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R116-19
Corrigendum 1
18 November 2019

Corrigendum to Document R116-19
Proposed Loan
East–West Highway (Shorapani–Argveta Section)
Improvement Project
(Georgia)

The following change was made in the above document to reflect the correct date.

- | | |
|------------------------------|---|
| (i) Page 3, para. 14, line 4 | Replaced “22 May 2018” with “22 May 2019” |
|------------------------------|---|



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(For consideration by the Board on or about 22 November 2019)

R116-19
31 October 2019

Proposed Loan
East–West Highway (Shorapani–Argveta Section)
Improvement Project
(Georgia)

1. The Report and Recommendation of the President (RRP: GEO 53178-001) on the proposed loan to Georgia for the East–West Highway (Shorapani–Argveta Section) Improvement Project is circulated herewith.
2. This Report and Recommendation should be read with *Country Operations Business Plan: Georgia, 2020–2022*, which was circulated to the Board on 17 September 2019 (DOC.IN.279-19).

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Report and Recommendation of the President to the Board of Directors

Project Number: 53178-001
October 2019

Proposed Loan Georgia: East–West Highway (Shorapani–Argveta Section) Improvement Project

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Asian Development Bank

CURRENCY EQUIVALENTS

(as of 3 October 2019)

| | | |
|---------------|---|------------|
| Currency unit | – | lari (GEL) |
| GEL1.00 | = | \$0.3366 |
| \$1.00 | = | GEL2.9710 |
| \$1.00 | = | €0.9175 |

ABBREVIATIONS

| | | |
|-------|---|---|
| ADB | – | Asian Development Bank |
| CAREC | – | Central Asia Regional Economic Cooperation |
| EIB | – | European Investment Bank |
| EIRR | – | economic internal rate of return |
| ETCIC | – | Eurasian Transport Corridor Investment Center |
| EWB | – | East–West Highway |
| FMA | – | financial management assessment |
| JICA | – | Japan International Cooperation Agency |
| km | – | kilometer |
| km/h | – | kilometers per hour |
| LARP | – | land acquisition and resettlement plan |
| m | – | meter |
| MRDI | – | Ministry of Regional Development and Infrastructure |
| PAM | – | project administration manual |
| PBM | – | performance-based maintenance |

NOTE

In this report, “\$” refers to United States dollars.

| | |
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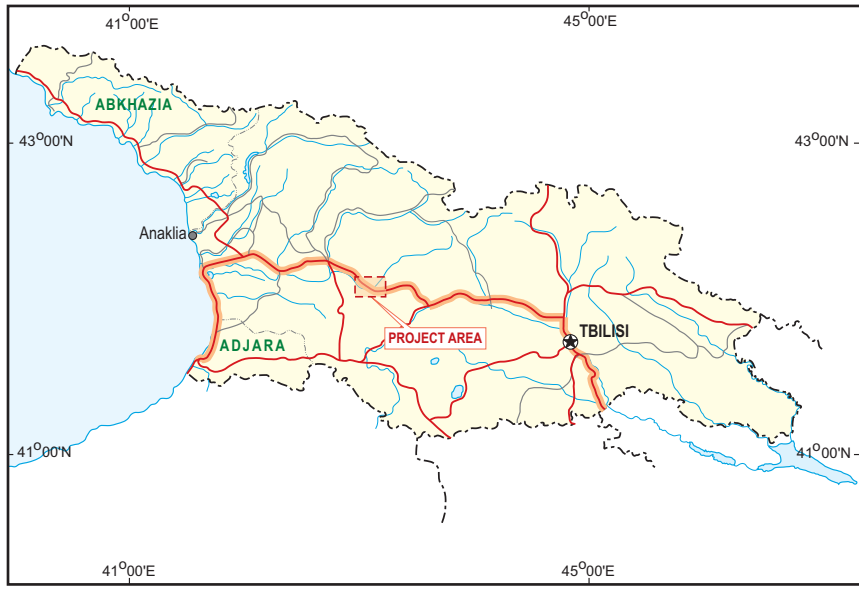
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CONTENTS

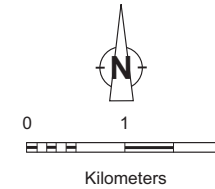
| | Page |
|--|------|
| PROJECT AT A GLANCE | |
| MAP | |
| I. THE PROPOSAL | 1 |
| II. THE PROJECT | 1 |
| A. Rationale | 1 |
| B. Project Description | 4 |
| C. Value Added by ADB | 4 |
| D. Summary Cost Estimates and Financing Plan | 5 |
| E. Implementation Arrangements | 6 |
| III. DUE DILIGENCE | 7 |
| A. Technical | 7 |
| B. Economic and Financial Viability | 7 |
| C. Sustainability | 8 |
| D. Governance | 8 |
| E. Poverty, Social, and Gender | 9 |
| F. Safeguards | 10 |
| G. Summary of Risk Assessment and Risk Management Plan | 11 |
| IV. ASSURANCES | 11 |
| V. RECOMMENDATION | 11 |
| APPENDIXES | |
| 1. Design and Monitoring Framework | 12 |
| 2. List of Linked Documents | 14 |

PROJECT AT A GLANCE

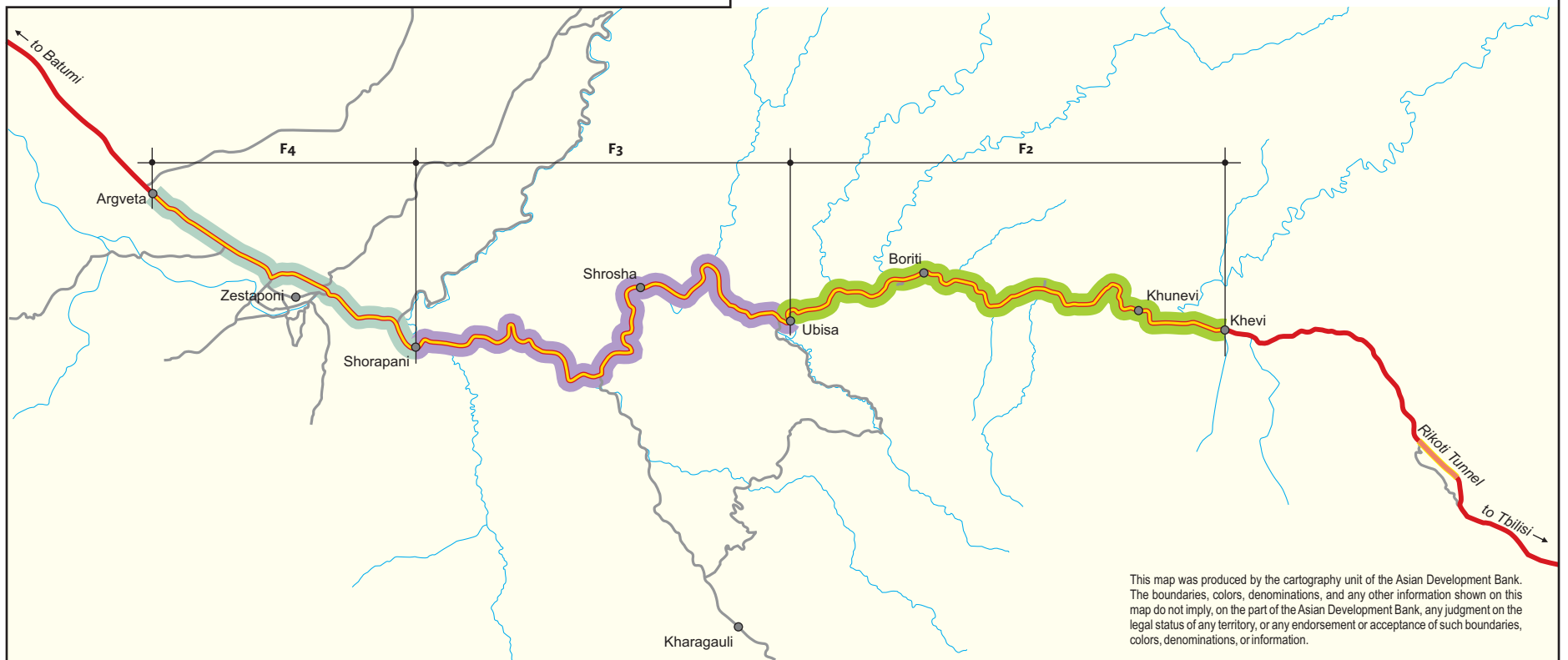
| 1. Basic Data | | Project Number: 53178-001 | |
|---|--|--|--|
| Project Name | East–West Highway (Shorapani–Argveta Section) Improvement Project | Department/Division | CWRD/CWTC |
| Country Borrower | Georgia Georgia | Executing Agency | Ministry of Regional Development and Infrastructure of Georgia |
| Country Economic Indicators Portfolio at a Glance | https://www.adb.org/Documents/LinkedDocs/?id=53178-001-CEI https://www.adb.org/Documents/LinkedDocs/?id=53178-001-PortAtaGlance | | |
| 2. Sector | Subsector(s) | ADB Financing (\$ million) | |
| ✓ Transport | Road transport (non-urban) | | 278.00 |
| | | Total | 278.00 |
| 3. Operational Priorities | | Climate Change Information | |
| ✓ Addressing remaining poverty and reducing inequalities | | Climate Change impact on the Project | Medium |
| ✓ Accelerating progress in gender equality | | | |
| ✓ Tackling climate change, building climate and disaster resilience, and enhancing environmental sustainability | | ADB Financing | |
| ✓ Strengthening governance and institutional capacity | | Adaptation (\$ million) | 0.63 |
| ✓ Fostering regional cooperation and integration | | | |
| Sustainable Development Goals | | Gender Equity and Mainstreaming | |
| SDG 1.a | | Effective gender mainstreaming (EGM) | ✓ |
| SDG 5.a | | | |
| SDG 9.1 | | | |
| SDG 10.2 | | Poverty Targeting | |
| SDG 12.7 | | General Intervention on Poverty | ✓ |
| SDG 13.a | | | |
| 4. Risk Categorization: | | Complex | |
| 5. Safeguard Categorization | | Environment: A Involuntary Resettlement: A Indigenous Peoples: C | |
| 6. Financing | | | |
| Modality and Sources | | Amount (\$ million) | |
| ADB | | 278.00 | |
| Sovereign Project (Regular Loan): Ordinary capital resources | | 278.00 | |
| Cofinancing | | 0.00 | |
| None | | 0.00 | |
| Counterpart | | 89.40 | |
| Government | | 89.40 | |
| Total | | 367.40 | |
| Currency of ADB Financing: Euro | | | |



GEORGIA EAST–WEST HIGHWAY (SHORAPANI–ARGVETA SECTION) IMPROVEMENT PROJECT



- | | | | |
|--|------------------------------|--|------------------------------|
| | National Capital | | East–West Corridor |
| | Project Road F4 | | Other Road |
| | Section F2 (Khevi–Ubisa) | | River |
| | Section F3 (Ubisa–Shorapani) | | Autonomous Republic Boundary |
| | International Road | | International Boundary |
- Boundaries are not necessarily authoritative.



This map was produced by the cartography unit of the Asian Development Bank. The boundaries, colors, denominations, and any other information shown on this map do not imply, on the part of the Asian Development Bank, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries, colors, denominations, or information.

I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan to Georgia for the East–West Highway (Shorapani–Argveta Section) Improvement Project.

2. The proposed project will finance the construction of about 14.7 kilometers (km) of an access-controlled, dual two-lane carriageway, partly on new alignment, on the East–West Highway (EWH) between Shorapani and Argveta, which is part of Corridor 2 of the Central Asia Regional Economic Cooperation (CAREC) Program. The project will also include (i) improving about 15 km of secondary roads connecting to the section, (ii) increasing road safety through road safety works and a road safety awareness campaign, (iii) implementing overload control, and (iv) pursuing the performance-based maintenance (PBM) contracting initiative. The project will expand the efforts of the Asian Development Bank (ADB) and other development partners in this critical economic corridor, and will enhance inclusive economic growth and regional connectivity.

II. THE PROJECT

A. Rationale

3. **Strategic location.** Georgia is located at the crossroads of transit routes linking Europe and Asia. In accordance with its 2020 socioeconomic development strategy,¹ the government is committed to develop the country as a regional transport and logistics hub for trade between Europe and Central Asia and even East Asia. Georgia's main trade partners include Turkey (trade turnover of \$1.629 billion), the Russian Federation (\$1.190 billion), and the People's Republic of China (\$966 million).²

4. **Regional connectivity.** The government is investing substantially in infrastructure to take advantage of its location and tourism attractions, emphasizing the country's backbone for transit trade: the East–West and North–South transport corridors. Forming part of the CAREC Program's Corridor 2, the EWH stretches more than 410 km from Sarpi on the Black Sea, at the border with Turkey, through the center of the country to the capital of Tbilisi, and on to the border with Azerbaijan. This link is of particular significance in the region for landlocked countries. The EWH represents about 2% of Georgia's road network length and 30% of its international road network; it carries more than 60% of the country's foreign trade and serves a daily average of more than 13,300 vehicles. Its average annual traffic growth from 2009 to 2018 was 7%, nearly double the average gross domestic product growth during the same period (3.9%). It is being upgraded with assistance from ADB, the Asian Infrastructure Investment Bank, the European Investment Bank (EIB), the Japan International Cooperation Agency (JICA), and the World Bank.

5. **Road sector policy context.** The government's transport investments have focused on road transport, with rail and ports financed largely by the private sector. The Ministry of Regional Development and Infrastructure (MRDI) developed an action plan for 2018–2021, which budgeted GEL10,231 million for infrastructure development, of which about GEL7,324 million was allocated for road improvement (72%).³ The government has targeted its financing and priority interventions on the EWH, the North–South Corridor, and critical sections of the secondary road network.⁴

¹ Government of Georgia. 2014. *Socio-Economic Development Strategy of Georgia: Georgia 2020*. Tbilisi.

² The Observatory of Economic Complexity. [Where does Georgia import from? \(2017\)](#) (accessed 17 May 2019).

³ Government of Georgia, MRDI. 2018. *Regional Development Programme of Georgia, 2018–2021*. Tbilisi.

⁴ Government of Georgia, MRDI, Roads Department. 2018. *2017 Annual Report*. Tbilisi.

6. **Sector performance.** The 22,000 km road network has about 1,520 km of international roads and 5,370 km of secondary roads managed by the Roads Department under the MRDI, as well as 15,000 km of local roads managed by district administrations. While 8% of international roads are in good or fair condition, about 40% of secondary roads and 60% of local roads are in poor condition. Traveling through and within Georgia can be time-consuming, uncomfortable, and expensive—disproportionately affecting women’s access to jobs, markets, and public services.

7. Road maintenance expenditure, including rehabilitation and periodic and routine maintenance, has increased to an average of \$26,700 per km, which compares favorably with other countries in the region.⁵ The government has made continued efforts to improve road maintenance planning, budgeting, and efficiency by developing a road asset management system, pilot testing PBM contracts, and assessing tolling options. The road asset management system is being fed into a 5-year rolling planning and programming process.

8. **Performance-based maintenance.** The Roads Department contracts all its construction and maintenance activities to the private sector through open competitive bidding. Most road maintenance is carried out through traditional input-based contracts. One PBM contract is under implementation (Kakheti region) and two PBM contracts are being prepared under ADB and World Bank financing. The Roads Department intends to expand the PBM approach to other regions and apply it countrywide after conducting an experience analysis that will consider each region’s particularities. A fourth PBM contract will be implemented under the proposed project.

9. **Overload monitoring and control.** Another complementary measure to ensure the longevity of the road network is axle load monitoring and control. Overloaded vehicles create significant road damage, accelerating road deterioration. This is particularly relevant for PBM contract management, as it affects the amount of investment needed to maintain the required performance level. A program providing portable scales for overload control and a pilot project consisting of the installation of a weigh-in-motion site on the EWH with corresponding adjacent weigh bridges, will be implemented under the proposed project.⁶

10. **Other initiatives.** The East–West Highway (Khevi–Ubisa Section) Improvement Project approved by ADB on 27 September 2018 addresses this challenge by supporting a road maintenance sustainability strategy for all highways in Georgia and providing project management training.⁷ The government recently sought assistance from development partners to implement e-tolling (para. 35).

11. **Road safety.** Road safety has been improving overall, and some promising developments have taken place. The road traffic fatality rate declined from 15.4 deaths per 100,000 people in 2010 to 12.3 deaths per 100,000 people in 2018,⁸ but remains higher than the rate in European countries such as Sweden (2.8) and the United Kingdom (3.1). In 2015, the government enacted the revised Law on Road Traffic, which included road safety-related amendments. It also approved a National Road Safety Strategy in 2016 and subsequently established an interagency Road Safety Commission.⁹ Road safety investment planning and performance tracking systems are being developed following the approaches and methodologies of the International Road Assessment Programme. Systematic road safety audits and public

⁵ Economic and Financial Analysis (accessible from the list of linked documents in [Appendix 2](#)).

⁶ Weigh-in-motion devices are designed to capture and record axle weights and gross vehicle weights as vehicles drive over a measurement site.

⁷ ADB. [Georgia: East–West Highway \(Khevi–Ubisa Section\) Improvement Project](#).

⁸ National road crash data received from the Roads Department on 22 April 2019.

⁹ Government of Georgia. 2016. *Georgia’s National Road Safety Strategy*. Tbilisi.

awareness campaigns are needed to support government efforts to reduce road traffic injuries and fatalities.

12. **Need for the road.** At the end of April 2019, more than 45% of the EWH was completed, with about 190 km upgraded and 140 km under construction or about to be mobilized. One important missing link is the 59 km segment from Chumateleti to Argveta, which covers subsections F1–F4 (para. 13). The segment passes through mountainous terrain, ravines, and numerous river crossings. The feasibility study prepared under World Bank financing in 2015 considered this part of the corridor a bottleneck in the EWH.¹⁰ Improvements are either completed or underway on each side of this segment. The existing two-lane road is a winding road where cars, buses, and trucks need to reduce their speed. Heavy transit traffic going through small towns and villages also poses environmental and safety problems for the local population and tourists using the road. The completed EWH will be an essential national and regional link. Moreover, a World Bank study demonstrated wide ranging impacts, including that reduced transportation costs after corridor improvements benefit the rural population to a greater extent as it is more reliant on transportation and sensitive to price changes than urban population.¹¹

13. **Development support.** Major development partners have committed to financing this part of the EWH. The project's feasibility study broke up this segment of the EWH into five subsections: F0, F1, F2, F3, and F4. The World Bank and the EIB are financing F0 and F1. Construction on F0 is ongoing and the civil works contract for F1 was awarded in July 2019. Additional financing for tranche 3 of the ADB-financed Road Corridor Investment Program financed the detailed designs for F2 (Khevi–Ubisa), F3 (Ubisa–Shorapani), and F4 (Shorapani–Argveta).¹² Civil works for F2, financed under the East–West Highway (Khevi–Ubisa Section) Improvement Project (footnote 7), are ongoing. Civil works are also ongoing for F3, which is financed by the EIB through a loan approved on 3 September 2018.¹³ JICA financing was anticipated for F4, but this approach was discontinued and the loan was cancelled on 19 April 2019. F4 is the last remaining bottleneck of the segment.

14. **Strategic fit.** The project is aligned with the regional cooperation and integration strategic priority of ADB's Strategy 2030 (para. 4),¹⁴ and operational cluster 3 (infrastructure and economic connectivity) of CAREC 2030.¹⁵ Improving the project road is a government priority, as reflected by the government's investment in F0–F3 and request for assistance for F4 dated 22 May 2019. The project is consistent with ADB's country partnership strategy, 2019–2023 for Georgia, which aims to develop economic corridors for private sector development to create more jobs, combat poverty, and facilitate interregional trade.¹⁶

15. **Lessons.** Since 2009, ADB has financed preparatory studies and five road projects—four stand-alone projects and one multitranche financing facility—totaling \$1.17 billion. Lessons from these projects include the need to (i) complete the detailed design and initiate advance

¹⁰ Government of Georgia, MRDI. 2015. *Feasibility Study for E-60 Highway Section from Zemo Osiauri to Argveta*. Tbilisi.

¹¹ Monsalve, M. C. 2015. *Georgia: Assessing Economy Wide Indirect Impacts of East–West Highway Corridor Investments through CGE Modelling*. Washington, DC: World Bank.

¹² ADB. [Georgia: Road Corridor Investment Program—Tranche 3 \(Additional Financing\)](#).

¹³ EIB. [E-60 Ubisa–Shorapani Section F3 \(FL 20160404\)](#).

¹⁴ ADB. 2018. *Strategy 2030. Achieving a Prosperous, Inclusive, Resilient, and Sustainable Asia and the Pacific*. Manila.

¹⁵ ADB. 2017. *CAREC 2030: Connecting the Region for Shared and Sustainable Development*. Manila.

¹⁶ ADB. 2019. *Country Partnership Strategy: Georgia, 2019–2023—Developing Caucasus's Gateway to the World*. Manila.

procurement actions to ensure high project readiness,¹⁷ (ii) increase communication and engagement with affected people and other stakeholders, (iii) improve the implementation readiness of land acquisition and resettlement plans (LARPs),¹⁸ and (iv) enhance the Roads Department's project and contract management capacity. Not only have these lessons been incorporated into the project design, which creates synergy with other ADB-assisted interventions, but projects for future engagement are already benefiting as project preparation (including safeguard documents and detailed design) under ADB loans is now standard practice in Georgia. Continuous support and dialogue with the government and development partners active in the sector will help ensure sound project operation and management upon its completion.

B. Project Description

16. The project is aligned with the following impacts: (i) economic growth and regional connectivity supported (footnote 1), and (ii) infrastructure and economic connectivity cluster improved (footnote 15). The project will have the following outcome: efficiency and safety of road transport along the EWH improved.²⁰

17. **Output 1: Shorapani and Argveta section constructed.** This output will involve (i) the construction of 14.7 km of an access-controlled dual two-lane carriageway or a four-lane divided highway to a 100-kilometer-per-hour (km/h) design standard, partly on new alignment; and (ii) the improvement of about 15 km of secondary roads connecting to the EWH. It will include the construction of a rest stop with separate toilet facilities for women and men; features that make it accessible to the elderly, children, and people with disabilities; and commercial stalls, of which 50% will be allocated for women.

18. **Output 2: Road safety increased.** This output will include (i) the execution of road safety works on the EWH; and (ii) the development and implementation of a gender-sensitive road safety awareness campaign for roadside villages and schools, with women comprising at least 50% of participants, and training for female community mobilizers.

19. **Output 3: Overload control implemented.** This output will comprise (i) the procurement of 38 portable scales to be deployed in six priority municipalities, and (ii) a pilot project that will install at least one weigh-in-motion site on the EWH with corresponding adjacent weigh bridges.

20. **Output 4: Performance-based maintenance contract implemented.** The PBM contract will cover about 150 km of international and connecting secondary roads. It has output- and performance-based components and consist of (i) initial rehabilitation or repairs; (ii) routine maintenance, which will comprise lump-sum monthly payments for every kilometer meeting the defined operation and maintenance service levels; (iii) periodic maintenance (resurfacing); and (iv) emergency maintenance works.

C. Value Added by ADB

21. ADB has become the government's lead development partner in the transport sector. With this project, ADB's support for the sector will reach \$1 billion over a 2-year period. Given ADB's involvement in this part of the EWH (para. 13), ADB is in a unique position to provide rapid

¹⁷ Accomplished for the East–West Highway (Khevi–Ubisa Section) Improvement Project (footnote 7) and ADB. [Georgia: North–South Corridor \(Kvesheti–Kobi\) Road Project.](#)

¹⁸ Independent Evaluation Department. 2019. *Georgia: Validation of the Country Partnership Strategy Final Review, 2014–2018*. Manila: ADB.

²⁰ The design and monitoring framework is in [Appendix 1](#).

support for the project, enabling the delivery of the benefits of the combined EWH sections with minimal delay. Without this project, the anticipated benefits of the other approved sections supported by ADB, the EIB, and the World Bank will be negatively impacted. Through the project, ADB will help the government (i) ensure that adequate climate change adaptation, gender-sensitive, and road safety features are incorporated into the engineering design; (ii) pursue the PBM contracting initiative; and (iii) expand the regional spillover and economic benefits supported by other ADB-assisted projects in Georgia and Armenia. At the sector level, ADB is supporting the government in developing a road maintenance strategy.²¹ ADB's leading role in the CAREC Program will provide the government with tools and opportunities for information sharing and learning exchange on road safety and asset management.

D. Summary Cost Estimates and Financing Plan

22. The project is estimated to cost €337.1 million (Table 1). The Roads Department and the design consultant prepared the project's cost estimates in April 2019 based on the detailed engineering design. These were adjusted in May 2019 based on the contract prices for the latest awarded contract supervision consultants for ADB-financed projects.²² Detailed cost estimates by expenditure category and by financier are included in the project administration manual (PAM).²³

Table 1: Summary Cost Estimates
(€ million)

| Item | Amount ^a |
|---|---------------------|
| A. Base Cost^b | |
| 1. Output 1: Shorapani–Argveta section constructed | 283.9 |
| 2. Output 2: Road safety increased | 2.3 |
| 3. Output 3: Overload control implemented | 1.9 |
| 4. Output 4: Performance-based maintenance contract implemented | 10.8 |
| Subtotal (A) | 298.9 |
| B. Contingencies^c | 31.2 |
| C. Financial Charges During Implementation^d | 7.1 |
| Total (A+B+C) | 337.1 |

Note: Numbers may not sum precisely because of rounding.

^a Includes taxes and duties of €44.56 million to be financed by the government through cash contribution. Such amount does not represent an excessive share of the project cost.

^b In mid-2019 prices as of July 2019.

^c Physical and price contingencies, and a provision for exchange rate fluctuation, are included.

^d Includes interest, commitment and other charges on all sources of financing.

Source: Asian Development Bank.

23. The government has requested a regular loan of €255.1 million from ADB's ordinary capital resources to help finance the project. The loan will have a 26-year term, including a grace period of 11 years; an annual interest rate determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; a commitment charge of 0.15% per year (the interest and other charges during construction to be capitalized in the loan); and such other terms and conditions set forth in the draft loan agreement. Based on the straight-line method, the average maturity is 18.75 years, and the maturity premium payable to ADB is 0.20% per year.

24. The summary financing plan is in Table 2. ADB will finance the expenditures in relation to civil works, goods, consulting services, and financing charges during implementation. The

²¹ ADB. 2016. *Georgia: Support for Transportation Policy to Georgia*. Consultant's report. Manila (TA 8682-GEO).

²² Contracts awarded in 2019.

²³ Project Administration Manual (accessible from the list of linked documents in [Appendix 2](#)).

government will provide counterpart funding of €82.0 million equivalent to cover taxes and duties, land acquisition and resettlement costs, and other miscellaneous costs. ADB will not finance taxes.

Table 2: Summary Financing Plan

| Source | Amount (\$ million) | Amount (€ million) | Share of Total (%) |
|---|------------------------|-----------------------|-----------------------|
| Asian Development Bank | | | |
| Ordinary capital resources (regular loan) | 278.0 | 255.1 | 75.7 |
| Government | 89.4 | 82.0 | 24.3 |
| Total | 367.4 | 337.1 | 100.0 |

Source: Asian Development Bank estimates.

25. Climate adaptation is estimated to cost \$0.77 million and comprises (i) higher bridge freeboard and (ii) larger drainage systems, to accommodate expected increases in precipitation extremes. ADB will finance 82% (\$0.63 million) of adaptation costs.²⁵

E. Implementation Arrangements

26. The MRDI will be the executing agency, and its Roads Department will be the implementing agency. The Eurasian Transport Corridor Investment Center (ETCIC),²⁶ also under the MRDI, will assist the Roads Department with project financial management activities.

27. Procurement of all contracts will follow the ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time). The project's procurement readiness is high given that the main civil works contract and the construction supervision consultant contract are being procured through advance contracting. The government has been advised that advance contracting and retroactive financing do not commit ADB to finance the project. The implementation arrangements are summarized in Table 3 and described in detail in the PAM (footnote 23).

Table 3: Implementation Arrangements

| Table 6: Implementation Arrangements | | | |
|---|---|-------------|------------------|
| Aspects | Arrangements | | |
| Implementation period | December 2019–June 2025 | | |
| Estimated completion date | 30 June 2025 | | |
| Estimated loan closing date | 31 December 2025 | | |
| Management | | | |
| (i) Oversight body | Ministry of Finance, Deputy Minister (chair) | | |
| (ii) Executing agency | Ministry of Regional Development and Infrastructure | | |
| (iii) Implementing agency | Roads Department | | |
| Procurement | Civil works (OCB) | 4 contracts | \$305.71 million |
| | Goods (OCB) | 1 contract | \$0.49 million |
| Consulting services | Construction supervision (QCBS) | 1 contract | \$8.93 million |
| | Individual consultant selection (competitive) | 6 contracts | \$0.35 million |
| | Financial audit (LCS) | 1 contract | \$0.05 million |
| Retroactive financing and advance contracting | Retroactive financing of up to 20% of the loan amount will be allowed for civil works and consulting services incurred before loan effectiveness but not earlier than 12 months before loan signing. Advance contracting will be applied for civil works and consulting services. Any approval of advance contracting will not constitute a commitment by ADB to finance the project. | | |

²⁵ Climate Change Assessment (accessible from the list of linked documents in Appendix 2).

²⁶ The ETCIC was established to perform financial management for externally funded projects.

| Aspects | Arrangements |
|--------------|---|
| Disbursement | The loan proceeds will be disbursed following ADB's <i>Loan Disbursement Handbook</i> (2017, as amended from time to time) and detailed arrangements agreed between the government and ADB. |

ADB = Asian Development Bank, LCS = least-cost selection, OCB = open competitive bidding, QCBS = quality- and cost-based selection.

Source: Asian Development Bank.

III. DUE DILIGENCE

A. Technical

28. **Road design.** The project road is an access-controlled dual carriageway or a four-lane international road with a total width of 27.60 meters (m), comprising traffic lanes (4 x 3.75 m), paved shoulders (5.00 m), median (5.00 m), and unpaved shoulders (2.60 m). The median width varies depending on the terrain. The design speed is 100 km/h, which is reduced to 80 km/h in mountainous sections. The road design follows the Standard on Geometrical and Structural Requirements for the Public Motor Roads of Georgia with reference to relevant clauses of the Trans-European Motorway standards. Only short sections will follow the existing alignment because of the terrain and the design standard adopted. Frontage roads, four interchanges, and access roads to these interchanges will maintain local traffic along the project highway. The terrain requires the construction of 14 bridges with a total length of 5.0 km and 12 tunnels with a total length of 8.5 km (for both directions cumulatively), making the project technically highly complex.

29. **Road safety.** The road design meets internationally accepted standards and practices in terms of road safety; the design review team included an international road safety specialist for this purpose. The tunnels have been designed to reflect the provisions of the European Union Directive 2004/54/EC on minimum safety requirements for tunnels in the Trans-European Road Network. The design will be subjected to detailed road safety audits before construction, during construction, and before final acceptance of the completed road, in close coordination with the traffic police and relevant government agencies.

30. Technical due diligence confirmed that the technical design, alignment, cross-section, bridges, tunnels, drainage structures, pavements, and climate and road safety provisions are appropriate for a road of this standard in this location and for the projected traffic volume.

B. Economic and Financial Viability

31. The economic evaluation of the project was undertaken using the highway development and management model, following relevant ADB guidelines.²⁷ For the economic analysis, the with-project scenario assumed a new four-lane road will be provided, safety features will be improved, and tunnels and bridges will be constructed to modern standards. Without the project, the EWH is expected to require significant periodic maintenance. Future traffic was estimated based on classified traffic counts conducted in 2017 and available gross domestic product growth forecasts (footnote 5).

32. The project is economically viable, with an estimated economic internal rate of return (EIRR) of 11.3% and a net present value of \$65.1 million at a 9% discount rate. The principal quantifiable benefits are reduced vehicle operating costs and reduced travel time. Sensitivity tests

²⁷ ADB. 2017. *Guidelines for the Economic Analysis of Projects*. Manila.

confirmed that the project's economic viability is robust against cost increases of up to 30% and benefit decreases of up to 77%. The project's EIRR is 9.6% if crash cost savings are excluded and values of time are not increased in real terms. However, the EIRR does not capture larger regional beneficial impacts, particularly for neighboring landlocked countries.

33. The project is nonrevenue generating, and the project road will be maintained under the government's maintenance program.

C. Sustainability

34. Assessments of the MRDI's road asset management practices and capabilities during previous project preparation activities showed that steady increases in road sector funding since 2004 led to major backlog recovery. Annual expenditure for road maintenance and rehabilitation nearly doubled from GEL218 million in 2014 to GEL407 million in 2018. During 2014–2018, the compound annual growth rate of road maintenance and rehabilitation expenditure was 13.3%, while the average annual inflation rate was 3.6%. Over the same period, the compound annual growth rate of road-related revenues was 15.1%, which was 1.2%–2.1% of gross domestic product. The annual average incremental maintenance costs associated with the project are estimated to be in line with current expenditure (\$26,700 per km) and equivalent to about 0.2% of the overall road maintenance and rehabilitation expenditure in 2018.

35. Recognizing the need to expand its revenue base to cater for future needs, the government has sought assistance from development partners to assess the potential and suitability of road tolling. Two studies supported by the World Bank and the European Bank for Reconstruction and Development have recommended tolling as a viable revenue source. The government is recruiting consultants to conduct further feasibility studies on priority highway sections. The financial analysis concluded that the MRDI has sufficient financial capacity, within government budgetary procedures, to meet recurrent expenditures to operate and maintain the project road adequately.

D. Governance

36. **Financial management.** The financial management assessment (FMA) followed relevant ADB guidelines. Although the Roads Department is the implementing agency for the project, the ETCIC will assist with project financial management activities and have full primary responsibility for disbursements and their related accounting and control. As such, the FMA primarily considered the ETCIC's financial management capacity with regard to funds flow arrangements, staffing, accounting and financial reporting systems, financial information systems, and internal and external auditing arrangements. The assessed pre-mitigation financial management risk—both inherent risk and control risk—is *moderate* mainly because of (i) the growing portfolio of externally funded projects that may lead to insufficient staffing within the ETCIC; and (ii) lack of variance analysis between budgeted and actual expenditure that may lead to inadequate financial reporting. The FMA concluded that subject to addressing the above points, the ETCIC has sufficient and appropriate financial management capacity to support project implementation. The MRDI, the Roads Department, and the ETCIC will maintain adequate and separate project records and accounts, which an independent auditor will audit annually.

37. **Procurement.** The project procurement risk assessment, undertaken following relevant ADB guidelines, considered the Roads Department's capacity with regard to organization and staffing, information management, procurement practices, complaints and dispute resolution mechanisms, and accountability measures. The assessed procurement risk is *moderate* because

of (i) the growing portfolio of externally funded projects that may lead to insufficient staffing within the Roads Department, and (ii) record management systems and procedures that need further improvement. The project procurement risk assessment concluded that, subject to addressing the above points, the Roads Department has sufficient and appropriate procurement capacity to implement the project. The project procurement arrangements chosen for the civil works component are based on experience gained through the contracts awarded for the other EWH sections (F0, F1, F2, and F3) and the market insight they provided. The best value for money would be achieved by designing one works package to be procured through open competitive bidding using the one-stage, one-envelope system—to be awarded to the lowest evaluated substantially responsive bidder.

38. **Institutional capacity.** The MRDI and the Roads Department adequately understand ADB's procurement and financial management policy and procedures as a result of the sizable portfolio of ADB-assisted transport operations. Weaknesses on land acquisition and resettlement are being addressed through regional technical assistance, which includes on-the-job training of the Roads Department staff and implementation of grievance management tools.²⁹ An experienced consultant has been assigned to work with the Roads Department on a continuous basis to help improve compliance with ADB's social safeguards requirements.

39. **Anticorruption.** ADB's Anticorruption Policy (1998, as amended to date) was explained to and discussed with the government, the MRDI, and the Roads Department. The specific policy requirements and supplementary measures are described in the PAM (footnote 23).

E. Poverty, Social, and Gender

40. The project will support poverty reduction by facilitating increased and safe movement of people and goods, as well as access to economic opportunities and social services. The project will benefit the residents of the villages by providing (i) skills building programs that will enhance the marketability of products developed in the area, and (ii) spaces to sell these and produce from their farms. The project is categorized *general intervention* with no specific direct intervention on poverty reduction. It will ensure compliance with core labor standards, with a preference for local labor, and will prohibit child labor among contractors. The project will take measures to cushion the negative impacts of land acquisition in the affected communities.

41. The project is categorized *effective gender mainstreaming*. It will include gender- and socially inclusive features that will facilitate the safe access and mobility of travelers and residents from nearby villages. These include (i) an all-weather rest stop at the interchange nearest Zestafoni that will have (a) separate toilets for men and women; and (b) commercial spaces for selling agricultural produce and agricultural products (e.g., cheese), 50% of which will be reserved for female entrepreneurs; (ii) skills training on product development, packaging, and marketing for processed agricultural products, with women comprising 50% of participants; (iii) capacity building for women as community mobilizers for road safety awareness; and (iv) road safety awareness-raising programs for communities, with women making up at least 50% of participants.

42. The Roads Department will engage a gender specialist to ensure the quality and timely implementation of the gender action plan.³¹ Aside from supporting the implementation of the gender action plans of road projects, the Roads Department is taking steps to promote gender equity in its organization. It established in 2019 a gender focal point. The Roads Department will

²⁹ ADB. 2018. [Technical Assistance for Supporting Social Safeguards in the Central and West Asia Region](#). Manila.

³¹ Gender Action Plan (accessible from the list of linked documents in [Appendix 2](#)).

conduct gender awareness-raising programs to build staff capacity in integrating gender and social inclusion dimensions in the institution and in road projects.

F. Safeguards

43. In compliance with ADB's Safeguard Policy Statement (2009), the project's safeguard categories are as follows.³²

44. **Environment (category A).** The draft environmental impact assessment was disclosed on 28 May 2019.³³ This draft was submitted by the Roads Department and reviewed by ADB and all key elements required for disclosure were present, including the use of International Finance Corporation standards for noise modeling in line with the Safeguard Policy Statement. The project will have significant adverse impacts that are irreversible and diverse. The alignment will be partially new and will require significant tunneling and bridge-building activities with significant community impacts from resettlement and land conversion. Works will require the construction of 10 bridges in the Borimela, Dzirula, and Kvirila rivers, resulting in the loss of riparian habitat.³⁴ Tunneling and cutting will require the disposal of 700,000 cubic meters of spoil during construction.³⁵ Impacts on noise, vibration, air quality, and surface water will occur during construction. The short-term nature of impacts means they will generally not be significant if mitigation is implemented correctly, although cumulative impacts from traffic because of the simultaneous construction of the F1–F4 subsections will need to be well managed. During operations, the road will significantly improve local road safety by removing through traffic from local roads. However, the road will result in the permanent loss of 28 hectares of natural habitat, which will require reinstatement and off-site habitat compensation to meet ADB's safeguard policy requirements. In addition, noise impacts from the new alignment will be significant, requiring targeted mitigation and potential resettlement for 24 properties to ensure the project remains in compliance during operation. The Roads Department has the expertise to manage the contractors' environmental performance adequately.

45. **Involuntary resettlement (category A).** According to the preliminary inventory, involuntary resettlement affects 455 households (2,047 persons) of which 426 are severely affected households, including 21 that are physically displaced. A LARP prepared for JICA is under implementation and more than 85% completed. Due diligence is being performed on the LARP. A corrective action plan prepared to cover gaps between JICA and ADB's Safeguard Policy Statement consists primarily of (i) an upward revision of severely affected households under the LARP, with a consequent upward revision in the budget for allowances; and (ii) minor upward revisions in the allowances to reflect recent revisions to road sector LARPs in Georgia.³⁶

46. **Indigenous peoples (category C).** No indigenous peoples are present in the project area, as defined in ADB's Safeguard Policy Statement.

47. The construction supervision consultant's resettlement and environmental specialists will assist the Roads Department to ensure compliance with the project's safeguard requirements and prepare semiannual safeguards monitoring reports for ADB's review and disclosure. The Roads Department will also engage qualified and experienced external monitors to verify environmental and resettlement impacts.

³² ADB. [Safeguard Categories](#).

³³ Environmental Impact Assessment (accessible from the list of linked documents in [Appendix 2](#)).

³⁴ A riparian zone is the interface between land and a river or stream.

³⁵ Spoil is waste material like earth and rock that is excavated during tunneling or from deep cuts.

³⁶ Resettlement Plan (accessible from the list of linked documents in [Appendix 2](#)).

G. Summary of Risk Assessment and Risk Management Plan

48. Significant risks and mitigating measures are summarized in Table 4 and described in detail in the risk assessment and risk management plan.³⁷ Project risks are considered manageable through the prescribed mitigation measures.

Table 4: Summary of Risks and Mitigating Measures

| Risks | Mitigation Measures |
|---|---|
| Safeguards-related complaints may delay progress in project implementation. | For involuntary resettlement impacts, an independent and sample-based valuation of land plots is being carried out to confirm the adequacy of the land valuation. LARP implementation is significantly advanced as more than 85% of plots have already been acquired. A corrective action plan was prepared to cover gaps between JICA requirements and ADB's Safeguard Policy Statement. |

Source: Asian Development Bank.

IV. ASSURANCES

49. The government, the MRDI, and the Roads Department have assured ADB that implementation of the project shall conform to all applicable ADB requirements, including those concerning anticorruption measures, safeguards, gender, procurement, consulting services, financial management, and disbursement as described in detail in the PAM and loan documents. The government, the MRDI, and the Roads Department have agreed with ADB on certain covenants for the project, which are set forth in the draft loan agreement.

V. RECOMMENDATION

50. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of €255,100,000 to Georgia for the East–West Highway (Shorapani–Argveta Section) Improvement Project, from ADB's ordinary capital resources, in regular terms, with interest to be determined in accordance with ADB's London interbank offered rate (LIBOR)-based lending facility; for a term of 26 years, including a grace period of 11 years; and such other terms and conditions as are substantially in accordance with those set forth in the draft loan agreement presented to the Board.

Takehiko Nakao
President

31 October 2019

³⁷ Risk Assessment and Risk Management Plan (accessible from the list of linked documents in [Appendix 2](#)).

DESIGN AND MONITORING FRAMEWORK

[illegible]

| Results Chain | Performance Indicators with Targets and Baselines | Data Sources and Reporting Mechanisms | Risks |
|--|--|---|-------|
| 3. Overload control implemented ^f | 3a. 38 portable scales commissioned (2019 baseline: 0 under the project) 3b. At least 1 weigh-in-motion site on the EWH with 2 corresponding weigh bridges constructed (2019 baseline: 0) | 3a–b. Roads Department and consultant's reports | |
| 4. PBM contract implemented | 4. About 150 km of international roads and/or connecting secondary roads maintained by private contractors on long-term PBM contracts of no less than 5 years (2019 baseline: 0 km contracted under the project) | 4. Roads Department and consultant's reports | |

Key Activities with Milestones

1. Shorapani and Argveta section constructed

- 1.1 Completed the detailed engineering design in July 2019
- 1.2 Started bid evaluation for civil works in August 2019
- 1.3 Award civil works contract by October 2019
- 1.4 Award construction supervision consultant contract by January 2020
- 1.5 Complete civil works by December 2022

2. Road safety increased

- 2.1 Mobilize consultant and/or nongovernment organization(s) to prepare a road safety awareness campaign for roadside communities by September 2020
- 2.2 Conduct road safety awareness campaigns in roadside villages by June 2023

3. Overload control implemented

- 3.1 Procure portable scales by December 2020
- 3.2 Complete weigh bridges by June 2023

4. PBM contract implemented

- 4.1 Award PBM contract by December 2020
- 4.2 Complete PBM contract by December 2025

Inputs

ADB: \$278.0 million (regular OCR loan)
Government: \$89.4 million

Assumptions for Partner Financing^g

World Bank: F0 subsection completed by 2023 (after re-tendering)
World Bank and European Investment Bank: F1 subsection completed by 2022
European Investment Bank: F3 subsection completed by 2022

ADB = Asian Development Bank; CAREC = Central Asia Regional Economic Cooperation; EWCD = elderly, women, children, and people with disabilities; EWH = East–West Highway; IFI = international financial institution; km = kilometer; OCR = ordinary capital resources; PBM = performance-based maintenance; RFI = results framework indicator.

^a Government of Georgia. 2014. *Socio-Economic Development Strategy of Georgia: Georgia 2020*. Tbilisi.

^b ADB. 2017. *CAREC 2030: Connecting the Region for Shared and Sustainable Development*. Manila.

^c Contribution to the ADB Results Framework. RFI A: Roads built or upgraded (km). Target: 14.7 km of expressway.

^d EWCD-friendly features include female toilets, diaper-changing facilities, designated breastfeeding area, ramps and handrails, and sanitary facilities for the elderly and people with disabilities.

^e The project's feasibility study broke up this segment of the EWH into five subsections: F0 (Zemo Osiauri–Chumateleti section), F1 (Chumateleti–Khevi section), F2 (Khevi–Ubisa section), F3 (Ubisa–Shorapani section), and F4 (Shorapani–Argveta section).

^f Chiatura, Chokhatauri, Lanchkhuti, Sachkhere, Samtredia, and Ozurgeti.

^g Collaborative cofinancing with the World Bank and the European Investment Bank has been confirmed under ADB. [Georgia: East–West Highway \(Khevi–Ubisa Section\) Improvement Project](#).

Source: Asian Development Bank.

LIST OF LINKED DOCUMENTS

<http://www.adb.org/Documents/RRPs/?id=53178-001-3>

1. Loan Agreement
2. Sector Assessment (Summary): Transport
3. Project Administration Manual
4. Economic and Financial Analysis
5. Summary Poverty Reduction and Social Strategy
6. Risk Assessment and Risk Management Plan
7. Climate Change Assessment
8. Gender Action Plan
9. Environmental Impact Assessment
10. Resettlement Plan