Georgia

FY2022 Ex-Post Evaluation Report of

Japanese ODA Loan Project

"East-West Highway Improvement Project, East-West Highway Improvement Project (II)"

External Evaluator: Kenichi Inazawa, Octavia Japan Co., Ltd.

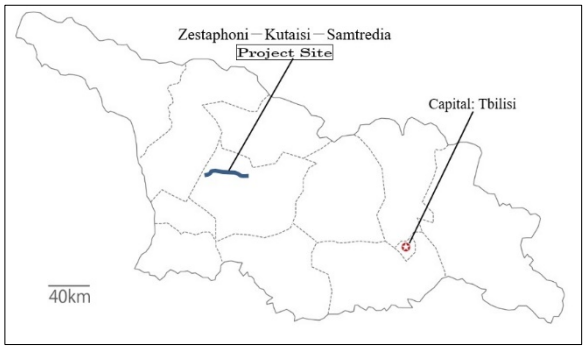
0. Summary

This project aimed to enhance transportation capacity by constructing a road section between Zestafoni, Kutaisi and Samtredia (hereinafter referred to as "the target section") on the East-West Highway in Georgia,[1] thereby contributing to regional economic development. Regarding relevance, this project is "consistent with the development plan" and "consistent with the development needs." As for coherence, while it is "consistent with Japan's ODA policy," specific cooperation and synergistic effects were not observed in terms of "internal coherence" and "external coherence." Nevertheless, the project is consistent with the goals of the international framework (SDGs). Therefore, its relevance and coherence are high. With regard to efficiency, the outputs were mostly as planned, and although the project period slightly exceeded the plan, due to lengthy land acquisition procedures, the project cost was within the plan. Therefore, the efficiency of the project is high. With respect to the quantitative effect indicators, the target section's actual values of the "annual average daily traffic," "time required," "driving speed" and "impassable days in sections with reinforced slopes" were either close to or exceeded the target values. It was confirmed through the field survey interviews that drivability/comfort, safety and road durability are high in the target section. Local officials in Imereti Province, where the target section is located, confirmed that the project had a significant impact on the revitalization of regional economies. Thus, the effectiveness and impact of the project are high. There are no major concerns regarding the sustainability of the effects produced by this project. Therefore, the sustainability of the project effects is very high.

In light of the above, this project is evaluated to be highly satisfactory.

[1] The country's total population is approximately 3.69 million. The population of Imereti Province, where the target section is located, is approximately 470,000 (Source: Georgia National Statistics Office, 2020 data).

1. Project Description



Project Location (Source: JICA)

Constructed Road (Kutaisi-Samtredia)

1.1 Background

Prior to the start of this project, Georgia faced a post-independence financial shortage following the collapse of the former Soviet Union (1991), and road conditions were deteriorating due to insufficient road maintenance. After 2004, the government increased its budget and promoted the construction and repair of roads. Meanwhile, the traffic volume of the East-West Highway was increasing. The East-West Highway's total length is approximately 430 km; it is part of an important international transportation network connecting Europe and Asia. In Georgia, this is the trunk road that runs from the Red Bridge located on the border with Azerbaijan, to Poti on the Black Sea coast, and from Poti to Batumi to Sarpi (see Figure 1). It is also the main road passing around Kutaisi City, the central city of Imereti Province, and its traffic volume had grown at an average annual rate of 12% since 2005. As the number of heavy freight vehicles increased, congestion became a serious issue. Frequent reckless overtaking in narrow sections had led to a greater risk of traffic accidents. Therefore, bypass construction, alignment improvement and widening works, which could contribute to the improvement of drivability and safety were considered urgent issues.

1.2 Project Outline

This project aimed to enhance the transportation capacity of Georgia by constructing the road section between Zestafoni, Kutaisi and Samtredia (approximately 57 km) on the East-West Highway, thereby contributing to regional economic development.

Loan Approved Amount / Disbursed Amount	Phase 1: 17,772 million yen / 17,701 million yen Phase 2: 4,410 million yen / 3,524 million yen
Exchange of Notes Date / Loan Agreement Signing Date	Phase 1: December 16, 2009 / December 16, 2009 Phase 2: March 7, 2016 / March 7, 2016

Terms and Conditions	[Phase 1] Main: Interest rate: 0.65% Repayment Period: 40 years (Grace Period: 10 years) Conditions for Procurement: General Untied Consulting Services: Interest rate: 0.01% Repayment Period: 40 years (Grace Period: 10 years) Conditions for Procurement: General Untied [Phase 2] Main: Interest rate: 1.4% Repayment Period: 25 years (Grace Period: 7 years) Conditions for Procurement: General Untied Consulting Services: Interest rate: 0.01% Repayment Period: 25 years (Grace Period: 7 years) Conditions for Procurement: General Untied
Borrower / Executing Agency(ies)	The Government of Georgia / The Roads Department, the Ministry of Regional Development and Infrastructure (hereinafter referred to as "the Roads Department")
Project Completion	November 2019
Target Area	Imereti Region
Main Contractor(s) (Over 1 billion yen)	Todini Costruzioni Generali S.P.A (Italy) / Takenaka Civil Engineering & Construction Co., Ltd. (Japan) (JV)
Main Consultant(s) (Over 100 million yen)	Transproject Ltd. (Georgia) / Roads Rehabilitation and Modernization Supervision Direction (Georgia) / PADECO Georgia Highway Ltd. (Georgia) / PADECO Co., Ltd. (Japan) / Oriental Consultants Co., LTD. (Japan) (JV)
Related Studies (Feasibility Studies, etc.)	Feasibility Study through the Pilot Study for Project Formation: Former Japan Bank for International Cooperation (Former JBIC) (June 2008)
Related Projects	[Technical Cooperation] - "Road Management Training," "Road Maintenance Training" (capacity building support for road maintenance) (multiple training sessions have been held since 2012) [Private Sector Technology Dissemination and Promotion Programs] - "Collaboration Program with the Private Sector for Disseminating Japanese Technology for Road Safety to Combat Falling Rocks in Georgia" (promoting and disseminating the "Mighty Net" designed to prevent rocks falling) (implementation period: 2016–2017) [Grant Aid Projects] - "Project for Main Road Repair Equipment Installation" (provision of road repair equipment necessary for the maintenance of trunk roads) (Grant Agreement was signed in 2001)

	[Other International Organizations, Aid Agencies, etc.] - The World Bank's loan for the East-West Highway Development (east side of the section was covered by JICA's ODA loan, etc.) - The Asian Development Bank (hereinafter referred to as "ADB")'s loan for the East-West Highway development (the Black Sea coastal area, east of the section covered by JICA's ODA loan, etc.) - The European Investment Bank (herein after referred to as "EIB")'s loan for the East-West Highway development (west of the section covered by JICA's ODA loan, etc.) - In addition, as a related project, the European Bank for Reconstruction and Development (EBRD)'s loan for the development of roads bordering Armenia, etc.

2. Outline of the Evaluation Study

2.1 External Evaluator

Kenichi Inazawa, Octavia Japan Co., Ltd.

2.2 Duration of Evaluation Study

This ex-post evaluation study was conducted with the following schedule.

Duration of the Study: September, 2022–October, 2023

Duration of the Field Study: October 31, 2022–November 20, 2022

April 5–16, 2023

2.3 Constraints during the Evaluation Study

None.

3. Results of the Evaluation (Overall Rating: A[2])

3.1 Relevance/Coherence (Rating:③[3])

3.1.1 Relevance (Rating:③)

3.1.1.1 Consistency with the Development Plan of Georgia

Prior to the start of this project, the government of Georgia formulated a medium-term development plan, *Basic Data and Directions* (2008–2011). It stipulated a nation-building policy that made use of the country's geopolitical advantage, being located on the shortest route connecting Central Asia and the Black Sea. Within this plan, the East-West Highway development was considered a top priority project. In addition, the government of Georgia formulated the "*Development Strategy Georgia 2020"* in 2014, which aimed at the integrated development of land, sea and air transportation as a measure to improve the competitiveness of the private sector. In this strategy, the East-West Highway was also considered a strategically important project.

[2] A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

[3] ④: Very High, ③: High, ②: Moderately Low, ①: Low

At the time of the ex-post evaluation, the government of Georgia had formulated the *Basic Data and Directions* (2023–2026), pointing out that building core systems for infrastructure development, logistics/transportation, communications, energy, technology, education and finance are an important pillar for enhancing the nation's advantage. Regarding infrastructure development (promotion of the transport and road sector), the government plans to develop the East-West Highway Corridor, the North-South Corridor (between Kvesheti and Kobi) and in the Kakheti Region, located in the eastern part of the country, the longest 200 km of trunk roads, up to 235 bridges, and 67 tunnels, by 2024. In terms of the East-West Highway, the government aims to halve the travel time from the capital, Tbilisi to Batumi on the Black Sea coast through the construction. In addition, this plan also advocates the improvement of logistics functions and the expansion of imports and exports as a result of the development of roads and tunnels, connecting neighboring countries such as Azerbaijan.

Based on the above, the road development plan, including the East-West Highway, was highlighted in the national development plan prior to the start of this project and at the time of the ex-post evaluation. Therefore, it is consistent with the policies and measures stipulated in the national and sectoral plans, both at the time of the appraisal and the ex-post evaluation.

3.1.1.2 Consistency with the Development Needs of Georgia

Prior to the start of this project, Georgia faced a post-independence financial shortage following the collapse of the former Soviet Union, and road conditions were deteriorating due to insufficient road maintenance. The government increased its budget to promote the construction and repair of roads after 2004. The East-West Highway is a trunk road that passes through Kutaisi, the central city of Imereti Province, and its traffic volume had grown at an average annual rate of 12% since 2005. Congestion has become serious, due to an increase in the number of heavy freight vehicles. Unreasonable overtaking in narrow-width sections is occurring frequently, leading to a greater risk of traffic accidents. Therefore, bypass construction, alignment improvement and widening work, which would contribute to the improvement of drivability and safety, were urgent issues.

At the time of the ex-post evaluation, the East-West Highway, part of the "Central Corridor," is an important international highway, not only for Georgia but also for neighboring countries including Central Asia, supporting Georgia's logistics and economy. According to the Roads Department, as a result of loans from international donors, such as JICA, the World Bank, the ADB and the EIB, combined with the Georgian government's budget, two lanes on each way, as well as bypasses, tunnels and bridges are being constructed and improved; most of the construction is expected to be completed by 2024 or 2025. Currently, at the time of the ex-post evaluation (as of March 2023), the construction progress rate for the entire East-West Highway (approximately 430km) is approximately 79.5%. Regarding the status of roads other than the East-West Highway, the North-South Corridor (between Kvesheti and Kobi) which cuts through the

country is being constructed and improved. In addition, the construction and improvement of the road network in the Kakheti region, located in the eastern part of the country, is under consideration and implementation.

Based on the above, development and improvement of the entire East-West Highway and the North-South Corridor were considered important prior to the start of the project, as well as at the time of the ex-post evaluation. It can be said that the promotion of road projects is indispensable for the enhancement of transportation capacity and the economic development of Georgia. Therefore, there is consistency with the development needs at the time of appraisal and at the time of the ex-post evaluation.

3.1.1.3 Appropriateness of the Project Plan and Approach

During the planning stage of this project, JICA's document stated that "the project plan will include the construction of an appropriate number and size of underground passages, based on surveys identifying the needs of local residents because the new road will be constructed on pasture and farmland." This evaluation study, consisting of a questionnaire, interviews with the Roads Department and reviews of JICA's documents, confirmed that a culvert-type underground passageway had been added at the implementation (construction) stage, as per the request of local residents. It has been judged that there were no particular problems in terms of the planning of this project or in assuring the fairness of its policy, approach and effects.

3.1.2 Coherence (Rating: ②)

3.1.2.1 Consistency with Japan's ODA Policy

At the Donors' Conference for Georgia, held in Brussels in October 2008, Japan pledged financial assistance of up to approximately $200 million to Georgia, as it had suffered damage in the conflict.[4] In addition, Japan's *Country Assistance Policy for Georgia*, formulated in April 2014, established "assistance for the promotion of economic growth and the stability of society" as its basic policy, while listing the improvement of economic infrastructures as one of the priority areas. Renewing existing infrastructures/facilities from the former Soviet time and restoring infrastructures/facilities destroyed by armed conflicts were regarded as a development issue, and Japan's cooperation and support were announced, including the construction and improvement of the East-West Highway.

This project is in line with Japan's *Country Assistance Policy for Georgia*, etc., and contributes to the enhancement of Georgia's transportation capacity and its regional economic development. Therefore, it is consistent with Japan's ODA policy.

[4] The regions surrounding the disputed area were devastated as a result of armed clashes between Georgia and Russia over the Tskhinvali region. Although the target section was not affected by the armed conflict, 400 km of existing roads in other areas were confirmed to have been damaged.

3.1.2.2 Internal Coherence

JICA implemented the "Collaboration Program with the Private Sector for Disseminating Japanese Technology for Road Safety to Combat Falling Rocks in Georgia" in 2016–2017, with the aim of promoting the "Mighty Net," which was designed to prevent rocks falling on to roads. Since there was no steep-sloping, outcropping zone, a demonstration project was not implemented in the target section; dissemination was considered, and a demonstration project was carried out in other road construction sections. Therefore, no specific collaboration or synergistic effect was confirmed between the collaboration program and this project.

3.1.2.3 External Coherence

The East-West Highway (corridor) is being developed and improved under the co-financing system of international donors such as JICA, the ADB, the World Bank and the EIB. Based on this, one might say that cooperation exists among the donors. However, according to the interviews with the donors, "there were not many opportunities for information sharing, and there were no donor meetings during the implementation of JICA's project." In fact, the Roads Department took the initiative to coordinate and communicate with each donor individually.[5] It is thus more precise to say that donors were providing assistance to road projects through the co-financing structure of the Roads Department, rather than calling it a collaboration. In addition, it is difficult to say whether synergistic effects had been created at the time of the ex-post evaluation because the construction of the entire East-West Highway section had not been completed.

With respect to the international framework, it can be said that this project is consistent with one of the SDGs: "9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation" in the sense that this project contributes to economic revitalization through the realization of smooth traffic and the transportation of goods.

<Summary on Relevance/Coherence>

This project was "consistent with the development plan" and "consistent with the development needs." Regarding coherence, while the project was "consistent with Japan's ODA policy," specific collaboration and synergistic effects could not be confirmed in terms of "internal coherence" and "external coherence." However, it was in line with the goals of the international framework (SDGs). Therefore, its relevance and coherence are high.

[5] According to the Roads Department, coordination meetings were held in 2019 between the Roads Department and each aid donor, as well as among the donor organizations, with the aim of improving coordination and cooperation. Meanwhile, the Roads Department and each aid donor did not indicate any specific coordination results or evidence of building collaboration, which enhance project effectiveness.

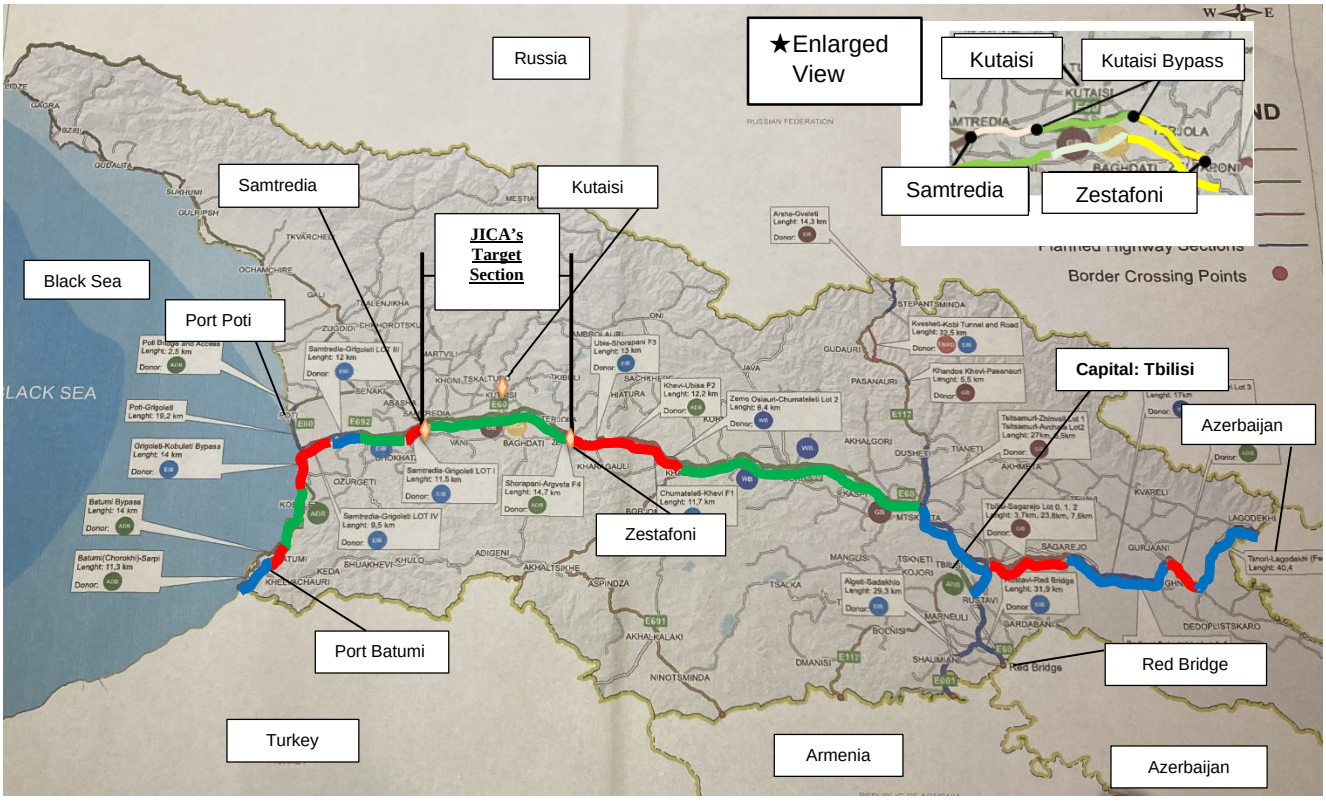


Figure 1: Locations of the Project Site and an Overall Map of the East-West Highway
(The green lines roughly indicate the sections in service, the red lines are sections under construction and the blue lines are planned sections (as of November 2022))

3.2 Efficiency (Rating: ③)

3.2.1 Project Outputs

The loan agreement of this project was signed in 2009, and an additional ODA loan agreement (Phase 2) was signed in 2016.[6] The road construction and improvement plans were examined at the time of the appraisal of the second phase, as a result of which road safety measures (measures against slopes, installation of road lighting equipment) were included. Table 1 shows the planned and actual outputs of this project.

[6] It led to the additional loan because the exchange rate fluctuated rapidly after the first phase of the project began. During the first phase of the project, the contract for the main construction was denominated in euros and local currencies. Within the three years since its launch (2012-2014), the Japanese yen weakened by approximately 38% against the euro and by approximately 24% against the local currency. Since there were concerns about the project budget shortage during the construction stage, an additional loan to the Georgian government was considered and provided. As a shortage of the project fund was anticipated, the Georgian government aimed to utilize its own budget as much as possible. However, as the construction of secondary and main roads was on-going in various parts of the country, the budget was constrained. According to JICA's document, "the project was anticipated to be delayed or incomplete, due to funding shortfalls, had the additional loan not be obtained. Since there were cost overruns in the construction sections on the part of other donors, the aim was to complete the construction with additional financing." Therefore, the additional loan (Phase 2) was considered to be urgently needed.

Table 1: Planned and Actual Outputs of This Project

Plan at the Time of the Appraisal (Phase 1: 2009, Phase 2: 2016)	Actual
1) Civil Engineering Work [Phase 1] - Nakhshirgele, Chugureti civil engineering work (rehabilitation of an existing two-lane road, approximately 5.2 km) - Kutaisi bypass civil engineering work (construction of new bypasses, etc., approximately 2.4 km, including bridges) - Kutaisi-Samtredia civil engineering work (construction of a new two-lane road, approximately 32.0 km, including bridges) [Phase 2] - Kutaisi bypass (construction of a new two-lane road: 17.3 km) - Kutaisi-Samtredia (construction of a new two-lane road: 24.0 km) - Zestafoni-Kutaisi (rehabilitation and widening of an existing two-lane road (to a four-lane road: 15.2 km) - Road safety measures (reinforcement of slopes, installation of road lighting facilities)	1) Civil Engineering Work →Implemented mostly as planned (compared to the plan for the second phase) - Kutaisi bypass (construction of a new two-lane road (concrete pavement): 17.3 km) - Kutaisi-Samtredia (construction of a new two-lane road (concrete pavement): 24.0 km, three bridges, three interchanges) - Zestafoni-Kutaisi (rehabilitation and widening of the existing two-lane road (widening to a four-lane road: 15.2 km, three interchanges, three bridges) - Road safety measures (reinforcement of slopes, installation of road lighting facilities)
2) Consulting Services [Phase 1] Basic design, bidding assistance, detailed design assistance, construction supervision, human resource development, preparation of the Resettlement Action Plan (hereinafter referred to as "RAP"), environmental and social consideration monitoring support, etc. [Phase 2] Basic design, bidding assistance, detailed design, construction supervision, preparation of the RAP, environmental and social consideration monitoring support, establishment of a slope sliding measurement system, etc.	2) Consulting Services →Implemented mostly as planned (compared to the plan for the second phase)

Source: JICA's document (at the time of the appraisal), the Project Completion Report, the questionnaire, interviews with the Roads Department (at the time of the ex-post evaluation)

As shown in Table 1, the slope reinforcement work was added as it became necessary to control and prevent the slope collapse that occurred in the Kutaisi Bypass section. At the time of the planning of the first phase, measures to stabilize excavation slopes were included in the plan, such as securing stable slopes and installing rockfall prevention nets, drainage channels and vegetation mats. However, after the project began, it transpired that some of the slopes had complex geological features, where hard limestone and soft marl (peat soil) are interlayered and where the topography is prone to collapse. As marl has low water permeability and diffusivity, slope

excavation was carried out while taking measures such as installing small steps on the slope and installing drainage channels during the construction. However, there was heavy rain immediately after cutting, making the slope unstable. As a result, it was determined that ground reinforcement by slope shaping, drainage channel installation, embankment control and rebar insertion work was desirable.

Regarding the installation of road lighting facilities, the Georgian government issued a decree during the project implementation, obligating the installation of lighting facilities on highways as a traffic safety measure. Lighting facilities are being installed on many sections of the East-West Highway, including the target section.

3.2.2 Project Inputs

3.2.2.1 Project Cost

Table 2 shows the planned and actual costs of this project. At the time of the project appraisal of the first phase, the total project cost was planned to be 21,911 million yen (of which 17,722 million yen was to be covered by an ODA loan). Subsequently, as discussed previously, a decision was made on the second phase of the project (additional loan). In this evaluation, we will compare the plan with the actual amount of the second phase, after the outputs were scrutinized. At the time of the project appraisal of the second phase, the total project cost was planned to be 31,182 million yen, whereas the actual amount was 23,591 million yen, which was within the plan (approximately 76% of the plan). The reasons for this were: a) there was a difference between the exchange rate at the time of the second loan agreement and the average rate over the course of the project implementation (the Japanese yen appreciated from 123.8 yen to the dollar, to 101.24 yen); b) during the planning stage of the second phase (additional loan), the project budget was set at a high level to counter the contingencies, administrative costs, value-added tax (VAT), import duties and possible exchange rate fluctuations. However, as discussed above, the Roads Department continued to use its own funds, which as a result minimized the expenses. In other words, it can be said that cost consciousness led to efficient project management.

Table 2: Planned and Actual Costs of This Project

Planned Project Cost (Phase 1: 2009, Phase 2: 2016)	Actual Project Cost
[Phase 1] Total project cost: 21,911 million yen (of which 17,722 million yen was an ODA loan) (Exchange rate: 1 USD = 96.3 JPY, 1 USD = 1.67 Lari, 1 Lari = 57.7 JPY, as of June 2009) [Phase 2] Total project cost: 31,182 million yen (of which 22,132 million yen was an ODA loan.	Total project cost: 23,591 million yen (of which 21,226 million yen was an ODA loan) (Exchange rate (1 USD = 101.24 JPY, 1 USD = 2.1 Lari, 1 Lari = 48.1 JPY, the average exchange rates from the IMF's International Financial Statistics (IFS) 2010–2019 (main project expenditure period))

As an additional loan from the first phase, 4,410 million yen was provided) (Exchange rate: 1 USD = 123.8 JPY, 1 USD = 2.32 Lari, 1 Lari = 53.36 JPY, as of July 2015)	

Source: JICA's documents (planned project cost), the Project Completion Report, answers to the questionnaire (actual project cost)

3.2.2.2 Project Period

At the time of the appraisal, the project period was planned for eight years and four months (100 months), from December 2009 to March 2018.[7] However, the project was actually implemented from December 2009 to November 2019 for ten years (for 120 months), which slightly exceeded the plan (approximately 120% of the plan). The main factor was land acquisition. At the detailed design stage after the start of the project, it transpired that more land lots were subject to land acquisition than expected and identifying the owners required time. It was also identified that some land had multiple owners and the process of verification of ownership took a long period of time. Another factor was that the land registration system in Georgia was not well-established prior to the start of this project.[8] Construction work was also delayed as the land acquisition procedure was prolonged.

Most of the planned construction work was completed by December 2017, and the slope protection work at Chishura, near the Kutaisi Bypass, was completed in November 2019, which signaled the commencement of the service. The consulting services were completed in January 2021, as the warranty period was set for approximately one year, starting from the completion of the slope protection work.

3.2.3 Results of Calculations for Internal Rates of Return (Reference only)

Economic Internal Rate of Return

At the time of the appraisal, the economic internal rate of return (EIRR) of this project was calculated to be 19.6%, when regarding the reduction in total travel time for car users and the reduction in fuel consumption as "benefits," and the project cost (construction cost) as a "cost," with a project life of 25 years. In this evaluation study, the rate was recalculated using the same conditions as at the time of the appraisal; it was calculated to be 16.1%, which was lower than at the time of the appraisal. The reasons for this are the following: (1) the nominal GDP (Georgian Lari, based on GEL) assumed at the time of the appraisal was based on slightly overestimated future projections. In other words, there was a deviation between the latest nominal GDP Data (2021 actual) and that which was predicted at the time of the appraisal[9]; (2) concerning the

[7] At the time of the appraisal, the completion date of this project was stated to be "when the facilities start providing a service."

[8] It will be explained in the Resettlement and Land Acquisition section under Impact.

[9] (Supplementary information). While the nominal GDP (unit: Georgian Lari, GEL), calculated at the time of the

decrease in fuel consumption, which was considered as one of the "benefits," the fuel price at the time of the ex-post evaluation was significantly higher than at the time of the appraisal,[10] while assuming that the consumption is the same as that at the time of the project appraisal.[11]

Financial Internal Rate of Return (FIRR)

At the time of project appraisal, this was not calculated as the project was not expected to generate financial revenues such as incomes from toll fees. It was also not recalculated at the time of the ex-post evaluation.

<Summary of Efficiency>

As discussed above, the outputs of this project were mostly as planned; the project cost was within the plan, while the project period slightly exceeded the plan, as the land acquisition-related procedure required time. Therefore, the efficiency of the project is high.

Photograph 1: Samtredia-Kutaisi Section of the Road

Photograph 2: Interchange (Kutaisi Bypass Entrance)

3.3 Effectiveness and Impacts[12] (Rating:③)

3.3.1 Effectiveness

3.3.1.1 Quantitative Effects (Operation and Effect Indicators)

At the time of the appraisal, the transportation capacity was expected to be enhanced by developing the target section. Table 3 shows the quantitative effect indicators (baseline, target, actual).

appraisal was 29,200 GEL, the latest data (2021) at the time of the ex-post evaluation were confirmed to be 16,180 GEL. It is possible that predictions made at the time of the appraisal were slightly excessive.

[10] (Supplementary information). While gasoline consumption is believed to be decreasing, it is possible that the purchase cost is higher. At the time of the appraisal, gasoline was calculated at 1.98 Lari/liter and diesel at 2.03 Lari/liter, whereas at the time of the ex-post evaluation (2022), gasoline was 2.85 Lari/liter and diesel, 2.80 Lari/liter (both are actual prices); we found that there is a huge discrepancy.

[11] Since data on the actual consumption were not available, the consumption calculated at the time of the project appraisal was used.

[12] When providing the sub-rating, Effectiveness and Impacts are to be considered together.

Table 3: Quantitative Effect Indicators (Baseline, Target, Actual)

Indicator	Baseline Value (2009 Actual)	Target Value (2019, Two Years After Completion)	Actual Value (2021, Two Years After Completion)
1) Annual average daily traffic	8,588 vehicles/day	18,843 vehicles/day	17,858 vehicles/day *Note
2) Time required	63 minutes	35 minutes	Average 31 minutes
3) Driving speed	80 km/hour	100 km/hour	100–110 km/hour
4) Impassable days in sections with reinforced slopes	-	1 day (road closures due to soil erosion (total 5 days) once every 10 years at the slope control point)	0 days

Source: JICA's documents (baseline, target values), answers to the questionnaire and actual measurement by driving a car during the field survey (actual values)
Note: The breakdown of 17,858 vehicles/day by vehicle type is 12,279 vehicles/day for passenger cars, 2,714 vehicles/day for minibuses and vans (15 passengers or less), 1,734 vehicles/day for buses and trucks and 1,131 vehicles/day for cargo trailers.

As shown in Table 3, four operation and effect indicators were set at the time of the appraisal. The target values were set two years after completion (the second year after the facility begins its service). Since the actual completion was in 2019, actual data for 2021 (two years after completion) were collected. The analysis and discussion of each indicator are shown below.

1) Annual Average Daily Traffic

The annual average daily traffic (actual value) in the target section was close to the target value. This is because the high-standard road, with two lanes in each direction, was constructed during this project. It was slightly short of the target, but the Roads Department cited a slight drop in traffic demand after 2020, due to COVID-19. Given that the pandemic is becoming less of an issue, the traffic volume is thought to increase in the future.

2) Time Required

It was confirmed through the answers to the questionnaire and by driving a car on this section of road that the time required (actual value) to traverse this section was 31 minutes on the average. As a result of the construction of a high-standard road with two lanes in each direction through this project, the traffic flow is smooth, and the traveling time has been reduced.

3) Driving Speed

Through the answers to the questionnaire and by driving a car on this section, it was confirmed that the driving speed (actual value) was generally 100 to 110 km/hour. Similar to the "2) Time Required" above, this has resulted in a smooth traffic flow, due to the construction of a high-standard road with two lanes in each direction.

4) Impassable Days in Sections with Reinforced Slopes

The number of impassable days in sections with reinforced slopes was zero. While this may be due to the fact that notable natural disasters did not occur after completion, it may also be the case that slope work was implemented as an addition to this project, as discussed in "3.2.1 Project Outputs." In addition to the Roads Department carrying out appropriate and continuous maintenance works, it can also be the case that technical guidance provided by the construction supervision consultants and contractors of this project has been utilized in the maintenance work after completion.

3.3.1.2 Qualitative Effects (Other Effects: Improvement in Drivability, Safety and Durability)

The construction of the high-standard road with two lanes on each side has increased traffic capacity, improved driving speed and reduced driving time, resulting in improved drivability in the target section. In addition, road safety is ensured in the target section, as it complies with international standards. Lighting facilities are installed on the median strip, ensuring driver visibility and cameras are installed in many places along the target section, enabling speed control.[13] Moreover, the target road section is inspected every year based on the International Roughness Index (IRI),[14] which indicates driving comfort. The road surface is visually inspected and, based on the inspection results, a road maintenance management plan is formulated, taking durability into account.

During this field survey, the staff of the Roads Department, who are in charge of the target section commented: "The road condition is good. There is no problem concerning road surface maintenance. Drivers drive on the road comfortably. The installed lighting facilities play a key role in safety improvement." In addition, the survey team drove a car along the target section multiple times and visually checked the road surface and maintenance status; it was confirmed that improvements had been made in terms of driving performance, safety and road durability. Furthermore, motorists who drive along the target section on a daily basis[15] commented: "Compared to the existing road (existing road passing through Kutaisi city), the reduction in time was greater in the target section. With two lanes on each way, driving has become more comfortable."

Based on the above, it is considered that drivability, safety and durability have improved in the target section.

[13] The speed limit is 110 km/h. According to the Roads Department, images of vehicles exceeding the speed limit by more than 15 km/h are captured on cameras, designed to measure speed using radar. Drivers caught speeding will be fined and traffic control is monitored by the local police. The Roads Department and the local police have established a cooperative system whereby information is shared as needed.

[14] This refers to the unevenness of the road surface, defined by the World Road Association as "road surface displacement with wavelengths of 500 mm or more."

[15] Two people were interviewed at a gas station along the target section.

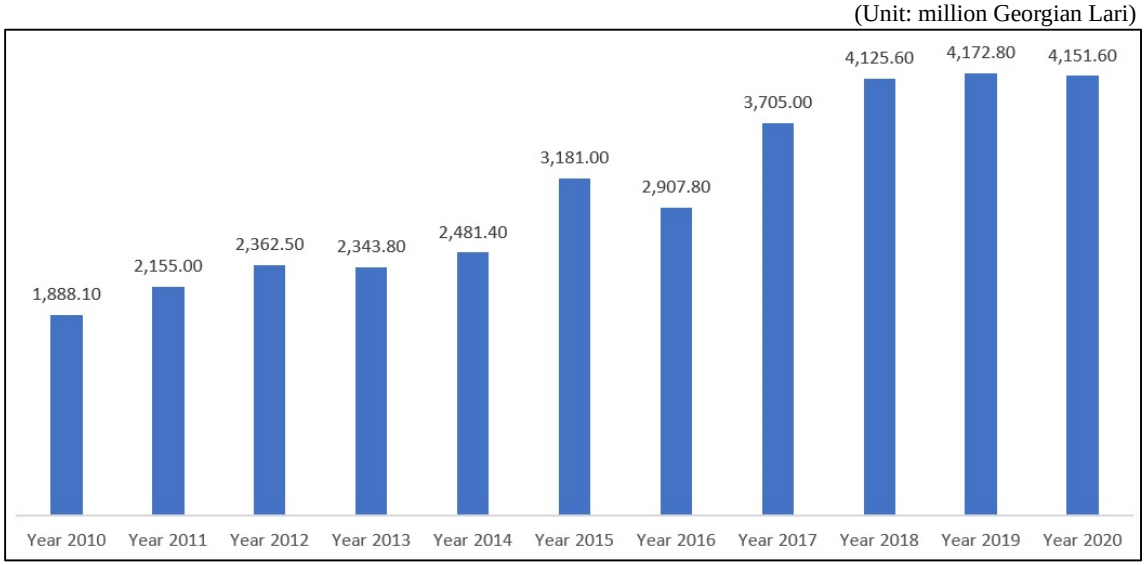
3.3.2 Impacts

3.3.2.1 Intended Impacts

1) Contribution to Regional Economic Revitalization Through the East-West Highway Development

The major industries of Imereti Province, where the target section is located, are manufacturing (13.2%), agriculture, forestry and fisheries (12.4%) and real estate (12.0%).[16] Figure 2 shows the gross regional domestic product (hereinafter referred to as "GRDP") of Imereti Province, Figure 3, the foreign direct investment contributed to the province and Table 4, the number of vehicles registered in the province.

(Unit: million Georgian Lari)

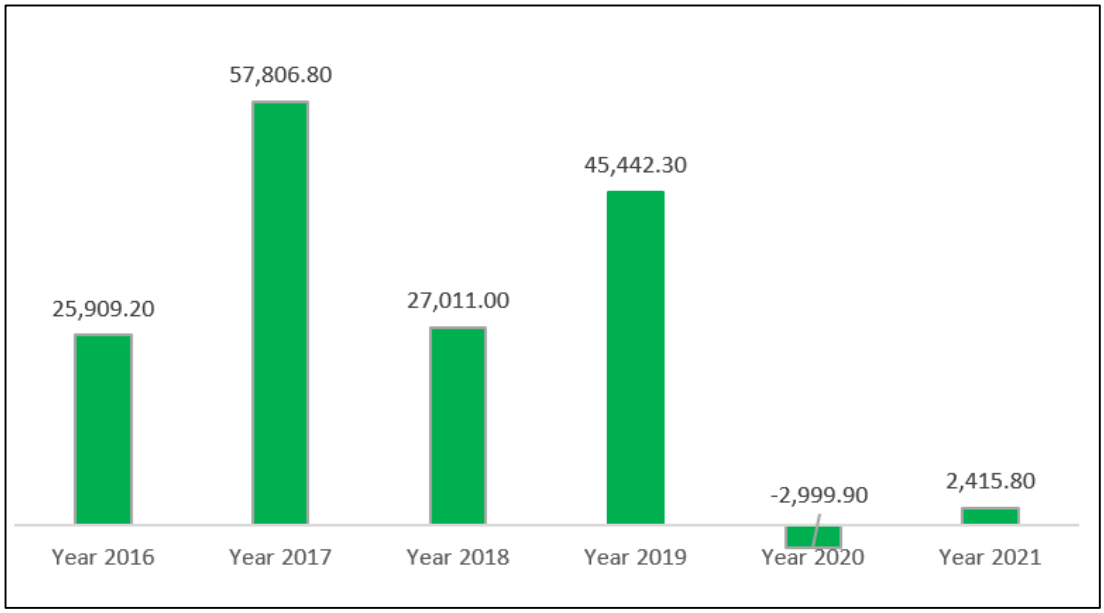


Source: National Statistics Office of Georgia

Figure 2: GRDP of Imereti Province
(2010–2020)

[16] Source: National Statistics Office of Georgia (2020 data)

(Unit: 1,000 USD)



Source: National Statistics Office of Georgia

Figure 3: Foreign Direct Investment (FDI) in Imereti Province (2016–2021)

Regarding the GRDP of Imereti Province in Figure 2, the values have remained unchanged over the last two to three years. Figure 3 shows the value of FDI to the province. It decreased from 2019 to 2020 and although it increased slightly from 2020 to 2021, it was significantly lower compared to the yearly investment amount over the period of 2016-2019. According to the Roads Department, while construction was progressing on other road sections, the influence of COVID-19 resulted in temporary lockdowns and the stagnation of economic activity in the country. In short, the decrease in FDI, shown in Figure 3, and the sluggish GRDP growth shown in Figure 2 are considered to be attributable to COVID-19.

According to the Roads Department, the progress rate for the entire East-West Highway section in terms of construction is approximately 79.5% at the time of this ex-post evaluation (March 2023), and most of the construction is expected to be completed between 2024 and 2025. By the time the sections under construction (Photographs 3 and 4) are completed, the transportation of container cargos, for example, from Poti Port and Batumi Port on the Black Sea coast to various parts of the country will be smooth.[17] With a reduction in traveling time and safer vehicle traffic, a large economic ripple effect is expected in the capital Tbilisi, which is the hinterland economic

[17] Expansion plans are underway at Poti Port, which are planned in two stages. In the first phase, a breakwater of 1,700 m and a multi-purpose berth, with a depth of 13.5 m (extension of 400 m) that can accommodate dry cargo and an additional 150,000 TEU, will be constructed. Container ships of up to 9,000 TEU will be able to enter and leave the port. In the second phase, a berth with three state-of-the-art cranes will also be built. With this plan, the port's annual container handling capacity is expected to exceed one million TEU per year. (Source: https://www.dredgingtoday.com/2020/02/05/expansion-plan-presented-for-poti-sea-port/ (accessed on November 18, 2022)

zone. In addition, with the recent Russian invasion of Ukraine, the significance of the Central Corridor and the Caspian Sea Route as an exit from Central Asia to the sea is even greater and the East-West Highway is expected to continue to grow in importance as transportation infrastructure, supporting economic interactions with Europe and Central Asia.[18] It can be said that the development of transportation infrastructure, as in this project, has great potential to stimulate industrial and economic revitalization in areas along the developed section.

Table 4: Number of Vehicles Registered in Imereti Province

(Unit: 1,000 vehicles)

	2014	2015	2016	2017	2018	2019	2020	2021
Private Car	109.0	118.8	129.5	137.5	144.7	151.5	162.3	175.2
Large Car *Note 1	11.4	12.2	12.4	12.4	12.6	12.7	13.0	13.5
Bus	7.0	7.1	7.1	7.2	7.3	7.4	7.4	7.5
Special Vehicle *Note 2	3.1	3.3	3.5	3.8	4.2	4.6	4.9	5.3
Total	130.5	141.4	152.5	160.9	168.8	176.2	187.6	201.5

Source: The Ministry of Internal Affairs of Georgia
*Note 1: This refers to pickups, trucks, vans, trailers, etc.
*Note 2: Special vehicles include agricultural machinery.

What is striking from Table 4 is that the number of registered, private cars is increasing. It is difficult to prove that there is a direct correlation between the data of registered vehicles and this project.[19] However, the completion of the entire East-West Highway, including the target section, is expected to improve traffic access to neighboring provinces and the capital, Tbilisi, for residents of Imereti Province, and to stimulate economic interaction.

Interview surveys were conducted with employees in the city hall of Terjola[20] (one of the municipalities of Imereti Province), the Roads Department and the staff of outsourced companies in charge of the maintenance work, to assess the relationship between this project and the revitalization of the local economy.[21] The following comments were received:

- “The development of the target section has improved security, providing residents with safety and security. Ambulances can now move quickly to the large hospitals in Kutaisi city. In the future,

[18] For example, Azerbaijan, an oil-producing country, sells petroleum products from Poti Port to other countries via Georgia’s East-West Highway. The transportation time and costs are expected to be reduced, and opportunities to earn foreign currency are likely to increase. Goods transported from Europe will also flow into Azerbaijan via the East-West Highway; the completion of construction on all sections is expected to reduce transportation time and costs. Therefore, it can be said that the economic ripple effect is considerable.

[19] Kutaisi, the central city of Imereti Province, has seen a particularly large increase in traffic congestion. This is likely to be due to an increase in the number of people who are able to purchase privately owned cars. Since the target section is approximately 12 km away from the center of Kutaisi City, it is difficult to verify the relationship between traffic congestion and this project or to confirm the effect of the improvement.

[20] It is located near Zestafoni, the gateway to the target section. The main industries are agriculture and livestock.

[21] The Mayor of Terjola, six senior staff of the local government, two of the maintenance staff of the Roads Department who participated in the survey and two staff members of the outsourced companies responsible for maintenance works were interviewed.

a new university will open in Kutaisi. It should be of great benefit to the students who will use the road to commute to the university" (Mayor of Terjola Town).
- "After the development of the target section, the vineyard area has been expanding. As a result, the town's tax revenue has increased. Although this may not be a direct effect of the project, we believe that the target section is an important route for transporting the wine produced to various parts of the country. We hope to attract tourists in the future with the opening of the section" (Mayor and senior staff of the town).
- "Construction is also underway on the east side of Zestafoni and the west side of Samtredia, which will further increase the traffic flow between the cities in the future" (The Roads Department and staff of an outsourced company).

Considering what is indicated by the statistical data in Figures 2-3 and Table 4, as well as the comments from the municipality of Imereti Province, it can be said that this project is currently supporting the revitalization of the local economy and will continue to do so in the future.

3.3.2.2 Other Positive and Negative Impacts

1) Impacts on the Environment

This project was classified as Category A, as it fell under the road sector listed in the *Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations* (published in April 2002).

Environmental Impact Assessment (EIA) reports were prepared for each construction section. The Kutaisi bypass section was approved by the Georgian Ministry of Environment in May 2011, the Kutaisi bypass-Samtredia section in May 2012 and the Zestafoni-Kutaisi bypass section in December 2012.

At the time of the ex-post evaluation, the questionnaire, the interviews with the Roads Department and site visits confirmed that there were no negative impacts on air pollution, water quality, noise/vibration or the ecosystem.[22] During the project implementation, the Roads Department was responsible for mitigation measures and environmental monitoring, while the construction supervision consultants were responsible for the actual works, which were implemented correctly. According to the Roads Department, it has not faced any mitigation measures and no environmental monitoring has needed to be conducted after completion, therefore, no monitoring data exist. However, should there be any negative environmental issues or objections/complaints from residents relating to the target section, there is a system in place, which allows the Roads Department to work with the Ministry of Environmental Protection and

[22] During the field survey, we drove around the project sites and visually confirmed that there was no increase in exhaust gas, noise and vibration of running vehicles or impact on the ecosystem. In addition, there are many pastures around the section and not many houses.

Agriculture of Georgia to address the issue.

2) Resettlement and Land Acquisition

After this project began, the Roads Department prepared a RAP[23] and proceeded with resettlement and land acquisition. In total, 1,025 landowners were subject to land acquisition and 1,773,490 m^2 of land was acquired concerning the construction of the target section. The total amount of compensation paid to the landowners was 9,852,140 Georgian Lari.[24] During the land acquisition process, there were many cases of multiple ownership of land. There were also cases of owners having moved out of the country, which made verification difficult. Such a process required time, causing a delay in the construction of the target section. One of the reasons was that the country's land registration system was not well-developed.[25]

Apart from those who were subject to land acquisition, six households were affected by the road construction (Project Affected Person; PAP), i.e., these households were forced to relocate. Livelihood support was provided, and in most cases, multi-year crop compensation was provided. Jobs were also offered as needed.

According to the questionnaire and interviews with employees of the Roads Department, the procedures did not deviate from those stipulated in the RAP, which was prepared after the project began. Details such as policy and compensation were in line with the law and procedures, the *Japan Bank for International Cooperation Guidelines for Confirmation of Environmental and Social Considerations* and the agreements in place at the time of the appraisal. By the time of the ex-post evaluation, no complaints had been received from the residents concerning the land acquisition and resettlement. On the other hand, considering that it took a significant amount of time to confirm the land area and its owners, it would have been beneficial to identify the land area and contact the owners in advance during the project formation stage.

3) Gender Equality, Marginalized People, Social Systems and Norms, Human Well-being and Human Rights

It can be said that this project contributes to the expansion of Georgia's industry and economy, as well as to the improvement of the living environment of its citizens. With regard to gender, the realization of equality, marginalized people, the social system, well-being and human rights, specific cases indicating the direct impacts of this project were not confirmed in the questionnaire

[23] The government of Georgia and JICA approved the RAP.
[24] Approximately 522 million yen at the exchange rate of November 2022.
[25] On the other hand, the Georgian government enacted a law on land registration, the "Improvement of Cadastral Data and the Procedure for the Systematic and Sporadic Registration of Rights to Plots of Land" in January 2022. Under this law, land nationwide is managed by the National Agency of Public Registry under the jurisdiction of the Ministry of Justice. The agency conducts cadastral and field surveys, conducts public hearings, processes and withdraws registration documents and publishes survey data, etc., thereby finalizing land registration. According to the Roads Department, the systematic registration of land is expected to be completed by the end of 2024. Therefore, it is possible that the land acquisition procedures for other construction sections will become more efficient in the future.

or interviews. Nevertheless, as the construction of the entire East-West Highway progresses, the realization of the logistics functions and smooth transportation arising from the completed sections, will result in people (including the vulnerable) and companies having more opportunities and benefits to participate equally in society in general, life choices will increase and events leading to happiness will be generated. It can be said that this project plays a role in such changes.

<Summary of Effectiveness and Impacts>

It can be said that the outcomes and impacts expected from the implementation of this project were largely achieved as planned. It can also be said that there were almost no long-term negative impacts on society (including human rights and gender equality), the environment or the economy. This project has achieved its objectives. Therefore, the effectiveness and impacts of the project are high.

Photograph 3: Road Construction on the West Side of Samtredia

Photograph 4: Construction Work Between Shorapani and Argveta on the East Side of Zestafoni

3.4 Sustainability (Rating: ④)

3.4.1 Policy and System

According to the *Basic Data and Directions* (2023–2026), formulated by the Georgian government, the government aims to enhance national advantage through the establishment of core systems, such as infrastructure development, logistics and transportation, communications, energy, technology, education and finance. By promoting the development of roads and tunnels connecting neighboring countries, such as Azerbaijan, the plan also aims to improve logistics functions and to expand imports and exports, thereby expand economic cooperation and improve relationships with neighboring countries, such as those in the Central Asian region, and with the European region in the future. Based on this, it can be said that there is consistency with the policy and direction of the government of Georgia at the time of the ex-post evaluation.

3.4.2 Institutional/Organizational Aspect

The executing agency is the Roads Department. It is responsible for road development planning, procurement, construction supervision, operation and maintenance, etc. in Georgia. The number of employees is 235 (as of the end of October 2022). The Ministry of Regional Development and Infrastructure, the senior authority of Roads Department, is responsible for promoting the development, design, and scientific and technical measures of the network of important national and international roads. The Roads Department carries out various projects in accordance with the Georgia Roads Act.

With regard to the organization of road facilities maintenance, this is divided into 25 offices[26] nationwide, of which two offices (the N15 and the N16) are in charge of the target section. There are 150 staff at the N15 and 50 at the N16 (as of the end of October 2022). On the other hand, actual maintenance works are carried out by external private companies (hereinafter referred to as "outsourced companies") under the supervision of the N15 and the N16 offices. The N15 and the N16 offices have a consignment contract[27] with one company each. The duties of the outsourced companies include: inspection of road surface conditions (daily), weeding of roadsides and median strips, cleaning of gutters, repair of road surface, repainting of division lines (white line), repair and replacement of road signs and guardrails, inspection of lighting facilities, snow removal, spraying of snow-melting agents, etc. in winter. It was confirmed through the site inspections and interviews that the field staff of the Roads Department and the staff of the outsourced companies were in frequent contact and were working toward an improved quality of maintenance. Staff of the N15 and the N16 offices drive along the road sections every day, and if they discover problems that need to be addressed, such as road repairs, they immediately contact the staff of the outsourced companies.

In light of the above, it is judged that there are no major issues regarding the institutional aspect of the operation and maintenance of this project.

3.4.3 Technical Aspect

The staff of the N15 and N16 offices have extensive experience in operation and maintenance. Many of them have qualifications related to manufacturing and machinery. It was confirmed through the interviews that the two outsourced companies which carry out the maintenance work also have experienced staff. In addition, the Roads Department formulates a maintenance plan and shares it with the outsourced companies. Manuals on maintenance are also provided to the outsourced companies.

In light of the above, it is judged that there are no major problems regarding the technical aspect

[26] The numbering of organization names starts with N.
[27] The maintenance contract is for two years. Outsourced companies are selected by means of a bidding process every two years.

of the operation and maintenance of this project.

3.4.4 Financial Aspect

Table 5 shows the maintenance cost of the target section (last three years).

Table 5: Maintenance Cost of the Target Section (Actual Allocation)

(Unit: Georgian Lari)

2019	2020	2021
1,157,168.25	1,612,081.75	2,633,115.00

Source: Documents of the Roads Department

The maintenance budget comes from a national budget. Since 2019 was the year of completion, a small amount was allocated as a maintenance budget. After 2020, this was increased. According to the Roads Department, "In principle, maintenance budgets are calculated and allocated according to the road lengths. The budget for the target section is allocated after scrutinizing and formulating a five-year maintenance plan. The plan is reviewed every year, and thus, the budget fluctuates." The allocation for 2021 was considerable due to the fact that maintenance work, in the form of snow countermeasures, was increased owing to the harsh winter; consequently, the budget allocation was increased accordingly.[28]

In light of the above, it is judged that there are no major problems regarding the financial aspect of the operation and maintenance of this project.

3.4.5 Environmental and Social Aspect

Following commencement of service, no particular environmental or social mitigation measures have been taken and no negative impacts on the natural environment are expected for the time being. As discussed in "1) Impacts on the Environment" under "3.3.2.2 Other Positive and Negative Impacts," no major negative impacts on the environment had occurred at the time of the ex-post evaluation.

3.4.6 Preventative Measures to Risks

Prior to the start of this project, the criterion, "large-scale natural disasters do not affect the construction period" was listed as an external and risk control factor. According to the Roads Department, there was no natural disaster that posed a risk during the project implementation,

[28] The western region of Georgia, where the targeted section is located, has less snowfall than the eastern region. However, in 2021, there were exceptional snow levels nationwide and the Roads Department and the outsourced companies needed to spray snow-melting agents (calcium chloride) and perform repairs. It was confirmed that the necessary funds for snow measures were allocated in a timely manner. There is no toll gate on this section and no toll revenue has been collected. In the future, after the development and improvement of the entire East-West Highway, the installation of toll booths may be considered to secure a maintenance budget (financial resource). Nevertheless, no plan is in place at the time of this ex-post evaluation.

neither was there any construction delay associated with a natural disaster. This evaluation survey confirmed that there were no risks, external conditions or events that should have been controlled during the project implementation.

3.4.7 Status of Operation and Maintenance

As discussed in "3.4.2 Institutional/Organizational Aspect," the operation and maintenance of the target section is handled by the field staff of the outsourced companies. Duties include inspecting road conditions (daily), weeding roadsides and medians, cleaning gutters, repairing road surfaces, repainting the division lines (white lines and lines), repairing and replacing road signs and guardrails, inspecting lighting facilities, removing snow and spraying snow-melting agents in winter. The Roads Department (the N15 and the N16 offices) is in charge of technical supervision and monitoring, and the field staff work on a shift basis during the day. Interviews with the field staff of the outsourced companies confirmed that there was no damage to the road surface or structures on the road, neither was there a lack of maintenance that would adversely affect the realization of the project effects.

The maintenance equipment and spare parts are owned by the outsourced companies. The snow throwers, snow-melting agent sprayers, mowers and road sweepers are outdated, but although the need to upgrade them has been expressed, no failures or problems have occurred. This machinery is stored in warehouses and is readily available when needed. Many spare parts are procured from neighboring Turkey and delivery usually takes one to two weeks. It was confirmed through the interviews that there are no particular problems with the procurement process.

No issues have been observed in the policy/system, institutional/organizational, technical, financial, and environmental and social aspects, including the current status of the operation and maintenance system. Risks have been mitigated well. Therefore, the sustainability of the project effects is very high.

Photograph 5: Maintenance Work (1)

Photograph 6: Maintenance Work (2)

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project aimed to enhance transportation capacity by constructing a road section between Zestafoni, Kutaisi and Samtredia on the East-West Highway in Georgia, thereby contributing to regional economic development. Regarding relevance, this project is "consistent with the development plan" and "consistent with the development needs." As for coherence, while it is "consistent with Japan's ODA policy," specific cooperation and synergistic effects were not observed in terms of "internal coherence" and "external coherence." Nevertheless, the project is consistent with the goals of the international framework (SDGs). Therefore, its relevance and coherence are high. With regard to efficiency, the outputs were mostly as planned, and although the project period slightly exceeded the plan, due to lengthy land acquisition procedures, the project cost was within the plan. Therefore, the efficiency of the project is high. With respect to the quantitative effect indicators, the target section's actual values of the "annual average daily traffic," "time required," "driving speed" and "impassable days in sections with reinforced slopes" were either close to or exceeded the target values. It was confirmed through the field survey interviews that drivability/comfort, safety and road durability are high in the target section. Local officials in Imereti Province, where the target section is located, confirmed that the project had a significant impact on the revitalization of regional economies. Thus, the effectiveness and impact of the project are high. There are no major concerns regarding the sustainability of the effects produced by this project. Therefore, the sustainability of the project effects is very high.

In light of the above, this project is evaluated to be highly satisfactory.

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

None

4.2.2 Recommendations to JICA

None

4.3 Lessons Learned

<u>Importance of Taking Measures at an Early Stage in Preparation for Land Acquisition</u>

During the detailed design stage of this project, it transpired that an increased number of land lots would be subject to land acquisition than initially expected. This, combined with the fact that there were multiple owners for one piece of land and that some landowners had moved out of the country, meant that the land acquisition process required time. When formulating and implementing similar projects in the future, if it becomes clear prior to the start of the project or in the early stages of the project that it may take time to identify the target land and/or owners, it

would be desirable for those involved in the project to estimate the extent of the expected process and the time required before proceeding with land acquisition.

5. Non-Score Criteria

5.1 Performance

5.1.1 Objective Perspective

During the implementation of this project, slope failures were observed at the cut site in the Kutaisi bypass construction section (slope around River Chishura, approximately 3 km). Therefore, countermeasures such as collapse prevention and drainage installation were carried out. As a result of the Roads Department discussing with JICA and the construction supervision consultants, Japanese technology relating to slope protection and reinforcement procedures (hydro seeding, wire mash, etc.) were introduced and measures were taken to prevent disasters. This shows that there was good communication and a cooperative relationship among those involved in the project.

5.2 Additionality

None

(end)

Comparison of the Original and Actual Scope of the Project

Item	Plan	Actual
1. Project Outputs	1) Civil Engineering Work [Phase 1] - Nakhshirgele, Chugureti civil engineering work (rehabilitation of an existing two-lane road, approximately 5.2 km) - Kutaisi bypass civil engineering work (construction of new bypasses, etc., approximately 2.4 km, including bridges) - Kutaisi-Samtredia civil engineering work (construction of a new two-lane road, approximately 32.0 km, including bridges) [Phase 2] - Kutaisi bypass (construction of a new two-lane road: 17.3 km) - Kutaisi-Samtredia (construction of a new two-lane road: 24.0 km) - Zestafoni-Kutaisi (rehabilitation and widening of an existing two-lane road (to a four-lane road: 15.2 km) - Road safety measures (reinforcement of slopes, installation of road lighting facilities) 2) Consulting Services [Phase 1] Basic design, bidding assistance, detailed design assistance, construction supervision, human resource development, preparation of the RAP, environmental and social consideration monitoring support, etc. [Phase 2] Basic design, bidding assistance, detailed design, construction supervision, preparation of the RAP, environmental and social consideration monitoring support, establishment of a slope sliding measurement system, etc.	1) Civil Engineering Work →Implemented mostly as planned (compared to the plan for the second phase) - Kutaisi bypass (construction of a new two-lane road (concrete pavement): 17.3 km) - Kutaisi-Samtredia (construction of a new two-lane road (concrete pavement): 24.0 km, three bridges, three interchanges) - Zestafoni-Kutaisi (rehabilitation and widening of the existing two-lane road (widening to a four-lane road: 15.2 km, three interchanges, three bridges) - Road safety measures (reinforcement of slopes, installation of road lighting facilities) 2) Consulting Services →Implemented mostly as planned (compared to the plan for the second phase)

2. Project Period	December 2009–March 2018[29] (100 months)	December 2009–November 2019 (120 months)
3. Project Cost Amount Paid in Foreign Currency	10,823 million yen	10,040 million yen
Amount Paid in Local Currency	20,359 million yen	13,551 million yen
Total	31,182 million yen	23,591 million yen
ODA Loan Portion	(22,132 million yen)[30]	(21,226 million yen)
Exchange Rate	Phase 1: 1 USD = 96.3 JPY, 1 Georgian Lari = 57.7 JPY (As of June 2009) Phase 2: 1 USD = 123.8 JPY, 1 Georgian Lari = 53.36 JPY (As of July 2015)	1 USD = 101.24 JPY, 1 Georgian Lari = 48.1 JPY (Average of 2010-2019 during which the expenses occurred, the IMF's International Financial Statistics (IFS))
4. Final Disbursement	Phase 1: July 2016 Phase 2: June 2021	

[29] The project period planned at the time of the second phase.
[30] The "amount paid in foreign currency," "amount paid in local currency," "total" and "ODA loan portion" reflect the first and second phase combined (i.e., the project cost planned at the time of the second phase).