

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

**GUYANA**

**SUPPORT FOR THE ROAD NETWORK UPGRADE AND  
EXPANSION PROGRAM**

**(GY-T1078)**

**PLAN OF OPERATIONS**

This document was prepared by the project team consisting of: Team leader: Christopher Persaud (TSP/CGY); Members: Alejandro Taddia, Rafael Acevedo-Daunas and Caterina Vecco (INE/TSP); Maria Da Cunha (VPS/ESG); Javier Jimenez (LEG/SGO); Roy Parahoo (PDP/CSU); David Ochoa (PDP/CGY) and Clevern Liddell (Consultant).

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**BASIC SOCIOECONOMIC DATA**

For basic socioeconomic data, including public debt information, please refer to the following address:

<http://www.iadb.org/countries/index.cfm?language=English>

## **ABBREVIATIONS**

AASHTO	American Association of State Highway and Transportation Officials
BANK	Inter-American Development Bank
CGY	Country Office Guyana
EA	Executing Agency
EBDMR	East Bank Demerara Main Road
ECDMR	East Coast Demerara Main Road
ERM	Eligibility Review Meeting
ESG	Environmental and Safeguards Unit
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
GCI-9	General Capital Increase 9
GOG	The Government of Guyana
IDB	Inter-American Development Bank
MPW&C	Ministry of Public Works and Communication
OC	Ordinary Capital
PEU	Project Executing Unit
RMMS	Routine Maintenance Management System
RNUEP	Road Network Upgrade and Expansion Program
SEP	Social Engagement Plan
TC	Technical Cooperation
WSG	Works Services Group

## I. BASIC DATA

<b>Country:</b>	Co-operative Republic of Guyana		
<b>Name:</b>	Support for the Road Network Upgrade and Expansion Program		
<b>Number:</b>	GY-T1078		
<b>Project Team:</b>	Team leader: Christopher Persaud (TSP/CGY); Members: Alejandro Taddia, Rafael Acevedo-Daunas and Caterina Vecco (INE/TSP); Maria Da Cunha (VPS/ESG); Javier Jimenez (LEG/SGO); Roy Parahoo (PDP/CSU); David Ochoa (PDP/CGY) and Clevern Liddell (Consultant)		
<b>Date of Abstract Authorization:</b>	Not Applicable. TC funded from Country Specific ORC financing from Small & Vulnerable Country resources. Funding was approved prior to GN 2629.		
<b>Funding Source/ Donors:</b>	Ordinary Capital Country Allocation		
<b>Beneficiaries:</b>	Co-operative Republic of Guyana		
<b>Executing Agency:</b>	Ministry of Public Works and Communications through the Works Services Group		
<b>Financing</b>	OC Fund (SVC)	US\$	1,000,000
	Local Counterpart	US\$	100,000
	<b>Total</b>	<b>US\$</b>	<b>1,100,000</b>
<b>Execution timetable:</b>	As of project approval: Execution period: 12 months Disbursement period: 18 months Start Date: January 2012		
<b>Consultants Type:</b>	Firms and Individuals		
<b>Prepared By:</b>	Transportation Division		
<b>Unit of Disbursement Responsibility:</b>	Country Office Guyana		
<b>TC Included in Country Strategy:</b>	Yes		
<b>TC included in CPD:</b>	No		
<b>GCI-9 Sector Priority:</b>	Infrastructure for competitiveness and social welfare.		

## **II. DESCRIPTION OF ASSOCIATED LOAN**

- 2.1 The Road Network Upgrade and Expansion Program (GY-L1031) is being designed to respond to the needs of Guyana's Road Transport sub-sector in light of recent traffic growth and the congestion currently being experienced on the main roads and urban arteries. It will contribute to the improvement of the main and urban roads which will enhance urban and suburban mobility and accessibility along with improvements in operational and safety standards on the roads. The Eligibility Review Meeting (ERM) for the Loan is scheduled for December 2011 and the approval date is June 2012.
- 2.2 In the past seven years more than 43,000 new vehicles were registered in the country with more than 17,000 of those occurring in the last two years. This sharp increase in the number of vehicles on the road has resulted in the urban areas and main roads becoming congested as vehicles compete for room on the roads. Public transport vehicles and trucks make up approximately 20% of the country's fleet but account for up to 30% of the road trips on the main and urban roads. Trucks move slowly and are difficult to overtake on the heavily trafficked 2-lane roads, while, public transportation vehicles stop frequently causing traffic to slow every time one of these vehicles stops or rejoins traffic.
- 2.3 The program proposes to address traffic growth and congestion issues through the upgrade and expansion of the Sheriff Street - Mandela Avenue, Diamond access roads and the East Bank Demerara Main Road (EBDMR) south of Diamond. The Sheriff Street - Mandela Avenue road which is a main urban artery through the capital city of Georgetown connects the East Coast Demerara Main Road (ECDMR) to the EBDMR and serves as the main access to very large residential areas in east and south Georgetown. Commercial activity continues to increase steadily along the roadway, creating a chaotic mix of pedestrian and vehicular traffic, and parking requirements.
- 2.4 The new housing schemes in the Diamond/Grove area (south of Georgetown) consist of 6,800 house lots with a current population estimated at 20,000 and projected to reach up to 30,000 at full occupancy in another four years. At present only one main access road serves these communities and commuters experience major congestion during peak hours at the intersection with the EBDMR.
- 2.5 The EBDMR connects the capital city of Georgetown with CBJ International Airport and the country's interior via Linden Soesdyke Highway. EBDMR is punctuated with industries involved in providing construction materials, manufacturing and food processing; the road also provides access to natural sources of sands used extensively in local construction. The 28 kilometers of two lane road beyond Diamond consist of two 3.3 meters wide driving lanes with shoulders less than 1.0 meter wide. The traffic is a mixture of commuter and truck traffic and congestion can now be experienced along the length of the EBDR mainly due to the slow moving trucks, the lack of overtaking opportunities and friction from vehicles parked alongside the roadway.
- 2.6 The works proposed under the program would include road rehabilitation and widening, widening or reconstruction of bridges and culverts, construction of parking and stopping lanes and sidewalks and other safety related works.

### **III. OBJECTIVES AND JUSTIFICATION**

- 3.1 The general objective of the Technical Cooperation (TC) is to contribute to the improvement of the main roads in Guyana. These improvements will enhance urban and suburban mobility and accessibility, and improve operational and safety standards on the roads. The TC will provide resources for consulting services while the civil works to improve and rehabilitate the roads will be financed by GY-L1031: “Road Network Upgrade and Expansion Program (RNUEP)”, currently in preparation.
- 3.2 The RNUEP is being designed as a multiple works operation with a representative sample of works consisting of the Sheriff Street - Mandela Avenue road, analyzed with Bank financing in 2011. The other civil works to be funded by the RNUEP are the Diamond/Grove Access Roads and the expansion of the EBDMR South of Diamond which will be analyzed by this TC.
- 3.3 The road network of Guyana totals 3,995 km and serves a national fleet of about 82,000 vehicles. The 410 km national main road network consists of six main roads, all of which have two lanes, except for two short segments along the East Coast and East Bank Demerara, which have four lanes. Although the road network of Guyana is one of the sparsest in South America, due to the concentration of the population and the main road network along the coastal plain, most of the population has access to paved main roads. Most of these roads are in fair condition since over the last 20 years GOG has embarked on a progressive rehabilitation of the roadways and structures (bridges, culverts and sluices). The Bank supported this long-term program by means of seven operations in the road sub-sector totaling US\$203 million, which focused on the rehabilitation of approximately 300 km of the main roads and institutionalizing maintenance of the entire main road network through the implementation of a Routine Maintenance Management System (RMMS).
- 3.4 Overall, the country’s transport system is supported by an inadequate road network, providing little internal and international connections, with highly congested roads in urban areas, low level of service, lack of alternative roadways and costly services. Additionally, in recent years there has been a steady increase in the vehicle fleet traversing the country’s roads. This increase along with the creation of new housing schemes outside of Georgetown along the East Bank of Demerara (in the south) and the East Coast of Demerara (in the east), has contributed to congestion along the main roads leading to the city from east and south and also in the city as traffic passes through the city to move between these corridors. These heavily trafficked corridors have safety issues and also experience the most traffic accidents.
- 3.5 The TC is aligned with the GCI-9 Sector priority “Infrastructure for competitiveness and social welfare” and supports the output “Km of inter-urban roads built or maintained/upgraded”. It is also aligned with the 2008-2012 Country Strategy (GN-2503-1) which has “Improved road conditions/quality of specified corridors” as a supported outcome in the Strategic Matrix.

#### IV. ACTIVITIES, COMPONENTS AND BUDGET

- 4.1 **Specific Objectives:** To support execution of Road Network Upgrade and Expansion Program (GY-L1031) through the preparation of technical, social, environmental and economic studies for the extension of the East Bank Demerara Four Lane road beyond Diamond and the main access roads to Diamond. The specific activities are to (i) prepare project alternatives and preliminary designs for the civil works; (ii) prepare an Environmental and Social Impact Assessment; and (iii) study the economic feasibility of each project alternative.
- 4.2 **Component I: Alternatives and Preliminary Designs.** This component will produce various project alternatives and alignments for providing four driving lanes south of Diamond and up to the Cheddi Jagan International Airport, as well as, alternatives for upgrading the existing entrance into Diamond and propose a new access north of the settlement along appropriate alignments. The analysis of alternatives will take into account, traffic volumes, physical and environmental restrictions, public consultations, road safety specifications to allow for bus stops, pedestrian crossings, access to schools and places of worship, etc. The analysis will include; (i) definition of alternative alignments; (ii) identification of segments within each alternative alignment; (iii) conceptual works designs for each alternative; (iv) assessment of the technical, social, environmental and economic viability of the different segments; and (v) definition of the best alignment, and the optimum length of the road to be widened. Preliminary engineering designs would be produced for the road, bridges and culverts, drainage and road safety elements required for the best alignment and the optimum length of the road to be widened. The activities will include; (i) inspections and assessments, nondestructive and destructive testing of the existing road, bridges and culverts; (ii) identification of material sources; (iii) traffic counts and analysis; (iv) preliminary designs of the pavement and concrete structures to AASHTO standards; and (v) estimating the cost of the works.
- 4.3 **Component II: Environmental and Social Management Plan (ESIA) and Environmental and Social Engagement Plan (ESMP).** This component will fund the stakeholder consultation process, field activities and preparation of the ESIA and ESMP for the project. The consultation process will inform and engage the general public from the opening phase of the study on the intention to implement the Project and further to listen to the expectations and concerns of the population regarding the scope of the Project before the studies are done. The ESIA will satisfy the requirements of the Guyana Environmental Protection Act, 1996 and the Regulations, 2000 as well as the IDB Policies OP 102, OP 703, OP 704 and OP 710. The preparation activities for the ESIA and ESMP would include the identification and mitigation of direct and indirect impacts associated with the execution of the works and when the road comes into use taking into account compliance with local regulations and provisions of the Bank's Safeguard Policies.
- 4.4 **Component III: Economic Feasibility Study.** This component will fund the collection of operating and price data for each vehicle type to be used in the economic analyses. The cost inputs for the works would include investment, social and environmental mitigation and road maintenance cost. The analysis will examine the economic feasibility of the project alternatives and for incremental segments of the

best alignment based on various funding scenarios. The evaluation will be conducted in terms of economic costs, which will be derived from the financial prices considered. Road user costs with and without the project should be estimated with the use of HDM-4.

- 4.5 **Cost and Financing.** The total cost of the TC will be US\$1,100,000 of which \$1,000,000 (90%) will be financed by the Bank's OC Funds and \$100,000 (10%) will be financed by the GOG in kind.

**Table 1: Summary of the costs of the project**

TYPE OF EXPENSE	IDB	GOG In Kind	TOTAL
<b>Component I: Alternatives and Preliminary Design</b>	<b>500,000</b>	<b>50,000</b>	<b>550,000</b>
a. Topographic and Cadastral Surveying	150,000	10,000	160,000
b. Traffic Studies	50,000	5,000	55,000
c. Alignment Alternative	80,000	10,000	90,000
d. Inspections, testing and materials identification	100,000	10,000	110,000
e. Roads, drainage and safety works designs	80,000	10,000	90,000
Cost Estimates	40,000	5,000	45,000
<b>Component II: Environmental and Social Management Plan and Environmental and Social Engagement Plan</b>	<b>300,000</b>	<b>35,000</b>	<b>335,000</b>
a. Consultations and Field Work	90,000	20,000	110,000
b. Baseline and Analysis	70,000	5,000	75,000
c. Assessment	70,000	5,000	75,000
d. Management Plan	70,000	5,000	75,000
<b>Component III: Economic Feasibility Study</b>	<b>80,000</b>	<b>15,000</b>	<b>95,000</b>
a. Vehicle operation and price data	15,000	5,000	20,000
b. HDM4 Analysis	65,000	10,000	75,000
<b>Project Administration</b>	<b>70,000</b>	<b>-</b>	<b>70,000</b>
Evaluation	15,000	-	15,000
Supervision	45,000	-	45,000
Auditing	10,000	-	10,000
<b>Contingencies</b>	<b>50,000</b>	<b>-</b>	<b>50,000</b>
<b>TOTAL:</b>	<b>1,000,000</b>	<b>100,000</b>	<b>1,100,000</b>
<b>Percentage Contribution</b>	<b>90%</b>	<b>10%</b>	<b>100%</b>

- 4.6 **Expected Results:** The expected results of the TC include: (i) identification of project alternatives and preparation of preliminary engineering designs for the road works, bridges and culverts, and road safety features; (ii) ESIA and ESMP for the project; and (iii) economic feasibility analysis for project alternatives.
- 4.7 **Results Matrix:** The Results Matrix is attached as Annex I.
- 4.8 **Procurement:** Procurement and contracting will be carried out by the EA in accordance with Bank Policies for the Selection and Contracting of Consultants (GN-2350-9) and for the Procurement of Works and Goods financed by the IDB (GN-2349-9), both of March 2011; along with the provisions established in the Project Agreement and with those in the respective procurement plan. All procurement will be reviewed by the Bank ex-ante as outlined in the Procurement Plan in Annex II.

- 4.9 **Bank Supervision:** The Project Team will have a technical supervisory role entailing the review and approval of all reports produced from the studies, as well as, monitoring and evaluation of the components of the TC. The IDB's Country Office in Guyana (CGY) will monitor the Project's execution by liaising with the EA as required, providing fiduciary support and ensuring that disbursement requests are received and processed in a timely manner. Disbursements will be made to the EA by CGY upon the request from the EA in the specified Bank format along with requisite supporting documents and justification. Environmental and social deliverables will be reviewed by ESG.
- 4.10 **Audit and Evaluation:** The Executing Agency will be responsible for managing the TC's financial resources and will follow standard Bank procedures for auditing, international accounting norms and reporting. It will also establish and maintain a separate and specific bank account for the purposes of managing this operation. It will prepare and submit to the Bank the TC's final financial statements within ninety (90) days after the date of last disbursement. The statements will be audited by an independent auditor acceptable to the Bank, based on Terms of Reference approved by the Bank and would be funded from TC Resources.
- 4.11 The TC will be evaluated based on the intermediary and final products of the various activities undertaken under the respective components of the Project. A final evaluation and completion report would be prepared by an individual consultant based on Terms of Reference approved by the Bank and would be funded from TC Resources.
- 4.12 **Monitoring:** The Executing Agency will operate and maintain a monitoring system to evaluate the progress of all project activities. Semi Annual Progress reports will be furnished to the Bank by July 31<sup>st</sup> and January 31<sup>st</sup> of each operational year. These reports will follow standard Bank format and will address Project activities and finances, as well as results achieved.
- 4.13 **Execution period and disbursement schedule:** The expected duration of the TC is 12 months for execution and 18 months for disbursement.

## V. EXECUTING AGENCY AND MECHANISM

- 5.1 **Beneficiary and Executing Agency.** The beneficiary will be the Co-operative Republic of Guyana, from whom the TC request originated (see Annex III). The nature of these activities is well within the realm of MPW&C responsibilities and therefore the MPW&C will be the executing agency for the studies of this TC. MPW&C through the Works Services Group (WSG) 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 operation.
- 5.2 The WSG is a multidisciplinary Project Executing Unit (PEU) within the MPW&C, which has the mandate to execute GOG and donor funded projects in the areas of transport and sea and river defences. The unit is currently staffed with technical, socio-environmental and administrative personnel and has been involved in the execution of Bank financed Loan and TC operations in the Transport Sector since

2002. To date this unit has successfully completed three loan operations and is currently executing three loans and three technical cooperations.

- 5.3 **Executing Mechanism.** The EA will be responsible for managing the Project including undertaking the responsibility for the implementation of all activities described in Section IV above including the selection, contracting and supervision of the consultants necessary for TC execution. It will provide local transportation, logistical support and facilities such as office space and communication, facilitate access to information, and provide counterpart staff.
- 5.4 The conditions prior to first disbursement will be limited to the standard general conditions required in the Bank's TC Agreement. There will be no special execution condition for this TC.
- 5.5 The EA will have the following responsibilities during project implementation: (i) prepare and obtain Bank approval for all bidding documents required to hire consulting firms; (ii) carry out, control and register all administrative and accounting procedures needed; (iii) coordinate the bidding processes according to the Bank's Policies; (iv) maintain adequate accounting and financial controls as well as appropriate support documentation filing systems for verification by the Bank and the external auditor; (v) prepare and submit to the Bank disbursement requests and corresponding justification of expenses; (vi) prepare and submit to the Bank progress and financial reports as required by the Bank; and (viii) record and control the results of the project through the agreed indicators. In addition, the WSG will maintain separate files for the operations of the project, and allow for financial and accounting monitoring of the Bank resources, and the local counterpart, in accordance with Bank requirements.

## **VI. RISKS**

- 6.1 The designs would require inputs from four areas of expertise, engineering design, transport economics, contracts and socio-environmental studies. To mitigate coordination issues the Terms of References were written to capture all of the studies needed to complete the feasibility and economic studies. The request for expressions of interest will be published for a sufficient duration to enable the largest pool of suitable consultants to participate. Furthermore, emphasis will be placed on the Request for Proposal for consultants to demonstrate previous experiences undertaking such multidisciplinary studies.
- 6.2 The EA has recently been tasked with the execution of a number of projects funded by GOG and Bilateral sources; this could have an impact on the timely execution and quality of the products of the TC if it is not given the warranted attention. To reduce implementation risk, an individual consultant would be contracted to advise the EA on the technical management of the TC and review of technical products, in addition to the Project Team's support.

## **VII. EXCEPTIONS TO BANK POLICY**

- 7.1 The activities under the TC will not constitute any exception to Bank Policies.

### **VIII. ENVIRONMENTAL AND SOCIAL STRATEGY**

- 8.1 In accordance with OP-703 this TC is classified to reflect the environmental and social risk level of the Project it supports, that is High Risk B. Given the nature of the activity, no ESMR is required. Instead, the team will include all the necessary environmental and social aspects in the TOR and will monitor and evaluate the environmental and social quality of reports received, prior to acceptance and payment.

## Results Matrix

<b>Project Objective</b>	The general objective of the Technical Cooperation is to contribute to the improvement of the main roads in Guyana. These improvements will enhance urban and suburban mobility and accessibility, and improve operational and safety standards on the roads.
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Outcome Indicator	Base Level 2011	Target Level	Comments
Feasible alternative for EBD road expansion south of Diamond	0	1	Verified from Evaluation Report

Product	Baseline	8 Months	12Months	Target	Comments
<b>Component 1: Alternatives and Preliminary Design</b>					
Alternatives and Preliminary Design Report	0%	50%	100%	Report Completed and accepted by Bank/GOG	Verified from PEU semester progress reports.
<b>Component 2: Environmental and Social Management Plan and Environmental and Social Engagement Plan</b>					
ESIA	0%	50%	100%	Report Completed and accepted by Bank/GOG	Verified from PEU semester progress reports.
ESMP	0%	50%	100%	Report Completed and accepted by Bank/GOG	Verified from PEU semester progress reports.
<b>Component 3: Economic Feasibility Study</b>					
Feasibility Study Report	0%	50%	100%	Report Completed and accepted by Bank/GOG	Verified from PEU semester progress reports.

## Procurement Plan

### General information

<b>Project name</b>	Support for the Road Network Upgrade and Expansion Program
<b>Operation number</b>	GY-T1078; ATN/_____-GY
<b>Country</b>	Co-operative Republic of Guyana
<b>Beneficiary</b>	Co-operative Republic of Guyana
<b>Executing agency</b>	Ministry of Public Works and Communications through the Works Services Group

### Brief description of the project's objectives and components:

The general objective of the Technical Cooperation (TC) is to contribute to the improvement of the main roads in Guyana. These improvements will enhance urban and suburban mobility and accessibility, and improve operational and safety standards on the roads. The specific objective is to support execution of the Road Network Upgrade and Expansion Program (GY-L1031) through the preparation of technical, social, environmental and economic studies for the extension of the East Bank Demerara Four Lane road beyond Diamond and the main access roads to Diamond. The specific activities are to (i) prepare project alternatives and preliminary designs for the civil works; (ii) prepare an Environmental and Social Impact Assessment and (iii) study the economic feasibility of each project alternative.

- **Estimated date of project approval:** November 2011
- **Estimated date of signature of contract:** January 2012
- **Estimated date of the final disbursement:** June 2013

### A. Introduction

The Project will require procurement for the following: (i) contracting of a single consultant firm to carry out activities identified under Component I, II and II; (ii) contracting of a individuals to undertake the Supervision and Evaluation activities of the Project Administration component; and(iii) contracting of an Audit Firm to undertake final audit of the TC. The procurement of these services will be carried out in accordance with the IDB's *Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank* (GN-2350-9), of March 2011 and *Policies for the procurement of Good and Works Financed by the Inter-American Development Bank* (GN-2349-9) of March 2011.

### B. Procurement Plan

The procurement plan for the "Support for the Road Network Upgrade and Expansion Program" covering the disbursement period of 18 months has been agreed between the Bank and the Government of Guyana. The plan indicates the procedure to be used for the method of selecting consultants, for each contract or group of contracts. It also indicates cases requiring prequalification; the estimated cost of each contract or group of contracts; the requirement for

prior or post review by the Bank; and estimated dates for the publication of specific procurement notices and completion of the contracts included in this project. The procurement plan will be updated semi-annually whenever necessary or as required by the Bank. The procurement plan is available at Bank's website: [Project Procurement Information](#).

### **C. Project Procurement**

The following is a general description of the procurement planned for the proposed project:

- **Works procurement:** N/A
- **Goods procurement:** N/A
- **Procurement of non-consulting services:** N/A
- **Procurement of consulting services:** Consulting services for the project include:
  - a. A firm to be hired on the Project to undertake the identification of project alternatives, prepare preliminary designs, ESIA, ESMP, and economic analysis. The firm will be selected using the standard request for proposals (RFP) issued by the Bank.
  - b. Two Individual consultants for Supervision and Evaluation of the studies. The individuals would be selected based on comparison of qualifications of individual consultants.
  - c. A firm to undertake the financial audits. The firm will be selected using the standard request for proposals (RFP) issued by the Bank for auditors or an RFP satisfactory to the Bank in cases where the standard RFP is not applicable.
- **Operating expenses:** N/A
- **Others:** N/A
- **Advance contracting and retroactive financing:** N/A

### **D. Bank Review of Procurement Decisions**

All contracts will be subject to prior review by the Bank in accordance with Appendix 1 of the *“Policies for the Selection of Consultants financed by the Inter-American Development Bank.”*

## Appendix 1

<b>Project name</b>	Support for the Road Network Upgrade and Expansion Program
<b>Operation number</b>	GY-T1078; ATN/_____-GY
<b>Country</b>	Co-operative Republic of Guyana
<b>Beneficiary</b>	Co-operative Republic of Guyana
<b>Executing agency</b>	Ministry of Public Works and Communications through the Works Services Group

- **Brief description of the project's objectives and components:**

The general objective of the Technical Cooperation (TC) is to contribute to the improvement of the main roads in Guyana. These improvements will enhance urban and suburban mobility and accessibility, and improve operational and safety standards on the roads. The specific objective is to support execution of the Road Network Upgrade and Expansion Program (GY-L1031) through the preparation of technical, social, environmental and economic studies for the extension of the East Bank Demerara Four Lane road beyond Diamond and the main access roads to Diamond. The specific activities are to (i) prepare project alternatives and preliminary designs for the civil works; (ii) prepare an Environmental and Social Impact Assessment and (iii) study the economic feasibility of each project alternative.

- **Estimated date of project approval:** November 2011
- **Estimated date of signature of contract:** January 2012
- **Estimated date of the final disbursement:** June 2013

- **Address of the executing agency office responsible for the procurement plan:**

The Works Services Group  
Ministry of Public Works and Communications  
Address: Fort Street Kingston, Georgetown  
Telephone: (592) 226-0650  
Facsimile: (592) 225-2689

**(GY-T1078)**

**Period comprised in this Procurement Plan: From January 2012 to June 2013**

Ref. No. <sup>1</sup>	Description of main procurement activities during the next 18 months.	Estimated cost (US\$ thousands)	Procurement method <sup>2</sup>	Review (ex-ante or ex-post)	Source of financing and percentage		Prequalification <sup>3</sup> (Yes/No)	Estimated Dates		Status <sup>4</sup> (pending, in process, awarded, cancelled)	Comments
					IDB %	Local / Other %		Publication of specific procurement notice	Completion of contract		
<b>1</b>	<b>CONSULTING SERVICES</b>										
C1	Feasibility Study for EBDMR South of Diamond and Diamond Access Roads.	\$950,000	QCBS	Ex-ante	100%	0%	No	Q1 2012	Q1 2013	Pending	
	Firm to undertake the preparation of technical, social, environmental and economic studies for the extension of the East Bank Demerara Four Lane road beyond Diamond and the main access roads to Diamond.										
C2	Supervision	\$15,000	QCII	Ex-ante	100%	0%	No	Q1 2012	Q1 2013	Pending	
C3	Evaluation	\$25,000	QCII	Ex-ante	100%	0%	No	Q4 2012	Q1 2013	Pending	
C4	Auditing	\$10,000	FBS	Ex-ante	100%	0%	No	Q4 2012	Q1 2013	Pending	

<sup>2</sup> **Goods and Works:** **ICB:** International competitive bidding; **LJB:** 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; **Consulting Firms:** **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; **Individual Consultants:** **QCNI:** Selection based on comparison of qualifications of national individual consultants; **QCII:** Selection based on comparison of qualifications of international individual consultants.

<sup>3</sup> Applicable only to Goods and Works in case the new Policies apply. In the case of previous Policies, it is applicable to Goods, Works and Consulting Services.

<sup>4</sup> Column "Status" will be used for retroactive procurement and when updating the procurement plan.

## Technical Cooperation Request

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**From:** Nicola, Marco Carlo  
**Sent:** Thursday, August 25, 2011 11:32 AM  
**To:** Edwards, Leslie-Ann G.; Persaud, Christopher; Veyrat-Pontet, Alexandre  
**Cc:** Liddell, Clevern; Williams, Derise Avione  
**Subject:** FW: programming of TC.

Dear Leslie Ann,

See below MOF agreement for the revised allocation of the 2011 TC-OC resources for Guyana.

Please ensure that the revised amounts for GY-T1081 and GY-T1088 are registered in the OPUS system.

Alex and Chris,

Please prepare a simple timeline for approval for the 3 operations and update OPUS accordingly. Just remember that these funds must be approved within the 2011 fiscal year. If you have any problem feel free to seek my support.

Thank you all, Marco

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**From:** Tarachand Balgobin [<mailto:tbalgobin@finance.gov.gy>]  
**Sent:** Thursday, August 25, 2011 11:56 AM  
**To:** Nicola, Marco Carlo; [zally@finance.gov.gy](mailto:zally@finance.gov.gy)  
**Subject:** RE: programming of TC.

Marco ,

The revised allocation is acceptable.

TB

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**From:** Nicola, Marco Carlo [<mailto:MARCON@iadb.org>]  
**Sent:** Wednesday, August 24, 2011 4:59 PM  
**To:** Tarachand Balgobin  
**Cc:** 'Zulfikar Ally'; Edwards, Leslie-Ann G.; Persaud, Christopher; Veyrat-Pontet, Alexandre  
**Subject:** FW: Our Meeting

Dear Mr. Balgobin,

Just a reminder and follow-up on the 2<sup>nd</sup> point (highlighted in yellow) of my e-mail below so that we can move forward with the relevant processes of TC preparation.

Best regards,  
Marco

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**From:** Nicola, Marco Carlo  
**Sent:** Wednesday, August 10, 2011 11:39 AM  
**To:** 'Tarachand Balgobin'; Zulfikar Ally

**Cc:** Edwards, Leslie-Ann G.  
**Subject:** FW: Our Meeting

Dear Mr. Balgobin and Zulfikar,

Further to our meeting yesterday with Minister Singh, I would be grateful if can send me an updated C&D allocation table including (highlighted in green) GoG agreement to provide support to the new energy loan using C and D funds as reflected in the minute of negotiations.

Also, based on our discussions on the TC program and the fact that we still have an available amount of TC funds (US\$ 116,000) to allocate, please confirm your agreement on the revised following allocation:

Project #	Title	Original agreed allocation US\$	Revised allocation US\$
GY-T1078	Support for the EBD 4 lane extension	1,000,000.-	1,000,000.-
GY-T1081	Expansion of the Pre-investment Program G/T to Lethem	300,000.-	360,000.-
GY-T1088	Institutional Strengthening of the Audit Office of Guyana (Phase 3)	250,000.-	300,000.-
Total		1,660,000.-	

Best Regards,

Marco

## Draft Terms of Reference

### Feasibility Study for EBDMR South of Diamond and Diamond Access Roads

#### 1. INTRODUCTION

Guyana is a low-income, thinly-populated country with a predominantly agricultural economy. The total population according to the 2002 census was 723,000. The vast majority of this population lives on the coastal strip.

The road network of Guyana totals some 3,995 km and serves a national fleet of about 80,000 vehicles. Although the road network of Guyana is one of the sparsest in South America, most of the population has access to paved roads due to its concentration along a narrow section of the Atlantic coastal areas. Most of these roads are in fair condition since the Government of Guyana (GOG) has progressively rehabilitated roadways and structures over recent years. In the interior, the road network consists mainly of unsurfaced roads that are limited to four-wheel drive vehicles and are difficult to traverse in the rainy seasons. Overall, the transport system is hampered by limited national and international connectivity, highly congested roads in urban areas, and relatively high transportation costs.

All of the national paved roads, consisting of six main roads, have mostly two lanes except for relatively short segments along the East Coast Demerara and East Bank Demerara that have four lanes. GOG through funding provided by the Inter-American Development Bank (IDB) will commence the continued widening the East Bank Demerara Public Road (EBDPR) to four lanes in 2011. This project will be continuing the four lane section of the EBDPR from the village of Providence up to the village of Diamond, a distance of some seven kilometers.

GOG further intends to progressively widen the rest of the EBDPR to four lanes up to its end at the Cheddi Jagan International Airport (CJIA) at Timehri. The current roadway is a two lane, asphalt concrete surface road, which is in fair condition. The widening the existing road provides challenges in the form of the encroaching Demerara River and the presence of large, critical drainage structures along the roadway.

#### 2. OBJECTIVES

*The primary objectives of the assignment can be summarized as follows:*

- The consultant is to propose various project alternatives for providing four driving lanes between the village of Grove and the Cheddi Jagan International Airport. The options are to include at a minimum: widening of the two lane roadway along its current alignment to facilitate four lanes; realignment of sections of the roadway to facilitate a total of four lanes; rehabilitation of the two lanes of the roadway along with the construction of a new 'parallel' two lane road. In addition, the consultant will propose alternatives to upgrade the existing entrance into Diamond and propose a new access north of the settlements along appropriate alignments through the settlement and alongside the settlement.
- The consultant is to collect and analyze all information relevant to the preliminary examination of technical, economic, environmental and social aspects of the project alternatives, including public consultations. This shall be carried out in adequate detail for each project option to allow for: selection of design standards; identification of design and/or 'constructability' constraints; conceptual designs; and estimated costs inclusive of the expected cost of mitigating environmental and social issues such as property acquisitions etc. On the basis of this examination, the consultant is expected to refine the project options to develop the project alternatives acceptable to the Client and Bank.

- Definition of the alignments and scoping of the ESIA work should also take into account the results of the previous public consultations carried out for Providence to Diamond Four Lane Extension and should be further consulted with the Multi-stakeholder Committee established for this corridor, and as needed to update and provide feedback for the inputs received during the prior consultations
- The consultant is to collect and analyze all information relevant to the detailed examination of the technical, economic, environmental and social aspects of the project alternatives. The consultant will submit an Alternatives and Preliminary Design Report, an Environmental and Social Impact Assessment Report and a Feasibility Study Report on the project alternatives, with a clear definition of the best alignment, and the optimum length of the road to be widened for which preliminary designs would be carried out.
- The aforementioned reports shall be used by the client to seek funding for the project. The consultant is expected to modify and/or enhance these reports as may be requested by the Client in response to the request of potential funding agencies.

### **3. ACTIVITIES TO BE COMPLETED / METHODOLOGY**

*The following represents a sampling of the specific activities required to satisfy the Objectives of this Consultancy. This is not an exhaustive list the absence of any ‘activities’ necessary for the Consultant to satisfy the Objectives, does not preclude the Consultant’s obligation to satisfy the Objectives.*

#### **3.1 TRAFFIC ANALYSIS**

##### **3.1.1 Current Traffic**

The consultant will determine present traffic volumes by means of traffic counts in at least six locations for seven consecutive days; with at least one 24 hour count on a weekday and one during a weekend. The composition of the traffic must be separated in terms of cars, buses, light goods vehicles, trucks, non-motorized vehicles etc. Special emphasis must be placed on identifying the movement of pedestrians and bicycles, and particularly vulnerable groups like school children. It is necessary to categorize traffic as: normal, diverted and generated traffic.

The consultant will determine traffic loading and any overloading by estimating the number of 8.2 ton equivalent single axles (ESA) using the roadway.

Origin and destination surveys will be carried out in the Diamond/Grove area to establish direction of traffic flows. This information is to be used to propose appropriate solutions through those villages for the main road and access roads.

##### **3.1.2 Future Traffic**

The Consultant will make traffic and traffic loading forecasts over periods of 5, 10, 15 and 20 years from the year in which any road improvements are scheduled to be placed in service. The forecasted traffic and traffic loading will be categorized as normal, diverted and generated traffic.

It is important that estimates of traffic and traffic loading take full account of both variations in traffic flows on different sections of the roads and fluctuations in traffic levels during the year.

##### **3.1.3 Vehicle Operating Costs**

The Consultant will collect and/or assess current operating and price data for each vehicle type using the roadway, which will be input into the economic analysis.

### **3.2 FUNCTIONAL / STRUCTURAL EVALUATION OF ROADWAY**

3.2.1 The Consultant will evaluate and where necessary revise and update the following information on the road network level, including:

- Dates of construction, reconstruction or resurfacing.
- Design of the original pavement and reconstruction works, including drainage, pavement materials and mixes used.
- Volumes and composition of heavy traffic.
- Road accident data and analysis of 'black spots' with high traffic / pedestrian accident occurrence.
- Types of periodic maintenance carried out.
- Deflection measurements (Benkelman Beam-BB or Falling Weight Deflectometer-FWD).
- Geological, soil-materials, topographical, climatic, hydrological and drainage, and environmental characteristics and sensitivity.
- Local sources of materials and materials disposal areas.
- Soil profiles.
- Unit costs of rehabilitation and resurfacing of roadways and shoulders, etc.

#### **3.2.1 Evaluation of the Existing Road and Bridges**

The Consultant will need to establish the criteria and methodology necessary to evaluate road and bridge conditions along the project roads in terms of type, functionality, and deficiencies related to safety and performance etc.

At a minimum, this evaluation should include: road roughness measurements, deflection testing of the pavement, test pits along the roadway and an analysis of the structural integrity of existing bridges and culverts.

#### **3.2.2 Road roughness measurement**

Road surface roughness should be measured using a vehicle-mounted road roughness meter.

#### **3.2.3 Deflection analysis**

The Consultant will need to carry out a deflection analysis of the existing pavement to calculate the present subgrade and pavement elastic modulus. The results must be calibrated with sufficient test pits reaching down to the subgrade, which amongst other things must establish pavement stratification and material types, and the position of the water table.

The Consultant will be allowed to use a Benkelman Beam owned by the Client. The Consultant, if so choosing to use it, would be responsible for all support required in using the said Benkelman Beam. Additionally, the Benkelman Beam measurements would need to be carried out: every 40 meters when the damage to the pavement is not significant; and every 20 meters when the damage is significant.

#### **3.2.3 Surveys**

Topographic surveys have to be done for the entire road corridor covering the extents of the ROW and for new alignments, the entire width and length of the ROW required must be surveyed. The

survey will pick up all physical features and buried utilities. Where necessary, Cadastral Surveys would be done to identify extents of the ROW.

A Cadastral Survey will be done of the whole ROW to identify any segments of the ROW that require acquisition of lands or easements, removal of structures or resettlement.

Level benchmarks, based on the Georgetown datum, shall be established outside the proposed construction envelope at intervals of 2km, using similar steel pins set in concrete. Also, traverse points should be constructed to allow for the re-establishment of the traverse.

Original ground levels and detailed cross sections shall be picked up at a minimum of 20m intervals and at intermediate points where necessary. The cross sections shall be taken over the full right-of-way width and include measurements of the location and elevation of all necessary points of embankment and excavation slopes, road pavement and shoulders, junctions, roadside drainage, drainage structures, bridges, crossings, retaining walls, river training structures, safety features, road signs, utilities, trees, boundary fences and entrances to roadside properties, watercourses and any other feature that would affect the design of road rehabilitation or new construction.

The Consultant shall prepare Computer Aided Design and Drawing (CADD) drawings and a digital terrain model of the completed ground survey. The survey data shall be recorded on plan-profile plans at a scale of 1:2,000 horizontally and 1:200 vertically. Road and waterway cross sections shall be drawn up at a scale of 1:200 or other scale that will allow for the precise description of the road elements.

The location, alignment, profile and cross section of all irrigation and other waterways lying within the right-of-way shall also be surveyed and recorded.

### **3.3 *PROJECT ALTERNATIVES***

The alternative analysis should take into account physical and environmental restrictions, public consultations (3.5.4 below), road safety specifications to allow for bus stops, pedestrian crossings, access to schools and places of worship, etc. This should be done with the aid of topography information and detailed studies and sampling should be done on the selected alternative. The selection is not a separate phase and should involve the stakeholder analysis.

The works should include: (i) Assessment of current conditions (traffic volumes, environmental, road condition, social, etc.) along the existing road, (ii) Definition of alternative alignments, (iii) Conceptual works designs for each alternative (iv) Identification of segments within each alternative alignment, and (v) Assessment of the technical, social, environmental and economic viability of the different segments, (vi) Definition of the best alignment, and the optimum length of the road to be widened.

### **3.4 *CONCEPTUAL AND PRELIMINARY DESIGN***

The consultant will prepare conceptual works designs for all alternatives. These designs should adhere to AASHTO geometric standards and incorporate solutions for both motorised and none motorised traffic and pedestrians.

The consultant will prepare preliminary engineering designs for the road, bridges and culverts, drainage and road safety elements required for the best alignment and the optimum length of the road to be widened. The preliminary designs will take into consideration the following parameters;

- geometric design;
- traffic and safety designs;

- pavement design;
- drainage design;
- geotechnical design;
- bridge and structures design;
- environmental and social works design;
- public and private accesses
- any other necessary designs.

The preliminary road design should adhere to AASHTO standards with regards to structural, geometric and safety design. The design must incorporate solutions for both motorised and none motorised traffic and pedestrians while addressing issues such as parking, bus stops and loading and off loading zones for commercial vehicles.

Typical design drawings must be presented for each design options and a schedule should be presented showing the locations of each type of geometric section. For structure and safety elements, typical designs and locations of these fixtures should be indicated on drawings.

### **3.5 ENVIRONMENTAL AND SOCIAL IMPACT ANALYSIS**

*In order to achieve the objectives of the environmental and social impact assessment aspect of the assignment, specific activities to be completed include, but are not limited to, the following:*

#### **3.5.1 Principal Objectives**

The principal objective of the Consultancy is to conduct an Environmental and Social Impact Assessment (ESIA) and Environmental and Social Management Plan (ESMP) to satisfy the requirements of the Guyana Environmental Protection Act, 1996 and the Regulations, 2000 as well as the IDB Policies OP 102, OP 703, OP 704 and OP 710 for the Extension of the Four Lane Road. To achieve this objective, the Consultants will be required to review all the pertinent environmental and social aspects of the proposed project area. Upon completion of this review a report must be prepared and presented in accordance with the provisions and regulations of the

Environmental Protection Agency (EPA) and must capture the required information outlined in this TOR. Although this TOR is comprehensive it is by no means exhaustive and should be extended to capture all relevant information relating to this project. The Consultant will be allowed to include relevant information at their discretion and is responsible for all studies conducted under this Project.

#### **3.5.2 Environmental and Social Impact Evaluation**

##### **A1. Area of study**

The area of study should include all areas that are likely to be impacted by the implementation of this Project. All areas where the Project intersects with human settlement, including residential, commercial, industrial, etc. should be carefully examined to determine the Project's impact. The environmental impacts must centre on the area of direct environmental and social influence (ADI), defined as a band 4km east and 1km west of the centre line of the current road throughout the length of the road, provided that this band can be extended to cover a functional unit and shall include:

- ✓ the existing areas of human concentration;
- ✓ the right of way;
- ✓ the areas required for material stockpile, traffic diversions, asphalt plants, etc.;
- ✓ the transportation routes between any quarries and dumps;

- ✓ relevant functional units even if only partially affected (eg, protected areas, wetlands, agricultural plots, commercial establishments, etc.);

All remaining areas where the Project will have an indirect or lower intensity impact, comprises the areas of indirect environmental and social influence (AII). The Consultant will be expected to produce maps depicting the areas of direct and indirect influence throughout the length of the roads or their functional extension at an appropriate scale showing the following:

- ✓ The population centres, protected areas (if any), and principal services.
- ✓ Other representative physical, biotic, socio-economic and cultural features should also be included.
- ✓ A cadaster of the land units on or adjacent to the ROW identified on a map.

Whenever the road passes close to ecologically fragile and/or protected areas, such as archaeological areas and human settlements or culturally important sites, the scope of the assessment shall be widened to permit evaluation of the impacts of the works and use of the highway in those areas.

## **A2. Environmental and Social Baseline Assessment**

The Consultant will be required to carry out an Environmental and Social Baseline Assessment (ESBA) prior to Project implementation. This assessment should aim to examine the significant short and long term effects of the proposed Project on the existing environment within the Project site. Further, the evaluation must include the processes of analysing, monitoring and managing the intended and unintended environmental and social consequences, both positive and negative, of proposed Project and any environmental and social changes invoked by the implementation of the Project. The report to be submitted must meet the following requirements:

- i. Establish the baseline environmental and social conditions within the Project's area of direct and indirect influence. In achieving this objective a complete description of the existing conditions within the Project area must be examined. Further the Consultant will be required to review all available data/study on the biological, physical, socio-economic characteristics of the Project area as well as the area of indirect influence. Special emphasis should be placed on those aspects which have the potential of being affected by the implementation of this Project.
- ii. A detailed description of the physical environment should be produced and information relating to the geology, soils, land use (present and historical land use), hydrology, meteorological conditions and patterns, drainage and irrigation, water use, surface and ground water quality, air quality, environmental noise, etc. must be captured in the report.
- iii. Provide a detailed description of biological environment including information on the flora and fauna, any sensitive ecological habitats and endangered species existing within the Project area, aquatic environment including wetlands, etc. The study should also identify of the existing waterways within the Project area and the environmental implications of the Project for these structures.
- iv. A description of the socio-economic environment including information relating to demographics, land use, education levels, health, income, means of transportation (motorized, non-motorized), social characteristics, traffic patterns, types of businesses that may be affected, identification of lots and necessary

relocation due to construction, infrastructure services that may be affected including drainage and irrigation structures, utilities including telephones, electricity, etc.

- v. Inventory and evaluation of public and private infrastructure and buildings in the areas of direct influence during construction and operation, with a view to: (i) establish a base line to address any future damages or related claims; (ii) identify vulnerabilities and corresponding prevention, monitoring and mitigation measures; and (iii) design operating procedures and monitoring requirements
- vi. Identification of the archaeological, historical and tourist sites in proximity to the road and evaluation of the positive and negative impacts of improved access to these areas. If the road and its approach roads traverse or affect areas of archaeological interest, the Consultant shall contact Environmental Authorities and ascertain the legal status of the areas and the specifications and requirements of the institute for appropriate treatment of the cases. Areas of communal interest (churches, cemeteries, other sites of cultural or religious significance must also be considered.

### **A3. Environmental and Social Impact Assessment**

The Environmental and Social Impact Assessment (ESIA) should examine the potential social and environmental impacts emanating from the implementation of the proposed Project. The primary aim should be to identify the magnitude and other dimensions of the predicted social and environmental change resulting from execution of the Project, using as the point of reference, the existing situation within the Project area. Impacts should be assessed based on the social, ecological and physical information collected during the Environmental and Social Baseline Assessment (ESBA) conducted by the Consultant. The Consultant will be expected to capture the following information:

- i. Provide a detailed description of the Project activities from conception through design, construction and operation in order to identify and evaluate the indirect, direct, and cumulative impacts during the execution of the works as well as during the operation phase of the roadway; including land use and community structure and activities.
- ii. Identification and evaluation of direct and indirect impacts during execution of the works and when the road comes into use taking into account compliance with local regulations and the provisions of OP-703 (particularly Directives B.9, B.10 and B.11) and OP-710.
- iii. A characterisation of the potential impacts on the physical, biological, ecosystems and social components in the area of environmental influence traversed by the highway.
- iv. The evaluation of the impacts on the physical environment should assess the potential impacts during the construction phase and must cover issues such as direct land loss, erosion, soil compaction, potential impacts due to accidental spills and noise and vibration from construction activities, etc. should be examined.
- v. In addition, impacts of the Project implementation on the air quality should also be examined. Issues to be covered include impacts noise and dust from

construction activity, dust from the transport and stockpile of materials and fumes emission from the operation of heavy duty machinery, etc.

- vi. The evaluation of the impacts on the biological environment should assess potential impacts on the surrounding water resources. The water ways crossed by the highway should be identified and the potential environmental impacts resulting from the Project's implementation including narrowing of their widths, erosion, blockage of streambeds, contamination etc must also be examined.
- vii. Identification of runoff and infiltration issues, including mapping of nearby underground water resources and wells.
- viii. Identification and demarcation of fragile and/or protected ecosystems within the proposed Project area, where necessary and the impacts on these ecosystems including loss of habitat, etc. are to be considered.
- ix. Evaluation of the principal water uses and identification of potential impacts on water quality due to accidents or transportation of hazardous materials.
- x. The aesthetics of the environment can also be adversely affected during construction phase of the Project. Some issues to be examined includes change in aesthetics of the surrounding environment, improper disposal of solid waste and builder's waste generated from the Project and unsightly construction activities such as improper storage of stockpiled material.
- xi. An evaluation of the impacts on the archaeological, historical, cultural and tourist sites in proximity to the highway and evaluation of the positive and negative impacts of improved access to these areas.
- xii. The evaluation should examine the extent of social disruption during the each phase of the Project from mobilization through operation phase and provide appropriate mitigation measures to reduce these impacts to acceptable levels. Impacts to be considered include socio-economic, health and safety including risk of accident to workers and the surrounding communities, introduction of diseases to the community, community culture and values, and potential implications on the residence. The general implications on the changes of land-use and social-community resources should also be examined.
- xiii. Where expropriation and/ relocation or restriction of use affecting households, businesses or other land users becomes necessary, the Consultant will be responsible for identifying precisely the number of persons affected, their legal rights to the property, their dependence on the land for subsistence and detailed socioeconomic characterization. If resettlement is necessary the Consultant shall prepare a resettlement and compensation plan in accordance with the IDB's guidelines for involuntary resettlements, (OP-710).
- xiv. The Consultant must quantify and assign priorities to the impacts and classify them according to their importance, magnitude and extent, the permanence of the impact (temporary, permanent), the sphere of influence (local, regional, etc), 'mitigability', reversibility, probability of occurrence and other appropriate characteristics.

- xv. The Environmental Specialist will actively participate with the Project Engineering Team in the process of defining all details of Project design in order to ensure the best environmental and social solutions are provided. Joint effort is required in the preparation of, among other things:
- ✓ A map of the highway on an appropriate scale of the area of direct environmental influence (ADI), showing the locations of the existing human settlements, the areas required for encampments, water ways crossed by the highway, areas of landslides, traffic diversions, etc., and extending that area of influence to include ecologically fragile and/or protected areas, and archaeological, tourist, historical and other settled areas, on which impacts will be exerted during execution of the highway works and use of the roadway.
  - ✓ Recommendation of the environmental characterization of the areas proposed for implementation of the supporting infrastructure for the works (asphalt plants, encampments, disposal areas, fuel storage, and service roads, among others). This characterization shall cover, among others, the aspects of relief, plant cover, surface and ground drainage, the direction of the prevailing winds, accessibility, and proximity to protected archaeological areas.
  - ✓ On the basis of the resulting characterizations, definition of the recommended areas, performance of the preliminary studies for the plan for recovery and use of the selected areas and estimation of the corresponding costs for inclusion in the Project budget. Also, recommendation of the specific measures for the control of degradation in and environmental recovery of each of the selected areas, and framing of the rules of behaviour for the workers for environmental safeguards and relations with settlements in the vicinity of the encampments.
  - ✓ The Consultant shall recommend locations for dumps, stockpile of materials and other necessary areas required for Project execution so that they do not become environmental issues such as erosion into surrounding water ways, dust nuisance, and areas where traffic patterns will be significantly modified or where the change in accessibility is likely to spur significant changes in land use patterns, etc. The aspects of potentially usable sites to be considered must include the possibility of conflicts with their owners or with environmental or NDC authorities. Finally, the recommended dump and storage sites must be such as can be reconstituted and replanted for integration into the landscape upon completion of the works.
  - ✓ The Environmental Specialist and the Project 's Engineer Team must also ensure safe crossing conditions, adequate road markings and street lighting wherever needed and incorporate these aspects into the road safety measures to be implemented.
  - ✓ The Consultant must ensure that all environmental and social mitigations measures are included in the designs and resources are allocated accordingly.
- i. Identify the relevant laws, guidelines, regulations and standards that would define the operating framework of the Project. Legal aspects related to the Project including licensing requirements and procedures, land use permits and any other relevant norms

should be included. All documentation required for licensing should accompany the study.

### 3.5.3 Evaluation of Environmental Liabilities

The Environmental Liabilities usually generated by highways are the impacts on third parties from existence of the road and the impacts of third parties on it. Since in the latter case those third parties cannot always be identified and held accountable, these environmental liabilities have to be corrected only in cases of hazard to the road infrastructure and its users. Below are examples of impacts classed as environmental liabilities are:

- ✓ Landslides and slumps, cave-ins, and slope instability
- ✓ Erosion, silting, streambed obstruction, flooding resulting from changes in drainage and permeability
- ✓ Uncontrolled off-site dumping
- ✓ Water pollution
- ✓ Ecological and landscape damage in natural areas
- ✓ Areas degraded by quarrying and extraction of other materials for the works, the opening of service roads, encampments, etc.
- ✓ Accesses to and from local roads and streets of human settlements blocked by the highway
- ✓ Damage to sources of water of human settlements and/or of irrigation canals along the highway
- ✓ Interference with pedestrian or non-motorized traffic that creates safety hazards
- ✓ Hazards or nuisances affecting residential or commercial uses of the land adjacent to the RoW, including noise, dust, vibration.
- ✓ Occupation of the right-of-way.
- ✓ Damage buildings or infrastructure as a result of construction activities or traffic (vibration, impact, dust and soot, etc.)
- ✓ Safety and related injury issues.

The Environmental Liability of the road under study for construction will be confined to impacts that put at risk the route, its users, and the areas, ecosystems and communities near the right-of-ways, accesses and ancillary facilities, including transfer and detour areas during construction.

To identify the environmental (including any social aspects) liabilities the Consultant will have to carry out the following activities:

- i. Devise a methodology for the evaluation of environmental liabilities.
- ii. Design and submit for approval by the MPW&C the characterization sheet that will be used to enter the environmental liabilities.
- iii. Classify the environmental and social liabilities into categories.

- iv. Compile all information needed to fill out pre-established characterization sheets.
- v. Consult with stakeholders.
- vi. Fill out the characterization sheets for each individual situation (environmental and social liability) detected, which shall contain, at a minimum:
  - ✓ Its location, approximate dimensions, obtained by quick reliable procedures.
  - ✓ Its identification under the pre-established general classification.
  - ✓ Its description, including its probable causes.
- vii. Mount in an annex photographs of the most important and unusual features of the environmental liabilities.
- viii. Enter on the baseline map as an additional layer, the environmental and social liabilities detected for the road and approach roads and ancillary facilities and transfer routes, showing the distance location in kilometres. The map shall contain, at a minimum, the urban areas near the main highway and the watercourses and secondary, important natural or historical features roads that cross or connect to the roads under evaluation.
- ix. Submit the characterization sheet to the MPW&C for final approval.
- x. Classify the environmental land social liabilities as critical and non-critical in accordance with the definitions proposed by the consultant and accepted by the MPW&C.
- xi. For the critical liabilities include, in addition to the information referred to above, a characterization of the works, services and/or corrective measures recommended, including schematic sketches of the solutions proposed, a determination of the quantities, costs and budget and the critical environmental liabilities to be eliminated or mitigated in the works. The solution of these liabilities must be included in the project's budget.
- xii. For the non-critical liabilities include a ranking of importance and options for attenuation measures, including identifying the need for monitoring.

### **3.5.4 Public Consultations Guidelines**

The Consultant must also implement a Stakeholder Consultation Process that fulfils the requirements of informing and engage the general Public from the opening phase of the study, of the intention of the MPW&C to implement the Project and further to listen to the expectations and concerns of the population regarding the scope of the Project before the studies are done and its implementation begins.

Any consultation process initiated must fulfil at a minimum the following objectives:

- ✓ Facilitating the incorporation in the Project of the measures required for its technical, environmental and socio-cultural viability and capturing the view of the affected persons;

- ✓ As far as practical establish agreements with stakeholders or at minimum achieving an adequate degree of acceptance on the part of the affected groups;
- ✓ Incorporate the concerns/needs of the affected persons as well as beneficiaries into the Project's priorities;
- ✓ Devise a methodology to promote local ownership of the Project and facilitate cooperation during construction and operation for instance systems and tools for continuous engagement with stakeholders including the preparation of a Communication Plan and the appointment of a Community Liaison Officer, early identification of potential conflicts and strategies to avoid or overcome them;
- ✓ Providing for transparency in the management of the Project and the impacts and opportunities it brings to the affected stakeholders;
- ✓ Gathering local intelligence that can facilitate and improve Project design and implementation through interactive/participatory session with stakeholders;

The Public consultations process should be designed and executed with due account to the principles of sound consultation and stakeholder engagement including:

- ✓ Early consultations;
- ✓ Wide consultancy that captures the sphere of direct and indirect influences of the Project;
- ✓ Collect and maintain proper documentation of stakeholders concerns raised during consultations;
- ✓ Be knowledgeable about all the options being considered for the Project and their potential impacts;
- ✓ Allow stakeholders reasonable time for absorption of information, convening of stakeholders and provisions of feedback;
- ✓ Report on issues identified in a balanced and objective manner;
- ✓ Request feedback from stakeholders for instance with the provision of questionnaires at the end of consultation meetings, etc.; and
- ✓ Conduct consultation in mutual good faith and maintain a two way process at all times.

In achieving the above-mentioned objectives of the Public Consultations the following tasks must be met by the consultant;

**i. Task 1: Scoping and Stakeholder identification and analysis**

The Consultant will be expected to make recognizance site visits and based on information gathered should identify and prioritize stakeholders within the areas of direct and indirect influence, with special emphasis being placed on the vulnerable groups such as children and the elderly and any other disadvantage groups/subgroups whose needs are less likely to be taken into consideration under the usual planning scenarios.

Once the universe of stakeholders has been identified, analyze their relationship to the Project and relationships among the groups as relevant, to establish the relative priority of engaging with each group. Provide a mapping of the stakeholders that takes into account the following factors as they relate to the Project:

- ✓ Impacts, risks and opportunities generated;
- ✓ Stakeholders' characteristics, assets, capabilities and vulnerabilities; and
- ✓ Stakeholders' interests and influence.

Based on the results of the initial analysis of the various stakeholders group, the Consultant should outline how the respective consultations will be executed.

## **ii. Task 2: Consultation Plan**

Prepare a Consultation Plan and communicate to stakeholders which should include at minimum:

- ✓ A non-technical summary of the proposed Project for the stakeholders to make informed decisions on whether, or the degree to which, they may be affected by the implementation of the Project;
- ✓ A scheduled timeframe for consultation that allow for stakeholders to absorb Project information, ask for clarifications and provide feedback. Consideration must be given to Public holidays, work schedules and local scheduling preferences with a view of maximizing stakeholders participation;
- ✓ The manner of consultation (seminars, presentations, interviews, open-houses, workshops, structured or unstructured surveys, workshops, etc.) that is designed to elicit the interest and participation of the different types of stakeholders, should take into account:
  - Inclusiveness that allows for the participation of individuals as well as their functional and organic organizations;
  - Attention to verifying the legitimacy of any one acting in a representative capacity and to avoiding conflicts with existing representation systems;
  - Particular attention to providing for inclusion for a typically marginalized groups (such as women, youth, the elderly, the disabled and ethnic minorities depending on the situation);

- Notifying stakeholders of consultation prior to their execution with emphasis being on reaching those expected to be affected;
- Opportunities for stakeholders to participate in more than one event so that they can internalize information and consult with their own counterparts before providing final feedback;
- Provision of all relevant Project information to the stakeholders;
- The scope of the inputs expected and of the ways in which stakeholder concerns will be included in the Project; and
- Conflict management strategies if opposing interests are identified.

The final Consultation Plan should also take in consideration the consultation requirements of local Agencies such as the Environmental Protection Agency.

### **iii. Task 3: Implement the Consultation Plan**

Carry out the consultation according to the plan employing a variety of methodologies as needed to ensure proper coverage of the various stakeholder groups. Given the nature and location of the Project, particular attention should be given to concerns that below:

- ✓ Changes in connectivity or accessibility of neighbourhoods, public services and community resources;
- ✓ Traffic and pedestrian safety and access;
- ✓ Exposure to noise, dust, fumes , risk of accidents and other nuisances or hazards;
- ✓ The acquisition of the ROW, private lands and other land use changes that could cause physical displacement of homes, commercial establishments or economic or community activities and uses including as street vending, recreational uses, use as public meeting places, transportation hubs, etc.;
- ✓ Changes in economic activities and livelihoods resulting from changes in traffic patterns and accessibility;
- ✓ Potential for in or out-migration as a result of job opportunities and/or changes in access to the Project site. Further issues related to labour, job opportunities for local population and Project labor force training, housing and code of conduct should also be examined;
- ✓ Increased risk of accidents or exposure to hazards from heavy traffic and hazardous loads;
- ✓ Community needs and opportunities related to the Project;
- ✓ Affection of infrastructure, crops or activities as a result of the construction or operation of the improved road and its ancillary works and changed

patterns of use (including impacts of changes in drainage, vibration, noise, dust or light from construction or traffic, proximity of foot or vehicle traffic; and

- ✓ Any other issues, concerns, needs, demands or perceptions related to the Environmental and Social Assessment issues described in the scope of the assessment.

The methodology for carrying out the consultation needs to clearly identify the roles of the participants, the rules of engagement and the scope of the results that can be expected. Time should be allocated for brain storming to identify issues, concerns and expectations/demands and then proceed to analyze the causal relationships with respect to the Project and to identify potential solutions and alternatives for issues identified during such session.

**iv. Task 4: Compile and analyze the results and provide them to the Technical Team**

Once all groups of stakeholders have been consulted, the Consultant shall prepare a report that classifies their inputs and analyzes their relevance to the Project in terms of at minimum:

- ✓ Environmental impacts and risks;
- ✓ Social impacts and risks;
- ✓ Community support for the Project;
- ✓ Community objections or opposition to the Project;
- ✓ Opportunities to improve the fit between the project and the stakeholders' needs and demands; and
- ✓ Key points that require feedback to the stakeholders and stakeholder issues that might pose a risk to the successful implementation of the Project.

**v. Task 5: Prepare and deliver presentation(s) to the stakeholders providing feedback on their inputs**

The Project team including the Environmental Specialist and Project Engineering Team will be required to analyze the inputs and information gathered during the consultations and to determine how to provide feedback to the stakeholders. This would include:

- ✓ Explain any misconceptions about the Project to allay unjustified concerns;
- ✓ Proposing feasible Project design change or improvement options that can address specific concerns;
- ✓ Explaining any Project limitations and any issues that are beyond the scope of influence of the Project or inevitable impacts that are not feasible to avoid or fully mitigate;
- ✓ Proposing mitigation or compensation measures that would be available to address potential environmental, social and economic risks or impacts and the process by which the Project will work with the affected stakeholders to assess the impacts and implement the measures;

- ✓ Describing the process the Project will implement for continued engagement with stakeholders whose concerns require implementation of management measures;
- ✓ Describing the communication plan to keep stakeholders informed in later stages of Project development as needed and proposing mechanisms for continued interaction (such as stakeholders' committees, hot lines, etc.);
- ✓ Informing stakeholder of how they can follow up on the Project if they wish to do so and how they can obtain and provide information with respect to the performance of the Project; and
- ✓ If the analysis identified potential conflicts, describing the process the Project will implement to receive and respond to stakeholder complaints (a grievance management mechanism).

This feedback process should be provided in a brief written report and disseminated through a series of targeted presentations to key stakeholder groups.

### **3.5.5 Environmental and Social Management Plan**

An environmental and social management plan shall be drafted (in accordance with IDB Safeguards OP-703-Directive B.5), which shall include the below.

An impact mitigation plan with descriptions of each mitigation measure proposed, the impact to which it relates, the conditions under which it will be required (in the design, before or during construction, permanently, for contingencies, etc.), and the design requirements and procedures for its execution. Each program must have a budget for its implementation.

A program for environmental and social follow-up or monitoring. Definition of the institutional responsibilities for implementation of each mitigation measure, including (i) implementation; (ii) operation, (iii) maintenance, (iv) control and supervision during construction and operation of the works, and (iv) environmental and social monitoring and reporting.

A program for resettlement and/or social compensation / expropriations (if necessary) in accordance with OP-710, including Social Baseline Information, community participation, compensation and rehabilitation package, legal institutional framework, environment, timelines, monitoring and evaluation and coordination.

An investment program, a timetable and estimated budget for all investments and recurrent costs in implementation of the environmental management plan.

A communications and grievance management program.

A timetable of the activities, which must be synchronized with the activities for construction of the main components of the project and/or its operation phase.

The expected components of the management plan include, among others:

- i. soil erosion control, slope stabilization, drainage management, and restoration of natural vegetation in temporary use areas;

- ii. environmental measures for the protection of surface and ground water courses and the preservation of their quality and quantity and of aquatic fauna;
- iii. control of atmospheric emissions (dust and gasses) and noise which affect the workers, neighbouring inhabitants, crops or the general environment;
- iv. measures to manage and restore the areas impaired by the installation and operation of all ancillary facilities and transfer routes including asphalt plants, quarries, crushers, etc., to their natural condition;
- v. measures for the management of domestic and industrial solid wastes and for control of sewage discharges during construction;
- vi. special measures to attenuate the barrier effect of the works and to avoid disturbing the native flora and fauna;
- vii. appropriate quarrying procedures to avoid excessive degradation of the areas to be worked and, afterwards, levelling, earth-filling, replanting and other needed measures to restore the quarried areas to their natural condition;
- viii. appropriate procedures for using the areas slated as dumps for refuse and spoil from levelling and other wastes, with due regard for the site selection and design of the dumps, how materials are to be placed in them, and appropriate cover to ensure their stability.
- ix. measures to offset impacts that cannot be mitigated, such as compensation to owners of land, structures, businesses, crops and other installations to be affected by the widening of the road;
- x. measures for resettlement and compensation of any households, businesses or land users to be displaced by the road or having their access to resources, services or markets restricted directly or indirectly (if required) ;
- xi. measures to protect nearby natural areas and wild life from direct impacts of construction or impacts due to increased access and land use change impacts (if required);
- xii. measures to protect local population from the influx of large numbers of workers and to deal with potential problems such as alcohol and substance abuse, HIV-AIDS prevention, etc.
- xiii. identification of the costs and benefits of the mitigation and the environmental management plans in order to include them in the economic-environmental evaluation;
- xiv. measures to ensure compliance with local laws and the fundamental rights at work with respect to the contracting of labor for the project, and to implement assurance systems for worker health and safety;
- xv. measures to manage spills of fuels and oils, and their disposal during construction;
- xvi. measures to manage traffic, noise and accidents during construction.
- xvii. measures to control impacts during operation including speed reduction elements, signals, barriers, safety measures, and contingency plans in case of accidents and incidents involving hazardous materials, control noise, dust and vibration, maintain pedestrian access and connectivity, etc.

### 3.5.6 Final Report on the Environmental and Social Impact Study

The report to be presented must be analytical and concise, and emphasize the significant social and environmental problems, the measures and actions recommended, and the costs and responsibilities involved. In addition to the above-mentioned, it must also include the following:

- ✓ In addition the final ESIA/ESMP must include a monitoring plan to identify mitigation and monitoring cost for every phase of the project. The monitoring plan should cover auditing, reviewing, reporting including monitoring sheets to be used and corrective action to be taken for non-conformance to ensure compliance with the ESIA/ESMP.
- ✓ Emergency response plan should identify potential environmental and social issues emanating during the execution of the project. This plan must include emergency response policy, emergency response contact personnel along with their appropriate details, emergency procedures. A description of an emergency should be included in this section of the report. Where applicable response procedures to minor as well as major accidents/incidents should also be developed for fire, accident, traffic accidents and fuel spills. The consultant should also develop an incident report formatting.
- ✓ Closure plan where consideration should be given to principal closure and decommissioning issues that may arise. Recommendations for the predicted issues should also be identified.

## 3.6 ECONOMIC ANALYSIS

*In order to achieve the objectives of the feasibility study aspect of the assignment, specific activities to be completed include, but are not limited to, the following:*

### 3.6.1 Economic Analysis

The Consultant will assess the verify types of vehicles using the roads and prepare an assessment of their characteristics appropriate for the economic analysis. Current operating and price data will be collected for each vehicle type and will be input into the analyses.

The cost inputs for the works would include investment, social and environmental mitigation and road maintenance cost. These costs would be those estimated for alternatives.

The Consultant will conduct an economic feasibility evaluation of the project alternatives. The evaluation will be conducted in terms of economic costs which will be derived from the financial prices considered. Road user costs with and without the project should be estimated with the use of HDM-4. The respective costs and benefits of proceeding with these alternatives will be compared with a continuation of the existing situation. The most viable alternative would also be analysed in parts to allow for phasing of the works; where each part should meet the minimum economic requirements. The computation for each alternative will be subjected to a sensitivity analysis with singular and combined variables.

In cases where the analysis the project in its entirety does not meet the minimum economic requirements then the feasible part or section of the project should be identified and analysed.

### 3.6.2 Economic Feasibility Report

The Consultant will propose an outline and content for this report. The report, which will be in '.doc' format for text and '.xls' format for spreadsheets and '.dwg' format for drawings, will draw together the various data collected and analyses conducted, and will present the consultant's findings in a clear and understandable manner.

## 4. OUTPUTS / DELIVERABLES

*The progress and findings of the assignment will be presented in the following reports:*

- **Alternatives and Preliminary Design Report.** This should provide the data collected and analysis of the traffic and road condition, and the preliminary engineering designs and alignments for various project alternatives.
- **Environmental and Social Impact Assessment Report.** This should provide the Environmental and Social Impact Assessment evaluation of the project alternatives.
- **Economic Feasibility Report.** This should provide the economic feasibility evaluation of the project alternatives.
- **Final Report.** This will incorporate any relevant changes made to the abovementioned reports.

All reports shall be presented in two printed copy (including all appendices, drawings, tables and graphs) and in three copies in electronic form (editable and non-editable formats). The HDM4 input data files for the economic feasibility evaluation and raw route survey data should also be provided in electronic format.

The Consultant shall supply five additional printed copies of the Final Report (including all appendices, drawings, tables and graphs) and in electronic form (editable and non-editable formats).

## 5. CONSULTANCY SPECIFICATIONS

### 5.1 Type of Consultancy

The consultancy will require the services of an international consulting firm with extensive experience in road and transportation engineering, and carrying out road feasibility studies, designs and ESIA's. It is essential that the consulting firm demonstrate experience working on such studies in developing countries, particularly in the Caribbean and Latin American region.

### 5.2 Financing

The cost of the consultancy will include the consultant's remuneration as well as the costs of all incidentals associated with the conduct of the consultancy. The incidentals include, but are not limited to: surveys, field tests, trips, travel allowances, international calls, local transportation, secretarial expenses, copying and office supplies. The cost of the consultancy will include the consultant's remuneration as well as the costs of all incidentals associated with the conduct of the consultancy. The incidentals include, but are not limited to: surveys, field tests, trips, travel allowances, international calls, local transportation, secretarial expenses, copying and office supplies.

### 5.3 Duration

The duration of the study shall be 26 weeks.

#### 5.4 *Location*

The study shall be carried out in Guyana.

#### 5.5 *Reporting Schedule*

*The outputs / deliverables of the study shall be presented as follows:*

- The Inception Report shall be submitted to the MPW&C three weeks after the commencement date of the contract.
- The draft Alternatives and Preliminary Design Report shall be submitted to the MPW&C 16 weeks after the commencement date of the contract.
- The draft Environmental and Social Impact Assessment Report shall be submitted to the MPW&C 18 weeks after the commencement date of the contract.
- The draft Economic Analysis Report shall be submitted to the MPW&C 20 weeks after the commencement date of the contract.
- Final Report shall be submitted to the MPW&C at the end of 26 weeks after the commencement date of contract (including 4 weeks for receipt of comments and to make any necessary changes following comments).

#### 5.6 *Payments*

The payments will be done according to the following schedule:

- 10% as an Advance Payment against the relevant guarantee
- 10% upon submission of the Inception Report
- 20% upon submission of the draft Alternatives and Preliminary Design Report
- 20% upon submission of the draft ESIA Report
- 20% upon submission of the draft Economic Feasibility Study Report
- 20% upon submission and approval of the Final Report

#### 5.7 *Expertise Required*

*The key experts required for the Consultant's team, and their minimum qualifications and experience are:*

- Key Expert No. 1: **Highway Engineer (Team Leader)**
  - Education: MSc. in Civil Engineering
  - Experience: 10 years experience in road design and road construction with 5 years experience in developing countries. If proposed as Team Leader, experience must include being 'Team Leader' in at least 2 projects of a similar nature in developing countries.
- Key Expert No. 2: **Transport Economist**
  - Education: MSc. in Economics or Transport Economics
  - Experience: 10 years experience in economic and financial appraisal of highway projects with 5 years experience in developing countries.
- Key Expert No. 3: **Environmental Engineer**
  - Education: MSc. in Environmental Engineering or 'similar' relevant field

- Experience: 10 years experience in carrying out ESIA's and preparing ESMP with 5 years experience in developing countries.
- Key Expert No. 4: **Social Specialist**
  - Education: MSc. in Social Sciences or 'similar' relevant field
  - Experience: 10 years experience in carrying out Stakeholder Consultation, ESIA's and preparing ESMP with 5 years experience in developing countries.

*It is envisaged that inputs would be required from the following other experts:*

- **Pavement Engineer**
- **Geotechnical Engineer**
- **Transport Economist**
- **Hydrologist**
- **Biodiversity Specialist**

The language of all reports will be English and all experts shall have a good command of English.

The Consultant must specify the qualifications and experience of each expert to be assigned to the assignment. For each key expert proposed, curriculum vitae of about 4 pages should be provided detailing the relevant experience and qualifications. Members of the consultancy team must have working experience in developing countries.

The Consultant is free to define the individual duration of assignments and recommend changes to the composition of the team. All team members must be present in Guyana when conducting their assignments.

### **5.8 Coordination and Facilities**

The MPW&C is the executing agency for the Consultancy. The Consultant shall report to the Coordinator, Works Services Group, located within the MPW&C. The IDB Project Team will have a supervisory role entailing evaluation and monitoring of the study and reviewing and approving the study.

The MPW&C will facilitate the issuing of any permits required for the Consultant to carry out their duties and make available all relevant reports, documents, maps and data.

The MPW&C shall designate personnel to be mentored in all or specific aspects of the Study.

## Monitoring and Evaluation Plan

### 1.0 INDICATORS

- 1.1 The following table presents the selected indicators and their respective means of verifications:

INDICATOR	MEANS OF VERIFICATION	FREQUENCY
<b>Outcomes</b>		
Feasible Alternative	Final Evaluation	End of Project
<b>Outputs</b>		
Alternatives and Preliminary Design Report	Semi-annual progress report.	Semi Annually
Environmental and Social Management Plan		
Environmental and Social Impact Assessment		
Feasibility Study Report		

### 2.0 METHODOLOGY

- 2.1 The monitoring and evaluation strategy will include the following: (i) end of project audited financial statements; (ii) semi-annual progress reports; and (iii) a final evaluation.
- 2.2 The proposed indicators and means of verification maximize the use of the information that the Executing Agency (Ministry of Public Works and Communications) and the Works Services Group (WSG) will collect directly or indirectly during the execution of the project.
- 2.3 The proposed indicators already have baseline data for the year 2011. This baseline is the referenced level for the evaluation of the project. All the output indicators will be measured directly.
- 2.4 The EA shall collect through the supervision or other consultants, store and retain all necessary information, indicators and parameters, including the semi-annual reports and final evaluation, in order to assist: i) the Bank to prepare the Completion Report; and ii) the Bank's Oversight Evaluation Office (OVE), if it so wishes, to evaluate the impact of this operation, in accordance with GN-2254-5.

### 3.0 MONITORING

- 3.1 The EA will have the following responsibilities during project implementation: (i) prepare and obtain Bank's approval for all bidding documents required to hire consulting firms; (ii) carry out, control and register all administrative and accounting procedures needed; (iii) coordinate the bidding processes according to the Bank's Policies; (iv) maintain adequate accounting and financial controls as well as appropriate support documentation filing systems for verification by the

- Bank and the external auditor; (vi) prepare and submit to the Bank disbursement requests and corresponding justification of expenses; (vii) prepare and submit to the Bank progress and financial reports as required by the Bank; (viii) record and control the results of the Project through the agreed indicators. In addition, the WSG will maintain separate files for the operations of the Project, and allow for financial and accounting monitoring of the Bank resources, and the local counterpart, in accordance with Bank requirements.
- 3.2 The TC will be evaluated based on the intermediary and final products of the various activities undertaken under the respective components of the Project. A final evaluation and completion report would be prepared by an individual consultant based on Terms of References approved by the Bank and would be funded from TC resources.
- 3.3 The Executing Agency will operate and maintain a monitoring system to evaluate the progress of all project activities. Semi Annual Progress reports will be furnished to the Bank by July 31<sup>st</sup> and January 31<sup>st</sup> of each operational year. These reports will follow standard Bank format and will address Project activities and finances, as well as results achieved.
- 3.4 The Project Team will have a technical supervisory role entailing the review and approval of all reports produced from the studies, as well as, monitoring and evaluation of the components of the TC. The IDB's Country Office in Guyana (CGY) will monitor the Project's execution by liaising with the EA as required, providing fiduciary support and ensuring that disbursement requests are received and processed in a timely manner. Disbursements will be made to the EA by CGY upon the request from the EA in the specified Bank format and requisite supporting documents and justification.

#### **4.0 EVALUATION**

- 4.1 The final evaluation is to be carried out with the help of an external consultant and is to take place after all of the TC products have been presented by the Consultant. The evaluation will assess:
- i. The degree of attainment of project objectives in relation to designed TC and reasons for any variances.
  - ii. The organization established for project execution;
  - iii. Lessons learned that could be applied to future transport projects.
- 4.2 The result of this final evaluation will be used as input for the project completion report to be prepared by the Bank.

## **5.0 AUDITING**

- 5.1 From a financial perspective, a final financial audit report of the project is to be submitted by the EA within 90 days after the date of the last disbursement.
- 5.2 The external audit will be performed by an auditing entity acceptable to the Bank, in accordance with International Accounting and Reporting Standards, and terms of reference previously approved by the Bank. The project will use an approved accounting software system. The costs associated with the audits will be financed with project resources.

## **6.0 BUDGET**

- 6.1 The budget assigned to monitoring, evaluation, and auditing is US\$70,000 and will be financed by the TC.

## Safeguard Screening Form

<b>Project Details</b>	<b>IDB Sector</b>	Transportation-Road Programs
	<b>Type of Operation</b>	Technical Cooperation
	<b>Additional Operation Details</b>	
	<b>Country</b>	Guyana
	<b>Project Status</b>	
	<b>Investment Checklist</b>	Infrastructure Road and Rail
	<b>Team Leader</b>	Persaud, Christopher (chrisp@iadb.org)
	<b>Project Title</b>	Support for Road Network Upgrade and Expansion Project
	<b>Project Number</b>	GY-T1078
	<b>Safeguard Screening Assessor(s)</b>	Persaud, Christopher (chrisp@iadb.org)
	<b>Assessment Date</b>	2011-11-21

<b>Project Classification Summary</b>	<b>Project Category:</b> C	<b>Override Rating:</b> B	<b>Override Justification:</b> Elevate: other (enter details in comments)
	<b>Conditions/ Recommendations</b>	<p><b>Comments:</b> In accordance with OP-703 this TC is classified to reflect the environmental and social risk level of the Project it supports, that is High Risk B.</p> <p>Category "B" operations require an environmental analysis (see Environment Policy Guideline: Directive B.5 for Environmental Analysis requirements).</p> <p>The Project Team must send to ESR the PP (or equivalent) containing the Environmental and Social Strategy (the requirements for an ESS are described in the Environment Policy Guideline: Directive B.3) as well as the Safeguard Policy Filter and Safeguard Screening Form Reports.</p> <p>These operations will normally require an environmental and/or social impact analysis, according to, and focusing on, the specific issues identified in the screening process, and an environmental and social management plan (ESMP). However, these operations should also establish safeguard, or monitoring requirements to address environmental and other risks (social, disaster, cultural, health and safety etc.) where necessary.</p>	

Summary of Impacts/Risks and Potential Solutions	Identified Impacts/Risks	Potential Solutions
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<b>Assessor Details</b>	<b>Name of person who completed screening:</b>	Persaud, Christopher (chrisp@iadb.org)
	<b>Title:</b>	Transport Senior Specialist
	<b>Date:</b>	2011-11-21

### Safeguard Policy Filter Report

<b>Project Details</b>	<b>IDB Sector</b>	Transportation-Road Programs
	<b>Type of Operation</b>	Technical Cooperation
	<b>Additional Operation Details</b>	
	<b>Investment Checklist</b>	Infrastructure Road and Rail
	<b>Team Leader</b>	Persaud, Christopher (chrisp@iadb.org)
	<b>Project Title</b>	Support for Road Network Upgrade and Expansion Project
	<b>Project Number</b>	GY-T1078
	<b>Safeguard Screening Assessor(s)</b>	Persaud, Christopher (chrisp@iadb.org)
	<b>Assessment Date</b>	2011-11-21

<b>Safeguard Policy Filter Results</b>	<b>Type of Operation</b>	Technical Cooperation	
	<b>Safeguard Policy Items Identified (Yes)</b>	The Bank will make available to the public the relevant Project documents.	(B.01) Access to Information Policy– OP-102
		The operation is in compliance with environmental, specific women's rights, gender, and indigenous laws and regulations of the country where the operation is being implemented (including national obligations established under ratified Multilateral Environmental Agreements).	(B.02)
		The operation (including associated facilities) is screened and classified according to their potential environmental impacts.	(B.03)
		The Borrower/Executing Agency exhibits weak institutional capacity for managing environmental and social issues.	(B.04)
		If a Technical Cooperation, the operation is associated with the design and/or implementation of a major investment loan in infrastructure.	(B.04)
		An Environmental Assessment is required.	(B.05)
		Consultations with affected parties will be performed equitably and inclusively with the views of all stakeholders taken into account, including in particular: (a) equal participation	(B.06)

		of women and men, (b) socio-culturally appropriate participation of indigenous peoples and (c) mechanisms for equitable participation by vulnerable groups.	
		The Bank will monitor the executing agency/borrower's compliance with all safeguard requirements stipulated in the loan agreement and project operating or credit regulations.	(B.07)
		Suitable safeguard provisions for procurement of goods and services in Bank financed projects may be incorporated into project-specific loan agreements, operating regulations and bidding documents, as appropriate, to ensure environmentally responsible procurement.	(B.17)
	<b>Potential Safeguard Policy Items(?)</b>	No potential issues identified	
	<b>Recommended Action:</b>	Operation has triggered 1 or more Policy Directives; please refer to appropriate Directive(s). Complete Project Classification Tool. Submit Safeguard Policy Filter Report, PP (or equivalent) and Safeguard Screening Form to ESR.	

<b>Assessor Details</b>	<b>Name of person who completed screening:</b>	Persaud, Christopher (chrisp@iadb.org)
	<b>Title:</b>	Transport Senior Specialist
	<b>Date:</b>	2011-11-21