BG Pulse Journal USA
ISSN:1947-2536 http://www.bgpulseusa.com/index.php/bg
BG PULSE JOURNAL

MODERN METHODS OF CRIMINOLOGICAL FORECASTING AND PREVENTION OF CRIMES RELATED TO DRIVING UNDER THE INFLUENCE

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Abstract: Driving under the influence of alcohol or narcotic substances represents one of the most dangerous forms of transport-related offending because impairment directly affects perception, reaction time, decision-making, coordination, and the ability to adequately assess traffic risks. The criminological prevention of such offences requires not only criminal and administrative sanctions but also an integrated institutional mechanism involving law-enforcement agencies, healthcare institutions, road-safety authorities, local government bodies, and digital monitoring systems. The purpose of this study is to examine contemporary approaches to criminological forecasting and prevention of offences committed under the influence of alcohol and narcotic substances. The study applies criminological, comparative-legal, statistical, systemic, and analytical methods. Particular attention is given to risk assessment, early identification of high-risk drivers, repeated offending, digital control technologies, medical examination, and interagency information exchange. The findings demonstrate that effective prevention should shift from a predominantly punitive model toward a predictive and risk-oriented model based on continuous monitoring and early intervention. The study proposes an institutional prevention model integrating law enforcement, medical supervision, digital technologies, rehabilitation, and criminological forecasting.

Keywords: driving under the influence, alcohol, narcotic substances, road traffic crime, criminological forecasting, crime prevention, repeated offending, road safety, digital monitoring, institutional mechanism.

INTRODUCTION

Road traffic safety is increasingly regarded as an interdisciplinary public-security problem in which human behaviour remains one of the most significant determinants of serious traffic incidents. Driving after consuming alcohol or psychoactive substances creates a particularly high level of risk because intoxication reduces the driver's capacity to perceive hazards and make timely decisions. Unlike ordinary traffic violations, intoxicated driving may combine several criminogenic factors, including impaired consciousness, deliberate disregard of safety requirements, repeated violations, and an increased probability of causing severe consequences to other road users.

The problem becomes more complex when intoxicated driving is repeated after previous administrative or criminal sanctions. Such behaviour indicates that the existing punitive response alone may not sufficiently modify the offender's behaviour. Therefore, criminological prevention should identify high-risk individuals before their conduct develops into a serious transport crime. Contemporary prevention systems increasingly use automated traffic-control cameras, electronic databases, risk scoring, medical screening, and interagency information exchange. These mechanisms create an opportunity to move from a reactive model—responding after a traffic crime

has occurred—to a preventive model based on the identification of behavioural risks at an earlier stage.

PURPOSE AND OBJECTIVES OF THE STUDY

The purpose of this study is to develop a criminological approach to forecasting and preventing crimes committed by persons who operate motor vehicles while under the influence of alcohol or narcotic substances.

The objectives are to:

1. identify the main criminogenic factors associated with intoxicated driving;
2. examine the relationship between repeated traffic violations and criminal behaviour;
3. analyse the institutional mechanisms of prevention;
4. assess the potential of digital technologies for criminological forecasting;
5. develop practical recommendations for improving preventive measures.

RESEARCH METHODOLOGY

The study employs a combination of criminological, statistical, comparative-legal, systemic, and analytical methods. The statistical method is used to examine the dynamics of road traffic accidents and transport-related risks. Comparative-legal analysis is applied to identify approaches used in Uzbekistan and other CIS countries to combat intoxicated driving. The criminological method is used to classify risk factors associated with alcohol- and drug-impaired driving. The systemic method allows the interaction between law-enforcement agencies, medical institutions, transport authorities, and digital monitoring systems to be considered as a unified prevention mechanism. Particular attention is given to the concept of criminological forecasting, which involves the identification of behavioural indicators associated with an increased probability of repeated traffic violations or serious transport offences. The analysis also considers the preventive potential of administrative sanctions, criminal liability, medical rehabilitation, driving-right restrictions, and digital monitoring.

RESULTS

Official statistical data demonstrate that road traffic safety remains a significant public-policy issue in Uzbekistan. According to the national statistical system, the number of registered road traffic accidents decreased from 9,364 in 2024 to 9,226 in 2025, representing a decline of approximately 1.5%. At the same time, the scale of transport activity continues to increase. Passenger transportation by road in Uzbekistan reached approximately 7,586 million passenger trips in 2025, compared with 6,642.3 million in 2024 and 6,292.7 million in 2023. This indicates that road-safety risks must be evaluated not only through the absolute number of accidents but also in relation to the growing intensity of transport activity.

The criminological analysis shows that alcohol and narcotic substances constitute particularly important risk factors because intoxication simultaneously affects several behavioural mechanisms. An impaired driver may underestimate speed, distance, road conditions, and the probability of an

accident, while also demonstrating delayed reaction and reduced ability to control the vehicle. A significant preventive problem is repeated offending. When a driver continues to operate a vehicle while intoxicated despite previous administrative sanctions or restrictions on driving rights, the behaviour demonstrates a higher criminogenic risk than an isolated violation. Consequently, repeated intoxicated driving should be considered an important indicator in criminological risk assessment. A comparative analysis of CIS approaches also demonstrates the importance of differentiated liability and preventive mechanisms. Research conducted in the CIS context has examined repeated traffic violations, administrative prejudice, criminalisation of systematic violations, and preventive measures directed at high-risk drivers. In Uzbekistan, criminal-law mechanisms concerning transport offences are linked to the consequences caused by violations of traffic safety or vehicle-operation rules. Judicial explanations emphasize that criminal liability requires a causal relationship between the driver's violation and the resulting consequences. From a criminological perspective, however, prevention should begin before serious consequences occur. This requires the identification of drivers with a combination of risk indicators such as repeated intoxicated driving, previous deprivation of driving rights, systematic traffic violations, refusal to undergo examination, aggressive driving behaviour, or previous involvement in serious traffic incidents. Digital technologies can substantially strengthen this mechanism. Automated cameras, electronic driver databases, digital identification, and integrated information systems make it possible to create an individual traffic-risk profile for each driver. The analytical processing of such data can help authorities identify groups requiring intensified preventive intervention rather than relying exclusively on punishment after an offence.

The proposed criminological forecasting model can therefore be represented through four stages: data collection → risk assessment → targeted intervention → continuous monitoring. Under this model, preventive measures become proportionate to the level of identified risk.

DISCUSSION

The findings indicate that intoxicated driving should be considered not only as an individual traffic violation but also as a complex criminogenic phenomenon requiring coordinated institutional intervention. Alcohol and narcotic intoxication significantly increase the probability of dangerous driving because they impair perception, reaction speed, coordination, and risk assessment. The preventive effect of punishment depends not only on its severity but primarily on the certainty and timeliness of its application. Repeated intoxicated driving should therefore be treated as an important criminological indicator of elevated behavioural risk. A driver who repeatedly violates restrictions despite previous sanctions may require a combination of legal restrictions, medical assessment, behavioural correction, and continuous monitoring. International and CIS experience demonstrates that administrative and criminal measures are more effective when combined with systematic prevention and risk-oriented interventions. Digital technologies provide an opportunity to integrate information about traffic violations, driving-right restrictions, medical examinations, and repeated offending into a unified risk-assessment system. Such integration would allow law-enforcement authorities to identify potentially dangerous drivers before their behaviour results in serious injury or death. At the same time, predictive mechanisms must operate within legal safeguards and should not automatically equate a statistical risk profile with criminal guilt. The most effective institutional model should therefore combine enforcement, medical rehabilitation, technological monitoring, public education, and individual preventive supervision. Consequently,

the transition from a purely reactive punitive model to a predictive, evidence-based, and institutionally coordinated prevention system represents one of the most promising directions for reducing intoxicated-driving offences.

MODERN INSTITUTIONAL PREVENTION MECHANISM

An effective prevention mechanism should be based on the coordinated activities of several institutions.

First, law-enforcement agencies should identify and monitor individuals demonstrating repeated dangerous driving behaviour. Their databases should be capable of detecting patterns rather than merely recording individual violations.

Second, healthcare institutions should play a stronger role in identifying alcohol- or drug-related risks among drivers. Individuals repeatedly involved in intoxicated driving should, where legally appropriate, undergo medical assessment and rehabilitation.

Third, road-safety authorities should use automated monitoring and data analysis to identify high-risk behavioural patterns.

Fourth, local authorities should participate in preventive programmes through public awareness campaigns and targeted work with high-risk groups.

Fifth, digital information systems should facilitate secure interagency data exchange while protecting personal data and ensuring that risk assessment is not used as a substitute for legal proof.

CRIMINOLOGICAL FORECASTING MODEL

A modern forecasting system can classify drivers into three broad risk groups:

Low-risk group: individuals with isolated minor violations and no history of intoxicated driving.

Medium-risk group: drivers with repeated traffic violations, previous administrative sanctions, or other behavioural indicators associated with unsafe driving.

High-risk group: individuals with repeated intoxicated driving, driving while deprived of driving rights, previous serious traffic offences, or a combination of several high-risk indicators.

The intensity of preventive intervention should correspond to the identified risk level. Low-risk individuals primarily require information and educational measures, whereas medium-risk individuals may require targeted supervision and additional preventive programmes. High-risk individuals should be subject to legally justified restrictions, medical assessment, intensified monitoring, and, where the statutory conditions are met, criminal prosecution.

PRACTICAL RECOMMENDATIONS

1. Establish an integrated criminological risk-assessment system for drivers.
2. Introduce analytical monitoring of repeated intoxicated driving.
3. Strengthen cooperation between law-enforcement and healthcare institutions.
4. Develop individual preventive programmes for high-risk drivers.
5. Expand the use of automated traffic monitoring technologies.
6. Improve electronic recording of driving-right restrictions.
7. Introduce evidence-based behavioural rehabilitation programmes for repeat offenders.
8. Develop mechanisms for early identification of drivers at elevated criminological risk.
9. Ensure that predictive systems are subject to legal and data-protection safeguards.
10. Evaluate prevention programmes through measurable indicators such as repeated violations, intoxicated-driving incidents, and serious traffic consequences.

CONCLUSION

Crimes and serious traffic offences committed under the influence of alcohol or narcotic substances represent a multidimensional criminological problem requiring more than traditional punitive measures. The analysis demonstrates that intoxicated driving is closely associated with impaired decision-making, risk perception, repeated violations, and disregard for established traffic restrictions. Effective prevention therefore requires a combination of criminal-law enforcement, administrative supervision, medical rehabilitation, digital monitoring, and criminological forecasting. The proposed forecasting model makes it possible to identify high-risk drivers before their behaviour results in serious consequences. The central principle of this approach should be the transition from post-offence reaction to early prevention. At the institutional level, cooperation between law-enforcement bodies, medical organisations, road-safety authorities, and local administrations is essential. The effectiveness of prevention should ultimately be measured not by the number of persons punished but by the reduction in repeated intoxicated driving and serious road traffic consequences. A risk-oriented and evidence-based prevention system can therefore become an important component of modern transport-crime policy.

References

1. Bitysheva, A. V., & Nikiforov, Y. A. (2022). Criminological characteristics of crimes related o road traffic safety and safe operation of vehicles: Problems, features and trends. Bulletin of the Kazan Law Institute of the Ministry of Internal Affairs of Russia, 13(1), 38–45. https://doi.org/10.37973/KUI.2022.52.68.021
2. Cananău, A. (2021). Analiza criminologică şi prevenirea infracţiunilor în domeniul transportului rutier. Chișinău: Academy “Ștefan cel Mare”.
3. Erte, D. A. (2024). The specifics of the subjects of crimes with administrative prejudice in the field of road safety. Legal Studies, (3), 51–61. https://doi.org/10.25136/2409-7136.2024.3.69995
4. Ivankovich, D. V. (2025). Factors determining the commission of road traffic accidents and crimes in Russia and Belarus. Izvestiya of the Southwest State University. Series: History and Law, 15(1).
5. Kulzhanov, A. Y., Tazhenov, A. D., & Baikenzheyev, A. S. (2026). Penalty points as an instrument of preventing traffic violations in Kazakhstan. Bulletin of L.N. Gumilyov Eurasian

National University. Law Series, 155(2), 115–126. https://doi.org/10.32523/2616-6844-2026-155-2-115-126
6. Lupenkov, A. V. (2024). Prevention of administrative-prejudicial recidivism in the activities of the State Traffic Inspectorate. Legal Science and Law Enforcement Practice, (4).
7. Lyubimova, G. M. (2023). Criminal responsibility for repeated violations of traffic rules: A comparative legal study. International Law Journal, 6(2), 108–121.
8. Maslov, W. A. (2024). Administrative prejudice and the principle of non bis in idem. RUDN Journal of Law, 28(4), 828–840. https://doi.org/10.22363/2313-2337-2024-28-4-828-840