REPUBLIKA SLOVENIJA

MINISTRSTVO ZA PROMET

SEKTOR ZA PREISKOVANJE ŽELEZNIŠKIH NESREČ IN INCIDENTOV

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FINAL REPORT ON INVESTIGATION INTO A RAILWAY ACCIDENT – COLLISION OF FREIGHT TRAIN NO. 42772 WITH PASSENGER VEHICLE

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1 SUMMARY

On 5 September 2009 at 02:40, combined freight train no. 42772 hit the right-hand side of a passenger vehicle, a Renault Clio 1.2, at a level crossing of the local road with the railway line, which is protected with half-barriers. The accident occurred on Podpeška cesta in Vnanje Gorice at the level crossing of the local road with the double-track railway line Ljubljana–Sežana.

The driver of the passenger vehicle, a Renault Clio 1.2, was driving along the local road from the direction of Brezovica pri Ljubljani towards Vnanje Gorice.

Combined freight train no. 42772 was travelling from Koper to Ljubljana along the correct right-hand side track of the double-track railway line.

The level crossing between Brezovica and Preserje stations at km 575+460 is protected for road users by the Iskra DK (remote control) signalling and safety device.

The driver of the passenger vehicle stopped by the side of the road in front of the level crossing, where the passenger then stepped out of the vehicle, and the vehicle immediately proceeded onto the opposite lane, circumventing the lowered half-barrier, and drove across the level-crossing at the moment when combined freight train no. 42772, which was travelling along the correct right-hand side track, entered the level crossing to the right of the vehicle.

At a speed of 75 km/h, train no. 42772 hit the right-hand side of the passenger vehicle with the front of its locomotive, pushing the vehicle a distance of 327.8 m before it stopped. The passenger vehicle became attached to the fender and the coupler at the front of the traction vehicle and ended up wedged under it.

The driver, who was seriously injured, was trapped in the passenger vehicle. The locomotive driver of the train involved in the accident gave first aid to the driver of the passenger vehicle before the arrival of a rescue team.

Due to the fatal injuries sustained in the accident, the driver of the passenger vehicle died in the Emergency Unit of Ljubljana University Medical Centre on 6 September 2009.

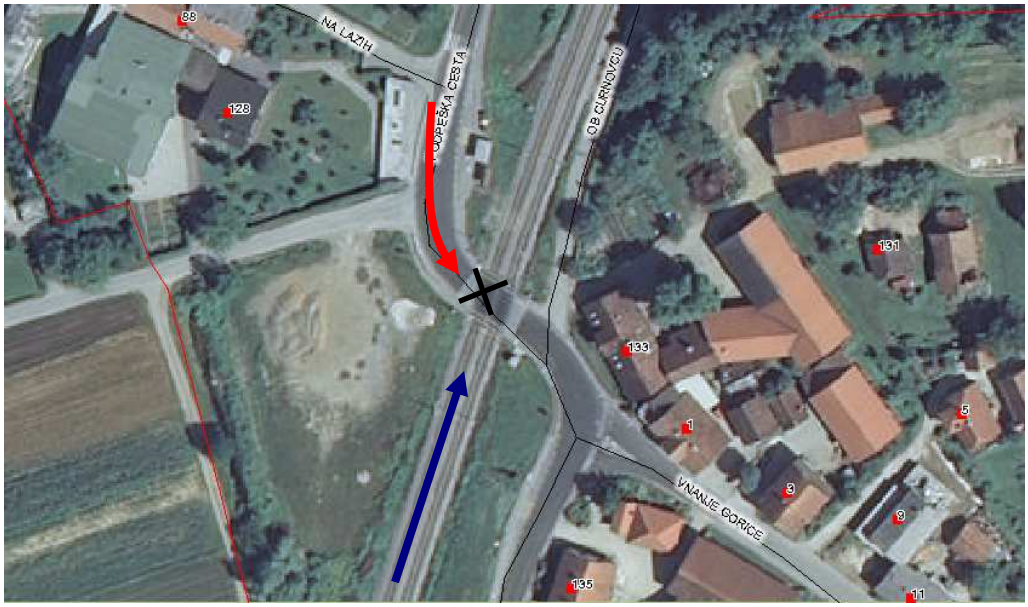

Figure 1: View of travelling direction of train and passenger vehicle, and site of the collision

Recommendation:
Since lowered half-barriers are often circumvented at level crossings designed in such a way that the lowered half-barrier protects only half of the road (the lane in the travelling direction and not the opposite lane), gradual modification of protection at this type of level crossings with half-barriers for both lanes from both directions or barriers covering the entire width of the road is recommended.

1.1. Copies of the accident report with recommendations to:

Slovenske železnice, d.o.o.
Kolodvorska 11
1506 Ljubljana

Republic of Slovenia

Ministry of Transport
Minister, Dr Patrick Vlačič
Langusova 4
1000 Ljubljana

Brezovica Municipality
Tržaška cesta 390
1351 Brezovica

Public Agency of the Republic of Slovenia for Railway Transport
Kopitarjeva 5
2000 Maribor

Ministry of the Interior
Ljubljana Police Directorate
Ljubljana Traffic Police Station
Grič 56
1000 Ljubljana

ERA – European Railway Agency
160 Boulevard Harpignies
BP 20392
F-59307 VALENCIENNES Cedex

2 IMMEDIATE FACTS OF THE OCCURRENCE

The level crossing of the road with the railway line between Brezovica and Preserje stations at km 575+460 was constructed according to the standards in force. At this level crossing, road users must yield way to trains, and are protected with a safety device that was in perfect working order at the time of the accident – the illuminated road signs were switched on and the half-barriers were lowered horizontally across the road.

2.1 Date, exact time and location of the occurrence

The accident – combined freight train no. 42772 colliding with the side of a passenger vehicle, a Renault Clio 1.2, at the level crossing protected with half-barriers at km 575+460 of the double-track main railway line Ljubljana–Sežana – occurred on 5 September 2009 at 02:40.

2.2 Description of the events and the accident site

On 5 September 2009, at 02:40, combined freight train no. 42772 hit the right-hand side of a passenger vehicle, a Renault Clio 1.2, at a level crossing of the local road with the railway line which is protected with half-barriers. The accident occurred in Podpeška cesta in Vnanje Gorice at the level crossing of the local road with the double-track railway line Ljubljana–Sežana.

The driver of the passenger vehicle, a Renault Clio 1.2, was driving along the local road from the direction of Brezovica pri Ljubljani towards Vnanje Gorice.

Combined freight train no. 42772 was travelling from Koper to Ljubljana along the correct right-hand side track of the double-track railway line.

The level crossing between Brezovica and Preserje stations at km 575+460 is protected for road users with the Iskra DK (remote control) signalling and safety device.

The driver of the passenger vehicle stopped by the side of the road in front of the level crossing, where the passenger stepped out of the vehicle, and the driver immediately proceeded onto the opposite lane, circumventing the lowered half-barrier, and drove across the level-crossing at the moment when combined freight train no. 42772, which was travelling along the correct right-hand side track, entered the level crossing to the right of the vehicle.

At a speed of 75 km/h, train no. 42772 hit the right-hand side of the passenger vehicle with the front of its locomotive, pushing the vehicle a distance of 327.8 m before it stopped. The passenger vehicle became attached to the fender and the coupler at the front of the traction vehicle and ended up wedged under it.

The driver was seriously injured and was trapped in the passenger vehicle. The locomotive driver of the train involved in the accident gave first aid to the driver until the arrival of a rescue team.

Due to the fatal injuries sustained in the accident, the driver of the passenger vehicle died in the Emergency Unit of Ljubljana University Medical Centre on 6 September 2009.

2.3 The body that established the investigation

The investigation procedure was launched by the Railway Accident and Incident Investigation Division of the Ministry of Transport of the Republic of Slovenia, and Slovenske železnice, d.o.o.

According to the Minor Offences Act, the investigation was performed by Ljubljana Traffic Police Station.
Their investigation procedures were conducted separately.

2.4 The decision to establish an investigation, the composition of the team of investigators and the conduct of the investigation

The Railway Accident and Incident Investigation Division of the Ministry of Transport of the Republic of Slovenia launched an investigation to determine all direct and indirect causes, with the purpose of collecting information important for improving safety at this and similar level crossings.
The Chief Investigator of the Railway Accident and Incident Investigation Division of the Ministry of Transport of the Republic of Slovenia conducted the investigation and brought it to a close himself.
Slovenske železnice, d.o.o., conducted its investigation through an investigation commission.

2.5 The background to the occurrence

The accident involved the 22-year-old driver of the passenger vehicle and the 45-year-old locomotive driver of train no. 42772.

There is a speed limit of 50 km/h in force for road users of this section of the local road running through a residential area.

The maximum permitted speed as laid down in the timetable for combined freight train no. 42772 for this section of the railway line is 75 km/h.

Road users approaching the level crossing from the direction of Ljubljana and travelling towards Vnanje Gorice do not have a limited view of the railway line in both directions. This, however, is not very important since the crossing is protected with half-barriers.

The passenger vehicle was registered and insured with Triglav insurance company, insurance policy no. 995 2946. According to the vehicle registration certificate, the vehicle was owned by Mr Zdravko Mrak, residing at Nova Pot 58, Vnanje Gorice, Brezovica pri Ljubljani.

Leading up to the level crossing, the local road surface on both sides of the level crossing is made of coarse asphalt concrete. The level-crossing roadway is made of special rubber elements. The driving surface was dry at the time of the accident and the tyre grip for passenger vehicles was very good.

Road traffic is heavy at this level crossing, especially during peak hours. There is an average of 35 trains in both directions per day on workdays.

2.5.1 Staff involved

The locomotive driver was a 45-year-old employee of Slovenske železnice, d.o.o., Business Unit Traction (*Poslovna enota Vleka*), Ljubljana Traction Section (*Sekcija za vleko Ljubljana*).

He had a valid certificate for a locomotive driver series 363 dated 4 November 1986.

The driver of the passenger vehicle was a 22-year-old man, a citizen of the Republic of Slovenia, with a valid driving licence for categories B, G and H.

2.5.2 The trains and their composition, including the registration numbers of the items of rolling stock involved

Combined freight train no. 42772 was composed of 28 wagons loaded with containers (102 axles, 536 m in length and totalling 1,427 tons). Locomotive no. 91 79 1 363 036-9 (115 tons, 6 axles, 21 m in length) was at the front of the train.

2.5.3 The description of the infrastructure and signalling system – track types, switches, interlocking, signals, train protection)

Along the Ljubljana-Sežana section between Brezovica and Preserje stations, trains run in inter-station dependence on the regular and neighbouring tracks, which means that the exit signal allows trains to proceed along the inter-station dependence section on both tracks or prohibits them from proceeding. At the signalling and safety device (inter-station dependence), the exit signal can be switched from stop to proceed when the following two conditions are fulfilled:

- the inter-station dependence section must be free, and
- the exit route must be protected.

The level crossing at km 575+460 between Brezovica and Preserje stations is equipped with the Iskra Npr-DK protective device with one switch at the station. The functioning of the device is remotely controlled via a copper cable from the control panel of the electric relay safety device of the Brezovica station traffic controller.

For trains travelling along the correct right-hand track from Sežana to Ljubljana, the NPr device switches on automatically when the first train axle passes over the two switch-on contacts, K1b and K11b, at km 576+760.

This section of the railway line consists of UIC-60 tracks.

Directly ahead of the level crossing, the local road, Podpeška cesta, runs towards the railway line at an angle of 10 degrees, before the level crossing the road bends sharply to the left and crosses the railway line at an angle of 80 degrees.

2.5.4 Means of communication

Train no. 42772 was hauled by an electric locomotive no. 91 79 1 363 036-9 with a built-in radio transceiver for a direct connection between the locomotive driver and the train dispatcher of Postojna Transport Division (*Prometna operativa Postojna).* Verbal communication between the locomotive driver and any of the station traffic controllers along the railway section Sežana–Ljubljana can only be established via the train dispatcher of Postojna Transport Division (*Prometna operativa Postojna).*

Boxes containing telephones are installed next to every level crossing with barriers or half-barriers along this railway line and provide a direct telephone connection with the traffic controllers of the neighbouring stations.

2.5.5 Building works at the scene of the accident or in the vicinity

At the time of the accident, half of the road was closed for traffic due to reconstruction works in the immediate vicinity of the level crossing, i.e. about 50 m ahead of the crossing. Road traffic along this particular section was at the time of the accident alternatively directed to one lane.

The site of the building works on the road, the closure of one lane and the traffic regime were well marked.

The road traffic regime during the road reconstruction works did not have an impact on the cause of the accident.

2.5.6 Trigger of the railway emergency plan and its chain of events

The locomotive driver of train no. 42772 notified the train dispatcher of Postojna Transport Division (*Prometna operativa Postojna*) of the location of the accident and the injured driver of the passenger vehicle, and the dispatcher promptly forwarded information to the regional notification centre.

2.5.7 Trigger of the emergency plan of the public rescue services, the police and the medical services and its chain of events

After the notification provided by the locomotive driver and the train dispatcher of Postojna Transport Division (*Prometna operativa Postojna*), an emergency plan of rescue measures was set in motion to rescue the injured driver of the passenger vehicle. The locomotive driver of the train involved in the accident gave first aid to the seriously injured driver of the passenger vehicle, who sustained injuries to his head and vertebral column, until the arrival of a rescue team from Ljubljana University Medical Centre, which transported him to Ljubljana University Medical Centre.

The officer on duty at the regional notification centre dispatched staff from Ljubljana Traffic Police Station to the scene of the accident.

The fire-fighters of Ljubljana Professional Fire Brigade removed the passenger vehicle from the front of locomotive 363-036 where it had become attached to the fender and the coupler. They arrived at the scene with one special fire-fighting vehicle.

2.6 Fatalities, injuries and material damage

The driver of the passenger vehicle, a 22-year old man, a citizen of the Republic of Slovenia, sustained serious injuries in the accident and subsequently died at Ljubljana University Medical Centre on 6 September 2009.

The socket for electrical heating of E-locomotive no. 363-036 and one rubber element of the Npr-575+5 level crossing were damaged in the accident. According to a non-expert assessment, material damage to the railway infrastructure and traction vehicle amounts to EUR 2,500.

The passenger vehicle was totally wrecked in the accident. According to a non-expert assessment, material damage to the passenger vehicle amounts to EUR 2,000.

2.7 External circumstances

Weather conditions at the time of the accident: cloudy ahead of a storm, +13° C, visibility – night.

At the time of the accident, the local road surface (of asphalt concrete) was dry and tyre grip was good.

3 RECORD OF INVESTIGATIONS AND INQUIRIES

On 5 September 2009 at 03:40, the Chief Investigator of the Ministry of Transport inspected the scene of the accident.
On 9 September 2010, an Incident Registration Form No. 19/2009 dated 7 September 2009 was received from Slovenske železnice, d.o.o., Ljubljana Traffic Management System (*Sekcija za vodenje prometa Ljubljana*), Logatec Supervisory Station (*Nadzorna postaja Logatec*).
On 05 November 2009, the Commission's report on the investigation into incident no. 19/2009 was received from Slovenske železnice, d.o.o., Postojna Traffic Management System (*Sekcija za vodenje prometa Postojna*).
On 10 December 2009, the Chief Investigator of the Ministry of Transport again inspected the scene of the accident and the safety device at the level crossing.
On 13 November 2009, a summary report on the traffic accident no. 212-111/2009 (11) was received from Ljubljana Traffic Police Station.
Investigation material no. 1.0.4./11-61/09 PZ dated 17 November 2009 was acquired from Slovenske železnice, d.o.o., Ljubljana Traffic Management System (*Sekcija za vodenje prometa Ljubljana*), Internal Control Service (*Služba za notranji nadzor*).

3.1 Summary of testimonies

The locomotive driver of train no. 42772 involved in the accident did not specify anything of significant relevance in the Daily Report on Incidents No. 158/5 of 7 September 2009 that would explain the direct and any potential indirect causes of the accident. He stated that between Preserje and Brezovica stations at km 575+100 at the level crossing with the road, train no. 42772 had collided with a passenger vehicle, a Renault Clio, registration LJ X8-414, and had pushed the vehicle attached to the fenders forward for about 150 m, despite the high-speed brake of the train having been activated. It was also specified in the Report that he immediately notified the dispatcher who called the police and a rescue team. He provided first aid to the injured driver until the arrival of the rescue team. He submitted the tachometer reading to the police.

In the protocol of the interview with a worker who is a party to the proceedings – a witness, the following statement of the locomotive driver of train no. 42772 involved in the accident is noted:

"On 4 September 2009, I started work at 17:00; before this I was free for about 21 hours. On my return on 5 September 2009, I was driving locomotive 363-036 of train no. 42772 towards Ljubljana Moste station. While driving the train towards the level crossing at km 575+460 between Preserje and Brezovica stations, I suddenly saw a vehicle circumventing the lowered half-barriers and driving onto the level crossing. I immediately activated the high-speed brake and sounded the "CAUTION!" signal several times but the train nevertheless collided with the vehicle. The vehicle became attached to the fenders and the train pushed it forward for about 150 m. I immediately called the dispatcher via the radio dispatch system, who called a rescue team and the police. Until the arrival of the rescue team, I provided first aid to the injured driver. The passenger vehicle was a Renault Clio with registration plates LJ X8-414. On request, I gave the tachometer reading to the police and in return received a receipt. When checking the locomotive, I detected a damaged socket for electrical heating of the train. I was replaced and went home, and wrote a suitable report on the incident. I have nothing further to add."

3.2 The safety management system

When approaching the level crossing, road users are warned of the level crossing at km 575+460 between Preserje and Brezovica stations by road signs no. I-39 “Warning of level crossing ahead – crossing of the road with a railway line with barriers or half-barriers”, which marks the distance to the level crossing protected with barriers or half-barriers, and no. I-36 “Crossing of the road with a railway line with barriers or half-barriers”, which marks the proximity of the level crossing of the road with a railway line protected with barriers or half-barriers.

Road signs are clear and visible from suitable distance. Nothing blocks the view of these road signs.

The level crossing is protected by half-barriers with the Iskra CPr-DK signalling and safety device. The remote control of the device is connected to Brezovica station. At the time of the accident, the device was in perfect working order and the half-barriers were lowered horizontally across the road. All the lights of the signalling and safety device at the level crossing (lights on half-barriers and lights on the road sign) were in perfect working order at the time of the accident.

There are no bends in the road from Brezovica to the level crossing for about 1,200 m ahead of the level crossing and the road approaches the crossing at an angle of 10 degrees, but in the immediate vicinity of the level crossing the road bends sharply to the left and crosses the railway line at an angle of 70 degrees. The railway line from Preserje to the railway crossing runs in a straight line for 2,800 m, and at the level crossing makes a slight turn to the right with a radius of 1,300 m. Road users approaching the level crossing from the direction of Brezovica pri Ljubljana have a good view of the railway tracks from the level crossing in the direction of Preserje station, i.e. the direction of the approaching train in this accident.

Figure 2: Functioning of the device for protection of the level crossing immediately after the accident when the train involved in the accident was still standing on the level crossing and the consequences of the accident were being removed.

3.3 Rules and regulations

Safety at protected level crossings of roads with railway lines is governed by Article 51 of the Safety of Railway Transport Act (*Uradni list RS* [Official Gazette of the Republic of Slovenia], No. 61/2007) dated 10 July 2007, and Article 50 of the Safety of Road Transport Act (*Uradni list RS*, No. 56/2008) dated 6 June 2008.

Crossings of roads and railways at level crossings are regulated in more detail in the Rules on railway level crossings published in *Uradni list RS*, No. 85/2008, dated 29 August 2008.

The operation of the NPr-4 Vnanje Gorice safety device at the level crossing is described in the Instructions for the protection of CPr-4 Vnanje Gorice at km 575+460 on the railway line Ljubljana–Sežana dated 22 October 1998, an annex to Station Rules Part I, Brezovica and Preserje Stations.

3.4 Operation of rolling stock, technical facilities and technical installations

Train no. 42772 involved in the accident was composed at the Koper freight station (*Koper tovorna*) on 4 September 2009. Before the train was despatched, the functioning of its brakes was checked as witnessed by the signature of the worker who conducted the check in the Report on the composition and braking of trains. The braking system of the entire train was in perfect working order. The stopping distance of the train after the collision with the passenger vehicle was 327.8 m.

The NPr-4 Vnanje Gorice device protecting the level crossing at km 575+460 was in perfect working order at the time of the accident. The half-barriers were horizontally lowered across the road.

3.5 Documentation on the operating system

The NPr-4 Vnanje Gorice level crossing at km 575+460 between Brezovica and Preserje stations on the main Ljubljana–Sežana railway line is protected with half-barriers and equipped with the Iskra DK device manufactured in Slovenia. This device has a remote switch, which means that it is switched on by a train hitting the switch, and a remote control via copper cables from Brezovica station.

Instructions for the protection of the CPr Vnanje Gorice road crossing at km 575+460 on the railway line Ljubljana–Sežana were drawn up for the device. The Instructions are used together with the general Instructions on crossings with roads – type Iskra-DK, published in the internal bulletin of Slovenske železnice of 26 January 1998: *Uradne objave* [Official Publication] no. 1, year 1998.

3.6 Man-machine-organisation interface

At the level crossing between Brezovica and Preserje stations at km 575+460, no special safety devices are installed to assist drivers of locomotives and passenger vehicles in reducing the speed and stopping. Locomotive drivers and drivers of road vehicles operate their vehicles by pressing or releasing the accelerator and applying braking devices.

The train was fitted with a pneumatic braking system that becomes effective after 3.5–4 seconds.

The locomotive driver of train no. 42772, who was involved in the railway accident at the level crossing at km 575+460 between Preserje and Brezovica stations on 5 September 2009 at 02:40, had passed all the required qualifying examinations, and was physically and mentally fit for driving, had taken the statutory rest break between the last two working

shifts and had not exceeded the prescribed working hours in the shift. He passed the examination for a driver of series 363 electric locomotive on 4 November 1986.
The driver of the passenger vehicle who died of the injuries he sustained in the accident was a holder of a statutory driving licence, category B, in line with the regulations for the operation of the road vehicle involved in the accident.

3.7 Previous occurrences of a similar character

A similar accident has not occurred at this level crossing in the past 20 years. However, the lowered half-barriers are too often circumvented by drivers of passenger vehicles, as is the case with other level crossings protected with half-barriers.

4 ANALYSIS AND CONCLUSIONS

Similar incidents resulting in broken half-barriers were analysed. According to the statistics of Slovenske železnice, d.o.o., 124 half-barriers were broken in 2009. There are various reasons for breaking half-barriers, including vandalism by third persons, and pedestrians or cyclists leaning on a lowered half-barrier while waiting for the train to pass. It can be stated with a great deal of certainty that the majority of half-barriers are broken by drivers of passenger vehicles who circumvent lowered half-barriers or drive onto level crossings when barriers are being lowered. Locomotive drivers often report seeing such cases.

It should be taken into consideration that many cases of circumvented half-barriers do not end with an accident but remain without any consequences, even without broken half-barriers. Slovenske železnice, d.o.o., does not keep statistics on such events.

The above-mentioned data clearly shows that, relatively often, lowered half-barriers are circumvented by passenger vehicles.

This reflects the driving culture of Slovenian citizens, who often do not think about the consequences of this action, which endangers their lives and often also the lives of the passengers in their vehicles.

Since people are different, different in character and cultural knowledge, and are not always willing to act in a responsible manner, while being influenced by positive and negative examples, they are likely to be tempted to circumvent an obstacle. In light of this, it would be reasonable to consider possible improvements in safety where temptation may be succumbed to.

Figure 3: Half-barrier at Vnanje Gorice level crossing reaches as far as the illustrated point

4.1 Final account of the event chain

The direct cause of this railway accident should be attributed solely to the behaviour of the driver of the passenger vehicle – having stopped his vehicle directly in front of the level crossing to let his passenger step out of the vehicle, the driver proceeded onto the opposite

lane and circumvented the lowered half-barrier and drove in front of train no. 42772. One of the possible and most likely reasons for the driver's behaviour is that he was tempting fate, since there is no other explanation for his recklessness. However, given the early morning hour, it may have been fatigue, which in similar situations often leads to different behaviour than when not tired.

4.2 Discussion

It is too often the case that at level crossings with half-barriers, drivers of road vehicles tempt fate and circumvent the lowered half-barriers blocking their lane by using the opposite lane. Considering the fast tempo of modern living, a minute spent waiting can very often be considered more important than the fact that one may be involved in an accident. Time and again, people are forced by this fast tempo to try and find a way around obstacles in their lives. In this particular case, the driver may also have been thinking along these lines, since he was young and therefore not very experienced.

It is human nature to gradually make a habit of such behaviour, especially if we were successful in our previous attempts.

In view of similar incidents, we can claim with great certainty that the driver of the passenger vehicle involved in the accident would have stopped if both lanes at the level crossing were protected with half-barriers or barriers.

4.3 Conclusions

It was established during the investigation that the direct cause of collision between train no. 42772 and the passenger vehicle at the level crossing with half-barriers between Brezovica and Preserje stations at km 575+460 was the driver of the passenger vehicle, who failed to give way and thus tempted fate, and who, despite the fact that the signalling and safety devices at the level crossing were in perfect working order and the half-barriers were lowered, thus unmistakably warning road users of the approaching train, drove his vehicle onto the opposite lane, circumvented the lowered half-barrier and drove in front of the locomotive.

Where level crossings are fully protected, i.e. where barriers or half-barriers extend over the entire width of the road, road users always stop in front of the barrier, since otherwise they would damage their vehicles by breaking the barrier or half-barrier.

At level crossings with half-barriers extending only over half of the road, thus enabling drivers to circumvent half-barriers, they often contemplate how to avoid waiting in front of the lowered half-barrier. In such moments, they are not fully aware of the consequences because they focus on other issues and not safe driving.

4.4 Additional observations

The driver of the passenger vehicle stopped his vehicle in front of the level crossing to allow the passenger to step out of the vehicle. After the passenger closed the door, the driver drove left, past the lowered half-barrier onto the crossing despite the switched-on illuminated signs warning the driver of the approaching train, which rules out the possibility that the driver was confused by signalling devices of the near-by construction site on the road.

This construction site on the road was well marked and at such a distance from the level crossing that the signalling of the level-crossing would be noticed in time by a driver complying with the prescribed speed limit.

4.5 Measures that have been taken

There is no record of any special measures having been previously taken or taken as a result of the accident at this level crossing.

4.6 Recommendations

Recommendation:

Since lowered half-barriers are often circumvented at level crossings where the lowered half-barrier protects only half of the road, i.e. the lane in the travelling direction and not the opposite lane, a gradual modification of protection at this type of level crossings with half-barriers for both lanes from both directions or barriers extending over the entire width of the road is recommended.

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Daniel Lenart, Undersecretary
Chief Investigator of Railway
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