

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**GUYANA**

**PROGRAM TO SUPPORT CLIMATE RESILIENT ROAD  
INFRASTRUCTURE DEVELOPMENT**

**(GY-L1081)**

**LOAN PROPOSAL**

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REQUIRED ELECTRONIC LINKS (REL)	
REL#1	<a href="#">Pluriannual Execution Plan (PEP) / Annual Operational Plan (AOP)</a>
REL#2	<a href="#">Monitoring and Evaluation Arrangements</a>
REL#3	<a href="#">Environmental and Social Review Summary</a>
REL#4	<a href="#">Procurement Plan</a>

OPTIONAL ELECTRONIC LINKS (OEL)	
OEL#1	<a href="#">Integration Annex</a>
OEL#2	<a href="#">Climate Change and Climate Finance Annex</a>
OEL#3	<a href="#">Water Loss Baseline Report 2022</a>
OEL#4	<a href="#">National Land Transport Strategy and Action Plan 2016-2026</a>
OEL#5	<a href="#">Technical study on East Bank Demerara</a>
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OEL#10	<a href="#">Environmental and Social Management System</a>
OEL#11	<a href="#">Environmental and Social Assessment (ESA) / Environmental and Social Management Plans (ESMP)</a>
OEL#12	<a href="#">Livelihood Restoration Plan (LRP)</a>
OEL#13	<a href="#">Financial Management/Fiduciary Issues and Control Environment</a>
OEL#14	<a href="#">Program Operational Manual</a>
OEL#15	<a href="#">Execution Planning Annex</a>

ABBREVIATIONS	
AOG	Audit Office of Guyana
BIM	Building Information Modelling
CDB	Caribbean Development Bank
EA	Executing Agency
EBD	East Bank of the Demerara River road corridor
EIRR	Economic internal rate of return
ENPV	Economic net present value
ESA	Environmental and Social Assessment
ESHS	Environmental, Social, Occupational Health & Safety
ESMP	Environmental and Social Management Plans
ESMS	Environmental and Social Management System
ESRS	Environmental and Social Review Summary
GDP	Gross Domestic Product
GoG	Government of Guyana
GPR	Ground Penetrating Radar
GWI	Guyana Water Incorporated
ICAP	Institutional Capacity Assessment Platform
IDB	Inter-American Development Bank
IsDB	Islamic Development Bank
IRI	International Roughness Index
LCDS	Low Carbon Development Strategy
LRP	Livelihood Restoration Plan
MPW	Ministry of Public Works
NLTS	National Land Transport Strategy and Action Plan 2016-2026
NPTAB	National Procurement and Tender Administration Board
NRW	Non-revenue water
OEL	Optional Electronic Links
PEU	Project Executing Unit
REL	Required Electronic Links
RMMS	Routine Maintenance Management System
RoW	Right of Way
TC	Technical Cooperation
WSG	Works Services Group

**PROJECT SUMMARY**  
**GUYANA**  
**PROGRAM TO SUPPORT CLIMATE RESILIENT ROAD INFRASTRUCTURE DEVELOPMENT**  
**(GY-L1081)**

Financial Terms and Conditions				
Borrower			Flexible Financing Facility <sup>(a)</sup>	
The Co-operative Republic of Guyana			Amortization Period:	25 Years
Executing Agency			Disbursement Period:	5 Years
Ministry of Public Works (MPW)			Grace Period:	5.5 Years <sup>(b)</sup>
Source	Amount (US\$)	%	Interest rate:	SOFR Based
IDB (Ordinary Capital):	100,000,000	85	Credit Fee:	(c)
Local:	17,000,000	15	Inspection and supervision fee:	(c)
Total:	117,000,000	100	Weighted Average Life (WAL):	15.25 Years
			Currency of Approval:	Dollars of the United States of America
Project at a Glance				
<b>Program objective.</b> The general objective is to advance Guyana's safe, efficient, and climate-resilient road and associated infrastructure. The program specific objectives are to improve: (i) road service quality; and (ii) utility service, along the East Bank Demerara corridor through road and corresponding utility infrastructure improvements.				
<b>Special Contractual Clauses prior to the first disbursement.</b> The Borrower, directly or through the Executing Agency, shall have presented evidence to the Bank that an attorney from the Ministry of Legal Affairs and the Attorney General's Chambers has been designated as a member of the Project Executing Unit (PEU) team (¶3.3). In addition, see special conditions prior to first disbursement included in Annex B of the ESRS ( <a href="#">REL#3</a> ) and conditions included in Annex III, Section II.				
<b>Special Contractual Clauses of execution for Component 1.</b> The Borrower, directly or through the Executing Agency, prior to the signing of any work contract related to Component 1, shall have presented evidence to the Bank that: (i) a supervision consultant firm, which shall include among others, a Utilities Replacement Coordinator and, a Social and Gender Specialist, have been contracted, in accordance with the Terms of Reference previously agreed with the Bank; and (ii) the Ministry of Public Works has approved a structured mechanism for decision-making on project issues in accordance with the terms previously agreed with the Bank (¶3.4). In addition, see special contractual clauses of execution for Component 1 included in Annex B of the ESRS ( <a href="#">REL#3</a> ).				
<b>Special Contractual Clauses of execution for all Components.</b> See special contractual clauses of execution for all Components included in Annex B of the ESRS ( <a href="#">REL#3</a> ).				
<b>Exceptions to Bank Policies.</b> None.				
Strategic Alignment				
Challenges <sup>(d)</sup> :		SI <input checked="" type="checkbox"/>	PI <input checked="" type="checkbox"/>	EI <input checked="" type="checkbox"/>
Cross-Cutting Issues <sup>(e)</sup> :		GE <input checked="" type="checkbox"/> and DI <input checked="" type="checkbox"/>	CC <input checked="" type="checkbox"/> and ES <input checked="" type="checkbox"/>	IC <input checked="" type="checkbox"/>

<sup>(a)</sup> Under the Flexible Financing Facility (document FN-655-1), the Borrower has the option to request modifications to the amortization schedule, as well as currency, interest rate, commodity, and catastrophe protection conversions. In considering such requests, the Bank will take into account operational and risk management considerations.

<sup>(b)</sup> Under the flexible repayment options of the Flexible Financing Facility (FFF), changes in the grace period are possible as long the Original Weighted Average Life (WAL) and the last payment date, as documented in the loan agreement, are not exceeded.

<sup>(c)</sup> The credit fee and inspection and supervision fee will be established periodically by the Board of Executive Directors during its review of the Bank's lending charges, in accordance with the relevant policies.

<sup>(d)</sup> SI (Social Inclusion and Equality); PI (Productivity and Innovation); and EI (Economic Integration).

<sup>(e)</sup> GE (Gender Equality) and DI (Diversity); CC (Climate Change) and ES (Environmental Sustainability); and IC (Institutional Capacity and Rule of Law).

## I. PROJECT DESCRIPTION AND RESULTS MONITORING

### A. Background, problem addressed, and justification

- 1.1 **Macroeconomic context.** Since the discovery of offshore oil and gas, there has been dramatic economic growth and transformation in Guyana with the country's Gross Domestic Product (GDP) increasing from US\$6.6 billion in 2019 to US\$9.37 billion in 2021. In 2020, GDP grew by 43.5% and is expected to grow by 36.2% until 2023.<sup>1</sup> This phenomenon allows the Government of Guyana (GoG) to embark on an investment effort to expand, upgrade, and revamp infrastructure, which in the case of transport consists of interventions in critical coverage, capacity, and quality upgrades of its road and water network, including rehabilitation, improvement, maintenance, as well as strengthening the capacities of the authorities. Positive outcome of the economy has manifested in a marked increase in new projects including an unprecedented construction boom.
- 1.2 **Road infrastructure.** According to the Global Competitiveness Index ([GCI](#)), out of 140 economies, Guyana ranks 104<sup>th</sup> in road infrastructure, 87<sup>th</sup> in port infrastructure, and 93<sup>rd</sup> in air transport infrastructure. Potential economic synergies with its neighbors are unexploited in part because the existing infrastructure network does not adequately connect with neighboring economies (¶1.5). This also affects Guyana's sales to its main export destinations<sup>2</sup> because the costs of shipping goods out and into the country are high relative to other countries of the Caribbean. The Liner Shipping Connectivity Index, which measures maritime connectivity, ranks Guyana below all other Caribbean countries, mainly because there are no deep-sea ports and the national logistics infrastructure is inefficient.<sup>3</sup>
- 1.3 Guyana also has one of the sparsest road networks in South America with 3,995 km of roads serving a country with 214,970 km<sup>2</sup> resulting in a road network density of 18.5 km per 1,000 km<sup>2</sup>. The national paved road network, with an extension of 410 km, consists of six main roads, representing 10% of the country's road total network. Recent evidence indicates that only 30% of people living in rural areas have access to all-weather roads.<sup>4</sup> According to the road index developed by the IDB (see Figure 1), the small percentage of paved roads and the low-road density are the two factors most strongly influencing its low position in the ranking.

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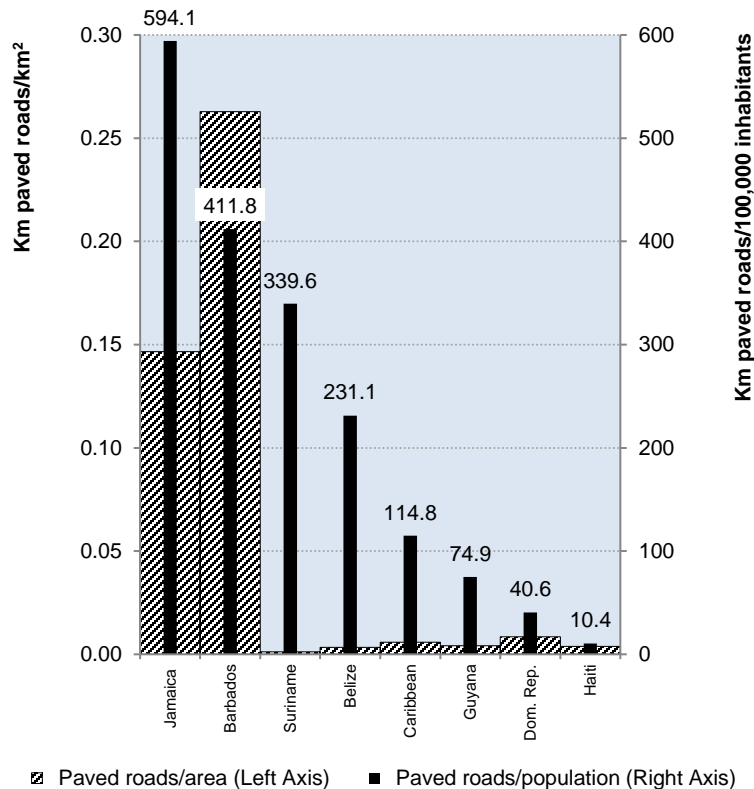
<sup>1</sup> International Monetary Fund – World Economic Outlook (10/2021).

<sup>2</sup> In 2020, Guyana's exports totaled US\$2.99 billion, associated to several value chains such as petroleum oils and minerals (US\$1.17 billion); gold (US\$657 million); rice (US\$270 million); containers (US\$ 220 million); and medicaments (US\$103 million). In 2020, Guyana exported mainly to the United States (US\$781 million), Canada (US\$387 million), Trinidad and Tobago (US\$282 million), Jamaica (US\$180 million), and United Arab Emirates (US\$179 million).

<sup>3</sup> The truck supply relative to port volume in Guyana is low when compared with other Caribbean countries. Guyana is 12.18 while The Bahamas is 203.79 and Jamaica is 95.59. [IDB Freight Transport and Logistics Yearbook 2015](#).

<sup>4</sup> Other countries have higher coverage relative to both surface area and population. For example, the Dominican Republic: 1.98 km/1,000 inhabitants, 0.41 km/km<sup>2</sup>; El Salvador: 1.75 km/1,000 hab., 0.48 km/km<sup>2</sup>; Honduras: 3.34 km/1,000 hab., 2.31 km/km<sup>2</sup>; and Nicaragua: 3.92 km/1,000 hab., 1.64 km/km<sup>2</sup>.

Figure 1. Infrastructure Road Density in the Caribbean



Source: IDB Freight Transport and Logistics Yearbook

- 1.4 IDB's commissioned State of Guyana's Infrastructure<sup>5</sup> also identifies the need to increase land connections between rural communities, and between coastal areas and the interior of the country, including comprehensive climate-resilient infrastructure (§1.22). The report calls for the country to develop its aging infrastructure so it can improve the standard of living and mitigate the increasing risks associated with climate change. According to the World Bank, an expenditure equivalent to Guyana's 104% of GDP over the next 20 years will be needed to achieve adequate transport infrastructure coverage.
- 1.5 **Regional integration and infrastructure.** Better connectivity from Guyana's inner land to the coast will support transport-intensive exports including agriculture and mining to neighboring countries which currently makes up only 4.1% of its total exports (OEL#1).<sup>6</sup> Whereas oil & gas sector is currently the largest growth segment, gold, bauxite, nickel, magnesium, and uranium account for the second-largest group. Agriculture commodities such as sugar, rice, and other

<sup>5</sup> Castalia, 2021.

<sup>6</sup> Venezuela (US\$94.5 million), Brazil (US\$20.4 million) and Suriname (US\$7.1 million).

products total 9.32% of national exports, are sent primarily to the United States of America, Europe, and the Caribbean.

- 1.6 In an effort to achieve a long sought integration agenda, the country seeks to continue advancing the potential Lethem-Georgetown corridor starting on the East Bank of the Demerara (EBD) River road corridor near the country's capital (¶1.10), integrating the northern coastal area with the interior of the country through approximately 550 km of road, connecting Guyana with Northern Brazil in the State of Roraima.
- 1.7 Guyana and Suriname are also set to benefit from major economic developments with the construction of a bridge across the Corentyne River, which will connect the two countries. The bridge will provide easy access to deep-water facilities in Guyana and Suriname, enabling easy movement of goods and services to support offshore activities. With the new bridge and the opening of fertile agricultural lands, the countries sought to position themselves as major food suppliers to the Caribbean Community (Caricom).
- 1.8 **Low Carbon Development Strategy 2030 (LCDS).**<sup>7</sup> Guyana has the second-highest percentage of forest cover on earth and seeks to sustain 99.5%. The country has embarked on implementing a LCDS creating incentives for a low-carbon economy while protecting against climate change and biodiversity loss through climate adaptation and resilience (¶1.22 and ¶1.49). Successful implementation of the strategy relies on the country's ability to properly support areas of growth aimed at modernizing existing land connections, prioritizing utility replacement, non-motorized and pedestrian infrastructure, and enabling citizens to travel without limitations connecting all areas of the country.
- 1.9 The LCDS sets the foundation for the Government's Transformation Agenda that pursues a seven-pillar transformational sectors including infrastructural development, technology, service delivery, energy, and food security, among others. The National Land Transport Strategy (NLTS, [OEL#4](#)) and Action Plan 2016-2026 is the Government's strategic blueprint for the development of a sustainable and interconnected land transport network within and between existing coastal and hinterland communities and proposed development areas for efficient and safe movement of people, goods and, services in support of national development (¶1.2 and ¶1.3).
- 1.10 Within Region 4 Demerara,<sup>8</sup> the NLTS seeks to address the road corridors that run parallel to the Atlantic coast and parallel to the Demerara River and the connection to Brazil via the Linden-Lethem Road, connecting the two main airports. The first phase of 7.7 km from Ogle to Eccles (joining the two corridors) for an estimated value of US\$100 million funded by the Government of India is expected to commence in 2022. Additionally, the Islamic Development Bank (IsDB) is financing the 80 km rehabilitation of the Linden Soesdyke Highway. The Caribbean Development Bank (CDB) is financing the 122 km Linden to Mabura Road with

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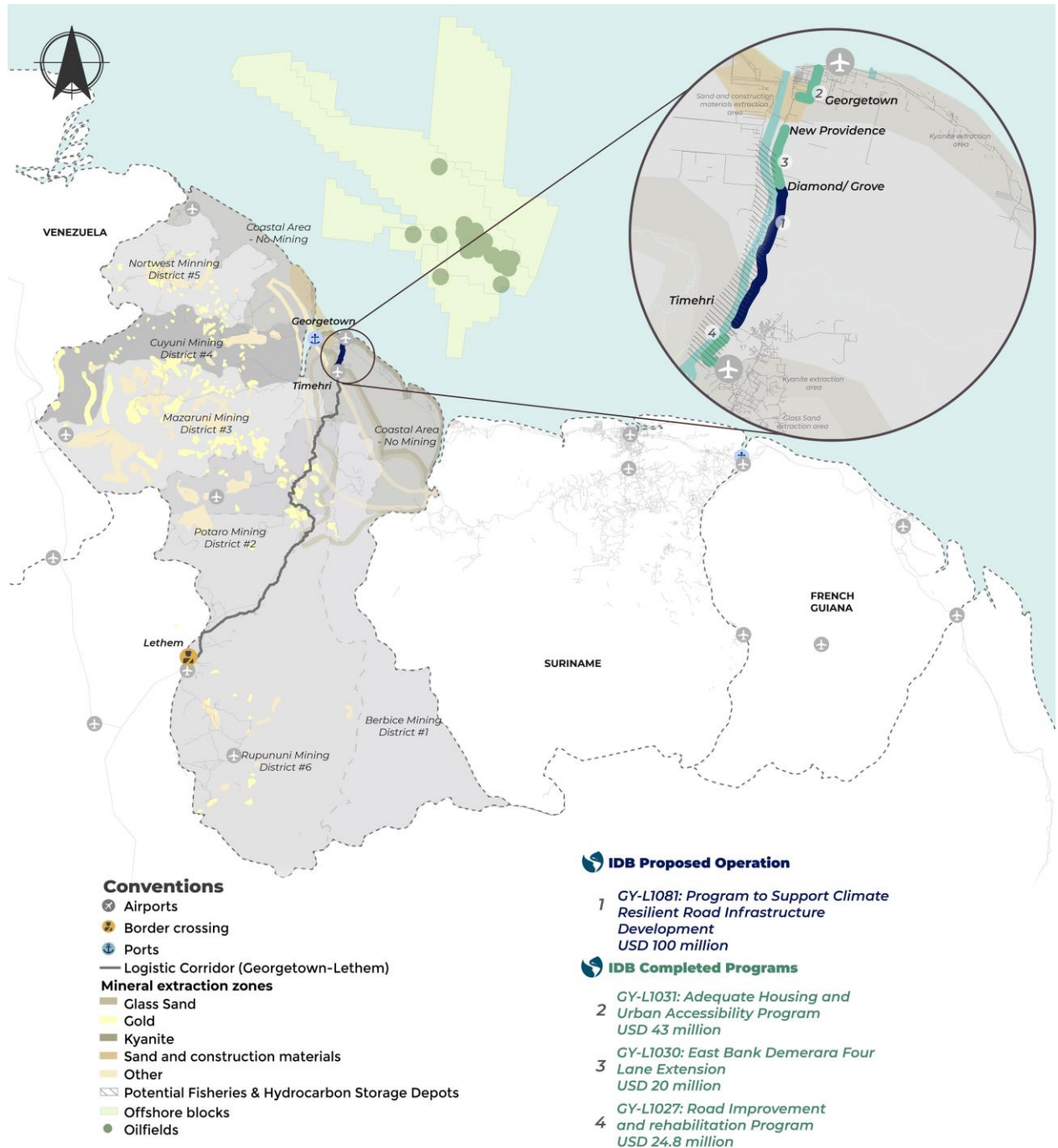
<sup>7</sup> [Guyana's Low Carbon Development Strategy 2030.](#)

<sup>8</sup> Guyana is divided in 10 regions of administration. Demerara-Mahaica (Region 4) borders the Atlantic Ocean in the north, the region of Mahaica-Berbice to the east, the region of Upper Demerara-Berbice to the south and the region of Essequibo Islands-West Demerara to the west. Region 4 houses the country's capital Georgetown.



US\$190 million. Furthermore, in 2022 US\$73 million from the national budget will improve roads in all the 10 administrative regions in the country.

**Figure 2. Freight Logistic Corridor and the East Bank of the Demerara River road corridor**



INTEGRATION INFRASTRUCTURE GROUP (GII) - TRANSPORTATION DIVISION

Source: IDB-2021

- 1.11 **Water losses.** A [recent study](#) by the Bank concluded that utilities in the Caribbean have sufficient infrastructure to supply drinking water but highlights Non-Revenue Water (NRW) —or the difference between the amount of water that enters the distribution system and the amount of water that is billed—as Caribbean water utilities’ biggest challenge. In the case of Guyana’s network along the EBD, the study highlights the importance to implement water loss reduction projects such as repair and the replacement of the aging water infrastructure and leak detection.
- 1.12 The Guyana Water Incorporated (GWI) is the nation’s service provider of potable water and sewerage services to coastal and urban areas throughout Guyana. One of the biggest challenges for GWI is the reduction of NRW which was estimated at the end of 2021 as 67.2% of total water production. Under GWI’s strategic plan, NRW is targeted for reduction to less than 55% by 2025<sup>9</sup> and various initiatives are required, inclusive of metering, asset rehabilitation/replacement, implementation measures for pressure management, leakage management, and District Metered Area (DMA) management with use of smart technologies. In recent years, Guyana improved water quality and the continuity of service to the population through the construction of three water treatment plants and reduction of NRW in selected areas financed by the IDB ([3242/OC-GY](#) and [3243/BL-GY](#)).
- 1.13 **Road safety.** Despite low road coverage, the number of traffic-related fatalities in the country has grown from 27 fatalities per 100,000 population in 2007<sup>10</sup> to 138 in 2015, higher than the Caribbean average of 82 according with (WHO, 2015).<sup>11</sup> In the past five years, more than 100,000 new vehicles were registered in the country with 1,176 vehicles recorded every month.<sup>12</sup> This sharp increase in the number of vehicles on the road has resulted in more frequent incidents, roads becoming congested and is exacerbated by an increase in the number of major infrastructure-works underway in the country.
- 1.14 While Guyana has national speed limits along both urban and rural roadways, speed enforcement is currently a manual process involving the police and court system which is susceptible to human errors and biases. Recently, in April 2022, the President of the Cooperative Republic of Guyana introduced an [Intelligent Traffic Management System](#) in recognition of this challenge however equipment installation has been limited and is non-existent along the proposed project site.
- 1.15 Further, the administration [approved in May 2022](#) draft amendments to the Motor Vehicle and Road Traffic Act, and the Intoxicating Liquor License Bill in response to a large number of traffic incidents. According to reports from the [Global Road Safety Facility](#), Guyanese men are four times more susceptible to road crash fatalities than women. Additionally, men are still predominantly the driver of motor vehicles<sup>13</sup> (including minibuses, hire cars, privately owned vehicles, agricultural and freight vehicles) though recently this dynamic is slowly changing.

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<sup>9</sup> GWI Strategic Plan 2021-2025.

<sup>10</sup> <https://apps.who.int/iris/handle/10665/189242>.

<sup>11</sup> [World Health Organization, Global Road Safe Facility, 2022.](#)

<sup>12</sup> Guyana Revenue Authority, 2022.

<sup>13</sup> [National Land Transport Strategy, 2016-2026](#), p. 67.

- 1.16 **Other road safety issues.** Other issues include encroachment by vendors on the right of way and unsafe driving practices by public passenger vehicles.<sup>14</sup> Lack of adequate street lighting along the roadway leads to low visibility from motorists both to pedestrian and other motor vehicles (¶1.44).<sup>15</sup> Adequate streetlight improves visibility, reducing crashes up to 42% for nighttime injury pedestrian crashes at intersections, and 28% nighttime injury crashes on roadways.<sup>16</sup>
- 1.17 The road network also lacks weight control management facilities especially of larger vehicles frequently traversing the corridors to support the booming construction, forestry, and business sectors ([OEL#5](#)). A comprehensive road safety analysis is currently in progress<sup>17</sup> to help prioritize actions considering behavior change and awareness campaigns to be implemented under the program.
- 1.18 **Ministry of Public Works (MPW).** The MPW is responsible for all public works matters in the country. It has the overall legal responsibility for the construction, maintenance, and operation of all the roads designated as public roads. This responsibility includes granting approvals for development along the road reserves or within the road right of way. Under its Central Transport Planning Unit, the Ministry has the responsibility of setting policies and enforcing regulations governing the transport sector. This unit satisfies the planning, research, and policy formulation requirements of the Ministry but with specific responsibility for planning and coordinating public transport sector investment in Guyana. The Ministry also performs project management functions regarding all government and government-sponsored development projects nationwide.
- 1.19 **Works Services Group (WSG).** The MPW's capacity to perform the function of Executing Agency (EA) has been consolidated over the years with the creation by Cabinet Decision— following the signing of a memorandum of understanding between the Government, CDB, and IDB which established on October 1, 2001<sup>18</sup> the WSG.
- 1.20 The WSG is a multidisciplinary Project Executing Unit within the MPW, that has the mandate to execute GoG and donor-funded projects in the areas of transport and sea and river defenses. The unit is currently staffed with technical, socio-environmental, and administrative personnel and has been involved in the execution of IDB-financed Loan and Technical Cooperation (TC) operations since 2002. This unit has evolved to become responsible for all works being undertaken by the MPW and is responsible for the operational planning and management of road investments and maintenance activities.
- 1.21 **Road Maintenance.** Guyana's main road network was brought under a Routine Maintenance Management System (RMMS) administered by the WSG since

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<sup>14</sup> [CDB Project Validation and Completion Report](#), Third Road Project – Guyana, 2017.

<sup>15</sup> [Elvik and Vaa \(2004\)](#) reviewed 38 studies comparing the impact of lighting on previously unlit roads and found a 64% reduction of fatal crashes, 28% reduction in injury crashes, and 17% reduction in property-damage-only crashes after the roadways were lit.

<sup>16</sup> [FHWA Lighting Handbook](#).

<sup>17</sup> Activity currently financed by GY-L1031: Adequate Housing and Urban Accessibility Program ([2741/BL-GY-3](#)).

<sup>18</sup> Loan Proposal ([1094/SF-GY](#)) Mahaica Rosignol Road Rehabilitation Project (GY0056).

2003.<sup>19</sup> The RMMS currently maintains 326 km of main roads through three-year contracts with the private sector. It is envisaged that this number would grow by another 50 km in the next two years as rehabilitation projects move from defects liability to maintenance periods. Maintenance has been funded since the inception of the system from counterpart resources under several loans. The RMMS funding available for the year is US\$12 million and is coordinated by the Special Projects Unit of MPW to maintain 365 km (¶2.10).

- 1.22 **Climate change aspects.** In Guyana, 459 km of low-lying coastline represents 7% of the countries' total area but supports 90% of the population. The coastal area lies below the mean high-tide level and floods seasonally, largely due to intense rainfall and sea-defense failure. Transportation infrastructure in the country's coastal, lowland, riverain areas is increasingly at risk of high-water events, including flooding during extreme rainfall events. According to the Disaster Risk Assessment in Georgetown ([IADB et al. 2019](#))<sup>20</sup> the expected annual damage from flooding is around US\$6 million with a further US\$3 million for infrastructure repairs.
- 1.23 A hydrological analysis with a rainfall-runoff model for the Demerara River and extreme rainfall analysis for the EBD (from Grove to Timehri) was conducted, storms designed for different return periods, and flow hydrographs for the Demerara River generated ([OEL#2](#)). As a subsequent step, hydrodynamic models will be generated to calculate the pluvial flood and river overflow hazard model in conjunction with extreme tidal scenarios on the coast to determine backwater effects and the impact on the road. One of the main results of the analysis is that an average increase of about 20% in the magnitude of extreme events with high recurrence times (e.g., TR-1:100) could be expected in the basin.
- 1.24 **Gender, inclusion, and employment.** Over 80% of women employment in the country is in the service sector ([OEL#6](#)). By 2019, 45% of women between ages 15-24 were not enrolled on any education program, employed, or actively participating on job-related training compared to 26% of young men.<sup>21</sup> Higher education enrolment however shows a positive trend. Between 2019 to 2020, 64% of enrolled students were women at the University of Guyana (one of the two public institutions that offer tertiary education).<sup>22</sup> Women enrolment is increasingly climbing in Science, Technology, Engineering and Mathematics (STEM) fields such as chemistry and petroleum engineering. In fields related to civil works, in 2021 19% of enrolments in civil engineering and 40% in architecture were women.<sup>23</sup> Evidence of similar trend can be seen at technical education, where 24% of enrolled students are women.<sup>24</sup> Guyana, however, is not immune to gender wage gaps. The higher levels of participation of women in higher education "have

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<sup>19</sup> RMMS is currently responsible for maintaining urban roads across the country.

<sup>20</sup> [Georgetown Disaster, Risk, and Climate Change Vulnerability Assessment](#).

<sup>21</sup> World Bank Data (accessed 29-03-2022).

<sup>22</sup> Education Statistical Digest 2019-2020, (Ministry of Education Sports and Culture, 2020).

<sup>23</sup> Idem.

<sup>24</sup> This data excludes the students from the Carnegie School of Home Economics which offers courses related to care activities, handicrafts, beauty, and food management, among others. Education Statistical Digest 2019-2020, (Ministry of Education Sports and Culture, 2020).

not translated into equal or higher pay for women” since women earn 37% less than men for similar jobs (¶1.45).<sup>25</sup>

- 1.25 Despite recent investments along Guyana’s road network, the effects of inadequate streetlight are still present.<sup>26</sup> On a recent survey, 85% of participants reported public space lightning as insufficient, and 49% of women in Georgetown signaled their priority for adequate streetlights<sup>27</sup> over other measures—such as additional police presence, to improve the security on their neighborhood. Provision of adequate street lighting has positive effects on the notion of safety<sup>28</sup> and has proven to decrease criminal activity.<sup>29</sup> Inadequate streetlights reduce safety perception and in turn lead to limited non-motorized transport at night reducing women's autonomy to commute by their own.
- 1.26 **Identification of the problem.** Despite the recent increase in investment in Guyana’s road sector, a number of problems still persist: (i) low density and lack of availability of climate resilient road infrastructure in good condition (¶1.2),<sup>30</sup> as well as limited land connections with communities along the coast and in Guyana’s interior, which affect access to/from the various production centers and raise transport costs (¶1.3); (ii) increased water losses in aging networks that have gone over their life span (¶1.11); (iii) inadequate streetlight coverage that reduces both pedestrian mobility at night and road safety (¶1.25); (iv) limited institutional capacity to coordinate the growing infrastructure portfolio; and (v) challenges intrinsic to comprehensive road safety and axle-load control (¶1.16).<sup>31</sup>
- 1.27 **Bank experience in the sector.** In the last 25 years the Bank has provided important support to the road transport sector to improve the driving conditions, safety of roads, increased coverage, and sector governance through the rehabilitation and upgrading of road infrastructure to meet international standards while improving the capacity of the MPW.<sup>32</sup> The Bank, following successive country strategies, has been financing works in the main and secondary road network. This strategy was executed by means of eight prior operations<sup>33</sup> totaling US\$245 million that focused on the rehabilitation of 300 km of the main road and secondary network. Contributions were also made towards developing and improving sustainable routine maintenance mechanisms for the entire main road network and mainstreaming road safety in all interventions. Table 1 below shows the areas of involvement in the last eight loan operations financed by the Bank.

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<sup>25</sup> Gender and work in the Caribbean, Guyana report (ILO, 2018).

<sup>26</sup> Over 4,700 new lamps have been partially financed by GY-L1031: Adequate Housing and Urban Accessibility Program (2741/BL-GY-3).

<sup>27</sup> Women’s Safety Audits, Georgetown, Guyana 2018.

<sup>28</sup> [Safety from crime and physical activity.](#)

<sup>29</sup> [Effects of improved street lighting on crime: a systematic review.](#)

<sup>30</sup> Although 71% of the paved national road network can be classified as in good condition International Roughness Index (IRI<3), only represents 15% of the total road network of the country.

<sup>31</sup> The axle-load limit of 10-ton is low and there is resultant damage to road pavements, shoulders, verges, and sidewalks.

<sup>32</sup> (2251/BL-GY) Project Completion Report.

<sup>33</sup> Main Road Rehabilitation Program (890/SF-GY), Bridge Rehabilitation Program – Phase I (999/SF-GY), Mahaica Rosignol Road Rehabilitation Project (1094/SF-GY), Moleson Creek – New Amsterdam Road (1554/SF), Transport Infrastructure Rehabilitation Program (1803/SF-GY), Road Improvement and Rehabilitation Program (2215/BL-GY), East Bank Demerara Four Lane Extension (2454/BL-GY), and Road Network Upgrade and Expansion Program (2741/BL-GY).



Table 1. 25 years of IDB's participation in the road sector

Areas of Involvement	890/SF	999/SF	1094/SF	1554/SF	1803/SF	2215/BL	2454/BL	2741/BL
Road and Bridge Rehabilitation	•	•	•	•	•	•	•	•
Routine & Periodic Maintenance		•	•		•	•	•	
Weight Control			•					
Road Safety	•	•	•	•	•	•	•	•
Institutional Strengthening		•	•	•	•			•

Source: IDB-2022

- 1.28 Currently the Bank is facilitating dialogue and best practices in the preparation and execution of transportation infrastructure investment programs in Guyana. For instance: (i) the TC “Support for the Design and Implementation of Innovative Mechanisms for the Management of Construction Contracts in Guyana” ([ATN/OC-17683-GY](#)) aims to support the GoG in the design and implementation of innovative and efficient tools, methods, and practices to improve the technical, environmental and fiduciary management of transport infrastructure works contracts, with the objective of reducing execution risks, delays and cost overruns; (ii) a program “Road Network Upgrade and Expansion Program” ([2741/BL-GY](#), [2741/BL-GY-1](#), [2741/BL-GY-2](#) and [2741/BL-GY-3](#)) had a general objective to enhance mobility and safety by reducing vehicle operating costs, travel times and road fatalities; and (iii) the TC “Support for Climate Resilient Road Infrastructure” ([ATN/OC-19242-GY](#)) that supports the preparation of this current loan, aims to strengthen the capacity to overcome critical project issues (particularly socio-environmental and climate resilience aspects) and manage a new public investment agenda.
- 1.29 The Bank has extensive experience in the water sector in Guyana. This includes a project for “Remedial Maintenance for Georgetown Sewerage and Water Supply Systems” ([909/SF-GY](#)) completed in 2002 and a “Georgetown Water Supply and Sewer Program” ([1047/SF-GY](#)) completed in 2010. A US\$10 million “Georgetown Sanitation Improvement Program” ([2428/BL-GY](#)) was approved in 2010, to improve the Georgetown sewer system and strengthen GWI’s performance through better asset management and efficient energy use. In 2011, the IDB approved a US\$12.3 million “Linden Water Supply Rehabilitation Program” (2535/BL-GY) to improve the water services in Linden, Guyana’s second largest town, and to address for the first time in a comprehensive way the issue of NRW. In 2013, the Bank approved the “Support for the preparation of a water supply and sanitation infrastructure improvement program” ([ATN/OC-14086-GY](#); US\$500,000 IDB-AquaFund funding), which was instrumental in updating the Georgetown Water Supply Master Plan; finalizing the works’ conceptual designs; and complementing the proposed activities through the enhancement of GWI sampling and laboratory analysis capabilities. Most recently, the Water Supply and Sanitation Infrastructure Improvement Program ([3242/OC-GY](#), [3243/BL-GY](#), and

[GRT/EX-14520-GY](#)) was completed, whose general objective was to improve efficiency, quality and sustainability of the potable water services and improve sanitation infrastructure in Georgetown and other areas along the coast.

- 1.30 **Lessons learned from previous IDB's financed projects.** The key lessons learned from the IDB's transport portfolio in the country include the following: (i) the importance of having detailed designs prior to contracting the civil works to mitigate cost variations or to adequately include provisions in the contracting modality to effectively manage cost variations; (ii) a supervision consultant should be hired prior to the construction firm, with enough time for satisfactory review of engineering designs and bid proposals and to effectively support the contracting agency in all stages prior to works' contract signature; (iii) the need to map and locate all utility underground networks during the design stage and prior to the start of civil works; (iv) prioritize asset management techniques and investments; and (v) the relevance of defining tailored execution workflows based on proven integrated project management practices. These lessons have been learned from the execution of recent loans and TCs and have been fully integrated into the design of this operation, including conditions prior, specific activities and consultancies to be financed, and technical assistance given during the tendering process (¶1.54). It is expected that this will all help to contribute with better execution performance, time management, and quality control.
- 1.31 Past water projects in Guyana relevant to this operation provide lessons that indicate: (i) construction and supervision, to be carried out by qualified firms, needs to include knowledge transfer to the EA, which was successfully implemented within [2428/BL-GY](#) and [2535/BL-GY](#); (ii) adopting GWI's strategic plan gives great emphasis to extending the NRW reduction program to other areas and makes resources available to support further reduction; (iii) use SWIT (Smart Water Infrastructure Technologies) to improve the management of the water supply network; and (iv) institutional support (e.g., training on O&M and provision of management tools) needs to be provided to ensure the sustainability of the capital investments and to facilitate monitoring of GWI performance. These lessons will be incorporated, as much as applicable, to the water loss intervention under this operation (¶1.50).
- 1.32 **Strategic alignment.** The program is consistent with the Update to the Institutional Strategy (UIS) 2020-2023 (AB-3190-2) as it aims to improve Guyana's ability to capitalize on a wider investment to close its sustainable infrastructure gap and improve efficiency, safety, and transparency of the transport and water infrastructure sectors. It is aligned with the development challenges of: (i) Productivity and Innovation, by reducing travel times with road network improvements, which increases productivity for the economy and by promoting investment, to mobilize resources and build technical capacity within the country; (ii) Social Inclusion and Equality, by including standards for universal design, which facilitate access, mobility, and pedestrian autonomy for users with reduced mobility and by improving access to educational and employment opportunities for the low-income population, investments in transportation have important economic impacts, which improve social inclusion and equality; and (iii) Economic Integration, by increasing economic integration through infrastructure networks and better access to airports. It is also consistent with the cross-cutting issues of: (i) Gender Equality and Diversity, by facilitating access of women to educational

and employment opportunities in nontraditional jobs in the value chain of the transport sector and with the design of safe and accessible infrastructure; (ii) Climate Change and Environmental Sustainability, by incorporating adaptation and mitigation principles into the phases of planning, design, and construction, in order to reduce the impact of extreme weather events on infrastructure; and (iii) Institutional Capacity and Rule of Law, by strengthening the executing agency's technical capacity with the update of the Master Plan and applications of technology in the program's works projects.

- 1.33 The project is also consistent with the Bank's Vision 2025, specifically, with the strategic goals: (i) Productivity and Innovation, by accelerating digitalization; (ii) Economic Integration, by improving the quality of road and water infrastructure; (iii) Social Inclusion and Equality, by promoting universal design in roads and skills development; and (iv) Climate Change, by encouraging green and resilient infrastructure.
- 1.34 The program is also aligned with DIA 2020<sup>34</sup> specifically with the service quality improvement<sup>35</sup> to address Guyana's infrastructure challenges.<sup>36</sup> The program will also contribute to the Corporate Results Framework ([GN-2727-12](#)) through the following priorities: (i) Social Inclusion and Equality: households with improved access to water and sanitation; (ii) Productivity and Innovation: jobs supported; (iii) Economic Integration: roads built or upgraded, amount of international trade supported, Regional integration agreements and cooperation initiatives supported; (iv) Gender Equality and Diversity: women beneficiaries of economic empowerment initiatives; and (v) Climate Change: beneficiaries of enhanced disaster and climate change resilience and value of investments in resilient and/or low-carbon infrastructure.
- 1.35 The program is consistent with the IDB Infrastructure Strategy: Sustainable Infrastructure for Competitiveness and Inclusive Growth (document [GN-2710-5](#)), since it supports the following strategic principles: (i) financing and technical assistance for infrastructure that supports economic growth, provides access, and fosters regional and global integration; and (ii) planning, building, and maintaining road infrastructure to support the delivery of quality services that promote the country's sustainable and inclusive growth. The project is also consistent with: (i) the IDBG Country Strategy with Guyana 2017-2021 ([GN-2905](#)) that is still in effect, with the program aligned specifically in the strategic area of delivering critical infrastructure through the strategic objective to support investment in infrastructure for private sector growth by strengthening resilient infrastructure and the facilitation of Public-Private partnership opportunities to develop investments in transport; (ii) the Transportation Sector Framework (document [GN-2740-12](#)) by contributing to the second dimension of success, focused on supporting the region toward the consolidation of transportation systems to provide road improvements as it supports the key segment priorities of being bold in infrastructure, particularly

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<sup>34</sup> [From structures to services](#). The path to better infrastructure in Latin America and the Caribbean.

<sup>35</sup> "The provision of infrastructure services clearly depends not only on the quantity and quality of physical infrastructure but also on other factors, including the efficiency of the firms that use it to provide services. Understanding how assets and services interact is key to measuring infrastructure's contribution to the economy" ([IADB, 2020](#)).

<sup>36</sup> Guyana in 2010 had a 17.8% percentage of firms experiencing water insufficiencies and 21.5% of firms identifying transportation as a major constraint ([IADB, 2020](#)).



- through transport solutions; (iii) the Housing and Urban Development Sector Framework ([GN-2732-11](#)) with the specific challenges of: (a) provision of safe public spaces for all; (b) complete urban infrastructure; and (c) increase accessibility of public spaces; and (iv) the Water and Sanitation Sector Framework ([GN-2781-9](#)) with emphasis to: (a) improve the quality of water and sanitation services; (b) consider the effect of the urbanization process; and (c) improve the articulation with other IDB sectors. This operation is included in the Update of Annex III of the 2022 Operational Program Report ([GN-3087-2](#)).
- 1.36 **Proposed intervention.** The program will upgrade 25.5 km of the EBD corridor from Grove—on the outskirts of the capital city Georgetown—to Timehri by the Cheddi Jagan International Airport (CJIA) (see Figure 2) rehabilitating the road that was last rehabilitated and widened in 1996.<sup>37</sup> Although there have been maintenance interventions, the road has reached the end of its design life as evidenced by progressive deterioration both on the wearing course and on the base and sub-base of some sections.
- 1.37 EBD is punctuated with industries involved in providing construction materials, manufacturing, and food processing; the corridor supports key value-chains including fertilizers, manufacturing, food-processing, construction materials such as sand used extensively in the local construction, mining, and forestry. The project follows on from the recently completed four-lane widening project from New Providence to Diamond (5 km) financed by the Bank. The traffic is a mixture of commuter and truck traffic, and congestion can now be experienced along the length of the EBD mainly due to the slow-moving trucks, lack of overtaking opportunities, and friction from vehicles parked alongside the roadway.
- 1.38 The program will also promote efficiency improvements in the sector by incorporating the road in the maintenance management system, investing in technology for works construction and road safety, and building capacity at the MPW ([OEL#2](#)).
- 1.39 **Water asset replacement.**<sup>38</sup> Approximately 55 km of the water supply infrastructure network belonging to five water supply facilities<sup>39</sup> will become affected and displaced by the program (§1.11). These facilities currently serve 34% (7,235 customers) of the EBD population and the network that will be affected represents 35% of the total water infrastructure of the supply area. The project will replace the network by reconstruction of the water assets within the project corridor and will include the design and implementation of a utility corridor in addition to mapping and georeferencing new assets (§1.50). The full pipe replacement activity, which is necessary to facilitate road construction, will be developed under the project with active involvement of GWI in the detailed surveys and based on site conditions. The utility corridor will be constructed first before road works and new pipes laid before existing networks are decommissioned.
- 1.40 The NRW of the five facilities within the project area is estimated by GWI at the end of 2021 as 74% of total production (1,879 l/c/d), with real losses representing

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<sup>37</sup> Loan [890/SF-GY](#) Main Road Rehabilitation Program.

<sup>38</sup> NRW interventions include other interventions out of the scope of the operation such as service connection upgrades, metering, DMA management & leakage management.

<sup>39</sup> Caledonia, Grove, New Hope, Soesdyke, and Timehri Water Supply Systems.

57% (1,449 l/c/d).<sup>40</sup> The network rehabilitation will reduce the rate at which leaks break out on the new network and reduce the level of background leakage that is primarily driven by leakages at joints from service connections and at the main joints of distribution and transmission network. The reduction of this leakage will have direct financial gain by reducing the costs associated with inspections, active leakage control activities and reinstatement cost by both GWI and WSG. The reduction will directly impact the NRW component of real loss and provide financial benefits associated with the decrease in production that ended up as leakages on the old network.

- 1.41 By replacing leaking networks the program will contribute to the reduction of water losses ([OEL#3](#)) and water breakages making more water available from the existing five water facilities along the EBD and creating opportunities for expanding the water supply zone boundaries to meet water demand of new housing developments along this corridor. This will result in less investments being required for new water sources by efficiently utilizing the water production of existing water supply facilities.
- 1.42 **Actions to improve accessibility to social services.** The program will help close gaps in access to social services by improving road infrastructure, helping to reduce travel times to educational institutions located along the road and the villages near the areas of intervention. Access to adequate, safe transportation to attend school, regardless of distance, helps to ensure children's access to education. Poor access has an impact on school performance, dropout rates, and social exclusion. Along the road, 16 schools are located with seven more located in the road's area of Influence. All students and families will benefit from safer travel time to school and safe and dedicated road crossings.
- 1.43 **Actions for safe and inclusive mobility.** The program will implement activities to improve the safety of road users, cyclists, pedestrians, and peoples with disabilities. The design for all works will include universal design standards for sidewalks, entrances, passing bays, public transportation shelters and stops, and ramps at pedestrian crosswalks located in urban environments, to facilitate safe access and mobility for all users.
- 1.44 By placing lamp poles at adequate 140 mts intervals (68-70 mts distance source lights) and replacing inoperable streetlights the program will provide proper and uniform light coverage visibility of objects beyond the range of headlights and reduce road crashes. Adequate streetlighting will increase nighttime visibility for personal security and road safety, ensuring the safety of pedestrians and road users resulting in higher perception of personal safety (specially for women), more active citizens, and safer roads.
- 1.45 **Actions to improve gender equality.** The program will seek to bridge the gap between higher education graduates and the job market by providing paid internships at the MPW (₹1.24). The paid internships will provide opportunity for last-year and newly graduated women with a degree in civil works-related fields to land a first job by gaining professional experience that will help secure a professional grow path.

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<sup>40</sup> GWI.

- 1.46 Additionally, the project will finance bus stops designed to guarantee universal accessibility, safe, unobstructed visually, and well-lit infrastructure for preventing gender-based violence (¶1.25). This improved access to transport infrastructure provides women with greater access to employment sources, education and health services, among others.
- 1.47 **Climate finance.** In response to climate change, the design of the road works will include components that contribute to the resilience of the road network and area of influence to better respond to observed and anticipated climate impacts. Specifically, the following activities have been included to factor in changes on sea level rise and intensity and frequency of rainfall: (i) construction of new drains, culverts and enlarged bridges considering updated hydrological and hydraulic modelling; (ii) raising the gradient of the road; and (iii) construction of additional linear meters of coastal defenses at critical points along the route.
- 1.48 In addition, the program includes investments that are expected to contribute to mitigate emissions by promoting active and non-motorized mobility for pedestrians and bicycles, as well as the use of public transport (¶1.43 and ¶1.46). Even as the measures are modest, they will contribute to a modal shift by offering: (i) sidewalks and shared-use paths for cyclists; (ii) bus stops; (iii) adequate streetlight in pedestrian walkways in built-up areas along the road; and (iv) adequate parking spaces so that pedestrian paths are not encroached by vehicles. It is intended that these activities will contribute to maintain energy-generation greenhouse gas emissions at 2019 levels, in accordance with the LCDS.<sup>41</sup>
- 1.49 The adaptation and mitigation interventions total US\$37.8 million, representing 37.85% of the total program financing. The resources of the operation are invested in climate change adaptation activities, according to the joint methodology of the [Multilateral Development Banks](#) of estimation of climate financing. These resources contribute to the goal of IDB climate financing, 30% of the volume of approvals annually.
- 1.50 **Digital transformation.** As part of the Digital Transformation Strategy and in line with the IDB's Vision 2025: [Decade of Opportunities](#), the program will support initiatives to strengthen the development and application of digital technologies, including the application of Ground Penetrating Radar (GPR) for the detection and mapping of underground utility networks. The project will incorporate GPR technology to allow for georeferenced mapping of the underground networks traditionally for pipeline relocation. Traditionally, the water utility relies on either using contractors or in-house resources for the mapping via excavator equipment which is time-consuming and from time-to-time results in damages to the water infrastructure as the exact location and depth is unknown (¶1.39).
- 1.51 A Building Information Modelling (BIM) system will also be implemented to improve and modernize construction and management of road construction, making it more

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<sup>41</sup> Although Guyana does not have any specific emissions reduction targets, as a non-Annex I party to the Convention, Guyana has a responsibility under Decision 17.CP.8 (Guidelines for the Preparation of National Communications from Parties not included in Annex I to the Convention) to 'provide information on programs containing measures to mitigate climate change by addressing anthropogenic emissions by sources and removals by sinks of all greenhouse gases not controlled by the Montreal Protocol' (paragraph 26). Guyana Second Communication to the United Nations Framework Convention on Climate Change.

efficient and transparent as several stakeholders will have access to information through a digital platform and to mitigate the risks of cost overruns on projects. BIM Execution Plan will be utilized along all stages such as Project Development, Project Planning, Conceptual Design, and Detailed Design. The Supervision Consultant will oversee the development of the model and establish the Information Exchange Process to follow by identifying roles and responsibilities of stakeholders, security, collaboration processes, and strategies for delivery.

- 1.52 **Resolv** is an Artificial Intelligence (AI) powered, incident management system for incident redress monitoring, management, reporting, and communication during project execution. It was developed by a local start-up and deployed in the country under the Sheriff Mandela Road Enhancement Project.<sup>42</sup> This AI-powered platform offers 24/7 interactive access to a project virtual assistant and uses popular channels such as WhatsApp Messenger, Facebook Messenger or SMS to submit incident reports with photo or video evidence. The system will be used to support community engagement, public outreach, and grievances during the design and construction phase.
- 1.53 **Donor coordination.** The expansion of the country's economy (§1.1) and the desire to increase transport infrastructure coverage (§1.3 and §1.10) has increased the number of active donors financing projects. In recent times, bilateral funding from the People's Republic of China and the Republic of India has been approved as well as multilateral funding from the CDB and IsDB (§1.10). An active collaboration to ensure adequate coordination is currently in place in the form of a Donor collaboration agenda with meetings scheduled every quarter with IDB and other multilateral banks.
- 1.54 **Transparency and integrity in infrastructure.** Despite the strong safeguards embedded in IDB-financed programs, international literature highlights the existence of heightened integrity risks for the public works sector given the complexity of the financed activities and elevated budgets managed by institutions with heterogenous capabilities. Guyana's National Procurement and Tender Administration Board (NPTAB) functions within the Ministry of Finance and was established to facilitate the implementation of a regulatory environment conducive to transparency, economy, efficiency, openness, fairness, and accountability in public sector procurement. NPTAB consolidates the processes of Bid Openings, nomination of Evaluation Committees, review of Evaluation Reports, and issuing approvals. NPTAB also approves amendment to contracts. The centralized function of government allows for procurement manuals, public information on works execution, as well as standard procurement site for all government procurement activities and internal control for the monitoring of financial processes. The EA will manage the program following the best practices and the lessons learned from Bank-financed projects on transparency and integrity, which will also be incorporated in the Program Operational Manual (§3.2).
- 1.55 Additionally, the project will incorporate support to strengthen the capacity of the EA to conduct due diligence of bidders and potential conflicts-of-interest. The tender documents for the works will include the request for bidders to disclose sub-contractors for due diligence. Additionally, forms of ultimate beneficiaries will

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<sup>42</sup> Ibid footnote 17.

be included in the pre-qualification documents as well as disclosure for pending litigation.

**B. Objective, components, and cost**

- 1.56 **Program objective.** The general objective is to advance Guyana's safe, efficient, and climate-resilient road and associated infrastructure. The program specific objectives are to improve (i) road service quality; and (ii) utility service, along the East Bank Demerara corridor through road and corresponding utility infrastructure improvements.
- 1.57 **Component 1. Direct cost for infrastructure interventions (US\$93.13 million IDB financing and US\$15.63 million counterpart).** Resources allocated to this Component will finance: (i) implementation of a 25.5 km two-lane road from Golden Grove to Timehri with widening of shoulders, adding a bicycle lane where possible and following climate-resilient design and best practices; (ii) covering of parallel drains to form a pedestrian walkway in urbanized areas; (iii) landscaping, curb improvements, streetlighting, and measures to ensure universal accessibility; (iv) reconstruction of the entire lateral drainage system along the road; (v) retrofitting of approximately six (6) bridges and installation of 58 perpendicular culverts and an outfall sluice; (vi) replacement of the water distribution network along the 25.5 km route as well as the relocation of electricity and telecommunication networks; (vii) other complementary works, including detour roads and required interventions of the traffic management and communication plan to provide safe and alternative routes to motorists during construction; (viii) construction of climate-resilient solutions and enhancements; (ix) construction of passing bays, parking, and stopping lanes, sidewalks and other safety-related works; (x) construction of 40 crosswalks along the road and the renovation or construction of 93 well-lit bus stops along with safe stopping areas for passenger boarding and alighting to enhance safety for users; (xi) road maintenance along the corridor; and (xii) technical and socio-environmental supervision, and the Livelihood and Restoration Plan (LRP) of the project.
- 1.58 **Component 2. Strengthening planning and investment (US\$1.82 million IDB financing and US\$1.37 million counterpart).** Resources allocated to this Component will finance the development of a new Digitized Transport Infrastructure Master Plan and training that will define, quantify, and structure climate-resilient investments in the sector over a 15-year horizon. This Master Plan will also define investments in infrastructure capacity, and in traffic management and urban mobility systems. It also foresees the financing of two pre-investment studies of priority transport infrastructure projects for the country.
- 1.59 This Component will also coordinate institutional strengthening activities at WSG by financing the certification in ISO 9001, staff needs assessment, implementation of e-Procurement pilot for WSG, analysis of a dedicated Environment and Social Unit, Risk management training, and Earned Value Merit and Project evaluation. It also includes software licenses and docking stations.
- 1.60 This Component will invest in internships and apprenticeships mainstreaming to support female participation in non-traditional transport sector jobs, by enabling recent female graduates to join MPW (§1.24, §1.45).

- 1.61 **Component 3. Promoting road safety management (US\$1.05 million).** Resources allocated to this Component will finance non-fixed equipment and fixed cameras for speed-limit enforcement. In addition, it will finance road safety awareness and education campaigns and the operation of the incident management system. It will also finance the acquisition of a scale for axle weight in motion and dimension control.
- 1.62 **Project management, monitoring and evaluation, and audits (US\$1.00 million).** This will finance: (i) the program's administration, including the hiring of professionals required to strengthen the EA team in social and technical management; and (ii) monitoring and evaluation.
- 1.63 **Contingencies (US\$3.00 million).** The budget also foresees contingencies to absorb possible price fluctuations that may negatively affect the objectives and scope of the program.

**C. Key results indicators**

- 1.64 **Expected outcomes.** The indicators related to the specific development objectives are to improve the quality of service of the infrastructure on the targeted East Bank Demerara Road corridor measured by: (i) reducing the transportation costs and travel time; (ii) by reducing water losses from leaky underground networks; and (iii) by increasing the coverage of adequate streetlighting.
- 1.65 The indicators related to the general objective are as follows: (i) the improvement of quality of road infrastructure measured by the International Roughness Index (IRI); (ii) the increase in road safety by the reduction of car crashes; (iii) the improvement in accessibility to areas of influence of the road, measured by the increased non-motorized passengers and pedestrians using safe footpaths; and (iv) the increased resilience measured by the adoption of climate-resilient road design standards. These outcomes and impacts are detailed in Annex II.
- 1.66 The proposed indicators and means of verification maximize the use of the information that MPW, WSG, and GWI will collect directly or indirectly during project execution. Most of the proposed indicators already have baseline data for the year 2022. This baseline is the reference level for the evaluation of the program. All the output indicators will be measured directly; the outcome indicators will be either measured directly or indirectly by the Police in the case of road accidents. These measures and estimates will be compared with the expected outputs and outcomes presented in the Annex II.
- 1.67 An economic feasibility analysis was performed ([OEL#7](#)) for the three project components. For the Component 1, the flow of costs and benefits from the model developed by ICM ([OEL#5](#)) were updated to incorporate the changes that occurred in key parameters between 2015-2022. This assessment is based on a comparison of costs and benefits, at economic prices, in situations with and without the project. The benefits were estimated using the consumer surplus methodology, frequently used in road projects of this type through the Highway Development and Management System (HDM-4) model, which calculates the return on the project considering: (i) investment costs; (ii) vehicle operation costs, including time; and (iii) annual maintenance costs, defined for the situations with and without the

project. For the water losses reduction, the benefits include the monetary value of the avoided water losses due to the intervention, calculated with the help of the WB-Easy Calc water balance software. For Component 2 Strengthening, Planning, and investment, the benefits are computed as the anticipation of four-years of the benefits of a portfolio of maintenance and rehabilitation in the secondary and tertiary network. Finally, for Component 3 Promoting road safety management and efficiency, the benefits are computed as the monetary value of avoided fatalities due to a reduction of accidents in the road for four-years, quantified with the Income-Adjusted Estimates of the Value of a Statistical Life for Guyana.

- 1.68 The findings of the economic analysis show an Economic Internal Rate of Return (EIRR) greater than the discount rate used (12%). The sensitivity analysis shows that these results are robust in response to unfavorable scenarios, including a 20% increase in investment and operational costs, a 10% reduction in benefits, and a combined increase in cost and reduction of benefits. The entire program (three components) exhibits an EIRR of 16.5% and the Economic Net Present Value (ENPV) is US\$25.7 million, and a B/C ratio of 1.33 in the basic scenario.

Table 2. EIRR and ENPV for the project

	Basic Scenario	Capital + 20% (S1)	Benefit - 10% (S2)	S1 + S2
EIRR (%)	16.5	13.6	14.8	12.0
ENPV (US\$)	25.7	10.1	15.3	-0.2
B/C	1.33	1.11	1.20	1.00

Source: IDB-2022

- 1.69 **Beneficiaries.** The direct beneficiaries of this operation are the 175,262 daily vehicles and passengers travelling on the EBD road from Grove to Timehri, including motorists and travelers to and from Guyana's international airport.<sup>43</sup> Within the project area, some 7,235 customers of GWI are located including residential and non-residential accounts that will be the primary beneficiaries of the replacement of the water networks with reduced water breakages and enhanced water service. The indirect beneficiaries will be the 34,248 inhabitants of the communities living in Region 4 Demerara.<sup>44</sup> Additionally, commercial traders and other transport-intensive activities such as timber, mining, oil and gas, and agricultural products that utilize the road to access destinations and markets will benefit from improved road conditions.

<sup>43</sup> Recent traffic counts tally 1,500 vehicles per hour during peak hours.

<sup>44</sup> Villages in the area of influence of the project that will benefit from the interventions are Diamond, Golden Grove, Good Success, Craig, New Hope, Friendship, Garden of Eden, Brickery, Supply, Support, Relief, Land at Canaan, Sarah Johanna, Pearl, Caledonia, Te Huis te Coverden, Den Heuvel, Soesdyke - Linden Highway Junction, Soesdyke, Madewini River Bridge, and Timehri.



## II. FINANCING STRUCTURE AND MAIN RISKS

### A. Financing instruments

- 2.1 **Modality and cost.** This Specific Investment Operation<sup>45</sup> will be financed through an IDB loan of US\$100 million from the Bank's Ordinary Capital (OC), and the remaining US\$17million from local counterpart. A detail program budget can be accessed on ([OEL#8](#)).

**Table 3. Estimated program costs (US\$ millions)<sup>46</sup>**

Components	IDB	Local	Total	%
1. Direct cost for infrastructure interventions	93.13	15.63	108.76	92.70
1.1 Construction of Two-Lane Road EBD Grove to Timehri including lateral drainage works, bridges and culverts, utility relocation, and climate resilient improvement works	86.70	15.63	102.33	87.50
1.2 Financing of Technical Supervision and Consultancy	6.15	0.00	6.15	5.30
1.3 Livelihood Restoration Plan	0.28	0.00	0.28	0.20
2. Strengthening, Planning, and Investment	1.82	1.37	3.19	2.70
3. Promoting road safety management	1.05	0.00	1.05	0.90
Project Management, M&E, and Audits	1.00	0.00	1.00	0.80
Contingencies	3.00	0.00	3.00	2.60
<b>Total</b>	<b>100.00</b>	<b>17.00</b>	<b>117.00</b>	<b>100</b>

Source: IDB-2022

- 2.2 The expected disbursement period is five years.

**Table 4. Estimated program costs by year**

	Year 1	Year 2	Year 3	Year 4	Year 5	Total
IDB Loan (US\$ million)	15.60	24.90	24.79	24.50	10.21	100.00
Local (US\$ million)	2.65	4.22	4.21	4.16	1.77	17.00
<b>TOTAL (US\$ million)</b>	<b>18.25</b>	<b>29.12</b>	<b>29.00</b>	<b>28.66</b>	<b>11.98</b>	<b>117.00</b>
% IDB	15.60	24.90	24.79	24.50	10.21	100.00
% Local	15.57	24.81	24.75	24.46	10.41	100.00

Source: IDB-2022

### B. Environmental and social risks

- 2.3 According to the Bank's Environmental and Social Policy Framework (ESPF), the project is classified as category "B", based on the potential negative environmental and social impacts associated with rehabilitation and upgrading of the roadway. These impacts are expected to be localized, temporary and moderate, as the works will be done within the existing Right of Way (RoW). During construction, the main impacts are related to temporary economic displacement of businesses and informal vendors located within the existing RoW (an estimate of 135, to be

<sup>45</sup> A project is considered a specific investment if it cannot be divided up without affecting the nature of the project or the rationale for each of its independent components. The project's preliminary design, cost, and technical, social and environmental, and economic feasibility have been estimated.

<sup>46</sup> The costs by subcomponent and principal activity are indicative.



confirmed by census), dust, noise, traffic due to heavy machinery, nuisances to the community for temporary road closures, temporary impediments to access residences and businesses. The Environmental and Social Risk Rating is Substantial, due primarily to risk of direct impacts from roadwork activities likely to generate an increased risk of occupational and traffic incidents, traffic disruption, drainage issues, and enhanced capacity and training needs for the EA. Works will be carried out in an urban developed location. There are no Indigenous Peoples nor critical/natural habitats or anticipated impacts to ecosystem services within the project area.

- 2.4 The Disaster and Climate Change Risk Classification is high as the area is prone to flooding and the criticality and vulnerability estimated for the operation's interventions are high due to the potential negative impacts of service failure given the roadway's importance as a corridor to the main international airport ([OEL#9](#)).
- 2.5 An Environmental and Social Management System (ESMS) ([OEL#10](#)) has been prepared that will mitigate the identified impacts and risks, that includes an Environmental and Social Assessment (ESA) and Environmental and Social Management Plans (ESMP) ([OEL#11](#)), and the LRP ([OEL#12](#)), for all the works financed by the project. Public consultations were carried out on the ESA/ESMP on August 23rd, 24th, and 25th, 2022 with 26, 36, and 56 people in attendance, respectively. The main comments and questions were related to traffic management during construction; questions over bypass roads and access; expected heavy traffic volumes; whether compensation will be made to vendors; impacts on utilities; and drainage systems designs. These concerns will be addressed both during the final design of the works and during project execution through implementation of the Traffic Management Plan, Disaster Risk Management Plan, and LRP. Specific consultation on the LRP is pending and has been included in the Environmental and Social Action Plan (ESAP) for the operation pending final road design. The final versions of the ESMS and ESA/ESMP have been disclosed on the Bank's website, including the consultation report and LRP.

### **C. Fiduciary risk**

- 2.6 The WSG has previous experience executing Bank financed project under IDB's Procurement and Financial Management policies and procedures. However, bottlenecks are usually experienced at the procurement planning and management stages including preparation of bidding documents; issuance of invitations for bids/proposals, reception of tenders, oversight of the bid clarifications stage and evaluation of tenders and contract award. These fiduciary risks ([OEL#13](#)) are considered medium-high and will be mitigated through: (i) continuous technical supervision and tailored trainings as required for financial management and procurement staff responsible for fiduciary activities under the operation; (ii) the design of a Program Operational Manual to provide adequate guidance and mitigation measures for all fiduciary duties in accordance with the Bank's rules and procedures (¶3.2); and (iii) strengthening procurement management and procedures best practices through the incorporation of lessons learnt from delays/bottlenecks encountered in previous procurement processes and conditions prior (¶3.3).

**D. Other risks and key issues**

- 2.7 Medium-high risks were identified regarding the program's execution environment in relation to: (i) significant price escalation as a result of the current construction boom that may affect the ability to conclude construction within the available budget; and (ii) coordination among government bodies that could prove challenging for utility replacement and relocation. The following mitigation measures were identified: the provision of a contingency item in the operation's budget as well as the decision for a lump sum for the works contract. Additionally, the Conditions prior and Special conditions include a utilities replacement coordinator as well as a decision-making mechanism in place (§3.3 and §3.4).
- 2.8 Medium-high risks were identified regarding the program's environmental and safety safeguards in relation to: (i) Environmental and Social Management could present execution challenges given the length of the project area (25.5 km) and simultaneous work sites; and (ii) underlying flood risk could materialize given how prone to riverine, coastal, and ponding floods the country. The following mitigation measures were identified: the ESMS (§2.5) includes the actions and activities necessary to effectively mitigate the risks. Additionally, the Special conditions require the hiring of a social and gender specialist (§3.4). The traffic management plan for the site has been considered as a separate item in the contractor's budget. In addition, a rigorous hydrological analysis has been carried out (§1.23) which has identified rainfall and precipitation scenarios with different return periods. A hydrodynamic analysis of the area of influence of the works will be prepared to model runoff water, the channels, and the drainage system (§1.39).
- 2.9 Medium-high risks were identified regarding the executing agency's organization structure in relation to: (i) the operational demand introduced by the program, which could exceed the capacity of the WSG in terms of technical, administrative, and financial management; (ii) sluggish decision-making causes delay in implementation on project management and execution; and (iii) complex contract management, given the contracting modality chosen,<sup>47</sup> which introduces coordination difficulties for contract administration, and simultaneous work fronts. The following mitigation measures were identified and are included as part of the conditions prior including the recruitment of a contract management specialist, an accountant and an attorney to strengthen the program's implementation team. In addition, an agile decision-making and monitoring mechanism is foreseen (§3.3 and §3.4).
- 2.10 **Sustainability of the investments.** The works financed by the program will be included in the WSG's annual maintenance plan; the works contract will include a three-year maintenance together with the defects liability period after effective issuance of the completion of works. The Borrower, through the WSG, will submit to the Bank, during the original disbursement period or any extension thereof, and within the first quarter of each calendar year, a report on the status of the works and equipment included in the program and the annual maintenance plan.

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<sup>47</sup> The EA has chosen the contracting modality of Design and Build for the project.

### III. IMPLEMENTATION AND MANAGEMENT PLAN

#### A. Summary of implementation arrangements

- 3.1 **Borrower and Executing Agency.** The Borrower will be the Co-operative Republic of Guyana, and the EA will be the MPW, which will implement the program through its Project Execution Unit, the WSG. The WSG is funded by MPW administrative resources and is responsible for the planning and execution of all transport related works projects on behalf of the Ministry. For this program, WSG will be responsible for the fulfillment of technical, administrative, environmental, social and financial management related to execution, as well as the planning, monitoring, supervision, and evaluation functions. For the WSG to adequately perform its function, it will have to ensure that the key personnel identified in (¶3.4) are in place and covered by its administrative budget.
- 3.2 **Program Operational Manual (POM).** The responsibilities of the EA in the execution of the program will be detailed in the POM ([OEL#14](#)) and will include the following: (i) to carry out the procurement processes in accordance with the Bank's policies and procedures; (ii) to prepare and obtain Bank approval for all bidding documents required to hire the civil works contractor and consulting firms; (iii) to carry out the financial management of the program resources, including the performance of internal control and registration of all administrative and accounting procedures needed for the program execution; (iv) to monitor the civil works and construction contract through engineering consulting firms specifically hired to that effect; (v) to carry out the environmental and social management of the program; (vi) to maintain adequate accounting and financial controls as well as appropriate support documentation filing systems for verification by the Bank and the external auditing firm or the Audit Office of Guyana (¶3.9); (vii) to prepare and submit to the Bank disbursement requests and corresponding justification of expenses; (viii) to prepare and submit to the Bank reports on the physical, financial, social and environmental progress of the program's execution, as well as updates of the Annual Operational Plan (AOP), audited financial reports, and other financial reports as required by the Bank; (ix) to record and control the results of the program through the agreed indicators; and (x) to address and resolve contractor claims and related contract adjustments. In accordance with Bank requirements, the EA will maintain separate files for the operations of the program and allow for financial and accounting monitoring of the Bank and local counterpart resources.
- 3.3 **Special Contractual Clauses prior to the first disbursement.** The Borrower, directly or through the Executing Agency, shall have presented evidence to the Bank that an attorney from the Ministry of Legal Affairs and the Attorney General's Chambers has been designated as a member of the PEU'S team. In addition, see special conditions prior to first disbursement included in Annex B of the ESRS ([REL#3](#)) and conditions included in Annex III, Section II. This condition is necessary as it will provide the EA with the adequate tools for program implementation. It will also mitigate the risks identified by providing sufficient fiduciary and technical capacity to implement the program.
- 3.4 As special contractual conditions of execution for Component 1. The Borrower, directly or through the EA, prior to the signing of any works contract shall have presented evidence to the Bank that: (i) a supervision consultant firm, which shall

include among others, a Utilities Replacement Coordinator and, a Social and Gender Specialist, has been contracted, in accordance with the Terms of Reference previously agreed with the Bank; and (ii) the Ministry of Public Works has approved a structured mechanism for decision-making on project issues in accordance with the terms previously agreed with the Bank. These conditions will grant the EA the tools needed during construction to mitigate the risks of stakeholders' coordination, project management, and community engagement. Given the increased resources that will be allocated to the EA and the expected increase in demand, this special condition will allow the program to have an effective and efficient decision-support mechanism in place, allowing for faster response times and effective decision-making on program related issues.

- 3.5 **Procurement of works, goods, and services.** Procurement and contracting will be undertaken pursuant to the Policies for the Procurement of Goods and Works financed by the IDB (GN-2349-15) and the Policies for the Selection and Contracting of Consultants financed by the IDB (GN-2350-15). Consideration will be given to the principles and criteria set forth in the Financial Management Guidelines for IDB-financed Projects (OP-273-12) and relevant national legislation and the provisions of the loan contract and the procurement plan ([REL#4](#)).
- 3.6 Procurement will be subject to ex ante or ex post supervision, as established in the procurement plan. Ex-post review visits will take place every 12 months, and their reports will include at least one physical inspection visit selected from among the processes reviewed.
- 3.7 In the procurement processes, the Borrower, directly or through the EA, shall ensure that all bidding documents and contracts include provisions that require applicants, bidders, contractors, consultants, representatives, staff members, subconsultants, subcontractors, goods suppliers and their representatives, contractors, consultants, staff members, subcontractors, subconsultants, service providers, concessionaires, and supervising entities, among other aspects, to comply with the environmental and social requirements of the program, including procedures to prevent child labor and forced labor. Direct contracting specific criteria will be defined on a case-by-case basis, considering market conditions and industry standards.
- 3.8 **Disbursements.** The loan will be disbursed primarily by advances of funds. Their frequency will be determined by the project's financial programming, pursuant to the Guidelines set forth in IDB document OP-273-12, described in Annex III. The Bank may provide a new advance of funds once at least 80% of all funds disbursed as advances have been justified.
- 3.9 **Financial statement audits.** During the implementation of the program, the WSG will present to the Bank, annually, financial statements of the program. External audits for the program will be performed by the Audit Office of Guyana (AOG) or an independent firm eligible to audit Bank-financed operations, according to the guidelines set forth in Documents OP-273-1, OP-274-1, and the Guidelines for Financial Reports and External Audits for Bank-financed Operations. The AOG will submit audited financial reports to the Bank within 120 days following the closing date of each fiscal year of the program, and the expiration date of the original disbursement period or any extensions thereof.

**B. Summary of arrangements for monitoring results**

- 3.10 **Monitoring.** Monitoring will be performed using semiannual progress reports, which will be submitted by the WSG within 60 days following the end of each six-month period ([REL#2](#)). The reports will be based on the reporting commitments included in the results matrix for each intervention, as well as compliance with the eligibility criteria and the social and environmental compliance report as set out in the loan contract.
- 3.11 **Midterm evaluation.** The midterm evaluation will be submitted to the Bank within 90 days following the date on which 50% of the loan proceeds have been disbursed. This evaluation will be prepared by the WSG ([REL#2](#)).
- 3.12 **Final evaluation.** The final evaluation is to be conducted by an independent evaluator and will be submitted to the Bank within 90 days following the date of the last disbursement of project resources ([REL#2](#)).
- 3.13 **Information for program monitoring and evaluation.** The WSG will be responsible for maintaining data collection and monitoring systems. The WSG will agree to maintain a system for monitoring and evaluation of all components, which it will use to prepare the reports and data delivered to the Bank.

Development Effectiveness Matrix		
Summary		GY-L1081
I. Corporate and Country Priorities		
Section 1. IDB Group Strategic Priorities and CRF Indicators		
Development Challenges & Cross-cutting Issues	-Social Inclusion and Equality -Productivity and Innovation -Economic Integration -Gender Equality and Diversity -Climate Change -Institutional Capacity and the Rule of Law	
CRF Level 2 Indicators: IDB Group Contributions to Development Results	-Households with improved access to water and sanitation (#) -Jobs supported (#) -Roads built or upgraded (km) -Amount of international trade supported (\$) -Regional integration agreements and cooperation initiatives supported (#) -Women beneficiaries of economic empowerment initiatives (#) -Beneficiaries of enhanced disaster and climate change resilience (#) -Value of investments in resilient and/or low-carbon infrastructure (\$)	
2. Country Development Objectives		
Country Strategy Results Matrix	GN-2905	Build climate-resilient infrastructure (including renewable energy investments); improve the overall quality of life; and address poverty
Country Program Results Matrix	GN-3087	The intervention is included in the 2022 Operational Program.
Relevance of this project to country development challenges (If not aligned to country strategy or country program)		
II. Development Outcomes - Evaluability		Evaluable
3. Evidence-based Assessment & Solution		8.2
3.1 Program Diagnosis		1.4
3.2 Proposed Interventions or Solutions		3.2
3.3 Results Matrix Quality		3.7
4. Ex ante Economic Analysis		7.5
4.1 Program has an ERR/NPV, or key outcomes identified for CEA		1.5
4.2 Identified and Quantified Benefits and Costs		3.0
4.3 Reasonable Assumptions		0.0
4.4 Sensitivity Analysis		2.0
4.5 Consistency with results matrix		1.0
5. Monitoring and Evaluation		9.5
5.1 Monitoring Mechanisms		4.0
5.2 Evaluation Plan		5.5
III. Risks & Mitigation Monitoring Matrix		
Overall risks rate = magnitude of risks*likelihood		Medium Low
Environmental & social risk classification		B
IV. IDB's Role - Additionality		
The project relies on the use of country systems		
Fiduciary (VPC/FMP Criteria)	Yes	Financial Management: Budget, Treasury, Accounting and Reporting, External Control, Internal Audit.  Procurement: Information System, Price Comparison, Contracting Individual Consultant.
Non-Fiduciary	Yes	Strategic Planning National System, Monitoring and Evaluation National System.
The IDB's involvement promotes additional improvements of the intended beneficiaries and/or public sector entity in the following dimensions:		
Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project		
	Yes	A technical cooperation has been approved and is currently under execution to support project preparation GY-T1184

**Evaluability Assessment Note:** The proposal presents an operation for a total of US\$117,000,000 to be financed through an investment program loan in the amount of US\$100,000,000. The specific objectives of this operation will be to improve: (i) road service quality; and (ii) utility service, along the East Bank Demerara corridor through road and corresponding utility infrastructure improvements. Achieving these objectives will contribute to the General objective of advancing Guyana's safe, efficient, and climate-resilient road and associated infrastructure.

The proposal presents an adequate diagnosis of the problem. Specifically, the main problem identified is the limited land connections with coastal and inland communities through CC-resistant road infrastructure, which affects access to/from the various production centers and raises transport costs, and increased water losses in networks that have exceeded their life span. The proposed solutions are appropriate to respond to the identified problem and its contributing factors and are related to the General Objective. The Results Matrix is congruent with the vertical logic of the project and includes appropriate indicators at the outcome level associated with the Specific Objectives and the General Objective. The result indicators are correctly defined to measure the achievements attained by the program and the fulfillment of its specific objective. At the same time, the strategic alignment with the cross-cutting themes is reflected through output indicators.

The proposal presents a cost-benefit analysis for the main interventions that make up the program. The IRR for the program interventions is estimated at 19.2%. Given that the benchmark rate is 12%, the aggregate analysis suggests that the project is socioeconomically viable. The methodology for monetizing the benefits consists of valuing the reduction in travel costs based on an updated model based on the HDM4 methodology.

The project includes a monitoring and evaluation plan that is in line with Bank standards. The effectiveness of the proposed intervention will be measured following two approaches: an ex-post cost-benefit analysis approach and a before-after comparison to verify the achievement of targets. These analyses are planned to use the information from the external verification of results.

## Results Matrix

<b>Program objective</b>	The general objective is to advance Guyana's safe, efficient, and climate-resilient road and associated infrastructure. The program specific objectives are to improve: (i) road service quality; and (ii) utility service, along the East Bank Demerara corridor through road and corresponding utility infrastructure improvements.
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### General Development Objective

Indicators	Unit of measurement	Baseline value	Baseline year	Expected year for achievement	Target	Means of verification	Comments
Advance Guyana's safe, efficient, and climate-resilient road and associated infrastructure.							
Density index (ID) of paved roads in Guyana.	Kilometers	18.5	2022	2026	24	MPW report	Base 100 is considered if the entire length of the road network (km paved + km improved + km of dirt = XX) per 1,000 km <sup>2</sup> of surface area.
Serious accidents	Serious accidents intervention project index <sup>48</sup>	14.19	2021 <sup>49</sup>	2026	10.64	MPW report	The baseline value was obtained by using serious accidents (362) divided by (25.5) the total number of km road project. See details in the Monitoring and Evaluation Plan. The target is a 25% reduction. The target includes the road investments planned by the Government.
Adoption of climate-resilient road design standards	The number of days flooding prevents vehicles from safely traversing the length of the road in one continuous journey	80	2022	2026	40	MPW report	Including the adoption of safe design standards

<sup>48</sup> [Statement on the Current Road Safety Situation in Guyana.](#)

<sup>49</sup> Baseline for 2022 will be collected with the Road Safety Diagnosis and Action Plan currently under procurement with [2741/BL-GY-3](#).

### Specific Development Objectives

Indicators	Unit of measurement	Baseline year	Baseline value	Year 1	Year 2	Year 3	Year 4	Year 5	End of Project	Means of verification	Comments
Specific Development Objective 1: Improve road service quality along the East Bank Demerara corridor through road and corresponding utility infrastructure improvements											
Vehicle Operational Cost along the proposed intervention	US\$/km	2022	100					80	80	HDM-4	This indicator includes Vehicle Operational Cost (VOC) + Cost of Time per Vehicle (CTV) of the total trip, an average of the fleet type of vehicles per vehicle and per km.
Average travel time <sup>50</sup>	Minutes	2022	60				50		45	MPW report	
Pedestrians and non-motorized users travelling on safe paths <sup>51</sup>	Users	2022	-								Base line collected by the executive design of the work.
IRI	Index	2022	-								Baseline collected by the executive design of the road works.
Specific Development Objective 2: Improve utility service along the East Bank Demerara corridor through road and corresponding utility infrastructure improvements											
NRW Component of Real water losses	l/conn/day	2021	1449						725	Water loss report from GWI	These are preliminary figures. This will be measured only for the new network that will be installed under the project. The values will be confirmed after a BABE (Burst & Background Estimates)

<sup>50</sup> Average travel time for a passenger vehicle from Golden Grove to Timehri.

<sup>51</sup> Sidewalks will be constructed on urbanized areas together with shared paths and bike lanes. A safer bike lane is defined as a portion of the roadway that has been designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists. Bike lanes enable bicyclists to ride at their preferred speed without interference from prevailing traffic conditions. A safe footpath is referred as a paved walk for pedestrians at the side of the road unencumbered from parked vehicles and with an even surface to walk.



											component analysis is completed during execution.
Breakage rate	No. Breaks/year	2021	114						20	Water loss report from GWI	Breakage will be considered only for the new network and will consist of total pipeline ruptures.
Adequate streetlighting <sup>52</sup> along the proposed intervention	% of roadway area with luminance	2022	-						100%	MPW report	Baseline collected by the executive design of the road works.

### Outputs

Indicators	Unit of measurement	Baseline value	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	End of Project	Means of verification	Comments
Component 1: Direct cost for infrastructure interventions											
Implementation of a two-lane road from Golden Grove to Timehri	Kilometers	2022	0				10	25.5	15.5	MPW report	
Complementary works (bridges)	Bridges	2022	0					6	6	MPW report	
Complementary works (perpendicular culverts)	Culverts	2022	0					58	58	MPW report	
Complementary works (outfall)	Outfall	2022	0					1	1	MPW report	
Bike lane	Kilometers	2022	0					25.5	25.5 <sup>4</sup>	MPW report	

<sup>52</sup> Adequate streetlight has the primary purpose of nighttime visibility for security and safety. It ensures the safety of pedestrians by providing proper and uniform light coverage and contributes to reduce crime and discourage sexual harassment behavior. Adequate streetlight includes horizontal and vertical illuminance levels to provide safety benefits to all users of the roadway. Roadway lighting is a proven safety countermeasure as it provides visibility of objects beyond the range of headlights and reduce road crashes.

Reconstruction of the entire lateral drainage system along the road	Kilometers	2022	0					25.5	25.5 <sup>4</sup>	MPW report	
Replacement of the water distribution network	Kilometers	2022	0					25.5	25.5 <sup>53</sup>	MPW report	
Replacement of inoperable streetlamps	Lamps	2022	253					253	253	MPW report	
Relocation of electricity and telecom networks	Kilometers	2022	0					25.5	25.5 <sup>4</sup>	MPW report	
Pedestrian walkways in urbanized areas	Kilometers	2022	0					15	15 <sup>4</sup>	MPW report	
Traffic management plan to provide safe and alternative routes to motorists during construction	Plan	2022	0		1				1	MPW report	
Component 2: Strengthening, Planning, and investment											
WSG certification in ISO 9001	Number	2022	0					1	1	WSG report on ISO advancement	
Implementation of E- Procurement pilot for WSG	e-Procurement	2022	0				1		1	e-Procurement pilot conducted. WSG report	
Women graduated of STEM and technical careers that finished the paid internship	Number	2022	0	16	16	16	16	16	80	Internship contracts	

<sup>53</sup> Both sides of the road.

program at the Ministry											
National Transport Infrastructure Master plan	Plan	2022	0					1	1	New Transport Infrastructure Master Plan	
Software licenses, communication equipment, and docking stations and laptops	Number	2022	0	1					1	MPW report	
Component 3: Promoting road safety management											
Non-fixed equipment and fixed cameras for speed enforcement system	System	2022	0		1				1	MPW report	
Awareness campaigns for behavioral change	Campaign	2022	0		1	1		1	3	MPW report	
Scale for axle weight in motion and dimension control system	System	2022	0					1	1	MPW report	

## Fiduciary Agreements and Requirements

Country: Guyana

Division: TSP

Operation No.: GY-L1081 Year: 07/26/2022

Executing Agency (EA): Ministry of Public Works (MPW)

Operation Name: Program to Support Climate Resilient Road Infrastructure Development

### I. Fiduciary Context of Executing Agency

1. Use of country system in the operation (Any system or subsystem that is subsequently approved may be applicable to the operation, in accordance with the terms of the Bank's validation).

<input checked="" type="checkbox"/> Budget	<input type="checkbox"/> Reports	<input type="checkbox"/> Information System	<input type="checkbox"/> National Competitive Bidding (NCB)
<input checked="" type="checkbox"/> Treasury	<input type="checkbox"/> Internal audit	<input type="checkbox"/> Shopping	<input type="checkbox"/> Others
<input type="checkbox"/> Accounting	<input checked="" type="checkbox"/> External Control	<input type="checkbox"/> Individual Consultants	<input type="checkbox"/> Others

### 2. Fiduciary execution mechanism

<input checked="" type="checkbox"/>	Particularities of the fiduciary execution	The Ministry of Public Works (MPW), through the Work Services Group (WSG), will be responsible for the fiduciary execution of the program. The WSG, created by Decree in 2002, is a group of technical staff that manages the Government's Public Sector Investment Programme (PSIP) both for local and foreign-funded public investments.
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### 3. Fiduciary Capacity

Fiduciary Capacity of the EA	<p>The WSG is part of the structure that administers the Government public investment management project cycle. Among its functions, the WSG is a one-stop-shop responsible to address all project needs. Currently, the WSG is operating under a hybrid model where it is executing a Caribbean Development Bank (CDB) project using a specialized team.</p> <p>To mitigate the risks arising from project execution and contract management, the MPW will proceed to the hiring of a supervision firm that will be responsible for the oversight of project construction. However, it is to be noted that the Procurement and Financial Management functions will be retained by WSG. The WSG assigns a dedicated team to each project. A contract manager expert for Design and Build contracts will be appointed to the project and is included as a condition prior.</p> <p>The financial management function allows for facility moving between projects because the different bilateral and multilateral financing institutions do not differ significantly in the processes required for reporting, advance of funds, direct disbursements. The Procurement Officer assigned to the new loan will only be working on the new loan.</p> <p>Following the assessment of the executing agency's fiduciary capacity, the fiduciary risk level is classified as medium-low. Financial management capacity is high. The PEU has extensive experience using the Bank's procurement and financial management policies or procedures, and managing projects financed under IDB financing. Supervision and mitigation actions will be focused on efforts to strengthen the fiduciary capacity.</p>
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#### 4. Fiduciary risks and risk response

Risk Taxonomy	Risk	Risk level	Risk response
Planning	The WSG has previous experience executing IDB financed project under IDB Procurement and Financial Management policies and procedures. However, bottlenecks are usually experienced at the procurement planning and management stages including procurement planning and monitoring; preparation of bidding documents; issuance of invitations for bids/proposals, reception of tenders, oversight of the bid clarifications stage and evaluation of tenders and contracts award.	Medium-High	(i) Providing continuous technical supervision and tailored training as required to financial management and procurement staff responsible for fiduciary activities under the operation; (ii) strengthening procurement management and procedures best practices through the incorporation of lessons learned from delays/bottlenecks encountered in previous procurement processes.

#### 5. Policies and Guides applicable to operation

Policies and Guides applicable to operation: The procurement of goods works and services, and the selection of consultants financed by the Bank will be carried out in accordance with the Policies for the Procurement of Goods and Works financed by the IDB (document GN-2349-15) and the Policies for the Selection and Contracting of Consultants Financed by the IDB (document GN-2350-15), respectively. The Procurement Plan (PP) includes the details on Program Procurement.

The PEU will follow the procurement processes of the program as described in the PP to be approved by the Bank, which will cover the entire duration of the program starting on the date that this program enters into effect. The PP will be updated through the semi-annual progress report, or whenever necessary or as required by the Bank.

As it relates to financial management under the program the Financial Management Guidelines for IDB-financed projects (OP-273-12) will be applicable as well as the Disbursement Handbook 2021.

6. Exceptions to Policies and Rules: not applicable**II. Aspects to be considered in the Special Conditions of the Loan Agreement**

Special Contractual Clauses Prior to first disbursement. The Borrower, directly or through the Executing Agency, shall have presented evidence to the Bank that: (a) a procurement officer, an accountant, and a contract management expert, have been appointed for the Project Executing Unit (PEU), in accordance with the terms of reference previously agreed with the Bank.
Exchange Rate: For purposes of Article 4.10 of the General Conditions, the Parties agree that the applicable exchange rate shall be that indicated in paragraph (b)(i) of said Article. For purposes of determining the equivalency of expenditures incurred in Local Currency chargeable to the Additional Resources or of the reimbursement of expenditures chargeable to the Loan, the agreed exchange rate shall be the exchange rate on the effective date on/in which the Borrower, the Executing Agency, or any other person or legal entity in whom the power to incur expenditures has been vested makes the related payments to the contractor, supplier, or beneficiary.
Type of Audit: Project audited financial statements during project execution period and a final project audited financial statement. Throughout the loan disbursement period, the EA will submit to the Bank annual audited financial statements within 120 days after the close of the fiscal year, April 30th, and the final AFS will be submitted 120 days after the last disbursement date or any extension thereof. The audit will be conducted by the Audit Office of Guyana or a Bank-eligible independent audit firm. The audit's scope and related considerations will be governed by the Financial Management Guidelines (document OP-273-12) and the Guide for Financial Reports and Management of External Audit. Audit costs will be financed with project resources.
[Others]

**III. Agreements and Requirements for Procurement Execution**

<input checked="" type="checkbox"/>	Bidding Documents	For procurement of Works, Goods and Non-Consulting services executed in accordance with the Procurement Policies (document GN-2349-15), subject to ICB, the Bank's Standard Bidding Documents (SBDs) or those agreed between EA and the Bank will be used for the particular procurement. Likewise, the selection and contracting of Consulting Services will be carried out in accordance with the Policies for the Selection and Contracting of Consultants (document GN-2350-15) and the Standard Request for Proposals (SRP) issued by the Bank or agreed between the EA and the Bank will be used for the particular selection. The revision of the technical specifications, as well as the terms of reference of the procurements during the preparation of selection processes, is the responsibility of the sectorial specialist of the project. This technical review can be ex-ante and is independent of the procurement review method.
<input checked="" type="checkbox"/>	Recurrent Expenses	The recurrent expenses required to project implementation, will follow the Project Operation Manual approved by the Bank. Such procedures will be reviewed and accepted by the Bank, if they do not violate the principles of value for money, economy, efficiency, equality, transparency, and integrity and in keeping with the GN-2331-5 Expense Eligibility Policy and updates.

<input checked="" type="checkbox"/>	Procurement supervision	<p>The method of supervision under the loan shall be ex ante. The supervision method must be determined for each selection process and approved in the Project Procurement Plan. All procurement processes will be launched once all technical specifications and/or terms of reference are validated by the Bank's Sector Specialist; and will be documented in accordance with the Bank's general filing guidelines.</p> <p>All modifications to the present arrangement are subject to a prior written agreement between the EA and the Bank. The evaluation of capacity and the level of risk may vary during the project's execution depending on the findings of the regular supervision activities that will be conducted during the project's lifespan. As such, supervision modalities may vary as capacity increases.</p>
<input checked="" type="checkbox"/>	Records and Archives	<p>All records and files will be maintained by the Borrower according to accepted best practices and to the general guidelines provided by the Bank. All records must be kept for seven (7) years beyond the end of the operation's execution period. It is also recommended that the EA develop electronic filing to avoid losing project files.</p>

### Main Acquisitions

Description of the procurement	Selection Method	New Procedures/Tools	Estimated Date	Estimated Amount US\$
<b>Works</b>				
Design and Build: Upgrade of the EBD Public Road (Grove to Timehri Road)	International Competitive Bidding	BAFO (Best and Final Offer)	6/22/2022	103,000,000
<b>Goods</b>				
Procurement of Mobile Equipment and Fixed Cameras for Speed Enforcement.	International Competitive Bidding	N/A		500,000
Acquisition of a mobile scale for axle weight in motion and dimension control including training of personnel and maintenance.	International Competitive Bidding	N/A		500,000
<b>Consulting Firms</b>				
Design Review and Construction Supervision Services for the Upgrade of the East Bank Demerara	Quality and Cost Based Selection	N/A	Nov-2022	6,150,000

Public Road (Grove to Timehri) in Design-Build mode.				
Consultancy for the development of a new Transport Infrastructure Master Plan for Guyana.	Quality and Cost Based Selection	N/A		1,300,000
Consultancy to conduct a Feasibility Study for Priority Infrastructure Project #1.	Quality and Cost Based Selection	N/A		500,000

Access link to the Procurement Plan: [Procurement Plan](#)

Procedures	Justification of Use
BAFO (Bests and Final Offer)	It is anticipated that this procedure will be used in at least one process: The design and build for road works: <b>Upgrade of the EBD Public Road (Grove to Timehri Road)</b> . The BAFO is an option under which the Borrower invites bidders that have submitted substantially responsive bids to submit their best and final offer. Such a process may be appropriate when the procurement process would benefit from bidders' having a final opportunity to improve their bids, including by reducing prices, clarifying or modifying their Bid, or providing additional information. The Borrower shall inform bidders in the bidding document whether: (a) a BAFO is to be used (b) that Bidders are not obliged to submit a BAFO; and (c) that there will be no negotiation after the BAFO.

#### IV. Agreements and Requirements for Financial Management

<input checked="" type="checkbox"/>	Programming and Budget	The budget preparation process begins each year with the budget call whereby the MOF distributes a circular outlining the timeline and required forms to be completed by each ministry, department, and agency. It ends with the tabling of the national Budget Estimates in Parliament by September 30. The Executing Agencies will liaise with the MoF to have a Budget Line established in the National Estimates. The Borrower has committed to allocate, for each fiscal year of project execution, adequate fiscal space to guarantee the unfettered execution of the project as determined by normal operative instruments such as the Annual Operating Plan and the Procurement Plan.
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☒	Treasury and Disbursement Management	<p>The operation will generally work with a financial period of 6 months due to planning cycle for the project. The advance of funds methodology will be utilized under these operations and the operation is expected to justify 80% of accumulated balances pending justification before requesting new advances. Whenever resources from the financing are requested through an Advance of Funds, it will be deposited into a Special Account, denominated in US\$, established exclusively for the project at the Central Bank of Guyana. Required resources from this Special Account will be transferred to another bank account, denominated in Guyanese Dollars to be utilized for payment of expenditures in local currency. Manual processing of Disbursement Requests is currently in effect for Guyana. However, efforts will be made to transition the Country to an e-disbursement platform in the short to medium term. Disbursement Methods: The Executing Agencies may submit disbursement requests, within the disbursement period, under the following modalities: (i) Advances of Funds to finance future eligible expenses supported by the Program's plans based on a Planning Horizon of six (6) months. Justification of the Fund Advance. For the Borrower to request a new Advance of funds, each Executing Agency must have justified to the Bank at least 80% of the total accumulated balances of unjustified advances outstanding; (ii) Reimbursements of expenses to the Borrower for payments made with its own resources for eligible expenses as previously defined. The Borrower's own resources shall exclude expenditure from other Bank-financed operations or of other multilateral financing entity; and (iii) Direct Payments made by the Bank to third parties on behalf of and at the request of the Borrower, for amounts agreed between the Borrower and the Bank. This modality will be restricted to transactions that are substantial in nature. To request disbursements from the Bank, the applicable forms and supporting documents shall be submitted.</p>
☒	Accounting, information systems and reporting	<p>It is expected that IFMIS accounting system will facilitate the recording and classification of all financial transactions, supported by an off-shelf accounting system.</p>
☒	Internal Control and Internal Audit	<p>The management of the project will assume the responsibility for designing and implementing a sound system of internal controls for the project.</p>
☒	External control: external financial audit and project reports	<p>For each fiscal year during project execution, the Execution Agency will be responsible to produce semi-annual financial reports for the project due at 60 days after each semester (February 28th and August 31st), annual Audited Financial Reports of the Program due 120 days after each calendar year (on April 30th) and one final Audited Financial Report at the end of the Program (due within 120 days after the last disbursement date or any extension thereof), audited by the Audit Office of Guyana or a Bank-eligible independent audit firm, under terms of Reference previously approved by the Bank.</p>
☒	Project Financial Supervision	<p>The financial supervision plan of the project, to be informed of the current and future assessed risk of the Project and will focus on: (i) activities related to the implementation and follow-up of arrangements and systems being implemented for the fiduciary management of the project; (ii) follow-up on the implementation status of risk mitigating measures; Review of amounts claimed in Disbursement Requests; (iii) compliance the contractual conditions of the loan contract as well as; (iv) the local regulatory and fiduciary legislative frameworks; (v) review of the bank reconciliation and supporting documentation for Advances and Justifications; (vi) compliance with financial management procedures; (vii) review of compliance with the lending criteria; and (viii) ex post review of disbursements.</p>

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION DE-\_\_\_/22

Guyana. Loan \_\_\_\_/OC-GY to the Co-operative Republic of Guyana  
Program to Support Climate Resilient  
Road Infrastructure Development

The Board of Executive Directors

RESOLVES:

That the acting President of the Bank, or such representative as she shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Co-operative Republic of Guyana, as borrower, for the purpose of granting it a financing aimed at cooperating in the execution of the Program to Support Climate Resilient Road Infrastructure Development. Such financing will be for the amount of up to US\$100,000,000, from the resources of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Project Summary of the Loan Proposal.

(Adopted on \_\_\_\_ 2022)