# INTEGRATION OF THE CIS ROADS INTO THE WORLD ROAD NETWORK

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## ABSTRACT

The Intergovernmental Council of Road Workers (ICRW) has become one of the first integrators in the CIS area, which since 1992 has consistently pursued a line for coordinated interaction of the Commonwealth countries in the field of international highways. The article introduces the normative legal and administrative-management aspects of the activities of the road construction council, the technical characteristics of the roads under its control. At the same time, the tasks and problems needing attention of the CIS partners are analyzed, the solution of which will make it possible to form common standards for the CIS roads with the world road network, to become a natural part of the Euro-Asian system of international highways and transport corridors.

*Keywords: CIS, intergovernmental council of road workers, integration, roads, international corridors.*

**Background.** *In 1998, the CIS Heads of Government signed a protocol on international roads in Moscow, which outlined the main principles and approaches to formation and development of the Commonwealth's road network, defined measures aimed at the integration of the CIS roads into the European and Asian road systems and international transport corridors. This document was prepared in the Intergovernmental Council of Road Workers (MSD), established in 1992.*

*The Protocol on the International Roads of the CIS is of significant importance for international financial institutions in the allocation of loans for development of roads. No less important from a practical point of view is the agreement on the masses and dimensions of vehicles engaged in interstate transportation (1999), and the concept of improving the operational reliability of bridge structures on highways (signed by the heads of government of the CIS in 2008).*

*In order to simplify the procedure for crossing the borders by trucks and reducing the time spent on the road in 2004, the Council of Heads of State of the Commonwealth adopted an «Agreement on the introduction of an international certificate of weighing of trucks in the territories of the CIS countries».*

*Adoption of these and other documents allowed to begin the process of integrating the roads of the CIS countries into the European and Asian road systems with access to their largest transport hubs, ports and terminals.*

**Objective.** *The objective of the author is to give a brief review of integration of the CIS roads into the world road network.*

**Methods.** *The author uses general scientific methods, scientific description, economic evaluation, comparative analysis.*

**Results.** *Due to their unique geographic location, the CIS countries are the connecting links of two transport systems – European and Asian. Further strengthening of the transport infrastructure of the Commonwealth is associated with creation of a modern transport system, based on international highways. The ICRW is working to improve their condition and development with all its structural units and in conjunction with the new and associated members of the Interstate Council at the local level (Pic. 1).*

*Monitoring data on the study of the state and development of international roads (Tables 1 and 2) showed that the Ministry of Transport and Communications, road administrations of the CIS countries are consistently working to improve the road network. Only in recent years more than 3500 km of roads have been repaired and reconstructed for a total of 6 billion USD, and until 2017 it is planned to complete road development projects (including transitory objects) for 9000 km to the amount of 18 billion USD.*

*The ICRW also conducts additional activities to study the state and prospects of international roads. In the countries of the Customs Union of Belarus, Russia and Kazakhstan, from August 27 to September 8, 2013, an auto rally was organized along the route Western Europe – Western China, and then a motor rally along the southern branch of the Great Silk Road took place, and this already concerned the territory of the Central Asian countries. On the basis of monitoring and auto rallies, the tasks for development of transport corridors have been clarified, shortcomings in the operation and maintenance of the road network, its technical condition, and the provision of road safety conditions have been identified.*

*The analysis shows that a significant part of the international roads of the CIS do not meet modern requirements in many aspects.*

*For example, the road norms of the Commonwealth countries differ, beginning from the classification of roads and design loads and ending with the standards for geometric elements ensuring traffic safety. This affects most negatively improvement of the state of roads, their infrastructure component. As for the norms on international roads, they should be more similar in their technical and operational level and meet the existing requirements.*

*In the CIS countries, the geometric parameters of motor roads are normalized on the basis of national standards. It is necessary to harmonize not only the standards and norms within the CIS, but also to bring them closer to the norms of the European Union and the Asian community. In other words, to bring them in line with the status of interstate and international roads having I and II higher technical categories. First of all, it is necessary to harmonize national norms and standards on the main characteristics and indicators that determine road safety. Carriers of passengers and cargoes need to create more or less the same safe conditions on the whole route, passing through different countries and natural and climatic zones.*

*The analysis of the smoothness index (IRI) indicates that much work remains to be done to bring the international roads in good condition by this indicator. In addition, we must not forget that in addition to the comfort of traffic, the network must have both a modern structure of road service and a generally good infrastructure.*

*During the analysis of the main characteristics of international roads the following problems have been identified:*

**Table 1**

## Summary about the state of international roads of the CIS and prospects of their development as of January 1, 2015[1]

| № | State | Number of routes | Length, km | Maximum allowable axle load, tons | International smoothness index IRI, m/km | Reconstruction and major repairs for 1999–2014 | | Reconstruction and major repairs done in 2014 | | Planned development projects to 2017 | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | Reconstruction and major repairs, km | Cost of works, mln USD | Reconstruction, major repairs, km | Cost of works, mln USD | Length, km | Projected cost of works, mln USD |
| 1 | Azerbaijan Republic | 8 | 3582 | 15,0 | 2,0–7,0 | 1533,5 | 7875 | 65,1 | 677,5 | 1117,9 | 3015,64 |
| 2 | Republic of Armenia | 4 | 953,4 | 10 | 5,03–6,2 | 209,41 | 79,97 | 49 | 3,7 | 353,7 | 684,8 |
| 3 | Republic of Belarus | 11 | 3869,12 | 11,5 | 1,91–5,92 | 1661,9 | | 132,3 | | 252 | |
| 4 | Republic of Kazakhstan | 17 | 9444 | 10 | | 2615,2 | 487,5 | 205 | 56 | 199 | 96 |
| 5 | Republic of Kyrgyzstan | 8 | 2052 | 10 | | 1278,8 | 455,8 | 80,7 | 23,3 | 278,5 | 234,7 |
| 6 | Republic of Moldova | 4 | 924,3 | 10 | (0–4) – 443,3 km<br>(4–6) – 345,1 km<br>(6–8) – 101,3<br>(8–10) – 34,8 km | 94,0 | 62,71 | – | 47,7–43,3 | 139,6 | 84,7 |
| 7 | Russian Federation | 33 | 28724,02 | 11 | | | | | | | |
| 8 | Republic of Tajikistan | 8 | 1457,3 | 10 | | 857,3 | 924,1 | 18,75 | 22,02 | 399,7 | 282,3 |
| TOTAL: | | 93 | 51006,14 | 15,0 | 0–10 | 8250,11 | 9885,08 | 550,85 | 873,52 | 2740,4 | 4398,14 |

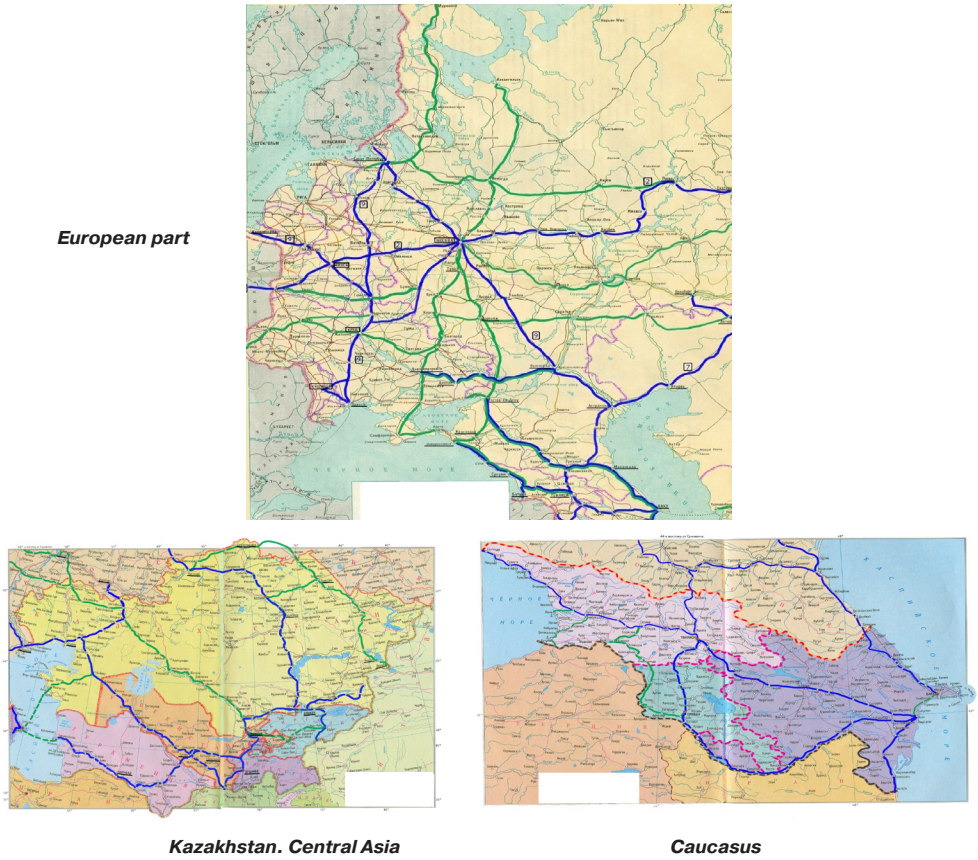
[1]According to the Ministry of Transport and Communications, the road administrations of the CIS countries.

**Table 2**

## Summary about the state of the CIS international roads on the approaches to the borders of neighboring countries as of January 1, 2015

| № | State | Number of border crossing points | Average waiting time for entry/ departure, min | Number of vehicles, entry/ departure, car/ day | Technical characteristics of the road and infrastructure at the entrance to the border crossing point<br>Total for the road/incl. at the border crossing point | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Road category | Maximum allowable axle road, tons | Number of filling stations, pcs | Service stations, pcs/ places | Terminals, pcs/places | Hotels, pcs/ places | Parking lots, pcs/places | Meal stations, pcs/places |
| 1 | Azerbaijan Republic | 7 | 10–15 | 1200 | I–III | 10,0 | 192 | 228 | | 49 | 25 | 389 |
| 2 | Republic of Armenia | 4 | 40 | | II–III | 10 | 262 | 64 | 12 | 36 | 77 | 54 |
| 3 | Republic of Belarus | 13 | | | I–IV | 11,5 | 19 | 4 | | 4 | 7 | 27 |
| 4 | Republic of Kazakhstan | 19 | 30–360 | 34760 | I–IV | 10 | 511 | 74 | | 62 | 2 | 464 |
| 5 | Republic of Kyrgyzstan* | 13 | 10–60 | 212 | II–V | 10 | 41 | 27/107 | 2/10 | 17/560 | 20/333 | 68/2440 |
| 6 | Republic of Moldova | 6 | Personal – 5–15<br>Buses – 20–30<br>Trucks – 30–60 | n/a | II | 10 | 16 | 6 | 1 | 12 | 13 | 10 |
| 7 | Russian Federation | 25 | | | I–IV | 12 | | | | | | |
| 8 | Republic of Tajikistan | 2 | 1–2 | 38,3 | | 10 | | 555 | | | 64 | |
| TOTAL: | | 89 | 1–60 | 36210,3 | I–V | 12,0 | 1041 | 958/107 | 15/10 | 180/560 | 208/333 | 1012/2440 |

* – Data for 2014.




***Pic. 1. The CIS roads.***

*– qualitative and quantitative indicators of the technical level and operational condition of roads and bridges are significantly different and lag behind in many areas from modern requirements, not conforming to accepted international transportation standards;*

*– strength of pavement and load-carrying capacity of bridge crossings do not meet regulatory requirements, under-repair of road surfaces is growing;*

*– roads passing through settlements do not allow the development of design speeds for safe freight and passenger traffic.*

**Conclusion.** *Against the backdrop of such current problems and in the presence of large-scale integration tasks, a key factor in the work of the ministries of transport and road administrations of the CIS countries within the framework of the Commonwealth and the ICRW is joint solution of issues related to improvement of the entire complex of international roads located on the territory of neighboring countries. In this regard, in addition to the already mentioned harmonization of road norms and standards, one should also bear in mind several other important positions for practice:*

*– for further development of transport corridors, to use predominantly an integrated approach, mechanisms of public-private partnership and state regulation;*

*– to take into account the increase in traffic intensity and axle load of road transport, to design, to calculate the structure of pavements for a load of at least 13 tons and to build roads that meet the requirements of high intensity and increasing loads;*

*– in construction of the upper layers of pavement, to use crushed stone-mastic asphalt mixtures and new, more durable coatings of cement concrete;*

*– to wider use intelligent transport systems, including points of weighing of vehicles, especially on the border sections of roads;*

*– to pay priority attention not just to improving road safety, but to make this area of cooperation equivalent, along with the economic result and geopolitical achievements.*

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