

Republic of Liberia

FY2024 Ex-Post Evaluation Report of
Japanese Grant Aid Project

“The Project for Reconstruction of Somalia Drive in Monrovia” and “The Project for
Reconstruction of Somalia Drive in Monrovia (Phase 2)”

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0. Summary

This project was implemented with the objective of ensuring smooth and safe road traffic on Somalia Drive, a major arterial road in the Monrovia Metropolitan Area, by constructing new two-lane roads and bridges to expand the road to four lanes under “The Project for Reconstruction of Somalia Drive in Monrovia” (hereinafter referred to as the “Phase 1”), and rehabilitating the existing two-lane road under “The Project for Reconstruction of Somalia Drive in Monrovia (Phase 2)” (hereinafter referred to as the “Phase 2”)), thereby contributing to the improvement of traffic convenience, and the enhancement of logistics, as well as the revitalization of socio-economic activities in the Monrovia Metropolitan Area. The objective of the project was consistent with Liberia’s development plans and needs, which prioritize road infrastructure development, and Japan’s Official Development Assistance (ODA) policy for Liberia. With regard to internal coherence, there was no coordination with other JICA projects during the ex-ante evaluation or implementation of this project. However, during the project implementation, coordination was conducted with the World Bank project that aimed at developing an international corridor connecting Monrovia to the Guinean border. Following the integration of the two projects’ road networks, improvements in travel safety and reduced travel time were observed, indicating a high degree of external coherence. Based on the above, relevance and coherence of the project are high. The outputs were produced as planned. The project costs remained within the plan, but the project period slightly exceeded the plan. Therefore, efficiency of the project is high. As a result of the project, the intended outcome of “securing smooth and safe road traffic “,” the short-term impact of “improvement of traffic convenience and logistics,” and the medium- to long-term impact of “revitalization of socio-economic activities in the Monrovia Metropolitan Area” have all been realized as expected. Therefore, both effectiveness and impact of the project are high. However, at the time of the ex-post evaluation, certain sections of the road and facilities were found to have not been properly and timely maintained. Moreover, the budget allocation for routine maintenance was insufficient, indicating financial challenges in operation and maintenance. Therefore, sustainability of the project effects is moderately low.

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

1. Project Description



Project Location



Somalia Drive at the time of completion
(Source: Document provided by JICA¹)

1.1 Background

Liberia experienced two consecutive civil wars between 1989 and 2003. During this period, many major roads were severely damaged, and the government's capacity to maintain road infrastructure declined significantly. As a result, even roads that were not directly affected by the conflict deteriorated due to insufficient maintenance. The population of Montserrado County, where the capital city Monrovia is located, doubled from 540,000 in 1984 to 1.11 million in 2008². This increase was largely due to the settlement of returning refugees and internally displaced persons after the war. This rapid population growth led to a sharp increase in traffic, which far exceeded the pace of road restoration and construction, resulting in frequent traffic congestion throughout the city. Somalia Drive, the subject of this project, is one of the major arterial roads in the Monrovia Metropolitan Area, with a total length of 13.2 km. Due to the concentration of freight transport from the International Freeport and daily transportation of surrounding communities, traffic congestion had become chronic, creating the urgent need for road improvements to ensure smoother traffic flow. In November 2008, JICA launched the "The Master Plan Study on Urban Facilities Restoration and Improvement in Monrovia in The Republic of Liberia." Based on this study, "the Project for Reconstruction of Somalia Drive in Monrovia" was proposed as a high-priority initiative.

1.2 Project Outline

The objective of this project is to ensure smooth and safe road traffic on Somalia Drive, a major arterial road in the Monrovia Metropolitan Area, by constructing new two-lane roads and bridges to expand the road to four lanes (Phase 1), and rehabilitating the existing two-

¹ Source: Ministry of Public Works, Katahira & Engineers International. 2023. The Project for Reconstruction of Somalia Drive in Monrovia (Phase 2) Project Monitoring Report (Final), Attachment 8 Pictures. p. 108

² Source: Liberia Census. Liberia Institute of Statistics and GEO. 1984, 2008, 2022. URL: <https://lisgis.gov.lr/census.php> (accessed date: June 17, 2025) Montserrado County Population: 168,575 (1962), 357,119 (1974), 544,878 (1984), 1,118,241 (2008), 1,920,965 (2022)

lane road (Phase 2), thereby contributing to the improvement of traffic convenience, and the enhancement of logistics, as well as the revitalization of socio-economic activities in the Monrovia Metropolitan Area.

Grant Limit / Actual Grant Amount	Phase 1: (Detailed Design) 89 million yen / 89 million yen Phase 1: (Main Construction) 4,939 million yen (original), 5,689 million yen (revised) / 5,681 million yen Phase 2: 5,220 million yen / 5,058 million yen
Exchange of Notes Date / Grant Agreement Date	Phase 1: (Detailed Design) March 2013 / March 2013 Phase 1: (Main Construction) June 2013, revised in November 2016 / June 2013, revised in March 2015, revised in November 2016 Phase 2: March 2017 / March 2017
Executing Agency	Ministry of Public Works (MPW)
Project Completion	Phase 1: May 2018 Phase 2: July 2021
Target Area	Monrovia Metropolitan Area
Main Contractor	Dai Nippon Construction Co., Ltd.
Main Consultant	Katahira & Engineers International
Preparatory Survey	Phase 1: January-December 2012 Phase 2: January-December 2016
Related Projects	[JICA Technical Cooperation] The Master Plan Study on Urban Facilities Restoration and Improvement in Monrovia (2008-2009) [The World Bank] Liberia Road Asset Management Project (2011-2024)

2. Outline of the Evaluation Study

2.1 External Evaluator

Hiroyo Onozato, Koichi Sato³, IDCJ

2.2 Duration of Evaluation Study

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

Duration of the Study: September 2024 - January 2026

Duration of the Field Study: November 24 - December 7, 2024, March 31 - April 6, 2025

³ Mr. Sato from Space Shift Inc. participated in this evaluation study as an expert on satellite data analysis.

3. Results of the Evaluation (Overall Rating: B⁴)

3.1 Relevance/Coherence (Rating: ③⁵)

3.1.1. Relevance (Rating: ③)

3.1.1.1 Consistency with the Development Plan of Liberia

At the time of the Phase 1 planning, both the *Liberia Poverty Reduction Strategy* (2008-2011) and the *National Transport Policy and Strategy* (2009) identified infrastructure reconstruction and the provision of basic services as strategic objectives. In the road sector, the prioritized issues included the rehabilitation and construction of primary, secondary, and feeder roads. During the Phase 2 planning stage, national development policies, such as the long-term development plan *Liberia Rising: Vision 2030* (2012), the five-year development plan *Agenda for Transformation* (2012-2017), and *The Economic Stabilization and Recovery Plan* (2015) which was formulated in response to post-Ebola recovery, emphasized the development of the road network as a high-priority area and pointed out that delays in infrastructure development had hindered the delivery of essential public services, including healthcare. Both Phase 1 and Phase 2 were consistent with these development policies at the time of their planning.

As development policies following the project completion, there are the five-year plan *Pro-Poor Agenda for Prosperity and Development* (2018-2023) issued in 2018, the *ARREST Agenda for Inclusive Development* (AAID) issued in 2024, and the five-year *National Development Plan 2025-2029* launched in 2025. The current five-year plan identifies road and basic infrastructure as one of its strategic pillars. It promotes road development and modernization with the aims of enhancing road connectivity, accelerating economic growth, and improving access to essential services, thereby contributing to increased national productivity and competitiveness. From the planning stage to the ex-post evaluation stage, Liberia's development plans have consistently emphasized road infrastructure development, indicating high relevance of this project in terms of policy.

3.1.1.2 Consistency with the Development Needs of Liberia

At the time of planning, the main arterial roads in the capital city of Monrovia had been damaged and deteriorated due to the prolonged civil conflict. Furthermore, the population of the metropolitan area had doubled compared to the pre-conflict period, and increased traffic had caused severe traffic congestion throughout the city. Chronic congestion was also observed on the project's target road, and there was an urgent need for the rehabilitation of roads and bridges to improve traffic flow and ensure safety. At the time of the ex-post

⁴ A: Highly satisfactory, B: Satisfactory, C: Partially satisfactory, D: Unsatisfactory

⁵ ④: Very High, ③: High, ②: Moderately Low, ①: Low

evaluation, Liberia's road pavement rate remained low at 11.2%⁶ (2022), and the shortage of basic infrastructure continued to be a major constraint on economic development. The population of Montserrado County increased from 1.11 million in 2008 to 1.92 million in 2022, accounting for 36.7% of the national population⁷. Based on the above, this project - which aims to improve transportation convenience and logistics, and to revitalize socio-economic conditions of the Monrovia Metropolitan Area, by ensuring safe and smooth traffic of the arterial road - is aligned with development needs.

3.1.1.3 Appropriateness of the Project Plan and Approach

In this project, based on lessons learned from similar projects in the past, modified asphalt specifications and concrete paving were implemented to address heavy vehicle traffic and overloading. During Phase 1 and Phase 2 warranty inspections, the condition of the facility was confirmed to be good, and during the ex-post evaluation site visit by the evaluator, no road rutting or cracking was observed⁸. However, during the first field survey, although potholes had developed on the Phase 1 road, which had been completed seven years earlier, no patching work had been undertaken, resulting in further deterioration. For details, please refer to "3.4 Sustainability - Operation and Maintenance."

3.1.2 Coherence (Rating: ③)

3.1.2.1 Consistency with Japan's ODA Policy

At the time of the ex-ante evaluation, Japan's Country Assistance Policy for Liberia (2013 and 2016) identified infrastructure development support as one of the priority areas. This project was positioned under the "Urban infrastructure rehabilitation and development program" in the Rolling Plan for Liberia⁹. Thus, the project was consistent with Japan's ODA policy for Liberia.

3.1.2.2 Internal Coherence

There was no collaboration or coordination with other JICA projects at the time of the ex-ante evaluation or during the implementation of this project.

3.1.2.3 External Coherence

During the implementation of Phase 2, adjustments were made to reduce the construction

⁶ Paved roads are 1,275 km of 11,422 km (MPW/GAC NFR Audit, 2022). Source: ARREST Agenda for Inclusive Development (AAID) National Development Plan 2025-2029. p. 87, p. 90

⁷ Source: Liberia Census (1984, 2008, 2022). Liberia Institute of Statistics and GEO.

⁸ Phase 1 warranty inspection date: June 26, 2019, Phase 2 warranty inspection date: July 22, 2022, The ex-post evaluation site visit date: November 27, 2024

⁹ Source: Ex-ante evaluation form (2013, 2016); ODA Country Databook 2013 (in Japanese). Ministry of Foreign Affairs, Government of Japan; ODA Country Databook 2016. Ministry of Foreign Affairs, Government of Japan.

area of this project so as not to overlap with a road project supported by the World Bank (for details, see “3.2 Efficiency - 3.2.1 Project Outputs”). Through the development of the arterial road beginning at Freeport under this project, along with the construction of Kakata Highway including Red Light Junction under the World Bank project¹⁰, an international corridor connecting Monrovia’s main port and the Guinean border was established. In particular, the area around Red Light Junction, which had been chronically congested with vehicle speeds dropping to 0km/h - below 10km/h due to occupation of the road by street vendors, was improved through four-lane paving. As a result, vehicles, including freight trucks, can now travel safely, and travel times have been reduced.

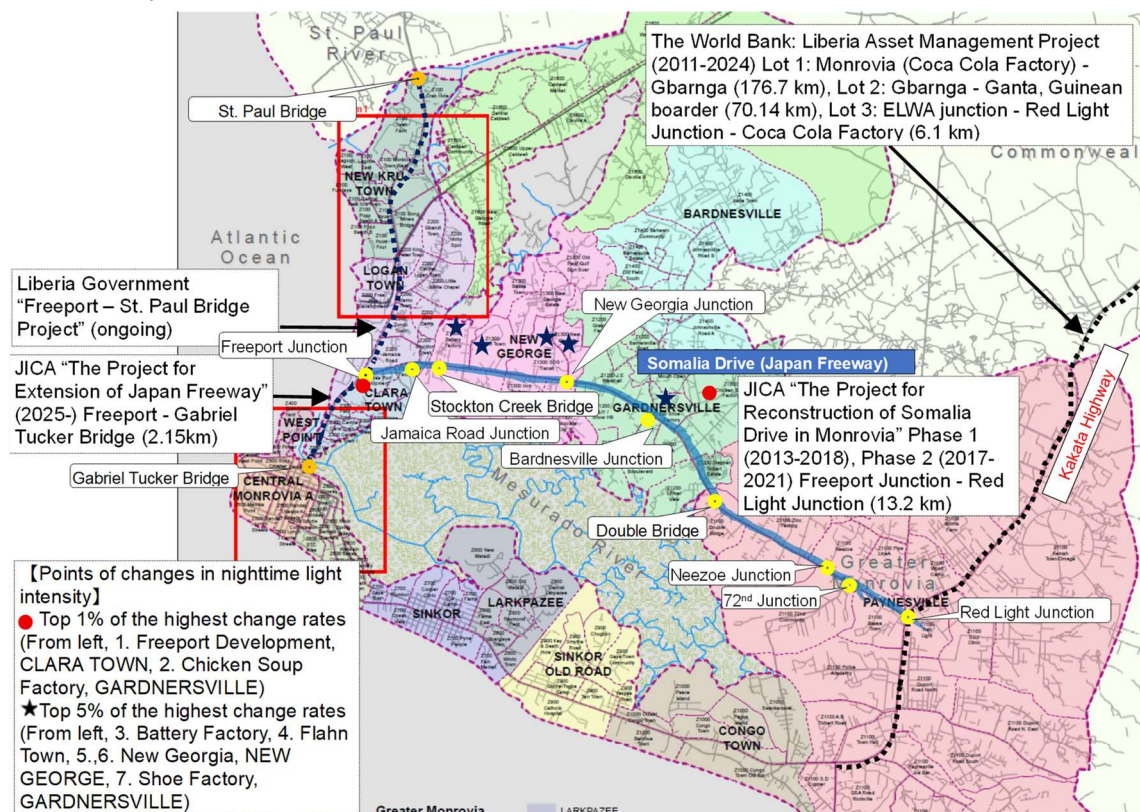


Figure 1: Map of this Project and Related Projects

Source: Prepared by Evaluator based on Greater Monrovia. Administrative Boundaries. MSF. 2014

This project has consistently contributed to international frameworks, particularly the Tokyo International Conference on African Development (TICAD), from the planning through the ex-post evaluation stages. During the Phase 1 planning, the project was consistent with the *TICAD IV Yokohama Action Plan* (2008), specifically in areas such as “development and expansion of national and regional economic corridors” and “support for addressing humanitarian crises and consolidating peace.” In the Phase 2 planning stage, the

¹⁰ The World Bank. Liberia Road Asset Management Project - LIBRAMP (P125574) (2011-2024). URL: <https://projects.worldbank.org/en/projects-operations/project-detail/P125574> (accessed date: January 19, 2026)

project was consistent with the *TICAD VI Nairobi Declaration* (2016), particularly Pillar 1: Promoting structural economic transformation through economic diversification and industrialization, under the theme of “quality infrastructure.” At the time of the ex-post evaluation, the project was found to align with the *TICAD 8 Tunis Declaration* (2022), specifically the promotion of “connectivity and quality infrastructure investment,” as well as with the promotion of high-quality infrastructure investment based on the *G20 Principles for Quality Infrastructure Investment* (2019). Furthermore, the project contributes to the Sustainable Development Goals (SDGs), particularly SDG 9, which aims to build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation¹¹.

This project is consistent with Liberia’s development plans and needs that prioritize road infrastructure development, as well as Japan’s ODA policy for Liberia. Regarding internal coherence, there was no collaboration or coordination with other JICA projects at the time of the ex-ante evaluation or implementation of this project. During Phase 2, coordination was carried out with a World Bank project that aimed at developing an international corridor from Monrovia to the Guinean border. Following the improvement of the Red Light Junction, where the roads of both projects connect, positive effects such as safer travel and reduced travel times have been observed, demonstrating external coherence.

Therefore, its relevance and coherence are high.

3.2 Efficiency (Rating: ③)

3.2.1 Project Outputs

In Phase 1, a new two-lane road was constructed on the north side of the existing two-lane road, along with the replacement of the existing two-lane Stockton Bridge and the construction of an additional two-lane bridge. Rehabilitation work was also carried out on the Double Bridge, and ancillary road facilities were constructed. In Phase 2, the existing two-lane road was rehabilitated, and improvements were made to ancillary facilities, traffic signals, and road lighting. As shown in Table 1 and Table 2, the planned outputs were produced.

During Phase 1, the outbreak of Ebola virus disease led to subsequent design modifications required for the evacuation of project personnel, and suspension of construction work followed by the resumption of construction. It was also confirmed that the existing two-lane road had sustained severe damage and had become unusable¹², necessitating its rehabilitation

¹¹ Source: Sustainable Development Report website <https://dashboards.sdgindex.org/explorer/?metric=logistics-performance-index-infrastructure-score> (accessed date: January 19, 2026) SDG9 Logistics Performance Index: Infrastructure score (worst 1–5 best) 2.4 (2023)

¹² Due to the Ebola outbreak, project personnel from the Japanese side were temporarily evacuated from August 2014 to the end of September 2015. In June 2015, a joint mission was conducted by the Embassy of Japan,

in Phase 2. Accordingly, design modifications were made to coordinate the construction plans for both phases (see Table 1). The consulting services for Phase 1 were implemented as planned, including detailed design and construction supervision, and additionally, unexploded ordnance (UXO) survey services¹³ were conducted.

Table 1: Phase 1 Output Overview (Plan / Actual / Modifications)

Facility	Phase 1		
	Plan	Actual	Modifications
Target section	New 2-lane road (13.2km)	New 2-lane road (13.2km)	
Road width	Carriageway 6.6m (3.30m x 2) Sidewalk 2.0m x 1 Tree belt 1.5m x 1 Median 2.5m	Carriageway 7.3m (3.65m x 2) Sidewalk 2.0m x 1 Tree belt 1.5m x 1 Median 2.5m	
Pavement structure	Carriageway: 15cm Asphalt Concrete (AC) pavement (5cm AC surface course, 10cm AC binder course), 20cm base course (stabilized crushed stone), 30cm sub-base course (crusher-run stone). Sidewalk: 5cm AC pavement, 10cm base course (stabilized crusher run)	Carriageway: 15cm Asphalt Concrete (AC) pavement (5cm AC surface course, 10cm AC binder course), 20cm base course (stabilized crushed stone), 30cm sub-base course (crusher-run stone). Sidewalk: 5cm AC pavement, 10cm base course (stabilized crusher run)	
Drainage structure	Central drainage U-shaped concrete gutter, RC drainage pipe	U-shape water drainage 12,467m, RC-pipe 1,214m, 550 catch basins	• Addition of drainage facilities
Bridge	Stockton Bridge: 2 bridges (Length 85.0m/ Width 10.15m) (Length 73.6m/ Width 10.15m)	Stockton Bridge: 2 bridges (Length 85.0m/ Width 10.15m) (Length 73.6m/ Width 10.15m)	• Exclusion of paving
	Double Bridge: Repair of existing 2 bridges	-	• Exclusion of asphalt surface course works, Additional installation of cable ducts • Exclusion of retaining wall works, Additional asphalt surface course on the north side of the Double Bridge
Auxiliary facilities	Gravity retaining wall	Gravity retaining wall	
	Curbstones (roadway-sidewalk boundary, property boundary block)	Curbstones (roadway-sidewalk boundary, property boundary block)	• Partial exclusion of median curbstones
	Road signs, regulatory signs, pedestrian crossing	Road signs, regulatory signs, pedestrian crossing	• Partial modification of road marking works

Source: Prepared by the evaluator according to the Phase 1 preparatory survey report and documents provided by JICA

In Phase 2, the outline design underwent modifications at detailed design associated with overall optimization of the plan between Phase 1 and Phase 2, along with the addition of traffic signals and modifications to streetlight specifications based on the MPW's request (see Table 2). Moreover, the modifications made during the detailed design phase included the following three points: (1) A reduction in the construction area near the Red Light Junction at the terminus of the project road, in coordination with the World Bank-supported

JICA, the consulting firm, and the construction company to assess the condition of the existing two-lane road. (Source: Response to the implementation consultant's questionnaire)

¹³ Following the discovery of three unexploded ordnances at the site, which were disposed of by the Armed Forces of Liberia, it became necessary to engage in consultations with the counterpart government. As a result of these discussions, the need arose to commission a risk assessment survey by a professional explosives disposal contractor to ensure safety in the unconstructed sections.

road rehabilitation project; (2) The addition of a new access road in response to requests from local residents along the road, where residential development is progressing; (3) The extension of terminal drainage channels and the addition of drainage infrastructure to prevent flood damage in newly developed residential areas (see Table 2). All of these modifications were made in response to evolving conditions. Their relevance was thoroughly discussed among the stakeholders, and the necessary modification procedures were appropriately implemented. The consulting services in Phase 2 were carried out as planned, including detailed design, construction supervision, and UXO survey.

The main responsibilities of the Liberian side, namely land acquisition, tax exemption measures, and utility relocation, were implemented as planned both in Phase 1 and Phase 2.

Table 2: Phase 2 Output Overview (Plan / Actual / Modification)

Facility	Phase 2		
	Plan	Actual	Modifications
Target section	Rehabilitation of existing 2-lane road (13.2km)	Rehabilitation of existing 2-lane road (13.175km)	- Changes in construction scope: Exclusion of two lanes on the south side from 0.402 to 0.825km; addition of two lanes on both north and south sides from 0.125 to 0.60 km; addition of two lanes on the south side from 1.262 to 1.615km - Reduction of the terminal section near Red Light Junction: The end point of road earthworks, mainline pavement works, ancillary facilities, and gutter works shortened to 13.175km (reduced by 25m); the end point of sidewalk pavement and property boundary block works at 13.060km; addition of median drainage gutter from 13.100 to 13.175km (increased by 75m) - Addition of a new access road: at 2.173km point, road area 53 m² increase (width 17.8m, length 3m), pavement works of 112m² including overlay section
Road width	Carriageway 6.6m (3.30m x 2) Shoulder 1.5m Sidewalk 2.5m Median 2.5m	Carriageway 7.3m (3.65m x 2) Shoulder 1.0m-2.0m Sidewalk 2.5m Median 2.5m	
Pavement structure	Carriageway: 15cm Asphalt Concrete (AC) pavement (5cm AC surface course, 10cm AC binder course), 20 cm base course (stabilized crushed stone), 30cm sub-base course (crusher-run stone).	Carriageway: 15 cm Asphalt Concrete (AC) pavement (5cm AC surface course, 10cm AC binder course), 20cm base course (stabilized crushed stone), 30cm sub-base course (crusher-run stone).	
	Sidewalk: 5cm AC pavement, 10cm base course (stabilized crusher run)	Sidewalk: 5cm AC pavement, 10cm base course (stabilized crusher run)	
Drainage structure	U-shape concrete side drainage gutters 9,633m, RC drainage pipes 2,442m	U-shape water drainage 8,844m, RC-pipe culvert 2,869m, 672 catch basins	- Exclusion of the box culvert at the 0.222km point (already constructed in Phase 1), replacement with a new type - Addition of four terminal drainage channels and extension at two locations, totaling an increase of 455m (width 0.5m, both covered and uncovered types)
Bridges	-	Stockton Bridge: 2 lane on southside	Addition of pavement (excluding structural components, revetment works, and approach slabs)
	-	Double Bridget: Repair of existing 2 bridges	Addition of existing pavement removal and rehabilitation work

Auxiliary facilities	Gravity retaining wall	Gravity retaining wall	
	Curbstones (roadway-sidewalk boundary, property boundary, median block)	Curbstones (roadway-sidewalk boundary, property boundary, median block)	
	Road signs, regulatory signs, pedestrian crossing	Road signs, regulatory signs, pedestrian crossing	• Road marking works from Phase I (excluding arrow markings) were removed.
	Traffic signals: 5 junctions 15 units	Traffic signals: 6 junctions 20 units for vehicle, 30 units for pedestrians	• Addition of 1 junction (Jamaica Road), and 5 traffic signals (Jamaica Road 3, Bardnersville 1, Neezoe 1)
	Streetlights: 266 units of dual-lamp type on the median strip (specifications: Sodium lamps)	Streetlights: 220 units of dual-lamp type on the median strip, 97 units of single-lamp type on the sidewalk (specifications: LED)	• Modifications in the installation point (0 - 1.373km to the sidewalk with a single lamp type) • Change in the specification

Source: Prepared by the evaluator according to the Phase 2 preparatory survey report and documents provided by JICA



Photo 1: 2km from Freeport before the project commencement (March 2014) (Source: JICA document)



Photo 2: Near the 2km point at the time of the ex-post evaluation (April 2025) (Source: Evaluator)



Photo 3: Stockton bridge before the project commencement (February 2013) (Source: JICA document)



Photo 4: At the time of the ex-post evaluation (November 2024) (Source: Evaluator)



Photo 5: 13.2km point at the time of Phase 2 completion (July 2021) before the rehabilitation of the Red Light Junction (Source: JICA document)

Photo 6: Red Light Junction at the time of ex-post evaluation (November 2024) after the completion of World Bank supported project. Traffic flows into Somalia Drive. The photo of circled area was taken from the ● point indicated on Photo 5. (Source: Evaluator)

3.2.2 Project Inputs

3.2.2.1 Project Cost

The total project cost borne by the Japanese side for Phase 1 and Phase 2 amounted to 10,828 million yen, against the planned amount of 10,998 million yen, thereby remaining within the planned budget (98% of the plan), as shown in Table 3¹⁴.

Regarding the Japanese-side project cost, the original grant limit for Phase 1 was 4,939 million yen. However, due to the suspension caused by the Ebola outbreak, it was anticipated that additional costs would be incurred for evacuation, standby, and resumption of construction. As a result, the grant limit was revised to 5,689 million yen in November 2016¹⁵. Including 89 million yen allocated for the detailed design, the revised planned amount was 5,778 million yen. The actual expenditure was 5,770 million yen, comprising 89 million yen for the detailed design and 5,681 million yen for the main construction¹⁶, thus remaining within the planned budget (100% of the plan) as shown in Table 3. As shown in Table 4, the actual costs related to the Ebola outbreak totaled 980 million yen. Additional components, such as UXO survey and design modifications arising from coordination between Phases 1 and Phase 2, were also incurred but were covered within the remaining contingency funds and the increased amount of the grant limit.

For Phase 2, the project cost borne by the Japanese side was 5,058 million yen, compared to the planned amount of 5,220 million yen, thereby remaining within the planned budget (97% of the plan). The variance between the planned and actual amounts is attributable to conservative estimates for labor, materials, and equipment costs in the construction budget, cost fluctuations due to the design modifications described in “3.2.1 Project Outputs,” and increased expenses related to COVID-19 countermeasures.

¹⁴ Regarding the Liberian-side project costs, actual expenditures for Phase 1 could only be confirmed for a limited budget item, and actual expenditures for Phase 2 were only a small amount of bank charges. Therefore, the comparison with the planned budget was conducted based solely on the total project costs borne by the Japanese side for both Phase 1 and Phase 2.

¹⁵ An additional 750 million yen was provided through the amendment of the Exchange of Notes and Grant Agreement signed on November 2, 2016.

¹⁶ Contract amount for bidding and construction management consultant: 94,921,000 yen
Contract amount for construction contractor: 5,586,706,000 yen

Table 3: Plan and Actual of the Project Costs (Unit: Million Japanese Yen)

		Phase 1			Phase 2			Total		
		Plan	Actual	Actual/ Plan (%)	Plan	Actual	Actual/ Plan (%)	Plan	Actual	Actual/ Plan (%)
Japan	Detailed Design	89	89	100%	-	-	-	-	-	-
	Construction	Initial 4,939	-	-	-	-	-	-	-	-
		Revised 5,689	5,681	100%	-	-	-	-	-	-
	Total	5,778	5,770	100%	5,220	5,058	97%	10,998	10,828	98%
Liberia		124	N/A	N/A	23	4	17%	143	N/A	N/A
Grand total		5,898	N/A	N/A	5,243	5,062	97%	N/A	N/A	N/A

Source: JICA-provided documents, implementing consultant materials, and information provided by MPW.

Remarks: Regarding Liberia's project cost, Phase 1 plan was 124 million yen, which included compensation for Project Affected Persons (PAPs), utility relocation costs, environmental assessment costs, and bank fees. Of this amount, the only confirmed expenditure was 93 million yen (US\$961,235.82 at an exchange rate of 97.596 yen/US\$, IMF 2013) for compensation to PAPs in 2013. The actual expenditures for the other cost items remain unknown. For the Phase 2 plan, which totaled 23 million yen (covering compensation for affected residents, environmental assessment costs, and bank fees), the only confirmed expenditure was 4 million yen (US\$40,000 at an exchange rate of 108.9875 yen/US\$, IMF average for 2018–2021) for bank fees.

Table 4: Phase 1 Actual Costs (Unit: Million Japanese Yen)

Item (Month, Year) *	Amount of Exchange of Notes (E/N)		Contract Amount						Residual balance
	E/N Amount	(1) Cumulative total	Construction	Design Management	Total			(2) Cumulative total	(1)-(2)
					Total	Ebola related expenses	Other expenses		
(Initial) Grant limit (March 2013)	4,939	4,939	0	0	0	0	0	0	4,939
(Initial) Contract (2013)	0	4,939	4,600	83	4,683	0	0	4,683	256
The 1st Modification of the Detailed Design (July 2015)	0	4,939	55	2	57	57	0	4,740	199
(Addition) Grant limit (November 2016)	750	5,689	0	0	0	0	0	4,740	949
The 2nd Modification of the Detailed Design (June 2017)	0	5,689	822	0	822	811	11	5,562	127
The 3rd Modification of the Detailed Design (May 2018)	0	5,689	102	10	112	112	0	5,674	15
The 4th Modification of the Detailed Design (May 2018)	0	5,689	12	0	12	0	12	5,686	3
The 5th Modification of the Detailed Design (May 2018)	0	5,689	-5	0	-5	0	-5	5,681	8
* Month and Year indicated on the Completion Report		Total	5,586	95	Total	980	18		

* Month and Year indicated on the Completion Report

Source: Prepared by evaluator based on documents provided by implementing consultant and JICA.

Remarks: "Others expenses" refer to the addition of UXO survey work (The 2nd Modification of the Detailed Design), the coordination of the Phase 1 and Phase 2 construction plans (The 4th Modification of the Detailed Design), and the removal of the retaining wall work (The 5th Modification of the Detailed Design).

3.2.2.2 Project Period

The total duration of Phase 1 and Phase 2 was 101 months¹⁷ (49 months for Phase 1 from March 2013 to May 2018, and 52 months for Phase 2 from March 2017 to July 2021), slightly exceeding the planned period of 85 months (38 months for Phase 1 from April 2013 to May 2016, and 47 months for Phase 2 from March 2017 to January 2021), representing 119% of the plan.

In Phase 1, the detailed design period (including the bidding process) was originally planned for 6 months¹⁸, but the actual duration extended to 10 months (from the signing of the Grant Agreement (G/A) in March 2013 to the contract signing with the contractor in

¹⁷ The construction suspension period due to the Ebola outbreak (August 8, 2014 – September 30, 2015; 14 months) is not included in the actual project duration. Similarly, the temporary suspension period due to COVID-19 (April 11 - May 20, 2020; 1 month) is also excluded from the actual project duration.

¹⁸ No date was specified in the ex-ante evaluation form.

December 2013). Moreover, additional 4 months¹⁹ were required for the Liberian side to review and approve the contract documents between the bid closing and contract authorization dates. While the construction period was planned for 33 months²⁰, it took 50 months (from the commencement in April 2014 to completion in May 2018). The primary reason for this delay was the Ebola outbreak, which caused a 14-month suspension of construction (from August 2014 to September 2015) due to the evacuation of all project personnel. Since the Ebola outbreak constitutes an external factor, the 14-month suspension period is excluded, resulting in an adjusted actual duration of 49 months for Phase 1.

In Phase 2, the detailed design phase was planned for 7 months²¹ but actually took 13 months (from the G/A signing in March 2017 to the contract signing with the contractor in March 2018)²². The construction period was planned for 38 months²³ but extended to 40 months (from commencement in April 2018 to completion in July 2021). Due to the COVID-19 pandemic, construction was temporarily suspended for approximately one month. Following the order from the MPW to resume work, construction activities continued in a reduced scale. Since COVID-19 is considered an external factor, the one-month suspension is excluded from the calculation, resulting in an adjusted actual duration of 52 months for Phase 2.

Table 5: Plan and Actual of the Project Period

	Plan (Grant Agreement - Construction Completion)		Actual (Grant Agreement - Construction Completion)		Ratio of Actual /Plan (%)
	Period	Number of Months (months)	Period	Number of Months (months)	
Phase 1	April 2013 - May 2016	38	March 2013 - May 2018	63	165
			Suspension period of construction due to Ebola outbreak: August 8, 2014 - September 30, 2015	(14) *	(36)
			Total	49	129
Phase 2	March 2017 - January 2021	47	March 2017 - July 2021	53	112
			Suspension period of construction due to COVID-19: April 11, 2020 - May 20, 2020	(1) *	(2)
			Total	52	110
	Grand Total	85	Grand Total	101	119

Source: Preparatory survey reports, Ex-ante evaluation forms, JICA-provided documents, Implementation consultant-provided documents.

Remarks: (*) The suspension period due to external factors was deducted from the overall period.

¹⁹ December 20, 2013 (Contract date with contractor) - April 22, 2014 (Contract approval date)

²⁰ No date was specified in the ex-ante evaluation form.

Source: Somalia Drive Restoration Project Preparatory Survey Report, Republic of Liberia. 2013. Table 3.2-20 Work Implementation Schedule. p. 3-78. According to the implementation schedule, the total construction period from preparatory work to handover is 33 months.

²¹ Detailed design period was not specified in the ex-ante evaluation form.

²² During the detailed design phase, the project schedule was extended by four months due to additional unexploded ordnance surveys, and the bidding date was postponed by approximately one month due to the time required to confirm the comparison between the ex-ante design (OD) and detailed design (DD).

²³ Detailed design period was not specified in the ex-ante evaluation form.

The project outputs were produced as planned, the project costs remained within the plan, and the project period slightly exceeded the plan.

Therefore, efficiency of the project is high.

3.3 Effectiveness and Impacts²⁴ (Rating: ③)

3.3.1 Effectiveness

3.3.1.1 Quantitative Effects (Operation and Effect Indicators)

As shown in Table 6, two indicators were established to assess quantitative effects in Phase 1, and four indicators were established in Phase 2. At the time of the ex-post evaluation, Indicators 1, 2, and 6 were classified under the outcome level of “ensuring smooth and safe road traffic,” while Indicators 3, 4, and 5 were categorized under the short-term impact level of “improving transportation convenience and logistics.” Although data were available for only three of the six indicators, supplementary data were utilized from satellite data analyses (nighttime light intensity, number of newly constructed buildings, and population estimates) and qualitative surveys to assess the project’s effectiveness and impact. (For details on the analysis of supplementary data, refer to Section 3.3.2 Impacts.)

Table 6: Quantitative Effect Indicators

Phase 1	Baseline value	Target value	Actual value		
	2011	2021	2018	2021	2024
		3 Years After Completion	Completion Year	3 Years After Completion	6 Years After Completion
Indicator 1 Traffic time at peak hours (Minutes)	60	20	N/A	N/A	24
Indicator 2 Private bus’s additional fare (Liberian \$)	20-30	0	N/A	N/A	N/A
Phase 2	Baseline value	Target value	Actual value		
	2016	2024	2021	2022	2024
		3 Years After Completion	Completion Year	1 Year After Completion	3 Years After Completion
Indicator 3 Passenger Car Unit (Number/Day)	24,713	39,000	N/A	46,165	N/A
Indicator 4 Transport Volume: Passenger Number (Person/Year)	71,742,188	79,332,00	N/A	N/A	N/A

²⁴ When providing the sub-rating, Effectiveness and Impacts are to be considered together.

Indicator 5 Transport Volume: Freight Volume (Ton/Year)	21,759,840	32,441,000	N/A	N/A	N/A
Indicator 6 Travelling hour at morning peak hours (Minutes)	61	18	N/A	N/A	22

Source: (Baseline, Target value) Ex-ante evaluation forms, (Actual value of Indicator 1 and Indicator 6) Measured by the evaluator, (Actual value of Indicator 3) Preparatory Survey Report on the Project for the Extension of Japan Freeway in the Monrovia Metropolitan Area, Republic of Liberia²⁵

Remarks: (Indicator 1) Average of morning peak (7:30-8:30) travel time from Red Light Junction to Freeport Junction and evening peak (17:00-18:00) travel time from Free Port Junction to Red Light Junction. (Measured 3 days/direction).

(Indicator 2) The amount of additional payment requested to passengers when roads are congested. Baseline and target values for this indicator were set based on interviews with the private bus association. At the time of the ex-post evaluation, according to MPW, no additional fees were charged due to congestion, and bus fares were determined by drivers based on fuel costs and government decree. Under the current circumstances, this indicator is not appropriate for capturing changes resulting from traffic congestion mitigation.

(Target value of Indicator 3, 4, 5, 6) Between Freeport Junction - Red Light Junction. The effects were assumed to result from the combination of Phase 1 and Phase 2.

(Actual value of Indicator 4, 5) As MPW had not conduct transportation survey, there was no data available at the time of ex-post evaluation.

Among the outcome indicators, Indicator 1, “Traffic time at peak hours (morning and evening),” had a baseline of 60 minutes in 2011 and a target of 20 minutes for 2021. The measured time in 2024 by the evaluator was 24 minutes. For Indicator 6, “Travelling hour at morning peak hours,” the baseline was 61 minutes in 2016, with a target of 18 minutes for 2024; the measured time was 22 minutes. Although the target values were not achieved, travel time was reduced by 36 to 39 minutes compared to the baseline. The 4-minute deviation from the target values observed at the evaluator’s field survey was attributed to reduced speed in sections with side-by-side three-wheelers and motorcycles in the two-lane roadway, and congestion in the market area near the Red Light Junction. However, congestion was alleviated at the six major junctions improved through this project²⁶, and no traffic stoppages due to congestion were observed along the entire route, except near the Red Light Junction. Indicator 2, “Private bus’s additional fare” due to congestion does not reflect the actual circumstances and was considered unsuitable at the time of the ex-post evaluation, as bus fares are not affected by congestion but are set by drivers based on fuel costs and government decree, according to MPW. Based on the above, the improvement of traffic flow was confirmed.

²⁵ Source: JICA, Eight-Japan Engineering Consultants Inc., Pacific Consultants Co., Ltd., and Yachiyo Engineering Co., Ltd. 2024. Preparatory Survey Report for the Project for Extension of Japan Freeway in the Monrovia Metropolitan Area, Republic of Liberia (Preliminary Release Version). 2024. Table 2. p. 7 (in Japanese)

²⁶ Freeport, Jamaica Road, New Georgia, Bardnersville, Neezoe, 72nd

3.3.1.2 Qualitative Effects (Other Effects)

(1) Ensuring the safety for pedestrians and others by construction of sidewalk

In order to verify the qualitative effects, set at the time of the ex-ante evaluation, a qualitative survey was conducted from the perspective of road users and businesses, targeting 20 people from 10 businesses along the road²⁷ Of these 20 people, 10 were drivers and 10 were pedestrians. When asked about changes in safety, 70% of respondents (100% of drivers and 40% of pedestrians) acknowledged improvements in road traffic safety, with particular mention of enhanced safety at intersections and bridges where traffic signals had been installed. However, some respondents also noted that increased traffic volume had led to dangerous behaviors of some motorcycle riders such as sidewalk driving/parking, signal violations, and wrong-way driving, which posed a threat to pedestrian safety. When comparing pedestrians' responses between the dry season and the rainy season, 100% reported feeling safe walking during the dry season, whereas 40% did so during the rainy season. This was attributed to the fact that during the rainy season, the road surface becomes wet and slippery when vehicles pass, and in some areas, clogged drainage ditches cause rainwater to overflow onto the sidewalks. Based on the above, it can be concluded that sidewalk improvements contribute to a certain degree of enhanced safety.

(2) Prevention of rainwater intrusion and base course damage through drainage facility improvements, reduction in maintenance frequency

At the time of the ex-post evaluation, according to MPW, the drainage facilities constructed under this project prevented base course damage caused by rainwater intrusion, thereby reducing the frequency of maintenance. MPW conducts regular cleaning four times a year as part of its daily maintenance. On the other hand, serious issues persist in certain areas, such as the Red Light Market, where garbage is being improperly disposed of in drainage ditches. Therefore, coordinated efforts with the relevant local authorities, including the Paynesville City Corporation and Monrovia City Corporation, are necessary to address this issue. According to MPW, through the World

²⁷ 10 roadside businesses (2 gas stations, 1 supermarket, 1 bakery, 1 pharmacy, 1 hospital, 1 cement manufacturer, 1 paint manufacturer, 1 daily goods manufacturer, and 1 furniture retailer). Among them, 3 businesses are located within 500m of the points where nighttime light intensity changes were relatively significant (1. Freeport Development in Clara Town, 2. Chicken Soup Factory in Gardnersville, 3. Battery Factory in New George, 4. Flahn Town in New George, 5 & 7. New Georgia in New George, 6. Shoe Factory in Gardnersville). Other 7 businesses are located near major junctions and/or bridges (approximately 600m – 1km). Interviews were conducted with a total of 20 employees from the target businesses, based on a structured questionnaire. [Gender: 11 men, 9 women; Roles: 12 managers (responsible for operational management), 3 supervisors (responsible for on-site oversight), and 5 general staff members.] Individuals who drive and use this road were categorized as “drivers,” while those who do not drive and commute using transportation services such as three-wheeler taxis and motorcycle taxis were categorized as “pedestrians.”

Bank-supported project²⁸ that aimed at strengthening urban resilience, MPW is collaborating with local authorities as well as related agencies (Environmental Protection Agency, General Service Agency, etc.).



Photo 7: New Georgia Junction. Traffic signals are functioning. Traffic flow is smooth even in peak hours. (Source: Evaluator)



Photo 8: Jamaica Road Junction. Traffic signals are not functioning as a car hit the pole. No traffic congestions were observed during peak hours. (Source: Evaluator)



Photo 9: Near Red Light Junction, due to the presence of a market, the area experiences constant congestion, with traffic jams particularly prominent during the evening peak hours. (Source: Evaluator)



Photo 10: School-age children using the sidewalk (Source: Evaluator)



Photo 11: Well-maintained drainage ditches at the median of the road by the industrial area (Source: Evaluator)



Photo 12: The issue of illegal waste disposal is particularly severe in the area around the Red Light Market. (Source: Evaluator)

3.3.2 Impacts

²⁸ Liberia Urban Resilience Project (2023-2028)

3.3.2.1 Intended Impacts

In Phase 1, the expected impact was “revitalization of social and economic activities in the Monrovia Metropolitan Area,” and in Phase 2, it was “improvement of transportation convenience and logistics.” At the time of the ex-post evaluation, “improvement of transportation convenience and logistics” was treated as a short-term impact, and “revitalization of social and economic activities in the Monrovia Metropolitan Area” was treated as a medium- to long-term impact; and verification was conducted. In verifying the short-term impact, in addition to Indicator 3 “passenger car unit,” Indicator 4 “transport volume: passenger number,” and Indicator 5 “transport volume: freight volume,” which were considered effectiveness indicators at the planning stage, qualitative indicators were also introduced to verify improvements in traffic convenience and logistics, such as “improvement of traffic congestion,” “reduction in commuting time,” and “satisfaction with the road.” Moreover, “improvements in logistics management at factories and business establishments” was set as an additional indicator to verify short-term impacts. Furthermore, to assess the revitalization of socio-economic activities in the Monrovia Metropolitan Area, qualitative indicators were established, including “improvement of access to social services, commercial services, and industries,” “increase in the number of customers,” “creation, expansion, and diversification of business opportunities,” “job creation,” and “increased land demand along the road.” Furthermore, satellite data on “nighttime light,” “new buildings,” and “population” were utilized to verify the medium- to long-term impact.

- (1) “Passenger car unit,” “Transport volume: passenger number,” “Transport volume: freight volume”

As quantitative indicators, analysis was attempted on Indicator 3 “passenger car unit,” Indicator 4 “transport volume: passenger number,” and Indicator 5 “transportation volume: freight volume” as in Table 6. Regarding “passenger car unit,” the baseline value for 2016 was 24,713 vehicles, and the target value for 2024 was set at 39,000 vehicles. In contrast, the actual value for 2022 was 46,165 vehicles, significantly exceeding the target value within just over a year after the completion of Phase 2. Regarding “transport volume: passenger number” and “transport volume: freight volume,” analysis was not possible as there was no available data.

- (2) “Improvement in traffic congestion,” “Reduction in commuting time,” and “Satisfaction with the road”

In order to verify changes in transportation convenience, the above qualitative survey (10 drivers and 10 pedestrians) was conducted to confirm improvements in traffic

congestion, reductions in commuting time, and satisfaction with the road. Regarding traffic congestion, 95% acknowledged that it had improved. Regarding commuting time, a significant reduction was confirmed. Compared to before the completion of this road, drivers saw an average reduction of 42 minutes, while pedestrians, who primarily use three-wheelers and motorcycle taxis for commuting, saw an average reduction of 72 minutes. Regarding satisfaction with this road, all respondents indicated high satisfaction (70% to great extent, 30% somewhat). The reasons cited include the elimination of traffic congestion due to the four-lane expansion, resulting in smoother traffic flow and reduced commuting times, as well as the improved safety and comfort of driving due to the asphalt paving.

(3) “Improvements in logistics management at factories and business establishments”

With regard to changes in logistics, all 12 managers at the 10 business sites²⁹ surveyed qualitatively recognized that this project had improved logistics at their factories and business sites. Specifically, comments such as “The project has improved roads, enabling freight trucks to transport raw materials more safely from Freeport to the factory,” “Smooth shipment of products from the factory to locations across Liberia has been achieved,” and “Smooth delivery of products to supermarkets has been achieved, resulting in a more diverse product selection” were heard, indicating positive impacts on logistics management.

From the above, it can be concluded that the short-term impact of “improvement of transportation convenience and logistics” has been achieved.

(4) “Improvement of access to social services, commercial services, industry, etc.,”

“Increase in customer numbers,” “Creation, expansion, and diversification of business opportunities,” “Job creation,” “Increased demand for land along the road”

To verify changes in the revitalization of social and economic activities, the above mentioned qualitative survey (10 businesses, 20 people, including 15 managers and supervisors) was conducted to confirm changes in “the number of customers” among managers and supervisors, and to confirm changes in “access to social services, commercial services, industry, etc.,” changes in “economic activities,” and changes in “land demand” such as increases in the number of people wishing to purchase land along the road, as well as increases in land prices, among all respondents.

Regarding changes in the number of customers at businesses, all 15 managers and

²⁹ Questions regarding logistics management of factories and business establishments were directed to managers responsible for the operational management of the facilities.

supervisors among the respondents at the target businesses³⁰ acknowledged an increase in the number of customers. The reason cited was that smoother road traffic had made it easier for customers to access roadside facilities.

Regarding access to social services, commercial services, industry, etc., 85% of the 20 respondents recognized an improvement (65% to great extent, 20% somewhat). The primary reason cited was a reduction in travel time to roadside facilities. Conversely, 15% of respondents did not perceive any significant improvement (15% stated that the situation had slightly improved, while 0% reported not at all), attributing this to continued traffic congestion between the Freeport junction and central Monrovia beyond this project area.

Regarding changes in economic activity, 95% of the 20 respondents recognized the creation of business opportunities, 90% recognized the expansion and diversification of businesses, and 90% recognized an increase in employment. Additionally, regarding changes in land demand along the road, 100% recognized a significant increase. As a result of improved road traffic through the project, business investment has increased, leading to the establishment of new industrial product factories, food and beverage factories, gas stations, supermarkets, restaurants, and pharmacies. Among the 10 businesses participated in the survey, four (a supermarket, a daily goods manufacturer, a pharmacy, and a bakery) undertook facility upgrades or new construction following the completion of Phase 1 in 2018 and in conjunction with Phase 2.

(5) Satellite Data Analysis “Nighttime light,” “Detection of new buildings,” “Population”

Analysis of satellite data (nighttime light, SAR³¹, detection of new buildings using SAR and AI, and population) revealed positive changes related to the revitalization of social and economic activities in Somalia Drive and its surrounding area (within a 1 km radius). Details are described in the “Column” section below.

Based on the above, it can be concluded that the medium- to long-term impact of “revitalization of social and economic activities in the Monrovia Metropolitan Area” has been realized.

3.3.2.2 Other Positive and Negative Impacts

(1) Impacts on the Environment

Phase 1 was classified as Category A under the “JICA Guidelines for Environmental

³⁰ Questions regarding the number of customers were directed to both the managers responsible for operational management and the supervisors in charge of on-site oversight.

³¹ SAR refers to Synthetic Aperture Radar satellites. Unlike optical satellites, SAR observes the Earth’s surface by transmitting and receiving radar signals. Because it uses radar, SAR is less affected by weather conditions such as rain or cloud cover.

and Social Considerations” (April 2004), due to its classification within the road and bridge sector and the presence of characteristics likely to cause significant impacts. Phase 2 was classified as Category B under the “JICA Guidelines for Environmental and Social Considerations” (April 2010), as it did not fall under the large-scale projects of the road and bridge sector, was not expected to cause significant adverse environmental impacts, and was not considered to possess characteristics likely to cause significant impact or be located in areas sensitive to impact. According to MPW and the implementation consultants, for both Phase 1 and Phase 2, mitigation measures for environmental impacts were implemented during construction in accordance with the initially planned Environmental Impact Assessments (EIA)³². Furthermore, regular monitoring was appropriately conducted for key environmental parameters including air quality, noise, erosion, water quality, and biodiversity³³. Specifically, for air quality and noise, measures such as water spraying and restrictions on working hours were implemented, and low-vibration, low-noise construction machinery was used. In addition, during the construction period, temporary sedimentation ponds were installed to prevent the inflow of sludge from the road into the Mesurado Wetland. It was also confirmed that there were no complaints from local residents regarding environmental matters³⁴. Following the completion of Phase 1, environmental monitoring continued during the Phase 2 construction. According to the Phase 2 monitoring report³⁵, there were no negative impacts on the environment. Although the project passes in close proximity to the Mesurado Wetland, new stormwater drainage facilities were constructed with the aim of reducing the inflow of sediment from the road into the wetland. According to the implementation consultant, the effectiveness of these facilities has been visually confirmed, and no negative impact has been reported based on water quality tests³⁶. After the completion of Phase 2, environmental monitoring in accordance with the EIA

³² Source: (Phase 1) Earthcons Inc. 2012. Environmental and Social Impact Assessment for the Reconstruction of the Somalia Drive in Monrovia in the Republic of Liberia. (Phase 2) Earth Environmental Consultancy Inc. 2016. Environmental and Social Impact Assessment for the Reconstruction of the Somalia Drive – Phase 2 in Monrovia, Liberia

³³ Sources: Implementation consultant questionnaire response (November 2024, July 2025); Environmental Monitoring Reports (2014, 2015, and 2018-2021); Environmental and Social Impact Assessment (ESIA) Reports (2012 and 2016). For air quality, nitrogen dioxide levels at many locations exceeded Liberia’s national standards during the baseline survey. However, no significant increases were observed during the construction period due to the implementation of various mitigation measures. Noise levels also exceeded national standards at the baseline stage. However, no significant increases were observed during the construction period due to the implementation of various mitigation measures. Regarding water quality, color and turbidity at many locations exceeded national standards during the baseline stage, but similarly, no significant increases were observed during the construction period due to mitigation measures. No issues were reported concerning erosion and biodiversity.

³⁴ Source: Implementing consultant questionnaire response, MPW questionnaire interviews (November 2024)

³⁵ Source: DAI Nippon Construction, Geen Consultancy Inc.. 2021. 1st Quarterly Environmental Monitoring and Closure Plan Report (January-March 2021)

³⁶ Source: Environmental Monitoring Report (2018-2021), Implementing consultant questionnaire responses (July 2025), MPW questionnaire interview (November 2024)

monitoring plan (two years after completion) was not conducted, and trends in the data at each inspection site are unknown³⁷. According to the environmental and social survey result (March 2024)³⁸ conducted under the preparatory study for the successor project, “The Project for Extension of the Japan Freeway,” no significant increase in noise or air pollution was observed at the starting point in Freeport. Additionally, water and soil quality at the Stockton Bridge site showed no major differences compared to other extension areas. Therefore, no negative impact from this project has been identified.

(2) Resettlement and Land Acquisition

In Phase 1, 456 households were expected to be involuntarily relocated. After conducting community meetings for the Project Affected Persons (PAPs), ultimately, an agreement was reached with all affected residents on monetary compensation, and MPW made payments to PAPs³⁹. According to MPW and the implementation consultant, the initial resettlement action plan (RAP)⁴⁰ was led by MPW with support from the local consultant who created the RAP, and was generally implemented appropriately, allowing the Phase 1 construction to begin. In terms of livelihood recovery, there were positive effects, such as several PAPs being employed in the Phase 1 construction⁴¹.

In Phase 2, the abbreviated resettlement action plan (ARAP)⁴² initially identified 26 commercial buildings and fences, along with 40 affected residents, as subject to relocation. The community consultation meeting was held in June 2016. However, thereafter, the affected occupants (mainly small family-run vendors) were allowed to

³⁷ According to the monitoring plan in the EIA, air quality, water quality, and noise levels were to be monitored three times a year for two years following the completion of construction. During quality control meetings, the implementation consultant reminded MPW that the second-phase post-completion environmental monitoring should be carried out by MPW. However, at the time of the ex-post evaluation, MPW indicated that environmental monitoring falls under the jurisdiction of the EPA, and post-completion environmental monitoring had not been conducted. It was not confirmed whether MPW had requested the EPA to carry out the monitoring. Source: MPW questionnaire interview (November 2024); Implementation Consultant questionnaire response (July 2025).

³⁸ At the starting point of the project (Freeport), the noise level was recorded at 61.9 dB(A) slightly exceeding the regulatory limit of 60.0 dB(A), but not significant increase has been observed since the completion of the Phase 2. Air quality at the same site remained within WHO standards. Water quality testing was conducted at five locations, and while phosphate level exceeded the standard at all sites, no significant difference was found between the Stockton Bridge site within the project area and other sites, suggesting no impact from the project. Soil testing at three sites, including the Stockton Creek Bridge within the project area, confirmed no heavy metal contamination. (Source: Preparatory Survey Report for the Project for the Extension of the Japan Freeway, 2024, p. 2-36 – p. 2-38) (in Japanese)

³⁹ Between September and November 2013, cash compensations were paid to PAPs which is total of US\$961,235. Source: Materials provided by MPW (December 2024).

⁴⁰ Source: Earthcons Inc. 2012. Resettlement Action Plan for The Reconstruction of the Somalia Drive in Monrovia in the Republic of Liberia. According to the RAP (p.43), MPW prepared a relocation site for the Project-Affected Persons (PAPs) resulting from the infrastructure development project. However, the site was still under development and located far from the project area. As none of the PAPs wished to relocate there, land selection, site development, and actual relocation measures were not applied under this project.

⁴¹ Source: Implementation consultant questionnaire response (November 2024)

⁴² Source: Earth Environmental Consultancy, Inc. 2016. Abbreviated Resettlement Action Plan for Reconstruction of Somalia Drive (Phase 2) Monrovia

continue operations without relocations in areas outside the existing Right of Way (ROW) that did not interfere with construction activities and the construction of Phase 2 smoothly initiated⁴³. The reason a different approach was taken from the ARAP was that the aforementioned structures were not demolished by the MPW, as the construction works were adjusted to fit within the existing ROW, resulting in no impact on the structures and no compensation being paid⁴⁴.

According to the implementing consultant, no complaints were reported by MPW to the Grievance Redress Committee in either Phase 1 or 2, and no complaints were received from residents.

(3) Gender Equality

At the time of the preparatory survey for Phase 2, gender-responsive measures were incorporated, including the installation of pedestrian crossings, covered drainage ditches, minimized curb heights, and street lighting for crime prevention. During the ex-post evaluation, the abovementioned qualitative survey targeting 10 roadside businesses (20 individuals: 9 women and 11 men) was conducted to assess changes in road traffic safety, public security, and women's economic activities.

Regarding changes in road traffic safety, 70% of the 20 respondents acknowledged improvements (55% of women, 81% of men). Among the nine female respondents, seven were pedestrians and two were drivers. Identified issues included the perceived danger of motorcycles when pedestrians cross the road, as well as occurrences of motorcycles using sidewalks. Regarding nighttime road safety, some respondents noted that, due to electricity shortages, street lighting was operational only in certain areas, leading to a lower sense of safety compared to daytime.

Regarding changes in public security within roadside communities, 75% of respondents recognized improvements (88% of women, 63% of men). The primary reason cited was the improved responsiveness of police and emergency services in the event of incidents. However, some respondents expressed concern over a perceived decline in public safety due to an increase in thefts involving motorcycles.

In terms of women's economic activities, 85% of respondents recognized an increase in commercial activities by women (77% of women, 90% of men). This was attributed to increased traffic and pedestrian flow, which has led to a rise in the number of women engaged in roadside businesses such as selling food and beverages, clothing, and household goods.

⁴³ Source: MPW (October 2025), Implementing Consultant questionnaire response (November 2024)

⁴⁴ Source: MPW (October 2025) Consequently, cash compensation was not necessary, and the ARAP (2016) was not verified by the Inter-Ministerial Committee, as resettlement did not proceed.

Based on the above, although the effectiveness of gender-responsive measures has been partially constrained by unsafe driving behavior of certain motorcyclists and inadequate street lighting at night due to power shortages, many respondents, particularly women, perceived improvements in public safety attributable to better road traffic conditions. Furthermore, a significant increase in women's commercial activities was observed.

(4) Marginalized People

In the qualitative survey, respondents reported that the construction of sidewalks had enhanced the safety of children commuting to and from school. During the evaluator's site visit, a visually impaired student was observed walking along the sidewalk with a white cane, accompanied by fellow students. Additionally, an interview with a former hospital staff member indicated that improved traffic flow and increased transportation options had facilitated better access to the hospital for patients.

(5) Social Systems and Norms, People's Well-being and Human Rights

Through the aforementioned qualitative survey (10 drivers and 10 pedestrians), the status of traffic rule compliance and changes in life satisfaction were assessed. With regard to traffic rule compliance on the project road, 50% of respondents reported that rules were being followed, while the other 50% indicated non-compliance. Key issues included obtaining driver's licenses without formal training, signal violations by some motorcyclists, and pedestrian jaywalking. As for life satisfaction, 75% of respondents noted improvement, citing better transport access, shorter commute times, reduced stress, and improved access to social services by the project as contributing factors.

The outcome, "Ensuring smooth and safe road traffic," was assessed using three quantitative indicators. While Indicator 1 "Traffic time during morning and evening peak hours" and Indicator 6 "Travelling hour during the morning peak" did not reach their target values, both indicators showed a reduction in travel time. Regarding Indicator 2 "Private bus's additional fare due to congestion," data could not be obtained; however, since the current fare-setting mechanism is not influenced by congestion, this indicator was deemed inappropriate. Qualitative effects, such as improved pedestrian safety and a reduced burden of road maintenance, were observed to some extent, and the outcome can be considered mostly achieved. As for the short-term impact "Improvement of traffic convenience and logistics," Indicator 3 "Passenger car unit" significantly exceeded the target value, indicating achievement. However, no data were available for Indicator 4 "Transport volume: passenger number" and Indicator 5 "Transport volume: freight volume." Nevertheless, qualitative

surveys confirmed improvements in congestion alleviation, reduced commuting times, and enhanced logistics management at factories and business facilities, indicating that the impact was achieved. With regard to the medium- to long-term impact, “Revitalization of socioeconomic activities in the Monrovia Metropolitan Area,” positive changes were confirmed through satellite data analysis, including nighttime light intensity (which correlates with economic activity), the detection of new buildings, and population trends. In addition, qualitative surveys revealed the expansion of roadside businesses and job creation, as well as improved access to public services as well as commercial and industrial facilities. However, challenges persist in certain areas, such as the illegal dumping of waste into drainage ditches, limited awareness and compliance with traffic regulations among some motorcycle drivers and pedestrians, and congestion caused by street vendors near the Red Light Junction. These issues are difficult to be resolved solely by the MPW, and coordinated countermeasures with relevant agencies are required.

This project has mostly achieved its objectives. Therefore, effectiveness and impacts of the project are high.

[Column] Application of Satellite Data Analysis

In this ex-post evaluation, an analysis using satellite data was conducted to quantitatively assess the short-term impact of “improvement of traffic convenience and logistics” and the medium- to long-term impact of “revitalization of socio-economic activities in the Monrovia Metropolitan Area.”

The analysis targeted the area within a 1-kilometer radius of Somalia Drive⁴⁵ (Figure 2). Three types of data were used: nighttime light data⁴⁶, Synthetic Aperture Radar (SAR) data⁴⁷, and population data⁴⁸. Since the population data is only updated up to 2020, it was used as supplementary reference information to support the analysis results of the nighttime light and SAR data.

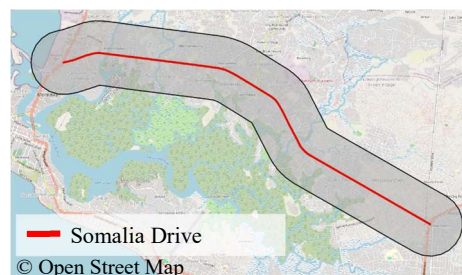


Figure 2: Target Area of Analysis

Figure 3 shows the monthly average nighttime light intensity from January 2014, when the main construction work began, to June 2024. While no significant changes were observed around the Phase 1 completion (May 2018), a decline in nighttime light intensity was detected in early 2020, likely due to the impact of the COVID-19 pandemic. After the Phase 2 completion in July 2021, however, nighttime light intensity began to show a gradual upward trend. This trend suggests, while the Phase 1 completion alone did not lead to a noticeable revitalization of socio-economic activity, the Phase 2 completion contributed to a gradual increase in such activity around the Somalia Drive.

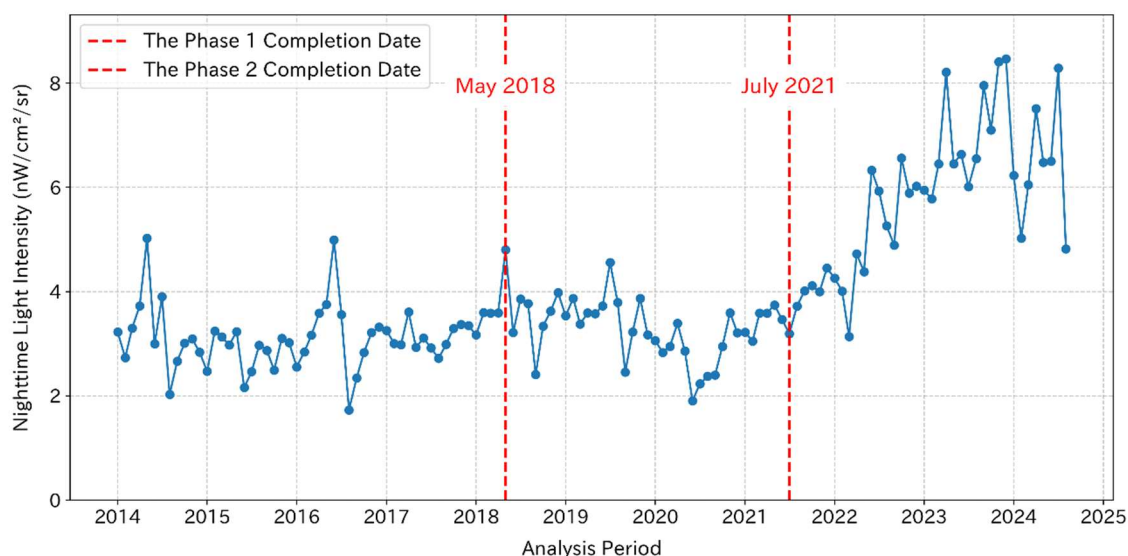


Figure 3: Monthly Average Nighttime Light Intensity from January 2014 to June 2024

Next, the rate of change in monthly average nighttime light intensity between October 2017 and November 2023 was calculated, and areas corresponding to the top 1% and top 5% of the highest change rates were extracted (Figure 4). Of the seven extracted locations, the most significant changes

⁴⁵ The coverage was determined based on the feasibility of conducting field surveys and the compatibility with the resolution of the satellite data used.

⁴⁶ NASA's Black Marble was used. The nighttime light data from the Colorado School of Mines, which had been used in previous JICA ex-post evaluations, showed abnormal periods with zero nighttime light intensity.

⁴⁷ "Sentinel-1", operated by the European Space Agency

⁴⁸ "Unconstrained individual countries UN adjusted" provided by WorldPop at the University of Southampton

in nighttime light intensity were found near Freeport, close to the starting point of the road, and around Gardnersville, the midpoint of the road where the government has been promoting industrial development (Figure 1). The field survey confirmed the construction of new warehouses and gas stations in the former area, and factory construction in the latter, an industrial zone where the government has been promoting investment. In the other five locations, urban development was also observed to be progressing, with the construction of residential areas, shops, and other structures.

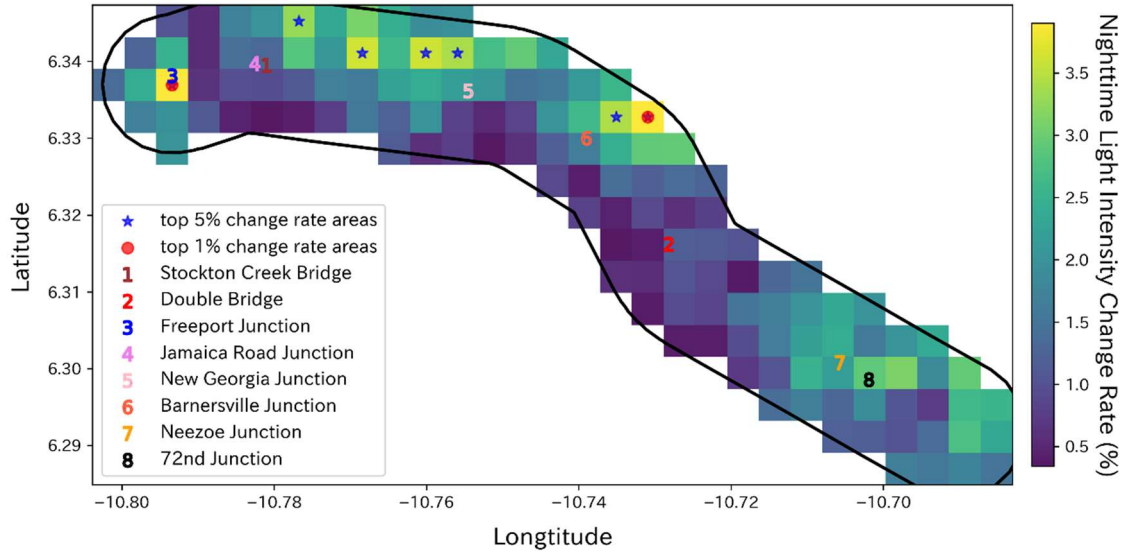


Figure 4: Rate of Change in Monthly Average Nighttime Light Intensity between October 2017 and November 2023 in the Analysis Area

In addition, building detection AI was applied to SAR data from approximately October 2017 and November 2023 to detect newly constructed buildings (Figure 5). New buildings were detected throughout the entire area, including warehouses and factories that had also been identified through the nighttime light data and the field surveys. This analysis using SAR data further confirmed the progress of industrial development and urban residential expansion in the area.

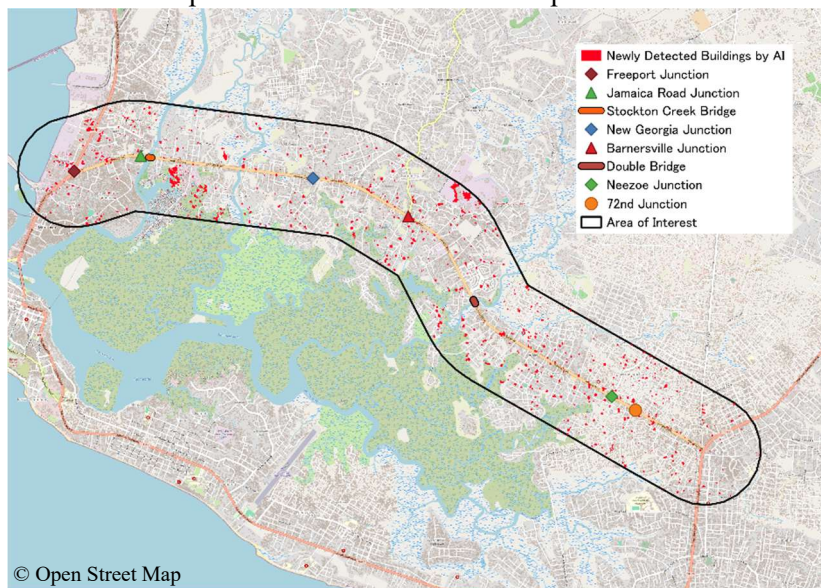


Figure 5: Buildings Newly Extracted from SAR Data of October 2017 and November 2023

Finally, an analysis of population trends from 2014 to 2020 showed an increase from approximately 260,000 in 2014 to around 320,000 in 2019-2020, following the Phase 1 completion – an increase of about 23%. This suggests that improved traffic convenience resulting from Phase 1 may have contributed to population growth, which is also consistent with the increase in newly constructed buildings identified through SAR data.

Based on the above-mentioned findings, the satellite data analysis concludes that the project has led a measurable impact in both the short and medium-to-long term.

3.4 Sustainability (Rating: ②)

3.4.1 Policy and System

As stated in Section 3.1 "Relevance/Coherence," road infrastructure development is positioned as a priority issue in the five-year *National Development Plan (2025–2029)*, indicating a high level of sustainability in terms of policy and system.

3.4.2 Institutional/Organizational Aspect

MPW is responsible for nationwide road development. The Bureau of Operation and the Bureau of Planning and Programming of MPW share overall responsibility for road facility sustainability. The Bureau of Operation handles road operation, maintenance, and management, while the Bureau of Planning and Programming manages road safety facilities such as traffic signals and streetlights. Both bureaus have assigned adequate staff to oversee roads developed under this project⁴⁹. Thus, the project's sustainability is secured from an organizational and institutional perspective.

3.4.3 Technical Aspect

MPW has been continuously conducting regular cleaning of roadside drainage facilities developed under this project. Additionally, MPW outsources work to local contractors to carry out and manage not only road rehabilitation projects but also pothole repair works within the city⁵⁰, demonstrating that MPW possesses the technical knowledge and experience required. On the other hand, MPW tends to respond to repairs of existing road facilities only after significant damage has occurred, suggesting challenges in the implementation and operation of asset management systems. The JICA Grant Aid "The Project for Extension of Japan Freeway." commencing in 2025, includes capacity building components such as maintenance methods for the project roads and cleaning of associated drainage facilities, which are expected to further

⁴⁹ Interview with MPW (November 2024, April 2025)

⁵⁰ At the time of the ex-post evaluation (as of April 2025), the Government of Liberia was carrying out the Freeport–St. Paul Bridge Project and road repair works within the city. Based on MPW's budget request, funds are disbursed from the Ministry of Finance to the National Road Fund (NRF) following approvals from the Ministry of Finance, the Ministry of Justice, and the Public Procurement and Concession Commission, and subsequently paid to the contractors by NRF. MPW is responsible for managing the progress of the construction works conducted by the contractors.

enhance technical capacity⁵¹. Moreover, in response to power shortages, MPW is promoting the installation of solar-powered streetlights. Under the Project for Extension of Japan Freeway, solar power systems will be installed to provide stable electricity supply for streetlights and traffic signals. Accordingly, the project's technical sustainability is considered secured.

3.4.4 Financial Aspect

The budget allocation rate from the Ministry of Finance to the National Road Fund for road maintenance and repairs has shown an upward trend over the past three years (2022-2024). However, since the nationwide road pavement rate remains low, and investment projects for new road development are prioritized. As a result, securing sufficient budgets for road maintenance and repair remains a challenge⁵². With regard to the roads developed under this project, MPW has secured funding for regular cleaning. Nevertheless, unaddressed potholes were observed on the Phase 1 road, indicating difficulties in securing budgets for small-scale repairs and maintenance. Based on the above, it can be concluded that there are some challenges in ensuring the financial sustainability of this project.

Table 7: MPW Finance at the Time of Ex-Post Evaluation (Unit: US dollars)

Year	MPW Planned Budget	MPW Actual Expenditure	Provision to National Road Fund for road maintenance and rehabilitation works	
			Amount	Percentage of Provision Amount in the Plan
2022	59,912,898	30,575,810	29,337,088	49%
2023	59,451,959	26,551,560	32,900,399	55%
2024	26,181,735	11,525,903	14,655,832	56%
2025	56,111,724	-	-	-

Source: Data provided by MPW

3.4.5 Environmental and Social Aspect

As described in the “Impacts” above, measures necessary for mitigating environmental impact were implemented during the construction, and no significant negative environmental or social impacts were observed. For the time being, no major adverse effects, including air or water pollution, are anticipated.

3.4.6 Preventative Measures to Risks

For both Phase 1 and Phase 2, appropriate surveys for UXO risks were conducted, and safety was confirmed. At the time of the ex-post evaluation, there are no issues concerning the

⁵¹ Source: JICA, Eight-Japan Engineering Consultants Inc., Pacific Consultants Co., Ltd., Yachiyo Engineering Co., Ltd. Preparatory Survey Report on the Project for the Extension of the Japan Freeway in Monrovia, Republic of Liberia (Preliminary Edition), 2024, p. 3-70; Ex-Ante Evaluation Form (2025). In March 2025, the Government of Liberia and JICA signed a Grant Agreement for the “Project for Extension of Japan Freeway,” under which the section between Freeport and Gabriel Tucker Bridge (2.15 km) is scheduled to be developed.

⁵² MPW questionnaire interview (November 2024)

sustainability of the project in terms of risk management.

3.4.7 Status of Operation and Maintenance

The planned maintenance items and frequencies at the time of project planning were as follows: (1) regular inspections (12 times per year); (2) routine maintenance (cleaning 4 times per year, requiring 4 days per instance); and (3) repairs (pavement, shoulders, and ancillary facilities every 5 years; drainage facilities every 2 years; and structural components every 10 years)⁵³. At the time of the ex-post evaluation, MPW was conducting quarterly cleaning of road surfaces and drainage ditches. However, in some sections, particularly near the Red Light Market, illegally dumped waste had accumulated in the median drainage channels, and cleaning efforts were not keeping pace. On the Phase 1 road, which had been completed for approximately seven years, several potholes were observed. As of the first field survey, these had not been repaired, and damage had worsened near high-traffic areas such as the Jamaica Road junction and the location where leaks from sewer pipes were present. Some drivers and pedestrians expressed concerns regarding delays in pothole repairs and traffic signal restoration⁵⁴, indicating shortcomings in maintenance. As of the second field survey, MPW had contracted local companies to carry out road repair work within the city, and repairs for the project roads were included in the plan. However, according to MPW, the outsourcing costs for repair works require a separate application process for each contract, and the availability of budget depends on the overall budget execution status. Therefore, the prospect of securing funds for future repair works remains uncertain. Based on the above, it can be concluded that there are some challenges in the operation and maintenance of the project.



Photo 13: Potholes just before the Jamaica Road junction on Phase 1 road (November 2024) (Source: Evaluator)



Photo 14: Potholes caused by leaks from sewer pipes (November 2024). Liberia Water and Sewer Authority repaired the leakage in March 2025. (Source: Evaluator)

⁵³ Source: Preparatory survey report. 2012. p. 3-82; Preparatory survey report. 2017. p. 3-110; Project Monitoring Report Final. 2023. p. 7

⁵⁴ At the time of the warranty inspection (July 2022), traffic signals at 3 out of 6 junctions were not energized; however, according to the MPW, they were later energized through power supply from the Liberia Electricity Corporation (LEC). The traffic signal at Freeport, which was damaged in a traffic accident, is scheduled to be restored under the Project of Extension of Japan Freeway. During the first field visit of the ex-post evaluation (November 2024), one signal on Jamaica Road was found to be out of order due to a vehicle collision. Restoration is planned, referencing the case of the Freeport signal. The traffic signal at Bardnersville Junction was not operational due to issues with the power system, but MPW later installed a transformer and restored it by the time of the second field visit (April 2025).

Some issues have been observed in the financial aspect and the current status of operation and maintenance. They are not expected to be improved/resolved. Therefore, sustainability of the project effects is moderately low.

4. Conclusion, Lessons Learned and Recommendations

4.1 Conclusion

This project was implemented with the objective of ensuring smooth and safe road traffic on Somalia Drive, a major arterial road in the Monrovia Metropolitan Area, by constructing new two-lane roads and bridges to expand the road to four lanes under Phase 1, and rehabilitating the existing two-lane road under Phase 2, thereby contributing to the improvement of traffic convenience, and the enhancement of logistics, as well as the revitalization of socio-economic activities in the Monrovia Metropolitan Area. The objective of the project was consistent with Liberia's development plans and needs, which prioritize road infrastructure development, and Japan's ODA policy for Liberia. With regard to internal coherence, there was no coordination with other JICA projects during the ex-ante evaluation or implementation of this project. However, during the project implementation, coordination was conducted with the World Bank project aimed at developing an international corridor connecting Monrovia to the Guinean border. Following the integration of the two projects' road networks, improvements in safe travel and reduced travel time were observed, indicating a high degree of external coherence. Based on the above, relevance and coherence of the project are high. The planned outputs were achieved. The project costs remained within the budget, and although the project period slightly exceeded the plan, efficiency of the project is considered to be high. As a result of the project, the intended outcome of "securing smooth and safe road traffic", the short-term impact of "improvement of traffic convenience and logistics" and the medium- to long-term impact of "revitalization of socio-economic activities in the Monrovia Metropolitan Area" have all been realized as expected. Therefore, both effectiveness and impact of the project are high. However, at the time of the ex-post evaluation, certain sections of the road and facilities were found to have not been properly and timely maintained. Moreover, the budget allocation for routine maintenance was insufficient, indicating financial challenges in operation and maintenance. Therefore, sustainability of the project effects is moderately low.

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

4.2 Recommendations

4.2.1 Recommendations to the Executing Agency

(1) Strengthening Asset Management to Maintain Road Traffic Safety

In order to ensure road traffic safety, it is important for MPW to carry out regular inspections

of roads and related facilities, monitor their condition, anticipate potential damage or deterioration, and plan and implement timely repairs. To carry out these actions, it is recommended that MPW secure an adequate budget for road operation and maintenance, and further strengthen asset management for the project roads. The field survey identified the following areas that may require attention.

- a. **Pavement Repairs:** On the Phase 1 road, potholes were observed to be expanding without proper repair⁵⁵. As five years will have passed since the completion of the Phase 2 road by 2026, it is recommended that the Bureau of Operations carry out timely and appropriate repairs based on periodic inspections.
- b. **Road Markings:** Repainting of missing road surface markings is necessary⁵⁶. The increasing number of motorcycles and three-wheelers has raised the risk of collisions with pedestrians. The Bureau of Planning and Programming is encouraged to restore pedestrian crossing markings and, where necessary, consider traffic accident prevention measures such as the installation of protective fences and pedestrian-only or speed limit signs.
- c. **Traffic Signal Restoration:** At the Jamaica Road junction, one of the traffic signals has been damaged due to a vehicle collision. Restoration will be carried out with reference to the specifications of traffic signals planned under the Project for Extension of Japan Freeway⁵⁷.
- d. **Streetlight Illumination:** Streetlights are only operational in certain sections due to a power shortage from the Liberia Electricity Corporation (LEC). MPW plans to replace streetlights on major urban roads with solar-powered systems with battery storage. This system has already been introduced along Tubman Boulevard, and is also planned for the target section of the Project for Extension of Japan Freeway. It is recommended that the Bureau of Planning and Programming consider appropriate measures for the streetlights on both Phase 1 and Phase 2 sections.

(2) Public Awareness Activities for a Clean City

During the site visit conducted at the time of the ex-post evaluation, illegal dumping of waste into drainage channels was found to be particularly severe around the Red Light Market, Double Bridge, and Stockton Bridge (see Figure 1). Although MPW conducts quarterly cleaning operations, it is recommended to increase the frequency of cleaning in particularly affected sections to ensure the continued effective use of road facilities. MPW has also been employing local youth for cleaning activities as a means of empowerment. To further strengthen these initiatives, it is recommended for MPW to continue collaborating with the Paynesville City Corporation, Monrovia City Corporation, General Service Agency, and Environmental

⁵⁵ MPW plans to carry out repair work in April 2025. Source: Assistant Minister of Operation interview (April 2025)

⁵⁶ After the repair work scheduled to begin in April 2025 is completed, road markings will be repainted. Source: Director of Transport interview (April 2025)

⁵⁷ Source: Director of Transport, Bureau of Planning and Programming interview (April 2025)

Protection Agency⁵⁸. In addition, it is recommended that MPW consider implementing sustained awareness campaigns targeting communities, as well as programs that encourage youth participation in cleaning efforts.

(3) Alleviating Congestion near Red Light Junction

While the roads developed under this project and the World Bank project have produced synergistic effects, around the Red Light Junction, vehicle traffic is sometimes obstructed during the day due to sidewalk occupation by street vendors and temporary stopping or parking of vehicles, resulting in congestion with speeds dropping below 10 km/h. In the evening, congestion becomes more severe. Based on a three-day field observation by the evaluator, vehicle speeds near the junction dropped to between 0 and 10 km/h for approximately five minutes. MPW has implemented various measures such as installing fences and paving sidewalks with stones. For further traffic improvement, it is recommended that MPW collaborate with the police, Paynesville City Corporation, and the Ministry of Transport to organize traffic rule awareness workshops for road users and promote compliance with traffic regulations. It is also recommended that MPW collaborate with relevant authorities to prevent street vendors from encroaching on the roadway.

(4) Management of the Project Monument

Upon completion of the project, the road formerly known as “Somalia Drive” was renamed “Japan Freeway” by the then-President as a gesture of gratitude to Japan. As of the ex-post evaluation, the new name is widely recognized by the public and contributes to the development of friendly relations between the two countries. Monuments commemorating the project have been installed at the Freeport junction, near the Red Light Junction, and at Stockton Bridge. As diplomatic symbols representing the friendship between Liberia and Japan, it is encouraged that these monuments be regularly cleaned and appropriately maintained.

4.2.2 Recommendations to JICA

None

4.3 Lessons Learned

(1) Road and Drainage Facility Development and Waste Management: Public Awareness Activities through Inter-Agency Collaboration

During the project, the contractor donated modified drum-can trash bins to the Paynesville City Corporation and the Monrovia City Corporation, installing them along the road to raise

⁵⁸ MPW is collaborating with relevant organizations through the Liberia Urban Resilience Project, supported by the World Bank.

public awareness about preventing illegal dumping. Although this initiative was not included in the project plan, it was highly appreciated by MPW officials as a unique and proactive effort. When developing drainage facilities in regions facing similar challenges, incorporating a capacity building component within grant aid projects to enhance the executing agency's capacity for drainage maintenance is recommended, as necessary. Additionally, by planning and executing awareness-raising activities in collaboration with local governments and ministries, behavioral change among residents can be promoted, leading to reduced waste dumping in roads and drainage systems.

(2) Specification Consideration for Streetlights and Traffic Signals in Areas with Limited Power Supply

In the Monrovia Metropolitan Area, electricity demand is increasing due to urbanization, yet the capacity of power infrastructure remains insufficient. Particularly during the dry season, hydropower generation decreases, resulting in scheduled blackouts. Although streetlights were installed along the project section, only some areas are operational due to power shortages. Similarly, traffic signals are occasionally nonfunctional during power outages. In response, MPW is promoting the use of solar-powered streetlights, and solar power generation system is also planned for the Project for Extension of Japan Freeway to ensure electricity supply for both streetlights and traffic signals. When installing streetlights and traffic signals in regions with similar constraints, it is important that executing agencies coordinate with power companies to consider the need for hybrid power system incorporating solar power and battery.

(3) Continuation of Construction During the COVID-19 Pandemic: Crisis Management Including Rigorous Infection Control Measures

Phase 1 was suspended for 14 months due to Ebola. When COVID-19 emerged during Phase 2, MPW decided to continue construction. The same consultant and contractor from Phase 1 managed the situation by minimizing on-site personnel and establishing a remote support system amid growing concerns over the unknown disease. On-site, quarantine facilities were set up within staff accommodations, with designated movement flows to prevent contact, ensuring strict infection control. The Liberian government acted fast by implementing a wide range of measures, including the installation of isolation facilities, promotion of handwashing, restrictions on non-essential outings, prioritization of vaccination for construction personnel, and deployment of Ministry of Health staff for PCR testing. As a result, no infections were reported. This case highlights the value of carefully understanding how an infectious disease spreads and its characteristics, while also paying close attention to the safety and mental health of all those involved, so that construction work can continue. Establishing a flexible team setup, remote work capabilities, and a crisis management plan tailored for infectious disease outbreaks

is essential.

(4) Establishing a Monitoring System for Project Indicators

Although the project included indicators that required traffic volume surveys, MPW did not conduct the surveys and thus no official data were available. According to MPW, there was no recognition that they were responsible for providing such data in the ex-post evaluation⁵⁹. Since traffic surveys require a budget, it is essential to align expectations among stakeholders by sharing information on timing, methods, and costs during project implementation. As the Project Monitoring Report requires progress updates on performance indicators, it is advisable to enhance the monitoring system and strengthen the executing agency's capacity in cases where it lacks the technical expertise necessary for data collection.

5. Non-Score Criteria

5.1 Performance

5.1.1 Objective Perspective

According to MPW, JICA representatives participated in monthly on-site meetings and made significant contributions to the project's outcomes by assisting in problem-solving and securing funding. The contractor and the implementation consultant maintained a high-quality management system and submitted emergency response plans to MPW during Ebola and COVID-19. The Japan side also built a good relationship with MPW, and upon completion of the project, the Government of Liberia expressed its gratitude to Japan by renaming "Somalia Drive" to the "Japan Freeway." At the time of the ex-post evaluation, the new name was widely recognized and embraced by local residents along the road, further demonstrating the high appreciation for JICA's contribution.

5.2 Additionality

The contractor held regular safety training and technical workshops for Liberian workers, contributing to improving their awareness and skills. In addition, at the bridge construction site, the contractor accepted Liberian student interns at MPW's request, providing them with several days of training and valuable on-site experience, which was well received by both the students and MPW. Moreover, as mentioned in "4.3 Lessons Learned (1)," the anti-littering measures implemented along the roadside by the contractor and the implementation consultant were highly evaluated by MPW officials as efforts that helped raise community awareness. These initiatives were recognized as added value in terms of human resource development.

⁵⁹ The minutes of discussion of the Phase 1 first preparatory survey did not mention responsibility for monitoring, but the minutes of discussion of the Phase 2 preparatory survey clearly stated that Liberian side was responsible for monitoring the indicators. (Source: Preparatory Survey Reports)

(End)