



**ASIAN INFRASTRUCTURE
INVESTMENT BANK**

PD000313-UZB

June 22, 2020

**Project Document
of the Asian Infrastructure Investment Bank**

Sovereign-backed Financing

The Republic of Uzbekistan

Bukhara Road Network Improvement Project (Phase 1)

Currency Equivalents

(As of April 3, 2020)

Currency Unit – Uzbekistan Som (UZS)

UZS1.00 = USD 0.000105

USD1.00 = UZS 9,553.95

Borrower's Fiscal year

January 1 - December 31

Abbreviations

AADT	Annual Average Daily Traffic
AIIB	Asian Infrastructure Investment Bank
ARP	Abbreviated Resettlement Plan
BOQ	Bill of Quantities
BRNIP	Bukhara Road Network Improvement Project
CAREC	Central Asia Regional Economic Cooperation
DA	Designated Account
DBMOT	Design, Build, Maintain, Operate and Transfer
DFI	Development Financing Institution
EIRR	Economic Internal Rate of Return
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESP	Environmental and Social Policy
ESS	Environmental and Social Standard
FM	Financial Management
GDP	Gross Domestic Product
GoU	Government of the Republic of Uzbekistan
GRM	Grievance Redress Mechanism
GRP	Gross Regional Product
HDM	Highway Design and Management Model
IFI	International Financial Institution
IRI	International Roughness Index
KM	Kilometers
MoT	Ministry of Transport
MDB	Multilateral Development Bank
NPV	Net Present Value
OECD	Organization for Economic Co-operation and Development
O&M	Operation and Maintenance

OPBRC/DBMOT	Output and Performance-based Road Contract using Design Build, Maintain, Operate and Transfer methodology
PCU	Passenger Car Unit
PDS	Project Delivery Strategy
PIR	Procurement Instructions for Recipients
PIU	Project Implementation Unit
POM	Project Operations Manual
PP	Procurement Plan
RAP	Resettlement Action Plan
RFP	Request for Proposal
RC	Road Committee
RRF	Republican Road Fund
RPF	Resettlement Policy Framework
SDG	Sustainable Development Goal
SoE	Statement of Expenditure
TD	Tender Document
ToR	Terms of References
VOC	Vehicle Operating Cost

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1. Summary Sheet

The Republic of Uzbekistan
Bukhara Road Network Improvement Project (Phase 1)

Project No.	000313
Borrower	Ministry of Finance of the Republic of Uzbekistan
Guarantor	N/A
Project Implementation Entity	The Committee for Roads under the Ministry of Transport of the Republic of Uzbekistan
Sector / Subsector	Transport / Road, Highway
Project Objective	To improve road efficiency, safety, and climate-resilience of major international cross-border roads in Bukhara and road networks in Karakalpakstan and Khorezm regions.
Project Description	<p>The Bukhara Road Network Improvement Project (BRNIP) Phase 1 will finance rehabilitation and maintenance of critical section of international road A380 (km 150+000 to km 228+000) and will include the following identified components:</p> <ul style="list-style-type: none"> • Component 1 – Rehabilitation and maintenance of 78km section of the international road A380; • Component 2 – Construction supervision and technical audit consultancy • Component 3 – Phase 2 project preparation <ul style="list-style-type: none"> • Sub-component 3a: Conceptual design and preparation of Tender Documents (TDs) using OPBRC/DBMOT for 78 km of the southern section of M37; • Sub-component 3b: Detailed design and preparation of TDs for about 80 km of the north section of M37, and • Subcomponent 3c: Detailed design and preparation of TDs for road sections in Karakalpakstan and Khorezm regions (414 km and 233 km respectively); • Component 4 – Institutional strengthening, capacity building, and costs of the Project Implementation Unit (PIU); • Component 5 – Purchase of equipment related to quality and quantity measurements for innovative contracting methodologies for roads.
Implementation Period	Start Date: September 30, 2020 End Date: September 29, 2025
Expected Loan Closing Date	June 2026
Cost and Financing Plan	Project cost: Estimated to be USD 214.7 million <u>Financing Plan:</u> AIIB loan: USD 165.5 million (77%) Government of Uzbekistan (GoU): USD 49.2 million (23%)
Size and Terms of AIIB Loan	USD 165.5 million Variable Spread Loan with a final maturity of 30 years, including a 5-year grace period

Environmental and Social Category	B
Risk (Low/Medium/High)	Medium
Conditions for Effectiveness	<ul style="list-style-type: none"> • PIU operational with Project Manager, Procurement Specialist, Finance Specialist, Contract Specialist, Accounting Specialist; • Confirmed Tender Documents (TDs) for Component 1 by AIIB; • Confirmed shortlist of consultants for construction supervision of Component 1 and Request for Proposal (RFP) by AIIB;
Key Covenants/Conditions for Disbursement	N/A
Retroactive Financing (Loan % and dates)	Up to 20 percent of the loan amount, for expenditures incurred and paid for no earlier than 12 months prior to the expected signing date.
Policy Assurance	The Vice President, Policy and Strategy, confirms an overall assurance that AIIB is in compliance with the policies applicable to the Project

President	Jin Liqun
Vice President, Investment Operations (Region 2)	Konstantin Limitovskiy
Director General, Technical Department Region 2	Supee Teravaninthorn
Manager	Gregory Liu, Manager, Technical Department Region 2
Team Leader	Runze Yu, Investment Operations Specialist - Transport
Team Members	<p>Yitzhak Kamhi, Senior Transport Advisor Somnath Basu, Principal Social Development Specialist Giacomo Ottolini, Principal Procurement Specialist Zhixi Zhu, Environmental Specialist Véronique Allarousse, Senior Legal Consultant Yogesh Malla, Financial Management Specialist Xiaotong Dong, Project Assistant</p>

2. The Project Description

A. Rationale

Country Priority and Sector Context

1. **Good transport connectivity, particularly roads and highways, is a major growth driver in a landlocked country like Uzbekistan.** Roads remain as the prevailing inland mode of transportation in the country. In 2018, roads carried 98.3% of passenger volume and 88.7% of freight cargo¹. At the crossroad of Central Asia, the Uzbekistan road network is of regional importance as well. Neighboring countries depend on Uzbekistan transport network to transport goods and passengers. Historically, rail has served the country as the backbone of international and regional trade, but for the foreseeable future, long-haul road transport is emerging as a strong competitor for high-value, time-sensitive merchandise, especially containerized freight. With positive impact on international trade facilitation and foreign direct investment attraction, the road sector remains crucial for Uzbekistan's transforming economy.

2. **Despite recent achievements, the road sector still faces multiple challenges.** First, current investment plans will reduce the connectivity gap but are insufficient to meet future demand. A study² conducted by OECD in 2019 suggested road infrastructure capacity needs to increase by 486% by 2030 and by 1365% by 2050 to meet the projected growth of traffic that will pass through Uzbekistan. Second, the country needs to create a multimodal synergy across road, rail, and air. This is particularly crucial for the Y-shape transportation corridors development, to provide seamless services to passengers and freight in short-, medium-, and long-distance travel markets. Third, development programs and investments have prioritized interprovincial and urban roads, given the higher traffic they carry. But underinvestment in regional and local roads, with lower traffic, raises transport costs and travel times while resulting in less reliable road conditions and safety risks for the rural population. Last but not the least, the current investments in road sector have not sufficiently maintained existing assets. The sector presents a sizeable backlog in deferred maintenance estimated at USD 1 billion per year (OECD³). Much road deterioration is due to aging infrastructure, which needs both structural and safety upgrades. Cement concrete pavement roads only account for 1.16%⁴ of the total 42,695 km of public roads in the country (52.68% for asphalt concrete and 41.27% for cold asphalt). Therefore, the upkeep of main roads reflects an intensive routine maintenance effort, as indicated by heavily patched roads. There is pertinent need for improved pavement design, better construction quality control, and tighter compliance with standards and specifications.

3. **The Government of Uzbekistan (GoU) has been addressing these challenges at the national strategic planning level, particularly since the new administration in 2016.** In February 2017, the President of Uzbekistan signed a Decree "*On Uzbekistan's Development Strategy*". The document outlines Uzbekistan's *Five-Area Development Strategy for 2017-2021*, among which the development and modernization of road transport is one of the priority areas. The *2030 Road Development Plan* envisions construction and/or reconstruction of 8,000

¹ Data from the website of The State Committee of The Republic of Uzbekistan On Statistics.

² <https://www.itf-oecd.org/enhancing-connectivity-and-freight-central-asia>

³ <https://www.oecd-ilibrary.org/sites/5fd38a3d-en/index.html?itemId=/content/component/5fd38a3d-en>

⁴ Data provided by RC.

kilometers of the national highway system and improvement of around 28,000 kilometers of regional roads. Fully implementing the proposed program by 2030 would require about USD 2 billion a year⁵. This compares with about USD 500-700 million actual expenditure per year (over the last five years), leaving an annual funding gap of about USD1.5 billion. The mounting financing needs call for mobilizing funds from wider participation of financiers and private-sector stakeholders.

4. A variety of Development Financing Institutions (DFIs) are working with GoU to realize its grand vision for the road sector. These DFIs include ADB, World Bank Group, EBRD, KfW (Germany), KFAED (Kuwait), JBIC (Japan), China's Exim Bank, and EDCF (Korea). GoU has established an effective coordination initiative to work with multiple DFIs, to ensure there is no overlapping of investments nor competition among the different stakeholders. This coordination with stakeholders has resulted in well-prepared and successfully implemented projects in the sector including, inter alia: (i) strong capacity of project employer to oversee project implementation; (ii) implementation readiness for major project components; (iii) deployment of experienced consultant for supervision with clearly defined TOR; (iv) articulated and collective implementation support from the employer and the financier; and (v) inclusion of long-term contracts covering road asset maintenance to the projects.

5. As a forthcoming development partner with the GoU, AIIB identified the following priority projects in response to the government's request for financing.

- i. Reconstruction of A380 and M37, two roads of international importance, in the Bukhara Region. A380 has a total section of 289 km within the boundaries of Bukhara Region, which is not only the main route between northwest and southeast Uzbekistan but also an increasingly important cross-border corridor between Afghanistan, Tajikistan, Turkmenistan, Kazakhstan, and the Russian Federation. M37 connects Bukhara Region with Turkmenistan border, to the nearest city of Turkmenabad (in Turkmenistan). Financing both roads is well aligned with the GoU's national strategy for international corridor development, which carries significant trade implications.
- ii. Rehabilitation of the road networks in Karakalpakstan and Khorezm regions. Both regions are connected to Bukhara Region through the international road A380, but with the much lower road density. Many links to these networks only require basic improvements, such as strengthening pavements, providing safety upgrades, constructing urban bypasses, improving intersections, and widening or rehabilitating bridges and border crossing facilities. These could be completed timely provided funding is available. However, such road networks as feeders and distributors has historically received little funding. As a result, inadequate maintenance and a growing road rehabilitation backlog contribute to faster deterioration of the road conditions, reducing accessibility to basic social services for the vast rural population. Financing both road networks will help the GoU address the imbalance between corridor/urban highways and the local/rural secondary roads, and to achieve overall national connectivity.

⁵ World Bank estimates, 2019.

Institutional Context

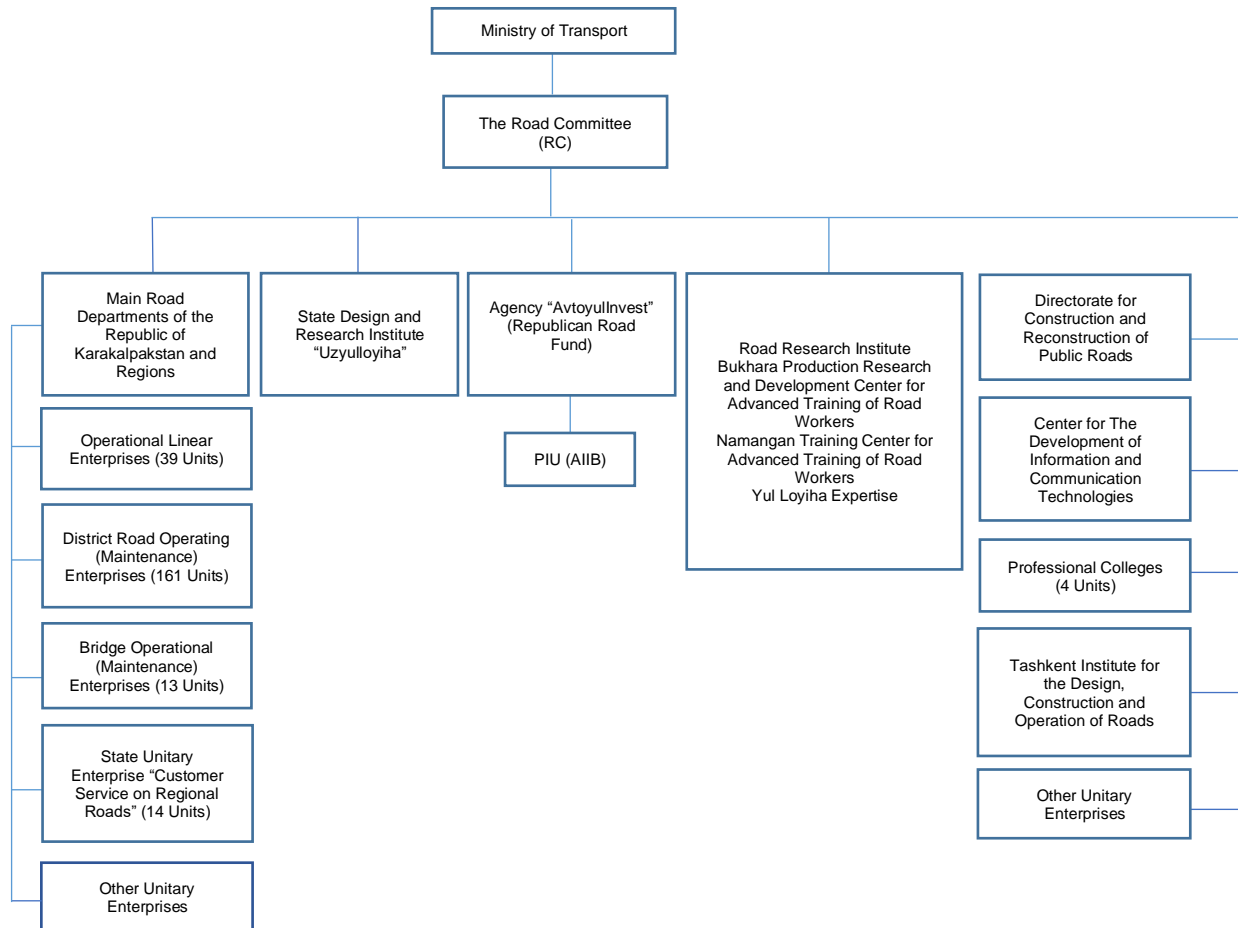
6. **The Ministry of Transport of the Republic of Uzbekistan (MoT).** The creation of the Ministry of Transport in 2019 marked the multimodal vision of the GoU, with the aim to harmonize different transport subsectors in the country, where collaborating rail, road, and air is crucial for strengthening existing corridors and developing new corridors. MoT oversees the development and regulation of civil aviation and air transport, railroads, river, rail and land transport. It also regulates policies to strengthen country's connectivity. It groups several existing institutions: the Road Committee, the Agency on Civil Aviation, the Inspectorate on Safety of the Railroads, the Inspectorate on the Quality of Roads Construction, the River Transport Register, and Uzairnavigation Centre.

7. **The Committee for Roads under Ministry of Transport (Road Committee or RC)** is the line authority managing the 42,695 km of public roads, which constitutes about 20% of the total network (the rest being under the responsibility of local authorities). Uzbekistan has partially separated the responsibilities of planning and managing road maintenance/repair investments from the actual implementation of maintenance/repair. Since 2017 RC has performed mostly the former function while the implementation is performed by newly formed unitary enterprise, the Directorate for Construction and Reconstruction of Public Roads under RC. Specifically, the main functions of RC are:

- a. Providing technical support and investment to the development and improvement of road network in the Republic of Uzbekistan;
- b. Coordinating comprehensive maintenance for the technical condition and traffic capacity of public roads, bridges, tunnels of international and state importance;
- c. Planning for development and improvement of the road network;
- d. Provision of comprehensive solutions to various issues related to design, construction, reconstruction, maintenance and operation of public roads.

8. Figure 1 below shows the organizational structure of both central and local levels of RC. RC's regional offices are responsible for local roads construction and maintenance in their jurisdictions. RC conducts inspections and diagnostics of public roads twice a year. RC prepares an annual program for construction and reconstruction of public roads, for budget approval by the Cabinet of Ministers, Ministry of Investments and Foreign Trade, and Ministry of Finance as part of State Development Program.

Figure 1 Organizational Structure of the Road Committee



9. **The Republican Road Fund (RRF).** Created in 2003 under the Cabinet of Ministers, RRF used to be responsible for planning road investments, implementing projects, and managing the financing of road construction and maintenance activities. It faced challenges in carrying out its responsibilities for large construction projects, as it possessed limited inhouse civil engineering expertise. In this regard, the RRF tended to rely on RC, which remained the more technically competent body. In December 2018, RRF was transferred from the Cabinet of Ministers to RC and renamed as AvtoyulInvest Agency. Under its new name and structure, RRF only maintains one of its original functions as the coordinating and facilitating entity for road projects financed by International Financial Institutions (IFI). It also monitors the overall progress for those projects by setting up PIUs.

10. **Sustainability of roads operations and maintenance.** Before 2019, the RRF worked under the Cabinet of Ministers and was responsible for allocating budgets to the RC. The allocation was off budget (outside the fiscal state budget) mainly sourcing from profit and turnover taxes. This allocation moderately increased between 2005 and 2015 but was low by international

standards. In 2016 Uzbekistan spent about 1.3% of its GDP on the road sector⁶. Under RRF, routine maintenance requirements, estimated by ADB to be \$85 million per year for the core network, were well-covered by those allocations. However, this did not apply to periodic maintenance. In addition, the distinction between routine and periodic maintenance was blurred by the ongoing effort to reduce the sizeable backlog in deferred maintenance, estimated at \$1 billion per year. Recorded capital works in the form of reconstruction and rehabilitation would, therefore, cover a substantial share of the previously neglected maintenance. Overall, there is an imbalance between road investments and maintenance allocations, and the underfunding of maintenance threatens the sustainability of the road assets.

11. The institutional reform in recent years certainly generated positive impact on budgeting for road investments. After the integration of RRF into RC, the previously off budget of the RRF now gets listed under the annual state budget, bringing better transparency. In the 2019 State Budget, a budget of UZS 4,508.60 billion (equivalent of USD 529.18 million) has been allocated to RC for construction, rehabilitation and repair of roads. As there is no major expansion of the public roads network under RC, this budget is assumed mainly for periodic maintenance and routine maintenance. This figure is considered in line with what would be appropriate to sustain the network. However, with the massive needs for capacity increase in the road sector of the country, challenges remain for adequate funding. The country would need not only some innovative financing mechanism (e.g. user charge-based funding system), but also novel ways for contracting the road reconstruction/repairing and maintenance, such as the OPBRC/DBMOT methods to be introduced through this Project, to increase efficiency and effectiveness of road asset management under single contract.

12. **Institutional capacity to manage road safety.** Road safety has also been a growing concern in the country, with 2 out of 10 accidents resulting in fatalities. The most urgent road safety challenge in Uzbekistan is protecting pedestrians, who make up about 50 percent of road crash fatalities. Poor road conditions and traffic rule violations, including speed limits, are major causes of those tragic statistics. Addressing this concern requires strengthened institutional capacity to improve inter-agency coordination and adopt a system approach to road safety. To separate enforcement and regulation, the regulatory functions currently performed by the State Service on Traffic Safety (police) within the Ministry of Interior would come under the purview of a professional land transport regulatory entity, either a department within MoT or an autonomous authority. The National Road Safety and Traffic Commission (NRSTC), the champion and promoter of the country's road safety strategy, is weak and lacks the capacity to perform its intended role.

13. **Strategic fit for AIIB.** The Project is aligned with AIIB's strategic priority for Cross-border Connectivity and Sustainable Infrastructure. Enhanced transport infrastructure in Uzbekistan could enable the country to become a transit, logistics, and corporate hub for Central Asia, strengthening international corridors across the Eurasian landmass. Improving and modernizing the core road network will bring positive impacts for cross regional connectivity. In this regard, strategic fit is also with AIIB's *Transport Sector Strategy*. The Project also integrates climate

⁶ <https://www.adb.org/sites/default/files/linked-documents/50063-001-ssa.pdf>

resilient features in the detailed design. It introduces OPBRC/DBMOT contracting methods to the Client for long-term operational sustainability of road assets maintenance.

14. **Value addition by AIIB.** The key value additions by AIIB to the project are:
 - a. AIIB participation would provide the critical financing needed for the country's road sector. It would also ensure that the project is undertaken with international best practices in technical, procurement, fiduciary control, and environmental and social aspects.
 - b. AIIB will also provide technical contributions through applying OPBRC/DBMOT model, an innovative method of road contracting with value for money principles. AIIB is drawing lessons learned from another similar AIIB projects⁷ and long professional experience of its team members, taking steps to reflect them in the project design, risk assessment, and mitigation measures.
15. **Value addition to AIIB.** The key value additions to the Bank by participating in the Project are:
 - a. The proposed Project will be the first AIIB funded transport project in Uzbekistan. It is also a standalone project. Therefore, the Project will diversify the Bank's portfolio.
 - b. The project will also provide an entry point for the Bank to develop long-term engagement in the country's road sector, which has huge infrastructure development needs in the coming years.

B. Project Objective and Expected Results

16. **Project Objective.** The project objective is to improve road efficiency, safety, and climate-resilience of major international cross-border roads in Bukhara and road networks in Karakalpakstan and Khorezm regions.
17. **Expected Results.** The proposed results indicators are:
 - a. Road efficiency: Improved road efficiency resulting in reduction in vehicle operating cost and traveling time on the project road;
 - b. Road safety: Improved road safety resulting in improved safety standard, assessed by higher iRAP star rating⁸;
 - c. Climate resilience: Enhanced resilience to negative impacts of climate change by strengthened road design specifics including raising the road level, adjust side slope improve drainage network and paving surface.
18. Results indicators and results monitoring framework are provided in Annex 1.

⁷ Lao NR13 project is also using OPBRC/DBMOT approach, which help Ministry of Public Works and Transport to improve efficiency in road investment and maintenance by transferring design, construction, operations and maintenance risks to the contractor.

⁸ The International Road Assessment Programme is a tool that assesses the safety standard of a road against safe system principles. The star ratings are based on road inspection data and provide a simple and objective measure of the level of safety which is 'built-in' to the road. The higher the star rating, the safer the road. The iRAP star rating model used today is the result of 20 years of development work, which began with EuroRAP (<http://www.eurorap.org>) in 1999.

19. **Expected Beneficiaries.** The project will rehabilitate 78 km of international road A380 in and around the Bukhara City. The Project is expected to directly benefit about 247,000 people (2017) who reside along these two major highways. Direct benefits would include reduced fuel and vehicle maintenance costs, enhanced road safety, and travel time reduction. As a key international freight corridor, improved operational efficiency of A380 would foster greater movement of international freight and facilitate trading activities, resulting in wider benefits for agricultural and industrial activities in Bukhara Region (total population of 1,843,500 in 2017). Among direct project beneficiaries are women. In rural areas women are responsible for key family activities such as child education, childcare, health, and cooking. In general, reducing the burden of transportation (in terms of ease of travel and reduction in expenses on commuting) has the potential to increase women's productivity and income.

C. Description and Components

20. The GoU requested AIIB to finance a comprehensive investment program in the road sector across the Bukhara Region, Khorezm region, and the Republic of Karakalpakstan. Following discussions with AIIB, GoU has decided to take a phased approach to the implementation of the program. Road sections with higher level of readiness will be implemented first, and the proposed project represents the first Phase. In addition, Phase 1 will also strengthen the Client's capacity for innovative contracting model and methodologies, paving way for Phase 2. Details of the two phases are as follows:

- a. **Phase 1:** rehabilitation and maintenance of approximately 78 km of international road A380, as well as the preparation for Phase 2. The road section within the Project scope is a combination of urban, semi-urban and rural highway. As an international road, it is however in fair to poor condition, with four travelling lanes (six lanes in urban areas) covered with asphalt concrete pavement, most of which has already passed its residual life. The horizontal and vertical alignments of the road are characterized by insufficient drainage network, specifically rainfall outlets. The 2019 traffic annual average daily traffic (AADT) is on average 17,761 passenger car unit (PCU). The rehabilitation involves upgrading the deteriorated section of A380 to cement concrete pavement.
- b. **Phase 2:** rehabilitation of the international road M37, approximately 160 km. 80 km of the northern section will be designed and implemented using standard input type of contracting. And 78 km of the southern section will be designed using OPBRC/DBMOT method. In addition, rehabilitation of road sections with total length of 647 km in Karakalpakstan and Khorezm regions will also be included in Phase 2, using standard input type of contracting.

21. **Phase 1** includes the following components:

22. Component 1 – Rehabilitation and maintenance of 78 km of international road A380.

- **Sub-component 1a:** Civil Works for 78 km section from km 150+000 to km 228+000. This includes three years for construction and two-year for maintenance after operation. Maintenance will include mainly sealing as required of slab joints and basic repairs of slabs for cement concrete pavement. For asphalt concrete pavement on interchange ramps, it will include routine maintenance, drainage, and road inventory.

- **Sub-component 1b:** Detailed designs, preparation of TDs, preparation of technical documentation including ESIA and related activities for sub-component 1a.
23. **Component 2 – Construction Supervision and Technical Audit consultancy.**
- **Sub-component 2a:** Construction supervision (on-site);
 - **Sub-component 2b:** Technical audit/review consultancy involving initial, intermediate, and final stages of construction.
24. **Component 3 – Phase 2 Project Preparation.**
- **Sub-component 3a:** Conceptual design and preparation of TDs using OPBRC/DBMOT for 78 km of the southern section of M37.
 - **Sub-component 3b:** Detailed design and preparation of TDs for about 80 km of the north segment of M37, and
 - **Sub-component 3c:** Detailed Designs and preparation of TDs for approximately 647 km of road sections in Karakalpakstan and Khorezm regions using traditional input type of contracting.
25. **Component 4 – Institutional Strengthening, Capacity Building, and costs of the Project Implementation Unit (PIU).** Components 4 will support the Client’s capacity to improve the sustainability of the investment, by monitoring, maintaining, and managing the road assets qualitatively and quantitatively as well as timely and orderly. The component includes institutional strengthening, costs of the PIU, review and update of current design, works standards, and technical specifications. It will also include *Review and Update of Current Design and Works Standards and Specification*.
26. The institutional strengthening component provides training activities in several project related disciplines, including OPBRC/DBMOT, FIDIC, environmental and social, procurement, contract management and administration. This component will also support study tours to learn about modern contracting methods, Public Private Partnership in road sector, user-charge systems in road/highway operation (e.g. electronic toll collection).
27. RC requested the Bank’s support for the *Review and Update of Current Design and Works Standards and Specification*. RC is interested in 1). Introducing asset management concept with performance indicators for enhancing implementation and maintenance quality; 2. Optimizing geometric design for certain types of highways. PIU will submit the draft TOR for this sub-component to the Bank by loan negotiation.
28. **Component 5 – Equipment Purchase.** This component will support the procurement of modern technology and equipment for quantity measurement and quality control in OPBRC/DBMOT activities, which includes:
- **Sub-component 5a:** Purchase of Heavy Falling Weight Deflectometers (HFWD), which are used to estimate pavement structural capacity and quality of implementation.

- **Sub-component 5b:** Purchase of Profilometers for measurement of surface roughness of a pavement, which is an important parameter for determining the residual life of pavement and associated maintenance.

29. RC will identify the business unit within its existing organizational structure to manage and deploy the equipment procured under this component. The PIU will prepare and submit a proposal for requirements and associated technical specifications of the equipment to be purchased, including supply, installation and after-sale requirements, together with cost estimate to the Bank by loan negotiation.

D. Cost and Financing Plan

30. The indicative cost and financing plan are outlined below in Table 1. The total estimated project cost is USD 214.7 million, of which USD 165.5 million will be financed by the Bank.

Table 1. Project Cost and Financing Plan

Item	Project Cost (USD million)	Financing (USD million)	
		AIB	GoU*
Component 1: Rehabilitation and maintenance of 78km section of the international road A380	135.7	134.7	1.0
Sub-component 1a: 78 km section from km 150+000 to km 228+000 including maintenance for two years after operation (USD 500,000 per year)	134.7	134.7	-
Sub-component 1b: Detailed designs and preparation of TD for A380, and preparation of technical documentation and activities related to ESIA	1.0	-	1.0
Component 2: Construction supervision and technical audit consulting	6.5	6.5	-
Sub-component 2a: Construction supervision consulting (on site)	5.0	5.0	-
Sub-component 2b: Technical audit consulting (initial, intermediate, and final stage)	1.5	1.5	-
Component 3: Phase 2 project preparation	3.5	1.5	2.0
Sub-component 3a: Conceptual design and preparation of TDs using OPBRC/DBMOT for 78 km of the southern section of M37	1.5	1.5	-
Sub-component 3b: Detailed design and preparation of TDs for about 80 km of the north section of M37	1.0	-	1.0

Sub-component 3c: Detailed design and preparation of TDs for road sections in Karakalpakstan and Khorezm regions (414 km and 233 km respectively)	1.0	-	1.0
Component 4: Institutional strengthening, capacity building, and costs of the Project Implementation Unit (PIU)	5.7	5.5	0.2
Institutional Strengthening	2.5	2.5	-
PIU – establishment, and staff (over the Project implementation period)	2.2	2.0	0.2
Review and Update of Current Design and Works Standards and Specification	1.0	1.0	-
Component 5: Equipment Purchase	3.0	3.0	-
Land Acquisition Cost**	Not Applicable		
Taxes and fees	38.4	-	38.4
Total Base Cost	192.8	151.2	41.6
A. Contingencies	21.9	14.3	7.6
Total	214.7	165.5	49.2

Note:

*Counterpart fund will mainly come from Ministry of Finance of GoU. Costs for detailed design of the Project components using standard input type of contracting would also be borne by counterpart funding.

** There will be no cash compensation for land acquired, as it is a reconstruction of an existing road. Other compensations for crop loss & business loss is negligible and yet to be determined.

E. Implementation Arrangements

31. **Implementation period.** The project will have a 5-year implementation period, from September 2020 until September 2025, subject to potential delays due to the current COVID-19 pandemic. RC confirmed that the project duration of the civil works contract for A380 would consist of **three years for construction period inclusive of 12-month Defect Liability Period (DLP), and two-year for maintenance after operation.**

32. **Implementation Management.** RC is the Project Implementing Agency. AvtoyullInvest Agency (previously RRF) under RC will be responsible for general management and implementation of the project including monitoring progress, supervising the procurement processes, and reviewing works plans. RC has established a Project Implementation Unit (PIU) under the RRF. The PIU is now headed by an acting Manager for project preparation and implementation.

33. **PIU.** The PIU has the following responsibilities and functions including:

- a. Jointly with RC, coordinate with all required entities in preparation of the project;
- b. Facilitate the project implementation and timeliness at all stages of implementation;
- c. Ensure monitoring and control over project implementation, fulfillment of signed contracts, effective and targeted use of financial and other resources;

- d. Interact with AIIB in the implementation and supervision.
- e. Participate as an integral body of Procurement Committee during procurement procedures.

34. A core team of the PIU will be appointed by loan effectiveness, which will include Project Manager, Procurement Specialist, Finance Specialist, Contract Specialist, Accounting Specialist, Road Engineer, E&S Specialist, and Interpreter. The Terms of References (ToR) for the abovementioned positions have been agreed with AIIB.

35. Regarding the PIU costs incurred before the loan effectiveness, AIIB would finance these costs through the retroactive financing arrangement once the project becomes effective, if the incurred expenditure complies with AIIB's policies. The Project Team has reviewed the operational budget in relation to PIU's staffing and other incremental operating costs. Before the loan effectiveness, these incremental costs would be funded by RC to support project preparation activities. Currently RC already provided funds for six-month operation of PIU.

36. **Interagency Coordination.** As a prerequisite for finalizing the detailed design in Uzbekistan. RC's Design Institute has already coordinated with relevant agencies for relocating utilities during construction and received their approvals, List of agencies include among others: police stations, local authorities, power supplier, gas supplier, high voltage power lines, telecommunication cables. Having all these approvals, the contractor for the road construction will directly engage these agencies and carry out the relocation of utilities.

37. **Monitoring and Evaluation.** The monitoring framework for the project is robust, composed of three levels. At RC level, responsibility for monitoring project results will be with RRF, represented by a special unit. At the project level, the PIU will monitor project progress and performance based on the result indicators, which are defined in the Results Monitoring Framework. At component level, appointed engineer will conduct site supervision under the FIDIC contract. Overall, the project will also be subject to technical and financial audit.

38. **AIIB's Implementation Support.** AIIB staff will carry out implementation support missions and site visits to the project sites as required, but at least two to three time a year to monitor progress and outputs. In addition, the Technical Audit/Review consultant, competitively selected, will provide three audits/review, at initial stage, intermediate stage, and at the end of the project implementation. Each Report will highlight strength and weakness observed, which will be addressed during implementation.

39. **Procurement.** The Bank's Procurement Policy and its associated Interim Operational Directive on PIR Section II for Public Entities apply to the project. Hence, all goods, works, consulting services and non-consulting services will be procured in accordance with the agreed implementation arrangements.

40. **Financial Management.** Once fully operational, the PIU will be responsible for the overall project financial management. It will be staffed with qualified finance and accounts staff responsible for maintaining acceptable project financial management. The PIU will prepare an annual project budget and will share it with Bank for its review and comments in September each year.

41. The PIU will prepare a POM, which will include detailed project financial management arrangements. The cash basis accounting system will be followed and PIU will maintain project account and supporting documents. The financial progress of the project will be reported on a quarterly basis through Interim Unaudited Financial Reports to be submitted within 45 days from the end of each quarter. The project audited financial statement for each year of project implementation will be submitted by six months from the fiscal year-end.

42. The disbursement of Loan proceeds will be made using the reimbursement, direct payment and advance methods. The direct payments will be used against payment of contracts under prior review threshold. The PIU will open a Designated Account (DA) in USD in a financial institution acceptable to Bank. The PIU will also open a sub-account in Uzbek Som where Loan proceeds from DA will be transferred to pay for eligible incremental operating expenditures. The eligible project expenditures such as civil works, goods, consulting services, non-consulting services, training and operating costs will be subject to using Statement of Expenditure (SoE) format. A Disbursement and Financial Information Letter will detail out the authorized signatories, ceiling of DA, process of submitting claims and other terms and conditions of disbursements related to the project.

Table 2 Expected Disbursements in USD million*

Year	2020-2021	2021-2022	2022-2023	2023-2024	2024-2025
Annual	18.4	63.3	81.8	1.0	1.0
Cumulative	18.4	81.7	163.5	164.5	165.5**

*The above planned disbursement assumes that project implementation will not be negatively impacted by COVID-19;

**The total disbursement amount includes contingencies for price and work fluctuations;

3. Project Assessment

A. Technical

43. **Technical Due Diligence.** The project Team conducted technical due diligence of all technical aspects related to safe and cost-effective designs, and after all comments were incorporated, found them appropriate and acceptable. The review involved review of applied standards and specifications, sample drawings including: typical cross section of main road and interchanges, ramps, typical layout of round-bound intersections related to the interchanges, traffic signs arrangement for interchanges, layouts of all interchanges, longitudinal and vertical profiles of main road and associated ramps, pavement concrete slabs cross-sections with joints design, etc.

44. **Duration, packaging, and method of construction.** Given the nature of the project (cement concrete pavement for the main road with asphalt concrete pavement for the interchanges), RC evaluated several options focused on the best and value for money arrangement regarding the duration of the Road A380 implementation, involving construction and maintenance phases. The Project Team considered the project duration of the civil works proposed by RC as proper. Following completion of the road, there will be two (2) years maintenance period in order to ensure the quality of construction, repair minor faults and do routine maintenance activities. Total duration of the project will take five (5) years. Procurement of the civil works contract would be through tendering as one package that includes three Lots. A bidder can bid either on a single Lot or several Lots, depending of the bidder's qualifications, experience, and other requirements, calculated on cumulative basis. The number of supervision consultancy assignments has been agreed in the Project Delivery Strategy (PDS). The method of traffic management will require that the road will be opened, free for traffic and maintained by contractor at all time during the construction activities (as shown in Annex 2).

45. **Road Safety.** The Project design has incorporated design features to improve road safety based on road safety audit, by eliminating "black spots". Road safety measures include road furniture, reflectors, and improvements in driving vision, bicycle lanes, pedestrian walkways, pedestrian bridges, and street lighting in highly populated areas. Traffic safety aspects will be further strengthened through education and awareness campaigns targeting motorists, public transport, and the public, and through road safety enforcement. The main road safety benefits the Project will deliver are:

- Reduced risk of vehicles leaving their lanes to avoid potholes and surface deformations;
- Improved sight distances;
- Better separation between pedestrians and vehicles; and
- Better night driving conditions due to wider carriageway and improved pavement centerline markings.

46. **Climate-resilient design.** A climate resilient road comprises design features that strengthen and improve the ability of the road to withstand extreme climate and weather events. The measures to make roads climate proof involve generally two categories: i) Engineering and

structural measures, and ii) Bio-engineering measures. All these elements have been taken into consideration and have been applied in the design. Thus, the road design includes proper drainage and outlets design, proper combination of alignments, protected cut/fill slopes, and adequate grassing for side slopes. The road profile has been designed to ensure the stability and strength of upper part of subgrade and pavement. The coating surface elevation is above the calculated level of groundwater or long-standing surface water, as well as above the earth surface in areas with unsupported surface runoff and/or above level of short-term standing surface water.

47. **Innovative approach to project supervision.** The Bank Team proposed to include in the project a modern and innovative method of overall supervision as additional measure to secure the required overall Quality Assurance Control (QAC) of the implementation, by introducing drone surveillance of the works, specifically necessary for the supervision of large number of contracts in road network, such as for the required rehabilitation of road networks in two regions (Karakalpakstan and Khorezm). The Client agreed in principle and will further explore the possibility during preparation of the Phase 2 of the Project, which includes rehabilitation of these networks.

48. **Operational sustainability.** For A380, the civil works contract will include two (2) years of maintenance to ensure the quality of maintenance works. For Phase 2 of the Project, OPBRC contract model and DBMOT project management method are recommended as one of the approaches to address the persistent problems of long design process, poor quality of civil works and maintenance not being implemented in a timely and orderly manner. RC also sees the benefits of increasing the role of the private sector to participate in road construction, operation, and maintenance, to lower life-cycle cost and to increase quality and sustainability of its investment. OPBRC/DBMOT concept and methodology has been proven as an enabling and successful tool in achieving that goal and as successful tool for transfer of risks from the government to the contractor. The OPBRC/DBMOT approach will also enhance RC's capacity to effectively manage and operate road assets. It will promote application of modern technology for quality control and use of advanced technological equipment for future road maintenance.

49. **Technical Review/Audit.** The objective of the Technical Review/Audit is to provide a Factual Summary Report regarding the technical aspects of the Project, together with the results achieved during the implementation of the Project components and to provide to the Contracting Authority, their Supervisors and to AIIB the recommendations to remedy errors that may occur, or which could lead to improvements in implementation of the Project. The Technical Review/Audit will assess whether the implementation of the project is in conformity with the applicable regulations, conditions and specifications, from a technical perspective.

B. Economic and Financial Analysis

50. **Traffic Forecast.** The RC collected raw base year traffic data and conducted preliminary traffic analysis and forecast early in 2020, which is summarized in Table 3. Most of the traffic consisted of passenger cars, accounting for around 77%; while truck traffic volume accounted for around 10% of the total traffic, which was expected to further increase considering that A380 serves cross-border connectivity traffic. The traffic data was consistent with the manual traffic count conducted by the Bank team during the identification mission in December 2019. Based on the PCU conversion factor in Uzbekistan, the base year (2020) the Annual Average Daily Traffic

(AADT) for the Project sections of A380 was estimated as 17,761 vehicles. The Bank team adopted the traffic growth assumptions provided by the local design institute, which considered general economic growth in the country as well as the intensified trade activities with neighboring countries. Traffic growth rate assumptions are summarized in Table 4.

Table 3 Base Year (2020) Traffic Data

Survey Location	Trucks				Cars	Micro buses and buses	Motorcycles and bicycles	Tractors and agricultural machinery	Total
	up to 3.5t	from 3.5t to 12t	12t	Trailers					
KM160	325	474	396	457	6706	2690	209	313	11570
KM180	209	367	782	83	11964	90	65	113	13672
KM210	289	867	434	434	22420	1215	875	1507	28041
Average	274	570	537	325	13697	1331	383	644	17761

Table 4 Traffic Growth Assumptions

Period	Motorcycles & Bicycles	Passenger Cars	Trucks & Farming Vehicles
2020-2025	0.8%	4.7%	4.2%
2025-2030	1.5%	8.5%	6.2%
2030-2035	1.4%	7.8%	5.9%
2035-2040	1.2%	6.5%	5.5%
2040-2045	1.2%	4.7%	3.9%

51. **Economic Analysis.** Based on the traffic projections, a detailed economic analysis was carried out covering 27 years from 2020 to 2046, with three years for construction and 24 years for operation (the assumed life cycle of the road). The economic analysis was conducted based on a standard methodology for appraisal of road investments. The economic benefits quantified are reduction in vehicle operating costs (VOCs) due to improved road conditions, travel time saving for passengers and freight carriers due to increased speed, reduction in road accidents and reduction in carbon emissions. The project costs comprise of capital and O&M (Operation and Maintenance) costs. The financial costs are converted to economic costs at a standard conversion factor of 0.95 and 0.88 for construction and O&M costs, respectively.

52. The Project is economically viable. The economic internal rate of return (EIRR) is 28.44 percent and net present value (NPV) is USD 511.70 million at 9% discount rate. The EIRR was also tested by a sensitivity analysis against different cost and traffic scenarios, which has confirmed the robustness of the net economic benefits. Results of the cost-benefit and sensitivity analyses are illustrated in Table 5. Details of the economic analysis are available upon request.

Table 5 Cost Benefit Analysis Results and Sensitivity Analysis

Details	EIRR	NPV @ 9% Discount - US\$ Million	Switching Value b/
Main Evaluation (Base Case)	28.44%	512	
Cost Overrun (Capital and O&M) ^{a/}	26.02%	501	983%
Decrease in Project Benefits ^{c/}	25.51%	399	91%
One Year Delay in Implementation	28.40%	454	
All Four scenarios combined	23.28%	344	

a/ 20% increase in cost estimates.

b/ Calculated as the percentage change in a variable required for EIRR to reduce to 9%.

c/ 20% decrease in project benefits

53. **Financial Analysis:** As the project road will not be tolled and will be wholly financed by the public sector during construction and O&M, a financial analysis has not been conducted. Nevertheless, a fiscal analysis on the sustainability of maintaining the road sector infrastructure in Uzbekistan was carried out. Routine maintenance requirements are well within the RRF's budget allocations. The average expenditure on maintaining public roads in the 2007-2012 plan period was \$2,823 per km, whereas in the 2019 State Budget, a budgeted amount of about \$12,394 per km was allocated for construction, rehabilitation and repair of roads, a significant increase from earlier years. This allocation is more in line with what would be adequate to maintain the road network in Uzbekistan.

C. Fiduciary and Governance

54. **Procurement.** AIIB's Procurement Policy and its associated PIR apply to the Project. As provided for under the PIR, RC is required to prepare a PDS, including a procurement and contract management plan. The Project Team has reviewed the draft PDS prepared. The current version of the PDS is complete and in good order. It provides the essential information to ensure that the proposed implementation arrangements are fit-for-purpose. A final version of PDS with the procurement plan (PP) is expected to be agreed before negotiations. It is envisaged that all civil works contracts will be awarded following International Open Competitive Tendering method, without a pre-qualification. The Consultancy contract for the supervision of civil works will be awarded following International Open Competitive Selection method. RC has agreed to use the trial versions of the AIIB's TD and RFP. All contracts will be subject to prior review by the Bank. The implementation capacity assessment of RC has been limited by the fact that RC is newly established. The acting PIU manager, has demonstrated a good understanding of multilateral development banks' (MDBs) procurement requirements and has relevant experience. The Project Team considers that procurement activities should not commence until the establishment of its procurement function in the PIU, as further mitigating measures might be necessary to mitigate implementation risks, including engaging consultants to support PIU during implementation.

55. **Financial Management.** The Financial Management (FM) assessment focused mainly on institutional capacity, staffing, planning/budgeting, funds flow, accounting, internal controls/audit, reporting and external audits. Based on the assessment, financial management capacity is considered adequate provided proposed mitigation measures are incorporated into the project. The FM risk is considered High as the Roads Committee (Implementing Entity) has no prior experience in implementing AIIB supported projects, the PIU and FM arrangements are yet to be operationalized. Once fully operational, the PIU will be responsible for the overall project financial management.

56. **Staffing.** The PIU will hire qualified finance and accounting staff who will be responsible for the project financial management. If needed, the project finance/accounts staff may avail specific training related to Bank's financial management and disbursements.

57. **Planning and Budgeting.** The PIU will prepare annual project budget as per PP and financing agreement. It will share proposed project annual budget with Bank for its review and comments in September each year.

58. **Funds Flow and disbursement.** The disbursement of Loan proceeds will be made using the reimbursement, direct payment and advance methods. The PIU will open a Designated

Account in USD in a financial institution acceptable to Bank. The PIU will also open a sub-account in Uzbek Som where Loan proceeds from DA will be transferred to pay for eligible operating expenditures. The eligible project expenditures such as civil works, goods, consulting services, non-consulting services, training and operating costs will be subject to documentation and using SoE format.

59. **Accounting, Financial Reporting and Internal Controls.** The cash basis accounting system will be maintained. The PIU will be responsible for maintaining project accounts. It will acquire accounting software for accounting and reporting of financial transactions. The financial progress of the project will be reported on a quarterly basis through Interim Unaudited Financial Reports to be submitted by 45 days from the end of each quarter. The format and the content of IUFRRs has been agreed during preparation. All the required ledgers related to disbursement including Loan Register, DA ledger etc. will be maintained at the PIU.

60. The PIU will establish internal control system capable of providing reliable and adequate controls over funds/transaction flow. The PIU will prepare POM in form and substance acceptable to Bank which will include detailed project financial management arrangements.

61. **External Audit.** The project financial statements including SoE will be audited by an independent Chartered Accountant firm on an annual basis. The external audit report, which will include an audit opinion and management letter will be submitted to Bank within six months of the end of each fiscal year. The Bank has reviewed the external audit ToR prepared by the PIU and considers them satisfactory.

D. Environmental and Social

62. **Environmental and Social Policy, Standards, and Categorization.** AIIB's Environmental and Social Policy (ESP), including the Environmental and Social Standards (ESSs), and Environmental and Social Exclusion List, is applicable to the project. Environmental and Social due diligence of the Project has determined that ESS 1 (Environmental and Social Assessment and Management) is applicable for assessment of environmental and social impacts of Project activities. ESS 2 (Involuntary Resettlement) is also applicable since small parcels of land will be acquired and it is anticipated that there will be some temporary impacts on commercial activities and residential communities at the time of construction. The Project has been assigned Category "B", in accordance with the ESP. The anticipated environmental and social risks and impacts of the Project will be temporary, reversible and localized, and will occur mostly during the construction phase.

63. As required by the Bank's ESP for Category 'B' projects, an Environmental and Social Impact Assessment (ESIA) including an Environmental and Social Management Plan (ESMP) has been prepared. To address issues of any physical and economic displacements, either of temporary or permanent nature, guidance has been provided through a Resettlement Policy Framework (RPF), which is part of the ESIA. An Abbreviated Resettlement Plan (ARP) has also been developed under the RPF.

64. **Environmental and Social Aspects.** The Project is expected to generate socio-economic benefits in terms of improving the efficiency and safety of the A380 road corridor. Road A380 passes through the Jeyran Eco-center, a fenced and open territory wildlife nursery for about 17km.

The partition of ecosystem by the road has existed for decades and most wild species in Jeyran Eco-center are likely to stay well away from the road corridor, because the Jeyran Eco-center was established in 1977 while A380 was originally built in 1960. Based on the analysis in the ESIA, the rehabilitation of A380 will be carried out within the existing Right-of-Way of the road and construction of new interchanges will not have direct impacts on the Eco-center according to the ESIA. However, coordination and liaison will be maintained with the Eco-center authority to prevent any indirect impacts of the project on the associated ecological resources and eco-center. The major negative environmental impacts of the project will mostly be temporary and reversible during the construction and maintenance periods, including air pollution, noise, soil erosion, water pollution, impacts on borrow areas, and disposal of construction wastes. The construction activities under this project will require felling of 2,934 saxauls trees (a native tree species) in the Neftchi State Forestry Area and along other two road sections.

65. The potentially negative social impacts of the proposed project include acquisition of about 5.6 hectare of land belonging to three business entities and Neftchi State Forest Area, disruptions in commercial activities/ livelihood and temporary impacts on habitations, disturbance to traffic and public utilities, and access restrictions due to construction activities.

66. The management, mitigation, and monitoring measures to address the environmental and social risks and impacts have been identified in the ESMP. Appropriate mitigation measures have also been included in ESMP to protect the flora and fauna in the Jeyran Eco-center, which may be impacted due to the construction. Compensation for tree cutting is included in the ARP. An Offset consisting of compensatory tree planting will be carried out at the ratio of 1:10 (i.e., 10 saplings planted for each tree felled). Although the project involves rehabilitation of an existing road, archaeological “chance finds” procedures, included in the ESMP, will be applicable for all construction activities. The ESMP also includes institutional arrangements, a monitoring plan, and capacity building program. Several Environmental Codes of Practice have been developed that provide reference for the contractors’ ESMP.

67. The RPF includes an Entitlement Matrix indicating the anticipated impacts on different categories of project affected people and the compensations and benefits accruing to the affected households/persons. The Entitlement Matrix is based on the relevant provisions in the national legislation of the Government of Uzbekistan and the provisions of AIB’s ESP. The RPF has guidelines on preparation of Resettlement Action Plans. The three entities that will lose land will be compensated in accordance with the provisions of the Entitlement Matrix. The assessment concluded that these entities would lose a maximum of 3.3% of their total land holding, which will not have any significant impact on their livelihood. To address the acquisition of 5.6 hectares of land required for the project from four entities, an ARAP has been prepared as part of the ESIA.

68. Intensive consultations were conducted with the Project Affected People, particularly women. A series of Focused Group Discussions were held with women to understand their expectations and aspirations from the current project. The consultations revealed that in rural areas women are responsible for key family activities such as child education, childcare, health, and cooking. In general, reducing the burden of transportation (in terms of ease of travel and reduction in expenses on commutation) has the potential to increase women’s productivity and income.

69. **Climate Change Risks and Opportunities.** Uzbekistan is among the countries most vulnerable to climate change. The rates of warming are higher than the average rates observed on a global scale. The major climate change risks that Bukhara region is facing include low precipitation and high temperatures. It is estimated that the Project will contribute to reduction of the greenhouse gas emissions by 17,860 tons from 2020 to 2043.

70. **Occupational Health and Safety, Labor and Employment Conditions.** The ESMP contains provisions related to occupational health and safety and guidance to address gender-based violence. The Project will encourage contractors to utilize local labor in construction and rehabilitation of road infrastructure, so the risk of migrant labor influx is limited. The contractors' ESMPs will include Workers Camp Management Plans to address the potential impacts of labor influx. In addition, a Code of Conduct for workers will be incorporated into the bidding documents and the contracts with the contractors. Appropriate measures to mitigate the potential risk of gender-based violence and sexual exploitation will also be prepared and incorporated in the contracts.

71. **Forced Labor.** The Uzbek national labor legislation strictly prohibits the use of forced labor. The ESIA articulates that forced labor is illegal and a violation of the ESMP. Contractors will be selected through International Open Competitive Tendering, whereby the TDs include comprehensive and internationally accepted provisions on labor recruitment. The contractors will hire laborers from the open market following standard contracting procedures for road construction works. Provisions on forbidding forced labor will be included in the construction contracts. If any contractor is identified using forced labor, the PIU is required to report the case to the Ministry of Employment and Labor Relations (MoELR) for action, according to national legislation. In addition, the PIU has the right to suspend work or payments if the contractor is in breach of any of its obligations to implement the ESMP. This will also be addressed through training for PIU, SC and contractors.

72. **Stakeholder Engagement, Consultation, and Information Disclosure.** Two rounds of workshops and public consultations were held in the Bukhara region during December 2019 to January 2020. The expressed views and comments of all stakeholders including vulnerable groups such as women, members of the low-income families, and students were recorded. The ESIA (including the RPF and ARP) in English has been disclosed on the websites of RC⁹ and AIIB¹⁰ since March 27, 2020, following which consultations will continue to be held. The ESIA in Uzbek has also been disclosed on RC's¹¹ and AIIB's websites and made available in hard copy in the Project area.

73. **Project-level Grievance Redress Mechanism.** A two-tier Grievance Redress Mechanism (GRM) for project-affected people has been prepared at the field and PIU levels for the project, in accordance with the requirements of the Bank's ESP, based upon the Client's existing GRM. A separate GRM for workers has also been included in the ESIA to deal exclusively with those complaints that involve workers employed by the contractors for construction activities. The two GRMs will be established prior to the implementation of this project. The public

⁹ <http://www.uzavtoyul.uz/en/post/380-150228-78.html>

¹⁰ <https://www.aiib.org/en/projects/details/2019/proposed/Uzbekistan-Bukhara-Region-Road-Network-Improvement-Project.html>

¹¹ <http://www.uzavtoyul.uz/cy/post/380-150228-78.html>

consultation and disclosure process will be used to disseminate information about the multi-tier GRMs.

74. **AIIB Independent Accountability Mechanism.** The Project-affected People’s Mechanism has been established by the Bank to provide an opportunity for an independent and impartial review of submissions from Project-affected people who believe they have been or are likely to be adversely affected by AIIB’s failure to implement its ESP in situations when their concerns cannot be addressed satisfactorily through the Project-level GRM or the processes of the Bank’s Management. For information on AIIB’s Project-affected People’s Mechanism, please visit: <https://www.aiib.org/en/policies-strategies/operational-policies/policy-on-the-project-affected-mechanism.html>

E. Risks and Mitigation Measures

75. Based on the assessment, discussions with RC and review of available documents, the Bank has assigned an overall “Medium” risk rating to the project.

Table 6 Summary of Risks and Mitigating Measures

Risk Description	Assessment Ratings (High, Medium, Low)	Mitigation Measures
<p>Political and Governance risk The Government of Uzbekistan has launched an ambitious reform program, including major institutional reforms, which have led to the creation of new institutions and changes in roles and responsibilities in the Government. As the reform process is still ongoing, changing of institutional responsibilities as well as counterpart team members can delay project approval and implementation</p>	<p>Medium</p>	<p>The Project Team will closely monitor the ongoing process and keep key stakeholders actively involved in the project implementation process, such as high-level government officials from Ministry of Investment and Foreign Trade and the RC, emphasizing the importance of the commitment and stability of a Dedicated Implementation Team.</p>
<p>Institutional Capacity for Implementation and Sustainability RC has previous working experience with MDBs. But OPBRC/DBMOT contract models are relatively new to RC, which may cause potential delays during procurement and implementation.</p>	<p>Medium</p>	<p>The Project will benefit from the appointment of a supervision consultant, a competent professional firm selected competitively. The Project Implementation Entity, RC, is technically competent with extensive in-house civil engineering expertise. and it will provide guidance to PIU for facilitating the project implementation. Training on OPBRC/DBMOT contracts will be offered to a wide audience in RC at different</p>

		levels as well as to PIU staff and to local consulting and contracting industry.
Technical designs and works specifications Designs of the road structure and the associated major structures related to roads crossings (interchange bridges and overpasses) using old Russian Standards, which may not be consistent with recognized international design standards	Low	Detailed designs and associated structural calculations have been checked. Construction supervision consultant will check all detailed designs and approve them for construction before works can commence.
Environmental and Social Insufficient capacity for implementation of ESMP	Medium	The PIU will include environmental and social experts supported by the Supervision Consultant. Qualified E&S staff will be deployed by the PIU to address E&S issues in Bukhara. A Third Party Monitoring Agency will be engaged to conduct bi-annual monitoring and provide the Monitoring Report to the PIU. AIIB E&S specialists will undertake field-based review to support implementation of measures to address E&S issues.
Procurement Due to the challenges posed by COVID-19, the PIU has not yet assembled the team of professionals for procurement activities.	Medium	Dedicated Team is newly established, and although several individual members have been exposed to several MDBs funded projects, their capacity as a team cannot be assessed as the critical PIU staff is to be recruited. The current version of the PDS is complete and in good order. It provides the essential information to ensure that the proposed implementation arrangements are fit-for-purpose. Should the PIU staff be considered not sufficiently experienced, consultancy support to support procurement activities is already envisaged to mitigate such risks.
Financial Management <ul style="list-style-type: none"> • Internal Control remains to be strengthened and financial management arrangements need to be clarified. • Possible frequent turnover of project 	Medium	PIU will share proposed project annual budget with Bank for its review and comments in September each year. POM will detail out project financial management arrangements including roles and responsibilities. Timely hiring and retention of qualified finance and accounts staff.

finance and accounts staff.		
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Annex 1: Results Monitoring Framework

Project Objective:		To improve road efficiency, safety, and climate-resilience of major international cross-border roads in Bukhara Area and road networks in Karakalpakstan and Khorezm regions.									
Indicators		Unit	Baseline 2020	Cumulative Target Values					End Target	Frequency	Responsibility
				YR1	YR2	YR3	YR4	YR5			
Project Objective Indicators:											
Road condition	Reduction in vehicle operating costs on the project road	%	0	0	0	10	13	15	15	Semiannually	Client (PIU)
Road safety	Increase in average iRAP star rating of the project road	Number	0	1	1	3	3	3	3	Semiannually	Client (PIU)
Climate resilience	Kilometers of road upgraded with climate-resilient measures	km	0	15	45	78	78	78	78	Annually	Client (PIU)

Indicators	Unit	Baseline 2020	Cumulative Target Values					Frequency	Responsibility	
			YR1	YR2	YR3	YR4	YR5			
Intermediate Results Indicators:										
Component 1: Road Improvement and Maintenance	Reduction in average International Roughness Index (IRI) for finished sections	Number	4	4	3	3	2	2	Annually	Client (PIU)
	Kilometers of road rehabilitated / improved of 4 lanes, with climate resilient measures	km	0	15	35	60	60	60	Annually	Client (PIU)
	Kilometers of road constructed / upgraded to 6 lanes, with climate resilient measures	km	0	0	10	18	18	18	Annually	Client (PIU)
Component 2: Construction Supervision	Construction supervision regularly conducted	Yes/No	Yes	Yes	Yes	Yes	Yes	Yes	Annually	Client (PIU)
Component Preparation Phase 2	3: for Detailed designs prepared for: ○ 78 km of the southern section of M37; ○ 80 km of the north segment of M37, and ○ 647 km of road sections in Karakalpakstan and Khorezm	Yes/No	No	Yes	NA	NA	NA	NA	Annually	Client (PIU)

	regions using traditional input type of contracting.									
Component 4: Technical Assistance	Grievances registered related to delivery of the project addressed, with disaggregated data by gender	%	0	100	100	100	100	100	Annually	Client (PIU)
	Total number of RC staff received training on OPBRC and related topics	Number	0	20	45	65	70	70	Annually	Client (PIU)
Component 5: Equipment Purchase	Purchase of OPBRC/DBMOT-related equipment and technology completed	Yes/No	No	No	No	Yes	Yes	Yes	Annually	Client (PIU)

*Not Applicable

Annex 2: Detailed Project Description

Background and the Road Sector in Bukhara Region

1. The Bukhara Region is in the southwest of Uzbekistan. It borders Turkmenistan, Navoiy Region, Qashqadaryo Region, a small part of the Khorezm Region, and the Republic of Karakalpakstan. It covers an area of 40,320 km². The population is estimated at 1,894,900 in 2019 and more than 70% of the population is rural. The region consists of 11 administrative districts. The regional capital Bukhara is one of the oldest cities in Central Asia, being a hub for traders and travelers since its foundation over 2,000 years ago. Nowadays as a UNESCO heritage city, it attracts tourists from all over the world. Bukhara is rich in natural resources, including natural gas, petroleum, graphite, bentonite, marble, sulfur, limestone, and raw materials for construction. The region is one of the agricultural and industrial regions of Uzbekistan. In 2018, agriculture, forestry, and fisheries accounted for 44.2% of the gross regional product (GRP)¹ in the Bukhara Region, followed by the services sectors (28.3%) and industry (19%). The most developed industrial activities are oil refining, cotton ginning, textiles, and other light industry. Economic growth of the Bukhara region remains at a moderate level compared to its peer regions in the country. For January to September 2019, the GRP growth rate of Bukhara Region was 4.3%, compared to the national level of 5.7% and 8.2% in the Tashkent City (top of the country). Two major connectivity highways are the A380 international road, and the M37 motorway connecting Samarkand-Ashgabat-Turkmenbashi.

2. The A380 road which is the Project road has a total length of 78 km from km 228+000 to km 150+000, from Bukhara City in a south-east direction to the suburban and rural areas towards Karshi region. The project road currently has a four-lane (six-lane in urban sections), bidirectional carriageway. Road rutting, cracking and potholes were observed universally along the roadway. In urban sections, local traffic and pedestrian walkways are not segregated, which increases congestion and road safety issues. It is proposed to reconstruct the pavement from existing bituminous surfacing to cement concrete surfacing, and to build five new interchanges. Reconstruction is proposed to commence from the second half of 2020, which would take three years. Full commissioning of the proposed highway reconstruction is planned around the second half of 2023.

3. **Project Design.** RC has commissioned the State Design and Research Institute Uzyulloyiha to prepare the detailed designs and TD for the road, including cost estimates and Bill of Quantities (BOQ). The Design Institute applied the geometric design standards based on current and future traffic in 5, 10, and 15 years horizons, road category and road safety requirement, following ShNK 2.05.02-07 “Automobile Roads Standards and specifications”². The key design features are as follows:

- The total length of the designed road is 78 km from km 150+000 to km 228+000, having:

¹ All economic data can be found at:

https://stat.uz/en/?option=com_content&view=article&id=2806&catid=181&lang=en-GB

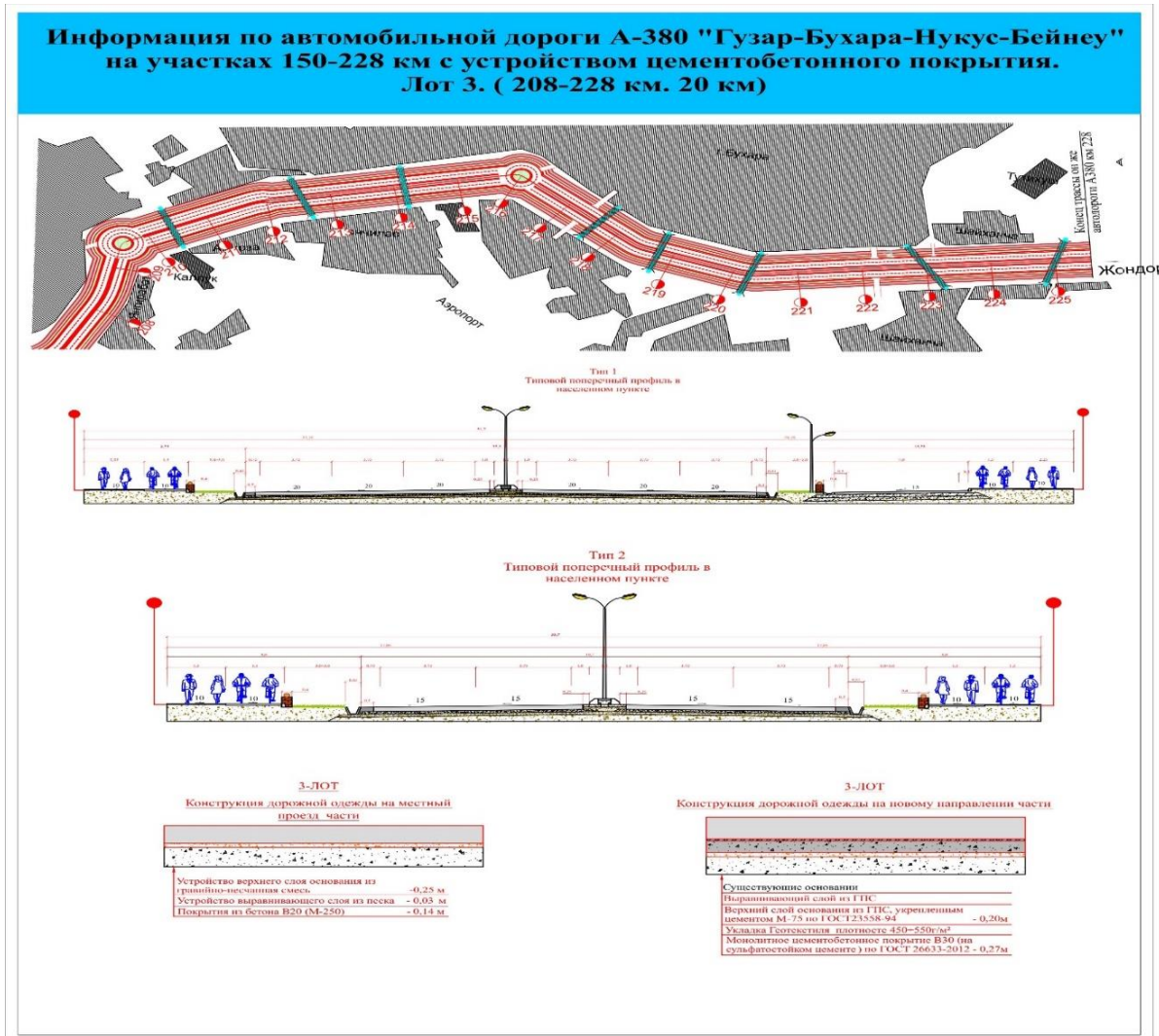
² Building Regulation of the Automobile Roads (http://ekspertiza.uz/info/reguls/ShNQ_2_05_02.pdf)

- for the rural section, from km 150+000 to km 210+000, 60 km long, 4 travelling lanes, each 4 x 3.75 m wide, with shoulders on both sides of the road 0.75 m wide and center median barrier 2.6 m wide;
- for the semi-urban and urban section, from km 210+000 to km 228+000, 18 km long, 6 travelling lanes, each 6 x 3.75 m wide with shoulders on both sides of the road 0.75 m wide and center median barrier 2.6 m wide;
- Road category: I
- Designed speed: 120 km/h;
- Five loops interchanges with crossing roads and one steel bridge for overpass through the railway station Kagan at km 208.

4. **Pavement Types.** Reconstruction of the road pavement will take into consideration the road function, traffic volume, reliability and efficiency, availability of local construction materials, climatic resilience and soil-hydrological conditions, as well as operating and maintenance costs of the road. Jointed Plain Concrete Pavement has been adopted for the pavement of the main road. The existing asphalt concrete pavement will be recycled and used as a base for new pavement. The pavement of the interchanges has been adopted as asphalt concrete considering: the longitudinal and transverse slopes (>4%) of the ramps and overhead bridges, ease of limited in space construction, and better connection with the at-grade secondary roads.

5. Without the project, the road is expected to remain in poor condition and gradually worsen over time. Maintenance will involve massive crack sealing, patching, rehabilitating damaged areas, and renewing bituminous surfaces. In these sections, road roughness is expected to deteriorate to an international roughness index (IRI) of 4–16 over the analysis period. The short section currently paved with concrete is in poor condition and will fail without the project.

Figure 2A-2 Typical Layout and Typical Cross-Sections of Road



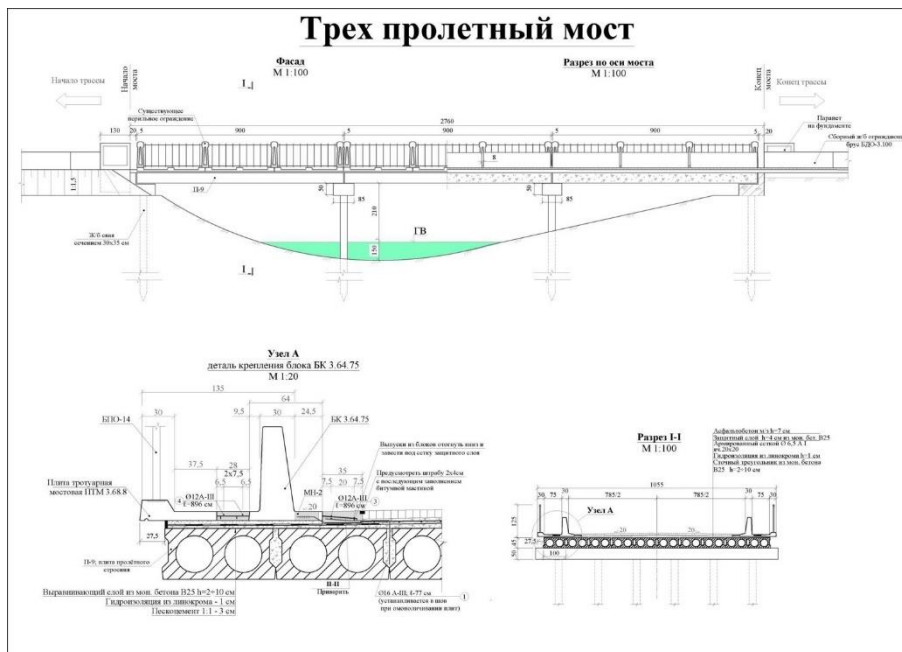
6. With the project, the road will be upgraded to comprise (i) 60 km of four-lane carriageway with cement concrete pavement and improved geometry; (ii) 18 km of wider six-lane carriageway and pedestrian walkways in urban sections, which will make traffic flow more efficient; and (iii) road safety improvements, such as directional segregation. Average travel speed on the road is expected to increase from 50 km/h to 90 km/h. The IRI of the improved pavement will be in the range of 3 over the analysis period.

7. **Interchanges.** Five new interchanges along the A380 road will be constructed as part of the proposed project rehabilitation and maintenance, at km196, km172, km166, km160, and km158. The main objective of these interchanges is to avoid level crossings that can disrupt the through traffic flow and pose traffic safety hazard. Designed alternatives were proposed, assessed and analyzed. The final design, representing basically loop type of interchanges was justified by current and future traffic flows, site conditions construction method and simplified functionality. All interchanges will involve precast single beam bridge type, in length of 33 meters,

delivered to the respective sites. All interchanges' bridges and main hydraulic structures have also been calculated to resist potential seismic events and major climate changes.

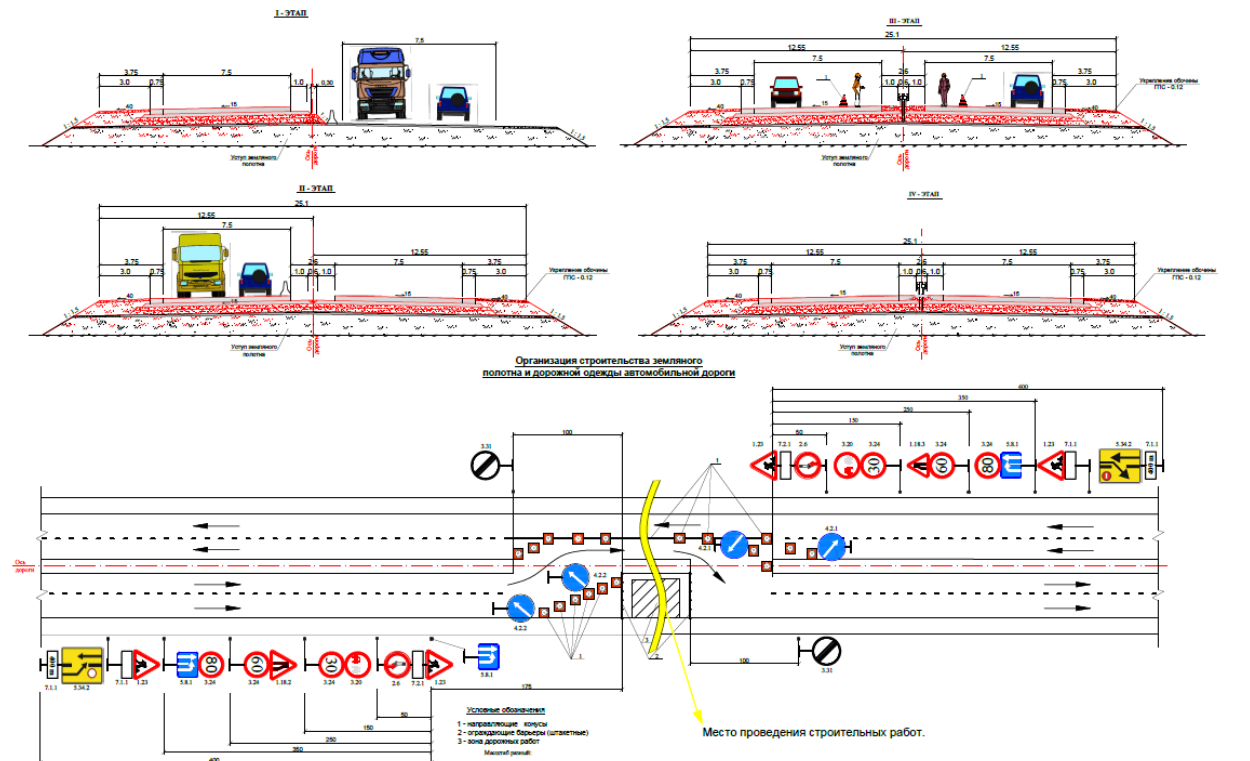
8. **Other small hydraulic structures and bridges.** There are 14 existing small bridges, each in average length of 5 to 6 meters, along the project road, six of which are over irrigation canals. None of the bridges are crossing rivers. Six of these bridges will be replaced. The existing bridges at km 184+000, km 215+900 and km 227+100 are in good condition and will remain as they are. The bridges at km 217+500, km 224+400 and km 228+350 are to be dismantled and removed since there are no watercourses crossing the road anymore at these locations. The bridge at km 224+900 will be replaced with a reinforced concrete pipe. In addition, there are number of pipe culverts and rainfall outlets, requiring replacement and/or new construction.

Figure 2A-3 Typical cross section of bridge



9. The method of traffic management will require that the road will be opened, free for traffic and maintained by contractor at all time during the construction activities.

Figure 2A-4 Method of traffic management during construction



10. **Lessons learnt from previous projects.** Lessons learnt have been applied in this design, however, from other countries as this is the first AIIB operation in Uzbekistan. The main lesson learned is related to preparation of accurate detailed designs based on required field investigations and application of the appropriate works specifications, which in this project have been rigorously checked and accepted. The second lesson is to use the local knowledge and experience in designs of this type of standard road projects, which has turned to be working very well. Therefore, there were no any opposition or reluctance from the client, while in the same time they accepted also to learn new and modern methods of design and construction on one of the components of the project. The third lesson is to have established PIU with champion as its Manager and to establish excellent working relationship with decision makers, the Chairman and Deputy Chairman of the Project Implementing Entity, RC.

Karakalpakstan And Khorezm Regional Road Network Projects

11. **Network segment selection.** The RC selected segments in both regions and ensured that there are no gaps in the improvement of a road segment between road segment's connections to higher category roads. The RC will estimate the added cost based on current per kilometre cost calculated in the feasibility studies for the individual projects, which would be approximately \$70-80 million additional cost.

12. **Project delivery modality.** The RC agreed to apply input-based contract delivery approach to the Karakalpakstan and Khorezm project roads. The RC agreed to an international competitive bidding for the project with no restrictions for local contractors and no restrictions in the number of packages/lots that the contractors can bid on. The size of the contracts is expected to be approximately 40-50 km with approximately 10-12 contractors executing the work. The size of the construction contracts may be adjusted down to provide opportunity to local contractors to bid on smaller contracts better aligned with their technical and financial capacity.

13. **Project technical readiness.** The RC has prepared feasibility studies, construction drawings, and cost estimates for 21 segments for Khorezm region and 28 segments for Karakalpakstan region. The RC has also prepared Uzbek-standard environmental and social development (E&S) documents which do not meet AIIB requirements. The E&S documentation will be updated to AIIB standards. The classification of the project is a Category B based on the AIIB site visit in October 2019.

14. **Technical due diligence.** The RC has agreed to make available to AIIB for technical due diligence and review all technical documentation for the projects, including feasibility studies, traffic studies, construction drawings, environmental and social assessment, and economic and financial analysis.

15. **Project Implementation.** The Project Implementation Unit (PIU) established under the Road Fund to implement the BRNIP will also have responsibilities to implement the Khorezm and Karakalpakstan Road Network Improvement Projects. The financing for the PIU will be from loan proceeds to include retroactive financing.

16. **Tentative investment plan.** The proposed project is currently estimated to cost about \$179.0 million. There are no land acquisition and resettlement costs foreseen for the project. The investment plan will be further refined in the project preparation for Phase 2.

Annex 3: Uzbekistan - Sovereign Credit Fact Sheet

Recent Economic Development

1. Uzbekistan is a lower-middle income country with GDP per capita at USD 1,534 and a population of 32.4 million. Growth in 2019 was robust, at 5.6 percent, driven by investment, industry (including construction), and services sectors. Inflation remains relatively high, at about 15 percent, due to high growth, continued liberalization of regulated prices and the impact of currency depreciation in August 2019. Current account deficit in 2019 was elevated, at about 5.6 percent of GDP, reflecting high investment rates. Fiscal policy was prudent, with revenues more or less balancing expenditures.

2. Since taking office in 2016, the new government has embarked a reform agenda to transform Uzbekistan from a state-led to a more market-based economy.¹ Reforms included introducing market-pricing mechanisms, the removal restriction, and accelerating industrialization. Even though the government and the SOEs continue to dominate the economy, the reforms have been progressing—the recently-announced plans include privatization of many SoEs and injecting more competition into key markets.

3. The modernization agenda made Uzbekistan an attractive destination for investment, both foreign and domestic. This is further underpinned by robust growth potential, young and abundant labor supply, diversified commodity exports, macroeconomic stability and modest debts. Investment rates are remarkably high, around 40 percent of GDP in 2019.

Selected Macro Indicators (2017-22)

Economic Indicators	2017	2018	2019	2020*	2021*	2022*
Real GDP growth 1/	4.5	5.4	5.6	1.5	7.0	6.0
CPI inflation (average) 1/	13.9	17.5	14.5	12.9	9.5	6.4
Current account balance	2.5	-7.1	-5.6	-9.6	-7.9	-6.4
General government balance 4/	-1.9	-2.3	-3.9	-5.6	-3.5	-2.8
Nominal gross public debt	20.2	20.4	29.3	34.5	35.3	35.4
Gross public financing need	3.1	2.6	11.6	8.8	6.4	5.7
Gross external debt	34.1	34.3	43.5	46.3	47.6	47.2
Gross external financing needs	0.4	11.9	6.3	14.1	8.9	7.7
Gross international reserves 2/	14.4	12.2	14.4	11.5	10.2	9.1
Broad money growth (M2) 1/	41	13.2	13.8	16.7	18.2	21.6
Exchange rate (UZS/USD) 3/	8,140	8,354	9,501	10,135

Note: in percent of GDP unless indicated otherwise. * projections

1/ percent change year-on-year; 2/ months of imports; 3/ end-of-period, for 2020: as of May 31; 4/ IMF definition

Source: IMF Country Report No. 20/171. World Economic Outlook April 2020, AIIB staff projections

4. The Covid-19 pandemic, with 3,583 reported cases and 15 deaths as of May 31st, and the related economic shock will impact Uzbekistan significantly. Tight lockdowns measures imposed in March and a collapse in economic confidence will lead to a serious economic slowdown. In addition, remittances worth some 15 percent of GDP (mainly from Russia) will be affected. The shock is compounded by a decline in oil prices, that is impacting gas exports, which account for over 10 percent of exports.

¹ The president was elected on 4 December 2016 and the prime minister was appointed on 14 December 2016. President Mirziyoyev's development strategy 2017-21 laid out a vision of major structural reforms across all economic policy areas and institutions.

5. The response, on the economic front has been relatively modest so far. It included increasing the number of low-income families receiving social benefits, assisting affected businesses via interest subsidies, financing public works and postponing taxes. State-owned banks are extending loan maturities for the affected sectors. The central bank lowered the interest rate by 100bps and allowed the exchange rate to depreciate moderately, by 6 percent.

Economic Outlook and Risks

6. As the result of the double crisis, economic growth in 2020 is expected to slow down to about 1-2 percent, down from 6 percent expected earlier - according to the IMF projections. The fiscal balance will slide into a 3 percent of GDP deficit, due to lower revenues and higher expenditures, and the current account balance is expected to deteriorate to almost 10 percent of GDP.

7. Provided Covid-19 is contained in the second half of 2020 and restrictions gradually removed, there should be a strong rebound in 2021. Inflation is projected to decline gradually to about 11 percent by end-2020 due to weak demand but remain under the continued pressures from price liberalization and public wage adjustments.²

8. Notwithstanding the pandemic and oil shocks, Uzbekistan's debt remains sustainable. As a result of diversified commodity exports and low initial debt the country has substantial buffers, with reserves covering 13 months of imports (almost 50 percent of GDP) and public debt as low as 29 percent of GDP in 2019, of which over 90 percent is owed to official creditors. Over the medium term, the debt ratio is expected to increase only moderately. Economic and debt management are improving, with the authorities planning to introduce inflation targeting and fiscal rules (e.g. debt limits). Total external debt remains moderate 43.5 percent of GDP in 2019. Even though spreads have increased by about 250bps, Uzbekistan's creditworthiness is being sustained—on April 10, Fitch affirmed Uzbekistan rating at BB- stable.

9. Overall, risks to the economic outlook are to the downside. They include a prolonged global downturn and a failure to contain the virus. The government's commitment to the reform agenda will be tested by weaker investment and potentially by growing social discontent as unemployment and economic hardship increase.

10. In the longer run, given its large working-age population, creating more and better jobs is the country's overarching priority.³ Uzbekistan has anchored its development agenda to the SDGs and the total additional spending need to reach the SDGs in social and infrastructure sectors is estimated at about 8.7 percent of GDP in 2030, with a focus on health and roads.⁴

² Continued price adjustments are needed, especially in the energy sector, so to reduce SOE losses, save energy, and attract foreign investors to the energy sector. Also, the government plans to significantly expand active labor market policies (ALMPs) to encourage temporary employment by providing a wage subsidy to employers.

³ The working-age population as a share of the total population in Uzbekistan has surged since the 1990s. It's predicted to peak around 2040. The ratio will stay at around 70 percent during 2020-50. This offers an opportunity for rapid and inclusive catch-up growth.

⁴ A presidential resolution adopted in October 2018 sets 16 of the 17 SDGs as national goals to be attained by 2030, including 127 related targets. The additional spending needs on health, education and infrastructure-related are estimated at 2.3 percent, 0.3 percent and 6.1 percent of GDP in 2030 respectively.