

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

NICARAGUA

TRANSPORT SECTOR SUPPORT PROGRAM III

(NI-L1071)

LOAN PROPOSAL

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| 2. Monitoring and Evaluation Plan | http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=37749161 |
| 3. Environmental and Social Management Report (ESMR) | http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=37749090 |
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| OPTIONAL | |
| 1. Cost and Economic Feasibility Analysis | http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=37749218 |
| 2. Analysis of technical design options | http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=37749228 |
| 3. Technical note on the context for NI-L1071 | http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=37771908 |
| 4. Analysis of institutional capacity and other implementation considerations | http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=37749242 |
| 5. Environmental and Social Management Framework (ESMF) | http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=35311344 |
| 6. Training manual for implementation of the ESMF | http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=36169939 |
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| 8. Assessment of institutional capacities for procurement (MTI) | http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=37749336 |
| 9. Assessment of institutional capacities for procurement (FOMAV) | http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=37749305 |
| 10. Nicaragua's road network 2011 | http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=37047013 |
| 11. Program map | http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=37749349 |
| 12. Safeguards Policy Filter (SPF) and Safeguards Screening Form (SSF) | http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=37930563 |
| 13. Technical annex on regional integration | http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=37751252 |

ABBREVIATIONS

| | |
|--------|--|
| EIRR | Economic internal rate of return |
| ESMF | Environmental and Social Management Framework |
| ESMP | Environmental and Social Management Plan |
| ESMR | Environmental and Social Management Report |
| FOMAV | Fondo de Mantenimiento Vial [Road Maintenance Fund] |
| HDM-4 | Highway Development and Management Model Version 4 |
| JICA | Japan International Cooperation Agency |
| ICAS | Institutional Capacity Assessment System |
| INAFOR | Instituto Nacional Forestal [National Forestry Institute] |
| INETER | Instituto Nicaragüense de Estudios Territoriales [Nicaraguan Institute of Territorial Studies] |
| MARENA | Ministry of Environment and Natural Resources |
| MTI | Ministry of Transport and Infrastructure |
| OEL | Optional electronic link |
| PACEMO | Proyectos de Adecuación, Conservación Especial y Mantenimiento de Tramos del Corredor Pacífico [Improvement, Special Conservation, and Maintenance Projects in Sections of the Pacific Corridor] |
| PCU | Projects Coordination Unit |
| REL | Required electronic link |
| RICAM | Red Internacional de Carreteras Mesoamericanas [International Network of Mesoamerican Highways] |
| TSSP | Transport Sector Support Program |

PROJECT SUMMARY

NICARAGUA TRANSPORT SECTOR SUPPORT PROGRAM III (NI-L1071)

| Financial Terms and Conditions | | | | |
|---|----------------------|--|-----------------------|-----------------------------------|
| Borrower: Republic of Nicaragua Executing agencies: Ministry of Transport and Infrastructure (MTI) and Road Maintenance Fund (FOMAV) | | | Ordinary Capital (OC) | Fund for Special Operations (FSO) |
| | | Amortization period: | 30 years | 40 years |
| | | Disbursement period: | 5 years | 5 years |
| | | Grace period: | 5.5 years | 40 years |
| Source | Amount (US\$) | Interest rate: | LIBOR | 0.25% |
| IDB (OC) | 45,750,000 | Inspection and supervision fee: | ** | N/A |
| IDB (FSO) | 45,750,000 | Credit fee: | ** | N/A |
| Local | 2,472,500 | Currency: | U.S. dollars | |
| Total | 93,972,500 | | | |
| Project at a Glance | | | | |
| <p>Project objective: The general objective of the program is to make road transport in Nicaragua more efficient in order to stimulate economic activity and contribute to the wellbeing of the population, while facilitating integration of the country's various regions with the rest of Central America. The specific objectives are: (i) to reduce vehicle operating costs; (ii) to increase travel speeds; (iii) to reduce traffic disruptions; (iv) to reduce accident rates; (v) to foster the preservation of road infrastructure assets; and (vi) to reduce the road network's vulnerability to climate change.</p> | | | | |
| <p>Special contractual conditions:</p> <p>(a) precedent to the first disbursement of the loan proceeds: (i) signature of an execution agreement between the Ministry of Finance and FOMAV for execution of Component 5, road maintenance (paragraph 2.9); and (ii) entry into force of the program's Operating Manual, with the Bank's no objection (paragraph 2.9);</p> <p>(b) during execution: (i) three months before issuing calls for tenders for the first of the works executed by both the MTI and FOMAV, a technical advisor will be contracted by each executing agency to support the technical structuring processes for the projects, preparation of bidding documents, execution, and contract administration with special emphasis on cost control, the quality of the works, and systematization of the lessons learned in each executing agency (paragraph 2.9); the hiring of these technical advisors is subject to the Bank's no objection; and (ii) before beginning the works, the respective works supervisor will be contracted, and evidence will be provided showing legal possession, easements, or rights to begin the works (paragraph 2.9);</p> <p>(c) Other special contractual conditions: (i) fulfillment of the conditions established in the Environmental and Social Management Report for this project, which is prepared based on the Environmental and Social Management Framework for the entire program (paragraph 2.9); and (ii) maintenance by FOMAV of the works financed with resources from this project and, for a maximum of four years after completion of each of the road works and within the first quarter of each calendar year, submission to the Bank of an annual report on the status of such works, along with the annual maintenance plan prepared by FOMAV (paragraph 2.9).</p> | | | | |
| Exceptions to Bank policies: None | | | | |
| Project consistent with country strategy: Yes [<input checked="" type="checkbox"/>] No [<input type="checkbox"/>] | | | | |
| Project qualifies as: SEQ [<input type="checkbox"/>] PTI [<input type="checkbox"/>] Sector [<input type="checkbox"/>] Geographic [<input type="checkbox"/>] Headcount [<input type="checkbox"/>] | | | | |

(**) 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 applicable provisions.

I. DESCRIPTION AND RESULTS MONITORING

A. Background, problems addressed, strategy, and rationale

- 1.1 **General background information.** With a total area of 130,373.4 km², Nicaragua is the largest country in Central America. In 2011, its estimated population was 5,888,900 inhabitants and its GDP was US\$7,297,500,000.¹ Nicaragua's economy grew an average of 2.8% per year between 2007 and 2011, in line with the other Central American countries.²
- 1.2 **Limits to economic and social growth.** Despite significant progress in recent years, the transport sector remains one of the most critical constraints on economic and social growth. International indicators show limited infrastructure quality, which negatively affects the country's competitiveness despite its productive potential. In its latest report, the World Economic Forum ranks Nicaragua 106 out of 144 in the infrastructure subindex.³
- 1.3 **Highway infrastructure is one of the principal logistical challenges.** One of the main challenges faced by Central American countries is overcoming the low level of logistical performance that not only affects their ability to integrate competitively with their neighbors but also with the global economy.⁴ The 2010 Logistics Performance Index ranks Nicaragua 107 out of 155,⁵ with infrastructure quality in 102nd place. Because of the country's geographical configuration, the location of its domestic production and trade areas and its commercial relations with countries in the Central American region and elsewhere, the country's road infrastructure is essential for its logistics performance.⁶
- 1.4 **Description of the national road network.** The road network is the predominant transport infrastructure for moving people and goods in Nicaragua.⁷ This is reflected in the continuous growth of the vehicle fleet, which increased from 234,245 vehicles in 2002 to 511,631 in 2012.⁸ According to data from the Ministry of Transport and Infrastructure (MTI) published in the *Red Vial Nicaragua* report of 2011,⁹ the national road network has a total of 23,647.1 km, of which only 3,150.8 km (13.3%) are paved, and approximately one third of the roads in the network are dry-season. A portion of this road network, known as the "basic road network," has a length of 7,985.3 km and connects the main centers of economic

¹ Source: Nicaragua in figures, Central Bank of Nicaragua, www.bcn.gob.ni.

² Source: document GN-2683, IDB Strategy with Nicaragua, 2012-2017.

³ Source: *World Economic Forum, The Global Competitiveness Report 2012-2013*.

⁴ *Chapter Six: Supply Chain Analyses of Exports and Imports of Agricultural Products: Case Studies of Costa Rica, Honduras, and Nicaragua; Getting the Most Out of Free Trade Agreements in Central America*, J. Humberto López and Rashmi Shankar, Editors, *The World Bank*.

⁵ Source: http://siteresources.worldbank.org/INTTLE/Resources/LPI2010_for_web.pdf.

⁶ Source: idem.

⁷ See [OEL#3](#).

⁸ Source: Road Planning Division, MTI, 2013.

⁹ See [OEL#10](#).

and social activity. The characteristics and condition of the road network constitute a sector problem (paragraph 1.8) that has a negative impact on the country's economic and social dimension (paragraph 1.11).

- 1.5 **Institutional framework of the road sector.** Nicaragua has a well-organized institutional framework for focusing on the construction and improvement of the road network as well as its maintenance. The MTI is the agency responsible for organizing and directing transport sector policy and for planning, preparing, contracting, and administering road improvement, opening, rehabilitation, and maintenance projects.¹⁰ The Road Maintenance Fund (FOMAV), an autonomous State agency, is responsible for ensuring the upkeep of the maintainable road network at the national level.¹¹ The coordination and complementarity existing between the two agencies seeks to ensure the sustainability of the country's road infrastructure assets. Both institutions have strong technical and management capacities in their respective areas of competence, with high levels of budget execution as well as experience in the preparation and execution of IDB-financed projects.¹²
- 1.6 **Bank involvement in the sector.** The Bank has a long history of support for the transport sector in Nicaragua, with operations dating back to 1965. Since 2004 the Bank has approved six operations totaling US\$218.7 million, through which it has contributed to improving highway infrastructure, road safety, and domestic and regional integration and to strengthening the institutional development of both the MTI and FOMAV.
- 1.7 **The Bank in support of regional integration.** The Bank's support for the sector in Nicaragua should be viewed from the broader perspective of its efforts to promote regional integration through the Mesoamerica Project. This project stimulates the creation of a multimodal transport system aimed at facilitating the internal and external connectivity of the region's economies, by improving transportation infrastructure and integration. In addition to investment loans that support this effort, a series of nonreimbursable technical-cooperation projects are currently being executed to facilitate the internal and external connectivity of Mesoamerica. Through these projects, not only will knowledge be generated and experiences shared, but the synergistic interaction of the public agencies involved in the challenges posed by integration will be strengthened.¹³

¹⁰ The MTI, through the Road Maintenance Bureau, is responsible for any maintenance that is not covered by FOMAV.

¹¹ The "maintainable network" refers to that portion of the basic road network that is in good or fair condition, for which periodic or routine maintenance work can extend its useful life. FOMAV is not responsible for the portion of the basic network that is in poor condition and therefore requires rehabilitation or reconstruction, nor is it involved with roads under municipal responsibility. FOMAV obtains revenues from fuel charges and contracts private companies for maintenance work and service. FOMAV guarantees that any road project will be properly maintained upon completion.

¹² See [OEL#4](#).

¹³ See [OEL#3](#).

- 1.8 **The problem.** The main problem in the sector can be defined as: (i) low density with respect to its territory (181.3 km/1,000 km²), which is below the Central American average (379.5 km/1,000 km²); and (ii) the poor condition of the paved and unpaved network. This situation is aggravated by the road system's vulnerability to natural phenomena, particularly those related to climate change, and the increase in traffic accidents.¹⁴ These issues impact the efficiency of road transport and in particular affect productive, primarily agricultural, activity, by generating higher transportation and logistics costs that limit the country's competitiveness. They also affect the population's access to basic services, thereby impeding achievement of the national objectives of economic growth and poverty reduction.¹⁵
- 1.9 **Causes of the problem.** The principal causes, as in other countries in the region, can be grouped in three main areas: (i) limited resources to meet the investment and maintenance needs of the road network; (ii) institutional limitations related to the complexity of the problem to be addressed; and (iii) the action and severity of natural phenomena, which translate into recurring damage to the road infrastructure that has been constructed and maintained, causing setbacks in progress and additional demands for resources.
- 1.10 **Determining the scope of the problem.** For this operation, a preliminary exercise was conducted to determine the scope of the road infrastructure problem in Nicaragua.¹⁶ This involved quantifying intervention needs over the next 20 years for the country's basic road network (7,985.3 km), using the World Bank's RNET Model (Road Network Evaluation Tools).¹⁷ Through this analysis, it was determined that the optimum investment scenario for maintaining this network (maximum net benefits /zero loss for society) would require an annualized amount of US\$180,600,000 per year over the 20 years of analysis (at current values).
- 1.11 **Consequences of the problem.** The road infrastructure problem (paragraph 1.8) has a negative impact on the country's competitiveness and affects the various supply chains, with the greatest impact on small exporters, whose transport costs are estimated to be four times higher than the costs of large exporters.¹⁸ Significant parts of the country lack land transportation routes, thus limiting the country's

¹⁴ During the 2010-2012 period, there was a continuous increase in the number of traffic accidents, which rose from 23,397 in 2010 to 26,164 in 2012, representing 24,844 traffic accidents per year. Fatalities increased from 571 to 664 during those years. Source: *Accidentes de tránsito, un problema de salud pública y su incidencia en la seguridad vial* [Traffic accidents, a public health problem and their effect on road safety], Strategic Studies and Public Policies Institute.

¹⁵ See [Transport Sector Note](#) attached to the 2012-2017 Country Strategy.

¹⁶ For the first half of 2014, the MTI will have the JICA-financed National Transportation Plan.

¹⁷ The RNET model is a tool developed by the World Bank to evaluate the performance of road maintenance and rehabilitation policies and the importance of the road sector to the economy.

¹⁸ Source: http://siteresources.worldbank.org/INTTLF/Resources/LPI2010_for_web.pdf.

productive and social integration.¹⁹ Recent literature highlights the impact of transportation and logistics on food prices, pointing out that transportation and logistics costs in developing countries are excessively high; for example, in the case of corn imported by Nicaragua from the United States, such costs account for 48% of the product's cost,²⁰ and the impact even extends to the family economy since corn is a product in the population's basic shopping basket. There are studies that conclude that investments in transport infrastructure may contribute to economic efficiency not only by reducing transportation costs, but also by reducing the need to keep high and costly inventories.²¹ Other studies²² suggest that greater access to productive and basic infrastructure in Nicaragua is associated with greater productivity, poverty reduction, and a lower infant mortality rate. Households that have access to rural roads are five times less likely to be poor than those that do not have such access.²³

- 1.12 **The Transport Sector Support Program (TSSP).** In order to address the problem described above (paragraph 1.8) in a sustainable manner, in 2010 the Government of Nicaragua and the Bank agreed to develop a series of individual and independent operations (TSSP I, II, and III), under the modality of multiple-works programs in the sector, that have the same objective, components, and executing agencies. TSSP III is part of a broader program of support for the sector promoted by the government.
- 1.13 **Principal accomplishments of TSSP I and TSSP II.** TSSP I (loan 2427/BL-NI), in the amount of US\$20,200,000, is currently being executed. With 73.4% of the resources disbursed, significant progress has been made on the works as planned. The MTI has completed the Las Flores-Catarina-Guanacaste project (17.6 km) and is constructing the Masaya ring road (6.8 km), scheduled for completion by the end of 2013. In addition, FOMAV has executed the Nandaime-Rivas-Peñas Blancas

¹⁹ The link between road development and economic development is addressed in the book: *Road Engineering for Development*, Richard Robinson & Bent Thagesen, Chapters 1 and 2, Second Edition, Taylor & Francis Group.

²⁰ *World Economic Forum, The Global Competitiveness Report 2012-2013, Box 1.1 Better logistics-a piece of the global security puzzle.*

²¹ *Public Capital, Growth and Welfare, Analytical Foundations for Public Policy*, Pierre-Richard Agénor, Princeton University Press, 2013.

²² Source: (i) Nicaragua: Analysis of the Impact of Infrastructure Services and Living Conditions in Rural Areas, Consultant's Final Report, ECLAC/IDB/FPRI Cooperation Project; (ii) Nicaragua Report on Poverty 1993-2005, Principal Report, 30 March 2008, World Bank document; (iii) Monograph *Oportunidades para Generar Ingresos en Nicaragua: Acceso a Infraestructura, Insumos de la Inversión, y Productividad Rural* [Opportunities for Income Generation in Nicaragua: Access to Infrastructure, Investment Inputs, and Rural Productivity], Diego Angel-Urdinola, Ezequiel Molina, and María Victoria Fazio, World Bank consultants; and (iv) Rural Roads Infrastructure Improvement Project, Report 61418-NI, World Bank, November 2011.

²³ Nicaragua: *Análisis del Impacto de los Servicios de Infraestructura y las Condiciones de Vida en las Zonas Rurales* [Analysis of the Impact of Infrastructure Services and Living Conditions in Rural Areas], Consultant's Final Report, ECLAC/IDB/FPRI Cooperation Project.

maintenance project (31 km) in the Pacific Corridor.²⁴ In terms of institutional strengthening, the project has been providing support for strengthening controls of vehicle weights and dimensions and the municipal roads divisions. As for road safety, the 2013-2018 Road Safety Strategy is being formulated, and in order to reduce the road network's vulnerability to climate change, the contract for a consulting firm to map vulnerable points in the road network is currently being tendered.

- 1.14 TSSP II (loan 2840/BL-NI), for US\$39,200,000, is currently in the eligibility stage and covers the La Paz Centro-Malpaisillo project (37.2 km), which supports regional integration; the Miralagos-Cuyali project (7.4 km), which supports improvement of the rural roads network and the maintenance of the Jinotega-Cuyalí section (11.0 km) to make that section continuous; and the Jinotepe-Nandaime project (22.0 km), which supports improving access to Nandaime-Rivas-Peñas Blancas toward the border with Costa Rica. In terms of institutional strengthening, the project continues to support controlling weights and dimensions and improving the execution of operations.²⁵ As for road safety, actions will be carried out as part of the 2013-2018 Road Safety Strategy and critical point interventions. In addition, under the component to reduce the road network's vulnerability to climate change, studies will be conducted on the most vulnerable points of the Chinandega-Guasaule route.
- 1.15 **The Bank's value added and principal lessons learned.** An important value added by the Bank is the design of the TSSP as a series of operations with the same objective, components, and executing agencies, which has made it possible to identify the first lessons learned to date, i.e.: (i) consistency and continuity in investment logistics,²⁶ both in terms of works and components that include priority issues such as road safety and reduced vulnerability to climate change; (ii) simultaneous work on road improvement, rehabilitation, and maintenance needs; (iii) strengthening of the two institutions that serve the sector—the MTI and FOMAV; (iv) inclusion of other public sector institutions to support environmental and social sustainability issues, such as the national police, the Nicaraguan Institute of Territorial Studies (INETER), and the Ministry of Environment and Natural Resources (MARENA) (paragraph 2.4); and (v) greater opportunities for knowledge transfer and assimilation of lessons learned in the design of operations, which translates into better execution.
- 1.16 **Rationale for Bank participation.** This operation is consistent with two of the Bank's five sector priorities as set forth in the "Report on the Ninth General

²⁴ The Las Flores-Catarina-Guanacaste project was completed within the contractual period with the required level of quality and no cost overruns; in the case of supervision, the lump-sum modality was introduced, which helped control the contractual cost. In the case of the Nandaime-Rivas-Peñas Blancas project, the work was completed within the contractual period, the original costs were maintained, and FOMAV performed additional road safety work financed with its own resources.

²⁵ See [MTI FOMAV Institutional Strengthening Plan \(2840/BL-NI\)](#).

²⁶ See Table 1 Map of TSSP I, II, and III interventions.

Increase in Resources” (document AB-2764): (b) infrastructure for competitiveness and social welfare, through projects to improve rural roads and the trunk network (paragraph 1.19); and (d) competitive regional and global integration, through road improvement, rehabilitation, and maintenance interventions on sections of the International Network of Mesoamerican Highways (RICAM). The project is also consistent with the Bank’s 2012-2017 Country Strategy with Nicaragua (document GN-2683), in that the transport sector is one of the four strategic priorities for Bank intervention, and this operation supports efforts to improve and rehabilitate roads and keep them in good condition. Such roads guarantee the continuous connection of productive sectors with both domestic and export markets, with special emphasis on the Mesoamerican region.

- 1.17 TSSP III introduces national and regional integration rationale in the context of the Sector Strategy to Support Competitive Global and Regional Integration (document GN-2565-4) since, according to its objectives: (i) it helps reduce transport and logistics costs, and (ii) improves the coverage, quality, and connectivity of transport infrastructure, thereby promoting the development of sustainable integration corridors. The details of these supporting arguments can be found in section II of the [technical annex on regional integration](#).²⁷ In this regard, TSSP III contributes to regional integration—with interventions that improve the efficiency of the Pacific Corridor—as well as national integration.

B. Objectives, components, and costs

- 1.18 **Objective.** The general objective of the program is to make road transport in Nicaragua more efficient in order to stimulate economic activity and contribute to the wellbeing of the population, while facilitating integration of the country’s regions with the rest of Central America. The specific objectives are: (i) to reduce vehicle operating costs; (ii) to increase travel speeds; (iii) to reduce traffic disruptions; (iv) to reduce accident rates; (v) to foster the preservation of road infrastructure assets; and (vi) to reduce the road network’s vulnerability to climate change. The following components have been established to achieve these objectives:
- 1.19 **Component 1. Improvement of rural roads and the trunk network (US\$63,684,000).** The MTI will use the resources allocated to this component to award contracts for improvement and rehabilitation works as well as for supervision services in the existing road network. This will contribute to the continuous integration of the productive sectors in domestic and export markets, with special emphasis on the Mesoamerican region, and will also facilitate the population’s access to social services.
- 1.20 The MTI’s priority is to improve the road network in order to increase access to basic services and markets. Accordingly, it has submitted the following projects for this loan operation: (i) improvement of the Villa 15 de Julio-Malpaisillo junction

²⁷ [See OEL#13.](#)

highway with a length 36.4 km, which, along with the La Paz Centro-Malpaisillo project (37.2 km) that was included in the TSSP II loan (2840/BL-NI), comprises an alternative route to the Pacific Corridor that will provide more efficient integration with the Guasaule border crossing with Honduras;²⁸ (ii) rehabilitation of the Boaco-Muy Muy highway (24.7 km) located in the departments of Boaco and Matagalpa, a road described by the MTI as a rural road²⁹ due to its importance to the agricultural production of the two departments; and (iii) rehabilitation of 31.4 km of the Chinandega-Guasaule highway that is part of the Pacific Corridor (PACEMO NIC-1).³⁰

- 1.21 **Component 2. Institutional strengthening of the MTI (US\$309,000).** The MTI will use the resources allocated to this component to award contracts for technical assistance, services, and minor space improvement works, in order to help strengthen its institutional capacities. The actions will focus on the preinvestment area of the Planning Division, contract administration handled by the Roads Bureau/the Bank's project coordination unit and the Procurement Office through manuals, equipment, and the physical improvement of the filing area.
- 1.22 **Component 3. Road safety (US\$3,030,000).** The MTI will use the resources allocated to this component to award contracts for works and services and to acquire goods to improve road safety at critical points, through the construction of sidewalks and bike paths, traffic signs, and the construction of pedestrian bridges.
- 1.23 The interventions envisaged in this component, along with educational campaigns on road safety included in the Environmental and Social Management Plan (ESMP), are a continuation of the alignment efforts in the context of the Road Safety Strategy for Latin America and the Caribbean promoted by the Bank, as well as the 2013-2018 Road Safety Strategy now being prepared with resources from TSSP I (loan 2427/BL-NI), in order to reduce the high accident rates caused by the interaction of vehicles, pedestrians, and cyclists.
- 1.24 **Component 4. Reduction of the road network's vulnerability to climate change (US\$3,274,000).** The MTI will use the resources allocated to this component to award contracts to reduce the vulnerability of the Chinandega-Guasaule section of

²⁸ Freight imported and exported by Nicaragua through Honduras basically uses the corridor that goes through the Guasaule border crossing, connecting the principal production and consumption areas of Nicaragua with Puerto Cortés in Honduras; this corridor also has access to the principal ports of Corinto and Sandino in Nicaragua. Source: [*Estudio Situación y Diseño de estudios Preliminares para un Puerto de Aguas Profundas en el Caribe Nicaragüense, y sus conexiones terrestres*](#) [Location Study and Design of Preliminary Studies for a Deepwater Port in the Nicaraguan Caribbean and its land connections], consultant Alfredo Irisarri, December 2012.

²⁹ "Rural road" refers to the main overland route used to access geographic areas with features conducive to agricultural, forestry, and other types of production, whose volume and value represent a significant category in the economic activity of the area and the country.

³⁰ The technical and economic feasibility study and the design of the Chinandega-Guasaule project will be prepared by the MTI through a consulting firm to be financed with the preinvestment resources and designs of loan 2840/BL-NI, see [\(Technical file\)](#).

the Pacific Corridor at critical points of access to the border with Honduras. The designs for the interventions along this road section are being prepared with funds from TSSP II.³¹

- 1.25 **Component 5. Road maintenance (US\$15,727,100).** Using the resources allocated to this component, FOMAV will award contracts for maintenance works based on service levels³² and supervision in the Las Piedrecitas-Nagarote-Izapa junction section, over a length of 60.5 km of the primary trunk network that is part of the RICAM.³³ These resources will also finance the procurement of equipment and services that will strengthen the pavement management system for the trunk network and rural roads, as well as FOMAV's institutional strengthening in the areas of planning, management, and execution of road maintenance nationwide.
- 1.26 The loan includes resources for the following administration and management activities: (i) financial audits; (ii) monitoring and evaluation; (iii) consulting and technical assistance for the MTI; (iv) environmental and social management; and (v) preinvestment studies and designs. In addition, resources will be allocated for contingencies and finance charges (interest), which may be financed with loan proceeds as eligible expenses.
- 1.27 **Selection criteria.** Other activities or projects to be financed with program resources are identified in the program's Operating Manual, which will stipulate that projects must exhibit the technical, environmental, and social feasibility and the economic return required by the Bank, with an economic internal rate of return (EIRR) of at least 12%.
- 1.28 **Description of beneficiaries of TSSP III.** This project benefits the users of the Pacific Corridor who travel to and from the Guasaule border with Honduras, as well as the inhabitants of the cities of León and Chinandega, primarily through improved road safety by offering an alternative road for heavy vehicles that will travel on the new corridor formed by the Malpaisillo-Villa 15 de Julio and La Paz Centro-Malpaisillo sections.³⁴ It also benefits producers, merchants, and the general population of the municipios of Boaco and Muy Muy. The Las Piedrecitas-Nagarote-Izapa junction project benefits users and producers who travel between Managua and the municipios located in the western region. It is estimated that the

³¹ See document: *Disminución de la vulnerabilidad de la red vial al cambio climático sobre la ruta Chinandega-Guasaule* [Reduction of the road network's vulnerability to climate change on the Chinandega-Guasaule route].

³² Maintenance contracts based on results or service levels are an innovative type of contract under which the entity responsible for maintenance awards a lump-sum contract to a company to perform rehabilitation work during the first year and maintain the road at a defined level of service or standard over an agreed three-year period.

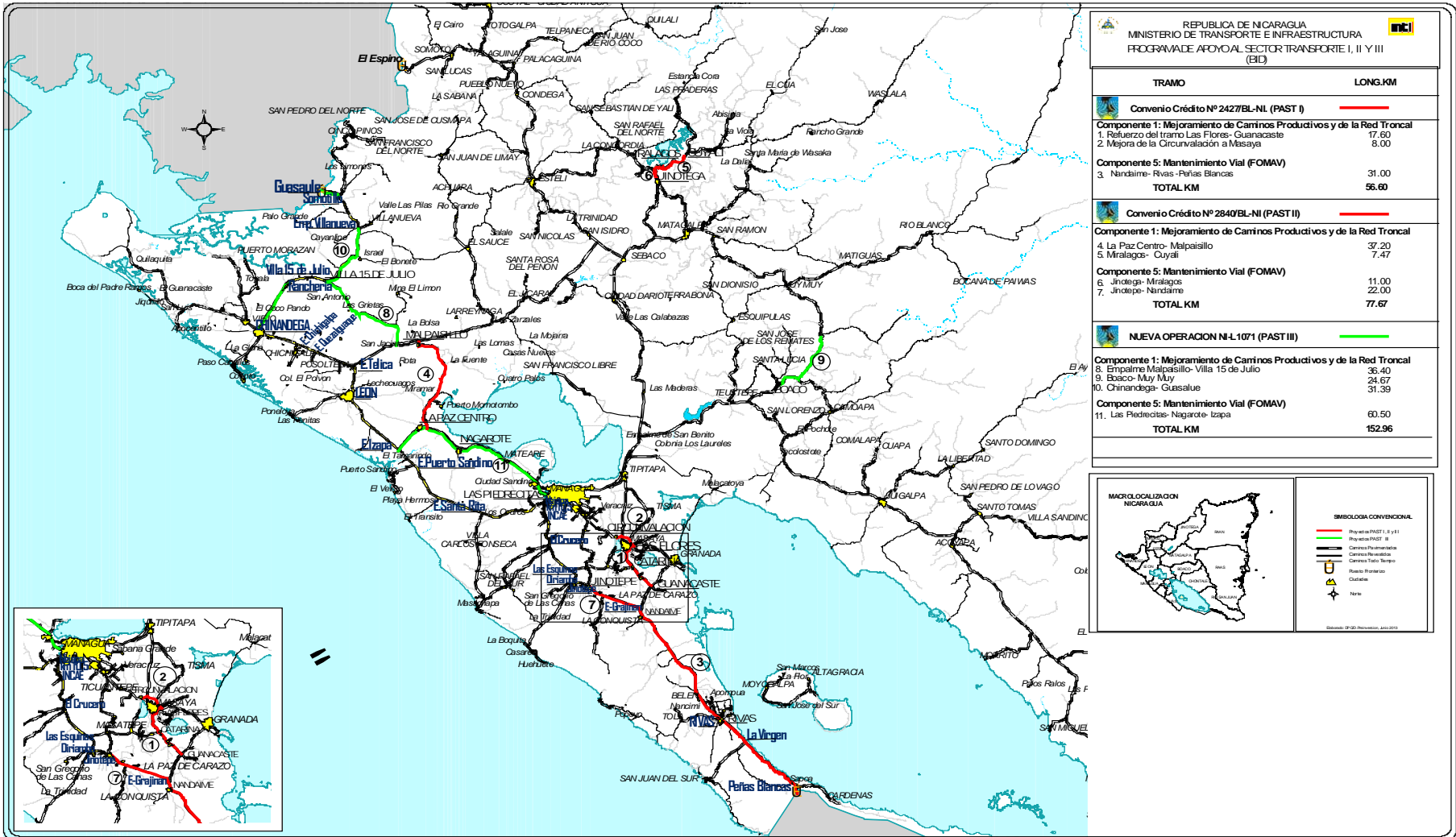
³³ FOMAV has resources it uses for maintenance of the maintainable road network beyond the commitments of this operation. See Technical note on the context for NI-L1071 ([OEL#3](#)).

³⁴ Having heavy vehicles bypass major cities such as León and Chinandega is consistent with the support the IDB is giving to the Sustainable Emerging Cities Initiative.

total number of beneficiaries of the road investment components is 419,850 inhabitants, 214,253 (51%) of whom are women and 205,597 (49%) are men.³⁵

³⁵ Source: Data obtained from the 2005 Population Census. More details on the beneficiaries and description of the service area can be found in the [Analysis of Costs and Economic Feasibility](#) and in the feasibility documents for the projects submitted by the executing agencies; (i) [Malpaisillo-Villa 15 de Julio](#); (ii) [Boaco-Muy Muy](#); and (iii) [Las Piedrecitas-Nagarote-Izapa junction](#).

Table 1. Map of TSSP I, II and III Interventions



- 1.29 **Costs.** The total cost of this operation will be US\$93,972,500, of which US\$91,500,000 will be financed by the Bank with parallel funds drawn from the Single Currency Facility of the Ordinary Capital and the Fund for Special Operations and US\$2,472,500 will constitute the local contribution of the Government of Nicaragua. The project will have an execution period of five years. The breakdown of costs is presented in Table 1 below.

Table 1. Costs and financing (U.S. dollars)

| Investment Category | | Bank contribution | Local counterpart | Total |
|---------------------|---|-------------------|-------------------|-------------------|
| A | Direct costs | 83,713,000 | 2,311,100 | 86,024,100 |
| 1 | Improvement of rural roads and the trunk network | 62,606,000 | 1,078,000 | 63,684,000 |
| 2 | Institutional strengthening of the MTI | 300,000 | 9,000 | 309,000 |
| 3 | Road safety | 3,000,000 | 30,000 | 3,030,000 |
| 4 | Reduction of the road network's vulnerability to climate change | 3,210,000 | 64,000 | 3,274,000 |
| 5 | Road maintenance | 14,597,000 | 1,130,100 | 15,727,100 |
| B | Administration and management | 1,450,500 | 161,400 | 1,611,900 |
| 1 | Audits | 240,000 | 36,000 | 276,000 |
| 2 | Monitoring and evaluation | 330,000 | 32,000 | 362,000 |
| 3 | Consulting and technical assistance | 200,000 | 0 | 200,000 |
| 4 | Environmental and social management | 130,000 | 4,400 | 134,400 |
| 5 | Studies, preinvestment and design | 550,500 | 89,000 | 639,500 |
| C | Contingencies | 4,466,500 | 0 | 4,466,500 |
| D | Financial expenses | 1,870,000* | 0 | 1,870,000 |
| Total US\$ | | 91,500,000 | 2,472,500 | 93,972,500 |
| | | 97% | 3% | 100% |

* Interest may be financed with loan proceeds.

- 1.30 **Project sample.** A sample of projects was analyzed, the amount of which represents 60.9% of this operation.³⁶ The MTI and FOMAV identified the sample of projects indicated in Table 2 and have submitted the updated technical, economic, and social-environmental feasibility studies. Due diligence was performed to verify the technical and economic consistency of these projects; the proposed interventions were shown to be consistent with the objective of this project, and are feasible from both the technical and social-environmental standpoint; the rates of return resulting from the economic evaluation verified by the project team³⁷ are reasonable and typical for projects of this kind. The indicators of economic return are shown below.

³⁶ A sample representing a minimum of 30% of the resources must be evaluated in multiple-works projects.

³⁷ See [OEL#1](#).

Table 2. Sample of projects

| Component/ Project | Cost (US\$) | Observations |
|--|----------------|---|
| Component 1: Improvement of rural roads and the trunk network | | |
| Improvement of the Villa 15 de Julio-Malpaisillo junction highway | 30,307,300 | Length: 36.4 km. Paving of the road, construction of eight bridges, cross and longitudinal drainage works, traffic signs, environmental mitigation works, and supervision. EIRR 34.4%. |
| Rehabilitation of the Boaco-Muy Muy highway | 11,584,200 | Length: 24.7 km. Base stabilization, replacement of wearing surface, culverts, rehabilitation of cross drainage, traffic signs, environmental mitigation works, and supervision. EIRR 19.2%. |
| Component 5: Road maintenance | | |
| Section of the Las Piedrecitas -Nagarote-Izapa junction highway | 15,315,600 | Length: 60.5 km. Periodic maintenance based on service levels includes improvement works during the first year and maintenance for three years plus supervision. EIRR 33.9%. |

C. Key results indicators

- 1.31 The aim is to achieve the following results: (i) physical, such as the execution of works, including road improvement, rehabilitation, and maintenance, which will facilitate domestic and regional integration through the resulting improvement in the efficiency of road transport, reduction of traffic interruptions, increase in the quality of infrastructure (measured by the International Roughness Index), and preservation of the asset value of the roads; there will also be an alternative road to the Pacific Corridor that will save 27.7 km of distance traveled; (ii) operational, such as reduction in vehicle operating costs and travel times, as well as improvement of the capacity of roads near the population centers of León and Chinandega, as a result of the bypass for heavy vehicles; (iii) road safety, such as reducing the traffic accident rate on the roads improved by the program; and (iv) institutional strengthening of the MTI and FOMAV through technical assistance and institutional development. [Annex II](#) presents the detailed Results Framework.

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financing instruments

- 2.1 This operation will be a multiple-works investment loan. The projected disbursement schedule is presented below.

Table 3. Projected disbursement schedule (US\$)

| Source | 2014 | 2015 | 2016 | 2017 | 2018 | Total |
|-------------------|------------------|-------------------|-------------------|-------------------|------------------|-------------------|
| IDB | 4,711,700 | 25,782,100 | 29,887,900 | 22,910,400 | 8,207,900 | 91,500,000 |
| Local counterpart | 74,100 | 593,500 | 745,600 | 655,500 | 403,800 | 2,472,500 |
| Total | 4,785,800 | 26,375,600 | 30,633,500 | 23,565,900 | 8,611,700 | 93,972,500 |

B. Environmental and social risks

- 2.2 **Positive environmental and social risks.** The project has been classified as a category “B” operation, in accordance with the Bank’s Environment and Safeguards Compliance Policy (OP-703). The characteristics and objectives of the works are designed to produce significant positive social and environmental impacts.³⁸
- 2.3 **Negative environmental impacts and mitigation measures.** This loan does not call for financing any large-scale works that would cause significant environmental disruption, or any works in areas of high environmental and social sensitivity. The Environmental and Social Management Framework (ESMF) developed for loan 2427/BL-NI is still in force, and there is also the Environmental and Social Management Report (ESMR) that describes in more detail the environmental and social conditions that should be applied to this loan.
- 2.4 To mitigate social and environmental impacts during the construction stage, which are typical of this type of project, the pertinent mitigation measures will be adopted (OP-703, OP-704, OP-710, and OP-765) and will be included in the budget and tendering of works. This operation includes an ESMP with actions to mitigate the direct impacts of the works as well as indirect impacts on two protected areas, which consider: (i) a Land Management Plan for the department of Chinandega, implemented through an MTI-INETER agreement; (ii) the MTI-MARENA agreement to contribute to the management of protected areas, including environmental education and training for farmers in the use of sustainable practices and forest fire prevention; and (iii) road education for local stakeholders through the agreement between the MTI and the national police. No expropriation of property or illegal settlements on rights of way is anticipated, but in the event expropriations are identified, the compensation measures and costs will be included in the project budget. To expedite the implementation of the agreements, the MTI will transfer the needed funds once the institutions involved have submitted the plan of activities, terms of reference, budget, and timetable, which must be approved in advance by the MTI and are subject to the Bank’s no objection. The respective procedure will be agreed upon in the program’s Operating Manual.
- 2.5 **Good environmental and social management practices.** The MTI has gained significant experience in the implementation of the Bank’s Environment and Safeguards Compliance Policy, notably the success of the ESMP for loan 1796/SF-NI, the Acoyapa-Costa Rica Border Road Integration Program executed through interagency agreements with MARENA, the National Forestry Institute (INAFOR), INETER, and the national police, as well as local governments and the beneficiary communities, all of which constitutes good practices that can be

³⁸ See [REL#4](#).

replicated in new projects.³⁹ A study on indirect environmental and social impacts was conducted as part of the preparation of this operation.⁴⁰

C. **Fiduciary risks**

- 2.6 A report was prepared assessing the fiduciary institutional capacity (financial and procurement) on each executing agency. It was noted that, in the area of fiduciary management, both the MTI and FOMAV have made significant progress in their execution and control capacities; a medium level of risk was therefore assigned. Both executing agencies should continue their efforts to make ongoing improvements in the areas of control, financial planning, and disbursements.

D. **Other issues and risks**

- 2.7 **Technical and economic feasibility.** During the preparation of this operation the technical and economic feasibility of the projects in the sample was verified (paragraph 1.30) using the HDM-4 model. As a risk prevention measure to prevent cost overruns, prior to tendering the works, it will be necessary to update and/or revise the designs and budgets and to confirm that the costs are within the range of the economic sensitivity analysis. If there are any significant variations, economic feasibility will be verified. During the execution of this loan, the MTI will commission technical studies on the rehabilitation of 31.4 km of the Chinandega-Guasaule highway that is part of the Pacific Corridor (PACEMO NIC-1). Prior to the tendering process, the technical and economic feasibility study using the HDM-4 model will be submitted to the Bank for its no objection. The borrower undertakes to ensure that the MTI and FOMAV each contract a technical advisor using the loan proceeds. These advisors will support the technical structuring of the projects, the preparation of tendering documents, execution, and contract administration, with special emphasis on cost control, quality, and systematization of lessons learned, and will also support the project cycle until the final acceptance of works (paragraph 2.9). The technical advisors will be contracted subject to the Bank's no objection.
- 2.8 **Execution risks.** The risks related to execution are considered low for the following reasons: (i) the works under consideration are not of any particular technical complexity; (ii) both the MTI and FOMAV have experience with similar projects; and (iii) there are construction firms and supervisors available to carry out and supervise the works to be financed. To mitigate the risks of cost overruns the following measures have been taken: (i) designs and budgets have been updated (paragraph 2.7); (ii) a full-time technical advisor has been engaged for each executing agency (paragraph 2.9), financed with the loan proceeds; and (iii) price adjustment formulas have been incorporated when deemed appropriate.⁴¹

³⁹ Source: [ESMP report](#) and presentation of the [ESMP](#) prepared by the MTI.

⁴⁰ See [OEL#7](#).

⁴¹ There is empirical evidence from the first program (2427/BL-NI) on the positive impact of the measures aimed at mitigating the risk of incurring cost overruns, which are similar to those adopted for this new operation. See footnote 24.

- 2.9 The following special contractual conditions have been set: (a) **Precedent to the first disbursement of the loan proceeds:** (i) **signature of an execution agreement between the Ministry of Finance and the Road Maintenance Fund (FOMAV) for execution of Component 5, road maintenance (paragraph 1.25); and (ii) entry into force of the program's Operating Manual, with the Bank's no objection (paragraph 3.2);** (b) **During execution:** (i) three months before issuing calls for tenders for the first of the works executed by the MTI and by FOMAV, respectively, a technical advisor will be contracted by each executing agency to support the technical structuring processes for the projects, preparation of bidding documents, execution, and contract administration with special emphasis on cost control, the quality of the works, and systematization of the lessons learned (paragraph 2.7); the hiring of these technical advisors is subject to the Bank's no objection; (ii) before beginning the works, the respective works supervisor will be contracted, and evidence will be provided showing legal possession, easements, or rights to begin the works (paragraph 3.1); and (c) **Other special contractual conditions:** (i) fulfillment of the conditions established in the ESMR for this project, which is prepared based on the ESMF for the entire program (paragraph 2.3); and (ii) maintenance by FOMAV of the works financed with resources from this project and, for a maximum of four years after completion of each of the works and within the first quarter of each calendar year, submission to the Bank an annual report on the status of such works, along with the annual maintenance plan prepared by FOMAV (paragraph 2.10).
- 2.10 **Sustainability of investments.** FOMAV will be responsible for maintaining the road works financed under this project, which will have priority since they are recent investments in roads that have become maintainable (see [OEL#3](#)). To this end, FOMAV will send an annual report to the borrower on the status of those works, to be forwarded to the Bank together with the annual maintenance plan referenced in the preceding paragraph.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Implementation arrangements

- 3.1 **Borrower and executing agency.** The borrower will be the Republic of Nicaragua and the executing agencies will be the MTI (Components 1, 2, 3, and 4) and FOMAV (Component 5). The MTI will be responsible for the administration and management of the operation. The coordination of the activities involved in executing the project will be supported by the various administrative and technical units of each executing agency. Before beginning the works, the respective works supervisor will be contracted, and evidence will be provided showing legal possession, easements, or rights to begin the works.
- 3.2 **Operating manual.** The program has a single operating manual that sets out the operational aspects of a technical, economic, social, environmental, and fiduciary nature to be applied by the executing agencies for its implementation. This tool will be used for this operation as well as for loans 2427/BL-NI and 2840/BL-NI. The

performance of the agreements between the MTI and MARENA, the national police, INETER, and INAFOR, as applicable, will be governed by this manual. The operating manual will be updated to include the specific aspects of this operation.

- 3.3 **Financial management.** The project's financial and accounting management will be handled by the financial and accounting units of the two executing agencies. A report was prepared assessing the fiduciary institutional capacity (financial and procurement) on each executing agency, which found that, since the last evaluation conducted in August 2012, both agencies have improved their fiduciary capacities and completed the agreed upon action plans in the areas of control, financial planning, and disbursement management.
- 3.4 **Procurement.** The procurement of goods, works, and services envisaged in this operation will be carried out by the MTI's procurement office and FOMAV's procurement division, for the components under their respective responsibility, in accordance with the "Policies for the procurement of works and goods financed by the IDB" (document GN-2349-9) and the "Policies for selection and contracting of consultants financed by the IDB" (document GN-2350-9), both of March 2011. [Annex III – Fiduciary Agreements and Requirements](#) presents the general management framework for procurement.

B. Summary of arrangements for monitoring and evaluation of results

- 3.5 **Monitoring.** During execution of the project, the executing agencies will submit consolidated semiannual progress reports to the Bank, indicating the progress made in each component, including the indicators agreed upon in the [Results Framework](#). The reports will also include: (i) a description of the activities carried out; (ii) updated timetables for physical execution and disbursements; (iii) the extent to which the agreed execution indicators have been achieved;⁴² (iv) a program of activities for the coming six months; (v) a summary of the project's financial execution status and a forecast of the flow of funds for the next six months; (vi) identification of possible events that could jeopardize execution of the project; (vii) a description of how the procurement processes in the Operating Manual were revised and adjusted based on the Bank's recommendations; and (viii) consolidated information on the social and environmental management of the project and the works that require an Environmental Impact Assessment. The borrower will submit to the Bank: (i) a midterm evaluation of the project when 50% of the funding has been disbursed; and (ii) a final evaluation when the project is 90% disbursed. These evaluations will include at least the following: (i) the results of financial execution for each component; (ii) fulfillment of the established targets, in accordance with the agreed results indicators; and (iii) compliance with the contractual commitments.⁴³
- 3.6 **External audit.** Within 120 days of the close of the respective fiscal year, the borrower will submit the financial statements for the project to the Bank on an

⁴² See [Annex II – Results Framework](#).

⁴³ See [REE#3](#).

annual basis, duly audited by an independent audit firm acceptable to the Bank. The cost of these audits will be financed with the loan proceeds.

| Development Effectiveness Matrix | | | |
|---|--|---|---------------|
| Summary | | | |
| I. Strategic Alignment | | | |
| 1. IDB Strategic Development Objectives | Aligned | | |
| Lending Program | i) Lending to small and vulnerable countries and ii) Lending to support regional coperation and integration. | | |
| Regional Development Goals | Paved road coverage (km/km²). | | |
| Bank Output Contribution (as defined in Results Framework of IDB-9) | Km of inter-urban roads built, maintained or improved. | | |
| 2. Country Strategy Development Objectives | Aligned | | |
| Country Strategy Results Matrix | GN-2683 | The intervention contributes to build, improve, and rehabilitate highways and rural roads and keep them in a good state of repair, so as to ensure productive sectors have access at all times to both domestic and export markets, with particular emphasis on the Meso-American region. | |
| Country Program Results Matrix | GN-2696 | The intervention is included in 2013 Country Program Document. | |
| Relevance of this project to country development challenges (If not aligned to country strategy or country program) | | | |
| II. Development Outcomes - Evaluability | Highly Evaluable | Weight | Maximum Score |
| | 8.3 | | 10 |
| 3. Evidence-based Assessment & Solution | 8.9 | 33.33% | 10 |
| 4. Ex ante Economic Analysis | 10.0 | 33.33% | 10 |
| 5. Monitoring and Evaluation | 6.1 | 33.33% | 10 |
| III. Risks & Mitigation Monitoring Matrix | | | |
| Overall risks rate = magnitude of risks*likelihood | Medium | | |
| Identified risks have been rated for magnitude and likelihood | Yes | | |
| Mitigation measures have been identified for major risks | Yes | | |
| Mitigation measures have indicators for tracking their implementation | Yes | | |
| Environmental & social risk classification | B | | |
| IV. IDB's Role - Additionality | | | |
| The project relies on the use of country systems (VPC/PDP criteria) | Yes | Financial Management: Budget, Treasury, and Accounting and Reporting. Procurement: Information System. | |
| The project uses another country system different from the ones above for implementing the program | | | |
| The IDB's involvement promotes improvements of the intended beneficiaries and/or public sector entity in the following dimensions: | | | |
| Gender Equality | | | |
| Labor | | | |
| Environment | Yes | 45 technicians from FOMAV and MTI were trained on the implementation of the Framework for Environmental and Social Management (ESMF) in the integral project cycle. | |
| Additional (to project preparation) technical assistance was provided to the public sector entity prior to approval to increase the likelihood of success of the project | Yes | The Bank hired a team of experts to strengthen the technical and management aspects of the executing agencies. The Bank supports the MTI in the analysis of the transit origin-destination surveys and the analysis of economic evaluation. The Bank is also providing support for the study on the design-buildings methods. | |
| The ex-post impact evaluation of the project will produce evidence to close knowledge gaps in the sector that were identified in the project document and/or in the evaluation plan | | | |

The program's overall objective is to contribute to improve the efficiency of transportation by road in Nicaragua, in order to stimulate economic activity and welfare of the population, and facilitate the integration of the different regions of the country with the rest of Central America. The specific objectives are: i) reduce vehicle operating costs, ii) increase traffic speed, iii) reduce traffic interruptions, iv) reduce accidents, v) promote conservation of road assets, and vi) reduce the vulnerability of the road network to climate change.

The results matrix presents the impact indicators, outputs and outcomes associated with the program's objectives and components. The indicators presented in the results matrix are SMART. The program includes an economic analysis for the entire program and its components. The monitoring and evaluation plan is based on an ex-post cost-benefit analysis and a before-after comparison.

The main risks are identified as well as their mitigation measures.

RESULTS FRAMEWORK

| | | | |
|---|--|--|--|
| Purpose of the program | Help make road transport in Nicaragua more efficient in order to stimulate economic activity and contribute to the wellbeing of the population in the projects’ service areas, while facilitating integration of the country’s various regions with the rest of Central America. | | |
| Impact Indicators¹ | Baseline 2014² | Target (2018) | Means of verification / Comments |
| Number of shops, establishments, and businesses of all kinds operating in the service areas of the road sections improved through this operation. | — | Increase of at least 5% in the total number of shops, establishments, and businesses of all kinds operating in the service areas of the road sections improved through this operation. | These indicators seek to reflect the impact of improved transportation on economic activity in the service areas of the road sections improved through this operation. Values will be determined in 2018 through direct field research by consultants or specialized entities contracted with project funding. |
| Average income (US\$/month-family) of families living in the service areas of the road sections improved through this operation. | — | Increase of at least 3% (in real terms) in average family income in the service areas of the road sections improved through this operation. | |
| Project objective | Help make road transport more efficient by: (i) reducing vehicle operating costs; (ii) increasing travel speeds; (iii) reducing traffic interruptions; (iv) reducing accident rates; (v) fostering the preservation of road infrastructure assets; and (vi) reducing the road network’s vulnerability to climate change. | | |
| Outcome indicators³ | Baseline (2011) | Target (2018)⁴ | Means of verification / Comments |
| Accessibility index for paved roads in the National Road Network (km of paved roads for every 1,000 km ² of land area in Nicaragua). | 24.17 km/1,000 km ² | 24.84 km/1,000 km ² | Paved km: The MTI’s <i>Revista de inventario vial</i> . Land area: Nicaraguan Institute of Territorial Studies (INETER). |

¹ The indicators were selected to assess the program's impact in the service areas, by measuring the increase in economic activity, and its impact on beneficiaries, by measuring the increase in their incomes.

² A consulting firm will be contracted to establish the baseline for the impact indicators. The MTI already has experience in this process, as it established these indicators for TSSP I.

³ Since this is a multiple-works project, the outcome and output indicators related to the Chinandega-Guasaule section will not be known until the operation is approved. Accordingly, these values will be determined when the project feasibility study is conducted, and will be included in this Results Framework and the corresponding PMR.

⁴ The target for the year 2018 was calculated taking into account the sections rehabilitated under programs 2427/BL-NI and 2840/BL-NI.

| Outcome indicators | Baseline (2013) | Target (2018) | Means of verification / Comments | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|---|----------------------------------|-----------------|------------------------|---------------|-------------------------------|---------------------|-------|--------------|-------|--|--|-------|-----------------|------------------------|--------------|-------|-------|-------|---|-----------------|---|--|--|---------------|-------------------------------|---------------------|-----|-------|-------|--|-----|-------|-------|--|--------------|-------|-------|--|---|
| Vehicle operating cost (VOC) (van, bus, and 10-ton truck) on the road sections improved by the project (constant US\$/Vehicle-km). | <table><tr><th rowspan="2">Type of vehicle</th><th colspan="3">VOC (US\$/veh-km)</th></tr><tr><th>Boaco-Muy Muy</th><th>Malpaisillo-Villa 15 de Julio</th><th>Chinandega-Guasaule</th></tr><tr><td>Van</td><td>0.17</td><td>0.24</td><td>0</td></tr><tr><td>Bus</td><td>0.58</td><td>0.69</td><td>0</td></tr><tr><td>10-ton Truck</td><td>0.62</td><td>0.73</td><td>0</td></tr></table> | Type of vehicle | VOC (US\$/veh-km) | | | Boaco-Muy Muy | Malpaisillo-Villa 15 de Julio | Chinandega-Guasaule | Van | 0.17 | 0.24 | 0 | Bus | 0.58 | 0.69 | 0 | 10-ton Truck | 0.62 | 0.73 | 0 | <table><tr><th rowspan="2">Type of vehicle</th><th colspan="3">VOC (US\$/veh-km)</th></tr><tr><th>Boaco-Muy Muy</th><th>Malpaisillo-Villa 15 de Julio</th><th>Chinandega-Guasaule</th></tr><tr><td>Van</td><td>0.16</td><td>0.16</td><td></td></tr><tr><td>Bus</td><td>0.50</td><td>0.38</td><td></td></tr><tr><td>10-ton Truck</td><td>0.54</td><td>0.45</td><td></td></tr></table> | Type of vehicle | VOC (US\$/veh-km) | | | Boaco-Muy Muy | Malpaisillo-Villa 15 de Julio | Chinandega-Guasaule | Van | 0.16 | 0.16 | | Bus | 0.50 | 0.38 | | 10-ton Truck | 0.54 | 0.45 | | Transit study. Specialized equipment (roughness meter). Highway Development and Management (HDM-4). Responsible agency: MTI. |
| Type of vehicle | VOC (US\$/veh-km) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Boaco-Muy Muy | Malpaisillo-Villa 15 de Julio | Chinandega-Guasaule | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Van | 0.17 | 0.24 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bus | 0.58 | 0.69 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10-ton Truck | 0.62 | 0.73 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of vehicle | VOC (US\$/veh-km) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Boaco-Muy Muy | Malpaisillo-Villa 15 de Julio | Chinandega-Guasaule | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Van | 0.16 | 0.16 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bus | 0.50 | 0.38 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10-ton Truck | 0.54 | 0.45 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Vehicle operating cost (van, bus, and 10-ton truck) on the road sections rehabilitated and maintained by the project (constant US\$/Vehicle-km). | <table><tr><th colspan="2">Las Piedrecitas-Nagarote-Izapa junction</th></tr><tr><th>Type of vehicle</th><th>VOC (US\$/Veh-km)</th></tr><tr><td>Van</td><td>0.22</td></tr><tr><td>Bus</td><td>0.52</td></tr><tr><td>10-ton Truck</td><td>0.54</td></tr></table> | Las Piedrecitas-Nagarote-Izapa junction | | Type of vehicle | VOC (US\$/Veh-km) | Van | 0.22 | Bus | 0.52 | 10-ton Truck | 0.54 | <table><tr><th colspan="2">Las Piedrecitas-Nagarote- Izapa junction</th></tr><tr><th>Type of vehicle</th><th>VOC (US\$/Veh-km)</th></tr><tr><td>Van</td><td>0.22</td></tr><tr><td>Bus</td><td>0.52</td></tr><tr><td>10-ton Truck</td><td>0.55</td></tr></table> | Las Piedrecitas-Nagarote- Izapa junction | | Type of vehicle | VOC (US\$/Veh-km) | Van | 0.22 | Bus | 0.52 | 10-ton Truck | 0.55 | Transit study. Specialized equipment (roughness meter). Highway Development and Management (HDM-4). Responsible agency: FOMAV. | | | | | | | | | | | | | | | | | | |
| Las Piedrecitas-Nagarote-Izapa junction | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of vehicle | VOC (US\$/Veh-km) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Van | 0.22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bus | 0.52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10-ton Truck | 0.54 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Las Piedrecitas-Nagarote- Izapa junction | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of vehicle | VOC (US\$/Veh-km) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Van | 0.22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bus | 0.52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10-ton Truck | 0.55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Travel time (van, bus, and 10-ton truck) on the road sections improved by the project (average minutes per trip). | <table><tr><th rowspan="2">Type of vehicle</th><th colspan="3">Travel time (Min/Trip)</th></tr><tr><th>Boaco-Muy Muy</th><th>Malpaisillo-Villa 15 de Julio</th><th>Chinandega-Guasaule</th></tr><tr><td>Van</td><td>23.15</td><td>54.94</td><td>0</td></tr><tr><td>Bus</td><td>34.33</td><td>58.07</td><td>0</td></tr><tr><td>10-ton Truck</td><td>28.39</td><td>56.26</td><td>0</td></tr></table> | Type of vehicle | Travel time (Min/Trip) | | | Boaco-Muy Muy | Malpaisillo-Villa 15 de Julio | Chinandega-Guasaule | Van | 23.15 | 54.94 | 0 | Bus | 34.33 | 58.07 | 0 | 10-ton Truck | 28.39 | 56.26 | 0 | <table><tr><th rowspan="2">Type of vehicle</th><th colspan="3">Travel time (Min/Trip)</th></tr><tr><th>Boaco-Muy Muy</th><th>Malpaisillo-Villa 15 de Julio</th><th>Chinandega-Guasaule</th></tr><tr><td>Van</td><td>15.46</td><td>24.87</td><td></td></tr><tr><td>Bus</td><td>31.91</td><td>29.19</td><td></td></tr><tr><td>10-ton Truck</td><td>24.14</td><td>26.60</td><td></td></tr></table> | Type of vehicle | Travel time (Min/Trip) | | | Boaco-Muy Muy | Malpaisillo-Villa 15 de Julio | Chinandega-Guasaule | Van | 15.46 | 24.87 | | Bus | 31.91 | 29.19 | | 10-ton Truck | 24.14 | 26.60 | | Study on travel speed. Responsible agency: MTI. |
| Type of vehicle | Travel time (Min/Trip) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Boaco-Muy Muy | Malpaisillo-Villa 15 de Julio | Chinandega-Guasaule | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Van | 23.15 | 54.94 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bus | 34.33 | 58.07 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10-ton Truck | 28.39 | 56.26 | 0 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of vehicle | Travel time (Min/Trip) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | Boaco-Muy Muy | Malpaisillo-Villa 15 de Julio | Chinandega-Guasaule | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Van | 15.46 | 24.87 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bus | 31.91 | 29.19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10-ton Truck | 24.14 | 26.60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Travel time (van, bus, and 10-ton truck) on the road sections rehabilitated and maintained by the project (average minutes per trip). ⁵ | <table><tr><th colspan="2">Las Piedrecitas-Nagarote-Izapa junction</th></tr><tr><th>Type of vehicle</th><th>Travel time (Min/Trip)</th></tr><tr><td>Van</td><td>50.57</td></tr><tr><td>Bus</td><td>53.91</td></tr><tr><td>10-ton Truck</td><td>53.98</td></tr></table> | Las Piedrecitas-Nagarote-Izapa junction | | Type of vehicle | Travel time (Min/Trip) | Van | 50.57 | Bus | 53.91 | 10-ton Truck | 53.98 | <table><tr><th colspan="2">Las Piedrecitas-Nagarote-Izapa junction</th></tr><tr><th>Type of vehicle</th><th>Travel time (Min/Trip)</th></tr><tr><td>Van</td><td>50.81</td></tr><tr><td>Bus</td><td>54.14</td></tr><tr><td>10-ton Truck</td><td>54.18</td></tr></table> | Las Piedrecitas-Nagarote-Izapa junction | | Type of vehicle | Travel time (Min/Trip) | Van | 50.81 | Bus | 54.14 | 10-ton Truck | 54.18 | Study on travel speed. Responsible agency: FOMAV. | | | | | | | | | | | | | | | | | | |
| Las Piedrecitas-Nagarote-Izapa junction | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of vehicle | Travel time (Min/Trip) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Van | 50.57 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bus | 53.91 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10-ton Truck | 53.98 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Las Piedrecitas-Nagarote-Izapa junction | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Type of vehicle | Travel time (Min/Trip) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Van | 50.81 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Bus | 54.14 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10-ton Truck | 54.18 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

⁵ Work on the Las Piedrecitas-Nagarote-Izapa junction section does not change its functional geometric characteristics, so its indicators for the year 2018 are relatively the same as the baseline.

| Outcome indicators | Baseline (2013) | Target (2018) | Means of verification / Comments |
|---|---|--|--|
| Average daily traffic on the road sections covered by the project (Veh/Day). | <ul style="list-style-type: none"> Boaco-Muy Muy: 950 Veh/Day Malpaisillo-Villa 15 de Julio: 210 Veh/Day Chinandega-Guasaule: 0 Veh/Day Las Piedrecitas-Nagarote-Izapa junction: 6,913 Veh/Day | <ul style="list-style-type: none"> Boaco-Muy Muy: 1,218 Veh/Day Malpaisillo-Villa 15 de Julio: 1,821 Veh/Day Chinandega-Guasaule: Veh/Day Las Piedrecitas-Nagarote-Izapa junction: 8,558 Veh/Day | Traffic study. Responsible agencies: MTI and FOMAV. |
| International Roughness Index (IRI) (m/km). | <ul style="list-style-type: none"> Boaco-Muy Muy: 5.20 m/km Malpaisillo-Villa 15 de Julio: 13.3 m/km Chinandega-Guasaule: 0 m/km Las Piedrecitas-Nagarote-Izapa junction: 2.88 m/km | <ul style="list-style-type: none"> Boaco-Muy Muy: 2.29 m/Km Malpaisillo-Villa 15 de Julio: 2.24 m/km Chinandega-Guasaule: m/km Las Piedrecitas-Nagarote-Izapa junction: 3.11 m/km | Specialized equipment (roughness meter). Responsible agencies: MTI and FOMAV. |
| Number of traffic accident fatalities on the road sections improved and maintained by the project, for every 10,000 Veh-km. | <ul style="list-style-type: none"> Boaco-Muy Muy: 6.04 Las Piedrecitas-Nagarote-Izapa junction, Section I Km 7.5 to Km 31.9: 1.05 Las Piedrecitas-Nagarote-Izapa junction, Section II Km 31.9 to Km 66.0: 1.03 | <ul style="list-style-type: none"> Boaco-Muy Muy: 2.26 Las Piedrecitas-Izapa junction, Section I Km 7.5 to Km 31.9: 1.00 Las Piedrecitas-Nagarote-Izapa junction, Section II Km 31.9 to Km 66.0: 0.98 | Official information from MTI/Road Safety, based on national police data. |
| Efficiency Index in the Pacific Corridor (travel time in minutes of a trailer truck between Villa 15 de Julio and La Paz Centro). | 109.3 minutes | 59.0 minutes | Study on travel speed. Responsible agency: Roads Bureau/IDB Projects Coordination Unit (PCU). |

| Expected Outputs of the Project | | | | | | | | |
|--|----------|------|------|------|------|------|--------------------------|--|
| Component 1: Improvement of rural roads and the trunk network | | | | | | | | |
| Output Indicators | Baseline | 2014 | 2015 | 2016 | 2017 | 2018 | Cumulative target (2018) | Means of verification/Comments |
| Km of roadway improved by the project: | | | | | | | | Supervision reports. Certificate of acceptance of the works. Responsible agency: Roads Bureau/IDB PCU. |
| • Boaco – Muy Muy (24.7 km) | 0 | 0 | 10.0 | 11.5 | 3.2 | 0 | 24.7 | |
| • Malpaisillo-Villa 15 de Julio (36.4 km) | 0 | 0 | 5.0 | 8.0 | 12.0 | 11.4 | 36.4 | |
| • Chinandega-Guasaule ³ (31.4 km) | 0 | | | | | | | |
| Component 2: Institutional strengthening of the MTI | | | | | | | | |
| Output indicators ⁶ | Baseline | 2014 | 2015 | 2016 | 2017 | 2018 | Cumulative target (2018) | Means of verification/Comments |
| MTI’s Planning Division strengthened. | 0 | 0 | 0 | 0 | 1 | 0 | 1 | Consultants’ final reports and/or certificates of acceptance of goods. Consulting service contracts closed out. Responsible agency: Roads Bureau/ IDB PCU. |
| MTI’s Roads Bureau strengthened/ IDB PCU strengthened. | 0 | 0 | 0 | 0 | 1 | 0 | 1 | |
| MTI’s Procurement Division strengthened. | 0 | 0 | 0 | 0 | 1 | 0 | 1 | |
| Component 3: Road safety | | | | | | | | |
| Output indicators ⁷ | Baseline | 2014 | 2015 | 2016 | 2017 | 2018 | Cumulative target (2018) | Means of verification/Comments |
| Number of road safety interventions (sidewalks and bike paths under construction) completed. | 0 | 0 | 0 | 6 | 0 | 0 | 6 | Certificate of acceptance of the works. Responsible agencies: Road Maintenance Bureau and Roads Bureau / IDB PCU. |
| Number of road safety interventions (traffic signs) completed. | 0 | 0 | 0 | 5 | 0 | 0 | 5 | |
| Number of road safety interventions (pedestrian bridges) completed. | 0 | 0 | 0 | 5 | 0 | 0 | 5 | |

⁶ The MTI will contract technical assistance, services, and minor space improvement works in order to help strengthen its institutional capacities.

⁷ The indicated targets are estimates only and will be adjusted based on the results obtained in the course of the Road Safety Strategy consulting assignment financed by program 2427/BL-NI, and on other priorities agreed upon by the MTI and the Bank.

| Expected Outputs of the Project | | | | | | | | |
|--|----------|------|------|------|------|------|--------------------------|---|
| Component 4: Reduction of the road network's vulnerability to climate change | | | | | | | | |
| Output indicators ⁸ | Baseline | 2014 | 2015 | 2016 | 2017 | 2018 | Cumulative target (2018) | Means of verification/Comments |
| Mitigation works at critical points of the Chinandega-Guasaule section. | 0 | 0 | 0 | 0 | 1 | 0 | 1 | Supervision reports. Certificate of acceptance of the works. Responsible agency: Environmental Management Division and Roads Bureau/ IDB PCU. |
| Component 5: Road maintenance | | | | | | | | |
| Output indicators | Baseline | 2014 | 2015 | 2016 | 2017 | 2018 | Cumulative target (2018) | Means of verification/Comments |
| Km of road rehabilitated and maintained by the project. ⁹ Las Piedrecitas-Nagarote-Izapa junction (60.5 km). | 0 | 0 | 60.5 | 60.5 | 60.5 | 60.5 | 60.5 | Supervision reports. Certificate of acceptance of the works. Responsible agency: FOMAV. |
| Road auscultation equipment, purchased and in operation. | 0 | 1 | 0 | 0 | 0 | 0 | 1 | Certificate of acceptance of equipment. Responsible agency: FOMAV. |
| Administration and management | | | | | | | | |
| Output indicators | Baseline | 2014 | 2015 | 2016 | 2017 | 2018 | Cumulative target (2018) | Means of verification/Comments |
| Number of preinvestment studies and road engineering designs approved and available for tendering. ¹⁰ | 0 | 0 | 0 | 1 | 0 | 0 | 1 | Studies, plans, and technical specifications approved. Responsible agencies: Planning Bureau and Roads Bureau / IDB PCU. |

⁸ The project will finance mitigation works on the Chinandega-Guasaule section, which will be designed under loan 2840/BL-NI.

⁹ "Rehabilitated and maintained kilometers" refers to the total length of the Las Piedrecitas-Nagarote-Izapa junction section that will be improved and maintained according to standards.

¹⁰ The road works designs that are outputs of this loan will serve as inputs for future operations. The means of verification will be determined once the number of preinvestment studies has been identified.

| Expected Outputs of the Project | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Number of Environmental and Social Management Plans (ESMP) implemented. ¹¹ | 0 | 0 | 0 | 0 | 0 | 1 | 1 | Social and environmental supervision reports, minutes, and list of technical assistance events. Responsible agencies: Environmental Management Division and Roads Bureau/ IDB PCU. |

¹¹ Interventions must comply with the provisions of the project’s environmental and social management plan.

FIDUCIARY AGREEMENTS AND REQUIREMENTS

Country: Nicaragua

Project number: NI-L1071

Name: Transport Sector Support Program (TSSP) III

Executing agencies: Ministry of Transport and Infrastructure (MTI)
Road Maintenance Fund (FOMAV)

Prepared by: Brenda M. Álvarez Junco, Fiduciary Specialist in Procurement (FMP/CNI), and Juan Carlos Lazo, Senior Fiduciary Specialist in Financial Management (FMP/CNI)

I. EXECUTIVE SUMMARY

- 1.1 The total amount of this operation is US\$93,972,500 (US\$91,500,000 IDB contribution and US\$2,472,500 local counterpart). No other sources of financing are anticipated.
- 1.2 The fiduciary management assessment was based on the Fiduciary Institutional Capacity Assessment System (ICAS) applied to the MTI and FOMAV.
- 1.3 With respect to procurement, the quality of fiduciary management in Nicaragua is improving, but a number of measures are needed to make it compatible with best international practices and consistent with Bank policies. On the basis of the ICAS reports produced during the preparation of this operation, the level of risk assigned to the executing agencies in terms of fiduciary matters is medium. The MTI has experience implementing operations financed by the Bank and is currently implementing operations 2225/BL-NI, 2427/BL-NI, and 2840/BL-NI. FOMAV demonstrated outstanding performance in procurement management in operation 2427/BL-NI. In terms of financial management, the financial statements audited by an independent firm show a clean opinion, although work still needs to be done on internal control areas. The assigned risk in financial management is considered medium.

II. FIDUCIARY CONTEXT OF THE EXECUTING AGENCIES

- 2.1 The greatest strength of the MTI is the experience accumulated by the personnel responsible for implementing the operations financed by the Bank. In terms of its organizational and functional structure, the MTI's procurement office has organization and functions manuals, as well as flow charts for procurement procedures. Procurement plans and contracts are monitored through the Procurement Plan Execution System, the National Public Investment System, and

monitoring matrixes in Excel. According to the most recent ex post review for complexity level I procedures,¹ the latter were implemented with minimal errors according to the Bank's procedures guide. In the case of FOMAV, it has qualified personnel who have had satisfactory performance in terms of procurement. However, it is important that institutional strengthening efforts in the procurement area continue. The recommendation for FOMAV is to ensure that the procurement area has adequate physical space, including an area to safeguard and store procurement files.

- 2.2 In financial management, the performance of the executing agencies' personnel is considered highly satisfactory. FOMAV has had good performance in the short time it has been implementing IDB-financed operations. The Bank will continue to support both executing agencies with training to strengthen their fiduciary management capacity.

III. FIDUCIARY RISK ASSESSMENT AND MITIGATION MEASURES

- 3.1 In terms of procurement, the level of risk assigned to the procurement units of the MTI and FOMAV in the context of preparing this operation is medium. In order to improve that level the following is recommended: (i) ensure retention of personnel in the procurement units; (ii) heed the recommendations made during the last ex post review of the MTI; (iii) update the procedures, organization, and operations manuals of the procurement units, describing in detail the role of procurement in the contract administration process. The Bank will provide advisory services and ongoing support for the staff responsible for the Procurement Plan Execution System in both executing agencies.
- 3.2 For financial management, before execution of the operations begins, staff of the financial units of the executing agencies is required to attend a training session to be given by the Bank's team on Bank policies and procedures applicable to this type of process.
- 3.3 In light of the foregoing, the overall fiduciary risk of the operation is medium.

IV. CONSIDERATIONS FOR THE SPECIAL PROVISIONS OF THE CONTRACTS

- 4.1 In order to facilitate contract negotiation by the project team, the following agreements and requirements should be reflected in the special provisions:
 - (A) Although the exchange rate to be used is a matter for the borrower to indicate during negotiations, it is recommended that the exchange rate in effect in the borrower's country on the date the executing agencies convert the funds from foreign currency to córdobas be used, in order to eliminate any exchange rate losses.

¹ Complexity level I: required level of consultation for certified personnel / Procurement Specialist (OP-272-2).

- (B) It should be reflected that no direct payments can be made to suppliers with accounts at the Banco Nicaragüense, since this option does not exist in the country under current laws and regulations.

V. AGREEMENTS AND REQUIREMENTS FOR PROCUREMENT

- 5.1 Procurement under the project financed by the IDB and executed by the MTI and FOMAV will be conducted in accordance with the provisions of the Policies for the Procurement of Goods and Works (document GN-2349-9) and the Policies for the Selection and Contracting of Consultants (document GN-2350-9), as well as the provisions of the loan contract.

A. Procurement Execution

1. **Procurement of works, goods, and nonconsulting services.** Contracts for works, goods, and nonconsulting services generated under the project will be included in the initial procurement plan. Processes subject to international competitive bidding (ICB) will be executed using the standard bidding documents issued by the Bank. Procurement subject to national competitive bidding (NCB) will be executed using national bidding documents agreed upon with the Bank. The project's sector specialist is responsible for reviewing the technical specifications of procurement during preparation of the selection processes.
2. **Selection and contracting of consultants.** Consulting service contracts generated under the project will be included in the initial procurement plan and will be executed using the Standard Request for Proposals issued by the Bank, or agreed upon with the Bank. The project's sector specialist is responsible for reviewing the terms of reference for contracting consulting services.
3. **Selection of individual consultants.** This will take into account the consultants' qualifications to perform the work, based on a comparison of at least three candidates' qualifications. The project's sector specialist is responsible for reviewing the terms of reference for contracting consulting services. The technical consultants to be contracted for the MTI and FOMAV are subject to the Bank's no objection.

VI. TABLE OF THRESHOLDS (US\$)

- 6.1 The thresholds that determine the use of ICB and the composition of the short list of international consultants will be made available to the executing agencies at the website www.iadb.org/procurement. Below these thresholds, the selection method will be determined on the basis of the complexity and characteristics of the procurement, which must be reflected in the procurement plan approved by the Bank.

VII. MAIN PROCUREMENT ITEMS

Main procurement items - MTI (Components I, III and IV)

| Description | Procurement method | Estimated date | Estimated amount (US\$) |
|--|--------------------|----------------|-------------------------|
| Works | | | |
| Rehabilitation of the Boaco-Muy Muy highway (26.70 km) | ICB | Aug-14 | 10,954,200 |
| Rehabilitation of the Villa 15 de Julio- Malpaisillo junction highway (36.40 km) | ICB | Aug-14 | 28,659,300 |
| Rehabilitation of the Chinandega-Guasaule highway (31.39 km) | ICB | Aug-14 | 20,607,500 |
| Works to mitigate vulnerability to climate change at critical points of the Chinandega-Guasaule route | ICB | Sep-15 | 3,030,000 |
| Firms | | | |
| Supervision services for the rehabilitation works on the Boaco-Muy Muy highway (24.70 km) | QCBS | Sep-14 | 630,000 |
| Supervision services for the rehabilitation works on the Malpaisillo-Villa 15 de Julio highway (36.40 km) | QCBS | Sep-14 | 1,648,000 |
| Supervision services for the rehabilitation works on the Chinandega-Guasaule highway (31.39 km) | QCBS | Sep-14 | 1,185,000 |
| Supervision services for the works to mitigate vulnerability to climate change at critical points of the Chinandega-Guasaule section | QCBS | Oct-15 | 244,000 |
| Baseline for the program | QCBS | Nov-13 | 232,000 |
| Individual consultants | | | |
| Hydro science, geotechnical, geometric design, and pavement specialists (4) | 3 CVs | Sep-15 | 144,000 |
| Technical consultant for the MTI | 3 CVs | Dec-13 | 200,000 ² |

Main procurement items - FOMAV (Component V)

| Description | Procurement method | Estimated date | Estimated amount (US\$) |
|---|--------------------|----------------|-------------------------|
| Goods | | | |
| Road auscultation equipment | ICB | Jul-14 | 360,480 |
| Works | | | |
| Results-based road maintenance of the Las Piedrecitas-Izapa junction section (60.5 km) | ICB | Aug-14 | 14,313,650 |
| Firms | | | |
| Supervision services for results-based road maintenance of the Las Piedrecitas-Izapa junction section | QCBS | Aug-14 | 1,001,960 |
| Individual consultants | | | |
| Technical consultant for FOMAV | 3 CVs | May-14 | 51,000 |

² Technical consultant throughout the entire project.

VIII. PROCUREMENT SUPERVISION

- 8.1 The ex ante or ex post review method will be determined for each selection process. Ex post reviews will be conducted semiannually in accordance with the project supervision plan. The ex post review reports will include at least one physical inspection visit,³ selected from among the procurement processes subject to ex post review. At least 10% of the reviewed contracts will be physically inspected.

A. Special Provisions

- 8.2 **Measure to reduce the likelihood of corruption:** implement an ethics and conduct code for employees in each institution, covering the procurement division, primarily the conflict of interest issue.
- 8.3 **Special procedures.** To perform environmental management of this operation, it was agreed that cooperation agreements would be signed with the national police, the Nicaraguan Institute of Territorial Studies (INETER), and the Ministry of Environment and Natural Resources (MARENA) in order to implement road safety, land management, environmental education, and other social and environmental actions included in the Environmental and Social Management Report (ESMR), for an estimated amount of US\$134,400. To expedite the agreements, the MTI will transfer the resources needed for implementation once the institutions have submitted their work plan, terms of reference, budget, and timetable. These must be approved in advance by the MTI and will require the Bank's no objection. The respective procedure will be agreed upon in the program's Operating Manual.

B. Records and files

- 8.4 Each procurement unit is responsible for procurement record-keeping and management, and will designate an individual specifically responsible for this activity.

IX. FINANCIAL MANAGEMENT

A. Programming and budget

- 9.1 The two executing agencies will use the Integrated Financial and Administrative Management of Projects system (SIGFA-PRO) as the financial/accounting system for the financial management of the operation. If there is any change or improvement in the SIGFA project administration module, the operation would automatically migrate to the changed or improved version.

³ The inspection will verify the existence of the procurement, leaving it to the sector specialist to verify quality and compliance with specifications.

B. Disbursements and cash flow

- 9.2 The IDB will disburse funds to the borrower through the Central Bank of Nicaragua, to the accounts opened for this operation. There will be no accounts opened in commercial banks. Funding will be provided in the form of advances for up to a maximum of six months, depending on the project's liquidity needs. New advances will be processed once a rendering of accounts has been received for at least 80% of the previous advance. Documentation in support of disbursements will be sent to the Bank by electronic means.
- 9.3 The executing agencies will have a financial plan, which must be aligned with the execution, annual work, and procurement plans for the project.
- 9.4 Cash flows will include the payment of interest during the execution period with funds from the loan. It is estimated that the borrower should set aside US\$1,870,000 for this item. Since this is a "blend" operation, interest cannot be automatically capitalized but must be handled via the process approved by the Bank.

C. External control and reports

- 9.5 The Office of the Comptroller General is not currently accepted by the Bank to audit Bank-financed projects. The executing agencies will therefore have to contract the services of an independent audit firm, in accordance with Bank policies. Given the amount of this operation, an eligibility category I independent audit firm will be required. Annual audited financial statements will also be requested.
- 9.6 An approximate cost of US\$240,000 has been estimated for auditing services, to be financed from Bank resources. It is suggested that a single independent audit firm be engaged for the full audit of the project.

D. Financial supervision plan

- 9.7 The project will initially operate under the ex ante modality for reviewing disbursements. In addition, and for purposes of monitoring financial management and the control environment in the executing agencies, semiannual inspection visits will be conducted during the first year.