

Education About Hazards in Track and Level Crossing Areas

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Abstract

Safety training provides people with tools and detailed knowledge on how to recognize latent hazards in the transportation system. By being informed about the hazards, safer decisions can be made and the risk of accidents reduced.

This article elaborates on the importance of education concerning railway level crossings, including understanding the speed and power of trains, respecting warning signs and safety devices, and being aware of limited visibility at crossings.

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Promoting safe behaviors helps increase individual responsibility, which translates into people learning to stop, look, and listen before crossing the tracks, respecting signals and barriers, and avoiding risky situations such as attempting to cross the tracks when a train is approaching. Awareness can save lives and prevent serious accidents.

It is essential to have a greater understanding of the signaling and the dynamics of rail and rail-pedestrian crossings in general, as level crossings are equipped with signals and safety devices to warn users of an approaching train. Training helps people properly recognize the devices, such as flashing lights, sound and light signals, barriers, and various types of passive horizontal and vertical signage. A clear understanding of the signaling improves safety and helps prevent hazardous situations.

To achieve this objective, on one hand, there is a need to focus on the elimination of urban level crossings and the technological innovation of suburban level crossings. On the other hand, with the participation of various authorities at the national, provincial, and municipal levels, as well as educational institutions, security forces, and government agencies responsible for railway oversight, along with the operating companies themselves, it is essential to establish sustainable medium- and long-term programs in Accident Prevention Education and Traffic Regulation Control (both vehicular and pedestrian). Additionally, effective penalties must be enforced for serious violations within the railway domain. It is essential to carry out prevention campaigns on the risks and occurrences at railway level crossings to raise awareness, promote safe behaviors, and reduce accidents. By improving knowledge and understanding of the dangers and appropriate safety measures, safer crossing of the tracks can be ensured, protecting the life and physical and mental well-being of individuals.

Since 2022, the Transportation Safety Board (JST), in collaboration with other public and private entities, has implemented an educational program through which over seventy primary and secondary schools across the country have been visited. The aim is to provide workshops with a pedagogical and social approach to train and raise awareness among students, teachers, and parents about the risks in railway areas.

In this context, and as part of the 'International Level Crossing Awareness Day' (ILCAD), an event held on

June 14, 15, and 16 in Warsaw, Poland, the Training Department of the organization interviewed Isabelle Fonverne, a renowned expert in railway safety with extensive experience in transportation. She currently serves as Project Manager and Coordinator of ILCAD, the only global road/rail safety awareness campaign.

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What are the current safety challenges at level crossings, and how can training help mitigate them?

The train remains the safest land transportation, largely due to the rigorous attention given to infrastructure safety and procedures. Quite rightly, rail passengers can expect to reach their destination safely. However, there is still a concerning high number of accidents and fatalities at level crossings. Significant progress has been made, but the 2022 Annual Safety Report of the International Union of Railways (UIC) tells a sobering story. The UIC safety database, which compiles railway safety statistics from over thirty countries, reveals that in 2021 more than a quarter (27%) of all significant railway accidents and nearly a third (32%) of all accidental fatalities occurred at level crossings. External causes (intrusion and level crossings) were responsible for nearly 80% of the accidents. External users involved accounted for 96% of all fatalities and 86% of serious injuries.

The goal of the Global Level Crossing Network (GLCN) working group and ILCAD is to improve the safety of citizens on and around railways, regardless of their country of origin, language, or culture.

The best level crossing is the one that doesn't exist. However, we know that it is not possible to eliminate all level crossings, as it is very costly to fund underpasses or bridges. Sometimes it is impossible to eliminate them due to the surrounding environment; it can take a long time to negotiate with local authorities or the community, or the community may not want to get rid of it because it serves as a shortcut, among other factors.

Using a level crossing is safe as long as users respect traffic signals. In addition to improper use at crossings, some people take risks by walking, hiking, or cycling along the tracks, taking shortcuts at stations or on

open tracks, or using tunnels or bridges. Walking in dangerous areas, taking selfies on the tracks, doing graffiti, entering train depots, or climbing onto railcars or coaches can result in serious injuries or death.

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The main victims are people struck by trains, those who fall from certain heights, or are electrocuted by the third rail or overhead wires. Many of these individuals are simply unaware of the risks. For this reason, railway companies have committed to raising awareness through ILCAD and The International Trespass Awareness Day (TRESPAD), something that can also be achieved with technological measures, fences, and signage. If this is not enough, coercive measures must be implemented to deter improper behavior at level crossings and in and around railway tracks.

What measures are being taken to raise safety awareness at level crossings and to promote more effective training at the global level?

In addition to investing in better designs, a key part of reducing damage is influencing user behavior. For this reason, the railway family of the UIC gathers every year to promote the International Level Crossing Awareness Day (ILCAD). Through campaigns, education, and specific applications, ILCAD encourages users to play their part in the safety of level crossings.

The 15th edition of ILCAD was launched at an international conference on June 15, 2023, co-organized by the International Union of Railways (UIC), PKP, and the PKP Group Foundation in Warsaw, Poland. Speakers from around the world shared best practices for improving level crossings safety through risk assessment, engineering, engagement, education, and community outreach with an international audience. The theme of ILCAD 2023 focused on 'drivers of agricultural and industrial vehicles at level crossings,' with the slogan 'Railway tracks are for trains.'

What are the key elements that should be addressed in level crossing training programs for train operating personnel, train users, and pedestrians in railway areas?

The UIC has collaborated with the International Road Transport Union (IRU), the International Road

Federation (IRF), and Operation Lifesaver Estonia (OLE) in publishing safety brochures for truck and bus drivers, car drivers, motorcyclists, cyclists, individuals with reduced mobility, and pedestrians in twenty languages.

The brochures consist of basic safety messages with illustrations for the safe use of level crossings that can be understood anywhere in the world.

Every year, to launch ILCAD, the UIC produces a video from scratch or uses CCTV footage from cameras placed at level crossings in one of its member countries to share with other participating countries in ILCAD and to be disseminated on social media.

UIC members can also produce their own awareness videos on level crossings safety. Some filmed testimonies from victims of collisions at level crossings or from train operators who faced collisions or near-collisions at level crossings can also be very helpful in raising awareness among people, particularly young users.



Let's take as a concrete example of awareness the measures actions taken after a very serious collision between a school bus and a train at a level crossing in Millas, in southeastern France, on December 14, 2017, which unfortunately resulted in the death of six children. It was decided to add questions about safety at level crossings to the existing list of potential questions asked in the Road Code exam. Among the one thousand questions, there is a topic on level crossings composed of nineteen questions. It is impossible to predict the questions that will be asked in the official exam, as they are assigned randomly. However, the test must always include ten very specific topics from the road code.

What role do railway companies and transportation authorities play in promoting and implementing more effective training programs on level crossing safety?

Nowadays, in many countries, railway companies, road or railway infrastructure authorities, road safety officials, police, the Ministry of Transportation, and

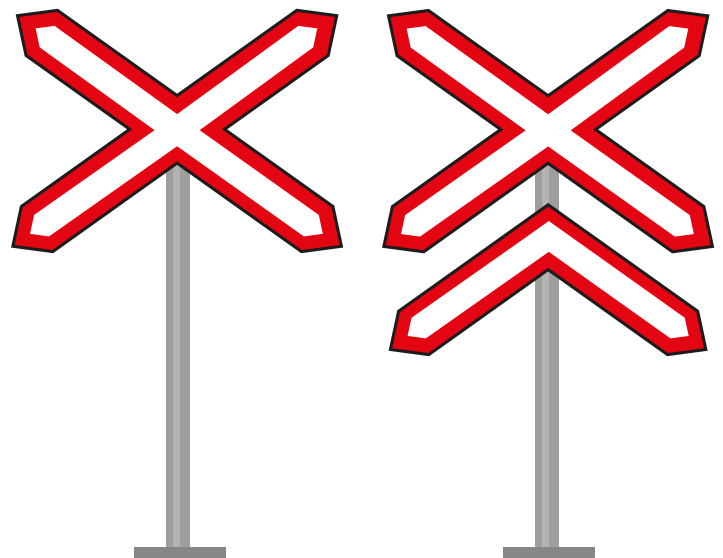


local authorities come together to organize their own campaigns at different times of the year and also participate in ILCAD once a year in June, thereby raising awareness among users and the community about the risks at level crossings or around railway tracks.

ILCAD participants use our media or distribute their safety brochures to level crossings users, organize press conferences, exhibitions, collision tests between a train and a vehicle, railway and road safety games and contests, and publish videos and information on social media, television, and radio advertisements. Authorities not only raise awareness but also take action by imposing fines on offending vehicle drivers. In England, the British Transport Police gives offenders the option to take a course to learn about the risks or pay the fine. (In France, ignoring a red traffic light results in a deduction of 4 out of 12 points from the driving license and a fine of 135 euros. In Austria, the fine is 726 euros).

What is ILCAD's agenda in terms of level crossing training for next year?

As every year, the members of our GLCN working group will decide the target audience for 2024 and the slogan. The UIC will create posters and a video related to the chosen theme. The communication materials will be shared with the railway and road community participating in ILCAD. A launch conference for the 16th edition of ILCAD and the 3rd edition of TRESPAD, UIC's new awareness campaign on preventing trespassing on tracks, will be organized in two languages (Spanish and English) in Buenos Aires, Argentina, on June 5, 6, and 7, 2024.





Act safely at level crossings

What is ILCAD?

The International Level Crossing Awareness Day (ILCAD) is a global initiative aimed at improving safety awareness at level crossings. The campaign has been led by the UIC ((Union Internationale des Chemins de Fer), the global railway organization, with the support of the railway community worldwide. This joint commitment continues the success of the first European Level Crossing Awareness Day held on June 25, 2009 in 28 countries to raise public awareness about the dangers of misconduct at level crossings.

An increasing number of road organizations and international institutions have also become involved in raising awareness about the risks at level crossings, aiming to change the behavior of road users and pedestrians to "act safely at level crossings." Each year, a member country organizes the event where each participant can share good practices and projects to enhance safety and reduce the number of accidents.

Many of these organizations have signed the European Road Safety Charter, which is an initiative of the European Union (EU). The Charter aims to develop concrete actions, assess results, and continue raising awareness about the need to reduce traffic accidents and fatalities by sharing best practices in road safety across Europe, while adding a European dimension to individual or collective initiatives. ILCAD has also been part of the UN's Decade of Action for Road Safety since 2010.

Forty countries tend to join efforts on ILCAD day or around it, organizing in-person activities for level crossing safety or spreading safety messages on websites or social media.

Railways have the responsibility (a legal duty in many countries) to assess the risks at each and every level crossing. This helps identify whether the risk controls are appropriate for the location, the number and type of users, the nature of the railway traffic, etc. However, practices vary from country to country, and there is a real opportunity for railways worldwide to learn and implement improvements recommended by the UIC 2022 Best Practice Guide for Level Crossing Risk Assessment, developed by members of the Global Level Crossing Network (GLCN).

Some Data from Europe:

- Accidents at level crossings account for only 1% of deaths in road traffic but 28% of all railway fatalities according to European statistics.
- The UIC estimates that there are half a million level crossings worldwide, 96,000 in the EU, representing 20% of the total number of level crossings in the world. Less than half of them are passive (without lights or barriers).
- According to the European Union Agency for Railways (ERA), an average of six deaths and six serious injuries occurred weekly at level crossings in the EU in recent years. The total number of deaths, excluding suicides, has steadily decreased in recent years.
- Accidents at level crossings are categorized in the UIC database into collisions with an obstacle (vehicle) and pedestrians or cyclists hit by a train.
- Safety at level crossings: After a safety improvement in level crossings during 2010 and 2016, a stable trend was observed in the following five years. In addition to a drop in 2020 (partly related to the lockdown measures and subsequent travel restrictions imposed during the COVID-19 pandemic), the number of accidents (and related serious injuries) that occurred at level crossings in 2021 returned to the levels of 2016. The number of level crossings and the accidents that occur at them vary significantly among ERA countries. In 2021, around 96,000 level crossings were reported in the EU-27, representing approximately 42% of the total; the level crossings are often equipped with an Andrew's cross traffic sign but do not provide any active warning to road users.
- Passive level crossings and level crossings in general are being removed at a rather slow pace.