



RESTRUCTURING PAPER
ON A
PROPOSED PROJECT RESTRUCTURING
OF
REGIONAL ROADS DEVELOPMENT PROJECT
APPROVED ON JUNE 23, 2015
TO
THE REPUBLIC OF UZBEKISTAN

TRANSPORT

EUROPE AND CENTRAL ASIA

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ABBREVIATIONS AND ACRONYMS

CAR	Committee for Automobile Roads under the Ministry of Transport
CAREC	Central Asia Regional Economic Cooperation Program
GoU	Government of Uzbekistan
IDA	International Development Association
IRI	International Roughness Index
MoF	Ministry of Finance (the Borrower)
MoT	Ministry of Transport
PDO	Project Development Objective
PIU	Project Implementation Unit
PPP	Public-Private Partnership
RAMS	Road Asset Management System
RRDP	Regional Roads Development Project
RRF	Republican Road Fund
TAR	Tashkent – Andijan Toll Road PPP Project



BASIC DATA

Product Information

Project ID P146334	Financing Instrument Investment Project Financing
Original EA Category Partial Assessment (B)	Current EA Category Partial Assessment (B)
Approval Date 23-Jun-2015	Current Closing Date 30-Sep-2021

Organizations

Borrower Republic of Uzbekistan,State Committee of Automobile Roads	Responsible Agency Republican Road Fund,Avtoyulinvest Agency,Avtoyulinvest Agency
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Project Development Objective (PDO)

Original PDO

The proposed Project Development Objectives (PDOs) are to reduce road user costs on the project roads and develop a sustainable investment program for regional road asset management.

Summary Status of Financing (US\$, Millions)

Ln/Cr/Tf	Approval	Signing	Effectiveness	Closing	Net Commitment	Disbursed	Undisbursed
IDA-56790	23-Jun-2015	28-Oct-2016	16-Nov-2016	30-Sep-2021	200.00	55.51	149.52

Policy Waiver(s)

Does this restructuring trigger the need for any policy waiver(s)?

No

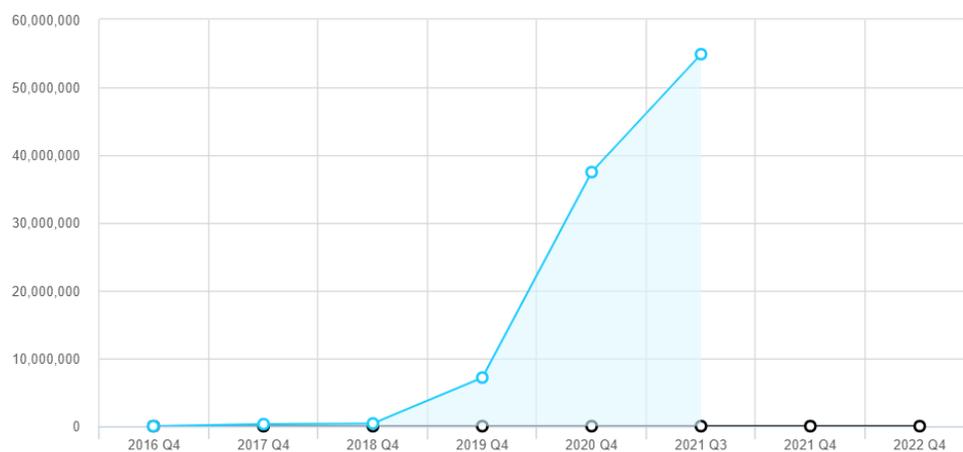


I. PROJECT STATUS AND RATIONALE FOR RESTRUCTURING

Project Status

1. The Regional Roads Development Project (RRDP), the World Bank's first in the sector, was approved in June 2015. Since 2019, when the Ministry of Transport was given responsibility for the project, implementation has improved: by end-2019, procurement for all civil works planned under the project was completed, and to date, 270 km of the total 383 km of local and rural roads have been rehabilitated, contributing to improved local and intra-regional connectivity for five districts in Tashkent region and 145 villages in the Ferghana Valley, where previously, poor roads undermined access to economic opportunities and jobs, education and social services. This has contributed to the increased welfare of 420,000 households totaling 2.3 million beneficiaries in project areas, particularly significant for the Ferghana Valley, home to one of the highest poverty rates in the country.
2. By March 2021, US\$100.95 million of the total US\$200 million of IDA financing was committed for rehabilitation and construction supervision of 383 km of roads in Tashkent, Ferghana, Andijan and Namangan regions, of which, US\$55.2 million (27.6 percent) had disbursed. An additional US\$4.7 million is committed for consultancies and goods under Components 2 and 3, on top of which US\$3.85 million is reserved for ongoing bids under Component 2 and the contingencies for Component 3, resulting in project savings of US\$90.5 million¹. Despite the challenges posed by COVID-19 restrictions, the project ramped up in 2020 and increased the disbursement ratio from 3.5 to 27 percent, or 52 percent of the committed contracts (see graph below).

CUMULATIVE DISBURSEMENTS (USD)



3. **Ratings.** The completion of procuring all civil works under the project in FY20 allowed the team to upgrade the Progress towards achieving the PDO and the Project implementation progress (IP) ratings to Moderately Satisfactory (MS). However, given the lack of time to achieve the current PDO indicators by the current closing

¹ Savings resulted from higher cost estimates based on the market analysis of Uzbekistan at the time of project preparation. In addition: (i) the original project design included a reserve fund (unallocated fund) for additional road sections in the project areas that were not used; (ii) the depreciation of the Uzbekistani Sum (UZS) between January 2015 and May 2020, which led to the loss of about 75 percent of the value of the majority of the construction inputs which were locally sourced; and (iii) cost-effective procurement and diligent contract management that ensured value-for-money and cost of construction below the estimates set at the appraisal. Out of total savings, US\$27.5 million is originated from lower actual contract amount than budgeted for four civil work contracts in four regions and US\$63 million from unused funds. Cost saving forecast under the project is provided in Annex 1.



date of September 30, 2021 and the large undisbursed balance, both ratings were recently downgraded to Moderately Unsatisfactory (MU). Taking into consideration the implementation and disbursement progress over the FY20-FY21, the DO and IP ratings will be reconsidered for upgrade, once the proposed project's closing date extension is approved. Components 1 (rehabilitation of regional roads) and 3 (Project Management) are rated MS, while Component 2 (road sector institutional strengthening) is rated MU. There are no outstanding audits or audit qualifications, and compliance with safeguards requirements in the Resettlement Policy Framework (RPF) for the Tashkent and Ferghana Valley have been satisfactory.

4. **Project Components Implementation.**

- (a) Component 1. Rehabilitation of Regional Roads.** All contracts for civil works and supervision have been signed for works and services commenced in December 2019 - January 2020. However, progress slowed down with the suspension of all civil works in mid-March 2020 due to COVID-19 quarantine and government-imposed restrictions on mobility across the country. The works have been slowly resuming and are expected to be completed by June 2021, before the current closing date. During the implementation, there were several technical challenges that were resolved. The original designs, some of which were prepared long before contract award, required small modifications to help ensure the sustainability of works and road safety and contract amendments as a result of bill of quantity change to ensure the expected service life of the rehabilitated roads. Additional costs were covered under the contingencies already included in the contracts. The disbursement is expected to pick up in Q4FY21.
- (b) Component 2. Road Sector Institutional Strengthening.** Several training activities to build the capacity of the RRF and the local contracting industry have been carried out over the past three years. A contract for consulting services for road sector strengthening technical assistance (TA), including development of a Road Asset Management System (RAMS), has been signed. Procurement of equipment for the Road Research Institute (four lots) is mostly completed and the rest is also underway. These procurement actions are estimated to be completed by end of Q3FY21.
- (c) Component 3: Project Management.** All supervision consultants are in place, and the PIU is fully staffed. The PIU has improved its monitoring and oversight to ensure satisfactory supervision consultants' performance in project areas.

Rationale for Restructuring



5. As the Bank's first road sector project in Uzbekistan, the project got off to a difficult start, mired with severe delays in effectiveness (over 17 months), feasibility study completion, PIU establishment, and procurement of the first civil works contract, resulting in re-tendering and a change of the procurement strategy. These were symptoms of the low client ownership, which prevailed in the first three years of project implementation. During this period, there were also frequent changes to the overall government structure, corresponding to major political and economic reforms, which were initiated in the country at the end of 2016. As a result, there were three changes of the governing body for the implementing agency of the project. Since 2019, these issues that undermined project implementation have been resolved: Government has renewed its commitment to the project, improved its internal processes and decision making, and stabilized project implementation under the Ministry of Transport. The project's strong implementation experience under the Committee for Automobile Roads (CAR) under the Ministry of Transport since 2019 reflects these improvements.
6. The Government of Uzbekistan has requested the use of \$90.5 million in project savings and extension of the project closing date to support its transport sector reform program while scaling up project's results. In line with the GoU's strong priority to rehabilitate the majority of the country's regional and rural roads in 2021-2023, most of the savings would be used to extend by 239 km the aging regional road network in Tashkent region, which is suffering increased road traffic volumes and road accidents from rapid urbanization. This extension of the road network will improve its serviceability and safety, while generating employment: roads works under the restructuring are expected to create approximately 1,400 full-time positions over the eight months which will help alleviate the economic and social impacts of the COVID-19 pandemic that disproportionately affected the rural population. Moreover, the economic downturn caused by the COVID-19 pandemic has constrained the state budget, and continued Bank support can cushion the negative impact on on-going road development works.
7. Project extension will also allow the Bank to deepen support to the GoU's overall sector reform agenda. The institutional strengthening component can be expanded to support the GoU's far-reaching program of transport sector reforms aimed at modernizing the sector. Specifically, this includes TA for enhancing MoT's transport planning capacity and preparing and assessing PPP projects in the road sector. The restructured project will finance the preparation of a National Transport Master Plan (NTMP) for sustainable development of the transport sector for 2020 - 2040. Project support for this activity complements the Bank's services and analytics (ASA) for transport policy (Bank Report No: AUS0000970, May 20, 2020) and ongoing civil aviation sector reform work under Reimbursable Advisory Assistance (RAS). The NTMP is expected to include a time-bound priority program for institutional (organizational, policy and regulatory) reform, capacity building and physical investments (from public and private sources) covering all transport modes. Also included is a PPP feasibility (pre-investment) study for upgrading of the Tashkent-Andijan Road (TAR) to expressway standards, including a new road tunnel (19 km long) through the Kamchik Pass. This strategic transport investment will help to fully integrate physically and economically the Ferghana Valley with the rest of the country, while improving the international road connectivity of this double landlocked country. The TAR is a critical link of the transcontinental Asian Highway 7; and its Tashkent end is located at the confluence of four of the six CAREC international trade and transit corridors.
8. As detailed in the Economic Rationale section, substantial economic efficiency gains to Uzbekistan are expected to accrue from both the ongoing road rehabilitation works as well as those envisaged under the restructuring, through preservation of the road assets, and the reduction in transport costs and time delays. The restructuring also include a road safety audit and investment activities that were not envisaged under the original project scope to enable the safety retrofitting for sections under ongoing or completed road works, as well as the new ones envisaged under the restructuring. This is paramount, since the poor road safety records



on the project roads, particularly at the urban sections, are expected to be exacerbated by the increased road speed following rehabilitation.

9. The project has given a strong impulse for the domestic road construction industry to develop technically and financially, following the Bank's revision of the initial procurement strategy to prioritize local companies. The strategy allowed to contract 25 out of total 26 lots to three local companies, which learned how to work with an IFI project and the FIDIC standards thanks to the Bank operation. In addition, there is another the World Bank's value-added, which is significantly greater than its financing of the project. The application of the Bank's safeguards policies proved to have been of enduring value in helping the Government of Uzbekistan (GoU) set new standards for fair treatment of people affected by infrastructure projects. The new government has lifted previous restrictions on civil society, established new direct grievance response mechanisms, and moved to put in place more citizen engagement. GoU's experience with the Bank's safeguard policies under the RRDP is considered as having demonstrated best practice standards among state and other IFI-funded road projects.
10. **Economic rationale.** A cost-benefit analysis was conducted for additional 49 sections of roads; from this, 30 sections were selected as priority by CAR, providing suitable economic return and compatible with the available budget. Economic benefits were calculated based on the outputs from the HDM-4 model and compared the "with project" and "without-project" scenarios. The investment in the additional road sections in the Tashkent region is estimated to have an economic internal rate of return (EIRR) of 16.8 percent and a net present value (NPV) of US\$48.91 million at 5 percent discount rate². The evaluation considered savings in vehicle operating costs, travel time costs and road maintenance costs due to the road rehabilitation, road safety benefits and CO_e emissions costs. Full details, including a sensitivity analysis, are in Annex 4 (Economic and GHG Accounting Analysis).
11. **Implementation timeline.** The current and additional activities are realistic to implement till the requested new project closure date of August 30, 2023 thanks to (i) substantial improvement of the project implementation over 2019-2021 with a current active pace of civil works and procurement of the institutional component, (ii) strong ownership of the project and commitment by the implementation agency to follow hard deadlines for the specific milestones of the proposed project activities, and (iii) top political will to rehabilitate the regional roads to meet the needs of population and road users in the regions of the country. The detailed implementation schedule in the Annex 2 is provided by RRF/PIU and agreed with the Bank team as reasonable set of actions to pursue the current and new activities. The Bank team is convinced that all proposed activities will be completed by the extended project closure date of August 30, 2023 and, therefore, sets the below deadlines to meet the milestones to timely achieve the project completion. It was agreed with the implementing agency that the activities will be partially cancelled in case the below hard deadlines are missed.

² The initial evaluation was done in 2012 using a discount rate of 10%, but the discount rate was revised considering the Technical Note on Discounting Costs and Benefits in Economic Analysis of World Bank Projects, issued 2016



	Activity	Deadline	Milestone
1.	Regional Roads Rehabilitation in Tashkent region, Phase 2	December 31, 2021	Contract signing for all civil work lots and supervision consultancy
2.	Regional Roads Rehabilitation in Tashkent region, Phase 2	February 28, 2022	Contract signing for consultancy services
3.	Transport sector development Master Plan of the Republic of Uzbekistan	February 28, 2022	Contract signing for consultancy services

II. DESCRIPTION OF PROPOSED CHANGES

12. Considering the importance of the transport sector in the development of the Republic of Uzbekistan, the Borrower requested the Bank in a letter dated February 7, 2020 to allocate the project savings of about US\$90.5 million to finance the activities described below. It took a year to proceed with the restructuring process due to unavailability of the FS, COVID-19 situation and the recommendation to obtain the second project extension request from the Borrower.

- (a) **Preparation of the NTMP (US\$5 million).** The GoU intends to develop a new national transport plan as part of its efforts to modernize the transport sector in Uzbekistan. This follows the formulation and adoption of a national transport strategy by the GoU, partly supported by ASA from the Bank. This activity falls under Part II of the Project, Road Sector Institutional Strengthening, sub-component (v), review of the Borrower's road sector policy and institutional framework.
- (b) **Preparation of FS for the TAR PPP project (US\$5 million).** The development of toll expressway on TAR, one of the country's main international corridors for transit traffic, is one of 15 priority PPP projects of the GoU. As such, on April 30, 2020, PwC/Arup consulting firm consortium completed the Global Infrastructure Facility-funded pre-feasibility study (PFS) to upgrade the TAR to expressway standards including a possible new road tunnel through the Kamchik Pass. The proposed financing will allow the GoU to conduct a comprehensive pre-investment (full feasibility) study of the TAR project. This activity falls under Part II of the Project, Road Sector Institutional Strengthening, sub-component (ii) supporting the development of regional roads rehabilitation programs.
- (c) **Rural connectivity improvements in Tashkent region (US\$75 million).** Civil works will include the improvement of additional 30 sections of roads, a total 239 km length, to bring the selected road sections to the required Uzbekistan design standards, along with substantial safety enhancements, to meet the projected transport demand and provide safe rural connectivity in Tashkent region. This activity falls under Part I of the Project, Rehabilitation of Regional Roads.
- (d) **Construction supervision (US\$5.5 million).** The proposed financing will finance an engineer consultant to supervise rehabilitation of additional road sections in Tashkent region. This activity falls under Part I of the Project, Rehabilitation of Regional Roads.

13. **FS Report.** Per the FS, all roads are local roads in poor condition with a high average roughness (International Roughness Index, IRI) of around 6 m/km and carry traffic ranging from 100 to over 8,000 vehicles per day with high trucks traffic of 29 percent on average. Roads are standard two-lane asphalt roads located in flat terrain, mostly in a need for resurfacing. There is no widening considered. FS of the proposed sections of roads were



prepared by Uzyulloyiha project design institute under CAR, and the reports are being cleared internally by the responsible government agencies. 30 sections of roads for a total 239 km length have been selected based on traffic volumes, road conditions and allocated budget of US\$75 million from the project savings. Civil works on the additional sections of roads consist of rehabilitation works to bring the selected road sections to the required design standards, including required roadway and roadside safety enhancements, to meet the projected transport demand. A map of proposed additional sections of roads is provided in Annex 3.

14. **Environmental and Social Assessment.** An environmental and social assessment following national requirements is being prepared by the safeguard consultant of PIU and will be completed once the detailed design for the new road sections is finalized by the end of March 2021. Since all selected new road sections in Tashkent region require rehabilitation of the existing roads without new construction, no significant adverse environmental impacts are expected. Based on that, the EA category for the project remains “B”. To manage the potential site-specific environmental impacts, the existing project ESMF will be applied, and the earlier prepared ESMP for Tashkent region will be updated to include the new road sections. The updated regional ESMP will be included into the bidding documents and will then be incorporated into the contracts for the provision of works. The contractors will be required to prepare contract specific ESMPs including Health & Safety Plans and Emergency Response Plans before any physical works start. To manage social impacts associated with economic and physical displacements the existing RPF will be applicable for additional road sections. The RPF will guide the preparation of the Resettlement Action Plan (RAP), commensurate with the extent of the impact, once the detailed design becomes known. The RAP will be: (i) prepared in compliance with the Bank’s Operation Policy on Involuntary Resettlement and the RPF, (ii) submitted for the Bank’s review; (iii) consulted on with affected people, (iv) disclosed by the Bank and in-country; and (v) implemented in full (all affected people are compensated), all before the start of construction works.
15. **COVID-19 response.** Considering the COVID-19 global outbreak, civil works related to rehabilitation of additional roads will include the following mitigation measures: (i) the bidding documents will require the contractor(s) to provide adequate personal protective equipment to people working in the sites and offices (may even require that larger works contractors to establish and stock a small health clinic in the site), maintain social distance and propose a flexible implementation plan in view of the impact of lockdowns, border delays, worker illness; (ii) most of the bidding process will be done online, such as the bidding documents will be uploaded on the project website for interested bidders to access and prepare bid documents; (iii) extend the bid submission deadlines for procurements where potential bidders are affected by COVID-19; and (iv) review the supply chain risks and proactively develop mitigation approaches such as identifying alternative sources for materials, agreeing to adjust the contract and increasing the levels of buffer inventory.
16. **Road Safety.** One of the original RRDP project’s main objective was the rehabilitation and upgrade of the regional roads to meet the Uzbek design standards. At the time of approval, the designs of the rehabilitation works were under preparation and could not be reviewed by the Bank. During project implementation, it became clear that the designs were missing sufficient road safety measures to mitigate the potential increase in accidents resulting from the improved road conditions and the inevitable travel speed increase. Following the Bank team guidance, improvements were made by the contractors in work zone traffic management and road safety measures. However, traffic management, particularly in the built-up areas is still not at the level expected and required. As a consequence, the Bank would like to use the opportunity offered by the project restructuring to i) retrofit the road safety measures on already rehabilitated sections, and ii) include adequate road safety measures in the design of the additional 30 road sections included under the restructuring. The road safety measures will be determined following a professional road safety audit or black spot study and the relevant road safety measures will implemented during the civil works for the additional roads included under



the restructuring. The retrofitting of the road safety measures for already rehabilitated road sections will be implemented under the existing contracts using the contingency, which is still largely available (12 percent of the committed amounts). The interventions on the additional road sections will be implemented by the civil work contractors based on the measures indicated in the road safety audit. The road safety audit or black spot study will be prepared by a consultant procured internationally and that will be financed by the Component 3.

17. **Results Framework.** The restructuring will not affect the PDO. However, the Results Framework (RF) is proposed to be changed to reflect the restructured project scope and the revised project closing date. The proposed RF is agreed with the PIU and listed below. New PDO indicators will include (i) average road roughness on project roads and (ii) average travel time reduction on project roads, both of which replace the original indicators on vehicle operating costs and travel time, measured by average vehicle speed. The new PDO indicators will also serve to measure achievement of PDO as both of them are more fundamental and accurate to estimate improved road conditions and can be measured even all other conditions are considered to remain constant. In addition, there are new Intermediate Results indicators, including (i) direct jobs created locally in project areas, measured in person-days, and preparation and completion of (ii) the NTMP and (iii) Pre-Investment Study for the TAR. The latter two are added as the deliverables of the new activities to insitutional strengthening support of the road sector.
18. **Loan Closing Date.** The Borrower had initially requested to extend the project closing date on February 7, 2020 by 12 months to September 30, 2022 to ensure completion of all activities. Given the COVID-19 pandemic situation, an additional 11-month extension of the project closing date till August 30, 2023 was requested by the GoU on January 26, 2021 to manage possible delays in project implementation. Based on this, RRDP's current closing date of September 30, 2021 is proposed to be extended by 23 months until August 30, 2023. This would be the first extension of the project's (IDA Credit 5679-UZ) closing date. The updated Implementation Schedule is shown in Annex 2, which demonstrates how all project components can be implemented before the proposed revised closing date.
19. **Components and Cost.** The following table reflects the project costs by component at appraisal, and the proposed reallocated amounts for the IDA Credit.



Project Components at Appraisal	IDA Financing (US\$ million)	IDA Financing (US\$ million)	Difference between the appraised and revised allocations
	At Appraisal	Revised Allocation	
1. Rehabilitation of Regional Roads , including Construction Supervision and Road Safety Measures	181.05	180.20	-0.85
2. Road Sector Institutional Strengthening , including:	5.00	15.00	10.00
- Road Sector Governance Review	1.75	1.68	-0.07
- Road Equipment for Scientific Research Institute	3.25	3.32	0.07
- Pre-Investment Study for TAR PPP project	-	5.00	5.00
- National Transport Master Plan	-	5.00	5.00
3. Project Management , including:	9.30	4.80	-4.50
- Road Safety Consultancy	-	0.10	0.10
- Project Management	9.30	4.70	-4.60
Unallocated	4.65	0.00	-4.65
Total IDA Financing:	200.00	200.00	

20. **Reallocation between Disbursement Categories.** The letter from the Borrower and PIU dated September 30, 2020 and March 10, 2021, respectively, requested SDR 7.245 million summed from (i) unallocated funds, (ii) savings of SDR 0.602 million from Category 1 and (iii) SDR 3.263 million savings from the Category 3, to be reallocated to Category 2 (Road Sector Institutional Strengthening) to develop the NTMP, and to help prepare the upgrade of the TAR using a PPP approach. The following reallocation of the funds across the categories is proposed:

Category	Amount of the Credit Allocated (expressed in SDR)	Amount of the Credit Allocated (expressed in SDR)
	At Signing	Revised Allocation
(1) Goods, works, non-consulting services, and consultants' services under Part I of the Project	131,260,000	130,658,000
(2) Goods, non-consulting services, consultants' services, Training, and Incremental Operating Costs under Part II of the Project	3,620,000	10,865,000
(3) Goods, non-consulting services, consultants' services, Training, and Incremental Operating Costs under Part III of the Project	6,740,000	3,477,000
(4) Unallocated	3,380,000	0
Total Amount	145,000,000	145,000,000



21. **Disbursement Estimates.** The estimated annual disbursements are modified as follows:

Fiscal Year	Disbursements		
	Original (US\$)	Revised (US\$)	Proposed (US\$)
FY2015	-	-	-
FY2016	40,000,000	-	-
FY2017	30,000,000	2,000,000	300,000 (actual)
FY2018	30,000,000	28,000,000	100,000 (actual)
FY2019	30,000,000	60,000,000	6,764,963 (actual)
FY2020	40,000,000	70,000,000	30,323,477 (actual)
FY2021	20,000,000	25,000,000	49,291,559
FY2022	10,000,000	15,000,000	55,930,000
FY2023	-	-	46,680,000
FY2024			10,610,000
Total	200,000,000	200,000,000	200,000,000

List of Annexes:

Annex 1. Project Savings under RRD

Annex 2. Planned Implementation Schedule for the Additional Project Activities

Annex 3. Map of proposed road sections for rehabilitation as provided by RRF

Annex 4. Economic and GHG Accounting Analysis

III. SUMMARY OF CHANGES

	Changed	Not Changed
Results Framework	✓	
Components and Cost	✓	
Loan Closing Date(s)	✓	
Reallocation between Disbursement Categories	✓	
Disbursement Estimates	✓	
Implementation Schedule	✓	
Economic and Financial Analysis	✓	
Implementing Agency		✓
DDO Status		✓



Project's Development Objectives		✓
PBCs		✓
Cancellations Proposed		✓
Disbursements Arrangements		✓
Overall Risk Rating		✓
Safeguard Policies Triggered		✓
EA category		✓
Legal Covenants		✓
Institutional Arrangements		✓
Financial Management		✓
Procurement		✓
Other Change(s)		✓
Technical Analysis		✓
Social Analysis		✓
Environmental Analysis		✓

IV. DETAILED CHANGE(S)**COMPONENTS**

Current Component Name	Current Cost (US\$M)	Action	Proposed Component Name	Proposed Cost (US\$M)
Rehabilitation of Regional Roads	221.04	Revised	Rehabilitation of Regional Roads	215.54
Road Sector Institutional Strengthening	5.00	Revised	Road Sector Institutional Strengthening	15.00
Project Management	9.30	Revised	Project Management	4.80
TOTAL	235.34			235.34



LOAN CLOSING DATE(S)

Ln/Cr/Tf	Status	Original Closing	Revised Closing(s)	Proposed Closing	Proposed Deadline for Withdrawal Applications
IDA-56790	Effective	30-Sep-2021		30-Aug-2023	30-Dec-2023

REALLOCATION BETWEEN DISBURSEMENT CATEGORIES

	Current Allocation	Actuals + Committed	Proposed Allocation	Financing % (Type Total)	
				Current	Proposed
IDA-56790-001 Currency: XDR					
iLap Category Sequence No: 1		Current Expenditure Category: G, W, Non-CS, CS -Part I			
	131,260,000.00	39,113,614.07	130,658,000.00	100.00	100.00
iLap Category Sequence No: 2		Current Expenditure Category: G, Non-CS, CS, TR,IOC -Part II			
	3,620,000.00	234,394.62	10,865,000.00	100.00	100.00
iLap Category Sequence No: 3		Current Expenditure Category: G, Non-CS, CS,TR, IOC -Part III			
	6,740,000.00	531,115.76	3,477,000.00	100.00	100.00
iLap Category Sequence No: 4		Current Expenditure Category: UNALLOCATED			
	3,380,000.00	0.00	0.00		
Total	145,000,000.00	39,879,124.45	145,000,000.00		

DISBURSEMENT ESTIMATES

Change in Disbursement Estimates

Yes

Year	Current	Proposed
2015	0.00	0.00



The World Bank

Regional Roads Development Project (P146334)

2016	0.00	0.00
2017	2.00	300,000.00
2018	28.00	100,000.00
2019	60.00	6,764,963.00
2020	70.00	30,323,477.00
2021	25.00	49,291,559.00
2022	15.00	55,930,000.00



Indicator Name	PBC	Baseline	Intermediate Targets								End Target
			1	2	3	4	5	6	7	8	
Action: This indicator has been Marked for Deletion	<p>Rationale: A new PDO indicator "Average road roughness on project roads, m/km" will replace the previous indicator "vehicle operating costs for trucks per km". Vehicle operation cost (VOC) is calculated (with HDM-4) and dependent on the price of factor inputs (fuel, labor, spare parts, vehicle cost, and depreciation, etc..) as well as vehicle speed (which affects fuel consumption), and travel time, among other things. Precise information for the vehicle fleet in Uzbekistan is difficult to obtain and induces many uncertainties in the calculation. On the other hand, if all other road features remain unchanged (road alignment, geometry, and so on), the main factor that affects vehicle speed and represents road condition before/after rehabilitation is road roughness. Vehicle operating cost is affected by many exogenous factors and the actual /estimated change in VOC may not correctly reflect the contribution from improvement in road surface condition. Thus, the change in road roughness is a more fundamental indicator of improved road conditions. Its effect on VOC can be estimated if all other conditions are considered to remain constant.</p>										
	Travel time measured by a proxy variable - average vehicle speed, km/hour (Number)	40.00	40.00	43.00	47.00	51.00	55.00				
Action: This indicator has been Marked for Deletion	<p>Rationale: A new PDO indicator "Average travel time reduction on 10 km of each inter-urban section of project roads, percentage" will replace the previous indicator "travel time measured by a proxy variable average vehicle speed, km/hour".</p> <p>Travel time is a fundamental unit, whereas speed is a derivative unit calculated from distance divided by time. Distance in the case of these project roads and rehabilitation works remains constant, so the changed indicator is travel time. Moreover, the objective of the project is not to increase speeds, as on the local road network, congestion was not identified as a general problem, and the road improvement will not result in an increase of speed on the urban sections. The use of travel time on interurban sections considers the smoothness of travel, with improved roughness of the road surface and eliminating bottlenecks at junctions, without seeking for increased speeds on urban sections.</p>										
	Average road roughness on project roads (Meter(m))	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00	7.00
Action: This indicator is New	<p>Rationale: A new PDO indicator "Average road roughness on project roads, m/km" will replace the previous indicator "vehicle operating costs for cars per km".</p>										



Indicator Name	PBC	Baseline	Intermediate Targets								End Target	
			1	2	3	4	5	6	7	8		
Average travel time reduction on typical 10 km of inter-urban sections of project roads (Percentage)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.00
<p>Rationale: <i>Action: This indicator is New</i> A new PDO indicator "Average travel time reduction on 10 km of each inter-urban section of project roads, percentage" will replace the previous indicator "travel time measured by a proxy variable average vehicle speed, km/hour".</p>												
Develop sustainable investment program for regional road asset management.												
Adoption of a regional road rehabilitation and maintenance program. (Yes/No)		No	No	No	No	No	No	No	No	No	Yes	Yes
<p>Rationale: <i>Action: This indicator has been Revised</i> The End Target date is revised.</p>												

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets								End Target	
			1	2	3	4	5	6	7	8		
Rehabilitation of Regional Roads												



Indicator Name	PBC	Baseline	Intermediate Targets								End Target
			1	2	3	4	5	6	7	8	
Roads in good and fair condition in the project regions as a share of total classified roads (Percentage)		65.00	65.00	65.00	65.00	65.00	65.00	65.00	66.00	67.00	67.50
Action: This indicator has been Revised	Rationale: <i>The target values and the End Target date are revised.</i>										
Size of the total classified network (Kilometers)		21,995.00	21,995.00	21,995.00	21,995.00	21,995.00	21,995.00				21,995.00
Action: This indicator has been Marked for Deletion	Rationale: <i>The result is deleted as the project makes rehabilitation of the existing roads, so the size of network is not increased by the project.</i>										
Length of rehabilitated regional roads in Tashkent, Ferghana, Andijan and Namangan (Kilometers)		0.00	0.00	0.00	0.00	0.00	0.00	270.00	383.00	383.00	622.00
Action: This indicator has been Revised	Rationale: <i>The target values and the End Target date are revised.</i>										
Direct jobs created locally in project areas, disaggregated by gender (Days)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	320,000.00	420,000.00	520,000.00



Indicator Name	PBC	Baseline	Intermediate Targets								End Target	
			1	2	3	4	5	6	7	8		
Action: This indicator is New												
Direct jobs created locally in project areas for female (Days)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32,000.00	42,000.00	52,000.00
Action: This indicator is New												
Side drainage: length of drains/ditches on project roads constructed or rehabilitated (Kilometers)		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	110.00	110.00	185.00
Action: This indicator is New												
<i>Rationale: Side drainage improvements, such as the length of drains/ditches constructed or rehabilitated, on project roads will enhance the climate resilience of the project.</i>												
Road Sector Institutional Strengthening												
Regional road asset management system in place and used to prepare road maintenance programs (Yes/No)		No	No	No	No	No	No	No	No	No	Yes	Yes
Action: This indicator has been Revised												
<i>Rationale: The End Target date is revised.</i>												



Indicator Name	PBC	Baseline	Intermediate Targets								End Target	
			1	2	3	4	5	6	7	8		
Adequate equipment used for traffic surveys and road asset inventory conditions (Yes/No)	No	No	No	No	No	No	No	No	No	No	Yes	Yes
Action: This indicator has been Revised	Rationale: The End Target date is revised.											
Consolidated regional road data base using a GIS created and used (Yes/No)	No	No	No	No	No	No	No	No	No	No	Yes	Yes
Action: This indicator has been Revised	Rationale: The End Target date is revised.											
Pre-investment study for Tashkent – Andijan Toll Road PPP completed (Yes/No)	No	No	No	No	No	No	No	No	No	No	No	Yes
Action: This indicator is New												
National Transport Masterplan prepared and submitted (Yes/No)	No	No	No	No	No	No	No	No	No	No	No	Yes
Action: This indicator is New												
Project Management												



Indicator Name	PBC	Baseline	Intermediate Targets								End Target
			1	2	3	4	5	6	7	8	
Road users satisfied with quality of roads (Percentage)		28.00	28.00	28.00	28.00	28.00	28.00	28.00	40.00	52.00	60.00
Action: This indicator has been Revised	Rationale: <i>The target values and the End Target date are revised.</i>										
Female road users satisfied with quality of roads (Percentage)		30.00	30.00	30.00	30.00	30.00	30.00	30.00	42.00	54.00	60.00
Action: This indicator has been Revised	Rationale: <i>The target values and the End Target date are revised.</i>										
Male road users satisfied with quality of roads (Percentage)		26.00	26.00	26.00	26.00	26.00	26.00	26.00	38.00	48.00	60.00
Action: This indicator has been Revised	Rationale: <i>The target values and the End Target date are revised.</i>										



Annex 1. Cost Savings under RRDP

No.	Activity	Budgeted as per the approved Feasibility Study (US\$ million)	Signed contracts (US\$ million)	Savings (US\$ million)
1	Construction and installation work	122.7	95.2	27.5
1.1	Rehabilitation of regional roads in Tashkent region	21.4	13.2	8.2
1.2	Rehabilitation of regional roads in Namangan region	60.5	43.3	17.2
1.3	Rehabilitation of regional roads in Andijan region	20.6	19.5	1.1
1.4	Rehabilitation of regional roads in Fergana region	9.0	8.0	1.0
1.5	Contingencies (10%)	11.2	11.2	(0.0)
2	Consultancy services	12.0	12.0	-
2.1	Provision for technical supervision of construction and installation works in Tashkent region	2.0	1.8	0.2
2.2	Provision for technical supervision of construction and installation works in Ferghana region	5.0	4.0	1.0
2.3	Institutional improvement activities for the road sector*	5.0	5.0	-
2.4	Contingencies (10%)	-	1.2	(1.2)
3	Other project costs	65.3	2.3	63.0
3.1	Other expenses	2.3	2.3	-
3.2	Unallocated funds	63.0	-	63.0
	Total	200.0	109.5	90.5

Source: PIU

Note:

* Final cost will be determined after all contracts are awarded.



The World Bank

Regional Roads Development Project (P146334)

Annex 2. Planned Implementation Schedule for the Additional Project Activities



Annex 4. Economic and GHG Accounting Analysis

1. A cost-benefit analysis was conducted for the project roads using the Highway Development and Management Model (HDM-4). Due to the COVID-19 pandemic situation, the basic parameters of the model, including traffic volume and composition, road surface type, geometric characteristics, roughness and unit cost of vehicle operation, were obtained through desk reviews and relied on data provided by the Committee for Automobile Roads (CAR). Surveys and field visits to check the quality of data were not done. The model compares 'with project' and 'without-project' scenarios by computing cost and net benefits from both scenarios.
2. The quantified benefits comprise savings in vehicle operating costs (VOC), travel time costs and road maintenance costs stem from the road rehabilitation. The HDM-4 model applied the following assumptions: (i) 5 percent discount rate and 20-year evaluation period; (ii) a conversion factor of 0.80 to identify economic costs; (iii) road works will start in 2022, considering the works will be contracted in several lots and there was no significant delay observed in implementation under the current project, the construction can be completed within one and half year; (iv) the average daily traffic annual growth rate will be 1.8 percent in 2020 due to the current economic crisis but traffic will grow rapidly at 7 percent from 2021 onwards^{3,4}; and (v) no generated traffic is considered to occur after the road rehabilitation.
3. The Road Safety Screening and Appraisal Tool was used to assess the road safety impact of the proposed project. The project safety impact (PSI) score⁵ indicates positive but limited road safety impact of the project. The project will improve driving conditions and marginally reduce travel time, focusing on improvement of road safety, with the safety measures and improvements considered in the design. The project would not achieve a net GHG reduction due to slight increase of speeds, but the increase in speeds and GHG can be considered non-significant because the current traffic is limited and no congestion on local roads network. Rehabilitation works would improve the road condition and thus increase travel speeds slightly for all types of vehicles on all road sections, emitting overall more GHG after the project.
4. The table 1 below presents the project roads basic characteristics, current traffic volumes and proposed rehabilitation costs. The Committee of Roads proposed 49 sections of roads in Tashkent region for a total of 399.5 km and 58 bridges for an estimated investment cost of about US\$120.9 million. All roads are local roads in poor condition with an average roughness around 6 IRI⁶, m/km and carry traffic ranging from 100 vehicles per day to over 8,000 vehicles per day with 29 percent of trucks on average. Feasibility studies of the proposed sections of roads were prepared by Yulloyiha project design institute under CAR, are currently under review by the Uzbek authorities and will be made available for the Bank to review.

³ ADB. Asian Development Outlook, April 2020 (before the pandemic, average annual traffic was expected to grow at 4 percent in 2020)

⁴ International Monetary Fund, World Economic Outlook Database, April 2020 (Uzbekistan's average annual GDP growth in 2018 and 2019 was 7 percent. In 2020 and 2021, the growth is expected at 4.7 percent and 5.6 percent respectively)

⁵ PSI is one of the outcome metrics calculated by the RSSAT software representing the ratio of expected crash fatalities with project design over current fatalities on the road segment. For instance, a PSI score of 0.8 indicates that project design will have an expected 20 percent decrease in fatalities compared to current situation.

⁶ IRI = International Roughness Index measures the longitudinal deformation of a road, on a scale from 1 to 12 for paved roads. IRI below 3 is considered as good, whereas roads with IRI above 6 are considered as poor.



Table 1: Existing Road Characteristics

SN	Road - District	Length (km)	Category ⁷	Traffic (AADT) 2019	Project Cost (US\$ million)
1	4K694	13	3	5930	4.11
2	4K719	6	4	2890	2.27
3	4K759	22.5	4	2300	16.53
4 ⁸	4H717	8	4	4071	2.57
5	4K791a	10	4	8745	3.39
6	4H724д	7	4	728	2.24
7	4K722	5	4	888	1.57
8	4K723a	4	4	654	1.37
9	4K723	10	3	3224	1.47
10	4K733б	9	4	709	2.90
11	4K784	10	4	2825	3.31
12	4K762д	10	4	2939	3.31
13	4K778	14	4	3102	4.56
14	4H692	8	4	631	2.49
15	4H702	4	4	4116	1.24
17	4K758A	14	4	1290	4.64
18	4H740	4	4	2251	1.24
19	4K703	26	3	1514	8.97
20	4K702	25	4	4392	7.77
21	4K706	9	4	3639	2.90
22	4H725	10	4	384	3.31
23	4H694	12	4	1491	4.14
24	4H754	14	4	3185	4.56
25	4K761	9	4	1555	2.90
26	4K763	7	4	4726	2.48
27	4K764	10	4	5122	3.31
28	4H724	6	4	2939	2.07
29	4K744з	8	4	1805	2.57
30	4K754	8	4	964	2.53
31	4K755	21	4	4265	5.41
32	4K756	15	4	1811	4.97
33	4K793	4	4	515	1.24
34	4H721	9	4	902	2.90
35	4K755a	4	4	2500	1.24
36	4H709	6	5	980	2.07
37	4K740	11	4	455	3.52
38	4K741a	7	4	2723	2.28
39	4K742	10	4	1450	3.31
40	4K699	6	4	2541	2.07
41	4K691a	4		7856	2.07
42	4K697	9		8456	2.90
43	4K696	8	4	2378	2.69
44	4K727	4	4	455	1.24
45	4K744г	5	4	1224	1.66
46	4H718a	4	4	4435	1.24
47	4K744к	3	4	822	1.04
48	4H712и	10	4	775	3.31
49	4K720б	4	4	940	1.44
50	4H726	9	4	578	2.80
TOTAL		399.5			156.16

⁷ Road categories as defined in Uzbek Standards, ИИHK 2.05.02-07, are Category Ia, Ib, II, III, IV and V. Categories 3, 4 and 5 consist of 7m, 6m and 5m wide 2-lane carriageways, respectively.

⁸ Section Nr.4 was proposed 2 times, under number 4 and number 16.



5. Table 2 below presents the vehicle fleet economic unit costs, basic characteristics and typical traffic composition on project roads, based on the HDM-4 calibration studies done in 2014 for Uzbekistan⁹ and 2019 in Kyrgyzstan¹⁰, and updated with available recent data. The average percent of cars on the vehicle fleet is 71 percent.

Table 2: Vehicle Fleet Economic Unit Costs and Basic Characteristics

	Car	Mini Bus	Bus	Small Truck	Medium Truck	Heavy Truck	Art. Truck
Economic Unit Costs							
New Vehicle Cost (US\$/vehicle)	11,500	17,000	90,000	17,500	35,000	45,000	120,000
New Tire Cost (US\$/tire)	45.00	55.00	150.00	170.00	190.00	250.00	320.00
Fuel Cost (US\$/liter)	0.55	0.55	0.52	0.52	0.52	0.52	0.52
Lubricant Cost (US\$/liter)	6.4	6.4	6.4	6.4	6.4	6.4	6.4
Maintenance Labor Cost (US\$/hour)	4.42	4.42	4.85	4.42	4.85	4.85	4.85
Crew Cost (US\$/hour)	0.00	2.79	3.35	2.63	2.63	3.02	3.56
Overhead (US\$/year)	400	450	800	450	450	600	800
Interest Rate (%)	12	12	12	12	12	12	12
Working Passenger Time (US\$/hour)	3.37	1.16	1.16	0.00	0.00	0.00	0.00
Non-working Passenger Time (US\$/hour)	1.01	0.35	0.35	0.00	0.00	0.00	0.00
Cargo Delay (US\$/hour)	0.00	0.00	0.00	0.09	0.19	0.25	0.32
Basic Characteristics							
Kilometers Driven per Year (km)	15,000	34,000	70,000	30,000	40,000	86,000	86,000
Hours Driven per Year (hr)	550	850	1,750	1,300	1,200	2,050	2,050
Service Life (years)	10	8	12	8	12	14	14
Percent Private Use (%)	100	0	0	0	0	0	0
Number of Passengers (#)	4	11	36	0	0	0	0
Work Related Passenger-Trips (%)	30	62	64	0	0	0	0
Gross Vehicle Weight (tons)	1.3	3.4	13.3	3.6	8.7	16.95	33.1
Equivalent Standard Axels (ESA)	0	0.02	1.96	0.1	0.86	2.37	4.75
Typical Traffic Composition (%)	71%	2%	2%	5%	8%	7%	5%

6. Table 3 below presents the resulting unit road user costs (VOCs and travel time costs), in US\$ per vehicle-km, for different roughness levels.

⁹ Calibration of HDM-4 for Republican Road Fund Uzbekistan, June 2014, Padeco Co., LTD.

¹⁰ Calibration and Configuration of HDM-4 for MoTR Kyrgyzstan, September 2019, Destia Finroad Oy



Table 3: Unit Road User Costs Function of Roughness (US\$ per vehicle-km)

Roughness (IRI, m/km)	Mini		Small	Medium	Heavy.	Art.	
	Car	bus	Bus	Truck	Truck	Truck	
3	0.23	0.34	0.84	0.26	0.37	0.52	0.96
4	0.23	0.34	0.87	0.27	0.38	0.55	1.02
5	0.24	0.35	0.90	0.28	0.39	0.57	1.06
6	0.24	0.37	0.94	0.28	0.41	0.59	1.10
7	0.25	0.39	1.00	0.29	0.42	0.60	1.15
8	0.27	0.41	1.08	0.30	0.43	0.62	1.20
9	0.28	0.43	1.16	0.32	0.45	0.64	1.25
10	0.30	0.46	1.26	0.33	0.47	0.67	1.32

7. The scope of rehabilitation under the proposed project consists of either asphalt or cement concrete surfacing, replacement of upper layers of the pavement, calibration to standard width, reconstruction of culverts and drainage, road safety equipment as well as provision of sidewalk in settlements. The width of roads will not be increased. After the project, it is assumed that all sections will be maintained with proper routine and periodic maintenance. The “without project” scenario assumes that routine maintenance, pothole patching and reconstruction when the road reaches very poor condition, will be conducted over the evaluation period.
8. For the project, a selection of the roads providing positive economic benefits (Net Present Value, (NPV)) was agreed with CAR, up to the available budget of US\$75 million. The final selection of roads to be financed under the RRDP may change based on the additional information on traffic and condition that will be made available after completion of the feasibility studies. Subsequently, the economic analysis will be updated.
9. Benefits resulting from road safety improvements will be about US\$0.38 million and the cost of additional GHG emissions will be about US\$1.27 million. Integrating those costs will not change the overall economic results but NPV will slightly decrease with inclusion of GHG costs and Road Safety benefits to US\$48.9 million and EIRR to 16.8 percent.
10. A sensitivity analysis has been undertaken to investigate whether the project remains viable when key variables are changed. The results of sensitivity analysis test when discount rates are changed between 3 percent to 12 percent are presented in table 4 below.

Table 4: NPV obtained for Alternative Discount Rates (US\$ million)

	Base discount rate (5%)	Discount rate (3%)	Discount rate (8%)	Discount rate (10%)
NPV of the Project (US\$ million)	48.91	62.83	31.86	22.56



11. Sensitivity analysis shows that the overall project would also be economically justified even if the construction cost were 20 percent higher or the project benefits were 20 percent lower. Table 5 below shows the results of the sensitivity analysis considering: (i) increasing construction costs by 20 percent; (ii) decreasing project benefits by 20 percent; and (iii) increasing construction costs by 20 percent and decreasing project benefits by 20 percent. If construction costs were 20 percent higher, the overall EIRR reduces to 13.8 percent and if the project benefits were 20 percent lower, the overall EIRR reduces to 13.3 percent. Under the worst-case scenario with an increase in costs and a decrease in benefits of 20 percent, the overall EIRR will be reduced to 10.8 percent.

Table 5: Results of the Sensitivity Analysis

	Base NPV (US\$ million)	Base EIRR (%)	A: Costs+20% EIRR (%)	B: Traffic-20% EIRR (%)	A+B EIRR (%)
All Project	48.9	16.8	13.8	13.3	10.8

12. Main benefits result from a reduction of VOCs and time savings, in a relation of about 90 percent to 10 percent (in absence of other benefits that do not affect significantly the results). Safety benefits will account for 0.5 percent of total benefits, whereas the increase of GHG represent less than 1 percent of total costs. VOC reduction is obtained mainly by reducing the average roughness over the analysis period from a value of 6-7 in the ‘without project’ scenario to a value between 3 and 4 with the project, depending on the sections. Time savings are linked to this reduction in roughness, with average speeds of vehicles increasing slightly from 71 km/h currently to 72 km/h. Reduction in travel time is not an objective of the project, considering the focus on the road safety improvements.

13. Works on local roads are expected to create an absolute minimum employment of 1,000 workdays per kilometer¹¹ meaning a total of over 200,000 workdays for a total length of 239 km of road improvement works in 30 sections. This equates to approximately 1,400 full-time positions over a duration of 8 months construction period.

In conclusion, overall project investment is justified. The project will bring economic and social benefits as well as adds value by contributing to the construction quality control, sustainability of road maintenance, road safety, transport planning, and environmental risk, safeguards, procurement, and financial management.

¹¹ ILO, Work creation through road maintenance. The average generated working days could increase to over 2000 work days per kilometer in case of labor-intensive works.