

**REPUBLIC OF KAZAKHSTAN  
MINISTRY OF INVESTMENT AND DEVELOPMENT  
COMMITTEE FOR ROADS  
CENTER SOUTH ROAD CORRIDOR PROJECT:  
KARAGANDA – BALKHASH – BURLYBAIL – KURTY – KAPSHAGAY SECTION**

**Executive Summary of the  
Environmental and Social Impact Assessment (ESIA)**

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**Background**

The Committee for Roads of the Ministry of Investment and Development (MID) of Kazakhstan is implementing the Centre South Road Corridor Project: Karaganda – Balkhash - Burybaital road sections passing across the territory of Karaganda and Zhambul oblasts. The Project involves the rehabilitation and widening of the existing road from 2-lane to 4-lane of approximately 660 km within the existing road section of the above-specified Corridor, which passes through the various environments and landscapes. The Project has all the physical characteristics of a large linear infrastructure project, with significant spatial extension, visible impact on landscape, biosphere and land use patterns, and significant impacts on topography, climate, natural conditions and human activities. The road alignment crosses almost similar land forms, land use types, and micro-climatic zones. The project has been structured and divided into fourteen (14) sections with total length of approximately 660 km. The map of the alignment is presented in Appendix 1.

This Executive Summary (ES) describes the project and summarizes key findings of the ESIA.

**Project Description**

The proposed Centre South Road Corridor is very important for the development of the north and south of Kazakhstan for both industrial and tourism development aspects in this area. This corridor is one of the priority objectives of the Government of Kazakhstan in the Transport Sector. Accordingly, the Government of Republic of Kazakhstan is conducting a program to upgrade the major roads of the country that are managed by the Committee for Roads of the Ministry of Investment and Development. The program aims to improve transportation and transit of goods in and around the country and to the surrounding countries with a significant growing contributor to GDP.

The project involves the rehabilitation and widening of approximately 660 km of the existing road from a single (2-lane) carriageway road to 4-lane Category 1B road. This road corridor section will connect the cities of Astana, Karaganda, Balkhash and Almaty. The project will start at km 1497 of the existing road near Karaganda and will end at km 2152 in Burylbaital village.

**Scope and Methodology of the Environmental and Social Impact Assessment (ESIA)**

The ESIA has been prepared by “KAZDORNII” JSC in association with “KazCEP” LLP as a part of the consultancy services for the proposed Centre South Road Corridor section in accordance with the Kazakhstani National Requirements (Environmental Code of RK, 2007 and other instructions and norms), as well as the World Bank Operational Policies OP 4.01 and OP 4.12. ESIA includes Environmental Management Framework (EMF) and Monitoring Plan. The

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representatives of PMC “KazdorNII” JCS and “KazCEP” LLP have undertaken site visits to the project area during the period from May 26 to June 26, 2015 in order to study the proposed road alignment and environmental aspects of the proposed project.

The purpose of the ESIA is to define the baseline environmental conditions in order to identify and assess the impacts of the various activities of the proposed project. This project is currently at the stage of feasibility study and detailed design. It has not been subject to site-specific EIA yet. The ESIA contains Environmental and Social Management Framework in the form of generic EMP and Environmental Monitoring Plan which should be followed during the detailed design and preparation of site-specific Environmental Impact Assessments and Environmental Management Plans (EMPs).

The ESIA methodology includes the analysis of available baseline data (annual reports on state of environment, social-economic analysis of project region, geospatial data, expert interviews), overview of applicable environmental legislation analysis of alternatives, and discussion of mitigation measures to avoid and minimize potential negative impacts. It includes monitoring plan to assess whether mitigation is properly implemented and results in anticipated positive effects. Also, during the preparation of the ESIA consultations were held with experts from the Ministry of Transport of Investment and Development, relevant Regional Administrations, Regional Departments of Environment, Water, etc. of the Republic of Kazakhstan. Potential environmental impacts have been assessed according to the World Bank policy and the Kazakh environmental legislation. In addition, institutional aspects have been taken into consideration.

### **Project Components**

#### ***Component 1 – Transport Infrastructure (Total US\$2,443.2 million; IBRD US\$2,150 million)***

This component will finance reconstruction of 787 km of road. It includes improvements of the existing two-lane road from Karaganda to Burylbaital (660 km) to a dual carriageway four-lane road with asphalt wearing course. Apart from minor deviations to improve geometry or bypass villages/towns, the improved road will largely follow the existing alignment. Bus-shelters, pedestrian crossings, interchanges, bridge and drainage structures, and road safety furniture, will also be included. Component 1 will also finance consulting services for engineering supervision of civil works. Land acquisition and road design costs will be financed separately through the Republican budget. Financing is also included to construct road-side service facilities, and for tolling and Intelligent Transport Systems (ITS), but financing to develop the technical specifications and concept designs will be provided under Components 2 and 3.

The ESIA addresses potential environmental and social risks associated with Component 1 only, given that activities under Components 2, 3 and 4 will not result in either direct or indirect impacts.

#### ***Component 2 – Jobs and Skills Initiatives (Total US\$13 million; IBRD US\$11.4 million)***

This component is designed to stimulate private sector development along the project corridor. Outside of the urban areas of Karaganda and Balkash, the population is sparse, and jobs are likely to evolve from (a) services provided to users transiting the corridor through the development of Road-side Service Facilities; (b) activities and interventions that will strengthen the existing commercial activities and market chains; and (c) vocational, entrepreneurial and

life-skills training that will develop the social capital of the existing resident population and improve the competency and employability of the road-workers<sup>1</sup>.

**Component 3 – Road Safety and Sustainability** (Total US\$18.3 million; IBRD US\$16.1 million)

This component will identify and prioritize actions to improve road safety, through various types of audits and information databases.

**Component 4: Project Management and Impact Assessment** (Total US\$8.5 million; IBRD- Nil)

Under this component **counterpart financing only** will be used to (a) support project management functions including interagency coordination, technical inputs and supervision of safeguards and fiduciary aspects; (b) collect data for result and impact evaluation; and (c) provide completion review assessments, including lessons-learned studies and impact assessments.

**World Bank Safeguards Requirements**

System of environmental categorization of the World Bank's Projects determine according to the probability and risk magnitude related with project implementation (subprojects). Taking into account spatial scale of the project and its potential adverse impact, project was classified as Project of Category A according to the World Bank Safeguards. This classification justifies of the large scale works such as widening of the 2 lane road up to the 4 - lane road on existing road, as well as other engineering structures.

**Environmental Assessment OP/BP 4.01 (triggered):** The main envisaged potential negative impacts during construction are the development of borrow pits, generation of waste (construction materials, spent consumables, household waste and wastewater from camps), excessive land use, topsoil destruction and erosion. There is also a potential impact on groundwater and surface water from excessive turbidity and siltation, washing equipment in rivers (e.g. cement trucks) and accidental spills involving fuels and lubricants. During operation of the road storm drainage management, soils, ground and surface water contamination by heavy metals, soot and organic compounds (e.g. PAH), noise, dust, air pollution will be the main issues. Moreover, there is a potential risk of destruction or disruption of natural habitats and ecosystems by poor construction management.

Currently, the Committee for Roads (MID) is preparing ESIA report for each design section (i.e. a total of 14 section reports). ESIA reports will contain project description, baseline data, impact analysis and mitigation measures. Environmental Management Plan (EMP) that is typical for each road section will be developed upon the design works completion for all works sections and integrated into bidding and contract documents to provide clear guidance and contractual obligations for proper environmental supervision in further project implementation.

**Natural Habitats OP/BP 4.04 (not triggered):** The project road of reconstructed corridor of "Karaganda – Balkhash – Burylbaital" of the Centre South Road Corridor Project goes through Karaganda and Zhambyl oblasts along Balkhash Lake. The territory consists of three zones such

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<sup>1</sup> Direct employment created by road construction is significant. Based on SWRP and EWRP, about 1 job-month is generated for every US\$8,300 of road expenditure. Extrapolating to CSRPC, 240,000 job-months may be generated

as arid steppe, semi-dry semi-desert and dry northern desert, which sequentially replaces each other from north to south. A small section of road in Moyynkum District of Zhambyl Oblast runs through the site with regulated regime of Zhusandalinskaya State Conservation Area of the National Significance (GZZRZ). Although the regulated-regime area formally is a part of Zhusandalinskaya State Conservation Area, there are no strictly protected areas/sections and no habitants of animals listed in the Red Book of Kazakhstan along the alignment. Given the fact that the alignment runs along the road, which existed for a long time, the project's impact on flora and fauna will be insignificant. It should be also noted that birds and mammals are generally found far away from the existing alignment and it is not expected that the Project will affect its habitats. No regular or seasonal strong movement of animals is observed in this area. At the same time, bridges over the rivers, culverts and cattle and agricultural underpasses will serve as a potential routes for random movement of animals in the area of the alignment.

**Forests OP/BP 4.36 (not triggered, but addressed in ESIA):**

There are no forests within the area of project influence and this OP/BP is not triggered. Low-value trees/bushes at the roadside, which need to be cut due to project activities, will be replaced under the measures prescribed by the EMP (environmental management plan). This will be undertaken by a separate landscaping contract.

**Physical Cultural Resources OP/BP 4.11 (triggered):** This OP/BP is triggered during this assessment since PCR (physical cultural resources) objects have been found in the construction area, which, in accordance with applicable laws of Kazakhstan, are located within the protected zone 200 meters from the road and might directly be affected by the project. The Action Plan for the Research and Preservation of Archaeological Sites was prepared by the Client. Activities under this Action Plan will be performed at the territory of three historic sites: (1) architectural site Burmetam Mazar (end XIX – early XX century), (2) set/complex of five kurgans - burial mounds – called Batystau (archaeological monument), and (3) one stand-alone kurgan - Zhalgyz Oba (both 2 and 3 are archaeological monuments). All these sites are located within the area of construction/widening of the road. According to historic research, these kurgans belong to different historic times, including the era of Iron Age and contain materials that are valuable for the ancient history and culture of ancient times and the objects associated with the funeral cult and rituals of the Republic of Kazakhstan.

Also, after the completion of the detailed design and during the construction period it is possible that additional PCR objects and chance finds can be detected. “Chance finds” procedure is contained in the Archaeological report (Appendix 2 to the ESIA). In case other PCR are identified, a detailed PCR Management Plan/s will be prepared during preparation of detailed design.

**Involuntary Resettlement (OP/BP 4.12, triggered):**

This policy covers the direct economic and social impacts that are caused by the involuntary land acquisition resulting in (i) relocation or loss of shelter; (ii) loss of assets or access to assets; or (iii) loss of income sources or means of livelihood, whether or not the affected persons must move to another location; or the involuntary restriction of access to legally designated parks and protected areas resulting in adverse social impacts. If a project requires either land acquisition or resettlement (as defined above), it is necessary to develop either a shortened or full Resettlement Action Plan (RAP), depending on the scale of the impact (significant or non-significant).

Social Management Framework and Resettlement Policy Framework (RPF) are stand-alone-documents prepared by “KazdorNII” JSC and approved by the Committee for Roads (MID).Site

specific RAP will be prepared upon completion of the detailed design of the road section according to the completed list of affected properties, businesses and the people, who are affected under the impacts of this road section construction.

**BP 4.37 on the Safety of Dams (not triggered):**

No dam safety issues were found during assessment of the project area.

**Projects on International Waters OP/BP 7.50 (not triggered):** There are no international waterways in the project area. There will be no impact on the hydrological regime of rivers crossed by bridges, as its hydrological flow pattern will remain entirely unchanged.

***ESIA includes Environmental Management Framework (a plan to reduce adverse impacts, Section 7) and Environmental Monitoring Plan (Section 9).***

**Environment and Social Baseline Conditions**

The project corridor runs throughout the Kazakh Uplands area and along left side of Balkhash Lake. It thus will be confined to the alluvial plains of the foreland, which have soft morphology; geology is characterized by thick accumulations of proglacial, aeolian and fluvial sediments, and surface water network that drains to the North and flows further into Balkhash Lake. There is relatively much of groundwater in the project area, ranging in depth from shallow aquifers in young sediments to deep thermal waters.

The Climate varies from moderate in the West, to arid in the East, with clear continental character, cold winters and hot, dry summers, precipitation occurring in relatively short periods in spring and fall. Natural hazards do not pose a key risk in the project area. The main hazard results from rivers traversed by the road, many of which have their catchment areas in the mountains and thus show high seasonal variability with a significant potential for flash floods during heavy showers. Erosion or rock falls, landslides and mudflows are not seen as significant potential risk for the road.

Most of the settlements located along the road corridor are involved in traditional human activity for this area, such as cattle-breeding and farming. There is irrigated agriculture along the road section from Balkhash town to Burylbaital village. The entire project corridor shows anthropogenic impact mainly in forms of animal husbandry and agriculture. There will be no conversion of pristine, untouched habitats under the project. However, settlements that are located close to the road alignment may require installation of noise protection measures/screens.

**Impacts Mitigation and Environmental Management**

The design of the road sections includes measures for the minimization of environmental impacts. The route follows mainly the existing alignment (in the form of asphalt road) and thus it is limiting the conversion of land to other land use types. Noise protection and measures on road safety (speed limit, provision of pedestrian crossings and passages) will be included. The design will also take into account requirements stipulated by farmers, who are living along the alignment, in terms of safe cattle passes and safe passes for agricultural machinery. Those cattle passes will also serve as wildlife passes. The design will take into account the results from hydrographic and hydrological studies, it will be designed sufficient numbers of culverts to

avoid damming of permanent or seasonal watercourses and creation waterlogged areas. The design of bridges will take into account the seasonality of discharges, as well as the likelihood of flash floods.

Most impacts during the construction period (noise, dust, exhaust fumes and water discharges from the camps and roads) will be mitigated by the standard prevention and minimization impacts methods. Surface watercourses will be protected by settling ponds and by filters if it is necessary (e.g. straw bales). Wastewater from construction camps as well as septic sludge will be transferred to existing wastewater treatment plants. Groundwater impacts not expected, as no deep excavations or major cuts planned. Water for camps will be collected in relatively small amounts from existing wells or central water supply.

Inconveniences to the public will be minimized by limiting work hours and not allowing nighttime works. In cases when works are carried out in close vicinity to residential areas, additional measures, such as noise barriers will be provided.

Borrow pits will be operated by the Contractors only at locations that will be pre-identified prior to project implementation and for which both operational and environmental permits will be obtained. No borrow pit will be operated without a site specific EMP, typical for the section, that will contain a plan for its closure, remediation and re-cultivation that will be approved by the environmental authorities (as required under Kazakhstan legislation) as well as with construction supervision consultant (who will ensure that international good practice is followed).

All environmental management measures to be carried out by the Contractors during the construction period will be integrated in the tender documents and become a part of the contractual works. This will also include a manual on random finds procedures to be followed in case of random discovery of potential PCR. The Contractors will be required to have permanent staff on site with the specific responsibility of environmental and social aspects, (including grievance redress expert), who will be accountable to the construction supervision consultant.

During construction, the water for technical needs will be taken from Balkhash Lake and nearby located rivers. The capacity of these sources is sufficient and water resources potential will not be exhausted during the construction period. Pool of Balkhash Lake is sufficient enough as and required to provide the required water for the rehabilitation and reconstruction of the road corridor section.

Drinking water will be supplied by the Contractors from the existing wells of general water supply system. Within the area of the road section there are sufficient ground water sources.

During operation, of the described above, noise reduction measures from cars and traffic safety measures will be properly monitored and maintained. Any required modifications, upgrades or additions will be flagged and integrated into the road repair and maintenance plan.

### **Analysis of Alternatives**

The project works on the alignment will follow the existing road, in order to avoid any additional impact on the landscape, except for the areas of bypasses and road geometric improvement in some places. Existing basic cable communication lines and power lines, along the alignment will be relocated in the same corridor along the road section. Bypasses of the following settlements will be built: Karaganda, villages of Kurma, Zhumabek, Aksu, Aksu-

Ayuly, Saryshagan, and Balkhash town. Traffic separation in the village of Akshatau (near service facilities) will be arranged. Accordingly, the alternatives are considered only for the areas where bypasses of the indicated settlements will be constructed. Also, "without project" and "with project" alternatives were considered.

### **Cumulative Impacts**

In future, the improved access will have broader economic/social development implications particularly of new or significantly improved roads. These future developments are not considered to be associated with this project in the sense of needing to apply the safeguard policies to them. This is because there are no specific developments that can be expected as a result of the project.

### **Land acquisition and Resettlement**

The proposed Project entails land acquisition and associated impacts, as is to be expected in a highway project for the potential bypasses alignments. In the detailed Project design there will be prepared Land Acquisition and Alienation Management Plan for road construction in accordance with the requirements of the Bank, as well as the following aspects should be agreed with Committee for Roads (CfR).

Principles and standards incorporated into the Resettlement Policy Framework agreed between the CfR and the Bank for use throughout the Centre South Road Corridor Project implementation are applicable to the proposed project;

(a) Actual implementation of the Resettlement Policy Framework (RPF) has been conducted to assess the land acquisition, as well as to propose supplemental measures as necessary to fully meet the RPF requirements at this stage.

(b) Arrangements for continued monitoring and reporting on the individual cases of land acquisition that will be initiated but not yet started by the time of the project appraisal.

According to preliminary assessment, the projected road will go along the existing road without any major changes in alignment of the road other than the proposed by-passes, thus number of people who will be affected by the project in connection to the existing road rehabilitation and reconstruction will be minimal. According to the preliminary assessment of bypasses, only few people and properties will be affected by the project. It has been found that within the road reserve no other properties will be affected. However, additional land acquisition may be required to accommodate the proposed dualing of the road for the construction of the road in some isolated areas. All the details of properties and land affected by the proposed dualing will be found by detailed design and project documentation.

Reconstruction of the road will require temporary land use for the entire period of construction to accommodate concentrated off-the-way borrows soil, construction camps, parking areas for road-building equipment and road-building materials warehousing sites.

Along with it, all lands required for temporary use or access will be obtained on a voluntary basis, negotiated directly between landowners and contractors, who will work and use the lands during construction, the agreements on the compensation payment for temporary land use will be concluded.

The Resettlement Policy Framework project provides all the details in relation to various types of the required land acquisition.

Upon finalization of the detailed design, the Resettlement Action Plan (RAP) for the Centre South Road Corridor Project will be prepared in accordance with the Kazakhstani legislation as well as the requirements of the World Bank OP 4.12: Involuntary Resettlement.

The RAP will specify the procedures to be followed by the Government of Kazakhstan through the Committee for Roads (CfR) and the Ministry of Investment and Development (MID), as well as actions that will be taken for proper resettlement and compensation payment to the Affected Persons. The document provides description of the land, households and businesses that will be affected by property acquisition. The RAP's objective is to mitigate the negative impacts of land acquisition and displacement, as well as to set out the entitlements of different categories of affected persons, paying particular attention to the most vulnerable ones.

The RAP will be applied to all affected persons regardless whether or not they have legally registered title to the land. The severity of the impact will however affect the nature of the compensation and other assistance provided. The RAP document will be the result of various phases of public hearings, data collection and analyses.

The RAP's requirements are binding to both the Government of Kazakhstan through the Committee for Roads and the Contractors involved in the Project implementation.

### **Public Hearings and Information Disclosure**

“KazdorNII” JSC and “KazCEP” LLP held public hearings on June 05-06, 2015 in Aksu-Ayuly, Akshatau, Saryshagan villages and on June 17-18 in Balkhash town, Gulshat, Kurminka, Kashkanteniz, Shyganak villages. The held public hearings provided the local residents and the parties involved in the project with an opportunity to review and discuss the issues of concern related to environmental and social aspects, express their demands and recommendations that should be included in the ESIA and RAP. The preliminary public hearings were held successfully. Additional Public hearings/ consultations were held on November 04-05, 2015 in villages Aksu-Ayuly, Saryshagan, Shuganak, and town of Balkhash. The issues discussed include the ESIA design and environmental protection activities, locations of border crossings and cattle passes (very important for socio aspects), location of batching plants, construction camps, parking lots for construction machinery etc.) and sources of water supply.

The draft ESIA was disclosed in the Infoshop (in English) and locally (in Russian) by the Client on May 6, 2016. The second round of public consultations was organized on the draft ESIA during May-June 2016 for local communities along the alignment. The finalized ESIA was disclosed locally and in the Infoshop.

More informal consultation will be done during implementation through:

- The preparation and dissemination of a brochure in Kazakh and Russian, explaining the project, works required and anticipated timing of the works; and
- Setting up a formal grievance redress committee with a representation from the local community. The Project supervision Consultant in association with the contractor and CR will be responsible for managing the effective grievance redress program.



## **Local Population and Social and Economic Situation**

For all settlements situated along the proposed road corridor section, impacts have been evaluated for land use, road infrastructure, water supply network, power and gas supply, health, education, culture and sport facilities, as well as industry and business.

During site visits and meetings with local residents, no impact on minority groups has been mentioned.

The principal negative impacts are:

- The proposed road can be a potential obstacle for farmer's machinery and cattle movements,
- In some locations, the proposed road can be a potential obstacle for reaching schools, stores and other local facilities,
- During construction, water, electricity and gas supplies to the inhabitants and farms might be affected by the project,
- During construction drainage and irrigation system, the fields can be affected potentially,
- Influx of workers,
- Land acquisition and involuntary resettlement may cause adverse impacts on Project Affected Persons (PAPs), particularly if the process is not managed properly,
- During the construction, some restrictions to land use of PAPs might occur,
- Land acquisition and construction of the road may negatively impact on the livelihoods of PAPs in terms of agricultural production

The principal positive impacts are:

- The new road will provide a better connection with the rest of the districts, the regions and the country.
- The widened dual carriageway will revive local economy, as it will facilitate to the construction of new stores, restaurants, bars, petrol stations, local grocery stores.

## **Environmental and Social Management Framework (ESMF)**

The Environmental and Social Management Framework (ESMF) in this ESIA document is presented in the form of generic EMP and has been prepared as part of the EISA study in order to define the environmental measures and procedures that will need to be adopted by the construction company for the contractors and other parties responsible for project implementation. It will provide the guidance for preparation of site-specific Environmental Management Plans (EMPs). The ESMF may need to be revised during the course of the project implementation.

The ESMF is designed to contain the following information:

- potential environmental and social impacts
- mitigation measures;
- institutional roles for implementation of mitigation measures during construction and operation of the road;
- monitoring plan.

The site-specific EMPs will define the timing, frequency, duration and cost of mitigation measures in the form of implementation schedule, and these actions will be integrated into the overall project work plan.

Monitoring Plan will set out the ways in which the monitoring of the environmental impacts and the implementation of the mitigation measures during the construction phase will be carried out. The monitoring will be focused on the limited number of impacts identified during the ESIA to ensure the efficiency of the planned mitigation measures.

### **Findings, Recommendations and Conclusions**

The proposed road widening project will have moderate environmental and social impacts. With appropriate mitigation measures during the project construction phase, the impacts referred to in this report will be acceptable in environmental and social aspects. The improvement and widening of Karaganda – Balkhash – Burylbaital road section of the Center South Road Project will bring social and economic benefits to the communities living along the alignment. A fast, safe and all-weather road will allow efficient and rapid transportation of goods between China, Kazakhstan, Russia, as well as Europe and Central Asia. Goods produced in these countries will be quickly delivered. Agricultural products from the area, where it is the major occupation, and other local products will be rapidly transported to wider markets. Workforce will be also freely moved between the countries; tourism that is more significant for regional and international economy will also develop. On a regional level, populations of Karaganda, And Zhambul oblasts will benefit more from faster travel times to other cities and regions located in the center and south of Kazakhstan.

