

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**DOMINICAN REPUBLIC**

**ROAD INFRASTRUCTURE REHABILITATION AND MAINTENANCE PROGRAM IN  
THE DOMINICAN REPUBLIC**

**(DR-L1151)**

**LOAN PROPOSAL**

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1	<a href="#">Multiyear execution plan/annual work plan</a>
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3	<a href="#">Environmental and social management report</a>
4	<a href="#">Procurement plan</a>

OPTIONAL LINKS	
1	<a href="#">Technical annex - Sample project profiles</a>
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ABBREVIATIONS	
CVBRD	Contratos Viales Basados en Resultados y Desempeño [Results- and performance-based road contracts]
EIRR	Economic internal rate of return
ENPV	Economic net present value
ILO	International Labour Organization
MEPyD	Ministry of Economic Affairs, Planning, and Development
MOPC	Ministry of Public Works and Communications
OECD	Organisation for Economic Co-operation and Development
PNLOG	Plan Nacional de Logística de Cargas [National Freight Logistics Plan]
SIUBEN	Sistema Único de Beneficiarios [Consolidated System of Beneficiaries]
SOFR	Secured Overnight Financing Rate
UEPFRE	Unidad Ejecutora de Proyectos Financiados con Recursos Externos [Execution unit for externally financed projects]

**PROJECT SUMMARY**  
**DOMINICAN REPUBLIC**  
**ROAD INFRASTRUCTURE REHABILITATION AND MAINTENANCE PROGRAM IN THE DOMINICAN REPUBLIC**  
**(DR-L1151)**

Financial Terms and Conditions				
Borrower:			Flexible Financing Facility <sup>(a)</sup>	
Dominican Republic			Amortization period:	25 years
Executing agency:			Disbursement period:	5 years
Ministry of Public Works and Communications (MOPC), through the execution unit for externally financed projects (UEPFRE)			Grace period:	6 years <sup>(b)</sup>
Source	Amount (US\$)	%	Interest rate:	SOFR-based
IDB (Ordinary Capital):	140,000,000	100	Credit fee:	<sup>(c)</sup>
			Inspection and supervision fee:	<sup>(c)</sup>
Total:	140,000,000	100	Weighted average life:	15.25 years <sup>(d)</sup>
			Approval currency:	U.S. dollars
Project at a Glance				
<b>Project objective/description:</b> The general objective of the program is to help improve regional connectivity in the country through the delivery of safe, reliable, and accessible transportation services, by ensuring their availability for access to basic services and markets and promoting an inclusive employment model for the program works. The specific objectives are: (i) to reduce vehicle operating costs on the roads targeted by the intervention; (ii) to decrease travel time for users on the targeted roads; and (iii) to make the targeted infrastructure more resilient to the effects of climate change.				
<b>Special contractual conditions precedent to the first disbursement of the loan:</b> (i) The approval of the <a href="#">program Operating Regulations</a> , which include workflows, internal controls, and environmental and social management plans describing the requirements and procedures that apply to program execution, under the terms previously agreed upon with the Bank; and (ii) the appointment of the following staff exclusively dedicated to program execution: (a) a project manager; (b) a technical coordinator; (c) a planning specialist; (d) a procurement specialist; (e) a financial specialist; (f) a geotechnical specialist; (g) an environmental specialist; and (h) a social specialist, with emphasis on gender issues (paragraph 3.3).				
<b>Special contractual conditions for execution:</b> See the environmental and social contractual conditions in Annex B of the environmental and social management report ( <a href="#">required link 3</a> ).				
<b>Exceptions to Bank policies:</b> None.				
Strategic Alignment				
<b>Challenges:</b> <sup>(e)</sup>		SI <input checked="" type="checkbox"/>	PI <input checked="" type="checkbox"/>	EI <input type="checkbox"/>
<b>Crosscutting themes:</b> <sup>(f)</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 terms of the Flexible Financing Facility (document FN-655-1), the borrower has the option of requesting changes to the amortization schedule, as well as currency, interest rate, commodity, and catastrophe protection conversions. The Bank will take operational and risk management considerations into account when reviewing such requests.

<sup>(b)</sup> Under the flexible repayment options of the Flexible Financing Facility, changes to the grace period are permitted provided that they do not entail any extension of the original weighted average life of the loan or the last payment date as documented in the loan contract.

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

<sup>(d)</sup> The original weighted average life may be shorter, depending on the effective date of the loan contract.

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

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

## I. DESCRIPTION AND RESULTS MONITORING

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

- 1.1 **Macroeconomic context.** From 2013 to 2019, the Dominican Republic posted annual average growth of 6%, making it the third fastest-growing economy in Latin America and the Caribbean.<sup>1</sup> The COVID-19 pandemic caused the country's GDP to contract by 6.72%,<sup>2</sup> the sharpest downturn in 55 years. In 2020, lockdown measures and reduced demand brought about by the pandemic led to a decline in economic activity, especially in strategic sectors such as tourism, services, and transportation. In the labor market, unemployment rose from 10.8% in 2019 to 15% in 2020, and the informal employment rate increased by four percentage points.<sup>3</sup> In 2021, robust economic growth returned with a year-on-year increase of 12.4% in the first 10 months of the year, the largest expansion in three decades. The factor that contributed most to this growth was private investment (in the construction sector), in addition to free-trade zones and a gradual return to normalcy in the tourism sector. Additional currency inflows resulted in exchange rate appreciation and the accumulation of over US\$12 billion in international reserves (14% of GDP). Economic activity is projected to expand by 5% to 6% in 2022 (real growth), with average inflation of 4.5% to 5.5% and a broad unemployment rate ranging from 12.2 to 12.8 percentage points.
- 1.2 **The impact of COVID-19 on the transportation sector.** The construction and “transportation and storage”<sup>4</sup> sectors (11.8% and 8.3% of GDP, respectively, in 2020) are major contributors to the country's production and employment,<sup>5</sup> as they cut across all socioeconomic activities and have a high impact on productivity and [competitiveness](#) indicators. Due to the pandemic, the sector<sup>6</sup> posted losses of over US\$350 million between January and September 2020. Meanwhile, the added value of the construction sector exhibited a year-on-year change of 10.7%<sup>7</sup> and a sharp decrease in employment.<sup>8</sup> Nevertheless, the Dominican economy demonstrated its resilience with recovery rates that put it among the top six countries in Latin America and the Caribbean that will return to prepandemic GDP levels.<sup>9</sup> In the first half of 2021, the construction and transportation and storage sectors grew considerably (41% and 13.7%, respectively), which is 13.4% and 1.7% higher than the prepandemic levels observed from January to July 2019.

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<sup>1</sup> [International Labour Organization \(ILO\), 2021.](#)

<sup>2</sup> World Bank, 2021. [GDP growth \(annual %\) - Dominican Republic.](#)

<sup>3</sup> The broad unemployment rate reflects the difficulty of searching for a job during the pandemic and varies by gender, with a higher rate among women (22.7%) than among men (8.3%) in the first three quarters of 2021. It dropped to 13.6% in July-September but remains above the 2019 average (10.8%).

<sup>4</sup> This sector includes the delivery of services to transport passengers and freight by land and sea, as well as activities to support and provide services to the sector (Central Bank of the Dominican Republic, 2020). The sector's contribution to GDP is above the 5.4% average for Latin America and the Caribbean (IDB, 2019).

<sup>5</sup> The construction sector contributes 7.1% of national employment. [ILO, 2021.](#)

<sup>6</sup> [Evaluación de Necesidades de Recuperación por los Impactos de la COVID-19.](#) COVID-19 Recovery Needs Assessment, 2021.

<sup>7</sup> [Central Bank of the Dominican Republic, 2021.](#)

<sup>8</sup> [IDB COVID-19 Labor Market Observatory,](#) 2021. Data for the Dominican Republic.

<sup>9</sup> [Ministry of Economic Affairs, Planning, and Development, 2020.](#)

These sectors also had a strong impact on real growth in the first half of 2021, with an increase of 42.1% (5.6 percentage points) over the same period in 2020.<sup>10</sup>

- 1.3 **Road infrastructure and maintenance.** The [Global Competitiveness Report \(2020\)](#) gave the country's road infrastructure a score of 3.6 out of 7 points, down 1.1 points from 2019. Meanwhile, road connectivity scored 74.8 out of 100 points, showing no change since 2018. According to data from the Ministry of Public Works and Communications (MOPC, 2019), the network consists of 19,730 kilometers (km) of roads, of which 5,514 km are highways, 8,697 km are rural access roads, and 5,519 km are temporary roads and trails. Around 7,766 km (39.3% of total roads) are paved, and 11,964 km (60.7%) are unpaved. Geographically, the south-central region has the most kilometers of road by area (km/km<sup>2</sup>) with 23.8% of the national total, while the southwestern and eastern regions (paragraph 1.7) have 10.4% and 15.3%, respectively.<sup>11</sup> Rural access roads provide access to agricultural production areas with low population density and have experienced reduced vehicle volume (20 to 300 vehicles/day). Only 22% of rural access roads are in good condition, 44% are in fair condition, and 34% are in poor or very poor condition, which increases travel times, transportation operating costs, and traffic disruptions due to heavy rainfall.
- 1.4 To maintain road infrastructure, the MOPC has been implementing results- and performance-based road contracts (CVBRD)<sup>12</sup> for over 10 years. These contracts are designed to increase efficiency and effectiveness in the management and maintenance of active roads ([optional link 2](#)). Currently, the MOPC is carrying out the community-based "[Peón Caminero \[Roadman\]](#)" program, which targeted nearly 500 km of roads and generated 493 jobs at the local level in 2021. While these types of contracts yield positive results, the resources for road maintenance (approximately 0.08% of annual GDP from 2016 to 2018) are limited<sup>13</sup> and prioritized without the use of technological tools that help plan and manage assets to optimize interventions according to the most cost-effective needs.
- 1.5 **Sector institutions and digitalization gaps.** The MOPC is the institution responsible for planning, building, and maintaining the country's road infrastructure. While it has broad experience in building and maintaining transportation infrastructure at the national, regional, and local levels, weaknesses have arisen in the area of digitalization, as reflected by the lack of integrated project management processes in technical departments and the absence of a planning system aligned with investment and maintenance needs. According to the 2020 Development in the Americas report [From Structure to Services: The Path to Better](#)

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<sup>10</sup> [Panorama Macroeconómico 2021-2025](#).

<sup>11</sup> [Boletín de Competitividad Sectorial 2021](#).

<sup>12</sup> Contracts where payment is made based on conditions of service. Contracts are entered into, with fixed general prices, to bring the road up to a specific level of service and maintain it at those standards for a period of time (18 to 36 months). The performance criteria for payment are generally associated with availability and convenience for users, road durability, and management performance.

<sup>13</sup> According to estimates, an annual investment of 0.17% of GDP is required to narrow the identified gap ([IDB, Plan Nacional de Infraestructura, 2020](#)).

[Infrastructure in Latin America and the Caribbean](#), digital transformation can bring about efficiency gains<sup>14</sup> in infrastructure delivery.

- 1.6 **Gaps in supply and quality of infrastructure services.** According to the [National Infrastructure Plan](#), the Dominican Republic has a gap in basic access to infrastructure on the order of US\$1.486 billion (short term) and US\$9.926 billion (long term) compared with middle- and high-income Latin American and Caribbean countries, Asian countries, and countries of the Organisation for Economic Co-operation and Development (OECD). Using the indicator of kilometers of paved roads per square kilometer, the road sector<sup>15</sup> accounts for most of this gap with 41.6% (US\$618 million in the short term) and 62.8% (US\$6.231 billion in the long term). The gap in long-term road infrastructure quality, which is measured in kilometers of paved road per 100 residents, stands at US\$1.967 billion. In addition, in the area of road safety, the accident and injury rate<sup>16</sup> represents an economic gap of over 2.2% of GDP.
- 1.7 **Connectivity and regional development.** Strengthening transportation infrastructure is an opportunity for the Dominican Republic to improve regional connectivity, which has a significant impact on its competitiveness.<sup>17</sup> According to the National Freight Logistics Plan (PNLOG) 2020-2032 ([optional link 9](#)), the regions with the greatest economic potential in the country include: (i) Cibao Norte and the northeastern region, where 30% of agricultural production is concentrated; (ii) the southwestern region, which is important due to its agricultural development (8% of the national total) and logistics services cluster (24% of provincial economic activity); and (iii) the eastern region, where major agricultural production is concentrated, mainly for sugar (45% of national volume), as well as logistics and tourism clusters developed around maritime areas. These regions are crisscrossed by highways and rural access roads that connect to secondary roads and trunk corridors, which provide access to local markets and link the main foreign trade hubs, for example, ports and airports of the national logistics system.

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<sup>14</sup> Studies by the [McKinsey Global Institute](#) show that digitalization of construction can increase productivity by 15% and reduce costs by up to 6%. In road maintenance, automated detection and analysis of problems can reduce costs by as much as 25%, partly through supervision and partly through early detection and preventive maintenance of roads ([McKinsey, 2017](#)).

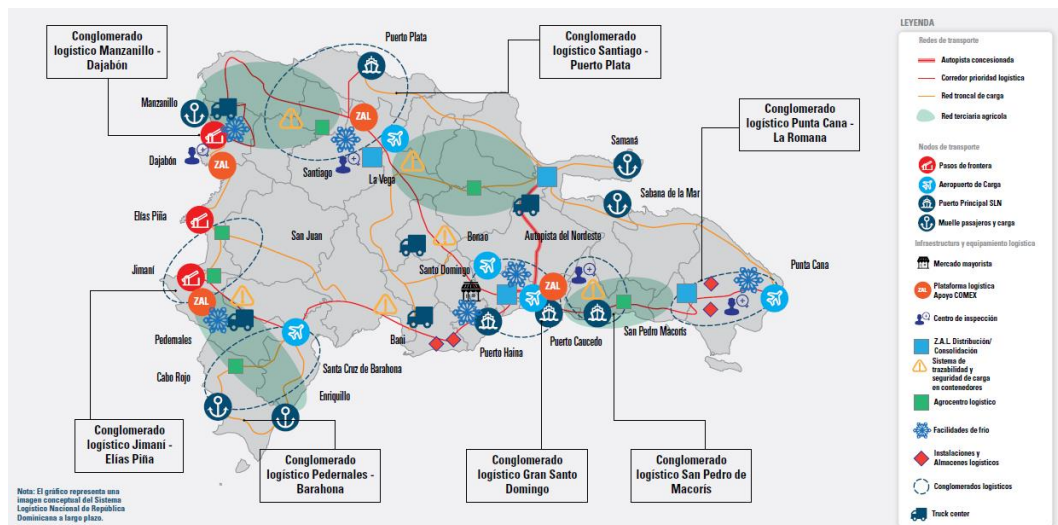
<sup>15</sup> Weighted values based on the MOPC's average baseline unit costs for road paving (2019).

<sup>16</sup> The country in the Americas with the second highest mortality rate with 3,200 fatalities and more than 100,000 injuries (Observatorio Permanente de Seguridad Vial ([OPSEVI](#)), 2019).

<sup>17</sup> [National Competitiveness Strategy](#).



Figure 1: National logistics system



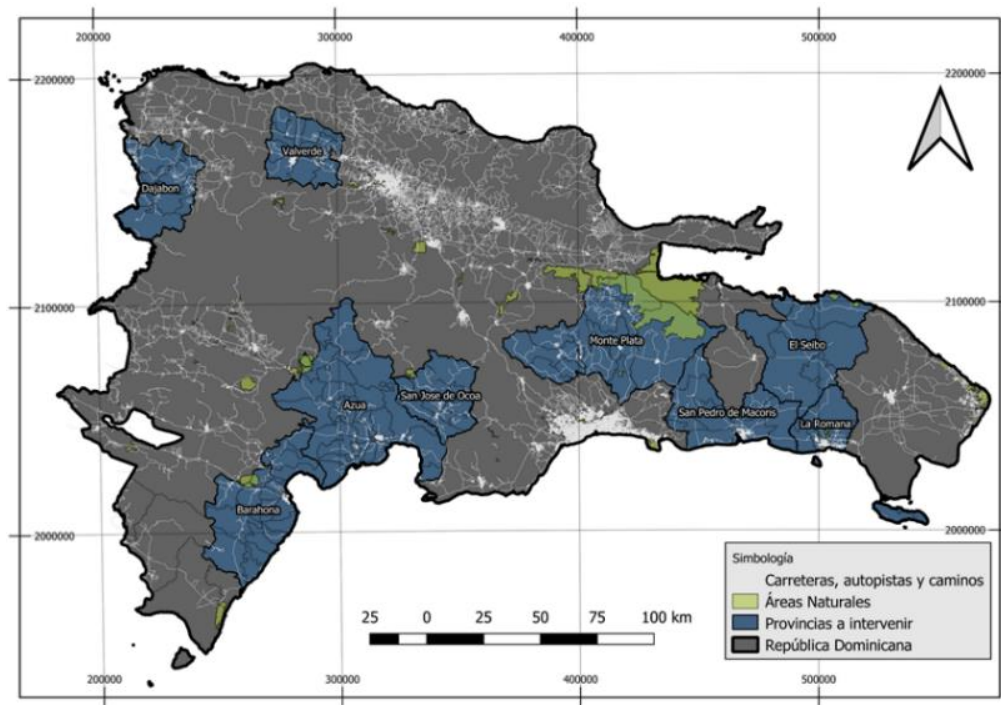
Source: National Logistics Plan 2020-2032.

- 1.8 **Productive potential and poverty levels in strategic regions.** According to the [2015 National Agriculture Census of the National Statistics Office](#), the provinces in the country with high potential for productive development include: (i) Monte Plata, which grows raw materials for food and has significant production of ruminants (41.5% of the total), poultry, and pigs; (ii) Azua, where the banana production cluster is concentrated, and which also exports tomatoes and mangos to the United States and Europe; (iii) Barahona, which is known for producing coffee and plantains; (iv) La Romana and San Pedro de Macorís, the provinces that produce the most sugarcane (one of the main exports at the national level); (v) San José de Ocoa, which has fisheries; (vi) Valverde, the largest grain producer; and (vii) El Seibo, with its cocoa and milk production. Yet, these areas are also known for their high levels of poverty and social inequality. For example, the eastern region<sup>18</sup> has the highest extreme poverty rate (4.9%) in the country and the second highest general poverty rate (26.3%). While the southern region<sup>19</sup> reduced its poverty levels in 2020, it continues to have the highest general poverty rate (30.2%) and the second highest extreme poverty rate (3.8%).

<sup>18</sup> Monte Plata and San Pedro de Macorís (general poverty rate<25% and extreme poverty rate<3.4%); El Seibo and La Romana (general poverty<15.4% and extreme poverty<2.2%).

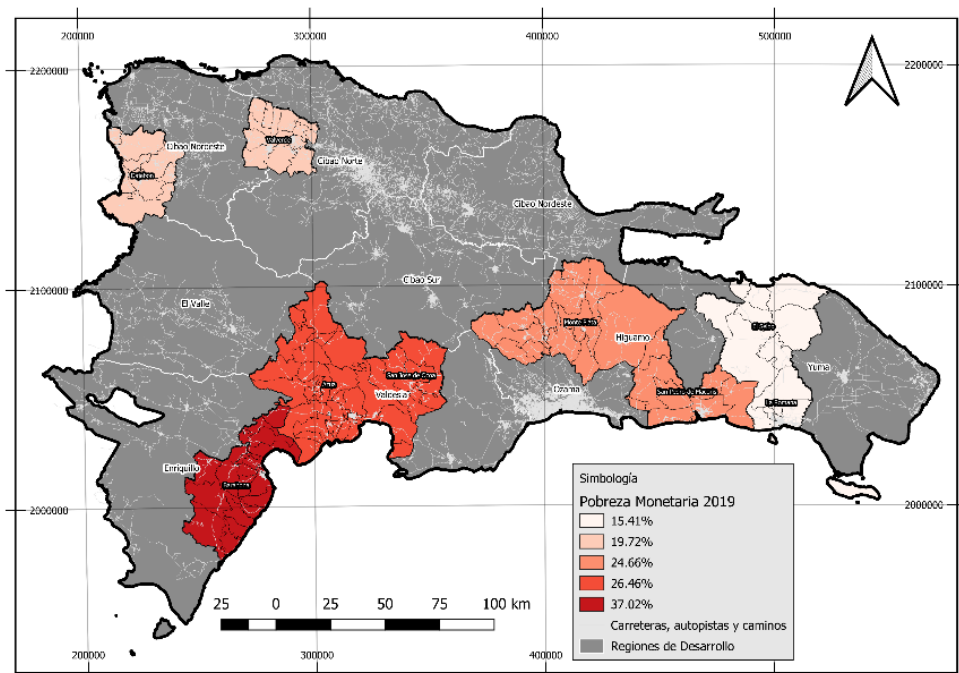
<sup>19</sup> Barahona (general poverty<37% and extreme poverty<5.4%); Azua and San José de Ocoa (general poverty<26.4% and extreme poverty<4.3%).

**Figure 2: Provinces with productive potential**



Source: Prepared by the authors based on the 2015 National Agriculture Census, the Ministry of Economic Affairs, Planning, and Development, and information from the provinces' local economic development plans.

**Figure 3: General poverty rate (monetary) in provinces targeted by the intervention**



Source: Prepared by the authors based on the 2015 National Agriculture Census, the Ministry of Economic Affairs, Planning, and Development, and information from the provinces' local economic development plans.

- 1.9 **Gaps in road connectivity lead to higher transportation costs for agricultural production in the prioritized provinces.** The poor condition of highways ([optional link 1](#)) affects operating costs,<sup>20</sup> travel times, and logistics costs,<sup>21</sup> while limiting agricultural output and access to basic services, especially for vulnerable populations. According to the economic evaluation, the cost of operating a two-axle truck on the highway could decrease by 30.5% once the program is completed, while the cost of operating the same truck on a rural access road could decrease by 25.35%, thereby improving rural competitiveness levels.
- 1.10 **The impact of climate change and disaster risk on infrastructure sustainability.** The [2020 Development in the Americas report](#) provides evidence of the impact that natural disasters and climate change can have on transportation infrastructure. Various analyses<sup>22</sup> point to a reduction in the useful life of roads and an increase in a road's life cycle costs.<sup>23</sup> The Dominican Republic lies in the "hurricane belt" and was hit by over 100 hurricanes from 1871 to 2018. It was ranked the 50th most vulnerable country to climate change impacts during the 2000-2019 period.<sup>24</sup> From 2016 to 2017 alone, 15 provinces and 644 road infrastructure works<sup>25</sup> and bridges had to be rebuilt due to reported damage worth US\$394 million (MOPC, 2018), affecting the availability, serviceability, and performance of the logistics system throughout the country. In addition, these events erode the social fabric due to their adverse effect on access to economic opportunities, education, and health care ([optional link 5](#)). Investing in resilience and disaster risk prevention in infrastructure yields returns, as the benefits are four to seven times greater than the costs in terms of losses prevented.<sup>26</sup>
- 1.11 **Gender gaps.** According to ILO data, women account for 7.1% of employees (24,082 jobs) in the transportation and communications sector, and 1.4% of employees (4,709 jobs) in the construction sector.<sup>27</sup> Among the population aged 15 to 24, the gap in workforce participation rates held steady between 2000 and 2017 (30% for women and 55% for men). MOPC data<sup>28</sup> show that women represent only 6.6% of individuals hired. Women who work as engineers or supervisors account for less than 15%, and most perform jobs such as traffic detour signaling at construction sites, COVID-19 control, warehouse managers, checkers, secretaries, and janitors, which receive the lowest pay in the sector. According to information from the IDB, the main barriers to the inclusion of women

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<sup>20</sup> The Dominican Republic has the tenth highest freight transportation costs, with an average road freight rate of US\$0.14 per ton-kilometer transported (IDB, 2015).

<sup>21</sup> The Dominican Republic's price per ton-kilometer is the fourth highest in the region, standing at US\$0.14 per ton-kilometer (IDB, 2013). The average freight rate for a container is US\$4.75 per kilometer, which is triple the average for Mesoamerica.

<sup>22</sup> [Quiao et al. 2015](#), Evaluating the effects of climate change on road maintenance intervention strategies and Life-Cycle Costs.

<sup>23</sup> Temperature increases (above 45°C) that: (i) increase the risk of grooves forming in the asphalt, washing and cracking of bituminous surfaces; and (ii) increase the frequency of intense precipitation, which leads to more flooding, soil erosion, and saturation of drainage works.

<sup>24</sup> [Global Climate Risk Index](#), Germanwatch (2021).

<sup>25</sup> Amnesty International. [Informe 2017/2018](#).

<sup>26</sup> [United Nations Office of Disaster Risk Reduction, 2011](#) (Kull, et al., 2013).

<sup>27</sup> [ILO, 2021](#).

<sup>28</sup> Sample of 14 rural access roads targeted by interventions.

in the workforce are linked to environmental conditions, training opportunities, and the risk of harassment and violence ([optional link 3](#)).

- 1.12 **Inclusion of persons with disabilities.** There are 140,908 persons with disabilities in the Dominican Republic, which is equal to 2.3% of the population. According to the third [socioeconomic household study conducted by the Consolidated System of Beneficiaries \(SIUBEN\)](#), 27.9% of persons with disabilities report having issues with accessibility to transportation<sup>29</sup> and spend up to 40% of their income on mobility. In terms of labor inclusion, eight out of 10 persons with disabilities over the age of 18 are outside of the labor market, with high unemployment among women (31%).<sup>30</sup> These barriers to access are physical, financial, and related to health and job skills. According to a study conducted by the National Disability Council ([CONADIS, 2020](#)), persons with disabilities in the labor market work as service workers, salespeople, cleaners, assistants, farm workers, garbage collectors, or street vendors; data show that persons with disabilities are markedly excluded from productive sectors, including transportation and logistics ([optional link 4](#)).
- 1.13 **Better infrastructure services as a strategy for reigniting the economy and generating inclusive employment.**<sup>31</sup> The economy is expected to grow 4.8% in 2022, which exceeds the forecast for Latin America and the Caribbean (5.2% in 2021 and 2.9% in 2022).<sup>32</sup> In a postpandemic scenario, with close to 410,000 reported cases and 54% of the population fully vaccinated (December 2021), the Dominican government is including among the objectives of the [Strategy for Development, Economic Policy, and Fiscal Sustainability](#) (paragraph 1.19) the priority of investing in transportation infrastructure as a pillar<sup>33</sup> of economic growth. This investment has an impact on the productivity of manufacturing, commerce, and sectors such as tourism and agriculture<sup>34</sup> for the following reasons: (i) it boosts productivity and growth in the area of influence; (ii) it reduces transportation costs and travel times,<sup>35</sup> decreases logistics costs, and increases commerce by facilitating access to markets ([optional link 1](#)), basic services,<sup>36</sup> education, and health care; (iii) it generates employment<sup>37</sup> and improves income distribution<sup>38</sup> in rural areas; and (iv) it fosters the inclusion of vulnerable

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<sup>29</sup> [De la Rosa citing the Association of People with Physical and Motor Disabilities \(ASODIFIMO\)](#), 2 May 2018. "Due to lack of accessibility, people with disabilities spend 40% of their income on transportation alone."

<sup>30</sup> United Nations, 2021. [Study on the situation of persons with disabilities \(SIUBEN, 2018\)](#).

<sup>31</sup> [The 2020 Development in the Americas report](#) estimates that in Latin America and the Caribbean, approximately 35,000 direct jobs are created for every US\$1 billion invested in building infrastructure.

<sup>32</sup> [Regional outlook \(World Bank, 2021\)](#).

<sup>33</sup> [Latin American and Caribbean Macroeconomic Report \(IDB, 2019\)](#).

<sup>34</sup> A 1% increase in the productivity of transport is estimated to increase agricultural productivity by 1.2%. ([IDB, 2019](#)).

<sup>35</sup> The Multiphase Road Infrastructure Rehabilitation and Maintenance Program helped maintain 294 kilometers of trunk roads and 912 kilometers of rural access roads, which reduced vehicle operating costs on the targeted road segments by 16.6% and average travel times by 11.5%.

<sup>36</sup> [General Study of the Impact of Rural Roads in Nicaragua](#) (OECD, COWI Consulting, June 2008).

<sup>37</sup> In 2018, interventions were carried out on 5,000 kilometers of roads in the Dominican Republic, which generated 10,500 direct jobs and 5,200 indirect jobs and had an impact on 7.7 million people (MOPC, 2020).

<sup>38</sup> [The 2020 Development in the Americas report](#). Investing in increasing the productivity, efficiency, and quality of infrastructure services by 5% over current standards can boost regional growth by 3.5% of GDP in 10 years.

groups by creating opportunities to break out of cycles of poverty.<sup>39</sup> In this context, sustained maintenance<sup>40</sup> of infrastructure has even greater potential, as it creates largely long-term employment,<sup>41</sup> which offers better conditions for job placement<sup>42</sup> and higher impact, especially for women (paragraph 1.17).

- 1.14 **Rationale.** To reduce the gaps (paragraphs 1.5, 1.6, 1.11, and 1.12) through implementation of the government's strategy (paragraph 1.19) to reignite the economy and generate employment (paragraph 1.13), better investment and planning are needed to prioritize and manage infrastructure assets efficiently, with suitable planning technologies and systems (paragraph 1.17). Improving and maintaining road connectivity at the regional level, based on parameters for resilience (paragraph 1.10), road safety, and universal accessibility in urban areas (paragraph 1.26), will yield positive socioeconomic outcomes, helping producers access new markets, production and consumption centers, and providing the beneficiary population with job opportunities and basic services.
- 1.15 **Proposed intervention and nonfinancial additionality.** The intervention will target highways and rural access roads in 12 of the country's 31 provinces (paragraph 1.29) by facilitating the movement of people and freight in areas with productive potential (paragraph 1.8) and high levels of social inequality, while applying the principles of environmental,<sup>43</sup> social, financial, and institutional sustainability. In the case of highways, the program considers the rehabilitation of the paved surface, repair and/or reconstruction of current longitudinal and transversal drainage, upgrading to higher road safety standards with road signs and pavement markings, improved urban access at crossroads with local towns, etc. For rural access roads, the intervention will include a granular road base covered by a double surface asphalt treatment depending on light or heavy traffic, as well as minor longitudinal and transversal drainage works based on hydrological conditions (paragraph 1.27). Maintenance for these interventions and other road segments will be undertaken in 22 of the country's provinces, through the results- and performance-based road contracts (CVBRD), on a periodic<sup>44</sup> and routine<sup>45</sup> basis (paragraph 1.4). The interventions, whose preinvestment studies are supported with regional technical-cooperation resources ([ATN/OC-18043-RG](#)<sup>46</sup>) and under Component 3 of the program, aim to reduce transportation costs and travel times for the prioritized regions (paragraph 1.7); increase the resilience of

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<sup>39</sup> [S. Park, et al. \(2019\)](#).

<sup>40</sup> Sustained investment in preventive maintenance during the life cycle of roads yields returns by increasing the road network's reliability and performance ([Pastor, 2019](#)) and the book value of infrastructure assets ([Road Maintenance. Sector Report. Economic Commission for Latin America and the Caribbean, 2010](#)).

<sup>41</sup> In the United States, 15% of infrastructure jobs involve construction, while the remainder (14.5 million workers) involve the maintenance of existing infrastructure systems.

<sup>42</sup> The effects of infrastructure jobs disappearing upon completion of construction can be mitigated by investing in a system that boosts people's employability. [Anthony P. Carnevale and Nicole Smith, 2021](#).

<sup>43</sup> Resilience can lead to a sixfold increase in the socioeconomic benefits of infrastructure investments. [Vision 2025 \(IDB, 2021\)](#).

<sup>44</sup> Foreseeable measures that are required on a less frequent basis and designed to prevent deterioration of the road (such as grading, drainage works, resurfacing, asphalt concrete overlay, etc.).

<sup>45</sup> Work needed to preserve operation of the road (such as repairing potholes, cleaning drains, sealing cracks, pruning and weeding, etc.).

<sup>46</sup> Support for the Preparation of Transportation Projects Aimed at Employment and Economic Recovery in Latin America and the Caribbean, supplemented with technical cooperation resources in preparation (DR-T1235).



infrastructure to the effects of climate change; and generate an inclusive employment model, thereby impacting productive and social development in the prioritized regions.

- 1.16 **Empirical evidence.** An analysis of Chile, Peru, Colombia, and Mexico showed that decreasing domestic transportation costs by 1% increases exports by 1.3% to 4.5% and the number of exported products by 0.5% to 3.1% ([IDB, 2016](#)). The impact evaluation for the Road Infrastructure for Regional Competitiveness Program (Proregión 1) in Peru (loan [5247/OC-PE](#), 2021) estimated the intervention's causal effects using indicators on transportation and productivity impact, which included: (i) a 28% reduction in average travel costs; (ii) a 26% reduction in average vehicle operating costs for the fleet; and (iii) a 15% reduction in total logistics costs in terms of company sales. Similarly, the Rural Road Improvement Program II (loan [3600/OC-PR](#), 2015) in Paraguay reported a 30% improvement in average operating costs per vehicle-kilometer, a 32% reduction in average travel times, and a 20% increase in jobs for women in the works financed by the program.
- 1.17 **Bank experience in the sector and lessons learned.** The Bank has experience in executing road infrastructure investment programs focused on improving rural connectivity, [at the regional level](#) and in the Dominican Republic. Notable examples include: (i) the Multiphase Program for Road Infrastructure, Phase I (loan [1939/OC-DR](#), 2007); (ii) Productive Development and Competitiveness of the Province of San Juan (loan [3107/OC-DR](#), 2015); (iii) the Sustainable Agroforestry Development Program (loan [4553/OC-DR](#), 2019);<sup>47</sup> and (iv) the Manzanillo Port Rehabilitation and Expansion (loan [5282/OC-DR](#), 2021), (the last two projects are currently being executed). The main lessons learned from the MOPC's execution of these projects that have been incorporated into this operation include: (i) having technical engineering and socioenvironmental studies with an appropriate level of analysis and in a timely manner, prior to starting the bidding processes, to reduce uncertainty around scope and costs; (ii) strengthening contract management processes, governance, and internal controls throughout the project cycle, to be included in the program's Operating Regulations; (iii) having technological tools that facilitate the management of infrastructure assets (roads and bridges), the monitoring of the execution of works, and the prioritization of investments, as well as transparency in the processes of technical validation and financial management; and (iv) ensuring continuity and strengthening the maintenance financing modalities based on levels of service with an inclusive approach ([optional link 6](#)).
- 1.18 **Coordination with other Bank projects.** The program will complement the interventions that are currently being executed and financed by the Sustainable Agroforestry Development Program (loan [4553/OC-DR](#), 2019), as it will improve rural access roads in productive provinces, and by the Manzanillo Port Rehabilitation and Expansion (loan [5282/OC-DR](#), 2021), through the component for rehabilitation and improvement of trunk and rural road corridors to connect productive regions to the port; by the Program to Support Mobility, Overland

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<sup>47</sup> Within the framework of its preventive mandate, in 2021, the Bank's Office of Institutional Integrity (OII) conducted an Integrity Risk Review (IRR) related to Component 2 of this program, under the responsibility of the MOPC. The IRR had the purpose of identifying, analyzing, and evaluating the integrity risk and its impact on the program's reputation in order to recommend actions to strengthen risk management, and thus, add value to its execution. The conclusions of this exercise are detailed in [optional link 6](#).

Transportation, Traffic, and Road Safety Policy in the Dominican Republic II ([DR-L1140](#), in preparation) in relation to road safety considerations; and by the Program to Support the Transparency and Integrity Agenda in the Dominican Republic ([DR-L1150](#), in preparation), promoting digitalization.

- 1.19 **The Government of the Dominican Republic's strategy.** The objectives of the [National Development Strategy 2010-2030](#) include "expanding the coverage and improving the quality of transportation and logistics infrastructure and services, with a focus on regional integration, support for productive development, and competitive integration in international markets." In its [Multiyear National Plan for the Public Sector](#), the Ministry of Economic Affairs, Planning, and Development (MEPyD) includes the improvement and maintenance of road infrastructure as a key pillar for increasing access to productive centers. As set out in the [PNLOG \(optional link 9\)](#) as part of efforts to strengthen the national logistics system, the regional logistics connectivity strategy prioritizes accessibility to production centers by improving the secondary and tertiary road network (rural access roads). At the same time, the [National Competitiveness Strategy \(optional link 10\)](#) concurs with these guidelines and includes a pillar that proposes sustained, planned infrastructure investments to improve logistics and regional connectivity. Lastly, the Bank's [COVID-19 Recovery Needs Assessment](#), in section 6.3 on infrastructure sector needs, highlights the building and rebuilding of rural access roads in geographic areas, correlating the impacts thereof on the productivity of regions and the connectivity of adjacent populations, with positive economic and social outcomes.
- 1.20 **The IDB Group country strategy (document GN-3084).** The program is aligned with the area of sustainable and inclusive reactivation of production by improving infrastructure and logistics to increase competitiveness. It is also aligned with the climate change adaptation and mitigation strategy by developing designs that make infrastructure more resilient to climate phenomena and enable productive expansion. The operation is included in the 2022 operational program.
- 1.21 **Strategic alignment.** The program is aligned with the second Update to the Institutional Strategy (document AB-3190-2), particularly with the development challenge of productivity and innovation by providing appropriate, reliable, and safe road infrastructure and services that help lower transportation costs. It is also aligned with the crosscutting areas of: (i) climate change and environmental sustainability, by incorporating adaptation concepts into the phases of planning and prioritization, as well as design and construction, in order to reduce the impact of extreme weather events on infrastructure; (ii) gender equality and diversity, by promoting and expanding opportunities for women's workforce participation in traditional and nontraditional activities in the infrastructure sector; and access to opportunities for vulnerable users, including job centers and healthcare and education services; and (iii) institutional capacity and rule of law, by promoting improvements in road administration (management and planning systems) (paragraph 1.31), with impact on transparency and accountability issues to support institutional modernization actions by incorporating a gender-based approach (paragraph 1.25) and a planning system for infrastructure that is resilient to climate change (paragraph 1.24). In addition, the program will contribute to the Corporate Results Framework 2020-2023 (document [GN-2727-12](#)), through the indicators of "roads built or upgraded" and "beneficiaries of enhanced disaster and climate change resilience." In all, 38.6% of the operation's resources are invested in adaptation to climate change activities,

according to the [joint methodology of the multilateral development banks](#). These resources contribute to the IDB target of increasing financing for climate-related projects to 30% of approvals by 2022.

- 1.22 The program is aligned with the strategy for Sustainable Infrastructure for Competitiveness and Inclusive Growth (document GN-2710-5), by supporting: (i) the delivery of road infrastructure that improves accessibility, serviceability, and safety for users and helps lower transportation operating costs and travel times; and (ii) the planning, construction, and maintenance of infrastructure to provide quality services that promote sustainable, inclusive growth in the country. It is also aligned with [Vision 2025. Reinvest in the Americas: a Decade of Opportunity](#), specifically the strategic goal of reactivating the productive sector, as it will: (i) encourage higher levels of efficient investment by applying environmental sustainability (paragraph 1.24), social, financial, and institutional principles; (ii) narrow gaps in access to services for adjacent populations, thereby affecting productive development (paragraph 1.9) and social development in the regions; and (iii) promote the digital economy (paragraph 1.31). Lastly, it is consistent with: (i) the [Employment Action Framework with Gender Perspective 2021](#) (paragraph 1.25), as it helps increase levels of inclusion in jobs supported and/or created, through training for women in road rehabilitation and maintenance positions; infrastructure digitalization and the inclusion of climate change resilience in infrastructure planning; (ii) the following Sector Framework Documents: (a) Transportation (document GN-2740-12), by improving connectivity and promoting accessible, efficient, and safe transportation systems; and (b) Climate Change (document GN-2835-8), by incorporating climate action into investments through the preliminary assessment and profiling of risk levels; and (iii) Action Plans: (a) Update to the Gender Action Plan for Operations 2020-2021 (document GN-2531-19); and (b) Diversity Action Plan for Operations 2019-2021 (document GN-3001), by including actions that promote the inclusion of women and persons with disabilities in nontraditional jobs in the sector.
- 1.23 **Actions for technological modernization of the road sector.** Through the MOPC and in line with the [National Digital Transformation Strategy](#), the Dominican government has identified that closing gaps (paragraph 1.5) requires public policy actions for the definition of prioritization mechanisms, the management of public investment projects for transportation infrastructure, appropriate administration of road assets, and efficient risk management, particularly for natural disasters, while taking into account the effects of climate change (paragraph 1.10). The program will support procurement, training, and implementation of digital tools, with emphasis on a road asset management system that improves multiyear planning of investments and maintenance plans; project management software; and tools for remote supervision of works and management of contracts to help process the data generated and optimize the transparency processes throughout the project cycle of the works contracts.
- 1.24 **Actions for sustainable infrastructure that is resilient to climate change.** Since 2019, the MOPC has made headway in strengthening its infrastructure planning system using a methodology for [risk management for decision-making under uncertainty](#) ([Blue Spot Analysis](#)), which is currently operational and



functional.<sup>48</sup> Applying this tool during program execution makes it possible to:<sup>49</sup> (i) model vulnerability and criticality for weather scenarios on road segments at the province level; (ii) estimate expected annual damages and losses, while identifying priority areas of intervention; and (iii) propose and prioritize mitigation measures in the design of road works, especially for hydraulic and drainage structures, erosion protection on abutments and slopes, etc. These results are included in a multicriteria matrix for the prioritization of roads with a high or medium level of vulnerability, for the projects in the sample. The program is expected to optimize the results with data on weather and traffic status on the road network at the regional level in order to improve performance at the local level ([optional link 5](#)).

- 1.25 **Gender actions.** The program will help close the gaps in women's workforce participation through the following: a gender action plan from the Office of the Deputy Minister of Planning within the MOPC; an update to the microenterprise manual<sup>50</sup> on the maintenance of rural access roads, with a focus on the inclusion of women in the workforce; and the design and implementation of a program that offers training and workshops for women in road engineering sectors related to the management, technical design, or construction and maintenance of roads.
- 1.26 **Actions for the inclusion of persons with disabilities.** As part of execution, the program proposes including universal accessibility standards in the design and construction of road infrastructure, as well as providing training to public and private officials on the inclusion of persons with disabilities in the workforce. It also proposes implementing the activities in the Action Plan for the Inclusion of Persons with Disabilities in construction, which aims to generate capacities and incentives for increasing the workforce in the sector, pursuant to applicable legislation ([optional link 4](#)).

## **B. Objectives, components, and cost**

- 1.27 The general objective of the program is to help improve regional connectivity in the country through the delivery of safe, reliable, and accessible transportation services, by ensuring their availability for access to basic services and markets and promoting an inclusive employment model for the program works. The specific objectives are: (i) to reduce vehicle operating costs on the roads targeted by the intervention; (ii) to decrease travel time for users on the targeted roads; and (iii) to make the targeted infrastructure more resilient to the effects of climate change.
- 1.28 **Component 1. Rehabilitation and improvement of the road network (US\$116,584,000).** This component will finance: (i) the improvement and/or rehabilitation of 407 kilometers of the road network of highways and rural access roads in the provinces of Azua (31.2 km), San José de Ocoa (23.3 km), Barahona (51.5 km), Monte Plata (100.8 km), Montecristi (28.7 km), and other provinces<sup>51</sup> (172 km); and (ii) supervision activities for the works to be executed. The proposed interventions will be limited to the current right of way and road alignment and will include: (i) in the case of highways, improving or restoring the existing pavement,

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<sup>48</sup> The development and implementation of the Blue Spot Analysis included training for the MOPC technical and planning team.

<sup>49</sup> The detailed results can be found in the operation's climate change and disaster risk annex ([optional link 5](#)).

<sup>50</sup> The manual describes maintenance and upkeep tasks: clearing, masonry, minor repairs, etc.

<sup>51</sup> These include: La Vega, La Romana, San Francisco de Macorís, Dajabón, El Seibo, San Pedro de Macorís, and Valverde.

repairing and adding longitudinal and transversal drainage; pavement markings and road signs; and traffic calming<sup>52</sup> and universal accessibility measures in urban areas; and (ii) for rural access roads,<sup>53</sup> providing a granular road base that will be covered with a double surface asphalt treatment, depending on the composition of light and heavy traffic; and low-cost interventions for low-traffic roads; and minor longitudinal and transversal drainage works tailored for critical hydrological conditions. In the case of existing hydraulic structures and bridges within the road segments, the intervention is limited to minor repair activities, crack sealing, and upkeep.

- 1.29 The road segments were prioritized by taking into account their connectivity with the productive development and tourism network and high-poverty areas in the prioritized provinces, with a view to facilitating linkages between producers and centers of consumption, sale, and production, as well as reducing logistics costs. Priority was also based on medium/high vulnerability to natural disaster risks and variables related to climate change resilience<sup>54</sup> (paragraph 1.17). The intervention will help ensure appropriate levels of service and functionality for each road, continued serviceability, and reduced operational costs and travel times.
- 1.30 **Component 2. Road maintenance (US\$14,716,000).** This component will finance the implementation of a maintenance program through the results- and performance-based road contract for periods of 18 to 24 months on over 900 kilometers of the road network in 22 of the country's provinces, including maintenance of the road segments targeted under Component 1 (paragraph 1.27). To carry out these activities, this component will encourage the contracting of small and medium-sized enterprises at the regional level that promote the participation of women and person with disabilities in the maintenance works.
- 1.31 **Component 3. Strengthening of road management (US\$3,880,000).** This component will finance: (i) engineering designs and technical, economic, and socioenvironmental feasibility studies, including a disaster risk assessment; (ii) the procurement of equipment and the development of technological tools for: (a) the management of road assets for infrastructure construction and maintenance, while strengthening road safety and network resilience; (b) the management of projects and investment prioritization; and (c) digitalization of the supervision and contract management processes for the works; (iii) updating of the inventory and condition of the network of highways, roads, and bridges; (iv) technical assistance and institution-strengthening measures for the MOPC that aim to: (a) integrate natural disaster and climate change risks in the planning and prioritization of resilience measures at the local level; (b) optimize project management through digital tools; and (c) update the microenterprise manual on the maintenance of rural access roads; and (v) in the area of gender and diversity: (a) strengthening of the Gender Department in the Office of the Deputy Minister of Planning within the MOPC, through an action plan that has guidelines for workforce inclusion of women and persons with disabilities in construction and maintenance projects for road

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<sup>52</sup> Measures that reduce vehicle speed and protect the safety of residents in urban communities, mainly nonmotorized users (pedestrians and cyclists).

<sup>53</sup> A six-meter cross section that will be standardized using the current right of way.

<sup>54</sup> A hydrological-hydraulic analysis was conducted using intensity-duration-frequency curves that took into account extreme rainfall levels in the design of embankments, drains, culverts, and engineering works, thus ensuring better adaptation of infrastructure.

infrastructure; and (b) workshops and training programs<sup>55</sup> with companies in the construction sector that include the development of incentives for hiring women and persons with disabilities, as well as plans and measures to prevent harassment and mitigate gender-based violence on construction sites.

- 1.32 **Component 4. Socioenvironmental and climate resilience considerations (US\$2,200,000).** This component will finance: (i) programs for socioenvironmental management and resilience to the effects of climate change, for the purpose of rehabilitating, improving, and maintaining highways and roads in the provinces targeted by the interventions; (ii) the design of disaster risk management plans at the rural level; and (iii) manuals and guidelines on socioenvironmental management for rural road projects, as well as projects to conserve protected areas, in line with the Bank's safeguard policies and international best practices.
- 1.33 **Support for program administration (US\$2,620,000).** This component will finance: (i) the coordination of execution, including the salaries of the technical staff in the dedicated program execution unit; (ii) operating and administrative costs; (iii) the midterm and final evaluations; and (iv) the program audit.

### C. Key results indicators

- 1.34 The expected results of the program's actions are presented in the Results Matrix. The general objective will be measured by the following indicators: (i) regional connectivity will be measured by the road connectivity indicator, taken from the annual report of the World Economic Forum's Global Competitiveness Index; and (ii) gender will be measured by the increase in women's workforce participation in projects executed by the MOPC. The specific objectives will be measured by the following indicators: (i) the reduction in operating costs and travel times for the highways and roads targeted by the interventions; (ii) road quality, through the serviceability indicator;<sup>56</sup> and (iii) infrastructure availability, measured as the number of annual disruptions resulting from events related to climate change.
- 1.35 **Economic analysis.** An ex ante economic analysis was carried out ([optional link 7](#)) to calculate the cost-benefit ratio and the economic internal rate of return (EIRR), using the Highway Development and Management Model 4 (HDM-4) and the Roads Economic Decision Model to compare the economic flows identified in the scenario without the project (counterfactual) and with the project. The main economic benefits expected from the program are savings in vehicle operating costs and reduced travel time for users. The analysis used a 12% discount rate, economic prices, and a 20-year horizon, and included recurring and maintenance costs. The findings confirm that the program is economically viable with an EIRR of 18.9% and an economic net present value (ENPV) of US\$20,080,000. The soundness of these estimates is demonstrated through a sensitivity analysis applied to the main variables that determine the results. When modifying the benefit assumptions, increasing costs by 20% and reducing savings by 20%, the program's economic net present value remains positive. The same evaluation methodology should be followed for the remaining projects in the program, as this is a requirement for eligibility (paragraph 2.3).

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<sup>55</sup> Ensuring equal gender participation in these activities.

<sup>56</sup> Serviceability is defined as the pavement's ability to serve the type of traffic (cars and trucks) driven on the road. It is measured on a scale from zero to five, with zero representing a failed pavement, and five an excellent one.

**Table 1. Summary economic analysis of the sample**

Province	Segment	Length (km)	Beneficiary population	Base case		A. 20% increase in investment costs		B. 20% decrease in benefits		A (+20%) + B (-20%)	
				ENPV (US\$ millions)	% EIRR	ENPV (US\$ millions)	% EIRR	ENPV (US\$ millions)	% EIRR	ENPV (US\$ millions)	% EIRR
Azua	Peralta - La Sabana San Juan 2	28.24	16,402	2.16	18.3	1.22	15.1	0.79	14.4	-0.15	11.6
	Los Cacao - Naranjal - El Llanten - Guayabal	3.00	7,064	0.24	13.5	-0.21	10.8	-0.26	10.3	-0.70	7.9
San José de Ocoa	Los Tramojos - La Mesa del Domingo	6.30	2,762	0.42	17.5	0.21	14.4	0.13	13.7	-0.08	11.0
	Rincón del Pino - Hacia Río Ocoa	5.97	8,789	0.57	19.7	0.37	16.3	0.26	15.6	0.06	12.7
	Rancho Arriba - Río Mahoma	11.03	41,212	1.32	21.5	0.96	17.9	0.69	17.2	0.32	14.1
Barahona	Enriquillo - Polo	30.90	33,676	4.28	17.1	1.97	14.0	1.11	13.4	-1.20	10.7
	Polo - Cabral	20.60	24,055	4.57	20.0	3.03	16.6	2.12	15.8	0.57	12.9
Monte Plata	C/C Juan Pablo II - Gonzalo - Los Limones	12.80	5,733	0.85	17.5	0.42	14.4	0.25	13.7	-0.17	11.0
	Hato San Pedro - Los Guineos - Rincon Claro	11.40	13,422	1.43	21.9	1.05	18.3	0.76	17.5	0.38	14.4
	San Luis - Guerra	11.40	265,928	1.59	23.0	1.21	19.2	0.90	18.4	0.52	15.2
	Monte Plata - Bayaguana	17.80	13,917	2.65	17.6	1.36	14.5	0.83	13.8	-0.47	11.1
<b>TOTAL</b>		<b>159.44</b>	<b>432,960</b>	<b>20.08</b>	<b>18.9</b>	<b>11.59</b>	<b>15.6</b>	<b>7.57</b>	<b>14.9</b>	<b>-0.93</b>	<b>12.1</b>

**1.36 Beneficiaries.** The direct beneficiaries of the program will be the rural populations adjacent to the highways and rural roads targeted by the interventions, based on criteria for resilience and universal accessibility. The population in the area of intervention is estimated to be 430,000. These communities will have improved conditions for access to basic services and connectivity to population and productive centers and markets. The program will also benefit the producers, sellers, exporters, and carriers using the infrastructure, as they will have reduced transportation costs and travel times for the movement of products and goods, as well as continued serviceability during the summer. In addition, the program will benefit the rural population that will be hired to execute the works and then maintain them. This population is estimated to be around 2,000 individuals,<sup>57</sup> with a special focus on the female workforce.

<sup>57</sup> [The Direct Employment Impact of Public Investment \(IMF, 2021\)](#) estimates that US\$1 million of public spending on infrastructure creates three to seven jobs in advanced economies, 10 to 17 in emerging economies, and 16 to 30 in low-income countries.

## II. FINANCING STRUCTURE AND MAIN RISKS

### A. Financing instruments

- 2.1 **Modality.** The program is designed as an investment loan under the multiple works modality that includes financing for physically similar but independent projects<sup>58</sup> that must meet the eligibility criteria established for the representative sample (paragraph 2.3). The deadline for physically starting the program works will be up to two years from the effective date of the loan contract.
- 2.2 **Cost and financing.** The total cost of the investment program is US\$140 million, to be financed from the Bank's Ordinary Capital (see Table 3). The itemized budget is available in the multiyear execution plan and the annual work plan ([required link 1](#)). The disbursement period will be five years, and the disbursement schedule can be found in Table 3.

Table 2. Road segments in the sample

Province	Segment	Type	Length (km)
Azua	Peralta - La Sabana San Juan 2	Rural access roads	28.24
	Los Cacao - Naranjal - El Llanten - Guayabal		3.00
San José de Ocoa	Los Tramojos - La Mesa del Domingo		6.30
	Rincón del Pino - Hacia Río Ocoa		5.97
	Rancho Arriba - Río Mahoma		11.03
Barahona	Enriquillo - Polo	Highway	30.90
	Polo - Cabral		20.60
Monte Plata	C/C Juan Pablo II - Gonzalo - Los Limones	Rural access roads	12.80
	Hato San Pedro - Los Guineos - Rincon Claro		11.40
	San Luis - Guerra		11.40
	Monte Plata - Bayaguana	Highway	17.80
<b>TOTAL</b>			<b>159.44</b>

Table 3. Disbursement schedule (US\$ thousands)

Source/year	1	2	3	4	5	Total
<b>Total</b>	15,386	33,903	45,358	27,665	17,687	140,000
<b>%</b>	<b>11.00</b>	<b>24.20</b>	<b>32.40</b>	<b>19.80</b>	<b>12.60</b>	<b>100.00</b>

- 2.3 **Representative sample and eligibility criteria.** Taking into account economic recovery, productive development, and generation of employment, road projects totaling US\$52.6 million were selected that cover corridors in the prioritized provinces. The representative project sample corresponds to 38% of the program amount. The corridors have similar characteristics, as they connect production centers with national logistics corridors and were selected using the same prioritization criteria. The following eligibility criteria were used for the sample and will be met by all of the projects in the program: (i) the segments targeted by the intervention will improve connectivity and provide continuity of the productive or tourism development network in the respective province by facilitating linkages between centers of consumption, sale, and production; (ii) the segments will have engineering and socioenvironmental studies, in accordance with national

<sup>58</sup> The initial bidding processes for the projects in the sample are expected to start in the fourth quarter of 2022, after the legal effective date ([required link 1](#)), while effective execution of the works will start during year 1 of program execution, if the required budget has been allocated.

standards required for bidding, as well as with Bank policies; (iii) they will have medium/high vulnerability to natural disaster risks related to climate change, as a result of applying the Blue Spot Analysis (multicriteria matrix); (iv) they will have economic and social feasibility studies, as well as an EIRR greater than or equal to 12% for Component 1; and (v) they will not be classified as a Category “A” project under the Bank’s environmental and social policies (Operational Policy OP-703).

**Table 4. Summary of program costs<sup>59</sup> (US\$ millions)**

<b>Component</b>	<b>IDB</b>	<b>%</b>
<b>Component 1. Rehabilitation and improvement of the road network</b>	<b>116.584</b>	<b>83.27%</b>
Works	110.695	79.07%
Highway rehabilitation works	52.515	37.51%
Rural access road improvement works	58.180	41.56%
Supervision of the works	5.889	4.21%
<b>Component 2. Road maintenance</b>	<b>14.716</b>	<b>10.51%</b>
<b>Component 3. Strengthening of road management</b>	<b>3.880</b>	<b>2.77%</b>
Consulting services, designs, and studies	2.205	1.58%
Technical studies	1.525	1.09%
Consulting services for strengthening and training	0.580	0.41%
Preparation of action plans	0.100	0.07%
Equipment and software	1.675	1.20%
<b>Component 4. Socioenvironmental and climate resilience considerations</b>	<b>2.200</b>	<b>1.57%</b>
<b>Support for program administration</b>	<b>2.620</b>	<b>1.87%</b>
<b>Total</b>	<b>140.00</b>	<b>100.00%</b>

## **B. Environmental and social risks**

- 2.4 The program is classified as a Category “B” operation under IDB Operational Policy OP-703, as the operation’s works include clearing and pruning, building and rehabilitating drains, shaping and lining ditches, among others, which may cause local and short-term negative environmental and social impacts that are not scalable and can be mitigated by standard mitigation measures (paragraph 2.3). No lane widening or modifications to the existing road alignment are foreseen.
- 2.5 The socioenvironmental impacts and risks are typical for this type of intervention: impact on and restriction of traffic; generation of dust, noise, and waste; disruption of traffic; impacts due to the installation of camps and mobilization of labor; risk of accidents and spread of COVID-19; and complaints from the population. Effective mitigation measures are included as part of the environmental and social management framework and environmental and social management plans. The management plans cover traffic management, pollution prevention, waste management, occupational safety and health management, COVID-19 prevention and response management, and the consultation plan, which includes a complaint management mechanism. The plans also contain restrictions on the location of borrow pits and waste disposal sites to prevent risks of conversion or degradation of critical natural habitats (paragraph 2.3).
- 2.6 The Dominican Republic has significant biodiversity assets. Within the area of influence of the sample projects, critical natural habitats have been identified that are highly endemic and have protected areas. After assessing the potential

<sup>59</sup> The costs presented here are indicative and may change in the final design phase of the projects.

impacts on the areas and species that may inhabit them, it was found that the types of activities to be carried out and their localized scope (within the existing right of way) may cause minimal negative direct impacts that will be managed appropriately. The roads are located in areas that are historically dense or have established agricultural activities, which indicates a lack of indirect or induced impacts on critical natural habitats. The project will implement a biodiversity monitoring program in order to identify early warning signs and take appropriate measures. The activities that will be carried out on the road segment that crosses the protected landscape area are permitted under local regulations and procedures. The operation will not cause involuntary resettlement or economic displacement, nor has the presence of indigenous populations been identified.

- 2.7 The environmental and social analyses and environmental and social management plans have been prepared for the sample projects, while an environmental and social management framework has been prepared for projects under the program outside of the sample. The public consultation for the sample projects was held virtually on 26 January 2022. It can be concluded from the consultation that the project is acceptable. The questions referred to the schedule for starting the works, the road segments on which the works will be carried out, local labor, etc. The outcome of the public consultations has been included in the environmental and social analyses and the environmental and social management plans. The final versions of the environmental and social documents were posted on the Bank's website on 31 January 2022.
- 2.8 The disaster risk classification is high (type 1 risk, based on the classification criterion in Operational Policy OP-704 on disaster risk management). A disaster risk narrative was developed as part of the operation's climate change annex. These measures include the use of the multicriteria prioritization matrix for the projects in the sample, as a result of applying the Blue Spot Analysis at the province level, which led to the selection of roads with high or medium vulnerability to disaster risks considering climate change. In addition, one of the eligibility criteria for Component 1 is that projects will have a disaster risk analysis that considers the effects of climate change and will incorporate these results into the final design of the intervention, whether it be rehabilitation or improvement. The outcomes of these risk studies will be included in the risk management plan that is part of Component 4, with recommendations for the conceptual design of roads and nonstructural measures that build resilience for the projects.

### **C. Fiduciary risks**

- 2.9 In terms of procurement, works, goods, and consulting services (paragraph 3.6) will be procured in accordance with current policies. The executing agency has extensive knowledge and experience in implementing Bank-financed projects and also understands the operational and financial management policies. While the institutional capacity assessment yielded satisfactory fiduciary results, the following medium-high risk was identified: operational overload in the execution of the operation related to the fiduciary processes of planning, procurement, financial management, and contract management. The reason for this is that the executing agency is currently executing two other Bank-financed programs (paragraph 1.18) and a program with the European Investment Bank.<sup>60</sup> To mitigate this risk, the

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<sup>60</sup> The Public Works Improvement Program to reduce disaster risk in the provinces of Montecristi, Puerto Plata, Espailat, and Duarte. Loan 87487-SERAPIS 2017/0112.



program includes resources for strengthening the executing agency and supporting its operational management (paragraph 1.31), as well as a contractual clause for staffing to strengthen the program's dedicated technical management team. The assessment also identified limitations in managing bidding processes and payments, and delays in preparing financial reports, for which actions are proposed related to the continued strengthening of the executing agency through training, assistance, and supervision, facilitating the due compliance of the design of the bidding and financial management processes.

#### **D. Other key issues and risks**

- 2.10 A medium-high risk related to the economic and financial context has been identified as the limited technical and budgetary scope of the preinvestment studies for the projects, which can lead to contract renegotiations or delays during execution due to issues that were not identified in the early stages. These issues include the availability and quality of materials in quarries, dumps, the design of engineering works, and the treatment of slopes. The following mitigation measures have been outlined: (i) strengthening the design processes in the feasibility and detailed engineering stages in order to identify cost overruns early on; and (ii) strengthening the early monitoring system during execution of the works, both on-site and remotely.
- 2.11 A medium-high planning risk has also been identified, i.e. the time required to obtain environmental permits granted by the Ministry of the Environment and Natural Resources to the companies awarded the road works to extract materials from quarries. As a mitigation measure, ad hoc communication will be established early in the project cycle between the executing agency and the department in charge of permits at the ministry, with a view to facilitating permit issuance.
- 2.12 **Sustainability.** The program includes resources for the upkeep of rehabilitated and improved road segments (paragraph 1.29) for a period of 18 to 24 months. The MOPC will budget funds at a later date to ensure the long-term sustainability of the investments, which may take place through different programs and contracts (paragraph 1.4) that are executed regularly and have yielded satisfactory results in the area of road maintenance.

### **III. IMPLEMENTATION AND MANAGEMENT PLAN**

#### **A. Summary of implementation arrangements**

- 3.1 **Borrower and executing agency.** The borrower will be the Dominican Republic, and the executing agency will be the MOPC through the execution unit for externally financed projects (UEPFRE),<sup>61</sup> which has over two decades of experience in executing projects with the Bank and other international organizations (paragraph 1.17). The MOPC will coordinate and manage project execution, including fiduciary management activities, works supervision, and environmental and social matters. The UEPFRE will have a multidisciplinary technical team supported by expert staff, based on specific program execution needs. The executing agency's functions and responsibilities in terms of program execution include: (i) planning, coordinating, managing, and evaluating execution of the works; (ii) outlining the work plan and preparing the annual and multiyear

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<sup>61</sup> As established in MOPC [Resolution 14/2018](#).



budgets; (iii) maintaining appropriate controls and accounting and financial records; (iv) coordinating management of disbursements with the Bank; (v) proposing the framework for competitive processes and bidding, in accordance with technical studies and files; (vi) implementing monitoring and supervision activities; and (vii) preparing and submitting financial reports on execution and audited financial statements to the Bank.

- 3.2 **Project implementation arrangements.** In accordance with the multiyear programming ([required link 1](#)), the program plans to start the bidding on the road works for the sample projects in the fourth quarter of 2022, once the program is approved and ratified by the executive branch, and the preliminary technical project studies have been completed. The procurement periods will be sequenced in a manner consistent with regular execution, depending on budget availability and the time required of the technical teams. The bidding processes for road rehabilitation and improvement will be structured in batches, based on the location of the roads by province and for amounts consistent with the scale of the potential bidding market. Routine maintenance contracts by levels of service will be structured to encourage small and medium-sized business at the regional level, prioritizing the employment of women.
- 3.3 **Special contractual conditions precedent to the first disbursement of the loan:** (i) the approval of the program Operating Regulations ([optional link 8](#)), which include workflows, internal controls, and environmental and social management plans describing the requirements and procedures that apply to program execution, under the terms previously agreed upon with the Bank; and (ii) the appointment of the following staff exclusively dedicated to program execution: (a) a project manager; (b) a technical coordinator; (c) a planning specialist; (d) a procurement specialist; (e) a financial specialist; (f) a geotechnical specialist; (g) an environmental specialist; and (h) a social specialist, with emphasis on gender issues. These measures are necessary since, based on the Bank's experience in the region, the approval of the program Operating Regulations prior to the first disbursement supports the executing agency's internal organization for implementation of the operation. Additionally, the program will have staff in specific roles to achieve the proposed objectives.
- 3.4 **Special contractual conditions for execution:** To ensure the due fulfillment of the socioenvironmental considerations during execution of the program's works, the borrower will fulfill the special obligations and conditions described in Annex B of the environmental and social management report, which will also be included in the respective loan contract ([required link 3](#)).
- 3.5 **Fiduciary agreements and requirements.** These establish the framework for financial management and planning, as well as supervision of the anticipated procurement during program execution. Loan proceeds may be disbursed through the modalities of advances of funds, expenditure reimbursement, and direct payments to suppliers. In the case of advances of funds, disbursements will be made according to the program's financial plan covering a period of up to six months. The Bank may advance additional funds once at least 80% of the funds advanced have been accounted for. The financial review of disbursement requests will be conducted ex post.
- 3.6 **Procurement of works, goods, and services.** Works, goods, and consulting services will be procured in accordance with the Policies for the Procurement of

Goods and Works Financed by the Inter-American Development Bank (document GN-2349-15) and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-15) or updates thereof. The procurement plan ([required link 4](#)) describes the expected procurements, in line with the fiduciary requirements and agreements annex.

- 3.7 **Audits.** The external audit of the project will be conducted by an external audit firm acceptable to the Bank. The independent external audit firm will be hired and financed with program resources, in accordance with the procedures, terms of reference, and request for proposals that have received the Bank's no objection. During execution, the audited financial statements will be submitted: (i) annually to the Bank, within 120 days after the end of the fiscal year; and (ii) upon program completion, no later than 120 days after the last disbursement.

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

- 3.8 **Monitoring.** The monitoring and evaluation plan ([required link 2](#)) will support the execution of the operation based on the targets and progress indicators outlined in the Results Matrix. To that end, the following instruments will be used: (i) the multiyear execution plan, the annual work plan, the procurement plan, and the annual external audits; (ii) semiannual progress reports, including indicators for monitoring impact, outcomes, execution of each component, and fulfillment of the operational requirements described in the program Operating Regulations ([optional link 8](#)), as well as the environmental, social, and occupational health and safety reports described in the environmental and social management report ([required link 3](#)); and (iii) audited financial statements. In addition, the executing agency will collect, store, and process information, indicators, and parameters, including the annual plans and the final evaluation, that are needed to prepare the project completion report.
- 3.9 **Evaluation.** A midterm evaluation and an ex post evaluation will be conducted to measure the results of the program's anticipated interventions over time, based on the indicators in the Results Matrix. The evaluation methodology will include, at a minimum: (i) an ex post cost-benefit analysis, using the same methodology as the ex ante analysis, as described in [required link 2](#); (ii) the results of financial execution; (iii) fulfillment of the established targets, based on the agreed results indicators; and (iv) fulfillment of contractual commitments.

Development Effectiveness Matrix		
Summary		DR-L1151
I. Corporate and Country Priorities		
Section 1. IDB Group Strategic Priorities and CRF Indicators		
Development Challenges & Cross-cutting Issues	-Productivity and Innovation -Gender Equality and Diversity -Climate Change -Institutional Capacity and the Rule of Law	
CRF Level 2 Indicators: IDB Group Contributions to Development Results	-Roads built or upgraded (km) -Regional integration agreements and cooperation initiatives supported (#) -Women beneficiaries of economic empowerment initiatives (#) -Countries with strengthened gender equality and diversity policy frameworks (#) -Targeted beneficiaries of public services that have been adapted for diverse groups (#) -Beneficiaries of enhanced disaster and climate change resilience (#) -Habitat that is sustainably managed applying ecosystem-based approaches (ha) -Agencies with strengthened digital technology and managerial capacity (#)	
2. Country Development Objectives		
Country Strategy Results Matrix	GN-3084	Improve support services for the productive sector, with an emphasis on strengthening linkages, competitiveness, and resilience
Country Program Results Matrix		The operations is included in the Operations Program 2022.
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		9.7
3.1 Program Diagnosis		2.5
3.2 Proposed Interventions or Solutions		3.2
3.3 Results Matrix Quality		4.0
4. Ex ante Economic Analysis		10.0
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		2.5
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		High
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, Internal Audit.  Procurement: Information System, Price Comparison, Contracting Individual Consultant, National Public Bidding.
Non-Fiduciary		
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		

The transport sector is a of importance for all socioeconomic activity in the Dominican Republic and matters for the country's productivity. Due to the pandemic, the sector faced great losses during 2020 but began to recover in 2021. Only an estimated 39% of road infrastructure is paved and the country scores 3.7 over 7 in the Global Competitiveness Index. Moreover, of neighborhood roads that allow access to agricultural production zones with low population density only 22% is in a good state. This all leads to an increase of costs and time for transport, as well as days lost due to rains. In this context, the program has as its general objective to contribute to improve the regional connectivity of the country through the provision of safe, trustworthy, and accessible transport services, guaranteeing their availability for the access of basic services and markets. The specific objectives are: (i) a reduction in the costs of vehicular operation for intervened roads; (ii) a reduction in the time of travel for users of the intervened roads; and (iii) to increase the climate resiliency of the intervened infrastructure to the effects of climate change. The program will channel US\$140MM for: (i) the rehabilitation and maintenance of the road network prioritizing vital routes for productive or touristic development and areas with higher poverty within the prioritized provinces thus facilitating linkages for producers with consumption centers; (ii) road maintenance of the benefitted infrastructure; and (iii) the strengthening of road management – through for example the updating of the inventory of the current state of roads (amongst several other actions). The investment will have a focus on infrastructure resilience in the face of natural disasters and climate change factors. The results indicators are appropriately defined to measure achievement under each specific objective. Some of the main results indicators include the average costs and times for transit both for heavy and lightweight vehicles in the rehabilitated roads and the average annual number of days of interruptions because of extreme climate events. The cost benefit analysis shows the operation is of net benefit with an ERR of 20.9%. The Monitoring and Evaluation Plan proposes a reflexive comparison for all the results indicators at closure as well as an ex-post cost benefit analysis.

## RESULTS MATRIX

<b>Project objective:</b>	The general objective of the program is to help improve regional connectivity in the country through the delivery of safe, reliable, and accessible transportation services, by ensuring their availability for access to basic services and markets and promoting an inclusive employment model for the program works. The specific objectives are: (i) to reduce vehicle operating costs on the roads targeted by the intervention; (ii) to decrease travel time for users on the targeted roads; and (iii) to make the targeted infrastructure more resilient to the effects of climate change.
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### GENERAL DEVELOPMENT OBJECTIVE

Indicators	Unit of measure	Base-line	Baseline year	Expected year of achievement	Target	Means of verification	Comments
General objective: To help improve regional connectivity in the country through the delivery of safe, reliable, and accessible transportation services, by ensuring their availability for access to basic services and markets and promoting an inclusive employment model for the program works.							
Road connectivity	Index score	74.80	2019	2027	80.00	Annual report of the <a href="#">Global Competitiveness Index</a> . World Economic Forum. Indicator 2.01	Scale of 0 to100 (best). The report was not published in 2020.
Women's workforce participation in projects executed by the OEPFRE of the MOPC	%	6.60 <sup>1</sup>	2021	2027	8.00%	Monitoring reports. Responsible party: MOPC.	The target was estimated by taking into account the increase in other projects.

<sup>1</sup> Based on a sample of 14 rural access roads targeted by interventions under the Sustainable Agroforestry Development Program (loan 4553-OC/DR).

### SPECIFIC DEVELOPMENT OBJECTIVES

Indicators	Unit of measure	Base-line	Base-line year	Year 1	Year 2	Year 3	Year 4	Year 5	Project end	Means of verification	Comments
Specific objective 1: Reduce vehicle operating costs <sup>2</sup> on the roads targeted by the intervention.											
Average vehicle operating cost on highways <sup>3</sup> in the sample that have been rehabilitated, <sup>4</sup> light vehicles	US\$ constant/ vehicle-kilometer	1.33	2021						0.83	Responsible party: MOPC	Supported by the transit study. HDM-4. <sup>5</sup>
Average vehicle operating cost on highways in the sample that have been rehabilitated, heavy vehicles		1.38	2021						1.01		
Average vehicle operating cost on rural access roads of the sample that have been improved, <sup>6</sup> light vehicles		1.25	2021						0.84		
Average vehicle operating cost on rural access roads of that sample that have been improved, heavy vehicles		1.29	2021						1.01		
Specific objective 2: Decrease travel time for users on the targeted roads.											
Average travel time on rehabilitated highways in the sample, light vehicles	hours	0.88	2021						0.50	Responsible party: MOPC	Supported by the transit study. HDM-4.
Average travel time on rehabilitated highways in the sample, heavy vehicles		0.91	2021						0.54		
Average travel time on improved rural access roads in the sample, light vehicles		0.55	2021						0.32		
Average travel time on improved rural access roads in the sample, heavy vehicles		0.56	2021						0.35		

<sup>2</sup> Average costs calculated considering the value of inputs for vehicle operation at 2021 prices. The target year should be compared with relative values for the same year.

<sup>3</sup> Highways in the sample: Enriquillo–Polo; Polo–Cabral; and Monte Plata–Bayaguana.

<sup>4</sup> Scope of rehabilitation activities: Repairing and/or adding longitudinal and transversal drainage on a paved highway, as well as improving or restoring the existing pavement so that its structural features can sufficiently support the expected transit loads. The highway will have a cross section of two lanes that are each at least 3.5 meters wide.

<sup>5</sup> HDM-4 is a software with related documents that is used to analyze, plan, manage, and evaluate maintenance, improvement, and decision-making related to the highway investments.

<sup>6</sup> Scope of improvement activities: One-time corrections to the horizontal and vertical geometry of the unpaved road; standardization of the width of the roadway to six meters, within the current space of the right-of-way, and construction of longitudinal and transversal drainage in order to manage surface runoff on the road. A granular road base is also considered, which will be covered with a double surface asphalt treatment.

Indicators	Unit of measure	Base-line	Base-line year	Year 1	Year 2	Year 3	Year 4	Year 5	Project end	Means of verification	Comments
Specific objective 3: Make the targeted infrastructure more resilient to the effects of climate change.											
Serviceability index <sup>7</sup> for roads in the sample	Index rating	2	2021	2	2	3	3	4	5	Transit study. Responsible party: MOPC	Scale from 1 to 5 Average rating for roads in the sample.
Average number of days of disruptions per year <sup>8</sup> as a result of extreme weather events on the roads in the sample	days	9.3	2021						2	Operational report. Responsible party: MOPC	

<sup>7</sup> Definition: Condition needed for a road surface to allow users to drive safely and comfortably at a given time. Rating: Very good (5); good (4); average (3); poor (2); very poor (1). American Association of State Highway and Transportation Officials (AASHTO).

<sup>8</sup> Based on the average number of days per year on highways and roads in the sample where, as a result of weather events (which may or may not be related to hurricanes), there was no serviceability, the road was closed to traffic, or traffic was severely restricted. The number of days with disruptions per segment will be calculated to determine the average for roads in the sample.

## OUTPUTS

Indicators	Unit of measure	Base-line	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	Project end	Means of verification	Comments	
Component 1: Rehabilitation and improvement of the road network												
Highways and rural access roads rehabilitated or improved by measures to adapt to weather impacts, universal accessibility criteria, and road safety parameters	kilometer	0	2021		50	140	160	57	407	Supervision reports. Responsible party: MOPC.		
Supervision of road interventions, contracted	unit	0			2	3			5			
Component 2. Road maintenance												
Highways and rural access roads with road maintenance based on levels of service	kilometer	0	2021			100	400	400	900	Supervision reports. Responsible party: MOPC.		
Component 3: Strengthening of road management												
Feasibility studies and engineering designs executed for projects in the program	unit	0	2021	1	2	0	0	0	3	Monitoring reports. Responsible party: MOPC.		
Consulting services for institution-strengthening in the MOPC, completed		0		0	1	0	0	0	1			
Road and bridge inventory, updated		0		0	0	0	1	1				
Consulting services to strengthen contract management in the MOPC, completed		0		0	1	0	0	1				
Training for women in nontraditional occupations, implemented		0		0	1	1	1	0	3			
Microenterprise manual for rural access road maintenance, updated		0		0	1	0	0	0	1			
Action plan defined for the Gender Department in the Office of the Deputy Minister of Planning within the MOPC	plans	0			0	1	0	0	0		1	
Training workshop developed to foster the inclusion of women and persons with disabilities in the labor force	unit	0			0	1	1	0	0		2	
Program impact evaluation, developed		0			0	0	0	0	1		1	
Road maintenance management system, set up and implemented		0			0	0	0	0	1		1	

Indicators	Unit of measure	Base-line	Baseline year	Year 1	Year 2	Year 3	Year 4	Year 5	Project end	Means of verification	Comments
Action plan defined for the inclusion of persons with disabilities in construction	unit	0		0	1	0	0	0	1		
Software and technological tools for road asset management, procured and operational		0		1	1	1	0	0	3		
Software and technological tools for project management and evaluation, procured and operational		0		0	1	0	0	0	1		
Equipment for remote monitoring and supervision of works, procured and operational		0		0	0	5	0	0	5		
Vehicles for works supervision		0		0	10	0	0	0	10		
Component 4: Environmental, social, and climate resilience considerations											
Environmental, social, and climate change management plan for the rehabilitation and improvement of highways and roads, developed and operational	unit	0	2021	0	0	0	1	0	1	Monitoring reports. Responsible party: MOPC.	
Environmental, social, and climate change management plan for road maintenance, developed and operational		0		0	0	0	0	1	1		
Disaster and climate change risk management plan, designed		0		0	0	0	0	1	1		
Environmental and social management manuals and guidelines for rural road projects, as well as projects to conserve protected areas		0		0	0	0	1	1	2		



Country: Dominican Republic

Division: INE/TSP

Operation: DR-L1151

Year: 2022

## FIDUCIARY AGREEMENTS AND REQUIREMENTS

**Executing agency:** Ministry of Public Works and Communications (MOPC), through the execution unit for externally financed projects (UEPFRE).

**Operation name:** Road Infrastructure Rehabilitation and Maintenance Program in the Dominican Republic

### I. FIDUCIARY CONTEXT OF THE EXECUTING AGENCY

#### 1. Use of country systems in the operation:

<input checked="" type="checkbox"/> Budget	<input checked="" type="checkbox"/> Reporting	<input checked="" type="checkbox"/> Information system	<input type="checkbox"/> National competitive bidding (NCB)
<input checked="" type="checkbox"/> Treasury	<input type="checkbox"/> Internal audit	<input checked="" type="checkbox"/> Shopping	<input type="checkbox"/> Other
<input checked="" type="checkbox"/> Accounting	<input type="checkbox"/> External control	<input type="checkbox"/> Individual consultants	<input type="checkbox"/> Other

#### 2. Fiduciary execution mechanism

<input checked="" type="checkbox"/>	Specific features of fiduciary execution	The MOPC, through the UEPFRE, will be in charge of program execution. As the executing agency, the MOPC/UEPFRE will be responsible for the program's financial management and procurement.
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#### 3. Fiduciary capacity

Fiduciary capacity of the executing agency	<p>The assessment of the executing agency's fiduciary capacity was conducted in the third quarter of 2021. Based on the results, the fiduciary risk level is medium for project execution. The executing agency is considered to be suitable for executing the project due to its extensive knowledge and experience in implementing Bank-financed projects. Previously, the Bank and the executing agency executed: (i) the Multiphase Program for Road Infrastructure, Phase I (loan 1931/OC-DR); and (ii) Productive Development and Competitiveness of the Province of San Juan (Subcomponent 2.1) (loan 3107/OC-DR). They are currently executing Component 2 of the Sustainable Agroforestry Development Program (loan 4553/OC-DR-2).</p> <p>With regard to the country's public finance management systems, the results of their evaluation (August 2017 and October 2019) indicate that average development is generally medium, and use of country systems does not pose any major risks for execution of Bank-financed projects. According to the updated diagnostic assessment of the government procurement system performed in February 2016 using the methodology of the OECD's Development Assistance Committee, a moderately advanced system is identified, with some opportunities for improvement in the areas of sanctions and control mechanisms.</p>
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#### 4. Fiduciary risks and response

Area (financial management/ procurement)	Risk	Risk level	Risk response
Financial management and procurement	Possible limitations in managing bidding processes and payments, and delays in preparing reports	Medium-high	<p>1. Actions for continued strengthening of the executing agency through training, assistance, and supervision in fiduciary matters, provided by the Bank.</p> <p>2. Strengthening the project team with support consultants so that the team can distribute its workload appropriately and thereby perform its financial management duties within the expected timeframes, as well as the work involved in designing and managing the bidding processes.</p>

5. Policies and guidelines applicable to the operation: Financial management: Financial Management Guidelines for IDB-financed Projects (document OP-273-12); Disbursement instructions; Instructions for financial reports and external audit of operations financed by the IDB: Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank (document GN-2349-15); Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (document GN-2350-15).

## II. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF THE LOAN CONTRACT

Applicable exchange rate for justifying expenditures in the local currency of the borrowing country: Option (b)(ii) of Article 4.10 of the general conditions of the loan contract, i.e. the exchange rate in effect on the date the expense is paid in the local currency of the borrowing country.
Type of audit: Annually, the program's audited financial statements, within 120 days after the close of each fiscal period at the latest. At the end of the project, the audited final financial statements within 120 days after the date of the final disbursement.
Other reports: At the beginning of each period, an unaudited financial execution report will be prepared within 60 days after the end of the six-month period.

## III. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT EXECUTION

<input checked="" type="checkbox"/>	Bidding documents	For procurement of works, goods, and nonconsulting services conducted in accordance with the procurement policies (document GN-2349-15), subject to international competitive bidding, the IDB's standard bidding documents will be used or those agreed upon by the executing agency and the Bank for a particular procurement process. The selection and contracting of consulting services will be conducted in accordance with the policies for the selection of consultants (document GN-2350-15) and will use the standard request for proposals issued by the Bank or that agreed upon by the executing agency and the Bank for a particular procurement process. The technical specifications and terms of reference will be reviewed during preparation of the selection processes by the project's sector specialist. This technical review may be ex ante and is independent of the procurement review.
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<input checked="" type="checkbox"/>	Recurring expenses	Recurring expenses required to start up the project, approved by the Project Team Leader and eligible for financing, will be incurred following the executing agency's administrative procedures. These procedures will be reviewed and accepted by the Bank provided they do not contravene the principles of economy, efficiency, and competition. At the borrower's request, these expenses will include financing for the salaries of the multidisciplinary technical staff members of the dedicated program execution unit. This expense is considered in line with policy GN-2331-11 and meets the eligibility and sustainability criteria.						
<input checked="" type="checkbox"/>	Procurement supervision	<p>Depending on the level of fiduciary risk identified for the project and the specific process, the supervision method will be ex ante or ex post. The ex post reviews will be performed in accordance with the annual supervision plan. The ex post review reports will include at least one physical inspection visit to the procurement processes subject to such reviews (the inspection will verify the existence of the procurement, leaving verification of their quality and compliance with the specifications to the sector specialist). The thresholds for ex post review are:</p> <table border="1"> <tr> <td>Works</td><td>Goods/services</td><td>Consulting services</td></tr> <tr> <td>N/A</td><td>N/A</td><td>Individual firms: US\$50,000</td></tr> </table>	Works	Goods/services	Consulting services	N/A	N/A	Individual firms: US\$50,000
Works	Goods/services	Consulting services						
N/A	N/A	Individual firms: US\$50,000						
<input checked="" type="checkbox"/>	Records and files	The executing agency will be responsible for maintaining the files and supporting documents for procurement processes and all receipts for payments made with project resources, in accordance with established procedures.						

#### Main procurement items

Description of item	Selection method	New procedures/ tools	Estimated date	Estimated amount
Goods				
Procurement of software and technological tools for the management of road assets	International competitive bidding (ICB)		Q4 - Year 1	US\$950,000
Works				
Rehabilitation works on highways and rural access roads in the province of Pedernales (160 km)	ICB		Q4 - Year 1	US\$58,920,000
Maintenance of rural access roads by levels of service in the province of Pedernales (160 km)	ICB		Q1 - Year 4	US\$1,911,000
Nonconsulting services				
Firms				
Technical and socioenvironmental feasibility studies, and engineering designs	Quality- and cost-based selection (QCBS)		Q3 - Year 1	US\$950,000
Environmental and social management plan	QCBS		Q3 - Year 1	US\$1,000,000
Individuals				

#### IV. FINANCIAL MANAGEMENT AGREEMENTS AND REQUIREMENTS

<input checked="" type="checkbox"/>	Programming and budget	The annual budget is prepared by the Ministry of Finance through the Budget Office, in coordination with the MEPyD and other government agencies linked to the process. The MOPC, through the UEPFRE, will be responsible for managing the project's planning and budget and will use planning tools, including the Bank's tools (project execution plan, annual work plan, procurement plan, and financial plan).
<input checked="" type="checkbox"/>	Cash flow and management of disbursements	<ul style="list-style-type: none"> <li>• The cash flow programming will be consistent with the annual work plan and procurement plan that have received the Bank's no objection and will cover a period of at least 12 months.</li> <li>• A special bank account at the Central Bank, in U.S. dollars, will be used for the project and will be managed by a subaccount within the treasury single account.</li> <li>• The exchange rate to be used will be the effective rate on the date of payment of an expense in local currency - option (b)(ii) of Article 4.10 of the general conditions of the loan contract.</li> <li>• The main disbursement modality for the program will be advances of funds, according to a financial plan up to six months. Additional funds may be advanced once 80% of the funds advanced have been accounted for.</li> </ul>
<input checked="" type="checkbox"/>	Accounting, information systems, and reporting	The specific accounting standards to be used are the International Public Sector Accounting Standards. For the operation's accounting records, the module for project execution units of externally funded projects in the country's Integrated Financial Management System (SIGEF) will be used as the technological platform, and cash-based accounting will be used. All of the project's main financial reports, including disbursement requests, will be generated directly by this system.
<input checked="" type="checkbox"/>	Internal control and internal auditing	The government's internal audit function is the responsibility of the Office of the Comptroller General of the Dominican Republic (CGRD). To carry out this function, the CGRD is supported by internal audit units inside each of the country's government agencies.
<input checked="" type="checkbox"/>	External control and financial reports	<p>The borrower and/or executing agency will select and contract external auditing services in accordance with the terms of reference previously agreed upon by the executing agency and the Bank. They will establish the types of review, frequency, and scope. The selected external auditor and the auditing standards to be applied will be acceptable to the Bank. The type of audit and qualification level may be adjusted during the life of the project depending on the results of Bank supervision.</p> <p>The audited financial statements required for the program are:</p> <ul style="list-style-type: none"> <li>– Annually: submitted to the Bank no later than 120 days after the close of each fiscal period (31 December).</li> <li>– At the end of the project: submitted to the Bank no later than 120 days after the date of the final disbursement.</li> </ul>
<input checked="" type="checkbox"/>	Financial supervision of the operation	Under the responsibility of the financial specialist, on-site and desk reviews and monitoring will be performed at minimum intervals of once a year, subject to adjustment during execution. Supervision will consist of monitoring the implementation of activities to boost the capacity of the unit, the status of fiduciary arrangements, ex post reviews, inspection visits, and ongoing dialogue and communication with the executing agency. Supervision will also be carried out through the annual financial audits.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

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

Dominican Republic. Loan \_\_\_\_/OC-DR to the Dominican Republic  
Road Infrastructure Maintenance and Rehabilitation  
Program in the Dominican Republic

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he 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 Dominican Republic, as Borrower, for the purpose of granting it a financing to cooperate in the execution of the Road Infrastructure Maintenance and Rehabilitation Program in the Dominican Republic. Such financing will be for the amount of up to US\$140,000,000 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)