Project Completion Report

PCR

Project Name:	Moleson Creek – New Amsterdam Road
Country:	Guyana
Sector:	Transportation
Original Project Team:	Alejandro Taddia (RE3/FI3) Project Team Leader; Jacob Greenstein (RE3/FI3); Isabel Cardona (RE3/FI3); Juan Carlos Pérez-Segnini (LEG); Stuart E. B. Hughes (COF/CGY) and José Manuel Cabral (Consultant).
Project Number:	GY0076
Loan Number:	1554/SF-GY
QRR Date:	November 29, 2011
Approval Date:	January 20,2012

PCR Team:
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ACRONYMS AND ABBREVIATIONS

AADT	Annual Average Daily Traffic
AFS	Audited Financial Statements
CTPU	Central Transport Planning Unit
DO	Developmental Objective
EA	Executing Agency
GOG	Government of Guyana
GPF	Guyana Police Force
HIPC	Heavily Indebted Poor Countries
IDB	Inter-American Development Bank
IIRSA	Integration Regional Infrastructure in South America
IP	Implementation Progress
MPW&C	Ministry of Public Works and Communication
NPV	Net Present Value
PCR	Project Completion Report
PEU	Project Execution Unit
PPMR	Project Performance Monitoring Report
RMMS	Routine Maintenance Management System
VOC	Vehicle Operating Cost
vpd	vehicle per day
WSG	Work Services Group

I. BASIC INFORMATION

BASIC DATA (AMOUNTS IN US$)

Project No: GY0076

Title: Moleson Creek – New Amsterdam Road

Borrower: Cooperative Republic of Guyana

Date of Board Approval: 16 June 2004

Executing Agency (EA): Ministry of Public Works & Communication

Date of Loan Contract Effectiveness: 06 June 2005

Date of Eligibility for First Disbursement: 16 Dec 2005

Loan: 1554/SF-GY
Sector: Transportation

Months in Execution
*** from Approval:** 78
*** from Contract Effectiveness:** 66

Lending Instrument: Investment / Specific Investment Operation

Disbursement Periods
Original Date of Final Disbursement: 06 June 2010
Current Date of Final Disbursement: 31 Dec 2010
Cumulative Extension (Months): 6
Special Extensions (Months): 0

Loan Amounts
*** Original Amount:** 37,300,000
*** Current Amount:** 37,211,025.53
*** Pari Passu (if applicable):** 90.00%

Poverty Targeted Investment (PTI): Yes
Social Equity (SEQ): Yes
Environmental Classification:

Disbursements
*** Amount to date:** 37,211,025.53 **(%):** 100.00

Total Project Cost (Original Estimate): 41,450,000

Redirectioning
Has this Project?
Received funds from another Project [ ]
Sent funds to another Project [ ]
N/A [X]

To/From Project Number	From Sub-Loan Number	Amount

* Current amount (adjusted for redirection):

On Alert Status
Is project currently designated "on alert" by PAIS: No
If yes then why is the project on alert (DO , IP Ratings and/or relevant PAIS indicators): N/A
Comments on relevance of "on alert" status for this project
N/A

Summary Performance Classifications				
DO	[ ] Highly Probable (HP)	[X] Probable (P)	[ ] Low Probability (LP)	[ ] Improbable (I)
IP	[ ] Highly Satisfactory (HS)	[X] Satisfactory (S)	[ ] Unsatisfactory (US)	[ ] Very Unsatisfactory (VU)
SU	[ ] Highly Probable (HP)	[X] Probable (P)	[ ] Low Probability (LP)	[ ] Improbable (I)

II. THE PROJECT

A. Project Context

2.1 Despite rich endowments of mineral resources, biodiversity and land, Guyana's economic development was stymied in the 1970s and 1980s by a state-led development strategy which reduced GDP per capita to one of the lowest levels in the region. Beginning in 1988, policy reforms in the fiscal, monetary, exchange rate and structural areas successfully stabilized the economy and gave the private sector a wider role. The liberalized policy framework had highly positive effects from the early 1990s onwards: during 1991-97, real GDP growth averaged 7% per year, while inflation was reduced from over 100% in the late 1980s to 4.5% in 1997. GDP per capita almost doubled in the 1990-97 period, from US$482 to $956, causing absolute poverty to fall from 43% (1993) to 35% (1999).

2.2 Notwithstanding these improvements, Guyana was ranked 92nd in the United Nations Development Program (UNDP's) 2003 Human Development Index Report, the lowest ranking in the English-speaking Caribbean. Deterioration in economic performance since 1997 suggested that probably there had also been a partial reversal of the downward trend in poverty. Inflation remained low, yet growth averaged just 0.7% in the 1998-2002 period. A number of important factors contributed to the downturn, including adverse movements in the terms of trade; large public sector wage increases; political instability; increasing rates of crime, and the slow pace of structural reform.

2.3 The impact of these factors was softened somewhat by the debt relief awarded under the original and enhanced Heavily-Indebted Poor Countries (HIPC) Initiatives. After receiving US$256.4 million in net present value terms under the original HIPC framework in May 1999, Guyana gained permanent access to additional debt relief totaling NPV $334.5 million under the enhanced HIPC Initiative, upon reaching the completion point in December 2003. Debt relief under the two initiatives allowed public spending to rise substantially. Spending on education, health, housing and water, and other poverty alleviation programs grew by more than a third in the 1998-2002 period to reach 21% of GDP, compared to an overall rise in spending of only 3%. Total capital expenditure, on the other hand, experienced broad decline, from an average of 17.8% of GDP in 1995-97 to 13.4% in 2000-02.

2.4 Guyana's transport system consists basically of an inadequate road network, providing little internal and international connections, highly congested roads in urban areas and poor and expensive transport services (ferries and buses). Air service and river transport to the interior is sporadic and limited by inadequate infrastructure. Guyana has 98 km of railroads entirely dedicated to ore transport, one international airport, and 46 additional airstrips with short runways. The country has a single general cargo seaport in Georgetown, and 4 specialized bulk loading facilities. Guyana relies upon its 6,000 km of navigable water-ways used for carrying bauxite, sugar cane or other bulk commodities. A limited number of ferries and river taxis are used to cross the three larger rivers.

2.5 Although the road network is one of the sparsest in South America, most of the population has access to paved roads, mostly in fair conditions, due to the concentration of the population and the main road system in the coastal areas. The national paved road network, most of which has only two lanes, originates in Georgetown and consists of four main roads of about 500 kilometers.

2.6 One road extends southeast along the coast from Georgetown to the villages of Mahaica and Rosignol and to the west bank of the Berbice River and then continues on the east bank of the Berbice River (New Amsterdam) to the border with Suriname (Moleson Creek). A second road goes southward and westward from Vreed en Hoop, on the west bank of the Demerara River, to Potosi and Parika, and from there to Huber on the East Bank of the Essequibo River. A third road goes south, passing by the international airport at Timehri and continuing to Linden and Wismar in the interior of the country. The fourth road extends from the West Bank of the Essequibo River to Charity on the Pomeroon River.

2.7 The 86 km New Amsterdam to Moleson Creek road forms a vital integration link with the ferry services to Rosignol and Suriname. The corridor is located fully within the coastal plain, an area containing the highest concentration of residents in Region 6. In 2003, this road served a population of about 143,000 persons and agriculture communities with approximately 250,000 ha of rice, 70,000 ha of sugar, and two of the largest rice milling facilities in the country. Annual average daily traffic (2-way, AADT) in the New Amsterdam area of the corridor was estimated to be of the order of 7,500 vehicles. Further east along the highway, AADT traffic volumes in the different segments identified were in the range of 5,000 to 6,000 vehicles. This road was constructed more than forty years ago and was deemed to have completed its useful life expectancy. Hence the need for urgent rehabilitation works in order to minimize construction costs, improve highway safety and reduce road users' costs.

2.8 The Initiative for the Integration of Regional Infrastructure in South America (IIRSA) emerged from the Meeting of South American Presidents held in the second half of 2000 in Brasilia, Brazil. IIRSA is based on the premise that the integration of physical infrastructure across national borders is a decisive factor in promoting production and trade capable of fostering sustained and sustainable growth in the countries of the region.

2.9 As part of the results of the IIRSA Initiative, several Integration Development Hubs were identified, whose supporting infrastructure were outlined as mechanisms for territorial planning across the twelve countries. A meeting with all the countries that conform the Hub was held under IIRSA, and the portfolio of projects for the Hub was discussed and the projects were grouped under vertical and horizontal synergies. For each group, an anchor project, vital for the incorporation of the vertical and horizontal synergies of the group, was defined. For the case pertaining Guyana, the countries in the group identified the interconnection between Guyana – Suriname – French Guyana and Brazil as one of the main groups of integration projects. Of these, the countries identified the improvement of the road between Georgetown and Albina as the anchor project.

2.10 Since the New Amsterdam - Moleson Creek Road project was expected to solve a bottleneck in the anchor project of one of the principal groups of projects, it would contribute to the integration of this Hub. In addition the program would support the Bank's overall strategy of promoting regional integration by improving the only land based link to neighboring Suriname as part of the Venezuela-Brazil-Guyana-Suriname hub within the IIRSA initiative

B. Project Description

2.11 The project consisted of three components which were:

1. Institutional Strengthening of the MPW&C in three aspects: (i) institutional organization; (ii) capacity to evaluate and set transport policies, carry out transport planning and prioritize transport investment; and (iii) implementation of its action plan.

2. Civil Works: rehabilitation of the 2-lane 81 km New Amsterdam to Crabwood Creek and the improvement of the 5-km road from Crabwood Creek to Moleson Creek, including rehabilitation of related bridges and drainage structures and improvement of "critical spots" (unsafe road locations with high accident rates).

3. Studies and Preparation of Designs: funding of a feasibility study and an Environmental Impact Assessment for a new crossing across the Demerara River; urban transport study for Georgetown; and rural transportation studies.

i. Development Objective

2.12 The main objective of the Project was to reduce overall road transportation costs and reduce accident rates along the Moleson Creek - New Amsterdam road. By so doing, the Project would improve access to an important agricultural zone and facilitate regional integration between Guyana and Suriname within the IIRSA initiative. Additional objectives include providing support for the institutional strengthening of the MPW&C especially in the areas of transport planning, project execution and road safety, and the preparation of studies.

ii. Components

The program was designed with the following components.

Component 1: Institutional Strengthening of the MPW&C - Total Financing $3.05 million, IDB $1.55 million, GOG $1.50 million

2.13 The institutional strengthening component was intended to finance activities directed at further improving the institutional capacity of the MPW&C, based upon the institutional improvement plan developed under the Mahaica Rosignol Road Rehabilitation Project (LO-1094/SF). Specific support would be provided to strengthen the MPW&C's capacity, through the CTPU, to evaluate and set transport

policies, carry out transport planning and prioritize transport investment. This component would also provide support for strengthening the implementation of the action plan of the WSG, the specialized unit responsible for road system management and project execution.

2.14 Activities directed at supporting the CTPU included: i) expert consultancy to support the development of a computerized inter-modal transportation system planning and data management, including associated training, and assist in the formulation and preparation of a long-term national transport investment plan and transport policy; ii) expert consultancy to support the evaluation and development of transport policies; iii) inter-institutional and inter-disciplinary coordination, including the development and implementation of training programs; iv) expert support in planning of conceptual urban transport plans for main cities; v) expert support in administration of regulating public transportation, and iv) computer equipment and software.

2.15 Activities directed at supporting the WSG included: i) support to the road safety unit through the provision of traffic modeling software and training to establish the road network in Geographic Information System format and linked with the Micro Computer Accident Analysis Package that was being developed under the Bridges Rehabilitation Program (LO-999/SF); ii) review the RMMS to suggest amendments and updates based on lessons learned, and asses road condition changes overtime, iii) expert consultancy support for the monitoring of the lump-sum investment and maintenance contracts; iv) expert consultancy for quality control procedures; v) expert consultancy to support the institutional quality assurance procedure of the WSG; vi) expert consultancy for social/environmental monitoring, supervision, management and conservation of investment and maintenance projects.

Component 2: Moleson Creek - New Amsterdam Road Rehabilitation - Total Financing $32.80 million, IDB $30.85 million, GOG $1.95 million.

2.16 The investment component provided funds for: (1) the rehabilitation of the 2-lane 81 km New Amsterdam to Crabwood Creek Road (NACCR) and the improvement of the 5-km road from Crabwood Creek to Moleson Creek, located on the Corentyne river, the border between Guyana and Suriname; (2) the rehabilitation of related bridges and drainage structures; and (3) the improvement of "critical spots" (i.e., unsafe road locations with high accident rates). This component would also provide funds for the completion of the planned improvement of the eastern Atlantic shore road system that commenced under the Mahaica Rosignol Road Rehabilitation Project (LO-1094/SF). This corridor connects Georgetown to the major population centers along the Atlantic coast and provides the only land transport link between the important coastal belt of Guyana and Suriname.

2.17 The level of intervention needed on the Moleson Creek - New Amsterdam road was determined during the feasibility study of the project carried out in 2003. The findings of that study indicated that full depth reconstruction was required only in localized areas with crack sealing and asphalt overlay being required over the

majority of the route. Other investments included restoring the integrity of much of the aging bridge and culvert inventory and improving road safety.

Component 3: Studies and Preparation of Designs - Total Financing $2.30 million, IDB $1.80 million, GOG $0.50

2.18 **Feasibility Study of the Demerara River Crossing**. The objective of this study was to conduct an evaluation of the Demerara River Crossing based on technical, economic social and environmental analysis of different alternatives to estimate its economic costs and benefits and determine the economic and financial viability. The Demerara Harbour Bridge, a toll bridge crossing the Demerara River, is a major integration link between the Georgetown / East Demerara and West Demerara / Essequibo Regions. The bridge, constructed in 1978, was designed to last for 10 years. Major rehabilitation works that extended the bridge's life by 15 years to 2010, were completed in 1995, at a cost of US$ 9.0 million. A feasibility study and an Environmental Impact Assessment would be undertaken for a new crossing across the Demerara River; its location would be selected based on technical, economic and environmental analysis of different alternatives; an analysis for a DBOT, or other arrangements involving private sector participation, would be included.

2.19 **Urban transport study for Georgetown.** In April 2003, the GoG commissioned a study that evaluated the arterial road system and the public transport needs in the city of Georgetown and its metropolitan area. This study concluded that the urban transportation services and the urban road network of Georgetown would not be able to support the increasing demand and would become unsafe and costly for the users. It predicted that the traffic conditions would worsen when the widening of the southern approach to Georgetown was completed. It was therefore deemed urgent to carry out a transportation study that would focus on existing entry and access routes, traffic flow and management, safety, and institutional aspects, with the following principal components: i) policy and institutional strengthening; and ii) traffic management and road safety improvements.

2.20 **Rural Transportation**. Several studies, preparatory of the rural transportation program (GY-0074), would be developed under this subcomponent, including: i) diagnostic of rural transport: transport modes, affected population, beneficiaries, transport costs, transport services provided for freight and passengers, impact upon production and means of subsistence; ii) development of a planning system that would allow identification in investment priorities, giving fundamental importance to users, beneficiaries and local authorities' participation in the identification process; iii) preparation of technical, environmental and social basic standards for the planning and execution of a rural transport program. These standards would be expanded during the execution process; iv) engineering designs for rehabilitation of rural roads, small docks, and other rural transportation infrastructure; v) development of methodologies that would allow sustainable management (operation and maintenance) of the rehabilitated infrastructure and related services. The participation of the communities and local governments in the financing of maintenance will be of

particular importance; and vi) preparation of the baseline that would allow the measurement of social and economic impacts of the rural transport improvement.

C. Quality -At- Entry Review

2.21 Although this Project was approved in 2004 and quality-at-entry reviews had been adopted as an element within the approval process in 2003, this project was not among the small sample of projects that were reviewed. In retrospect, the condition prior to first disbursement to prepare nine sets of Terms of Reference for institutional strengthening should have been a special execution condition.

Quality -At- Entry Review			
[ ] Highly Satisfactory (HS) - 1	[ ] Fully Satisfactory (S) – 2	[ ] Less than Satisfactory (LS) – 3	[ ] Unsatisfactory (U) – 4

III. RESULTS

A. Outcomes

3.1 The Logical Framework for the project identifies the goal as increased economic competitiveness. Although only two outcome objectives were identified, one of these will be subdivided here to allow for a better assessment of their achievement.

Objectives:

1. Reduction of road users' costs.
2. Improvement of road safety.
3. Improved institutional capacity of the MPW&C.

1. Reduction of road users' costs.

3.2 Road users' costs are generally measured using the following indicators:

(i) Vehicle Operating Cost (VOC).
(ii) Vehicle speeds.

3.3 The major components of the vehicle operating costs are the volume of traffic and the condition of the roads. Traffic counts conducted in October 2003, indicated an AADT ranging between 4,160 vpd near Good Hope and 7,540 vpd at the New Amsterdam stelling. The AADT as determined from the Traffic Study carried out in 2009 by LBGI in the Port Mourant-Rosehall area indicated an AADT of 6,121 vpd compared to 5,298 vpd at that location six years earlier. This reflects a 2.4% average annual growth compared with the projected growth rate of 1.73% for passenger cars and 1.76% for heavy vehicles during the construction period.

3.4 The roughness of the road surface impacts vehicle operating costs by affecting rolling resistance. Rough surfaces can reduce speed, require greater fuel consumption, increase wear on tires, and increase maintenance costs. At the time of the feasibility

study measurements of IRI of the MC-NA road ranged between 3 and 7 m/km. The average roughness 4 m/km was used in the analysis. The technical specifications for the rehabilitation of the road required this index to be not more than 2.5 m/km. The Completion Reports submitted by LBGI indicate that the IRI test carried out on the finished road surface was within the limit specified.

3.5 Subsequent to the rehabilitation works, vehicle speeds of 50 km/h in urban areas and 80 km/h in rural areas have been easily achieved. In fact, there is cause for concern that given the improved condition of the roads the posted speed limits may be exceeded resulting in a greater frequency of accidents and possible higher instance of fatalities.

2. Improvement in road safety.

3.6 **Reduction in accidents.** The Guyana Police Force has the responsibility for collecting accident statistics. However, the collection of this data is fragmented with individual police station collecting the data within its geographic area of control. The data obtained refers only to fatalities and does not provide any insight into injury only and damage only accidents.

3.7 **Reduction in fatalities**. In order to compare the rate of fatalities during and after construction with the baseline, assumptions were made regarding traffic volumes. As indicated in paragraph 3.3 above, the average rate of growth over the six year period was approximately 2.4%. Given that this was for one specific location a conservative rate of 2% was applied for the corridor and those figures used to generate the rate of fatalities. The review for the period 2006 to 2010 indicates that there was a significant reduction in fatalities when compared to the baseline data. Statistics for the period 2006 -2009 indicate that during the construction period the rate of fatalities declined from the baseline of 30 per 100 million vehicle-kilometres to an average of 12.1, a reduction of approximately 60%. There was however, an increase of 25% during the post construction period (2010) due mainly to an accident between a minibus and a truck at Susannah (between New Amsterdam and Bush Lot) on the Corentyne on October 29, 2010 in which 12 persons died.

3.8 The NPV, using a discount rate of 12%, of $83.63 million was computed during the feasibility study using the base cost (estimate) of $30.25 million. This was based on an assumption of a 20% reduction in accidents being achieved after rehabilitation. The sensitivity analysis carried out by the design consultants showed that for the same base cost but no reduction in accidents, the NPV would be reduced to $75.47 million. Although the data on accidents and fatalities has not yet been factored in, one can safely conclude that the project as completed is viable as the actual construction costs were $30.15 million. If the cost of $4.66 million for supervision is included the total civil works cost becomes $34.81 million which still yields a positive NPV.

3.9 The sensitivity analysis also examined the scenario for a 100% increase in base cost and 0% growth in traffic. This resulted in an NPV of $16.61 million which indicated

that the project was extremely robust as it would still be economically feasible under those conditions. The works were completed in December 2009 and no traffic survey data is available for the period since then. However, as indicated at 3.3 above the actual growth in AADT computed from traffic counts carried out in 2009 in the Port Mourant-Rosehall was greater than that projected for the construction period.

3. Improved institutional capacity of the MPW&C.

3.10 The Institutional Capacity of the MPW&C has improved with the contracting of seven additional staff. A Highway Engineer, a Materials Engineer and a Contracts/Procurement Specialist were contracted for the WSG in compliance with the conditions precedent to the first disbursement of the loan resources. A Chief Transport Planning Officer, a Transport Officer, a Transport Economist and a Planning Technician were contracted by the Central Transport Planning Unit (CTPU). Additionally, the merger of the CTPU with the WSG proved synergistic.

3.11 The project had contemplated eleven consultancies to support the strengthening of the institutional capacity of the MPW&C while, only two consultancies were contracted: i) Quality Control Procedures: and ii) Inter-Institutional and Inter-Discipline Coordination. However, the European Development Fund financed a comprehensive Transport Sector Study completed in 2006 which included an indicative list of prioritized and priced projects. In addition, a review of the Routine Maintenance Management System and a Manual of Standard Operation Procedures for WSG was financed under LO1094/SF-GY concurrently with the execution of this operation. The manual addressed institutional quality assurance; however, it has not been incorporated into the daily operation of WSG.

3.12 The loan funds were used to purchase computer equipment and software for the CTPU as per program. Support was also provided for the creation of a Geographic Information System at the MPW&C which will host information on all of the ministry's assets including roads and bridges. During the execution period of the loan, traffic design procured under LO 1094/SF-GY.

ACHIEVEMENT OF DEVELOPMENT OBJECTIVES (DO)	
Development Objective(s) (Purpose)	**Key Outcome Indicators**
1. Reduce road users' costs and improve road safety *Classification:* Probable	
Planned Outcomes **1.1.** International Roughness Index (IRI) on the NA-MC road less than 3.0 after the completion of the rehabilitation works by the end of 2009. **Unit:** units Baseline / Intermediate / End of Project 6 (31Dec 2003) / 3 (31 Dec 2009) / 3 (06 Jun 2010)	**Outcomes Achieved** **1.1** 2.5 m/km (31 Dec 2010)
1.2. Vehicle speed of 50 km/h (urban areas) by the end of 2009. **Unit**: km/h Baseline / Intermediate / End of Project 40 (16 Jun 2004) / 50 (31 Dec 2009) / 50 (06 Jun 2010)	**1.2** 50 km/h (31 Dec 2009)
1.3 Vehicle speed between 70 and 80 km/h (rural areas) by the end of 2009 **Units**: km/h Baseline / Intermediate / End of Project 70 (16 Jun 04) / 80 (31 Dec 2009) / 80 (06 Jun 2010)	**1.3** 80 km/h (31 Dec 2009)
1.4 AADT above 2,400 vehicles per day by the end of 2009 **Unit:** VPD Baseline / Intermediate / End of Project 2.4k (16 Jun 04) / 2.9k(31 Dec 09) / 3.0k (06 Jun 2010)	**1.4** 6,121 vpd (July 2009)
1.5 Description: Fatality reduction of 10% along the NA-MC road by end of 2009. **Unit:** Fatalities per 100 million vehicle-km Baseline / Intermediate / End of Project 30 (16 Jun 04) / 27 (06 Jun 2010)	**1.5** 15 fatalities per 100 million vehicle-km
2. Improved capacity of the MPW&C. *Classification:* Probable	
Planned Outcomes **2.1. Description:** Transport Sector Policy developed by the end of 2009. **Unit:** % Baseline / Intermediate / End of Project 0 (16 Jun 2004) / 100 (31 Dec 2009)	**Outcomes Achieved** **2.1** 100 (27 Jan 2006)
Reformulation N/A	
PPMR Retrofitting. Indicate if and when the PPMR was retrofitted and explain any changes resulting from this exercise. N/A	

Development Objective(s) Classification (DO):			
[X] Highly Probable HP)	[ ] Probable (P)	[ ] Low Probability (LP)	[ ] Improbable (I)

Briefly justify DO classification, based on degree to which planned targets were met, explaining the differences between planned and achieved outcomes as well as any other relevant factors. Include references to evidence that can support these results.

It is highly probable that the development objective of reducing road users' costs will be met as five of the six targets have already been achieved. With regard to accidents and fatalities the data has not yet been collected.

Country Strategy:

At the time of approval this project was expected to contribute to the following Country Strategy objective(s):

Reducing transportation costs, improve market access and overall competitiveness, and increase coverage of main roads, bridges and other infrastructure by management contracts. .

Given the results described above, briefly discuss how the project contributed to the Bank's strategy in the country.

These improvements will reduce transport costs and improve safety of pedestrians and traveling public. This will also increase competitiveness since both users' costs and future reconstruction costs will have been reduced as a result of the rehabilitation and maintenance of part of the road network that had essentially completed its economic life expectancy. Under the IIRSA program, Guyana is part of the Guyanese Shield Hub, comprised of Venezuela, Guyana, Suriname and Brazil. The territory of this Hub is not currently articulated as a development hub, but it is divided into relatively isolated regions from each other and has varied development patterns. The lack of articulation of the territory takes the form of significant deficiencies in infrastructure that provides access to the large territories involved, and a lack of interconnection between the main centers of population and economic activity and increase market accessibility. By facilitating transportation, the program will improve access to markets in the other countries in the Hub.

B. Externalities

3.13 This generally refers to any unintended positive and negative consequences occurring during project execution. The foremost externality of the project was the increased capacity of the local road construction sector. In order to qualify to participate in the bidding process, the Kiran Nauth Consortium had included two Trinidadian firms. However, neither of these firms participated in the execution of the civil works which were successfully completed within the original contract period. As a result there are two local firms with proven capacity to undertake similar projects in the future.

3.14 Another important output that was not originally planned is the study that was undertaken for an extension to the East Bank Demerara 4-lane road which supported the approval and execution of GY-L1030: East Bank Demerara Four Lane Extension.

3.15 Given that not all the planned consultancies were executed, some of the funds were utilized to strengthen GIS section in WSG through the procurement of additional equipment.

C. Outputs

Institutional Strengthening

3.16 This component was not fully executed with only about 25 percent of the originally budgeted Bank funds being used at the end of the program. Only two activities under this component were contracted: i) Inter-Institutional and Inter-Disciplinary Coordination; and ii) Expert consultancy for Quality Control Procedures.

3.17 LEA International Ltd was contracted to provide services for the Inter-Institutional and Inter-Discipline Coordination at a cost of $198,700. This consultancy was completed in July 2007.

3.18 Kazi M. Hasan was contracted to undertake the expert consultancy for Quality Control Procedures at a cost of $70,000.00

Civil Works

3.19 The main component of the program was the rehabilitation of Moleson Creek to New Amsterdam road. This component also provided for supervision of the works. Accordingly, a contract in the amount of $3,187,579.00 was awarded to Louis Berger Group Inc. (LBGI) to supervise and monitor the civil works.

3.20 The works was bid in two lots, geographically, because at the pre-qualification stage only two of the firms that responded had the capacity to undertake the works as one contract. Lot 1 comprised all works from the New Amsterdam ferry stelling up to km 41.1 and Lot 2 comprised the rest of the works from km 41.1 to the ferry stelling at Moleson Creek.

3.21 Given that the initial bids for the civil works far exceeded the budget and the engineer's estimate, LBGI was requested to carry out an assessment of the condition of the structures in order to identify those structures that were in critical condition and needed priority attention. The bid documents were then amended to include only those critical structures.

3.22 The contract for Lot 1 was awarded to Dipcon Engineering Services Ltd (DESL) in the amount of $16,899,243.13. The works comprising the Lot 1 contract were as indicated below.

a. Rehabilitation of 2-lane road from New Amsterdam to 41.1 km by asphaltic concrete overlay.
b. Refurbishment of the Bridge at Adventure.
c. Extension, refurbishing/repairs and backfilling of 4 culverts to widths of 11.27 meters.

3.23 The contract for Lot 2 was awarded to Kiran Nauth Consortium in the amount of $15,553,007.60. The works comprising Lot 2 were as indicated below.

a. Rehabilitation of 41.3 km of 2-lane road from 41.1 km to Moleson Creek by asphaltic concrete overlay
b. Rehabilitation of 5 km of 2-lane road from Moleson Creek to Crabwood Creek by double bituminous surface treatment
c. Refurbishing of the Bridge at Skeldon

3.24 Works on Lot 2 commenced approximately 18 months after that in Lot 1 as negotiations with the original lowest bidder had failed to reach a mutually satisfactory position and those works had been retendered. Further, although the Lot 2 contract was signed in January 2008, works did not commence until August 2008 due to difficulties mobilizing. Consequently, LBGI's contract was extended for 12 months to allow for the completion of supervision of the Lot 2 works. This resulted in an increase of $1,469,678.00 in the supervision contract.

3.25 During the design of the program, several factors giving cause for concern in terms of road users' safety along the corridor were identified. These included the presence of non-motorized vehicles, stray animals and lane obstructions (e.g. building materials and the drying of rice crops) as well as significant pedestrian traffic volumes. The latter is associated with the many commercial and industrial areas along the route. The flat terrain and straight alignment of the existing road leads to high vehicle speeds and to significant speed differentials between through traffic and other road users. In order to reduce the incidence of road accidents in the post-construction phase, a range of interventions estimated at $2.65 million was proposed. Road Safety works implemented under the program included the following:

a. Erection of street lights along 29.0 km of the Corentyne Highway from New Amsterdam to Palmyra, Skeldon-Corentyne area and from Fyrish to Aukline.
b. Construction of sidewalks and parking lanes along the main road at Rosehall/Port Mourant and Corriverton.
c. Installation of traffic signs, road markings and reflective spikes along 81.3 kilometers of main road.

Although street lighting had been included in the original project design, this item had been removed from the construction contracts to keep the costs within budget. These works were subsequently implemented by GoG at a cost of approximately US$400,000.

Studies and Preparation of Designs

3.26 This component included funding for three studies: i) Feasibility Study of the Demerara River Crossing; ii) Urban Transport Study for Georgetown; and iii) Rural Transportation. The funds under this component were not fully utilized as only the study contracted was for the East Bank Demerara 4-lane extension which was considered to be linked of the Urban Transport situation in Georgetown.

3.27 The feasibility study for a new Demerara River Crossing was not carried out at the request of the GoG. The GoG advised that having spent more than US$5 million on

major rehabilitation of the bridge, the useful life would be extended for another 10 years. Hence, it would not undertake the study as part of this program.

3.28 At the request of the GoG, the Rural Transportation Study was not undertaken as there was no program in the pipeline.

<table>
<tr><th colspan="2">IMPLEMENTATION PROGRESS (IP)</th></tr>
<tr><td colspan="2">Components (Outputs):</td></tr>
<tr><td colspan="2">1. Component 1: Institutional Strengthening
Total cost of Component 1: $4,677,826.75
Counterpart: $4,295,265
IDB: $382,561.75
IDB Disbursement:100 %
Classification: Satisfactory</td></tr>
<tr><th colspan="2">Key Output Indicators:</th></tr>
<tr><td><u>Planned Outputs</u>
1.1 Description: WSG/CTPU strengthened: fully staffed by 06 Dec 2005.

Unit: Additional Technical Staff
<u>Baseline</u> <u>Annual/Intermediate</u> <u>End of Project</u>
0 (16 Jun 2004) 7 (06 Dec 2005) 7(06 Jun 2010)</td><td><u>Outputs Achieved</u>
1.1 7 (06 Dec 2005)

The Institutional Capacity of the MPW&C was strengthened with the contracting of seven additional staff as one of the conditions prior of to first disbursement of the loan resources</td></tr>
<tr><td>1.2 Description: WSG/CTPU strengthened: technical consultancies contracted.

Unit: Contracts
<u>Baseline</u> <u>Annual/Intermediate</u> <u>End of Project</u>
0 (16 Jun 2004) 11 (06 Jun 2010)</td><td>1.2 2 (31 Oct 2006)

Contracts were signed for only two of the 11 studies.</td></tr>
<tr><td>1.3 Description: Transport Sector Policy developed by CTPU and indicative list of projects prioritized and costed by end of 2005.

Unit: Report
<u>Baseline</u> <u>Annual/Intermediate</u> <u>End of Project</u>
0 (16 Jun 2004) 1(31 Dec 2005) 1 (06 Jun 2010)</td><td>1.3 1 (27 Jan 2006)</td></tr>
<tr><td colspan="2">Briefly explain differences between planned and actual outputs (if applicable).
N/A</td></tr>
<tr><td colspan="2">Restructuring. Indicate if this component was restructured (date of approval by Manager). Briefly discuss the consequences of these changes.
N/A</td></tr>
<tr><td colspan="2">2. Component 2: Civil Works
Total cost of Component 2: $37,759,972.02
Counterpart: $2,947,065
IDB: $34,812,907.02
IDB Disbursement: 100%
<u>Classification:</u> Satisfactory</td></tr>
</table>

Key Output Indicators:	
Planned Outputs	**Outputs Achieved**
2.1. Description: Rehabilitation of Corentyne Highway, including sidewalks, parking lanes and lighting, completed according to final designs by the end of 2008 and within 10% of contract cost. Unit: Kilometres Baseline: 0 (16 Jun 2004) — Annual/Intermediate: 86 (31 Dec 2008) — End of Project: 86 (06 Jun 2010)	**2.1.** 86 (20 Sep 2009)
Briefly explain differences between planned and actual outputs (if applicable). .	

Restructuring. Indicate if this component was restructured (date of approval by Manager). Briefly discuss the consequences of these changes.
N/A

3. **Component 3**: Studies and Preparation of Designs
Total cost of Component 3: $1,182,881.28
Counterpart: $0.00
IDB: $1,182,881.28
IDB Disbursement: 100%
Classification**:** Satisfactory

Key Output Indicators:	
Planned Outputs	**Outputs Achieved**
3.1 Description: Final Report of the consultants for the Feasibility Study for the Demerara River Crossing completed by first half of 2007. **Unit:** Report Baseline: 0 (16 Jun 2004) — Annual/Intermediate: 1 (30 Jun 2007) — End of Project: 1(06 Jun 2010)	**3.1.** This study was not carried out. .
3.2 Description: Final Report of the consultants for the Urban Transportation Study for Georgetown completed by the first of June 2007 . **Unit**: Report Baseline: 0 (16 Jun 2004) — Annual/Intermediate: 1 (30 Jun 2007) — End of Project: 1(06 Jun 2010)	**3.2** 1 (31 Dec 2010)
3.3 Description: Final Report of the Consultants for the Rural Transportation Studies completed by end of 2007. **Unit:** Report Baseline: 0 (16 Jun 2004) — Annual/Intermediate: 1 (31 Dec 2007) — End of Project: 1(06 Jun 2010)	**3.3** This study was not done.
Briefly explain differences between planned and actual outputs (if applicable).	

Restructuring. Indicate if this component was restructured (date of approval by Manager). Briefly discuss the consequences of these changes.
N/A

Summary Implementation Progress Classification			
[ ] Highly Satisfactory (HS	[X] Satisfactory (S)	[ ] Unsatisfactory(U)	[ ] Very Unsatisfactory (VU)

D. Project Costs

Total Project Cost – Planned (US$)		Total Project Cost - Actual (US$)	% Difference
Category	**Bank**	**Bank**	**Bank**
Institutional Strengthening	**1,550,000**	**382,561.75**	**(75.3)**
• CTPU	800,000	302,750.98	(62.2)
• WSG	750,000	79,810.77	(89.4)
Civil Works	**30,850,000**	**34,812,907.02**	**12.8**
• Moleson Creek – New Amsterdam	28,350,000	30,155,650.02	6.4
• Works Supervision	2,500,000	4,657,257.00	86.3
Studies and Preparation of Designs	**1,800,000**	**1,182,881.28**	**(34.3)**
• Feasibility Study – Demerara River Crossing	400,000	0.00	(100.0)
• Urban Transport Study for Georgetown	800,000	1,182,881.28	47.9
• Rural Transportation Study	600,000	0.00	(100.0)
Evaluation	**350,000**	**0.00**	**(100.0)**
Audits	**350,000**	**59,675.48**	**(82.9)**
Financial Cost	**773,000**	**773,000.00**	**0.00**
• Interest	400,000	400,000.00	0.00
• Inspection & Supervision	373,000	373,000.00	0.00
Contingencies	**1,627,000**	**0.00**	
TOTAL	**37,300,000**	**37,211,025.53**	**(0.2)**
Explanation of difference:			

IV. PROJECT IMPLEMENTATION

A. Analysis of Critical Factors

4.1 The Loan Contract was signed twelve months after approval of the Loan by the Board. The GoG delayed signature in order to advance compliance with the conditions prior to first disbursement given that under previous projects compliance with the conditions prior to first disbursement had taken as much as 15 months. This strategy proved successful as the GoG was able to comply with the conditions prior to first disbursement within the 180 days specified in the Loan Contract.

Institutional Strengthening

4.2 As previously indicated, this component provided funding for 11 consultancies and various items of equipment but only two consultancies were contracted: i) Quality Control Procedures; and ii) Inter-Institutional and Inter-Discipline Coordination. The other consultancies were not executed for various reasons such as the scope of the study being covered under another consultancy and failure to obtain Cabinet's no objection to proceed with the study. The funds originally earmarked for these consultancies were transferred to the Civil Works component to partially cover the increased costs of construction and supervision.

4.3 During implementation, a number of staff resigned for various reasons and not all position filled. The rationale was that the merger of the WSG with the Sea Defences Department necessitated a rationalization of position and that activity had not been completed. This resulted in some training being lost as there was also not a proper system in place for consolidating the training received within the WSG.

Civil Works

4.4 Four firms responded to the Invitation for Pre-qualification of contractors that was published in December 2004. Of those only two satisfied the all the requirements. In an attempt to have a larger number of prequalified firms to ensure competition the works was packaged into two lots thus reducing the requirements. The understanding was that firms would have the option to bid on one or both lots but the award would be made to the lowest evaluated bid in accordance with the bidder's capacity. The process was repeated and two additional firms prequalified.

4.5 Bids for the Civil Works were received from three bidders on January 10, 2006 with the most economically advantageous bids amounting to US$53.0 million, which was well in excess of Loan Contract Provisions and Engineer's Estimates of US$30.0 million. Discussions with two bidders indicated that the high prices submitted included substantial amounts allowed for contractors' risks because of: i) the lump sum conditions of contract; and ii) specific references had been made in the bidding documents to the effect that no escalation of prices would be compensated over the two-year execution period and that contractors would be held liable for the adequacy and accuracy of designs.

4.6 After discussions between the Bank and GoG, it was agreed that new Bids would be requested from all the pre-qualified bidders (including the firm that had not competed in the Lump Sum procurement procedure), taking the following into consideration:

i) Deleting the "Lump-sum" conditions of contract and adopting a "Measured Works Approach";
ii) The Sub-Divisions of the Project remain the same two geographically divided lots.
iii) Street Lighting, Parking and structures are retained under the contract as Provisional Items. Further the contract would include a separate

Provisional Sum for the approximately 28 Critical Structures that had been identified by the Design Consultants.

iv) The road segment between New Amsterdam to the connection with Berbice Bridge access road would be retained as a Provisional Item.

v) The period for submission of bids would be 30 days. If, however, the bidders requested more time that would be favourably considered up to 45 days.

4.7 The same three firms responded to this second invitation and after review a contract for Lot 1 was awarded to Dipcon Engineering Services Ltd in May 2006. The GoG then entered into negotiations with the Brazilian consortium for Lot 2. The negotiations were eventually called off when the parties failed to arrive at a mutually acceptable contract price. In July 2007, Lot 2 was again re-tendered as a two-envelop procedure with prequalification documents in one envelope and the bid in the other. Two bids were received and after negotiations the contract was awarded to Kiran Nauth Consortium in November 2007.

4.8 Shortly after the commencement of the rehabilitation works, it was noticed that the crack sealing prior to placing the leveling course as specified in the contract documents was not effective. Accordingly, that procedure had to be abandoned and a decision taken that the top layers would be milled instead. This resulted in an increase in the contract sum and also contributed to the delay in completing Lot 1 of the civil works.

4.9 Significant errors in the design were identified and had to be corrected. This resulted in an increase of the civil works costs of approximately US$650,000.

4.10 As indicated at paragraph 4.6(i), the Lump Sum conditions were deleted. In order to address the concerns for escalation, a formula for determining the amount of any increase due to cost fluctuations was incorporated in the contract. This formula included construction sector indices. However, there is no agency or institution that collects or monitors these indices Guyana. This became an issue when a contractor submitted a claim for escalation. This was resolved using the traditional method of comparing the costs of the relevant materials during the bidding period with those during the construction period.

4.11 In some locations, the height of the concrete kerb reduced the effectiveness of providing a parking lane as drivers parked as much as a metre from the kerb so that the doors of the vehicle could be opened without hitting the kerb.

4.12 The presence of utility poles was also a factor that limited the provision of parking lanes.

Studies and Preparation of Designs

4.13 None of the studies contemplated in the Loan document was completed as indicated in paragraphs 3.25 - 3.27. The unused funds were transferred to the Civil Works component to partially offset the increased costs of construction and supervision.

B. Borrower/Executing Agency Performance

4.14 Executing Agency performance in key areas was evaluated as follows:

1. Participation and quality of its contributions during project design	Low ← 1 2 **3** 4 → High	○ ○ N/A
2. Organization for project execution (Executing / Coordinating Unit's staff, infrastructure, coordination, communication, etc.)	Low ← 1 2 3 **4** → High	○ N/A
3. Coordination and integration of the project executing/Coordinating Unit with the Executing Agency	Low ← 1 2 3 **4** → High	○ N/A
4. Establishing a monitoring and results framework (baseline data, systems, procedures, data analysis and reporting, etc.)	Low ← 1 **2** 3 4 → High	○ N/A
5. Executing/Coordinating Unit's management and decision-making capacity	Low ← 1 2 3 **4** → High	○ N/A
6. Timeliness in the fulfillment of the Bank's policies, procedures and contractual clauses	Low ← 1 2 **3** 4 → High	○ N/A
7. Financial management (securing counterpart resources, disbursements, quality and timeliness of AFS, etc.)	Low ← 1 2 **3** 4 → High	○ N/A
8. Timeliness and efficiency for procurement of goods, works and consulting services	Low ← 1 2 **3** 4 → High	○ N/A
9. Executing Agency top-level management's leadership, ownership and support to project execution	Low ← 1 2 3 **4** → High	○ N/A
10. Concrete actions to secure project sustainability	Low ← 1 2 3 **4** → High	○ N/A

Borrower/Executing Agency			
[ ] Highly Satisfactory (HS)	[X] Satisfactory (S)	[ ] Unsatisfactory (U)	[ ] Very Unsatisfactory (VU)

C. Bank Performance

4.15 The Bank Performance in critical areas as evaluated by the Borrower/Executing Agency is as follows:

1. Extent to which the Bank facilitated the project design in a participatory manner with the Borrower and Executing Agency	Low ← 1 2 3 [4] → High	○ N/A
2. Technical assistance and training as well as consistent follow-up provided so that the Executing Agency follow the Bank's policies and procedures	Low ← 1 2 [3] 4→ High	○ N/A
3. Technical assistance and training provided to the Executing Agency to improve project management	Low ← 1 2 3 [4] → High	○ N/A
4. Benefits of the Bank's supervision and assistance to improve project management	Low ← 1 2 3 [4] → High	○ N/A
5. Timeliness in the Bank's response to the needs of the Executing Agency during project implementation	Low ← 1 2 3 [4] → High	○ N/A
6. Bank flexibility to respond to emergencies during project implementation	Low ← 1 2 3 4→ High	◉ N/A

Bank Performance			
[X] Highly Satisfactory (HS)	[ ] Satisfactory (S)	[ ] Unsatisfactory (U)	[ ] Very Unsatisfactory (VU)

V. SUSTAINABILITY

A. Analysis of Critical Factors

5.1 The rehabilitation contracts included a one year defects liability period followed by a two year maintenance period. In a recent visit, there were obvious signs of lack of adequate maintenance. Contractors should be reminded that road maintenance should not be seen as only to pot hole patching and sealing of cracks in the wearing surface but should include things like replacement of reflector spikes, remarking of white lines, replacement of traffic signs, etc. The MPW&C would be testing a new type of material for white lining roads.

5.2 One factor that directly impacts on the sustainability of the rehabilitation works is the mud from the dams brought onto the road by farm vehicles. One suggestion to treat with this is to place a sand fill on the dams as the sand would not adhere to the tractor tyres.

5.3 In a similar vein, when drains are cleaned, the material is often placed on the road and remains there for some time. This also reduces the life of the pavement while constituting a safety hazard. This practice should be discontinued as it also contributes to the deterioration of the road and shoulders. Similarly, the practice of residents mixing concrete on the roads should be discouraged.

5.4 In some instances, home owners and residents have constructed concrete drains with incorrect invert levels and sometimes wider than specified. The NDC should ensure that residents have obtained permission for and approval of the construction of all drains.

5.5 Since the floods of January 2005, individuals have been elevating their properties thereby increasing the runoff onto the road and negatively impacting the life of the road. This practice should be carefully monitored and controlled.

5.6 Although the institutional strengthening component provided training, some of that training has been lost as a result of staff turnover. The impact of this could be reduced with the introduction of an internal training program which would include the preparation of training manuals.

5.7 Safety measures, such as provision of sidewalks and increased road width, should also be provided at schools and hospitals.

B. Potential Risks

5.8 The major risk is that of funding not being made available for the maintenance of the works. Given that the rehabilitation works were completed in 2009, the maintenance component of those contracts will come to an end in 2012. It is therefore essential that adequate arrangements be made to ensure continued maintenance of the road if the expected life is to be achieved. The Bank should follow-up with the WSG to ensure that the Corentyne road is brought into the current RMMS program.

5.9 Another critical risk is that of the road being dug up by GWI to place water mains. Invariable the restoration of the road after such activity is far below standard. Greater collaboration between the WSG and GWI is required to minimise the number of such incidences and to ensure that the road is properly restored after completion of any necessary works. The appointment of a liaison between the two agencies should be considered.

C. Institutional Capacity

5.10 The institutional strengthening component included the contracting of seven additional staff for the MPW&C. However, during implementation there was a fairly high staff turnover. Not all vacancies were filled as the GoG was in the process of rationalising staff position consequent to the merger of the WSG and the Sea Defences Department. The need to fill vacancies and to limit staff turnover is paramount to the sustainability of the project outputs. The Bank should follow-up to ensure that adequate staff is in place once the rationalising of positions is complete.

Sustainability Classification SU:			
[ ] Highly Probable (HP)	[X] Probable (P)	[ ] Low Probability (LP)	[ ] Improbable (I)

VI. MONITORING AND EVALUATION

A. Information on Results

6.1 The data required to properly assess the achievement of the development objectives was incomplete. The Supervision Consultant was supposed to conduct traffic counts at four locations twice yearly during the construction. However, it is not certain if this was done as only three report on Traffic counts were located. Measurements of roughness (IRI) were also required to be carried out by the Contractors and verified by Supervision Consultant. This data was only available in summary form. The responsibility for collection of data on accidents and road fatalities lies with the GPF. The data provided was limited to fatal accidents and did not include injury only and/or damage only accidents.

B. Future Monitoring and Ex-Post Evaluation

6.2 The outcomes that should be monitored are: i) growth in traffic; and ii) reduction in accidents and fatalities. The indicator for growth in traffic is the AADT and this should be monitored by the WSG on a regular basis (at least once per year). With regard to the reduction in accidents and fatalities, this data is collected by the GPF. Any support that may be provided by the Bank would be related to the preparation of a future transport sector operation.

6.3 An ex-post evaluation is not required.

VII. LESSONS LEARNED

The lessons learnt from the project are as follows.

Project Design

7.1 The Bank and the Government need to arrive at a proper understanding and firm agreement on the elements and components of the project. If not components or elements within a component will be left undone as was the case in this project.

7.2 Project preparation activities should include the drafting of Terms of Reference for consultancies deemed critical for project start-up. Conditions Prior to Disbursement should not include the requirement for the Executing Agency to draft TOR's rather these should be Special Execution Conditions.

Project Execution

7.3 When setting pre-qualification criteria for contractors for civil works due consideration should be given to the fact that invariably local contractors would not have had the opportunity for executing large scale projects. The criteria that normally apply to the international construction industry may prove restrictive for local firms and would result in the elimination of excellent local firms.

7.4 The first round of bidding produced bids approximately twice the engineer's estimate mainly because of the risks associated with: i) the lump sum conditions of contract; and ii) specific references that had been made in the bidding documents to the effect that no escalation of prices would be compensated over the two-year execution period and that contractors would be held liable for the adequacy and accuracy of designs. Based on the forgoing, it follows that the use of lump sum contract is only appropriate for works which are well defined and does not represent high risk to the Contractor. The greater the risk, the higher the bids are likely to be.

7.5 The supervision cost for the works increased significantly, since one firm was contracted to supervise the entire works while the lots were awarded eighteen months apart due to the Lot 2 being negotiated and later retendered. The amount saved from the retendering of Lot 2 was spent on extending the supervision services thus resulting on no real gains and an additional time for benefits of the project realized. Works that are tendered in lots should be awarded simultaneously.

7.6 WSG does not have a formal framework for Monitoring and Evaluation which often results in difficulties obtaining information to monitor indicators and evaluate outcomes. WSG should have a Monitoring and Evaluation framework integrated into its structure.

ANNEX I –MINUTES OF EXIT WORKSHOP

New Amsterdam to Moleson Creek Road Project

Exit Workshop Minutes (August 10, 2011)

1. Introduction

1.1 This Aide Memoire reflects the main points of agreement between the Bank, Government of Guyana (GOG) and the various stakeholders of the project, New Amsterdam to Moleson Creek Road Project, in relation to project design, implementation and sustainability issues arising from the Exit Workshop held on August 10, 2011, at the Cara Lodge, Georgetown. The results of the general discussions on the project that took place during the workshop are presented below.

1.2 Mr Ron Rahaman, Highway Engineer, of the Work Services Group, welcomed the participants and gave a brief overview of the objectives of the workshop.

1.3 In his opening remarks, Mr Marco Nicola, IDB Representative, provided background information on the project and the context in which it had been designed in 2003. He added that the project having been implemented in 5 ½ years was the fastest disbursed transport operation in Guyana's history. The importance of this operation in the South America Regional Infrastructure Integration program was also highlighted. Mr Nicola indicated that the project had not been without challenges which included, higher than anticipated tender prices, sharp increases in material cost linked to oil prices on the international markets, shortage of materials on the local market and slow execution of the softer components. He noted, however, that the lessons learnt were proving to be instrumental in the ongoing execution of current operations within the Works Services Group and also in the design of future operations.

1.4 Honourable Minister Robeson Benn, Minister of Public Works and Communication, in his remarks, indicated that the Government of Guyana had requested funding for the project in order to ensure food security, ensure livelihood, sustainability and the connectivity between the various parts of the country. Minister Benn stressed the need pay attention to the lessons learned and more so, to maintain relations to the questions of synergies across institutions especially those with which the Ministry had collaborated during project implementation, such as the Lands & Surveys Commission and the Ministry of Agriculture. He referred to the development and improvement of national capacity in heavy engineering construction in road building realised through the project and advised that this be maintained especially given the pre-project skepticism that national contractors would have had the capacity to undertake the works and perform at international standards. On the subject of sustainability, the Minister said that maintenance was key if the full potential of the investment was to be realized. With regard to the challenges faced during the implementation of the softer components, such as the institutional strengthening of the WSG, the Minister made reference to the difficulties surrounding resources, availability of skilled persons and the fashioning of a new institution that has an important and critical national task in terms of the

responsibility for all infrastructure to be better able to respond to the country's national need for continuous development.

2. Workshop Discussion

2.1 Mr James Campbell, Consultant recruited to conduct the Project Completion report and workshop stated that Project Completion Reports were prepared for all projects funded with Bank's loans and the Exit Workshop was an integral part of that process. He outlined the importance of exit workshops as a tool to facilitate the learning process from Bank-funded projects and that the focus was on obtaining an accurate account of the events that took place during project implementation. He asked the participants to be open and frank during the discussions. He emphasized how the project had been successful in achieving its Development Objective of "*Reducing overall transportation costs and reduce accident rates along the Moleson Creek - New Amsterdam Road.*" This goal he said had been achieved despite all the components not having been fully implemented.

2.2 **Analysis of Program Results:** Consultant James Campbell presented an analysis of the outputs, and outcomes generated by the project as well as some of the challenges faced during implementation. The framework for the discussion was based on the three components of the project: (i) institutional strengthening of the Ministry of Public Works & Communications; (ii) civil works for rehabilitation of the Moleson Creek – New Amsterdam Road; and (iii) studies and preparation of designs.

(i) **Institutional strengthening of the MPW&C**. Positive outcomes identified in relation to this goal included: (a) seven (7) additional staff for the Central Transport Planning Unit and the Works Services Unit; (b) execution of the Inter-Institutional and Inter-Institutional Coordination and the Quality Control Procedures consultancies; and (c) procurement of computer equipment and software. Among the challenges faced were the turnover of WSG staff and the relatively high cost of the consultancies.

(ii) **Rehabilitation of New Amsterdam Road - Moleson Creek** -. The civil works associated with the rehabilitation of the 86 km road included: (a) the rehabilitation of two bridges, one at Adventure and the other at Skeldon; (b) construction of 4 culverts; (c) construction of sidewalks and parking lanes at "critical sections"; and (d) installation of traffic signs, road markings and reflective spikes along the entire 86 km corridor. Items (c) and (d) were directly related to the safety considerations included in the project. Mr Campbell identified the following as being some of the challenges faced. Supervision of the civil works was carried out by the consulting firm, Louis Berger Group International (LBGI).

a. The initial prequalification exercise produced only two firms that had the capacity to undertake the works as a single contract. Given a fairly recent experience that had resulted from a similar scenario, it was agreed to reopen

the prequalification while splitting the works into two lots, geographically. This second exercise had resulted in two additional firms being prequalified.

b. Subsequent to the second prequalification, bids were invited from the four contractors. However, the bids received were approximately 60% above the engineer's estimate and the budget. Discussions with the bidders revealed that the high prices submitted had included substantial amounts to allow for the risks associated with the lump sum conditions of contract and the stipulation in the bidding documents that there would not have been any compensation for escalation of prices over the contract execution period. Consequently, the contract conditions were amended measured works and an escalation clause included. LBGI was also requested to undertake a reassessment of the structures that had been included with a view of eliminating those that were not in critical condition. New bids were sought after which Dipcon Engineering Services Ltd was awarded the contract for Lot 1.

c. Negotiations with the lowest bidder for Lot 2 failed to yield a mutually acceptable contract price and hence new bids were invited for this contract. From this round of bidding a contract was awarded to Kiran Nauth Consortium and works on Lot 2 commenced approximately 18 months after Lot 1 which necessitated an extension of LBGI supervision contract.

d. At some locations, the height of the concrete kerb reduced the effectiveness of providing a parking lane as drivers parked as much as a metre from the kerb so that the doors of the vehicle could be opened without hitting the kerb. The presence of utility poles also limited the provision of parking lanes.

e. As previously indicated the contracts had been revised to include an escalation clause. This clause provided a formula for determining the amount of any increase due to cost fluctuations which included construction sector indices. However, there was no agency or institution that had the responsibility for collecting those indices Guyana. This became an issue when a contractor submitted a claim for escalation. This was resolved using the traditional method of comparing the costs of the relevant materials during the bidding period with those during the construction period.

(iii) **Studies and Preparation of Designs**. Mr Campbell indicated that none of the three studies originally included in the project was done.

a. Although the Urban Transport Study had not been carried out, the funds were used to support study for the East Bank Demerara 4-lane extension as it was considered to be a component of the Urban Study.

b. The study for a new Demerara River crossing was not done at the request of the GoG on the grounds that it had expended approximately US$5 million to rehabilitate the existing bridge and extend the life for 10 years to 2020.

c. The Rural Transportation Study was no longer a priority of the GOG and was not in the Bank's pipeline.

(iv) **Discussion.** In the subsequent discussion the following points were raised:

a. There was a 3-year period between design and construction during which period there was further deterioration of the roads. This resulted in a higher cost for rehabilitation.

b. There were significant errors in the design which when corrected resulted in the need for an additional US$650,000. The question of how to penalise consultants for design errors that are identified 3 years after they have been paid was raised.

c. In response to a concern that some sections of the rehabilitated road were narrower than before, it was pointed out that width of the carriageway had not changed (still 12 m). However, the width of the shoulders had been reduced from 2 metres to the current AASHTO design standard of 1.5 metres being adopted countrywide.

d. Shortly after rehabilitation works had commenced, it was observed that the crack sealing prior to placing the levelling course was not effective. Hence, that procedure had to be abandoned in favour of milling off that layer. This had no effect on the costs of the civil works since the cost of the sealing matched the milling.

e. There seems to be a lack of coordination between the MPW&C and the Utilities, in particular Guyana Water, Inc (GWI). This apparent lack of coordination has resulted in GWI digging up roads soon after they have been rehabilitated and not restoring them to the condition in which they found them. It was pointed that several attempts had been made to coordinate with the utility companies and that there was good collaboration with GPL and GT&T but not so good with GWI.

2.3 **Sustainability**. The discussion focused on what was necessary to ensure that the project achievements would be sustained. It was agreed that the following items that should be considered for the program's sustainability:

(a) The rehabilitation contracts included a one year defects liability period followed by a two year maintenance period. Given that the contracts were completed in 2009, the maintenance component of those contracts will come to an end in 2012. It is therefore essential that adequate arrangements be made to ensure continued maintenance of the road if the expected life is to be achieved.

(b) Road maintenance should not refer only to pot hole patching and sealing of cracks in the wearing surface but should include things like replacement of reflector spikes, remarking of white lines, replacement of traffic signs, etc. as is the case under the

RMMS contracts. It was noted that the MPW&C would be testing a new type of material for white lining roads.

(c) The issue of farm vehicles bringing mud onto the road was raised. One suggestion to treat with this was to place a sand fill on the dams for about 1km since the tractor wheels would clean themselves over that distance and the sand would not adhere to the tractor tyres.

(d) It was noted that when drains are cleaned, the material is often placed on the road and remains there for some time. This practice should be discontinued as it also contributes to the deterioration of the road and shoulders.

(e) The problem associated with home owners and residents constructing drains with incorrect invert levels and widths was raised. The NDC should ensure that residents have obtained permission or approval for the construction of all drains.

(f) Since the floods of January 2005, individuals have been elevating their properties thereby increasing the runoff onto the road and negatively impacting the life of the road. This practice should be carefully monitored and controlled.

(g) Greater collaboration between the WSG and GWI is required. One suggestion proposed was the appointment of a liaison between the two agencies.

(h) With regard to the institutional strengthening component, the need to fill vacancies and to limit staff turnover was suggested. It was noted that the WSG had merged with the Sea Defence Department and the process of rationalising positions was underway. Once that process was completed vacancies would be filled. It was also felt that in addition to salary review, it was also necessary to examine the conditions of service.

(i) Although the institutional strengthening component had provided training, some of that training had been lost as a result of staff turnover. It was suggested that the impact of the staff turnover could be reduced with the introduction of an internal training program which would include the preparation of training manuals.

(j) Safety measures, such as provision of sidewalks and increased road width, should also be provided at schools and hospitals.

2.4 Lessons Learned

1. During project preparation, it is important that the Bank and the Government arrive at a proper understanding and firm agreement on the elements and components of the project. If not elements within a component may be left undone as was the case in this project.

2. Project preparation activities should include the drafting of Terms of Reference for consultancies deemed critical for project start-up. Conditions Prior to first Disbursement should not include the requirement for the Executing Agency to draft TOR's for strengthening itself.

3. When setting pre-qualification criteria for contractors for civil works, due consideration should be given to the fact that invariably local contractors would not have had the opportunity for executing large scale projects. The criteria that normally apply to the international construction industry may prove restrictive for local firms and could result in the elimination of excellent local firms.

4. The first round of bidding produced bids approximately twice the engineer's estimate mainly because of the risks associated with: i) the lump sum conditions of contract; and ii) specific references that had been made in the bidding documents to the effect that no escalation of prices would be compensated over the two-year execution period and that contractors would be held liable for the adequacy and accuracy of designs. Based on the forgoing, it follows that the use of lump sum contract is only appropriate for works which are well defined and does not represent high risk to the Contractor. The greater the risk, the higher the bids are likely to be.

5. Delays during the construction were often occasioned by unavailability of materials. In one instance, a contractor had to import aggregate from Nova Scotia, Canada. Contractors should be required to identify and confirm source and availability of materials when preparing their bids.

6. A Design Review should be done before bids are invited and working drawings, reinforcing bar schedules, survey data, etc., should be available before construction commences.

7. The Bank should provide guidance for project staff in the use of the AF-300 and should provide sample statements and documents.

.....Persaud.....
Christopher Persaud
Transport Specialist
Inter-American Development Bank

.....Lowe.....
Rickford Lowe
Coordinator
Works Services Group

WORKS SERVICES GROUP
Ministry of Public Works
and Communications
CO-ORDINATOR

LIST OF PARTICIPANTS

Names	Designation	Institution
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Balraj Balram	Permanent Secretary	Ministry of Public Works & Communication
Rickford Lowe	Coordinator	Work Services Group, MPW&C
Ron Rahaman	Highway Engineer	Work Services Group, MPW&C
Bobbie Jaikaran	Finance Controller	Work Services Group, MPW&C
Jeffrey Walcott	Engineer	Work Services Group, MPW&C
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Phillip Bryan	Procurement Officer	Work Services Group, MPW&C
Ronette Hetsberger	Senior Planner	Ministry of Finance
Felicia Adams	Environmental Officer	Environmental Protection Agency
Narendra Sukhram	Council	Mayor & Town Council - Corriverton
John Adams	Representative	Mayor & Town Council – New Amsterdam
Keysha Marks	Overseer	Gibraltar-Fyrish NDC
Radhika Basil	Overseer	Crabwood Creek-Moleson Creek, NDC
Devanand Chaitani	Overseer	No 52-74 NDC
Seeta Ramjatan	Representative	Bloomfield-Whim NDC
Lakrani Lachmenar	Representative	Kilroy-Hampshire NDC
Pooran Ramsaran	Representative	Macedonia-Joppa NDC
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Satyanand Puran	Representative	Enfield-Enterprise NDC
Latchmi Ashadat	Representative	Maid - Tarlogie NDC
Jhagoo Jagdeish	Representative	Canefield - Enterprise NDC
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Anand Singh	Engineer	H. Nauth & Sons

Shawn Rohoman	Field	H. Nauth & Sons
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Maheshwar Ragoobeer	Engineer	Dipcon
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Stacy Carmichael	Reporter	GINA
Marco Nicola	Country Representative	IDB
Christopher Persaud	Transport Specialist	IDB
Kevin Bonnett	Civil Society Coordinator	IDB
Leticia Ramjag	Operations Analyst	IDB
James Campbell	Consultant	N/A
Lilowtie Chintamani	Accountant	N/A

Inter-American Development Bank
Project Completion Report –2010 PCR
Borrower's Evaluation

Project Name: LO-1554/SF-GY: ***New Amsterdam to Moleson Creek Road Project (GY0076)***	
Executing Agency(ies): ***Works Services Group (WSG)***	
Borrower: ***Government of Guyana (GOG)***	
Date of Project Approval: ***16 June 2004***	Date of Contract Effectiveness: ***06 June 2005***
Date of Borrower Evaluation:	Expected Date of Exit Workshop: ***August 10, 2011***

Borrower Project Performance Ratings

Probability on Achieving its Development Objective(s):

[√] Highly Probable (HP) [ ] Probable (P) [ ] Low Probability (LP) [ ] Improbable (I)

Project Implementation:

[√] Highly Satisfactory (HS) [ ] Satisfactory (S) [ ] Unsatisfactory (US) [ ] Very Unsatisfactory (VU)

Sustainability of Project Results:

[√] Highly Probable (HP) [ ] Probable(P) [ ] Low Probability (LP) [ ] Improbable (I)

Comments:

The Road was in seriously deteriorated condition. Reconstruction will definitely result in reduction of travel time and vehicle operating costs. Safety components should reduce vehicular accidents. The project was completed within schedules and budget and with no extension of time. Implementation of RMMS will ensure road is kept in good condition.

Borrower Performance During Project Preparation

Please rate your own performance during Project Preparation:

[√] Highly Satisfactory (HS) [ ] Satisfactory(S) [ ] Unsatisfactory (US) [ ] Very Unsatisfactory (VU)

Comments:

WSG was deeply involved in establishing Design Criteria and assisted in arranging Consultations with stakeholders, utilities etc.

Borrower Performance During Project Execution

Please rate your own performance during Project Execution:

[√] Highly Satisfactory (HS) [ ] Satisfactory(S) [ ] Unsatisfactory (US) [ ] Very Unsatisfactory (VU)

Comments:

WSG was very Proactive in Project Execution, especially during periods when the Consultants were unable to field a suitably qualified Project Manager. WSG provided timely decisions and advice and innovative solutions to problems encountered in the field. WSG was also actively involved in assisting to resolve disputes between partners in the Contractors' Consortium.

Bank Performance During Project Preparation

Please rate the Bank's performance during project preparation. Factors to be considered include the extent to which the Bank facilitated a participatory project design, proposed adequate technical solutions to the problems identified, and responded to the needs of the Borrower (timeliness, selection of instrument type).

[√] Highly Satisfactory (HS) [ ] Satisfactory(S) [ ] Unsatisfactory (US) [ ] Very Unsatisfactory (VU)

Comments:

Overall, the High level of Cooperation and Collaboration between WSG and The Bank resulted in timely approvals, and sound Technical Designs throughout the Execution of the Program.

Bank Performance During Project Supervision

Please rate the Bank's overall performance during project supervision. Factors to be considered include technical assistance (including informal and formal training) to Executing Agency, timeliness of Bank response and the Bank's flexibility to respond to emergency situations during project implementation.

[√] Highly Satisfactory (HS) [ ] Satisfactory(S) [ ] Unsatisfactory (US) [ ] Very Unsatisfactory (VU)

Comments:

Overall, the High level of Cooperation and Collaboration between WSG and The Bank resulted in timely approvals, and sound Technical Designs throughout the Execution of the Program.

Additional Suggestions for Improving Bank Performance

ACCIDENT ANALYSIS

Accidents Data – During Construction

Corridors			Annual Fatalities				ADT	Kilometres Traveled Annually (million)	Fatalities per 100 Million km Traveled
From	To	Length (km)	2007	2008	2009	2007 – 2009 (Avg)			
New Amsterdam	Bush Lot No.28	35.2	14	8	9	10.3	6,908	88.76	11.6
Bush Lot	Corriverton	35.2	6	3	7	5.3	3,056	39.26	13.5
Corriverton	Moleson Creek	17.6	5	1	5	3.7	4,883	31.37	11.8
TOTALS			**25**	**12**	**21**	**19.3**		**159.39**	**12.1**

Accident Data – Post Construction

Corridors			Fatalities	ADT	Kilometres Traveled Annually (million)	Fatalities per 100 Million km Traveled
From	To	Length (km)	2010			
New Amsterdam	Bush Lot No.28	35.2	21	7,046	90.52	23.2
Bush Lot	Corriverton	35.2	4	3,117	40.05	10.0
Corriverton	Moleson Creek	17.6	1	4,981	32.00	3.1
TOTALS			**26**		**162.57**	**15.0**

ECONOMIC EVALUATION OF CIVIL WORKS

1.1 During the Feasibility Study, an NPV of $83.63 million was computed during the feasibility study assuming an estimated construction cost of $30.25 million and using a discount rate of 12%. A 20% reduction in accidents being achieved after rehabilitation was also assumed.

1.2 The actual construction cost was $30.84 million and the cost of supervision $4.66 million giving a total civil works cost of $35.50 million. As indicated at paragraph 3.5, no data on injury only and/or damage only accidents have been obtained. However, given the 50% reduction in fatal accidents the overall 20% assumption used in the feasibility study has been maintained. Further, given that the pavement design for the highway was based on a 10-year horizon, it is also assumed that planned periodic maintenance will not be required for 10 years following the completion of the rehabilitation works (i.e., 2019).

1.3 Given that the rehabilitation works were completed in 2009 and no post-rehabilitation data has yet been obtained, the HDM-4 Project Cash Flow tables in the Feasibility Study have been modified to incorporate only the actual civil works costs. The revised "with project" cash flow assumes uniform monthly payments to contractors and consultant over the duration of the respective contracts.

1.4 As can be seen from the above tables, the project has NPV of $81.49 million (using a discount rate of 12%). The IRR computed for this cash flow is 38.29% which is higher than that estimated in the feasibility study. The reasons for this are: i) the fact that the costs associated with the civil works were incurred over a four year period instead of the two years anticipated in the feasibility study; and ii) the rehabilitation works were completed in 2009 and hence the periodic maintenance expenditure would be incurred in 2019 as opposed 2016. This confirms the feasibility of the rehabilitation works notwithstanding the fact that the total civil works cost exceeded the design estimates by17%.

Table 1. Revised Project Cash Flow (Undiscounted)

Year	Without Project (US$ millions)					With Project (US$ millions)					Net Benefit
	Agency Cost	VOC	Travel Time Cost	Accident Cost	Total Transport Cost	Agency Cost	VOC	Travel Time Cost	Accident Cost	Total Transport Cost	
2005	0.00	28.04	3.27	4.74	36.09	0.00	28.08	3.27	4.74	36.09	0.00
2006	0.00	29.35	3.49	4.96	37.80	3.98	29.33	3.43	4.96	41.70	-3.90
2007	0.18	30.75	3.69	5.18	39.80	6.79	29.28	3.93	4.17	44.17	-4.37
2008	0.01	32.36	3.93	5.42	41.72	13.77	30.56	4.13	4.36	52.82	-11.10
2009	0.00	34.20	4.24	5.67	44.11	10.96	31.96	4.34	4.56	51.82	-7.72
2010	0.18	36.77	4.86	5.92	47.74	0.20	33.42	4.56	4.77	42.95	4.78
2011	0.00	41.01	6.32	6.14	53.48	0.20	34.68	4.76	4.95	44.59	8.89
2012	0.06	47.97	8.62	6.37	63.02	0.20	36.02	4.96	5.13	46.31	16.71
2013	0.18	53.61	10.28	6.61	70.68	0.21	37.45	5.18	5.32	48.16	22.52
2014	0.00	57.93	11.48	6.86	76.27	0.21	39.06	5.40	5.52	50.19	26.08
2015	0.00	62.45	12.72	7.11	82.28	0.27	40.79	5.64	5.73	52.44	29.85
2016	0.28	65.18	13.44	7.28	86.18	0.31	42.14	5.82	5.87	54.13	32.04
2017	0.00	67.02	13.87	7.46	88.35	0.36	41.99	5.94	6.01	54.30	34.05
2018	0.00	68.81	14.29	7.65	90.75	0.39	42.98	6.11	6.16	55.64	35.11
2019	0.18	70.69	14.73	7.83	93.44	13.87	44.07	6.29	6.31	70.54	22.90
2020	0.13	72.60	15.18	8.02	95.93	0.20	45.22	6.47	6.46	58.36	37.58
2021	0.00	74.48	15.62	8.22	98.32	0.20	46.47	6.67	6.62	59.95	38.36
2022	0.18	76.39	16.07	8.42	101.06	0.20	47.87	6.87	6.78	61.73	39.33
2023	0.00	78.35	16.53	8.63	103.51	0.20	49.37	7.08	6.95	63.60	39.91
2024	0.16	80.36	17.00	8.84	106.36	0.21	50.94	7.31	7.12	65.58	40.78
Total	**1.58**	**1,108.30**	**209.67**	**137.33**	**1,456.89**	**52.73**	**781.68**	**108.16**	**112.50**	**1,055.07**	**401.82**

NPV (Undiscounted) = $401.82 million

Table 2. Revised Project Cash Flow (Discounted)

Year	Without Project (US$ millions)					With Project (US$ millions)					Net Benefit
	Agency Cost	VOC	Travel Time Cost	Accident Cost	Total Transport Cost	Agency Cost	VOC	Travel Time Cost	Accident Cost	Total Transport Cost	
2005	0.00	28.08	3.27	4.74	36.09	0.00	28.08	3.27	4.74	36.09	0.00
2006	0.00	26.25	3.07	4.42	33.75	3.55	26.18	3.06	4.42	37.22	-3.47
2007	0.15	24.56	2.90	4.13	31.73	5.41	23.34	3.13	3.33	35.21	-3.48
2008	0.01	23.07	2.75	3.86	29.69	9.80	21.75	2.94	3.11	37.60	-7.91
2009	0.00	21.77	2.64	3.60	28.01	6.97	20.31	2.76	2.90	32.94	-4.93
2010	0.10	20.86	2.70	3.36	27.02	0.11	18.96	2.59	2.71	24.37	2.65
2011	0.00	20.70	3.12	3.11	26.94	0.10	17.57	2.41	2.51	22.59	4.34
2012	0.03	21.60	3.84	2.88	28.35	0.09	16.29	2.24	2.32	20.95	7.40
2013	0.07	21.57	4.11	2.67	28.43	0.08	15.13	2.09	2.15	19.45	8.98
2014	0.00	20.82	4.11	2.47	27.41	0.08	14.08	1.95	1.99	18.10	9.30
2015	0.00	20.05	4.07	2.29	26.42	0.09	13.13	1.82	1.84	16.88	9.53
2016	0.08	18.69	3.85	2.09	24.71	0.09	12.11	1.67	1.69	15.56	9.15
2017	0.00	17.16	3.55	1.92	22.62	0.09	10.78	1.52	1.54	13.94	8.69
2018	0.00	15.73	3.26	1.75	20.75	0.09	9.85	1.40	1.41	12.75	7.99
2019	0.04	14.43	3.00	1.60	19.07	2.84	9.02	1.29	1.29	14.44	4.64
2020	0.02	13.23	2.76	1.47	17.48	0.04	8.26	1.18	1.18	10.66	6.82
2021	0.00	12.12	2.54	1.34	16.00	0.03	7.58	1.09	1.08	9.78	6.22
2022	0.03	11.10	2.33	1.23	14.68	0.03	6.97	1.00	0.99	8.99	5.69
2023	0.00	10.16	2.14	1.12	13.42	0.03	6.42	0.92	0.90	8.27	5.15
2024	0.02	9.31	1.97	1.03	12.32	0.02	5.91	0.85	0.83	7.61	4.71
Total	**52.73**	**371.26**	**62.00**	**51.09**	**484.90**	**29.54**	**291.75**	**39.18**	**42.93**	**403.41**	**81.49**

NPV (discounted at 12%) = $81.49 million
IRR = 38.29%

GUYANA
MOLESON CREEK – NEW AMSTERDAM ROAD
(GY0076) (1554/SF-GY)

Project Completion Report (PCR)
Quality and Risk Review (QRR) – Report on Results and Procedures

A. PROCESS – QRR: The Project Completion Report (PCR) was distributed for a virtual QRR requesting comments on November 29th, 2011. The comments received and the responses have been documented in this Report on Results and Procedures. The document was distributed to: Nicola, Marco Carlo; Buchara, Diego Sebastian; LEG; Office of the Vice President for Countries; Cassar, Lesley N.; Kamau, Musheer Olatunji; Sand, Clark A.; CCB-CCB; VPC-PDP; PDP-PFM; Treasury Operations; Puig, Steven J.; Office of the Manager SPD; SPD-SDV; SPD-SMO; Office of Evaluation and Oversight (IADB); OVE-EVAL; IDB Finance Department, Financial Services Unit.; Office of the Manager - INE; SCL-SCL; Institutional Capacity and Finance Department; IDB Research Department; Office of the Manager, KNL Sector; VPS-ESG; Office of the Vice President, Sectors & Knowledge; Roa, Nestor H.; Taddia, Alejandro Pablo; Perez-Segnini, Juan Carlos; Persaud, Christopher; Vecco, Caterina; Medeiros, Eduardo.

B. PENDING ISSUES: None.

C. COMMENTS:

NAME/DEPT.	THEME	COMMENTS	RESPONSE
LEG/SOG	Project Context	Not sure how relevant is the information provided under paragraphs 2.1, 2.2 and 2.3 towards a PCR of a road project.	Paragraphs 2.1 to 2.3 gives the economic situation of the country at the time of project design as support to the relevance and timing of the project.
		Though none of the studies originally envisioned were actually undertaking; resources were utilized for another study regarding roads in Guyana and, perhaps, to cover the increased costs of civil works.	No response required.
		Interesting discussion on lessons learned, regarding the tendering process and participation of local firms.	No response required.
CCB/CGY	Institutional Strengthening & Monitoring and Evaluation	Under Lesson Learnt section could some recommendations for higher success under : (1) the Institutional Strengthening component(aside from the proposal for the Bank to follow-up to ensure that staff is hired) be provided? Especially since the 2012 project (GY-L1031) highlights that WSG and MPW would need to strengthen capacity in procurement and planning (especially) and (2) the M&E framework (which has been reported in the draft PCR as having been weak, with incomplete data to enable definitive reporting on results). Possibly developing an integrated M&E framework along the lines of those being piloted with IDB support in selected social sector Ministries (M&E TC being executed by the Ministry of Finance).	(1) The institutional limitations mentioned in the comment were not prevalent during the execution of GY0076. (2) The following text was added to the Lessons Learned *"WSG does not have a formal framework for Monitoring and Evaluation which often results in difficulties obtaining information to monitor indicators and evaluate outcomes. WSG should have a Monitoring and Evaluation framework integrated into its structure."*