International Journal of Scientific Trends- (IJST)
ISSN: 2980-4299
Volume 5, Issue 2, February - 2026
Website: https://scientifictrends.org/index.php/ijst
Open Access, Peer Reviewed, Scientific Journal

International Experience in Ensuring Public Safety in Railway Transport: Legal and Organizational Aspects

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Abstract:
This article systematically examines the foreign experience of legal regulation of public safety in railway transport based on a comparative-legal analysis. Modern approaches to ensuring transport safety are highlighted using examples of normative legal acts of international organizations and developed countries, institutional mechanisms, and administrative-practical measures. The role of digital technologies and intelligent control systems in strengthening public safety is revealed, and the necessity of harmonizing national legislation with international standards is scientifically substantiated. The results of the study contribute to the development of theoretical conclusions and practical recommendations for improving safety mechanisms in railway transport.

Keywords: Railway transport, public safety, legal regulation, foreign experience, international standards, administrative-legal mechanism, digital technologies.

Introduction

Globalization processes and the expansion of international cooperation in the railway transport sector necessitate effective legal regulation of relations to ensure transport safety. This, first of all, arises from Uzbekistan's obligation to comply with international standards and agreements signed by the Republic. Secondly, during the formation of national transport legislation, the advanced experience of developed countries in this field should be taken into account.

Deepening Uzbekistan’s integration into global transport and logistics networks and enhancing the national transport system, including transit potential, has become a priority task in modern conditions [1]. One of the key directions in this field is harmonizing the national regulatory framework with international documents of the UN, SCO, CIS, Eurasian Economic Cooperation Organization, and other international bodies. This requires improving national legislation in railway transport and aligning it with international principles and standards. In this context, Article 2 of the Law of the Republic of Uzbekistan “On Railway Transport” [1] states: “If the international agreement of the Republic of Uzbekistan contains rules that differ from those provided by the legislation of the Republic of Uzbekistan on railway transport, the provisions of the international agreement shall apply.”

According to experts of the UN Economic Commission for Europe, Inland Transport Committee (UNECE ITC), ensuring the safe, efficient, and environmentally sustainable development of inland transport involves implementing at least 58 international conventions, agreements, and other UN legal documents. These documents define the international-legal regime for the safe operation of transport, including railways [2]. Foreign practice demonstrates a variety of forms, methods, and tools used to ensure public safety in railway transport. In this regard, the approach that "security measures in one country may serve as alternative solutions in another, as threats and risks in railway transport have similar characteristics" is fully supported.

Within the International Union of Railways (UIC), the Convention concerning International Carriage by Rail (COTIF) and other agreements regulate safety, standardize technical requirements, and define cooperation rules during international transport, ensuring a uniform approach to safety across countries [8]. Passenger and cargo safety is an essential component of all railway organizational structures and a top priority. This complex and multifaceted issue must be addressed purposefully and efficiently. N.V. Mishina emphasizes: "Studying the experience of developed countries in railway reform is important, yet one must not forget that each country has its own unique path between the state, railway, and service users, so it is necessary to thoroughly study accumulated extensive experience" [5].

For our research, China is particularly interesting, as it has the largest railway network and rapidly expanding high-speed rail lines. By 2023, China's railway lines exceeded 150,000 kilometers. The national train control system (CTCS) employs advanced autopilot and intelligent dynamic dispatch technologies. These systems utilize Big Data, predictive management (PHM), and augmented reality technologies to minimize human errors and ensure train movement safety.

In Uzbekistan, while the Ministry of Transport supervises the safety of land, air, and water transport, the Ministry of Railways is responsible for railway safety. Law enforcement agencies responsible for transport safety are subject to dual authority, reporting both to the Ministry of Public Safety and the Ministry of Transport. Within the public safety system, the Railway Academy has been established [15].

The special function of the Public Transport Police includes "ensuring safety in transport and maintaining order" (Article 6 of the Law on the People's Police). Apart from the police, railway security is maintained by railway protection services and security units. Consulting services, comprising community representatives, also assist in ensuring public safety at railway facilities by patrolling in cooperation with police [12].

In Russia, railway transport is the second largest in the world by volume, with total railway lengths second only to the USA. Electrified lines make Russia first globally. The Russian Federation handles over 20% of global railway cargo and 10% of passenger traffic. Transport Strategy and laws on "Railway Transport and Transport Safety" have been enacted. Under the "Comprehensive Program for Ensuring Public Safety in Transport", various tools and systems are installed at railway facilities, including stationary and hand-held metal detectors, radiation monitoring devices, stationary baggage and passenger X-ray scanners, mobile X-ray television units, blast-resistant containers, portable explosive detectors, and remote-controlled explosive suppression systems [2].

Russian practice demonstrates that the main subjects of administrative and legal control in transport are police authorities, indicating a direct connection to specialized linear internal affairs

bodies (transport police) for public safety in railways [4]. Joint specialized groups of railway protection staff and transport police operate efficiently.

The United States, with the largest railway network globally, provides a noteworthy example of public safety practices. Relevant laws include the Homeland Security Act of 2002, Aviation and Transportation Security Act, Rail Passenger Service Act of 1970, and the Amtrak Police Department Act [2]. Multiple entities ensure railway public safety: Amtrak Police Department, corporate police units such as BNSF Police Department, and the federal Transportation Security Administration (TSA), which collaborates closely with specialized police services. TSA, formerly under the Department of Transport, was transferred to the Department of Homeland Security in 2003. TSA personnel conduct passenger and baggage inspections and handle prohibited items, using the latest technology via the Innovation Task Force [12].

Passenger monitoring is facilitated by integrated video surveillance systems and information-analytical centers, enabling threat assessment and preventive security measures.

Canada exercises overall transport control through the Ministry of Transport, while the Transportation Safety Board ensures monitoring and safety. Relevant laws regulate railway safety, hazardous cargo transportation, and other areas. Advanced systems like NextivaTransit monitor potential threats and alert security services in real time [6].

In the UK, responsibility for railway safety is divided among the Department for Transport, the Office of Rail Regulation (ORR), Network Rail (infrastructure management), and the Rail Safety and Standards Board (RSSB). These bodies operate under the Safety Regulations framework and provide reports to the Department for Transport. The British Transport Police is the main agency ensuring railway safety, with a three-tiered structure and reporting to the Department for Transport [2].

Singapore implements a centralized legal framework for transport safety under the Land Transport Authority Act of 1996. Police presence, crime prevention efforts, and technology use are central to public safety [8].

European Union member states regulate railway safety through Directive 2004/49/EC and Regulation 2016/798, establishing uniform standards, responsibilities, and safety management [2]. In Germany, the Transport Ministry oversees railway transport and safety. Denmark employs automated train control systems and driverless trains. France has dedicated ministries and councils managing transport safety [9]. The Netherlands operates railway safety via ProRail, assessing risks, hazards, and mitigation potential [4].

Within the CIS, the Railway Council coordinates safety among member states, including agreements on information exchange and transport safety strategies (2014). The Eurasian Economic Union (EEU) promotes coordinated transport policies emphasizing safety and reliability [4].

Implementation of international norms and adoption of foreign experience in railway public safety enables:

- Harmonization of transport legislation;
- Unified legal frameworks for public safety;
- Coordination of anti-crime legal measures;
- Ensuring infrastructure and transport security;
- Improving efficiency of administrative and legal measures, and more.

Analysis indicates that Uzbekistan's current legislation is not fully aligned with international standards. National laws lack comprehensive preventive measures against railway offenses, and risk prediction systems are weak. Law enforcement practices reveal insufficient legal mechanisms for preventing offenses in railway transport.

Globally, specialized authorities manage transport safety, implementing comprehensive measures and using modern digital technologies for monitoring and protection. Foreign experience demonstrates the need for systematic management, legal harmonization, and adoption of advanced digital tools. Special laws, targeted programs, and regulatory frameworks ensure public safety, defining participants, functions, and cooperation mechanisms.

In conclusion, studying international experience highlights that ensuring public safety in railway transport involves legislative regulation, systemic control, technological integration, and coordinated multi-agency cooperation. These practices are critical for enhancing national railway safety frameworks and aligning them with global standards.

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