



VIOLATION OF TRAIN TRAFFIC SAFETY ON RAILWAY TRANSPORT

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ABSTRACT

Road users' safety at railroad grade crossings (RRGCs) is one of the most demanding concerns, because the majority of RRGC accidents are fatal in nature. These accidents are mainly caused by collisions between road users and trains, principally due to road users' violation. In general, road users commit violations either individually or in groups. Moreover, they have a pattern of committing violations regularly or only on occasion, and a fraction of them may be nonviolators.

Railway transport plays a crucial role in the movement of goods and people across vast distances, providing an efficient and environmentally friendly mode of transportation. However, ensuring the safety of train traffic is paramount to prevent accidents and protect both passengers and railway infrastructure. Despite stringent regulations and safety protocols, violations of train traffic safety persist, posing significant risks to the system. This article delves into the common violations observed in railway transport and explores measures to mitigate them.

Stations

The key risks which require management at stations are typically slips, trips and falls (particularly on stairs and escalators) and boarding and alighting incidents at the interface between the train and the platform. Security of both staff and passengers can present problems and control of large numbers of passengers to allow safe free-movement in heavily used stations is also a concern. The range of measures used to control these risks range from careful design of stations, clear signage and use of CCTV to staff training, cooperation with police and security services and technological solutions such as the use of platform doors.

Violation Of Train Traffic Safety Statistics Of Jsc Uty

	"Violations of traffic safety according to classification in international traffic of the member States of the Commonwealth "	JSC Uzbekistan railways	
		2022	2023
	Collision of railway rolling stock with other railway rolling stock, derailment of railway rolling stock on a stretch and a railway station during train or shunting	16	31



	work, equipment or other movements that do not have consequences arising from crashes and accidents		
	Collision of a railway rolling stock with a vehicle outside an established railway crossing, which does not have consequences arising from crashes and accidents	8	6
	Collision of a railway rolling stock with a vehicle at a railway crossing, which does not have consequences arising from crashes and accidents	10	1
	Flooding, fire, violation of the integrity of infrastructure structures that caused a complete interruption of train traffic on at least one of the railway tracks on the stretch for one hour or more	5	2
	Reception or departure of a train on an unprepared route	1	1
	Turning the arrow under the railway rolling stock		

Over-Speeding

One of the most prevalent violations in train traffic safety is over-speeding. Exceeding the designated speed limits increases the likelihood of derailments, collisions, and other catastrophic accidents. Over-speeding may occur due to various factors, including human error, mechanical failures, or inadequate infrastructure maintenance. Implementing automatic train control systems, installing speed limit monitoring devices, and conducting regular training for railway personnel can help address this issue.

Signal Disregard

Ignoring signals is another serious violation that jeopardizes train traffic safety. Signals convey vital information to train operators regarding track conditions, clearance, and potential hazards. Disregarding signals can lead to collisions, derailments, or entering restricted zones, endangering lives and causing significant damage. Strict enforcement of signal protocols, enhanced signal visibility, and employing advanced signaling technologies such as Positive Train Control (PTC) can help mitigate this violation.

Improper Maintenance

Inadequate maintenance of railway infrastructure, rolling stock, and signaling systems poses a significant risk to train traffic safety. Neglected tracks, faulty brakes, worn-out components, and malfunctioning signaling equipment can compromise the integrity of the system, increasing the likelihood of accidents. Establishing comprehensive maintenance schedules, conducting routine inspections, and investing in modern maintenance technologies can prevent potential hazards and ensure the reliability of railway operations.

Unauthorized Access

Unauthorized access to railway tracks and facilities poses a serious threat to train traffic safety. Trespassing on tracks, crossing rail lines at unauthorized locations, or accessing restricted areas can result in fatal accidents and disruptions to train services. Erecting barriers, installing fencing along railway corridors, deploying surveillance cameras, and raising public awareness about the dangers of trespassing can help deter unauthorized access and enhance overall safety.



Human Error

Human error remains a significant contributing factor to train traffic safety violations. Train operators, maintenance personnel, and other railway staff may commit errors due to fatigue, distraction, or lack of training, leading to accidents and operational disruptions. Implementing fatigue management programs, providing comprehensive training programs, and promoting a culture of safety and accountability among railway employees can mitigate the risks associated with human error.

Ensuring train traffic safety is essential to the efficient and sustainable operation of railway transport systems. Addressing violations such as over-speeding, signal disregard, improper maintenance, unauthorized access, human error, and non-compliance with regulations is critical to mitigating risks and enhancing safety across the railway network. By implementing proactive measures, investing in advanced technologies, and fostering a culture of safety, stakeholders can safeguard passengers, employees, and infrastructure, promoting the continued viability of rail transport in the modern era.

References:

1. "Railroad | History, Invention, & Facts | Britannica". www.britannica.com. 27 November 2023. Retrieved 2 December 2023.
2. IEA (2019). *The Future of Rail*. Paris: International Energy Agency.
3. Lewis, M. J. T. (2001). "Railways in the Greek and Roman world" (PDF). In Guy, A.; Rees, J. (eds.). *Early Railways. A Selection of Papers from the First International Early Railways Conference*. pp. 8–19. Archived from the original (PDF) on 21 July 2011.
4. Fraser, P. M. (December 1961). "The ΔΙΟΛΚΟΣ of Alexandria". *The Journal of Egyptian Archaeology*. 47: 134–138. doi:10.2307/3855873. JSTOR 3855873.
5. "Der Reiszug: Part 1 – Presentation". *Funimag*. Retrieved 22 April 2009.
6. Kriechbaum, Reinhard (15 May 2004). "Die große Reise auf den Berg". *der Tagespost* (in German). Archived from the original on 28 June 2012. Retrieved 22 April 2009.
7. Georgius Agricola (trans Hoover), *De re metallica* (1913), p. 156.