

PUBLIC DISCLOSURE AUTHORISED

CARIBBEAN DEVELOPMENT BANK



**EXECUTIVE SUMMARY WITH MANAGEMENT RESPONSE
AND
PROJECT VALIDATION COMPLETION REPORT
THIRD ROAD PROJECT - GUYANA**

This Document is being made publicly available in accordance with the Bank's Information Disclosure Policy. The Bank does not accept responsibility for the accuracy or completeness of the Document. This is a redacted Document which excludes information which is subject to exemptions as set forth in the Bank's Information Disclosure Policy.

OFFICE OF INDEPENDENT EVALUATION

DECEMBER, 2017

PUBLIC DISCLOSURE AUTHORISED

CARIBBEAN DEVELOPMENT BANK



**EXECUTIVE SUMMARY
PROJECT COMPLETION VALIDATION REPORT
THIRD ROAD PROJECT - GUYANA**

DECEMBER, 2017

EXECUTIVE SUMMARY

1. The Government of Guyana (GOGY) has prioritised the safe and efficient operation of its primary road network, and importantly, the provision of an efficient transportation network linking the main population areas with the capital city, Georgetown.

2. During an August 2000 programming mission by the Caribbean Development Bank (CDB), one of the projects prioritised by GOGY was the upgrading of the southern access into Georgetown, from the Demerara Harbour Bridge (DHB) to Ruimveldt on East Bank Demerara Road (EBDR), and the corridor from DHB on West Bank Demerara Road (WBDR) to West Coast Road (WCR). The resurfacing of DHB was also envisaged as a part of the project.

3. At appraisal, the road network was generally in fair to very poor condition. The standard of construction and maintenance varied widely, as affected by weather conditions and frequency of maintenance. Bridges built over 30 years ago have exceeded their useful life and the timber structures were in need of replacement by concrete/steel bridges to facilitate compliance with existing 32-ton vehicular load limits.

4. The road segments identified for improvement were: (i) a 6 km section of the EBDR and (ii) DHB on the West Bank of the Demerara River, along WBDR to the Vreed-en-Hoop intersection and a section of WCR. There were a number of safety issues identified, including poor street lighting, potentially dangerous road geometry in specific areas; insufficient facilities for pedestrian safety, inadequate road markings and inappropriate traffic control systems. Additionally congestion and transit times were above desirable limits.

5. For procurement purposes the outputs were described as follows:

Lot 1: Upgrading of the approximately 6 km section of EBDR from DHB to Ruimveldt from 2-lane 2-way to 4-lane 2-way, and the widening of three culverts/bridges. A 1.2 km extension of the Lot 1 roadworks from DHB to Providence was later added and financed by the cost savings and GOGY counterpart funding.

Lot 2: Rehabilitation of approximately 5.5 km of WBDR from DHB to Vreed-en-Hoop intersection and extended to include a section of WCR from Vreed-en-Hoop intersection to the access road of the West Demerara Hospital including replacement of three wooden bridges on WCR.

Lot 3: Resurfacing of DHB.

PROJECT OBJECTIVES OR EXPECTED OUTCOMES

6. The objectives of the project were to:

- (a) Reduce traffic congestion along EBDR.
- (b) Contribute to improved safety for road users along EBDR and WBDR.
- (c) Reduce vehicle operating costs (VOC) of vehicles using EBDR and WBDR.

EVALUATION OF PERFORMANCE AND OVERALL ASSESSMENT

Overall Assessment

7. The Project Completion Report (PCR) and the Evaluator both rate the overall performance of the project as Satisfactory; however the PCR scored the project towards the upper end of the range, and the Evaluator towards the middle of the range. The Evaluator's rating is determined by separately evaluating and rating the four core criteria: Relevance; Effectiveness; Efficiency and Sustainability, and then computing their arithmetic average.

8. The PCR used the older Project Performance Evaluation System (PPES) rather than the current Performance Assessment System (PAS).

Relevance

9. The PCR rates Strategic Relevance as Highly Satisfactory. The Evaluator (using the PAS) also rates the project's relevance as Highly Satisfactory. The project reflected GOGY's priorities and was compatible with CDB's Guyana Country Strategy.

Effectiveness

10. The PCR rates Effectiveness as Satisfactory. The Evaluator also rates effectiveness as Satisfactory, however, this rating is qualified, as weaknesses in the Logical Framework Matrix (LFM) made a robust assessment of effectiveness challenging, due to lack of baseline and end-of-project data.

11. According to the LFM, the project would be a success if there was: (i) a reduction of peak hour travel time by 50 per cent (%); (ii) a 50% reduction in accidents attributable to the inadequacy of road infrastructure including lighting, pedestrian access and traffic control systems; and (iii) savings in VOC of at least \$60 mn (Net Present Value [NPV]) over the life of the project.

12. The target set at appraisal stage for accident reduction attributable to the project was 50%. Literature review suggests that many factors other than improvement in physical infrastructure would be necessary for this kind of improvement, which in any case was ambitious to the point of not being realistic. In addition, there was a lack of appropriate baseline and ex-post data which made it difficult to assess effectiveness at all. The PCR reported a reduction of peak hour travel time, though it is not clear how this figure was derived. The PCR provides proxy indicators for reduced congestion, providing a more quantitative verification that the outcome of reduced traffic congestion was achieved. The full potential for accident reduction may not have been met due to the length of time it took for the works related to road safety to be addressed; which were still incomplete when the PCR was prepared. PCR calculations show a VOC saving of \$143.9 mn, surpassing the estimated savings at appraisal of \$60 mn; however VOC savings may be lower if road maintenance is not undertaken as expected. The effectiveness of the resurfacing of DBH was not satisfactory. While reducing slipperiness, there was evidence of wear on the surface shortly after completion, and underlying structural defects were not addressed.

13. Other unquantifiable social benefits were noted during the exit workshop such as increase in night-time community activity, economic activity and persons exercising in the evenings and early mornings since the roadworks were completed and the area lighted. Increased pedestrian safety was also perceived as a result of improved lighting.

Efficiency

14. The PCR rates this criterion as Satisfactory. The Evaluator also rates Efficiency as Satisfactory but notes that the project had the Terminal Disbursement Date (TDD) extended seven times in order to facilitate completion. In addition, the road safety provisions were not satisfactorily completed within the extended time frame and at the time of PCR preparation were still incomplete. This resulted in increased project management and supervision effort. However, there were significant cost savings early in the project which were applied to extend the benefits beyond the original scope. The ERR calculated in the PCR was 38%, which justifies a Satisfactory rating using the PAS criteria.

Sustainability

15. The PCR rates the sustainability of the project as Satisfactory. The PCR's analysis however, is inconsistent with this rating. The Evaluator rates it as Marginally Unsatisfactory, noting that the Appraisal Report (AR) identified a number of risks and mitigation strategies pertinent to the sustainability of the project that were not addressed.

Borrower and Executing Agency Performance

16. The PCR rates the performance of the Borrower as Satisfactory. The Evaluator rates Borrower performance as Marginally Unsatisfactory. Although GOGY demonstrated satisfactory performance during design and mobilisation, this was undermined by weak contract management, non-compliance with reporting obligations to CDB, lack of responsiveness to CDB, non-functioning of the Project Steering Committee (PSC) and reluctance to share pertinent information with CDB.

CDB Performance

17. The PCR and Evaluator both rate CDB's performance as *Satisfactory*.

OVERALL ASSESSMENT

18. The PCR's assessment for overall performance is *Satisfactory*. The Evaluator's rating is determined by separately evaluating and rating the four evaluation core criteria: Relevance; Effectiveness; Efficiency and Sustainability. The overall performance score is an arithmetic average of the total scores for the core criteria and results in a score of 3. Based on the calculated composite score and available data, the Evaluator's assessment rates as *Satisfactory*. Details of the ratings and the justification for differences between ratings from the PCR and the Evaluator are provided at Table 1.

TABLE 1: SUMMARY RATINGS OF CORE EVALUATION CRITERIA AND OVERALL PERFORMANCE ASSESSMENT OF THE PROJECT

Criteria	PCR ¹	OIE Review	Reason, if any, for Disagreement/Comments
Relevance	Highly Satisfactory (4)	Highly Satisfactory (4)	
Effectiveness	Satisfactory (3)	Satisfactory (3)	The Evaluator concurs that project effectiveness was satisfactory, however this is a qualified judgement due to lack of baseline and end of project assessment of travel time and road safety indicators. Weaknesses in the LFM made a robust assessment of effectiveness challenging.
Efficiency	Satisfactory (3)	Satisfactory (3)	While delays and extensions hampered efficiency from a timeframe perspective, the calculated ERR of 38% justifies a satisfactory rating under the PAS criteria.
Sustainability	Satisfactory (3)	Marginally Unsatisfactory (2)	The AR identified a number of risks and mitigation strategies pertinent to the sustainability of the project. These should have been addressed by GOGY but were not; as a result, the risks to sustainability such as a having no planned maintenance and budget, and lack of enforcement of weight limits were not mitigated.
Composite (Aggregate) Performance Rating	Satisfactory 3.25	Satisfactory 3.00	The project overall had mixed performance. The project was highly relevant and due to a high ERR, and exceeding of VOC targets, met effectiveness criteria. However weaknesses in monitoring and evaluation (M&E) made ex-ante and ex-post measurement of other indicators challenging. There were deficiencies in efficiency and sustainability, as well as Borrower performance. Implementation delay was significant, and the Borrower had to provide additional funding for supervision costs and project management costs.
Borrower & EA Performance	Satisfactory	Marginally Unsatisfactory	GOGY demonstrated satisfactory performance at the design and mobilisation stages of the project; and had efficient procurement processes. This was undermined by performance during execution and a reluctance to enforce the contracts. The PCR does not sufficiently reflect the documented evidence of weak performance by the Borrower. This includes weak contract management and delayed enforcement of contractual breaches, breaches of the payment terms of the contract, non-compliance of reporting obligations to CDB, non-functioning of the PSC and reluctance to share pertinent information about investment costs, contractor relationships and information specifically requested by CDB.
CDB Performance	Satisfactory	Satisfactory	
Quality of PCR		Satisfactory	

¹ PPES scores and ratings used in PCR and PSRs to be converted to PAS 2013 scores and ratings, using the equivalence matrix in the relevant PAS 2013 Manual (Public Sector Investment Lending and TA; PBL; CSP).

Lessons

19. The PCR identified three lessons learned from implementation:
- (a) The need to assess and monitor capacity and arrangements within implementing agencies throughout implementation. For this project, oversight and supervision of the original Project Coordinator (PC) within MPWC appear to have been inadequate.
 - (b) Ensure that activities financed entirely from counterpart resources are performed satisfactorily and satisfy the project's efficiency and other requirements. The resurfacing of DHB financed by GOGY was not an effective use of resources.
 - (c) The importance of communicating critical information to satisfy Bank's safeguards must be conveyed to Borrowers. GOGY did not provide CDB with details on the status of its dispute with the original contractor, as requested.
20. The Evaluator agrees with these lessons and notes others relevant to this project:
- (a) Non-performance of both contractors in this project was a significant problem. Procurement criteria need to be able to predict contractors' ability to undertake required activities and not focus exclusively on the lowest price. Among others, the bidders' performance history and ability to mobilise incremental financial and material/human resources to take on multiple projects, should be taken into consideration.
 - (b) The Counterpart's capacity for contract management and enforcement is an extremely important factor for efficient execution. GOGY redefined the contractual definition of substantial completion, resulting in removal of the incentive to complete the outstanding works. The government's own breach of contract conditions (both with contractors and CDB) suggests either lax monitoring of the contracts, or a lack of seriousness about the need to respect contract provisions.
 - (c) CDB rules/procedures may sometimes be in contravention of local practice. Efforts should be made to identify any conflicts before contracts are finalised as this can lead to unnecessary contract amendments, associated administrative burden or unforeseen costs to either party.
 - (d) It is not enough to merely identify risks at appraisal. Mitigation activities need to be resourced, managed and monitored. By not actively implementing the mitigating strategies, the expected impact and sustainability of the project was diminished, as predicted by the risk analysis.
 - (e) It is important to manage implementation with a focus on expected outcomes, maintaining sufficient flexibility to adjust outputs to respond to changing conditions. CDB demonstrated flexibility with respect to the Lot 1 extension which was beneficial. However, there seemed to be less flexibility when dealing with DHB, where it was clear that resurfacing was not the priority, because of the need to replace the steel plates.

COMMENTS ON PCR QUALITY

21. The Evaluator rates the PCR quality as Satisfactory. The PCR recognised the limited data available to assess the outcome indicators and made attempts to identify and quantify proxy indicators. The closing workshop obtained valuable feedback. Data sources were identified in the PCR and additional research was undertaken to assess the appropriateness of the indicators and targets. Exogenous factors affecting project implementation were identified and the data to support the conclusions were included. The PCR however, did not sufficiently take into account the performance issues pertinent to understanding the reason the project lasted for 10 years instead of three, requiring seven extensions to the TDD.

DATA SOURCES FOR VALIDATION

22. The primary data sources for this validation exercise were CDB's AR and Loan Agreement; CDB's Project Supervision Reports; CDB's Registry files in respect of the project; and the Consultant Engineers Construction Project Report. The Evaluator also held discussions with the current CDB officer with responsibility for Guyana.

RECOMMENDATIONS FOR FOLLOW-UP

23. No follow-up for OIE is required.

PUBLIC DISCLOSURE AUTHORISED

CARIBBEAN DEVELOPMENT BANK



MANAGEMENT RESPONSE

**PROJECT COMPLETION VALIDATION REPORT
THIRD ROAD PROJECT - GUYANA**

DECEMBER, 2017

MANAGEMENT RESPONSE

The Project Completion Validation Report provides valuable perspective on the implementation of the Third Road Project in Guyana. We accept the Evaluator's overall assessment of Satisfactory which is in line with the assessments of our team.

Lessons Learned

The lessons speak to challenges related to counterpart contributions (in terms of project management capacity, and cash contributions to project components). Additionally, the lesson related to actively implementing mitigation strategies for risks identified at appraisal, is also one that our team has noted. We agree that closer attention should be paid to these aspects of all infrastructure projects, both during project appraisal and implementation.

Economic Infrastructure Department is currently in the process of reorganising its operations with a view towards: (a) strengthening the appraisal of infrastructure projects; and (b) improving project implementation focus. In addition, we are in the process of recruiting additional engineering staff. It is therefore intended that the issues highlighted above (counterpart contribution and risk management) will be appraised and monitored more closely in future and in ongoing infrastructure projects.

PUBLIC DISCLOSURE AUTHORISED

CARIBBEAN DEVELOPMENT BANK



**PROJECT COMPLETION VALIDATION REPORT
THIRD ROAD PROJECT - GUYANA**

**OFFICE OF INDEPENDENT EVALUATION
DECEMBER, 2017**

Any designation or demarcation of, or reference to, a particular territory or geographic area in this Document is not intended to imply any opinion or judgment on the part of the Bank as to the legal or other status of any territory or area or as to the delimitation of frontiers or boundaries.

CURRENCY EQUIVALENT

Dollars (\$) throughout refer to United States dollars (USD) unless otherwise stated.

USD1.00 = BBD2.00

BBD1.00 = USD0.50

ABBREVIATIONS

AR	-	Appraisal Report
CDB	-	Caribbean Development Bank
CSP	-	Country Strategy Paper
DHB	-	Demerara Harbour Bridge
EBDR	-	East Bank Demerara Road
ERR	-	Economic Rate of Return
GOGY	-	Government of Guyana
IDC	-	Interest During Construction
LFM	-	Logical Framework Matrix
M&E	-	Monitoring and Evaluation
mn	-	million
MOF	-	Ministry of Finance and Planning
MPWC	-	Ministry of Public Works and Communications
NDC	-	Neighbourhood Democratic Council
NPV	-	Net Present Value
OCR	-	Ordinary Capital Resources
PAS	-	Performance Assessment System
PC	-	Project Coordinator
PBCs	-	Performance-based Road Maintenance Contracts
PSC	-	Project Steering Committee
PSRs	-	Project Supervision Reports
PWD	-	Public Works Department
RDC	-	Regional Democratic Council
RMMS	-	Routine Maintenance Management System
SFR	-	Special Funds Resources
TA	-	Technical Assistance
TDD	-	Terminal Disbursement Date
USD	-	United States Dollar(s)
VOC	-	Vehicle Operating Cost(s)
WBDR	-	West Bank Demerara Road
WCR	-	West Coast Road
WCW	-	World Cup Cricket
WSG	-	Work Services Group

MEASURES AND EQUIVALENTS

1 metre (m)	=	3.281 feet (ft.)
1 kilometre (km)	=	0.621 mile (mi)
1 square metre (m ²)	=	10.756 square feet (ft ²)
1 square kilometre (km ²)	=	0.386 square mile (mi ²)
1 hectare (ha)	=	2.47 acres (ac)
1 tonne	=	0.98 ton (tn)
1 litre (l)	=	0.22 imperial gallons (ig)
1 cubic metre (m ³)	=	264.172 gallons (gals)
millimetre (mm)	=	0.039 inch (in)

TABLE OF CONTENTS

EXECUTIVE SUMMARY MANAGEMENT RESPONSE

- 2. BASIC PROJECT DATA SHEET**
- 3. PROJECT DESCRIPTION**
 - Rationale
 - Expected Impact
 - Objectives or Expected Outcomes
 - Components and/or Outputs
 - Provision of Inputs
 - Implementation Arrangements
 - Identification of Risks and Mitigation Measures
- 4. EVALUATION OF DESIGN AND IMPLEMENTATION**
 - Relevance of Design and Formulation
 - Project Outputs
 - Project Cost, Disbursements, Borrower Contribution and Conformance to Schedule
 - Implementation Arrangements, Conditions and Covenants, Related Technical Assistance, Procurement and Consultant and/or contractor Performance
 - Monitoring and Evaluation Design, Implementation and Utilisation
- 5. EVALUATION OF PERFORMANCE (PCR ASSESSMENT AND VALIDATION)**
 - Relevance
 - Effectiveness
 - Efficiency
 - Sustainability
 - Borrower and EA Performance
 - CDB Performance
- 6. OVERALL PERFORMANCE RATING**
 - Overall Performance Rating
 - Lessons
- 7. RATINGS**
- 8. COMMENTS ON PCR QUALITY**
- 9. DATA SOURCES FOR VALIDATION**
- 10. RECOMMENDATIONS FOR OIE FOLLOW-UP**

APPENDICES

- APPENDIX 1 - LOGICAL FRAMEWORK MATRIX
- APPENDIX 2 - PROJECT COMPLETION REPORT AND PROJECT SUPERVISION REPORT: PROJECT PERFORMANCE EVALUATION
- APPENDIX 3 - CDB LOAN CONDITIONS – NOT MET OR PARTIALLY MET

1. BASIC PROJECT DATA

Project Title:	Third Road Project
Country:	Guyana
Sector:	Transport and Communication
Loan No.	2/SFR-OR-GUY
Borrower:	Government of Guyana (GOGY)
Implementing/Executing Agency:	Ministry of Public Works and Communications (MPWC)

<u>Disbursements (\$ mn)</u>	<u>CDB LOAN (USD'mn)</u>		<u>Total</u>
	<u>OCR</u>	<u>SFR</u>	
Loan Amount	9.102	\$10.00	19.102
Disbursed	8.477	\$10.00	18.477
Cancelled	0.625	-	0.625

<u>Project Milestones</u>	<u>At Appraisal</u>	<u>Actual</u>	<u>Variance (months)</u>
Board Approval	2003-05-12	2003-05-12	-
Loan Agreement signed	2003-07-12	2003-06-25	0.60
Loan Effectiveness ²	2003-08-30	2003-10-09	1.30

<u>CDB Loan</u>	<u>At Appraisal</u>	<u>Actual</u>	<u>Variance (months)</u>
First Disbursement Date	2003-09-30	2003-10-30	1
Terminal Disbursement Date	2006-06-30	2014-01-31	91
TDD Extensions (number)		7	

<u>Project Cost and Financing (\$ mn)</u>	<u>At Appraisal</u>	<u>Actual</u>	<u>Variance (mn)</u>
CDB Loan	19.102	18.477	0.625
Counterpart	3.202	4.321	(1.119)
Total	22.304	22.798	(0.494)

<u>Terms</u>	<u>Interest Rate</u>	<u>Repayment</u>	<u>Grace Period</u>
CDB Loan (OCR)	5.5% (variable)	22 years incl. of grace period	5 years
CDB Loan (SFR)	2%	30 years incl. of grace period	10 years

<u>Implementation</u>	<u>At Appraisal</u>	<u>Actual</u>	<u>Variance (months)</u>
Start Date ³	2003-08-30	2003-10-09	(1.3 months)
Completion Date	2005-03-31	2014-01-31	(106 months)
Implementation Period (years)	1.6 years	10.5 years	8.9 years

<u>Economic Rate of Return (%)</u>	<u>At Appraisal</u>	<u>PCR</u>	<u>PCVR</u>
Original Loan	33%	38%	
Additional Loan			

² Date Conditions to First Disbursement satisfied.

³ Implementation begins with satisfaction of conditions precedent

2. PROJECT DESCRIPTION

Rationale (*context at appraisal*)

2.01 The Government of Guyana (GOGY) has prioritised the safe and efficient operation of its primary road network, recognising that investment in the transport sector is critical for national development. The road network consists of approximately 3,067 km of public/main roads, feeder and interior roads, trails and city roads with the main and city road network accounting for about 42%. The paved road network originates from the capital, Georgetown, and GOGY is committed to the provision of an efficient transportation network linking the main population areas with the capital city, Georgetown.

2.02 During an August 2000 CDB Programming Mission, one of the projects prioritised by GOGY for CDB financing was the upgrading of the southern access into Georgetown, from the Demerara Harbor Bridge (DHB) to Ruimveldt on East Bank Demerara Road (EBDR), and the corridor from DHB on West Bank Demerara Road (WBDR) to West Coast Road (WCR). The scope of the project included improvement of sections of road from Ruimveldt (including two access roads) south along EBDR to DHB, from DHB on the West Bank of the Demerara River, along WBDR to the Vreed-en-Hoop intersection and a section of WCR. The project scope also includes the reconstruction of three bridges further along WCR. The resurfacing of DHB was also carried out by GOGY as a part of the project.

2.03 These interventions were consistent with GOGY's strategic objective of providing improved infrastructure in support of economic and social development. At appraisal, the road network was generally in fair to very poor condition. Approximately 490 km (43%) of the public road network was paved, with some 30% of the paved and 64% of the unpaved roads in poor condition. The standard of construction and maintenance varied widely, as affected by weather conditions and frequency of maintenance. Several bridges along the main road network were built over 30 years ago and have exceeded their useful life. Current policy is to replace all timber structures over time with concrete/steel bridges to upgrade the system and facilitate compliance with the existing 32-ton vehicular load limits.

2.04 The segments identified for improvement were: (i) a 6 km section of the EBDR and (ii) DHB on the West Bank of the Demerara River, along WBDR to the Vreed-en-Hoop intersection and a section of WCR. For the road segments selected, there were a number of safety issues identified, including poor street lighting, potentially dangerous road geometry in specific areas; insufficient facilities for pedestrian safety, inadequate road markings and inappropriate traffic control systems. For the EBDR segment, 70 accidents had been reported annually, of which about 6% involved fatalities; while up to 152 accidents had been reported annually for WCR and WBDR combined, of which 10% involved fatalities, predominantly of pedestrians or cyclists. Additionally, congestion/density ratios as high as 150 veh/km were observed in some sections of the EBDR during peak hours, with 28 veh/km being a desirable limit.

2.05 The project included the following:

- (a) 6 km section of EBDR, of road from Ruimveldt (including two access roads) south along (EBDR) to DHB. The road had been constructed over 30 years ago and was the most heavily trafficked road in Guyana. It is a component of the only road link to Georgetown, from the Cheddi Jagan International Airport, the second largest city, Linden, WBDR and the West Coast areas. Travel times along this section of road were in excess of 20 minutes during peak hour periods for a trip that would normally take 6 minutes.

(b) DHB on the West Bank of the Demerara River, along WBDR to the Vreed-en-Hoop intersection and a section of WCR. WCR parallels the Atlantic coast between the Demerara and Essequibo Rivers. This corridor, combined with WBDR and DHB, represents the only road link between the Essequibo area (Region 2), the West Demerara area (Region 3) and Georgetown.

2.06 The project scope also included the reconstruction of three bridges. WCR and WBDR were also deficient with respect to street lighting, pedestrian safety, road markings and traffic control systems.

2.07 The resurfacing of DHB financed by GOGY was a part of the project. The 1.8 km floating bridge across the Demerara River had been rehabilitated but this did not include critical resurfacing works. The sheet metal deck was exposed, making the surface extremely slippery when wet and a hazard to motorists.

Expected Impact

2.08 The expected impact of the project was to contribute to the social and economic development of Guyana through improved road transport infrastructure. Expected results in the AR included: (i) improved travel comfort and reduced transit time; (ii) reduced vehicle maintenance costs; (iii) easier access to markets in Georgetown for farmers and rural entrepreneurs; (iv) improved safety for pedestrians and cyclists; and (v) short term direct employment opportunities for unskilled and semi-skilled workers from during construction.

Objectives or Expected Outcomes

2.09 The objectives of the project were to: (i) reduce traffic congestion along EBDR; (ii) contribute to improved safety for road users along EBDR and WBDR; and (iii) reduce VOC of vehicles using EBDR and WBDR.

Components and/or Outputs

Components

2.10 The Project consisted of the following components: (i) Roadworks; (ii) Engineering Supervision Services; and (iii) Project Management

Outputs

Component 1:

- (a) EBDR between DHB and Ruimveldt upgraded to 2-way 4 lane highway.
- (b) WBDR rehabilitated from DHB to West Demerara Hospital access road.
- (c) Resurfacing of the Demerara Harbour Bridge.⁴

⁴ Although the AR notes this output, it is not reflected in the Logical Framework as a discrete output. A budget of USD605 k was included in the budget under roadworks to cover this activity.

2.11 For procurement purposes the outputs were described as follows:

Lot 1: Upgrading of the approximately 6 km section of EBDR from DHB to Ruimveldt from 2-lane 2-way to 4-lane 2-way, including the Houston by-pass and a section of Mandela Avenue, and the widening of three culverts/bridges.

Following substantial completion of Lot 1, on realising significant savings, the Government requested and CDB agreed to a 1.2 km extension of the Lot 1 roadworks from DHB to Providence. This was financed by the cost savings and GOGY counterpart funding.

Lot 2: Rehabilitation of approximately 5.5 km of WBDR from DHB to Vreed-en-Hoop intersection and extended to include a section of WCR from Vreed-en-Hoop intersection to the access road of the West Demerara Hospital, including replacement of three wooden bridges on WCR.

Lot 3: Resurfacing of DHB.

Provision of Inputs

2.12 CDB approved a loan in the amount of USD19.102 mn, comprising USD9.102 mn from CDB's Ordinary Capital Resources (OCR) and USD10 mn from CDB's Special Funds Resources (SFR). The loan was to finance 86% of the estimated project cost of USD22.304 mn. CDB funds were utilised for road works, engineering supervision and contingencies.

2.13 A summary of project costs and financing at appraisal is provided in Table 2.

**TABLE 2: SUMMARY OF PROJECT COSTS AND FINANCING
ESTIMATED AT APPRAISAL⁵
(\$'000)**

Item	CDB		GOGY	Total
Roadworks	7,600	7,240	605	15,445
Engineering services				
Design			805	
Supervision		1,236		2,041
Project Management			528	528
Base Cost	7,600	8,476	1,938	18,014
Physical Contingencies	1,140	1,210	143	2,493
Price Contingencies	285	315	38	638
Interest During Construction (IDC) & Commitment Fee				1,159
Total Cost	9,102	10,000	3,202	22,304
<i>Composition (%)</i>	<i>41%</i>	<i>45%</i>	<i>14%</i>	<i>100%</i>

⁵ Appraisal Document Page ii.

Implementation Arrangements

2.14 The Ministry of Public Works and Communications (MPWC) was responsible for the implementation of the project through its Works Services Group (WSG) and the Management and Monitoring Unit (MMU). A condition precedent to first disbursement of the loan was the recruitment of a PC to coordinate all aspects of implementation, and a civil engineer for technical support. Project management was financed by GOGY. The civil engineer was appointed, however, the position was left vacant for some time after the incumbent migrated.

Identification of Risks and Mitigation Measures⁶

2.15 Major risks identified at appraisal related to project implementation and operation. Measures included in the project design to mitigate risks were:

TABLE 3: RISK AND MITIGATION MEASURES

Risk	Mitigation
GOGY's inability to meet its counterpart contribution.	GOGY's cash contribution to the project was minimised and the counterpart contribution largely restricted to project management costs, "in-kind" contributions and the payment to CDB of IDC on a phased basis.
Inadequate maintenance of the project roads by MPWC could reduce the expected benefits of the project.	<p>The implementation of a Routine Maintenance Management System (RMMS), including a condition survey of main roads and a commitment to increase maintenance allocations over the next five years, were expected to strengthen the capacity of MPWC to carry out maintenance activities.</p> <p>In addition, a weight control programme (WCP) being implemented by MPWC, required that legislation be updated and that project roads are protected from damage by overweight vehicles. The creation of the WSG within MPWC was to provide for more focussed planning and implementation of the maintenance programme.</p>
Encroachment by vendors on the right of way, and unsafe driving practices, by public passenger vehicles, could quickly nullify the benefits associated with increased road capacity and the other safety improvements	GOGY was to prepare a highway safety policy and highway safety standards which reflect acceptable international road safety standards and practices and stated its commitment to strictly enforce these.

⁶ Appraisal Document Page 25.

3. EVALUATION OF DESIGN AND IMPLEMENTATION

Relevance of Design and Formulation

3.01 The AR identified a number of lessons learned from previous projects which were incorporated into the design. These included:

- (a) retention of the engineering design consultants for project supervision, financed by CDB, and an adequately resourced WSG in MPWC to specifically deal with project implementation;
- (b) completion of final designs and cost estimates prior to project appraisal;
- (c) inclusion of a public relations campaign within the project management component of the project;
- (d) establishment of a (PSC) to facilitate stakeholder participation; and
- (e) collaboration between GOGY/(Central Tenders Board, Executing Units and financing agencies resulting in improved contract approval times due to changes in policies, procedures and practices of CTB.

3.02 SNC Lavalin (SNCL) was engaged to assist in the preparation of a feasibility study and subsequent final designs and tender documents, and were subsequently retained as Consulting Engineers. This proved to be an efficient arrangement and was advantageous to the project. Any changes required during implementation due to changing site conditions for example, could be accommodated quickly. There is no evidence to suggest that the technical design for the road upgrading was inappropriate, and to the extent that the design was executed as planned, met the needs as identified. The approved budget proved to be adequate and the final design was not adjusted significantly during implementation.

3.03 The tender process was timely as procurement delays did not occur during implementation.

3.04 The location of the project management within WSG was in theory appropriate. The accountability however to the MTWC was weak and it may have been beneficial for a stand-alone Project Management Unit with staff recruited specifically for the project. Although the PSC was established and built into the design as a condition precedent, it did not function, and the impact of this was felt, thus proving (by its absence) the relevance of this condition. There was no evidence in the documentation reviewed of the public relations campaign, however neither is there anything to suggest that lack of public awareness during construction was an issue during implementation.

3.05 It became apparent that the resurfacing of the Demerara Bridge was not sufficient to address other structural problems affecting safety of users. The AR did not provide details on the technical details underpinning DBH activity. It was noted in the AR that the bridge had been rehabilitated but this did not include critical resurfacing works, leaving the sheet metal deck exposed which was a safety hazard to motorists as it was extremely slippery when wet. However in 2006, CDB was advised that the DBH Corporation, operators of the bridge, assessed that due to the heavy traffic and age of the bridge, it did not make sense to resurface it, but rather the funds should be allocated towards replacement of the damaged steel plates. On completion, although the surface of the bridge was replaced and wear was observed shortly after completion, there was need for continuous replacement of the steel plates after the resurfacing was completed.

3.06 Overall, the design and formulation were satisfactory, and adequate to address the problem and needs that were identified in the AR.

Project Outputs

3.07 The project outputs as stated in the LFM were:

- (a) EBDR between DHB and Ruimveldt upgraded to 2-way 4 lane highway (referred to as Lot 1)
- (b) WBDR rehabilitated from DHB to West Demerara Hospital access road (referred to as Lot 2)

3.08 The AR includes the resurfacing of the Demerara Harbour Bridge (referred to as Lot 3); however this is not reflected as an output in the LFM.

3.09 The planned project outputs were modified when GOGY decided to use the savings from Lot 1 to extend the EBDR from Demerara Harbour Bridge to the site of the newly constructed Providence Stadium. The length of this extension to the road was approximately 1.2 km. (Referred to as Lot 1 extension).

3.10 The Consultant Engineer, SNC Lavalin's post construction report confirms that for Lot 1: East Bank Road: Demerara Harbour Bridge to Ruimveldt, 6 km were upgraded as planned; for Lot 2 West Bank Road: Demerara Harbour Bridge to Vreed-en-Hoop Intersection, 4 kms were rehabilitated (originally 5.5 km); and for Lot 1 Extension: Demerara Harbour Bridge to Providence 1.2 km was upgraded.

3.11 The scope of the upgrading activities included not only improvements to and expansion of the road surface, but also: (i) rehabilitation of pavement and structures; (ii) widening of pavement and shoulders; (iii) construction of earthen drains and concrete drains; (iv) construction of kerb and sidewalk; (v) construction of median barriers; (vi) installation of road lights; (vii) installation of traffic lights; (viii) construction of turning and parking lanes; (ix) removal of existing timber bridges and replacement with new concrete bridges; (x) construction of new and independent pedestrian walkways at existing concrete bridges; (xi) construction of new bridges; (xii) repairs and rehabilitation of existing concrete and composite wood/concrete bridges; (xiii) repairs and rehabilitation of culverts; (xiv) widening of existing culverts, addition or extension of culverts; (xv) relocation of water, power and telephone lines; and (xvi) improvement and reconstruction of intersections and access roads. These improvements were unevenly implemented and many of these activities were incomplete after the several extensions and expiration of the defects liability period.

Lots 1 and 2

3.12 For Lots 1 and 2, substantial completion was achieved in December 2005 as certified by the engineering consultants. Lot 1 was 94% and Lot 2 was 87% complete. It was agreed by GOGY, Contractor and Consultant that this was sufficient to satisfy the requirement for substantial completion, "given the circumstances". In reality however, there were a number of outstanding road safety components which were not completed by the contractor when the completion of works was certified. Additionally, defects identified by the Consulting engineers during construction had not been addressed. After several extensions of the defects liability period, the contract with the contractor was terminated. The replacement contractor hired to complete the outstanding works in January 2012 also performed poorly. These works included provision of safety features such as signs and road markings; construction of concrete, kerbs, drains and sidewalks; rehabilitation of bridges and asphalt concrete works required to

improve traffic congestion and public safety. As at May 2013 the outstanding works were only 80% completed and only 50% of traffic lights installed. At the time of the exit workshop in 2015, there were items of work still outstanding including road markings, traffic signs and drain covers. Some sections of sidewalks were not completed due to inability to relocate water mains.

Lot 1 Extension

3.13 Substantial completion on the Providence extension was achieved in November 2007. The outstanding activity at the time was the installation of traffic signs.

Lot 3

3.14 GOGY was responsible for the resurfacing of DHB. The contract was awarded to resurface the bridge in June 2006, however resurfacing and replacement of some steel plates was not completed until October 2007. Shortly after completion, although slipperiness had decreased, there was wear on the edges of the sheet plates due to premature access to traffic on the newly placed materials.

Project Cost, Disbursements, Borrower Contribution and Conformance to Schedule

3.15 The USD19.102 mn, loan comprised USD9.102 mn from CDB's OCR and USD10 mn from CDB's SFR. The loan was to finance 86% of the estimated project cost of USD22.304 mn. CDB funds were utilised for road works, engineering supervision and contingencies. The breakdown of the investment costs is shown on Table 4.

TABLE 4: SUMMARY OF ACTUAL PROJECT COSTS AND FINANCING

Item	Actual Project Cost and Financing (\$'000)			Appraisal Estimate	Variance (Actual - Appraisal) ^{1/}	
	CDB	GOGY	Total		(\$'000)	(%)
1. Road Works	15,195	1,076	16,271	16,288		
2. Engineering Services:						
Design	-	840	840	-		
Supervision	3,283	-	4,422	2,738		
3. Project Management	-	583		-		
Total Base Costs	18,477	2,499		19,026		
4. Physical Contingency	-	439		-		
5. Price Contingency	-	-		-		
6. IDC	-	1,083				
7. Commitment Fee	-	-				
Total Project Cost:	18,477	4,021				

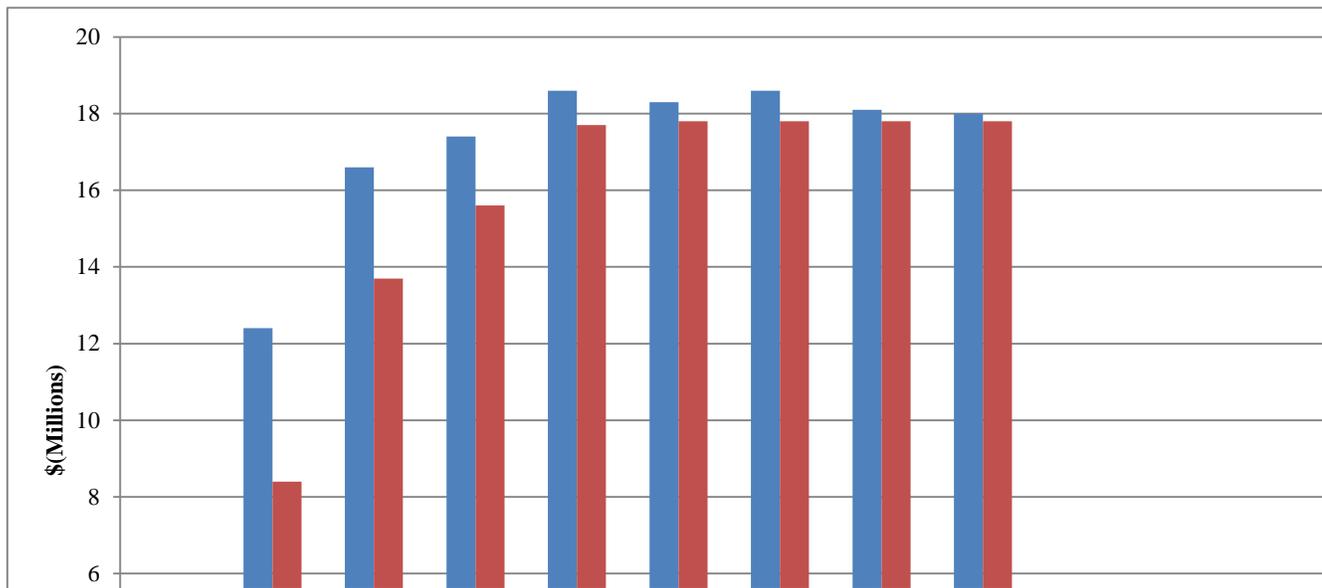
^{1/} Contingencies were reallocated to the cost of extending and amending the Consulting Engineer's Contract.

Note: The PCR is inconsistent in its recording of the Counterpart costs for supervision. The Project Matrix (Section N) allocates USD300 k in supervision, however the consultant's engineer's report documents counterpart expenditure of 1.139 m on page 12. It is not clear how much was spent on by GOGY on DHB and the shortfall on costs for the Lot 1 extension

Disbursements

3.16 According to CDB’s records in respect of Loan No. 2/SFR-OR-GUY, after the Closing Date of January 31, 2014, the entire amount of the OCR Portion (USD10,000,000) was withdrawn from the OCR Loan Account; and an amount of USD8,477,406 was withdrawn from the SFR Portion, leaving an unwithdrawn balance of USD624,594 on the SFR Loan Account. Total loan funds disbursed therefore amounted to USD18,477,406. The undisbursed amount was cancelled in July 2014. A comparison of projected disbursements of CDB loan funds with actual disbursements is shown in Chart 1.

CHART 1: PROJECTED CDB DISBURSEMENTS VERSUS ACTUAL DISBURSEMENTS



Implementation Arrangements, Conditions and Covenants, Related TA, Procurement and Consultant and/or contractor Performance

Implementation Arrangements

3.17 Implementation arrangements were organised as designed; however the project did experience turnover of WSG staff during execution. Given the extended length of time for project execution, this could not be considered unreasonable or unexpected; however there was inadequate handover from the original project manager to his successor, resulting in a gap in knowledge in certain CDB processes and procedures. Additionally, although a PSC was to be established and operational, the PSC did not effectively function for the duration of the project.

Conditions and Covenants

3.18 The Borrower met the conditions precedent in a timely manner. The Project Supervision Reports (PSRs) note that while there was early compliance with conditions precedent in recruiting project personnel for the GSW, the post of civil engineer was vacant during much of the implementation period. Furthermore, conditions related to reporting obligations were consistently broken. The Borrower was non-compliant in submitting Quarterly Reports on Investment Costs on schedule, and PCRs from the

Consulting Engineers and Project Manager were outstanding. Annual reports on the condition, maintenance and budget allocations for maintenance were also not submitted as required.

Related TA

3.19 Technical Assistance preceded the project in the form of a grant to undertake the design. This was undertaken by SNC Lavalin and informed the project appraisal process and engineering designs.

Procurement

3.20 The borrower followed the CDB procurement rules and there were no undue delays due to procurement. However the non-performance of the major contractors may indicate weaknesses in the evaluation criteria and procurement process. Both contractors had multiple concurrent contracts with GOGY and insufficient capacity to undertake them all. CDB provided adequate and timely oversight and support for the procurement process. The bid price however, included payment of duties which conflicted with CDB procurement rules. GOGY requested a contract amendment to resolve this conflict, which was agreed to by CDB; however taxes and levies were not eligible for CDB financing. As the contractor had already paid duties, the seeking and granting of waivers and reconciling the amounts paid as well as refunds agreed by GOGY presented an unnecessary administrative burden.

Consultant and Contractor Performance

3.21 Consultant Performance: SNC Lavalin was the design and Consulting Engineer firm on the project between September 26, 2003 and May 10, 2013. The design prepared by SNCL was found acceptable and there were no significant changes as the project was implemented. SNC was responsive for the need to design the Lot 1 extension which was designed in a timely manner. Changes in design required during construction due to changing site conditions were undertaken, and using value engineering principles, savings were achieved for Lot 1 and Lot 2 construction which were applied to extending Lot 1 roadwork to the Providence Stadium. This supported GOGY's hosting of the Cricket World Cup (CWC).

3.22 The consultants supervised the construction of Lots 1 and 2 and the Lot 1 extension. Due to contractor non-performance (detailed below) the Consultants also supervised the contract for outstanding work, undertaken by a second contractor. The engineering consultants provided detailed reports to WSG which were sufficient for contract monitoring and decision-making by the WSG. The Consultants documented progress to date, instructions and non-compliance by the contractors and eventually, recommended termination of the contract due to extended non-performance and fundamental breach of contract by the contractor. From a technical perspective the consultant's performance was satisfactory. They however, had limited power to enforce the contractor's response to their instructions or contractual obligations and were perhaps too accommodating of the contractor's performance lapses. They recommended the termination of the contractor only after three extensions of the defects liability period.

3.23 The evaluator concurs with the PCR that Consultant performance was Satisfactory.

Contractor Performance

3.24 Contractor non-performance is the primary reason for the project to have required over 10 years of CDB supervision, instead of three. The PCR considers contractor performance as Unsatisfactory.

3.25 Contractor performance overall was also assessed by the Evaluator as Unsatisfactory. There were three contractors involved in this project; one responsible for the resurfacing of DBH, contracted with

GOGY counterpart resources, and two associated with Lot 1, Lot 2 and Lot 1 extension works. The second contractor for the roadworks was brought in, due to incomplete work and contract termination of the first contractor. This second contractor ceased work without a certificate of substantial completion being issued, leaving 20% of the work unfinished.

Lot 1 and 2 Contracts (Seeram Brothers Ltd. – SBL)

3.26 While there were extenuating circumstances beyond the control of the contractor which affected their ability to execute within the original timeframe, there is clear evidence of poor performance.

3.27 The company was contracted in September 2003 for Lots 1 and 2 for 16 months. Work started November 9, 2003 and should have been completed by March 9, 2005. There were a number of delays and a Memorandum of Understanding was signed on June 30, 2005 to complete the works by August 16, 2005. Substantial completion of works was eventually achieved on December 29, 2005, an extension of nine months from the original contract end date.

3.28 These delays were attributed by the contractor to unseasonal weather; a shortage of local cement and bitumen, design changes resulting from unforeseen ground conditions, slow relocation of utilities, design changes; increases in the number of bridges and changes in bridge requirements. While the contractor requested six months, in the view of the engineering consultants, a two month extension was adequate. The work ended in nine months. Although the work on Lots 1 and 2 were certified by the engineering consultants as substantially completed, at the time of certification Lot 1 was 94% completed, while Lot 2 was only 87% complete.

3.29 After two years from Substantial Completion and a one year extension of the Defects Liability Period, the contractor failed to complete most of the outstanding works and correction of deficient works on Lot 1 (original) and Lot 2 Contracts. The Defects Liability Period was extended at least three times. Despite several instructions up to 2008, the contractor failed to provide a comprehensive works programme for outstanding and deficient works. The contract was finally terminated by GOGY via a contentious process ultimately involving litigation.

3.30 The Consulting Engineers, as documented in their Post Construction Report, noted a number of concerns about the performance and capacity of the contractor:

- (a) Resources allocated for Lot 2 were much lower than the Tender document. There was considerable demobilisation of equipment from Lot 2 at the end of 2004.
- (b) There was frequent plant breakdown
- (c) Quality control was poor – manifested by unsatisfactory strength of concrete used in bridge construction, failure to undertake roughness measurements on constructed pavement surfaces, unsatisfactory finishing of concrete works and pre-cast concrete works which did not meet specifications. Control tests indicated that the concrete in some sidewalks, kerbs, drain works and few tests for bridge abutments were of inadequate strength. All concrete tested in the reference period failed to meet the required strength. To address these concerns, a Quality Assurance/Quality Control Audit Report was prepared by the Consultant followed by meetings with the contractor and the Client. The contractor was given an undertaking to complete all deficient and outstanding works for Lot 1 and Lot 2 which the contractor failed to correct.

- (d) The contractor was obligated to operate a material testing laboratory to conduct all the necessary tests required for the project. Despite several letters and countless verbal requests, the contractor did not provide the materials testing laboratory.
- (e) There was insufficient cash flow to facilitate uninterrupted activity, and on a number of occasions, it was noted the contractor could not carry out critical items of asphalt works and concrete works as they could not purchase fuel, bitumen or cement. Despite evidence provided during the tender process of adequacy of working capital for the contract, the contractor blamed delays of Interim Payments for cash flow shortfalls.
- (f) The contractor completely stopped working for more than 28 days without authorisation

3.31 The contractor nevertheless won a second bid to undertake the Lot 1 extension work. It is worth noting that the contractor was also undertaking other work for GOGY for preparations for World Cup Cricket. An agreement was signed on July 3, 2006 for the Lot 1 extension works. This was completed in 15 months instead of 8. Delays were attributed by SNCL to inadequate funding from the contractor's head office and unauthorised demobilisation of some resources to other projects. It is important to note however, that the Lot 1 extension did not suffer significant performance issues, most likely because of its importance for World Cup Cricket. As of end of October 2007, about 97% of the work was completed.

3.32 The contractual relationship between the contractor and GOGY was contentious. The contractor levied a number of claims against GOGY, all of which were rejected or withdrawn with the exception of loss due to exchange risk, in return for GOGY not claiming a refund for value of waivers granted and liquidated damages. SBL in fact threatened to terminate the contract after the Government called on the retention bond, following SBL's inability to complete the work within the defects liability period after multiple extensions. It subsequently withdrew the termination notice; however GOGY later invoked breach of contract and terminated the contract. SBL subsequently took GOGY to court over the termination.

3.33 The consultants documented the fundamental breaches of contract related to the timelines and quality of work in addition to the contractor's failure to maintain Insurance and Performance Bonds for Lot 1 and Lot 2 Contract, despite several instructions.

3.34 The Consulting Engineers report dated December 2008 makes very clear the non-performance of the contractor three years after substantial completion of work. It is worth repeating verbatim:⁷

“About the last two years we did not notice significant progress to complete these works. With this situation no one can even predict when the contractor will complete this large amount of outstanding works and deficient works. Despite several meetings, instructions, commitments the contractor failed to fulfil their contractual obligation.”

3.35 The poor overall performance of the contractor imposed additional supervision costs and reduced the effectiveness and achievements of the expected improvements in road safety.

Lot 1 and 2: Completion of Outstanding Works (Dipcon Ltd.)

3.36 Following the termination of the contract with Seeram Brothers Ltd., GOGY sought to contract another firm to complete the outstanding works. The scope of works for Lot I and Lot 2 consisted largely of upgrading to improve traffic congestion and public safety and included: (i) road widening (1.4 km);

⁷ Grammar corrected

(ii) asphalt overlay; (iii) 11 bus stops; (iv) pedestrian crossings; (v) 1.8 km of sidewalk; (vi) reinforced concrete drains and covers; (vii) bridge repairs; (viii) 600 m of guard rails; (ix) traffic signs (x) traffic signal at DHB approach; (xi) road markings; and (xii) cleaning drains.

3.37 The contract was signed on January 09, 2012, however it was mutually agreed that work would begin April 2012, four months later. Although the estimated duration was five months, the contract was extended to end January 15, 2013. By December 2012, per the Consulting Engineer's last progress report, the contractor failed to submit a requested Revised Work Programme and had requested a three month extension from September 2012 to January 2013, which was approved. At the time of the report, the contractor had had only demonstrated 40% progress towards completion. The Consulting Engineer's verbatim assessment provides evidence of poor performance:

“The contractor, from the very beginning was reluctant regarding the project, never showing any serious effort to finish the project. The project was started during the rainy season and there was material shortage within the country at that point, despite the very fact, once material was available and the weather was good the contractor showed no effort to accelerate progress. There has always been the lack of workforce, equipment and materials presented on site.”

3.38 The reasons for the contractor's non-performance were attributed to: (i) the contractor having four to five other bigger projects in Guyana; and (ii) no dedicated equipment for the project or very old, hardly functional or broken equipment. The contractor was also accused of taking advantage of the non-payment issue as an excuse. The Consulting Engineers assessed the overall performance of the contractor as “poor”. The contractor attributed lack of progress to rain delays, changes in conditions between the tender process and beginning of work, and delays in receipt of modified designs. The Consulting Engineer believed a three month extension was justified and recommended same in September 2012. By April 2013, only 80% of the work had been completed and the contractor had ceased work. The exit workshop notes reveal that this work was not completed satisfactorily.

Monitoring and Evaluation Design, Implementation and Utilisation

3.39 The LFM and M&E processes were not robust enough for evaluating the achievement of project outcomes and impacts. The expected outcomes were to: (a) reduce traffic congestion along EBDR (measured by reduced travel time of 50%); (b) contribute to improved road safety for users along EBDR and WBDR (measured by a 50% decrease in accidents attributable to inadequacy of road infrastructure including lighting, pedestrian access and control systems); and (c) reduce vehicle operating costs using the EBDR and WBDR (\$60 mn savings over the project life). It is not clear how a “50% reduction in accidents” target was set; however the literature suggests that significant reduction of accidents is a result of a combination of road infrastructure, road safety and traffic control systems as well as behaviour modification and vehicle operation and safety.⁸

3.40 Although the re-surfacing of DHB was an activity of the project utilising counterpart funds, no output or outcome indicators associated with this activity were included in the LFM.

3.41 While the LFM provided objectively verifiable indicators and targets, the indicators were not entirely Specific, Measurable, Achievable, Relevant or Timebound. The retroactively defined outputs

⁸ As referenced in the PCR: The target established at appraisal exceeded what would be considered as achievable today based on current knowledge. A 25% reduction would now be considered an achievable/ambitious target. http://ec.europa.eu/transport/road_safety/specialist/knowledge/pdf/quantitative_road_safety_targets.pdf. Verified by the Evaluator during the PCVR preparation.

for project supervision in the PCR included certificates of completion and as-built drawings. In fact, these should have been verification sources for the outputs.

3.42 The output indicators were very broadly defined as ‘upgraded’ or ‘rehabilitated’ road, therefore open to interpretation as being achieved with respect to associated works such as safety, drainage and traffic management elements. Thus, while the road segments were widened, aligned and surfaced, there were outstanding safety, traffic management and drainage work left unfinished for years after the certification of substantial completion.

3.43 For indicators (a) and (b) there is no reference to baseline information to enable ex-ante and ex-post comparison. Baseline data cited referred only to total accidents and it is not clear that disaggregated data existed to enable measurement of the indicator. An approximate calculation of the baseline travel time for EBDR was given in the AR, but not for WBCR/WCR. Anecdotal reporting of reduced travel time was shared at the exit workshop by participants. While indicative, this is not M&E best practice. Therefore the quantification of the indicator either ex-ante or ex-post was not adequate to assess project performance.

3.44 As the PCR notes, the target set for accident reduction was ambitious and not practically achievable given current understanding of road safety factors. Fifty percent reduction for both targets appear to be somewhat arbitrary.

3.45 Savings in VOC were estimated at appraisal. These were revisited during the development of the PCR process. This indicator is the most reliable in terms of assessing outcomes.

3.46 The loan conditions for reporting focused on monitoring of outputs. These included: (i) Monthly Progress Reports; (ii) Quarterly Reports on Investment Costs; (iii) Completion Report prepared by the Engineering Consultants and a PCR prepared by the PC. Additionally to ensure sustainability, an annual report on maintenance was to be prepared by June 30 of each year, and a three-year routine maintenance plan by March 31, 2004 and updated annually.

3.47 Monthly progress reports were prepared and submitted by the Consulting Engineering firm. One completion report was prepared in 2008 after the termination of the first contractor. CDB however experienced difficulty in obtaining the reports required from the PC. There were no repercussions for non-compliance with the reporting requirements.

3.48 The project supervision plan developed for implementation monitoring by CDB at appraisal was followed, and the project was adequately supervised.

4. EVALUATION OF PERFORMANCE (PCR ASSESSMENT AND VALIDATION)

4.01 The following are the ratings of the PCR over the project implementation period and the Evaluator's ratings based on the data reviewed.

Relevance

4.02 The PCR rated Strategic Relevance as Highly Satisfactory and gave it a score of 7 out of 10. The rationale provided is that the project overall was accorded a high priority by GOGY and was identified in the CDB lending strategy as articulated in the CSP for Guyana.

4.03 Using the PAS Equivalence matrix, the PCR score of seven converts to an equivalent rating of Highly Satisfactory.

4.04 ***Evaluator's Assessment:*** The evaluator assessed strategic relevance as Highly Satisfactory. The 2002-04 Guyana Country Strategy identifies infrastructure development, and particularly GOGY's aggressive approach to the development and rehabilitation of its road network. Additionally, GOGY, with assistance and support from the international donor community, prepared a National Development Strategy, which sought to, among other things, maintain and expand economic infrastructure. Although the project was approved in 2003 within the 2002-04 Country Strategy period, preliminary project identification and technical studies occurred between 2000 and 2002. The project also aligned with complementary interventions financed by other donors. Given the importance of connecting rural and urban populations for economic development and the stated expected social benefits, the strategic relevance is rated as Highly Satisfactory in concurrence with the PCR.

Effectiveness

4.05 The PCR rated Effectiveness as Satisfactory and gave it a score of 5.0. The rationale given is that the Project as designed and constructed is expected to meet most of its stated social, physical and economic goals and objectives.

4.06 Using the PAS Equivalence matrix, the PCR score converts to an equivalent rating of Satisfactory.

4.07 ***Evaluator's Assessment:*** The evaluator rated effectiveness as Satisfactory, despite weaknesses in the LFM to guide the evaluation of the project and deficiencies in the completion of road safety measures.

4.08 According to the LFM, the project would be a success if there was: (a) a reduction of peak hour travel time by 50%; (b) a 50% reduction in accidents attributable to the inadequacy of road infrastructure including lighting, pedestrian access and traffic control systems; and (c) savings in VOC of at least \$60 m (NPV) over the life of the project.

4.09 Determining the effectiveness of the project is undermined by the lack of reliable ex-ante and ex-post data for the indicator for accident reduction attributable to the project intervention. Additionally, the target set for that indicator could be considered ambitious and not achievable⁹.

4.10 The PCR reports that, based on responses from the exit workshop, peak hour time had been reduced by 33 - 50%. It is not clear from the PCR and the exit workshop notes how this figure was

⁹ See discussion under M&E Design, Implementation and Utilisation, pg. 11

derived. The PCR provides however, proxy indicators for reduced congestion and notes that before the project, free speeds along heavily congested sections were 30 km/hr, compared with 64 km/hr after the project; while the volume capacity ratio before the project was 70%, vs 32% after the project and 49% in April 2015, with increased traffic levels. This data provides a more quantitative verification that the outcome of reduced traffic congestion was achieved.

4.11 Accidents along one segment were reportedly reduced by 27% (EBDR to Timerhri, between 2007 and 2012). Accident data referenced was sourced from the Ministry of Public Works. However, the engineer's post construction report (2008) notes that based on limited fatal accident data received from Traffic Head Quarters, the proportion of fatalities in general did not appear to be reduced. They concluded the traffic safety devices were insufficient on the road. Public safety was to be achieved through the road widening, strengthening and widening of the pavement and shoulders, improvement of drainage facilities, lay-buys and cycle lanes, new road signs, speed limit signs, advance kerb warning signs, chevron signs, identification of school zones, pavement marking, installation of retro reflectors; parking lanes, side-walks and road lights. At the time of the exit workshop in 2015, there were items of work still outstanding including road markings, traffic signs and drain covers. Some sections of sidewalks were not completed due to inability to relocate water mains. Thus the full potential for accident reduction, may not have been met. The effectiveness of the project was therefore diminished by the length of time it took for the works related to road safety were completed.

4.12 With respect to VOC, using HDM-4 software, VOC was calculated for the 22-year period 2012 to 2034. The NPV of the project costs and benefits (savings in VOC and travel time) were evaluated assuming routine maintenance each year and periodic maintenance triggered in response to road conditions or increased traffic. The calculations show a VOC saving of \$143.9 mn, surpassing the estimated savings at appraisal of \$60 mn. The assumption of routine maintenance may have been optimistic, so VOC may be lower if the maintenance is not undertaken as expected.

4.13 The evaluator notes that the failure to meet accident reduction targets (acknowledged to be ambitious), was offset by a greater than anticipated decrease in VOC, as well as improvements in travel time and traffic congestion, even as traffic volume has increased. Other unquantifiable social benefits included the increase in night-time community activity, economic activity and persons exercising in the evenings and early mornings since the roadworks were completed and the area lighted. Increased pedestrian safety was also perceived as a result of improved lighting.

4.14 While not reflected in the LFM, effectiveness of the resurfacing of the DBH is not satisfactory. While reducing slipperiness, there was evidence of wear on the surface shortly after completion, and underlying structural defects were not addressed.

4.15 The evaluator concurs with the PCR that the project effectiveness was Satisfactory; however weaknesses in the LFM undermined a more robust assessment.

Efficiency

4.16 The PCR rated Cost Efficiency as Satisfactory and gave it a score of 7. This is justified by the high ERR and the likelihood that increased traffic volume allows for the project's benefits to far outweigh the costs.

4.17 Using the PAS Equivalence matrix, the PCR score converts to an Equivalent Rating of Satisfactory.

4.18 ***Evaluator's Assessment.*** The evaluator rated this project's efficiency as Satisfactory in light of the calculated ERR of 38%, notwithstanding delays in implementation and reduction in intended road safety benefits (particularly between 2007 and 2013).

4.19 From a quantitative perspective, the realised ERR of 38%, an increase over the original estimate of 33%, justifies a quantitative efficiency rating of Highly Satisfactory. The project initially derived significant cost effectiveness as: (i) a 2.5% discount was offered by the contractor for winning both Lots; and (ii) the original Lot 1 scope was extended to include upgrading of 1.2 km from DBH to Providence, achieved via 'value engineering' which resulted in cost savings of USD2.1 mn. CDB agreed to re-scope the project to utilise these savings plus a counterpart contribution from GOGY, including the retention bond claimed by GOGY from SBL. The total estimated cost of the Lot 1 extension was USD3.8 mn. The extension was effectively completed by 2007 and was a priority for GOGY as it facilitated traffic to the Stadium for the 2007 CWC.

4.20 The project was estimated to have an implementation period of 3 years; however the project effectively was under execution for 10 years. While substantial completion of Lot 1 and Lot 2 was certified by December 2005, at the time of the exit workshop in 2015 there was still outstanding work to be completed. In reality, Lot 2 had only been 87% completed at the time of certification. Project management performance was also less than optimal which contributed to administrative delays. Timely payment of invoices was a problem by GOGY, and this was used by the contractors as a justification for slow progress.

4.21 The Consulting Engineer's costs significantly exceeded the budget, even before the eight contract amendments necessary as a result of contractor non-performance. Savings on Lot 1 were somewhat negated by the additional expenditure required for engineering supervision services. Originally budgeted at appraisal at \$1,236,000, the actual expenditure on consulting engineering services for the original scope of work, plus the 1.2 km extension to Providence and additional delays totalled USD3,283,000 plus USD300,000 spent by GOGY, which originally did not have a budget for supervision. GOGY's in-kind contribution for project management was budgeted at USD583,000. However, this figure was not adjusted in the documentation reviewed to reflect the true cost as a result of the extended need for GOGY project management. Additionally the delays in completing the works resulted in additional spending due to price increases over time (between initial procurement and undertaking fixing of defects and incomplete work.) The additional cost to CDB for administering and supervising the loan is also taken into account in consideration of efficiency.

4.22 The Consulting Engineers identified several issues with the contractors, with respect to quality of the finished product. While some construction delays were due to factors outside of the contractor's control, (e.g. rain and unavailable material) reporting from SNC Lavalin indicated that the first contractors did not mobilise equipment, had insufficient equipment, and inadequate cash flow to mobilise activity. In the case of the second contractors, they were not mobilised for months following contract signing and they did not fully complete the scope of works. Additionally, the resurfacing of DBH had already begun to deteriorate, due to early traffic on the newly laid surface.

Sustainability

4.23 The PCR rated Sustainability as Probable and a score of 4.5. Using the PAS Equivalence matrix, the PCR score converts to an equivalent rating of Satisfactory.

4.24 ***Evaluator's Assessment.*** The evaluator assesses sustainability as Marginally Unsatisfactory. On reading the analysis of the critical factors contributing to sustainability, it is difficult to agree with the PCR's conclusion. The PCR notes the discontinuation of performance-based maintenance

contracts (PBCs) which are acknowledged to be more efficient than direct maintenance by government agencies; inadequate budgetary allocations since 2013; limited capacity of MPWC and WSG staff to execute a national maintenance programme; and the possibility that the capacity of the drainage system may not be adequate to accommodate increased flows due to climate change impacts.

4.25 This project will be sustainable if the intended benefits (reduced congestion, increased safety and reduced VOCs) are likely to be actualised over the full intended life of the project. At the beginning of the project, the major defects were in the quality of the road surface, the age of the bridges and the complementary drainage and road markings/road safety (e.g. guardrails etc.). The road surfaces were improved. The project, in replacing or rehabilitating bridges will contribute significantly to the longevity of the bridges, however this will be dependent on maintenance of the concrete structures. The major considerations for sustainability are therefore: (i) initial quality of the works; (ii) extent to which the road surface will be preventatively maintained in a timely and regular fashion; (iii) wear and tear on the road, which is a factor of volume and excess weight of trucks; and (iv) continued functioning of traffic lights, remarking of pedestrian crossings; (v) maintenance of drains and drainage systems; and (vi) increase in the number of vehicles in use relative to anticipated volume.

4.26 There are a number of reasons to believe that sustainability of the project may be jeopardised. The Consulting Engineers noted concerns about the quality and strength of cement used on sidewalks and bridge structures. It is not clear whether these were sufficiently rectified, therefore unresolved poor quality could contribute to decreased longevity of the works. The AR noted a major risk that failure to institutionalise a responsive planning and maintenance regime within MPWC could erode project benefits. CDB's Board, in considering the loan appraisal, enquired whether the road maintenance programme was adequate. The response from the appraisal team was satisfaction with the capacity of the unit. The notes from the exit workshop suggest otherwise. The MPWC was required to submit an annual report on maintenance to be prepared by June 30 of each year, and a 3-year routine maintenance plan by March 31, 2004 and updated annually. The registry files indicate that these reports were not provided as required under the loan contract. It is therefore unclear whether the maintenance programme by GOGY for these roads will be satisfactory for the anticipated useful life of the road surface. The absence of proper maintenance planning was discussed at the exit workshop in the context of MPWC no longer having PBCs in place after 2012. At present there is a system for annual budgetary allocations, but from the exit workshop, it was reported that the allocations have been less than the assessed maintenance requirements.

4.27 With respect to weight control, at the time of appraisal it was noted that GOGY was implementing a weight control programme with assistance from the Inter-American Development Bank, under which existing weight control legislation was to be amended and brought in line with international standards. At the exit workshop the common practice of truck owners making modifications to carry more than the design loads was noted. It was revealed that exercises conducted in conjunction with the police ascertained that almost all vehicles carry more than 150% of the weight they should be carrying. It was pointed out, however, that it was not practical to offload vehicles found carrying extra weight unless there was a designated place. Overloaded vehicles stopped therefore inevitably proceeded to their destination. The meeting was advised of a plan to purchase 24 scales for weighing vehicles. The need for systems and legislation was noted.

4.28 The exit workshop minutes noted the presence of a number of obstructions which reduced the two lanes to one especially on the eastern side of EBDR, north of the DHB junction. The notes did not indicate the nature or permanence of these obstructions. If these are permanent/semi-permanent and are not moved, this compromises the traffic volume and flow.

4.29 Given these concerns, and based on the evidence provided, the Evaluator rates sustainability as Marginally Unsatisfactory.

Borrower and EA Performance

4.30 The PCR rated Borrower and EA Performance as Satisfactory.

4.31 ***Evaluator's Assessment:*** The evaluator rates the borrower performance as Marginally Unsatisfactory.

4.32 The Borrower demonstrated satisfactory performance during the appraisal process and for the first 2.5 years of the project; however, over the life of the project which eventually spanned 10 years, the Borrower's overall performance declined.

4.33 The project was essentially shovel-ready when approved by CDB, in keeping with the lessons learned from previous projects. Detailed designs had been prepared and the engineering consulting firm was approved by CDB by May 2003, the month the loan was approved. By October 2003, conditions precedent had been met, the contractor had been approved and the required posts had been filled. The contract was signed to begin construction in October 2003.

Contract management and enforcement

4.34 Contract management and enforcement were major weakness in the execution of the project which contributed to the need to extend the project for another seven years beyond the original TDD. GOGY itself breached the contract through extraordinary delays in payments to contractors. As a result, the contractors were able to take advantage of late payments, by claiming this affected their cash flow, thereby justifying their slow progress.

4.35 According to the Consulting Engineers Post-construction Report, it was mutually agreed between the contractor, consultant and government that the standard definition of 'substantial completion' i.e. when 97% of the works were finished or when the road starts to be used, was not applicable for the "given conditions". These given conditions were not elaborated, although there is reference in the report that the substantial completion certificates were issued *to assist the contractor to avoid maximum amount of Liquidated Damages that may cause Fundamental Breach of Contract*. Instead, it was decided to consider Lots 1 and 2 substantially completed once the final asphaltic concrete layer was in place on the main road. This condition contravened what was in the contract. Substantial completion was certified December 29, 2005, although Lot 2 was only 87% complete. The defects liability period was one year, during which the contractor was obligated to fix all defects and complete all outstanding work. The engineers note:

“at the time of substantial completion, (29/12/05) large amounts of incomplete work and deficient works for both Lots were outstanding. Comprehensive lists for outstanding works and defective works for Lot 1 and 2 were issued to the contractor and the client to be completed by December 29, 2006.”

4.36 GOGY advised CDB in January 2006 that all defective work was being remedied and would be certified by the Consultants. SBL confirmed in writing a commitment to complete all outstanding and deficient works for both lots by the end of May 2006. According the post construction report:

“Despite several written instructions SBL failed to complete most of the outstanding works and correction of almost all deficient works for both Lots 1 (original) and Lot 2.

On June 28, confirmed commitment to complete by December 29, 2006. No major work was done by that date.”

4.37 By the end of the defects liability period, December 2006, the contractors had not fulfilled their obligations and repeatedly failed to submit work programmes to complete the outstanding and deficient works. Repeated commitments to complete work by SBL during 2006 had been broken and no major work was undertaken. No penalties were invoked and the defects liability period was extended three times between December 29, 2006 and December 31, 2007. By the end of 2007, a letter was sent to WSG by the Consulting Engineers outlining the non-compliances of the contractor’s obligations to the project. This letter was not shared with CDB until May 2008. The letter clearly noted the poor performance of the contractor.

4.38 As part of the contract, the Consulting Engineers were preparing and submitting monthly reports. WSG would have been aware, from site visits and these reports, of the limited activity by the contractor. The initial breach of the first extension should have triggered the contractual remedies available to GOGY to terminate the contract and recover damages. However, during 2006, the contractors were busy working on the Lot 1 extension. During 2006, the priority of GOGY had shifted to the completion of the Lot 1 extension project, as this was necessary for Guyana’s hosting of CWC in 2007. The contractor was reportedly working on other GOGY World Cup priority projects and did not have the capacity to complete the works. This may explain the leeway given to the contractors by GOGY.

4.39 GOGY did not appear to exercise any pressure on the contractor when advised of failure to satisfy the instructions of the Consulting Engineer and accepted continuous promises by the contractor, even when it was clear that there was no work being done. GOGY finally invoked contractual remedies to address the situation, and advised the contractor that it would exercise its rights to the retention bond in December 2007.

4.40 GOGY also experienced difficulties in meeting contractual conditions regarding interim payments.

4.41 In some cases the delays were due to lack of understanding of CDB’s processes and incomplete documentation to support payment; particularly after the replacement of the original project manager. These instances were documented by the Consultant Engineer and in some cases were sufficiently delayed to trigger a breach of contract. These late payments were also used by the contractors as justification for work slow-down or stoppage, citing cash flow problems. Late payments to the contractor were recorded by the Consultant Engineer for periods ranging from 67 - 160 days. The contractual obligation was 28 days. Payments to the engineering consultants were also delayed. Due to delays in payment, in terms of Clause 59.1 and 59.2 (d) of Section 3 - Conditions of Contract, on July 20, 2007 the contractor served notice of termination of Contract to the Ministry of Public Works and Communications. This was however retracted on October 10, 2007.

Reporting, Communication, and breaches of loan conditions

4.42 The Registry files contain many reminders to WSG from CDB for outstanding reports throughout the project life, particularly on investment costs and other information on the progress of the works, and the contractor’s work programme. The responsiveness to CDBs requests for reports and information deteriorated significantly around the middle of 2007, and the Ministry of Finance undertook to liaise with MPWC. Between December 2007 and 2008, the registry files note the escalation of requests for information from the PC to the Permanent Secretary then to the Minister of Finance.

4.43 The requirement for the PC to submit a PCR was never fulfilled, neither was the requirement to submit annual reports on the condition, maintenance and budget allocations for road maintenance.

4.44 WSG was also not proactive with respect to communicating to CDB, critical contractual issues between GOGY and the first contractor. For example, CDB was for months unaware of the breaches of contract, threatened contract termination, actual contract termination and litigation around the terminated contract. From the registry files, it was the contractor, and not WSG that advised CDB of the contract termination. GOGY did not advise CDB of its decision to claim the retention bond, which initiated the second threat by SBL to terminate the contract. CDB was also not advised that the resident consultant from SNCL was no longer on the project.

4.45 As time progressed, although the project was still active, GOGY became less and less responsive to CDB. CDB on two occasions between December 2009 and November 2012 extended the TDD. On June 30, 2013 GOGY was advised that this was the final extension for the loan. The TDD was extended for the seventh time in January 2014 and in July 2014 the remaining loan balance was cancelled.

Personnel deployment:

4.46 The Registry files suggest that the PC, did not feel accountable to MPWC, and the Evaluator was advised during the validation process, that the PC was a senior official, perhaps not best suited for the administrative duties required of the Coordinator. This was corroborated by the Registry files whereby CDB was advised that “as the technical advisor to the Minister, the PC was outside...” the control of the PS responsible for MPWC. The first PC did not fulfil in a timely manner many of contractual obligations related to reporting. The PC was replaced in December 2008, however hand-over to the successor was inadequate which limited his effectiveness, particularly with respect to understanding of CDB requirements to process payments. At various points during implementation, the positions of financial officer was unfilled which affected the capacity of the WSG to prepare reports on investment costs. As noted in the PSR dated February 13, 2013, GOGY was non-compliant in retaining the services of a civil engineer for much of the implementation period.

Project Steering Committee

4.47 Although the establishment of a PSC was a condition precedent, once established, the Steering Committee did not function. Had a Steering Committee been active, it may have provided more robust oversight and encouraged greater accountability of the PC in meeting the loan contract’s obligations.

CDB Performance

4.48 The PCR rated CDB Performance as Satisfactory. This was based on an assessment of CDB’s communication with GOGY counterparts, strong support during procurement processes, technical support to monitor the performance of the engineering consultant and contractors, and following up on the fulfilment of reporting and other financing requirements.

4.49 *Evaluator’s Assessment:* Evaluator’s assessment concurs that CDB’s performance was Satisfactory. CDB was responsive to GOGY’s needs and requests for the Variation in Scope (Lot 1 extension); worked with GOGY to ensure adequate financing for the change, and approved the requested changes in a timely manner.

4.50 CDB provided necessary and timely support for procurement processes, timely feedback to GOGY as needed and monitoring of contract conditions. Regular supervision missions were undertaken, the construction sites were visited and 11 PSRs were prepared. Issues that could not be resolved were appropriately escalated. Some leverage was exercised in tying disbursements on the Lot 1 and Lot 2

contracts to progress on DBH. CDB perhaps could have used this approach more frequently to incentivise better performance from the Borrower.

4.51 CDB exercised significant patience with this project between 2007 and 2013 in particular, given extended poor performance of the Borrower in enforcing the contracts and meeting CDB's loan conditions, less than forthcoming communication on key issues from WSG and the seeming lack of urgency by GOGY to ensure completion of the defective and incomplete works.

4.52 While resurfacing of DBH proceeded as planned, it did not address underlying structural issues raised by Demerara Harbour Bridge Corporation. It was communicated to CDB that the real issue was the defective steel plates which needed to be replaced. By the time of project completion, there had been no attempt to negotiate a change in scope for this activity to address the structural issue, although the risk to motorists of slippage was dealt with.

4.53 Nevertheless, given the challenges presented, CDB's performance was professional, responsive and satisfactory.

5. OVERALL PERFORMANCE RATING

Overall Performance Rating

5.01 The PCR rates the overall performance of the project as Satisfactory with a composite aggregate score of 3.25 when converted to the PAS equivalent. The Evaluator scores the overall performance of the project as Satisfactory, but with a lower score of 3.00. This is due to a difference of opinion on project sustainability, which in the view of the Evaluator was weaker than assessed in the PCR.

Lessons

5.02 The PCR identified three lessons learned from implementation:

- (a) There is a need to assess and monitor capacity and arrangements within implementing agencies throughout implementation. For this project, oversight and supervision of the original PC within MPWC appear to have been inadequate.
- (b) Ensure that activities financed entirely from counterpart resources are performed satisfactorily and that they satisfy the project's efficiency and other requirements. The resurfacing of DHB did not produce a durable surfacing, in part due to the inadequacy of the materials, as well as the ongoing challenges presented by the damage to the steel plate deck elements. While these works were financed by GOGY, closer collaboration between stakeholders should have been pursued.
- (c) The importance of communicating critical information to satisfy Bank's safeguards must be conveyed to Borrowers. GOGY did not provide CDB with details on the status of its dispute with the original contractor, as requested.

5.03 The Evaluator agrees with these lessons and notes others relevant to this project:

- (a) **The Counterpart's capacity for contract management and enforcement is an extremely important factor for efficient execution.** A decision was taken to alter the contractual definition of substantial completion. The documentation reviewed did not make clear what factors were taken into account in changing the criteria for substantial completion but it appeared to have been done to benefit the contractor. The result was that the incentive to complete the outstanding works was removed. The contractor continued to take advantage of the client's willingness to extend the deadlines multiple times and reluctance to invoke available contractual remedies. The government's own breach of the contract conditions regarding payment also suggests either lax monitoring of the contract, or a lack of seriousness about the need to respect contract provisions. In fact, the contractor was more willing to use contractual remedies when conditions were breached.
- (b) **CDB rules/procedures with respect to taxes and levies, established in the loan agreement, need to be clearly reflected by the Borrower in procurement and contracting processes.** In this case, differences in CDB and GOGY rules regarding treatment of taxes and levies created an unnecessary administrative demand on the project between 2003 and 2007, with respect to tax liabilities and refunds for the first contractor. Where there were inconsistencies, these should have been identified and dealt with prior to contracting.

- (c) **It is not enough to merely identify risks at appraisal. Mitigation activities need to be resourced, managed and monitored.** There did not seem to be any monitoring of whether the mitigating activities identified at appraisal were being undertaken. By not actively implementing the mitigating strategies, the expected impact of the project was diminished as predicted by the risk analysis. Thus the issues related to weight control, maintenance and Counterpart funding were realised. Within 10 years of the project being approved, WCP had not addressed the issue of weigh scales and legislation, GOGY had cash flow problems, evidenced by delays in payment to contractors and the Engineering Consultants, and in mobilising the resurfacing of DHB. As the PSRs do not include a section for risk monitoring, risk assessment is not systematised throughout project supervision.
- (d) **It is important to manage implementation with a focus on expected outcomes, maintaining sufficient flexibility to adjust outputs to respond to changing conditions.** CDB demonstrated flexibility with respect to the requested extension for the Lot 1 extension. This proved to be beneficial to Guyana. However, there seemed to be less flexibility when dealing with DHB. Correspondence in the Registry files indicates that CDB was made aware early 2006 that the operators of DBH recommended against resurfacing, as the replacement of steel deck plates was a greater priority. CDB did not respond to this information and continued to press for GOGY to undertake the resurfacing as planned. It was clear that GOGY was reluctant to go ahead with this, because of the need to replace the steel plates; however, CDB continued to press for the resurfacing to be done. Although it was eventually completed, the problem persisted and the quality was poor.

6. RATINGS

Criteria	PCR ¹⁰	OIE Review	Reason, if any, for Disagreement/Comments
<i>Relevance</i>	Highly Satisfactory (4)	Highly Satisfactory (4)	
<i>Effectiveness</i>	Satisfactory (3)	Satisfactory (3)	The Evaluator concurs that project effectiveness was satisfactory, however this is a qualified judgement due to lack of baseline and end of project assessment of travel time and road safety indicators. Weaknesses in the LFM made a robust assessment of effectiveness challenging.
<i>Efficiency</i>	Satisfactory (3)	Satisfactory (3)	While delays and extensions hampered efficiency from a timeframe perspective, the calculated ERR of 38% justifies a satisfactory rating under the PAS criteria.
<i>Sustainability</i>	Satisfactory (3)	Marginally Unsatisfactory (2)	The AR identified a number of risks and mitigation strategies pertinent to the sustainability of the project. These should have been addressed by GOGY but were not; as a result the risks to sustainability such as lack of a maintenance plan and budget, and changes to enforcement of weight limits were not mitigated.
Composite (Aggregate) Performance Rating	Satisfactory 3.25	Satisfactory 3.00	The project overall had mixed performance. The project was highly relevant and due to a high economic rate of return, and exceeding of VOC targets, met effectiveness criteria. However weaknesses in M&E made ex-ante and ex-post measurement of other indicators challenging. There were deficiencies in efficiency and sustainability as well as Borrower performance. Implementation delay was significant, and the Borrower had to provide additional funding for supervision costs and project management costs.
<i>Borrower & EA Performance</i>	Satisfactory	Marginally Unsatisfactory	GOGY demonstrated satisfactory performance at the design and mobilisation stages of the project; and had efficient procurement processes. This was undermined by performance during execution and a reluctance to enforce the contracts. The PCR does not sufficiently reflect the documented evidence of weak performance by the Borrower. This includes weak contract management and delayed enforcement of contractual breaches, breaches of the payment terms of the contract, non-compliance of reporting obligations to CDB, non-functioning of the PSC and reluctance to share pertinent information about investment costs, contractor relationships and information specifically requested by CDB.
<i>CDB Performance</i>	Satisfactory	Satisfactory	
<i>Quality of PCR</i>		Satisfactory	

¹⁰ PPES scores and ratings used in PCR and PSRs to be converted to PAS 2013 scores and ratings, using the equivalence matrix in the relevant PAS 2013 Manual (Public Sector Investment Lending and TA; PBL; CSP).

7. COMMENTS ON PCR QUALITY

7.01 The Evaluator rates the PCR quality as Satisfactory. The PCR recognised the limited data available to assess the outcome indicators and made attempts to identify and quantify proxy indicators. Data sources were identified in the PCR and additional research was undertaken to assess the appropriateness of the indicators and targets. Exogenous factors affecting project implementation were identified and the data to support the conclusions were included.

7.02 There were opportunities for improvement however. The PCR was weak in noting the documented shortcomings of the contractors and the Borrower which were pertinent to an understanding of the reason the project lasted for 10 years instead of 3, and required 7 extensions of the TDD. In reading the PCR it appears that the poor contract management by the Borrower and poor performance of the contractors to satisfy contractual conditions in a timely manner was acceptable and reasonable, which to the Evaluator, was not.

8. DATA SOURCES FOR VALIDATION

- CDB Appraisal Document Paper BD 31/03
- Undated PCR (PCR contracted December 2014)
- Registry Files Volumes 1-5
- Loan Agreement
- PSRs (2006-2013)
- Communication material from CDB Staff
- Documents provided by CDB Staff: Post Construction Report, January 2008, Monthly Reports (April –December 2012), Dipcon Contract
- European Union Safety Net (2009) Quantitative road safety targets, retrieved October 16, 2017

9. RECOMMENDATIONS FOR OIE FOLLOW-UP

9.01 There are no recommendations for OIE follow-up.

LOGICAL FRAMEWORK MATRIX (Appraisal Document Page)

Narrative Summary	Objectively Verifiable Indicators				Means of Verification	Assumptions
Goal: To contribute to the social and economic development of Guyana through improved road transport infrastructure	An average annual economic growth of 3% is achieved				1. Central Statistical Office Records 2. Socio-Economic Surveys	1. Macro economic stability 2. Complementary projects 3. Supporting GOGY Policies
Purpose: (a) To reduce traffic congestion along EDBR (b) To contribute to improved safety for road users along EDBR and WBDR (c) To reduce VOC of vehicles using EDBR and WBDR	1. Reduction in peak hour travel time by 50%. 2. 50% reduction in accidents attributable to inadequacy of road infrastructure including lighting, pedestrian access and traffic control systems 3. Savings in VOC amounting to at least \$60 mn (NPV) over the life of the project.				1. MPWC Traffic Surveys 2. Police Statistics 3. MPWC Road condition surveys 4. PCRs	1. Construction in accordance to contract 2. No abnormal weather conditions
Outputs: (a) EDBR between DHB and Ruimveldt upgraded to 2 way to 4-lane highway (b) WBDR rehabilitated from DHB to West Demerara Hospital access road	Operating: 1. Approximately 6km of EDBR upgraded to 2-way 4-lane highway by December 2005 2. Approximately 5.5 km of WDFR rehabilitated with 3.6m wide lanes and 3 wooden bridges replaced by December 2005				1. Site inspections 2. Consultants reports 3. Project Coordinator's reports 4. PCRs	Affecting Inputs to Outputs Link: 1. Construction in accordance with contract 2. No abnormal weather conditions
Inputs: 1. Road works 2. Engineering Services 3. Project Management 5. Base Costs 6. Physical Contingencies 7. Price Contingencies 8. IDC and Commitment Fee 9. Total Project Cost	Year (\$000)				1. Monthly progress reports 2. CDB Supervision site visits 3. CDB Disbursement records 4. Quarterly reports on Investment Costs of the project	Affecting Inputs: 1. GOGY funds are available as required 2. Inflation does not exceed 4% 3. Competent Project Management is engaged.
	2003	2004	2005	Total		
	2,655	8,030	4,760	15,445		
	1,166	618	257	2,041		
	154	264	110	528		
	3,975	8,912	5,127	4,113		
	450	1,292	750	2,493		
	30	308	330	638		
	30	320	809	1,159		
4,455	10,832	7,016	22,304			

PCR and PSR: PROJECT PERFORMANCE EVALUATION

Criteria	PSR			PCR		Justification	PAS Equivalence	
	Expected Score	Current Score ¹¹	Rating	Score	Rating		Score	Rating
Strategic Relevance/ <i>Relevance</i>	7.5	7.5	Highly Satisfactory	7.5	Highly Satisfactory	The project overall was accorded a high priority by GOGY and was identified in the CDB lending strategy as articulated in the Country Strategy Paper (CSP) for Guyana.	4	Highly Satisfactory
Poverty Relevance/ <i>Relevance</i>	6.5	6.0	Highly Satisfactory	6.0	Satisfactory	The project generated employment for unskilled workers and facilitated skills development during the construction period. The project has also significantly enhanced access to the administrative and commercial activities in Georgetown and access to places of employment, schools, markets and social services. Inadequate focus was placed on implementing activities relating to the safety of road users.		
Efficacy/ <i>Effectiveness</i>	7.5	5.5	Satisfactory	5.0	Satisfactory	The Project as designed and constructed is expected to meet most of its stated social, physical and economic goals and objectives.		
Cost Efficiency/ <i>Efficiency</i>	7.5	7.0	Highly Satisfactory	7.0	Satisfactory	The volume of traffic using the roadway indicates that the intended economic benefits have been realised. Given the ERR of 38% and the likelihood of increased traffic the project's benefits far outweigh the costs.	3	Satisfactory
ID Impact/ <i>Thematic Areas and ID Assessments</i>	N/A	N/A	N/A	N/A	Not Applicable			
Sustainability	6.0	4.5	Satisfactory	4.5	Satisfactory	To address the outdated weight limits that were set in 1972, the inadequate penalties (GYD200:\$1) set in 1977 and the inadequate arrangements for enforcement, recommendations for the revision of Cap 51:02 were submitted to GOGY by a consultant funded by IDB in November 2010, and have since been under review by the Attorney General's Office. Through Loan Agreement 7/SFR-OR-GUY, GOGY has undertaken to improve regulation of vehicular weight control. WSG's capacity to manage road maintenance requires improvement.	3	Satisfactory
Composite (Aggregate) Performance Score and Rating	7.2	7.5		5.9	Satisfactory		3.75	Satisfactory

¹¹ Based on PSR 2013

Reference	Critical Conditions	Compliance	Comments
Section 6.02	Establishment of PSC “The PSC shall meet at least 3 times per annum during project implementation”	Not met	The PSC was established but not operational.
Section 6.05	Appointment of Civil Engineer	Partially met	The Civil Engineer was not in place for the entire duration of the project.
Section 6.07 (ii), (iii)	Maintenance (ii) commencing in the financial year after practical implementation of the Project, submit an annual report to the Bank by June 30 of each year on the condition of main roads and bridges, the nature and cost of maintenance works performed in the preceding year in the current year and those proposed for the ensuring year to facilitate discussion between the Bank and the Borrower on the adequacy of the allocation for road maintenance prior to finalisation of the Borrower’s annual budget. (iii) prior to March 31, 2004, submit to the Bank a completed condition survey of the main roads and bridges in the country and a three year routine maintenance plan The Borrower shall thereafter update the plan on an annual basis and make same available to the Bank on request.	Not met	
Section 6.10	Reports and Information “... the Borrower shall furnish the reports listed in Schedule 4 in the form specified therein..... not later than the times specified therein	Partially Met	