approaching train is not concealed.

Typically, the three reference points for the visible area produce the geometric shape of a triangle. In the present case, in the direction of travel ahead of the level crossing in quadrant IV the section partially went outside of the area of this triangle due to the curved routing.

As a result of this, in the present event the rail vehicle was concealed by the growth in the corn field for four seconds. A road user was therefore not able to see an approaching rail vehicle at all times and accordingly was not able to give it the required priority. The view was only restored again later, but this resulted in a reduced stopping distance. As a result, it was no longer possible to stop in time before the level crossing.

In relation to the systemic factor "Definition and location of the visible areas" [S2]

In order to define and locate the visible area, which was not found correctly, it was necessary to inform the people acting on behalf of the responsible parties involved about the special geometric features of the level crossing at km 8.615. On the basis of the partially contradictory transfer of documents between the infrastructure manager and Meeder local authority several years ago, however, it was not possible to clarify whether these special features had actually been understood by the people involved, considered on a long-term basis and sufficiently documented in a reproducible manner.

These aspects of observing safety information relate to the cooperation of the railway with the authorities involved with a level crossing. In accordance with Regulation (EU) 2018/762, Annex II, Point 4.4.3a), the infrastructure manager shall ensure that the safety-related information is understandable for the intended users, and according to Point 4.4.3d) that it is consistent. This also requires rules and standards providing sufficient specification for the reproducible and uniform preparation of relevant documents. The areas to be kept free must be clearly and unambiguously described by the infrastructure manager. Topological features and resulting particular risks must be dealt with so that the user of the information, such as

the responsible personnel of the authority responsible for road construction in this case, are aware of them and they can be considered when conducting work.

On the basis of safety recommendation 13/2025, the Federal Authority for Railway Accident Investigation is recommending that safety information to be issued to external parties must be checked to ensure it is understandable and consistent.

In relation to the contributing factor "Inspection interval during the local growing period" [F3]

The documents from DB Netz AG available to the Federal Authority for Railway Accident Investigation could not reveal whether any further inspection of the level crossing was planned during the plant growing period. The last inspection of the level crossing was carried out on 13/05/2020 by the designated person responsible for the system roughly two months before the event. Only after the event was it identified that the visible area was not fully visible. The growth of the corn had restricted the visibility of the train at view point A_{20} to the extent that road users could no longer see the train within the approach. According to guideline 815, the inspection interval for level crossings should have been reduced in periods with greater encroachment due to plant growth. The Federal Authority for Railway Accident Investigation was not able to identify a reduction of the time period for the inspection by the responsible authorities during the plant growth phase for the level crossing in question. The issue of whether the related specifications of the rules and their importance had actually been comparably understood by the people involved from Meeder local authority also falls under the aforementioned aspect of the comprehensibility of safety information for the intended users.

In relation to the systemic factor "Fulfilment of duties by the authority responsible for road construction" [S3]

The last documented inspection of the visible area by the road maintenance officer was conducted on 04/05/2020, meaning that the most recent inspection was more than two months before the event. No other written documents were presented to the Federal Authority for Railway Accident Investigation. According to the instructions, the visible area of the level crossing should have been inspected every one to two weeks. These inspections should have been documented in writing. Due to the lack of documentation, it was not possible to trace back whether and how often the visible area had actually been checked. The

documentation of the inspections not only provided evidence of conducting the inspection, it also determined the date for the next inspection. Being aware of the last check conducted is also important, for example, to allow people to deputise for each other correctly.

The Federal Authority for Railway Accident Investigation was provided with extensive correspondence between Meeder local authority and owners of land directly adjoining the level crossing. This correspondence showed that there were repeated incidents of delays removing obstructions to the view within the visible area. To some extent the owner refused to remove the corn plants that had grown until he received compensation for this.

According to the BayStrWG [Bavarian Roads and Pathways Act], Meeder local authority was obliged to act. According to Article 29 BayStrWG, the relevant authority should have given priority to granting the proprietor/owner an appropriate deadline for removing hazardous plant growth.

In the event of alteration and new buildings, guideline 815 recommends establishing corresponding easements to safeguard the interests of the railway. Similarly, the authority responsible for road construction could also act in relation to its interests for existing systems.

In the event of imminent danger, the local authority was required to act as per BayStrWG. It would have been justified in removing the plant growth as per Article 29(2) sentence 2 and (4) sentence 1 BayStrWG. In return, the local authority should have appropriately reimbursed the proprietors and owners for the expenses and damage caused by the work.

If the visible area were the responsibility of an infrastructure manager, this infrastructure manager would be authorised to act immediately in the event of imminent danger and take measures at the proprietor's expense as per Section 24a AEG [German General Railway Act]. However, as the local authority was only able to act in accordance with BayStrWG, it would have had to reimburse the costs for the removal and therefore bear these costs itself. This may be an obstacle to the immediate removal of hazards. In future, statutory regulations regarding the rights of the authority responsible for road construction could be based, for example, on the regulatory framework of Section 24a AEG, which would have to be enacted by the responsible legislator.

In relation to the contributing factor "Exchange of safety information" [F4]

The record of results of a road safety inspection conducted before the event indirectly called for increased inspection of the visible area during the plant growing phase.

In 2015 and 2018, those involved in the road safety inspection stipulated in the records of results that if corn was grown and not removed by the farmers, traffic sign 274-51 (10 km/h) would need to be erected. It was not possible to determine whether the measures to be taken on the basis of the findings had been implemented. In 2020, the visible area was once again significantly obstructed by a corn field. The road traffic was not reduced to 10 km/h by a speed limit. The measures identified by the previous road safety inspections seemingly had no effect in terms of permanently removing the danger.

The measure of erecting a traffic sign to reduce the permitted maximum speed for road traffic to 10 km/h in the event of significant plant growth as identified in the previous road safety inspections required an appropriate inspection interval. In midsummer weather conditions, it is possible for corn to grow in height by 15 cm per day. The visible area would have needed to have been inspected at an appropriate frequency in order to set up the necessary compensating measure in good time. As a result of the lack of instructions and comprehensible documentation, it was not possible to determine whether this happened accordingly.

Due to the internal requirements, the infrastructure manager DB Netz AG had prepared system-related documents. These did not include any specifications for implementing the findings from the road safety inspections. In accordance with Regulation (EU) 2018/762, Annex II, Point 4.4.1, the infrastructure manager is obliged to define adequate communication channels to ensure that safety-related information is exchanged among the different levels of the organisation and with external interested parties.

The system-related documents of Meeder local authority also did not contain any comment about the measures required from the road safety inspections.

As a minimum, in order to improve the safety of railway operation, it seems to be necessary to examine and improve the basic communication channels with the authorities involved with a level crossing outside of the infrastructure manager. The Federal Authority for Railway Accident Investigation therefore recommends examining the existing communication channels to see if they are appropriate.

This goes hand in hand with the safety recommendation issued in relation to [S2].

5.2 Measures taken since the event

On 28/07/2020, the infrastructure manager put in place a speed restriction of 20 km/h from km 8.7 to km 8.6 for the Bad Rodach – Coburg direction of travel. This was cancelled again on 30/07/2020 because from this time the section was blocked for a period of four weeks due to track renewal. Once the section was put back into operation, the corn field had been cut.

The owners of the agricultural properties adjoining the railway were again informed of the need to keep the visible areas free. The road signs for the level crossing were not changed.

The infrastructure manager and Meeder local authority held joint talks about possible technical protection of the level crossing and other neighbouring level crossings. Meeder local authority did not agree to possible clearance plans. There are long-term plans for technical protection of the level crossing.

5.3 Additional observations

During the on-site investigation on 28/07/2020, a high volume of traffic at the level crossing was identified. The high volume of traffic compared with the normal situation was confirmed by a traffic count after the level crossing accident.

The reason for the high volume of traffic was the full closure of the through road in Meeder. The traffic from Wiesenfeld b. Coburg was diverted over a wide area via Grosswalbur. The level crossing at km 8.615 did not have to be used as part of this diversion, however many locals familiar with the area used it as a makeshift solution.

For the authorities that planned the diversion, the reporting of the measure was an optional provision according to the VwV-StVO [General Administrative Regulation to the German Road Traffic Regulations]. As the diversion did not directly cross the level crossing, the authorities dealing with the work believed that it was not necessary to inform the infrastructure manager. The infrastructure manager was therefore not in the position to carry out checks that were actually required.

6 Safety recommendations

The following safety recommendation is made in accordance with Section 6 of the EUV and Article 26(2) of Directive (EU) 2016/798:

No	Addressee and safety recommendation	Relates to company
13/2025	Safety authority: It is recommended that the effectiveness of the communication channels set up with the authorities involved with level crossings as per Regulation (EU) 2018/762, Annex II, point 4.4.1 must be examined, and it must be ensured that safety-relevant information is comprehensible for the intended users as per Regulation (EU) 2018/762, Annex II, point 4.4.3a) and consistent as per point 4.4.3d).	Infrastructure manager