

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

JAMAICA

ROAD IMPROVEMENT PROGRAM

(JA-L1027)

LOAN PROPOSAL

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CONTENT

I.	DESCRIPTION AND RESULTS MONITORING.....	2
A.	Introduction	2
B.	Background, Problem Addressed, Justification.....	2
C.	Objective, Components and Cost	7
D.	Key Results Indicators.....	9
II.	FINANCING STRUCTURE AND MAIN RISKS	10
A.	Financial Facility and Contractual Conditions	10
B.	Enviromental and Social Safeguard Risks	11
C.	Fiduciary Risk	12
D.	Other Key Issues and Risks.....	12
III.	IMPLEMENTATION AND MANAGEMENT PLAN	13
A.	Borrower and Executing Agency	13
B.	Execution Structure	13
C.	Procurement.....	14
D.	Evaluation and Monitoring.....	15
E.	Future Activities to Complete Final Designs	15

ANNEXES	
PRINTED ANNEXES	
ANNEX I	Summary of Development Effectiveness Matrix (DEM)
ANNEX II	Results Framework
ANNEX III	Summary of Procurement Plan

ELECTRONIC LINKS	
REQUIRED	
1. Project Procurement Plan	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2169560
2. Annual Operating Plan (POA)	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2169075
3. Monitoring & Evaluation Arrangements	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2168981
4. ESMR and ESMP	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2168925
OPTIONAL	
1. National Transport Policy	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2166372
2. Road Sector Policy	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2166373
3. National Road Safety Policy	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2166367
4. Traffic Control Device Manual	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2166366
5. Occupational, Safety and Emergency Guidelines	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2163083
6. Best Management Practices	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2163085
7. Environmental Management Implementation Plan Guidelines	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2163094

8. Environment Policy Statement
<http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2163113>
9. Environmental Protection Requirements
<http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2163116>
10. Environmental Screening Checklist + Class Description
<http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2163121>
11. Environmental Specifications for Routine Maintenance
<http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2163149>
12. General Environmental Monitoring Plan
<http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2163124>
13. NWA Corporate Plan 2007-2010
<http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=2168846>

ABBREVIATIONS

CDB	Caribbean Development Bank
EA	Executing Agency
EC	European Commission
EDF	European Development Fund
ESMP	Environmental and Social Management Plan
GOJ	Government of Jamaica
IDB	Inter-American Development Bank
KFAED	Kuwait Fund for Arab and Economic Development
MTW	Ministry of Transport and Work
NCHIP	Northern Coastal Highway Improvement Program
NEAP	National Emergency Assistance Program
NEPA	National Environment and Planning Agency
NIP	National Indicative Program
NRP	National Roads Policy
NRSIP	National Road Service Improvement Program
NTP	National Transport Policy
NWA	National Works Agency
OPEC	Organization of the Petroleum Exporting Countries
PEU	Project Executing Unit
PIOJ	Planning Institute of Jamaica
RMF	Road Maintenance Fund
RMMP	Road Maintenance Master Plan
RMMS	Routine Maintenance Management System
RSU	Road Safety Unit
RTI	Road Traffic Injuries
TIRP	Transport Infrastructure Rehabilitation Program
WB	World Bank

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PROJECT SUMMARY

Financial Terms and Conditions			
Borrower: Government of Jamaica		Amortization Period:	25 Years
Executing Agency: Ministry of Transport and Works through the National Works Agency		Grace Period:	5 years
		Disbursement Period:	5 years
Source	Amount (US\$ millions)	Supervision and Inspection Fee:	*
IDB (OC)	10.0	Interest Rate:	LIBOR
Local	-	Credit Fee:	*
Total	10.0	Currency:	US\$, single currency facility
Project at a Glance			
<p>Project Objective/Description:</p> <p>The main objective is to enhance mobility and safety, improve accessibility, lower transport costs and reduce accident rates, through the improvement and maintenance of roads. Specific objectives are to contribute to the design and implementation of the performance-based routine maintenance contracts, the improvement of road safety conditions on critical sections and segments, and the improvement of MTW capacity to analyze accident information and provide timely recommendations.</p> <p>Expected results include: i) improvement of road reliability, driving conditions and reduction of generalized transport and logistical costs, ii) improved mobility and accessibility of communities to markets and services, iii) reduction of accident rates, traffic related fatalities and injuries, and iv) institutional strengthening of the MWT especially in the road crash data analyses and policy development.</p>			
<p>Special contractual conditions:</p> <p>Prior to first disbursement, the EA shall hiring/appoint a project manager, environmental expert and a certified accountant or similar combination of qualifications and experience pursuant to terms of reference previously approved by the Bank. (¶3.3)</p> <p>Prior to tendering the civil works, the EA will incorporate in the bidding documents: i) the final technical designs, ii) the Environmental and Social Management Plan, as well as the General and Particular Environmental Specifications, including its mitigation, management, supervision, monitoring and training provision. (¶3.6)</p> <p>Prior to tendering the road safety civil works, the EA will submit to the Bank, for its no objection, the engineering, environmental and feasibility studies and final technical designs. (¶3.12).</p>			
Exceptions to Bank policies: None			
Program consistent with Country Strategy:		Yes [X]	No []
Project qualifies for:		SEQ[No]	PTI [No] Sector [] Geographic[] Headcount []
Procurement: See Paragraph 3.7			

(*) 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 provision of the Bank's policy on lending rate methodology for ordinary capital loans. In no case will the credit fee exceed 0.75% or the inspection and supervision fee exceed, in a given six-month period, the amount that would result from applying 1% to the loan amount divided by the number of six-month periods included in the original disbursement period.

I. DESCRIPTION AND RESULTS MONITORING

A. Introduction

- 1.1 Jamaica's dense network of roads supports the primary mode of transport and mobility that facilitates access to social and economic life for the island's 2.7 million inhabitants. Road transport is the most important land transportation mode evident from the fact that it accounted for 75% of the total national consumption of petroleum in 2004. The road network however, has devolved into a state of disrepair due to a lack of adequate maintenance, exacerbated by torrential rains, hurricanes and attendant floods that have resulted in severe cumulative damage and in a reduction of safety to road users. The number of vehicle crashes between 2006 and 2008 increased 13%, as evidence of the worsening of road safety conditions.

B. Background, Problem Addressed, and Justification

- 1.2 The transport sector. Jamaica enjoys a widespread though aging road network, which according to the World Bank (WB) has the highest normalized road index of all countries (752), indicating that the network of roads is both dense and extensive. For a country with a total area of 11,000 sq km the total length of the road system including national and parish roads is approximately 15,700 km. Highways and roads of national importance (the "national road network") account for 29% of the roads i.e. 5,006 km which falls under the jurisdiction of the National Works Agency (NWA) and includes arterial roads 1,561 km, secondary and tertiary roads 3,445 km, and 800 bridges. Except for about 360 km classified as agricultural and forestry roads, the parishes administer the remaining 10,334 km; of which 80% are paved.
- 1.3 However, due to a decade of annual year on year decline in the road maintenance budget allocations, by the turn of the millennium Jamaica's dense road network, had degenerated into a state of disrepair receiving a poor grading following a condition survey completed in 1999. In an attempt to break out off the road failure cycle, the Government of Jamaica (GOJ) coordinated with the European Commission (EC) and the Bank to support a plan to develop a national transportation framework which would guide redevelopment of the sector while it concomitantly embarked on vital medium-term road investments balanced amongst road rehabilitation, periodic and routine maintenance, and trunk road expansion through Public Private Partnerships.
- 1.4 Accordingly, the Bank since 2001, has been supporting this strategy through four loans; i) the US\$59.5M Northern Coastal Highway Improvement Program (NCHIP, LO-972/OC-JA) focused on road improvement and rehabilitation, ii) the US\$18.5M National Road Service Improvement Program (NRSIP, LO-1363/OC-JA) focused on the preservation of the road network by supporting improvement and reengineering of the systems of road maintenance, iii) the US\$10M National Emergency Assistance Program (NEAP, LO-1959/OC-JA), focused on supporting emergency improvement and rehabilitation to the road network following hurricane and flood damage, and iv) the US\$ 50M Transport Infrastructure Rehabilitation Program (TIRP, LO-2026/OC-JA), focused on rehabilitation of essential portions of the main road system.

- 1.5 Latin America and the Caribbean have the highest Road Traffic Injuries (RTI) fatality rate of any region of the world (17.3 deaths per 100,000 inhabitants). This fatality rate is expected to climb 48% by 2020; the region is still predicted to have the highest rate in 2020. On average, crash costs equal 1.5 to 2.0% of developing nations' annual GDP; in Latin America and the Caribbean crashes cost US\$19B in 2000. In 2005, direct and indirect cost of road crashes to the economy of Jamaica was US\$100M (US\$60M in the Health Sector, and US\$ 40M to the Insurance Association). Between 2001 and 2008, 98,056 crashes and 2,920 road deaths were reported, representing a fatality rate of 12.74 deaths / 100,000 inhabitants. Jamaica ranks among countries classified as medium risk (10.0-20.0 deaths / 100,000 inhabitants) for road fatalities.
- 1.6 Additionally, since 2004 with the assistance of the EC under the 9th European Development Fund's (EDF), National Indicative Program (NIP) three key studies have been developed which provide a comprehensive strategic framework for the development of the sector in general and for the redevelopment of the road network in particular. These are: 1) The National Transport Policy (NTP), an essential pre-condition for EDF support to the transport sector, which provides a diagnostic of the sector analyzing, air, sea, rail and road transportation and which also provides an elaboration of policy for the sector. The NTP was completed in 2004 and approved by Cabinet in 2005; 2) the National Road Policy (NRP), a complementary study to the NTP, focuses specifically on the amplification of policy for road transportation and was finalized in the second semester of 2005 and was subsequently approved by the Ministry of Transport and Works (MTW); and 3) the Road Maintenance Master Plan (RMMP) which justifies and identifies options, and scenarios based on funding availability and serves to guide road maintenance investment priorities required to 2012. This document presents the data, information, analysis and justification for road interventions on the network. It was completed in October 2007 and has since been endorsed by the current Government which took office in 2007.
- 1.7 With complementary support from the IDB (LO 1363/OC-JA), amendments to the Road Traffic Act have been finalized and laid before Parliament, and implementation of the commercial vehicle safety and weight limit enforcement Program is under preparation. These legislative acts, together with the transportation policy documents define a framework which will comprehensively identify roads, in the period 2006-2016, which are in need of urgent maintenance, and which will significantly complement and contribute to the long-term protection of the investments.
- 1.8 Institutional framework. Transport Infrastructure work activities on roads are administered by three main entities: 1) RMF, established in 2002, is an agency of the MTW responsible to provide financial support for the maintenance and general upkeep of the country's main roads, and manages funds received from one third of the motor vehicle licensing fees collected by the Island Revenue Department. During the 2009/2010 budget 20, 35, and 50 percent respectively of a new fuel tax will additionally be allocated annually to the RMF during fiscal year 2009 – 2011; 2) NWA, which has responsibility for construction, maintenance and management of the main road network and flood control systems for Jamaica and is the implementing arm of the MTW. The entity shares responsibility for the total road network with other

entities such as the Parish Councils, which have responsibility for the parochial road network; and 3) National Road Operating and Constructing Company Limited, whose main role is to oversee the implementation of highway expansion via public private partnerships (Highway 2000) and to monitor the Concession Agreement with the current developers, TransJamaican Highway Limited. The Toll Authority operates in tandem as an advisory body responsible for regulating the operation and maintenance of toll roads in Jamaica, and monitoring the compliance of concessionaires.

- 1.9 The Road Safety Unit (RSU) is a division of the MTW which is mandated to provide timely accident information used to guide the decision making process, allowing for implementation of appropriate remedial measures.
- 1.10 Country's sector strategy. The improvement of reliability and safety of the road network is consistent with the government's strategy of market liberalization with the adoption of an export-led growth model. Attempts are therefore being made to create an environment conducive to attracting and increasing investment, to foster private sector growth and increase levels of output. In order to achieve sustainability of high growth through investment promotion, efforts are being aimed at promoting greater private sector yields and efficiency by upgrading, and maintaining the social and physical infrastructure, in particular the island's road network, as well as improving road safety. Over the long term, the GOJ is pursuing a policy to rationalize the existing road network so that maintenance could be prioritized based on economic and social criteria, including consideration of the relative costs and benefits of primary, secondary and tertiary road networks. The GOJ is also considering establishing a Roads Authority to: i) rationalize responsibility for construction and maintenance for main and parochial roads as well as major drains and gullies, ii) maintain and increase the safety of the road network, and iii) secure a sustainable means of funding for road maintenance expenditures.
- 1.11 The country's strategy for the road subsector consists of i) rehabilitation and improvement of the road network, financed by external resources, and ii) routine maintenance of the rehabilitated network financed by recurrent resources. This strategy aims to reduce transportation costs, improve travel conditions and road safety along public roads, improve market access and overall competitiveness, and increase coverage of maintenance activities. The approved budget of the RMF for the period 2007-08 was approximately US\$6.7M. The table below illustrates the activities¹ financed during that period:

Category	Budget (US\$ M)
Micro Surfacing Treatment (125,000 sq m)	0.40
Road Repair (149,000 sq m)	1.40
Routine Maintenance	0.50
Contribution to NRSIP (LO-1363/OC-JA)	3.30
Junction Improvement Program	0.10
Sundry Road Work Program	0.90
Emergency Response	0.10
TOTAL	6.70

¹ Annual Report 2007-2008, Road Maintenance Fund.

- 1.12 Nevertheless, the road network is in regular to very poor conditions, resulting in long journey times, high transport costs, difficulties in access to school, basic services (such as health, public administration, etc.) and economic alternatives (such as markets, jobs, etc.), effectively limiting the mobility and accessibility of the population in important areas of the country. This situation threatens the long term developmental objectives of the Government, which is based on a safe and reliable road network to facilitate investments and increase private sector productivity to accelerate economic growth. The GOJ is moving from works being executed directly by NWA towards the implementation of performance-based routine maintenance contracts that will include the involvement of the private sector by means of contracting out continuous routine maintenance activities.
- 1.13 The objective of the GOJ, in the road safety area, is to promote and foster an orderly and disciplined traffic culture, conducive to the development of a safe traffic environment, through the conceptualization and design of a sustained program of public information, education in schools, legislation and accident information and research. GOJ has established a strategic focus for the period 2009 – 2012 with respect to the reduction of traffic collisions and the promotion of a disciplined traffic culture through intensified Data Analysis, Research and Public Education.
- 1.14 Road safety is governed by the National Transport Policy, and the National Road Safety Policy, being this the overarching Policy that governs the way in which Road Safety is addressed. The institutional actors involved in the road safety include, among others: Office of the Prime Minister; MTW (RSU and NWA); Ministry of Education; Ministry of National Security; Ministry of Health; Jamaica Constabulary Force; Island Traffic Authority; National Road Safety Council; and Parish Councils.
- 1.15 Bank's strategy. The proposed program is consistent with the Bank's Country Strategy expressed in the Country Paper (GN-2422-1 and GN-2422-3) that sets out three principal areas of focus: i) private sector development, ii) getting value for money, and iii) reducing vulnerability to natural disasters. Impaired and unsafe road infrastructure has a detrimental effect on the business environment, productivity and private sector development, as the ability to efficiently move goods and services, and leverage the country's resources towards economic growth is impeded. Addressing the state of the road network through a program of maintenance and improvement of critical areas in terms of road safety will serve as a complementary input to enhancing the business climate and towards private sector development and will directly respond to the identified strategy of assisting with rehabilitation and reconstruction activities, as well as align with the Bank's third strategic pillar by reducing Jamaica's vulnerability to natural disasters, through prevention and mitigation activities. The Bank supported the Country's long-term program by means of four prior operations that focused on the rehabilitation and maintenance of the main road network.
- 1.16 Problem addressed. Current estimates of the condition of the main and parochial road network are that between 30% to 60% are in poor or very poor condition to the extent that the road network in part has been rendered unsafe and unreliable. Some roads are closed which result in long journey times and high transport costs, effectively limiting the mobility of the nation. The attendant dislocation and social difficulties manifest in

traffic congestion, difficulty for children to reach school, difficulty accessing other basic social services such as health, public administration and other economic spaces such as markets and jobs.

- 1.17 The condition survey conducted in 2005 (NWA Corporate Plan 2007 - 2010) to update the Agency's road condition with the survey done in 1999 is based on a partial survey of 50% of the main road network. The survey data shows that in 2005 12% of the network was classified as good, down from 28% of the network in 1999, representing a 57% decrease in the quantity of roadway defined as "good" between 1999 and 2005. The results are summarized in the table below.

Partial Main Road Condition Survey for year 1999 and 2005

Road Classification Class	Condition / Km			Total (Km)
	Good	Fair	Bad	
A	236	235	66	537
B	50	283	135	468
C	31	410	1,130	1,571
Total	317	928	1,331	2,576
1999 Percentage	28%	28%	44%	
2005 Percentage	12%	36%	52%	

A: roads of national importance which carry daily traffic volumes in excess of 1000 vehicles linking one or more major area/town of the island with other major areas/town. (Total: 844 km)

B: of regional importance which connects with arterial roads and normally carry average daily traffic volumes of 1000 to 8000 vehicles. (Total: 717 km)

C: normally only of local importance and have a function of allowing communications and contact within districts. C roads normally serve traffic volumes less than 1500 vehicles per day. (Total: 3225 km)

- 1.18 The condition of the main road network has deteriorated appreciably between 1999 and 2005. These features of the Jamaican road system clearly have repercussions and translate into high logistical cost, a compromised national standard of living, and a less safe and reliable road network.
- 1.19 There is still limited capacity within the public sector related to govern road infrastructure, manage public resources, and enforce transportation regulations. The flow of funds of the RMF, while recently increased, has been traditionally insufficient, and available amounts have not coincided with the seasonal demand for road works, creating a cyclical cash flow problem that does not permit the budgeted resources for maintenance to be used efficiently. The road network needs to be rationalized in keeping with limited resources for maintenance, population density, national physical and spatial development planning, and centers of industry and work.
- 1.20 Given the recent increase in levies on gas earmarked for road maintenance, the program will place emphasis on ensuring existing funds are used in the most cost-effective manner. The program will focus on developing a system of routine road maintenance with the following main characteristics: i) decentralized execution, through the regional offices of the MTW; ii) island-wide coverage; iii) activities to be contracted using a performance-based approach; and iv) implementation of the works will involve the participation of the local communities.
- 1.21 Traffic crash data are collected and consolidated by the Jamaica Constabulary Force on all traffic crashes that occur in the country, including: Fatal crashes, Serious crashes, Minor crashes, and Damage only crashes. These reports are analyzed by the

MTW who maintain the National database. Data are collected among the three elements that are active participants in the traffic environment: Human, Vehicle, and Environment. Spatial and Statistical analyses are carried out and assist in the identification of critical spots and corridors. Based on the recommendations of these studies and analyses, the GOJ is currently implementing the following programs: Below 300 Deaths; Drive for Life; Make it Click; Drink and Drive; Walk Good; Child Safety; Road Models; Road Scholars; and Road Signs and Markings.

- 1.22 Justification of Bank's participation. The Bank's active programs have been collectively contributing albeit slowly since the year 2002, to incrementally improving the condition of the road network, and in building significant, self-sustaining and important institutional and systemic reforms within the NWA to manage road maintenance in Jamaica. The NRSIP has introduced an informatics Routine Maintenance Management System (RMMS) which provides data, information, analyses and justification for optimum road maintenance expenditure.
- 1.23 The Bank, following this long-term strategy, has been financing rehabilitation works along the main road network and has contributed to develop sustainable routine maintenance mechanisms. Bank operations also included explicit road safety components or implicit activities for safety improvements. The table below illustrates the areas of involvement in the last four operations financed by the Bank:

Areas of involvement	LO 972/OC	LO 1363/OC	LO 1959/OC	LO 2026/OC
Road and Bridges Rehabilitation	✓	✓	✓	✓
Routine Maintenance	✓	✓	✓	✓
Weight Control	✓	✓	✓	
Road Safety	✓	✓	✓	✓
Institutional Strengthening	✓	✓		✓

- 1.24 Coordination among other donors: The Bank has been a central agent in a concerted effort with other agencies such as the Caribbean Development Bank (CDB) who has approved US\$20 million for road repairs, along with an approved US\$10 million Loan from the WB for road rehabilitation. The EC pursuant to the 9th EDF has also given support in the amount of €30 million for the NTP and the RMMP providing the roadmap for interventions and investments and the basis for coordination in the sector (€10 million is targeting augmentation of budgetary assistance for road maintenance support, providing the necessary resources to protect and maintain the investment). Kuwait, under its KFAED, and OPEC have provided resources of US\$12.4M and US\$20M respectively for rehabilitation of rural and urban roads respectively. The Planning Institute of Jamaica (PIOJ) has been the pivotal cross coordinator in participation of the IFT's and reflects the GOJ's commitment to the sector and its coordinated strategy of donors' participation in the road sector.

C. Objective, Components and Cost

- 1.25 Objectives. The main objective is to enhance mobility and safety, improve accessibility, lower transport costs and reduce accident rates, through the improvement and maintenance of roads. Specific objectives are to contribute to the design and implementation of the performance-based routine maintenance contracts, the improvement of road safety conditions on critical sections and segments, and the

improvement of MTW capacity to analyze accident information and provide timely recommendations. Expected results include: i) improvement of road reliability, driving conditions and reduction of generalized transport and logistical costs, ii) improved mobility and accessibility of communities to markets and services, iii) reduction of accident rates, traffic related fatalities and injuries, and iv) institutional strengthening of the MWT especially in the road crash data analyses and policy development.

- 1.26 The proposed Program will finance the design and early implementation of performance-based maintenance contracts along prioritized corridors of the main road network that will test this new approach and allow for improving the processes and monitoring, the improvement of road safety conditions on critical sections and segments, and the institutional strengthening of the RSU. These activities will support competitiveness and economic development through restoring mobility, safety and reliability to the national road network. This operation builds upon the efforts undertaken by prior loans supporting the institutionalization of improved, modernized and sustainable road maintenance. The long-term financing of routine maintenance is fully sustainable with the use of the RMF; once the resources of the Financing have been used, the continuation of the activities will be fully financed by the RMF.
- 1.27 Components. The expected components of the Project are: 1) Design and Implementation of the Performance-Based Routine Maintenance, including the works on selected segments; 2) Road Safety Improvement, including the civil works on selected segments and/or critical spots; 3) Institutional Strengthening of the RSU, and 4) Project Implementation Support.
- 1.28 **Component 1: Performance-Based Road Maintenance (US\$5.0 million).**
- 1.29 This component will finance the execution of routine maintenance works on roads (corridors and/or networks) through the implementation of performance-based maintenance contracts. These contracts will include a hybrid of performance-based requirements and unit price works for roadside and road surface activities respectively. These works would include pavement and shoulder patching, removal of debris, maintenance of drainage structures, repair and replacement of traffic signs and guardrails. A PRODEV Technical Cooperation under preparation (JA-T1047) will finance the technical and institutional activities needed for an efficient implementation of the routine maintenance activities financed by RMF, including the revision of the existing performance-based contracts, and the required monitoring and evaluation structures within the RMF and the MTW.
- 1.30 These works will be implemented along test corridors, that may include, among others, Segment 2 of the Northern Coastal Highway, recently improved with Bank's funding (LO 972/OC-JA), and other corridors on the secondary and tertiary networks. These additional corridors will be selected subject to the following criteria: i) be part of the national main road network, ii) have a budget allocation provided for the corresponding year, iii) be environmentally feasible thereby complying with the country's environmental legislation and Bank Policies², iv) have standard designs

² Environment and Safeguards Compliance Policy (OP-703); Involuntary Resettlement (OP-710); Natural Disaster (OP-704); Indigenous People (OP-765); Disclosure of Information (OP-102)

prepared for simple works and must have incorporated mitigation measures to prevent correct or compensate direct environmental impacts, v) have clearance of the right of way before signing the contract for civil works, and vi) provide evidence that there is no need to resettle any citizen.

- 1.31 **Component 2: Road Safety Improvement (US\$4.0 million)** This component will finance the implementation of civil works to improve the road safety conditions. The scope of works to be carried out would include: i) road marking program on A1 and A2, including centerline and edge line, raised markers; ii) improvement of pedestrian crossings, iii) deployment of mandatory, warning and directional signs, iv) a critical spot elimination program, including traffic calming measures, and v) minor civil works.
- 1.32 **Component 3: Institutional Strengthening of the RSU (US\$0.5 million).** This component will support MTW and RSU by providing financing to populate and maintain an automated traffic crash database, prepare diagnostic reports and action plans for the short and medium term; carry out a road safety assessment program on 500 km along the main road network across the island; acquisition of related equipment, such as a driver testing and education simulator, and a Test Lane for Cars fitted with the appropriate vehicle inspection equipment; and training courses in crash energy analysis, biomechanics, commercial motor vehicle reconstruction and human factors, among others.
- 1.33 **Component 4 – Project Implementation Support (US\$0.5 million)** This component will provide technical assistance to the NWA for the development of technical designs, so as to ensure that they follow best practices in terms of road safety, develop and update road design manuals that include road safety standards, and monitor and oversee the implementation of the construction of the proposed civil works. This component will also provide resources for the hiring of financial auditors and a monitoring and evaluation consultant to conduct the technical audits and to track and monitor the results of the operation.
- 1.34 **Cost.** The Bank will finance the total cost of the project with an investment loan of multiple works of US\$10M, from the Ordinary Capital (OC) resources. The estimated total cost of this project does not include counterpart resources. The following table presents the cost estimate of each component:

Category	TOTAL
1. Performance-Based Road Maintenance	5.0
2. Road Safety Improvement	4.0
3. Institutional Strengthening of the RSU	0.5
4. Project Implementation Support	0.4
5. Financial audit	0.1
TOTAL	10.0

D. Key Results Indicators

- 1.35 A comprehensive monitoring and evaluation system will continuously assess the program's impact. To facilitate monitoring the attainment of these targets the following indicators have been considered: i) Length of the Primary Road Network

under performance-based routine maintenance contracts, will track the contribution to the protection of the transportation system; ii) Vehicle operation cost and Travel time, will track the improvement on quality of life; iii) Number of days that the roads are closed, will track the improvements of accessibility; iv) Length of the Primary Road Network under road safety programs, and v) Rate of road crashes and incidents, will be used to scrutinize how the project has contributed to reestablishing adequate and safe operating conditions on the road network. These indicators have been chosen since historical data have been compiled and archived by the MTW Statistical Unit since 2002, who produces an Annual Transport Statistics Report.

- 1.36 The proposed indicators and means of verification maximize the use of the information that MTW and the NWA will collect directly or indirectly during the execution of the project. Most of the proposed indicators already have baseline data collected since 2002/2003. This baseline is the reference level for the evaluation of the program. All the output indicators will be measured directly by NWA. The outcome indicators will be either measured directly by MTW and / or NWA or indirectly by the Police in the case of road accidents. These measures and estimates will be compared with the expected outputs and outcomes presented in the Results Matrix. The following table presents the selected indicators and their respective means of verifications.

INDICATOR	MEANS OF VERIFICATION	FREQUENCY
OUTCOMES		
Reduction in the rate of road crashes / incidents on the roads	Semi annual progress reports, submitted on 12/31 of each year.	Annual
Reduction in the Vehicle Operating Cost and Travel Time		
Reduction in the numbers of days that the roads are closed		
Percentage of project satisfactorily completed		
Improved crash data analyses and capacity for road safety policy development		
OUTPUTS		
Length of the Primary Road Network under performance-based routine maintenance contracts	Semi annual progress reports, submitted on 12/31 of each year,	Annual
Technical consultants hired		
Length of the Primary Road Network benefited by the road safety component		
Capacity building activities in MWT and RSU		

II. FINANCING STRUCTURE AND MAIN RISKS

A. Financial Facility and Contractual Conditions

- 2.1 The Bank's financing will be provided as an investment Loan for multiple works. The Loan will finance the total cost of the project from the Bank's ordinary capital resources. The loan will be for US\$10 million with an amortization and grace period of 25 and 5 years respectively. The expected disbursement period is for 5 years. The following table shows the tentative disbursement schedule.

Financing	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Total	1.25	2.55	2.50	2.35	1.35	10.0

B. Environmental and Social Safeguard Risks

- 2.2 The Program net environmental and social impacts are likely to be positive for residents and businesses. No major negative impacts are expected since works will include mainly routine maintenance and road safety works; negative impacts are related to the routine maintenance or safety improvements activities, which will be temporary and restricted to those portions of the roadway and immediate area of the right-of-way at any particular time. The Program will have positive socio-environmental impacts as: i) maintenance of the access roads to markets and social services by keeping the roads in good conditions; ii) reduction of the potential negative impact of flooding (road destruction and traffic and safety conditions) due to blocked drainages; and iii) increased safety for pedestrians, road users, and a reduction in the number, occurrence, and severity of accidents.
- 2.3 Given the characteristics of the proposed civil works, as well as the fact that they will mainly take place over the paved area and within the existing right-of-way and will not affect the resident population, the potential negative impacts during works period will be: i) minor traffic congestion, creation of hazardous driving conditions and increase of the risk of accidents; ii) soil erosion with possible sedimentation of nearby water bodies, resulting from earth movement from excavation and construction waste; iii) minor soil and water contamination due to waste and effluents coming from work areas or equipment yards; iv) generation of some dust, noise and gases by the operation of small equipments and vehicles; and v) risk of accidents for workers or road users around works areas.
- 2.4 Impact Mitigation. The Program potential minor negative impacts will be avoided or attenuated as the same way it is being done in the previous loan (LO-2026/JA-OC), through efficient application of a Management Plan that includes the Environmental Specifications (ES) and Clauses for Routine Road Maintenance that will be part of the maintenance and road safety bidding documents and contracts. The NWA's has adequate environmental policy and strategies; good practices and measures; roles and responsibilities; and environmental specification for civil works as the following. These documents are used in all NWA projects including those financed by EC also.
- 2.5 In Jamaica, the National Environment and Planning Agency (NEPA), a regulatory agency part of the Office of the Prime Minister, is responsible for promoting the effective management, conservation and protection of the natural environment. The NEPA is also responsible for issuing an environmental permit for any green field project and environmental licenses for discharging of any trade effluent or other pollution matter to air, ground or water that can result from civil works. In the transport sector, the NWA has an Environmental Unit which is responsible for the road sector environmental management.
- 2.6 Supervision and Monitoring. Supervision will involve the participation of the NWA Regional Offices (NWA/RO) and the contractors. The monitoring and enforcement of said ESMP will involve the participation of the NWA and the contractors. The NWA will provide the engineering and environmental specialists to oversee

contractors' compliance with the ES. They will prepare monthly supervision reports that include the environmental aspects. These reports should indicate non compliance with the Works and ES. NWA can suspend the works payment to the contractors after they have been advised at least twice.

C. Fiduciary Risk

- 2.7 NWA as an executing agency (EA) has experience working with the Bank on four loan operations. Evidence suggests however that there is room for improvement in procurement and internal procedures. Accordingly, fiduciary supervision will be ex-ante at the outset of the program, but during implementation, institutional strengthening initiatives would be undertaken to migrate such supervision to ex-post. The EA shall maintain adequate accounting controls and records acceptable to the Bank, and these will serve as the basis for the preparation of a consolidated financial report of the Program at the end of each fiscal year, as well as the annual audit of the Bank's funds. Given the importance of this matter, the EA must ensure that staff with appropriate accounting and/or audit experience is retained.

D. Other Key Issues and Risks

- 2.8 **Macro-economic assessment:** Jamaica is among the largest economies in the Caribbean region, measured by a nominal GDP of USD 10.7 billion. However, the country faces a persistent restraint on real growth. During the past fifteen years, Jamaica's GDP has not been able to grow faster than 2.4%, while its regional peers grew at an average of 3.8 %. The confluence of shocks from the sharp rise in commodity prices between late 2006 through mid 2008, three devastating hurricanes (2004, 2007, 2008) and subsequent floods, and most recently the international financial crisis, has put increased pressure on Jamaica's already difficult macroeconomic situation. The impact of the global financial crisis on Jamaica has intensified during 2008-9. Economic growth stopped in the third quarter of 2007; the decrease in economic activity was around 4% in the first half of 2009 and is projected to decrease more than 4% in 2009. Economic growth is expected to resume only in 2011. In addition, revenues are below projected levels and the deficit is expected to overpass the estimates for FY 2009/10.
- 2.9 The debt overhang, at 128% of GDP, limits the GoJ's range of action to respond to the economic turmoil given that about 40% of total spending goes to debt service. There is a high debt roll-over risk as the GOJ is facing debt maturing for more than 10% of GDP in 2009 and the interest rate on the national debt is above 18%. The debt sustainability analysis shows that, without policy changes, the debt stock will probably increase in the coming years. The GoJ has started conversations with the IMF in order to access a Stand-by Program but the terms of the potential agreement are yet to be determined. The IMF program would provide effective support for macroeconomic stability.
- 2.10 **Long-term growth:** Jamaica is in a high debt – low growth trap. Between 2000 and 2005, investment averaged 30% of GDP, but economic growth averaged 1.5% per annum. The high level of indebtedness of the country affects economic activity in several ways, becoming one of the main impediments for economic growth. High level

of debt affects the allocation of investment, the financing resource available for the private sector, the public sector availability of resources and the incentives to introduce policy reforms. Faster, broader and sustained economic growth will be critical for raising the standard of living and further reducing poverty. Acceleration of growth depends on private sector development, which in turn requires a supportive macroeconomic context, a sound incentive framework, a facilitative business environment, and efficient basic infrastructure.

- 2.11 **Sustainability.** Once a road asset is rehabilitated there is a risk that it would revert to a state of disrepair before the full useful life of the asset is realized due to a lack of adequate funding of periodic and routine maintenance activities. In order to mitigate this risk, the proposed operation will support routine maintenance by means of implementing institutional strengthening activities as well as a scheme of performance-based routine maintenance contracts that will test and improve this approach. After the Financing has been used, the continuation of the activities will be fully sustainable with the funding from the RMF.

III. IMPLEMENTATION AND MANAGEMENT PLAN

A. Borrower and Executing Agency

- 3.1 The Borrower will be the Government of Jamaica. The executing agency will be the Ministry of Transport and Works (MTW) through the National Works Agency (NWA). The NWA is the implementation arm of the MTW who has a wealth of experience and success in executing Bank financed projects. NWA reports to the MTW through its Permanent Secretary. The NWA will be responsible for the fulfillment of technical, administrative and financial procedures related to the execution of the Project, as well as the planning, monitoring, supervision and evaluation of the Project.

B. Execution Structure

- 3.2 The EA will have the following responsibilities during program implementation:
- a) prepare and obtain Bank approval for all bidding documents required to hire the civil work contractors and consulting firms;
 - b) carry out, control and register all administrative and accounting procedures needed;
 - c) coordinate the bidding processes according to the Bank and GOJ rules;
 - d) monitor the civil works and construction contracts;
 - e) maintain adequate accounting and financial controls as well as appropriate support documentation filing systems for verification by the Bank and the external auditing firm;
 - f) prepare and submit to the Bank disbursement requests and corresponding justification of expenses;
 - g) prepare and submit to the Bank semiannual reports on the revolving fund, program execution including annual updates of the Annual Plan of Operations (AOP), audited financial reports, and other financial reports as required by the Bank;
 - h) record and control the results of the Program through the agreed indicators; and
 - i) address and resolve contractor claims and address related contract adjustments.
- In addition, the EA will maintain separate files for the operations of the Program, and allow for financial and accounting monitoring of the Bank resources, and the local counterpart, in accordance with Bank requirements.

- 3.3 The NWA will be in charge of monitoring and leading the implementation of the Program. The NWA currently has four ROs and thirteen Parish Offices which have island-wide responsibility for the maintenance of the main roads. Routine Maintenance contracts let under this Program will be managed by the four ROs with oversight by the Project Executing Unit (PEU) housed at NWA's Corporate Office in Kingston. The Bank will communicate with the PEU on all matters related to these contracts. This PEU will be built upon the expertise in the executing unit in charge of implementing LO-2026/OC-JA and will share resources where possible. The PEU will be constituted, by at least a Project Manager, and a Project Accountant and should be staffed by, at least, the following other senior officers i) an Environmental expert and ii) a Monitoring and Evaluation expert. **The hiring/appointing of a project manager, an environmental expert and a certified accountant pursuant to terms of reference previously approved by the Bank will be the condition prior to first disbursement.**
- 3.4 The PEU will be responsible for: a) fulfillment of technical, administrative and financial procedures related to the execution of the Project; b) coordinating the technical and environmental supervision and quality control of works performed under the Program, using outside consultants engaged with terms of reference agreed with the Bank; and c) planning, monitoring, supervision and evaluation of the Project.
- 3.5 Program consultants will be required to audit the standard designs for road safety works to ensure that state-of-the-art international best practices are incorporated in the designs. Additionally, the consultants will revise and update the road safety manuals, construction specifications and any other related documentation at the MTW to incorporate international practices in future road safety activities. Consultants will also assist with the call and evaluation of bids and establish appropriate inspection and quality control and quality assurance procedures for implementation. The PEU will review all technical documentation at the beginning of their contracts and at regular intervals throughout the Program to ensure, *inter alia* the adequacy of the programming of work. The PEU will submit, twice per year, reports to the EA and the Bank outlining progress in the works carried out by the contractors and will prepare as-built drawings for all work performed upon the completion of each major work component. The PEU will also supervise the environmental and social aspects of the civil works.
- 3.6 The contractors who will carry out the civil works will be overseen by the PEU. The bidding documents for the selection of contractors to carry out the civil works shall incorporate the following requirements: i) final technical designs, ii) ESMP, as well as the General and Particular Environmental Specifications, including its mitigation, management, supervision, monitoring and training provision.

C. Procurement

- 3.7 Procurement of goods and works as well as the procurement of consulting services to be financed with resources of the financing will be carried out by the EA in accordance with the Policies for the Procurement of Works and Goods Financed by

the Inter-American Development Bank (GN-2349-7); and the Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank (GN-2350-7) both of July 2006.

D. Evaluation and Monitoring

- 3.8 The monitoring and evaluation strategy will include the following: i) annual audited financial statements; ii) AOP; iii) semiannual progress reports; iv) mid-term review; and v) final review.
- 3.9 During the execution of the Program, the EA will submit to the Bank annually, at least thirty (30) days prior to the conclusion of each calendar year, an AOP, containing the report of the performed activities corresponding to the previous year and the proposed activities for the following year. The AOP shall include as a minimum: i) a report on the status of execution of the Program for each component; ii) the procurement plan for the acquisition of works, goods and services, and consultancy services including budget and disbursement projections; (iii) the accomplishment of goals and outcomes of the Program; (iv) progress in meeting results indicators for each component of the Program in accordance with the Results Matrix of the Program and a schedule for their implementation; (v) problems raised; and (vi) solutions taken.
- 3.10 When the disbursement of the Financing has achieved 40% or the committed funds achieved 50%, and when the disbursement of the Financing has achieved 90%, the Borrower shall submit to the Bank sufficient information to allow the Bank to carry out a mid term and a final evaluation, respectively, to review: a) the impacts produced by the program execution; b) procurement procedures and results for goods, services, consultancies and civil works, and c) progress on the implementation of the institutional strengthening component.

E. Future Activities after Approval

- 3.11 Routine maintenance. The institutional strengthening activities needed to put in place the performance-based contracts and the required monitoring and evaluation structures will be designed through a PRODEV Technical Cooperation (JA-T1047) currently under preparation. These activities will support a timely implementation of the maintenance component.
- 3.12 Road Safety. The preparation of technical designs needed for tendering the works will be financed through the project. The designs will entail the category of works related to road marking, signage, pedestrian crossings and improvement of critical spots. Prior to tendering the civil works, the EA will submit to the Bank, for its no objection, the engineering, environmental and feasibility studies and final technical designs.

Annex

Confidential

Results Framework

Project Objective	Contribute to the design and implementation of the performance-based routine maintenance contracts, the improvement of road safety conditions on critical sections and segments, and the improvement of MTW capacity to analyze road accident information and provide timely recommendations.
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Outcome Indicators	Base Level 2008	Target Level (at the end of the project)	Comments
Reduction in the Vehicle Operating Cost and Travel Time.	100 (Base)	80	Determined by NWA, based on the semiannual progress report.
Percentage of reduction in the rate of road crashes / incidents on the roads.	-	20	Determined by NWA, based on the semiannual progress report and records of the Police.
Percentage of reduction in the numbers of days that the roads are closed.	-	20	Determined by NWA, based on the semiannual progress report.
Percentage of project satisfactorily completed.	0	100	Determined by NWA, based on the semiannual progress report.
Improved crash data analyses and capacity for road safety policy development.	Accident data base: not completely populated Institutional capacity for accident analyses: Incomplete Institutional capacity for policy development: Incomplete	Data base completely populated Improved institutional capacity for accident analyses Improved institutional capacity for policy development	Determined by NWA, based on the semiannual progress report

Component	Base	Year 1	Year 2	Year 3	Year 4	Year 5	Target	Comments
Component: Performance-Based Routine Maintenance								
Outputs								
Length of the Primary Road Network under performance-based routine maintenance contracts.	0 km	100 km	200 km	300 km	400 km	500 km	500 km	PEU semester progress reports.
Outcomes								
Reduction in vehicle travel time and operation cost.	100 (base)	96	92	88	84	84	80	PEU semester progress reports.
Percentage of reduction in the number of days that the roads are closed.	0	4	8	12	16	20	20	
Component: Road Safety Institutional Strengthening								
Outputs								
Capacity building activities in MWT and RSU	Systems not available.	Database fully populated	Training courses completed	Consultancies completed			Systems in place and in use.	PEU semester progress reports.
Improved capacity in MWT and RSU	Systems not available	Diagnostic and action plan prepared	Improved capacity for accident analyses	Policies reviewed			Systems in place and in use.	PEU semester progress reports.
Component: Road Safety Improvements								
Outputs								
Percentage of the Primary Road Network improved under this component.	0	2	4	6	8	10	10	PEU semester progress reports.
Outcomes								
Percentage of reduction in the rate of road crashes / incidents on the roads.	0	4	8	12	16	20	20	PEU semester progress reports.

Summary of Procurement Plan

DESCRIPTION OF THE CONTRACT AND ESTIMATED COST OF PROCUREMENT	PROCUREMENT METHOD ¹	REVIEW (PRIOR OR POST)	SOURCE OF FINANCING AND PERCENTAGE		PRE- QUALIFICATION (YES/NO)	ESTIMATED DATE FOR PUBLICATION OF SPECIFIC PROCUREMENT NOTICE	Status (pending, in process, awarded, cancelled)	COMMENTS
			IDB %	Local %				
GOODS								
Vehicle inspection equipment One test lane for cars fitted with the appropriate vehicle inspection equipment US\$ 115,000	NCB	Ex-ante	100%	0%	No	1st Qtr, 2010	n.a	
One Desktop Driver Testing and Education Simulator US\$ 110,000	NCB	Ex-ante	100%	0%	No	2nd Qtr, 2010	n.a	
CONSULTING SERVICES								
Technical Assistance to support the crash data diagnostic, analyses and preparation of action plan US\$ 20,000	3 CVs	Ex-ante	100%	0%	No	1st Qtr, 2010	n.a.	
Technical assistance to provide crash investigation courses: Crush energy analyses, Biometrics, Commercial motor vehicle reconstruction, and Human factor. US\$ 60,000	QCBS	Ex-ante	100%	0%	Shortlist	2nd Qtr, 2010	n.a.	
Technical assistance to support the road safety assessment program: road safety assessment and traffic calming studies, and speed limit rationalization program US\$ 195,000	QCBS	Ex-ante	100%	0%	No	3rd Qtr, 2010	n.a.	
Engineering consulting services for supervision of works US\$ 400, 000	QCBS	Ex-ante	100%	0%	Shortlist	1st Qtr, 2010	n.a.	

Summary of Procurement Plan

DESCRIPTION OF THE CONTRACT AND ESTIMATED COST OF PROCUREMENT	PROCUREMENT METHOD ¹	REVIEW (PRIOR OR POST)	SOURCE OF FINANCING AND PERCENTAGE		PRE- QUALIFICATION (YES/NO)	ESTIMATED DATE FOR PUBLICATION OF SPECIFIC PROCUREMENT NOTICE	Status (pending, in process, awarded, cancelled)	COMMENTS
			IDB %	Local %				
Technical assistance for the annual financial audits US\$ 100,000	QCBS	Ex-ante	100%	0%	No	1st Qtr, 2010	n.a.	
CIVIL WORKS								
Routine Maintenance performance based contracts. Estimated 4 contracts. US\$ 5 million	NCB	Ex-ante	100%	0%	No	3rd Qtr, 2010	n.a.	
Road Safety: Road marking program US\$ 1.5 million	ICB	Ex-ante	100%	0%	No	3rd Qtr, 2010	n.a.	
Road Safety: Pedestrian crossings US\$ 0.5 million	ICB	Ex-ante	100%	0%	No	3rd Qtr, 2010	n.a.	
Road Safety – Signage: mandatory, warning and directional signs US\$ 1 million	NCB	Ex-ante	100%	0%	No	4th Qtr, 2010	n.a.	
Road Safety: Critical spots elimination program US\$ 1 million	ICB	Ex-ante	100%	0%	No	4th Qtr, 2010	n.a.	

ICB: International competitive bidding; LIB: limited international bidding; NCB: national competitive bidding; PC: price comparison; DC: direct contracting; FA: force account; PSA: Procurement through specialized agencies; PAs: Procurement agents; IA: Inspection agents; PLFI: Procurement in Loans to financial intermediaries; BOO/BOT/BOOT: Build, own, operate/build, operate, transfer/build, own, operate/transfer; PBP: Performance-based procurement; PLGB: Procurement under Loans guaranteed by the Bank; PCP: Community participation procurement; QCBS: Quality- and cost-based selection QBS: Quality-based selection FBS: Selection under a fixed budget; LCS: Least-cost selection; CQS: Selection based on the consultants' qualifications; SSS: Single-source selection.