

# **MAIN ROAD REHABILITATION PROGRAM**

## **PHASE II - BRIDGE REHABILITATION**

**(GY-0026)**

### **EXECUTIVE SUMMARY**

**BORROWER AND  
GUARANTOR:** The Government of the Cooperative Republic of Guyana  
(GOG)

**EXECUTING AGENCY:** Ministry of Public Works and Communications (MPW&C)

**AMOUNT AND SOURCE:** IDB (SF in forex): US\$41.0 million  
Local counterpart funding: US\$ 4.6 million  
Total: US\$45.6 million

**FINANCIAL  
TERMS AND  
CONDITIONS:** Amortization period: 40 years  
Grace period: 10 years  
Disbursement period: 5 years  
Interest rate: 1% during grace period,  
2% thereafter  
Inspection and Supervision: 1%  
Credit fee: 0.5%

**OBJECTIVES:** The principal objective of the Project is to continue the Main Road Rehabilitation Program by replacing, rebuilding or rehabilitating existing bridges along the Main Road system. Additionally, the Project includes associated activities such as increasing road safety, improving the Berbice River crossing, and assistance for upgrading national road planning and maintenance. This approach will not only integrate the highway rolling surfaces and bridges, but also provide a secure and integrated institutional framework for the sector.

**DESCRIPTION:** This is a multiple works Project that consists of the following components:

**Civil works** (US\$18.6 million): rehabilitation or reconstruction of bridges on main roads including the rehabilitation or construction of approaches and related drainage facilities and sluices.

**Road safety** (US\$2.2 million): infrastructure improvements and institutional planning to develop a comprehensive road safety program.

**Berbice River crossing** (US\$11.6 million): funding of a feasibility study of the proposed Berbice River cross-

sing, improvement of the existing ferry service, and partial funding of the construction of a new bridge if found feasible.

**Technical cooperation** (US\$4.9 million) to strengthen the Ministry of Public Works and Communications in three aspects: (a) institutional organization; (b) capacity to operate and maintain the main roads and bridges network; and (c) development of a transport sector policy.

Over a period of five years the Project will ensure that all 284 bridges and culverts along the main road from Timehri through Georgetown to Rosignol are raised to the standard of the improved highway.

**ENVIRONMENTAL  
CLASSIFICATION:**

The Environmental Management Committee, at its meeting of September 10, 1996, classified this as a Category III operation. The EIA was made available to the public on October 14, 1997. CESI reviewed the operation on October 10, 1997 and its recommendations are reflected in ¶¶3.10, 5.2 and 5.5 of this document.

**BENEFITS:**

The Project is designed to improve driving conditions and road safety along the major artery serving over 70% of Guyana's population. Together with the road improvements partially financed with resources of loan 890/SF-GY, the Project will provide a rapid link between the capital city, the international airport, and the agricultural center in the east.

**RISKS:**

The principal risk lies in the institutional capacity of the executing agency. To address this risk, the Project includes assistance for a program to restructure the MPW&C. In the interim, Project execution will entail substantial delegation of responsibility to a supervisory firm that will be closely monitored by the executing agency and the Bank. The bidding documents include partnering procedures among the contractor, supervisory firm, Executing Agency and the Bank that provide for a system of bonuses and penalties for timely and proper project execution. To further encourage proper execution, the bidding procedures are designed to attract international contractors from a list of pre-qualified firms.

A secondary risk is that the works, once completed, are not adequately maintained. To the fullest extent possible, this risk has been reduced by the simplicity and durability of the designs used for the structures. As modular elements built locally from long-lasting materials, these structures can withstand long periods with

minimum maintenance. The Project also includes the design and implementation of a simple road and bridge maintenance system.

**THE BANK'S  
COUNTRY AND  
SECTOR STRATEGY:**

The Bank's country strategy supports the GOG's key development challenges for maintaining a sound macro-economic environment:

- a. the external debt burden must be reduced and the public sector made more efficient;
- b. the quality of both health and education needs to be improved; and
- c. given the important implications for the country's productive capacity and efficiency and integrity of its natural resource endowment, Guyana must restore the infrastructure that has eroded following years of economic decline.

The Project has been formulated to respond to this last factor.

**SPECIAL  
CONTRACTUAL  
CONDITIONS:**

To ensure proper Project execution, the Borrower through the Executing Agency, must fulfill the following special conditions:

1. Prior to first disbursement:
  - a. for the civil works component:
    - i. hire an environmental specialist (§5.5);
    - ii. submit a plan for developing and implementing a road maintenance management system (§3.11); and
    - iii. submit a plan for implementing the road safety program (§2.19);
  - b. for the Berbice ferry, stelling / bridge component, complete the feasibility study and reach an agreement with the Bank on the option to be adopted (§2.24).
2. Other special conditions:
  - a. Prior to prequalification of the civil works contractor:
    - i. hire a qualified person within the PEU to be responsible for Bank-financed road projects (§3.5);
    - ii. hire the supervisory firm (§3.3); and
    - iii. include in the bidding documents environ-

mental guidelines and mitigation measures (¶5.2).

- b. Prior to the hiring of the civil works contractor the Environmental Management Plan must be adopted (¶5.5).
- c. Prior to the mobilization of the civil works contractor:
  - i. hold a "partnering conference" with representatives of the civil works contractor, the supervisory firm and the Bank (¶3.6); and
  - ii. take measures to assure that the supervisory firm and the civil works contractor consult with the local authorities regarding the disposition of construction materials and wastes (¶5.5).
- d. Hire a consultant to assist in formulating a reorganization plan of the MPW&C within six months of signature of the eventual loan, and submit this plan to the Bank (¶4.7).
- e. Whenever Project works require involuntary resettlement submit specific resettlement plans in accordance with agreed guidelines, including community consultations and a study of alternatives designed to minimize negative social impacts (¶3.10).

**ACQUISITION OF  
GOODS AND  
SERVICES:**

The threshold above which procurement will be subject to international competitive bidding is US\$350,000 for goods and services and US\$1,000,000 for civil works. All Bank-financed civil works will be let in packages to pre-qualified firms (¶3.12).

## I. FRAME OF REFERENCE

### A. Macroeconomic context

#### 1. Recent economic trends

- 1.1 Following nearly two decades of economic decline, Guyana embarked in 1988 on an Economic Recovery Program that was supported with World Bank Structural Adjustment programs and the IMF's Enhanced Structural Adjustment facilities. Guyana has since met most of the macroeconomic performance targets and managed to regularize its relations with most external creditors. The Guyanese economy achieved a remarkable compound growth rate slightly in excess of 7% between 1990 and 1995, with gold, sugar, rice, and forestry as the fastest growing subsectors.
- 1.2 In 1996, the economy completed its sixth consecutive year of positive growth at a rate of 7.9%. Real value added increased at faster rates than in the previous year for all sectors except forestry, fishing and manufacturing.
- 1.3 The mining sector staged the strongest recovery, with output increasing by 15.2% in 1996, following a sharp contraction of 11.4% in the previous year. The main factor contributing to this recovery was the reopening of the OMAI gold mine in February.
- 1.4 Despite heavy rainfall and flooding in several areas of the country, overall agricultural production increased by 6.6%. Rice output grew by 6.2% and exports by 21%. As the European Union (EU) imposed new restrictions on rice entering through the Overseas Countries and Territories (OCT) route in January 1997, Guyanese rice exporters are seeking to diversify shipments to new markets in Africa, the U.S., the Caribbean and Latin America.
- 1.5 Despite some setbacks related to labor strikes, sugar output increased 10.3% and farm yields recorded a 14-year high. Guyanese shipments exceeded quotas in the U.S. and special preferential markets, with the surplus going to the Caribbean and EU markets. Finally, the livestock sector was the most dynamic, growing 25%, with the gains attributed to poultry and egg output.
- 1.6 The construction sector grew by 14%, and future expansion is expected based on the strong demand for housing and new tax breaks on mortgage loans and inputs used by the industry. The service sector grew 6.1%.

#### 2. External debt relief

- 1.7 The unfolding of Guyana's external debt strategy was without doubt the major economic achievement of 1996. In May the Paris Club, joined by Trinidad and Tobago on an exceptional basis, granted

Guyana "Naples Terms" which resulted in total debt relief estimated at US\$531 million, an amount greater than the combined value of all foreign aid received to date. The debt agreement wiped the slate clean of past arrears, brought scheduled debt service in line with actual payments, and helped to re-establish Guyana's creditworthiness in the international financial community.

- 1.8 Guyana did not achieve debt sustainability solely on the basis of the Paris Club Agreement. For this the IMF/WB designed the Highly Indebted Poor Countries (HIPC) Initiative, a bilateral and multi-lateral donor mechanism to address the debt relief needs of poor countries that have established an extended record of good economic management, but which retain an unsustainably high level of debt. The HIPC Initiative recognizes that debt relief would free up budgetary resources that can be reallocated for priority spending in social sectors. Guyana is expected to qualify for the HIPC Initiative in late 1997 and to benefit from substantive debt relief starting in late 1998. This relief is sufficient for Guyana to achieve debt sustainability, defined as an external debt to (central government) revenue ratio of under 280%. The Bank is the major donor in this Initiative.
- 1.9 Because HIPC resources are expected to release resources and provide for increasing flexibility within the budget, the Government has expressed its desire for the Bank to redirect its concessionary resources toward large-scale infrastructure projects, both in the social and productive sectors.

### 3. Progress in privatization

- 1.10 The year 1996 was also marked by progress on privatization. Having overcome a series of legal and financial tangles, the Government's Privatization Unit brought six public companies with a combined asset value of US\$84 million to the point of privatization in 1996. Five additional firms, including the Guyana Electricity Corporation are scheduled to be privatized in 1997.
- 1.11 Foreign investment is restricted by Government's attempt to enforce a "fair" rate of return on capital. Many foreign investors are not interested in an uncertain 15% to 20% return when more profitable enterprises are beckoning in other developing countries. This may explain Guyana's failure to attract significant foreign investment except in extractive industries.

### 4. Outlook

- 1.12 Guyana had many policy successes in 1996; 1997 is likely to bring about further expansion of the economy. Even so, the sustainability of Guyana's recent high rates of economic growth has been questioned, mainly because exports rely to a large extent on preferential access to export markets for agricultural products such as sugar and rice, or on exhaustible resources with unknown national reserves such as gold. To sustain growth, the Government will need

to implement second generation reforms designed to encourage private sector activities and to diversify the economic base.

- 1.13 **Elections.** The general elections are scheduled to take place between October 1997 and the first quarter of 1998. The uncertainty that entered the political arena with the death of President Cheddi Jagan has since been dispelled.
- 1.14 **National Development Strategy.** After some delays, the Government of Guyana released the first draft of the National Development Strategy (NDS) on January 7, 1997. Consultative work on the NDS began nearly two years ago coordinated by the Carter Center. The resulting study addresses Guyana's principal social and economic problems, including education, health, housing, poverty reduction, the role of women and Amerindians, and means to raise productivity and production. Following a period of consultation, the NDS will serve as a platform for further dialogue and potential programs.

**B. Transport sector context**

- 1.15 Guyana has 4,000 km of roads and tracks of which the main road network accounts for about one quarter. It also has 98 km of railroads entirely dedicated to ore transport. There is only one international airport, at Timehri, and an additional 46 airstrips with runways generally shorter than 1,500 meters. Guyana has a single general cargo seaport in Georgetown, and specialized bulk loading facilities in Bartica, Linden, New Amsterdam and Parika. The country depends upon its 6,000 km of navigable waterways. The lower Berbice, Demerara and Essequibo Rivers are navigable by oceangoing vessels for up to 150 km. The vast majority of waterways are used for lighters carrying bauxite, sugarcane or other bulk commodities in addition to small vessels for transporting people. Ferries are used to cross the three larger rivers and river taxis ply the lower reaches of the Essequibo.

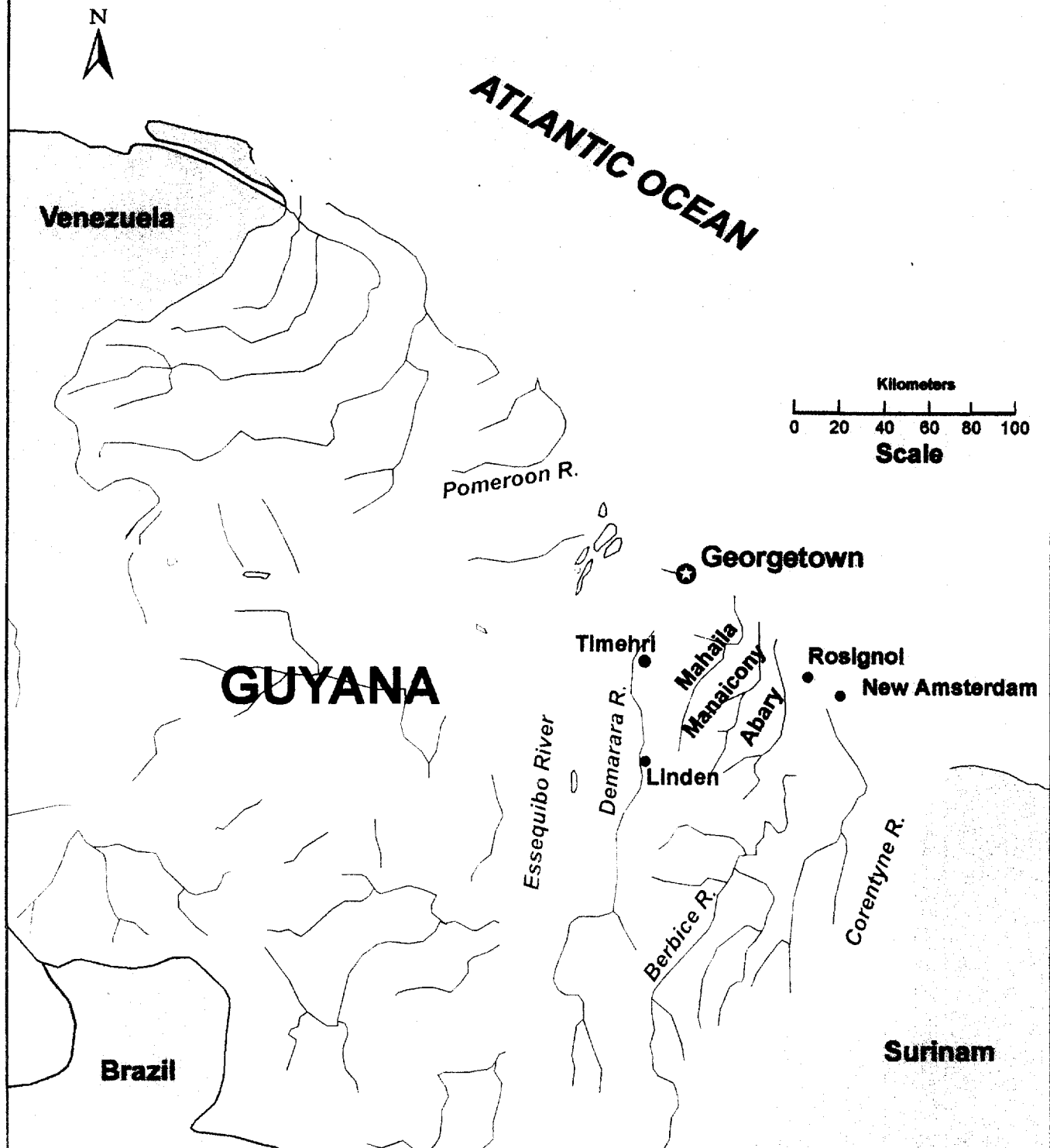
- 1.16 The Guyanese road network is skeletal. Paved roads center around the capital, extending southeast to the cities of Rosignol and New Amsterdam on the Berbice River and continuing to Springland on the Correntyne River; westward from Vreed en Hoop on the Demerara River, to Parika on the Essequibo; and south beyond the airport at Timehri into

the interior at Linden and Wismar (see map, following page). The remainder are fairly evenly divided between gravel all-weather

ROAD NETWORK OF GUYANA		
TYPE OF ROAD	LENGTH (MILES)	%
Main roads	585	23.5
Coastal feeder roads	510	20.5
All-weather trails and local roads	700	28.2
Earthen dry-weather roads	690	27.8
Total	2,845	100.0

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roads or earthen trails negotiable only during the dry season. Although the road network is one of the sparsest in Latin America, more than 90% of the population has direct access to paved roads.

- 1.17 Guyana's road network is not only sparse; it also relies heavily upon its bridges and culverts. Much of the Atlantic coastal plain and the littoral areas of the country are below mean sea level making necessary a dense system of drains, canals and sluices to permit habitation and agriculture. Most of these works run perpendicular to the shoreline and consequently must be crossed by the main roads, substantially increasing construction and maintenance costs of the network.
- 1.18 For nearly two decades Guyana's expenditures on routine road and bridge maintenance was limited by budgetary pressures, leading to accelerated road degradation. In the early 1990s the Government, aware that most main roads needed at least periodic maintenance or rehabilitation, negotiated loans with the IDB, the CDB and the World Bank to begin a major rehabilitation program.

C. The main roads rehabilitation program

- 1.19 On September 16, 1992 the Bank approved Loan 890/SF-GY for US\$23.4 million to repave and construct shoulders along three main road segments: Georgetown-Timehri, Georgetown-Mahaica, and Mahai-ca-Rosignol. The project included improvements only for the Friendship Bridge on the first road stretch. Attention to the remaining bridges was postponed as much for reasons related to the executive capability of the Ministry as for the lack of available funds.
- 1.20 This project to date has required corrective measures and will continue to need close supervision. The slowness in executing the first phase is due in part to technical reasons (relative unavailability of construction materials in the coastal area), but more importantly to institutional ones such as the policy of the Government of Guyana actively to promote contracts for local firms despite the perverse results and the inability of local and regional contractors fully to meet bidding requirements. Bank advice to the contrary, the Government bid the three road stretches individually and the most qualified contractors abstained 1/. The loan was 67.1% disbursed as of September 26, 1997 2/.
- 1.21 Since its approval the project has been modified substantially. Most funds set aside for contingencies and project administration

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1/ When queried by the Bank as to why they did not participate in the tenders issued under loan 890-SF/GY, several international contractors responded that they were unwilling to submit offers when experience had demonstrated that tenders in which winning bids were offered by international firms were routinely canceled.

2/ Excluding advances this ratio falls to 57%.

have been redirected into construction and these in turn have been directed to improvements to the two road segments closest to Georgetown. The Georgetown-Timehri road segment is now about 75% complete, but funds originally assigned to Segment 3 were re-designated to improving Georgetown streets connecting the main roads and to Segment 2. This latter will permit the paving of an old railway embankment to serve initially as a by-pass during construction, and eventually as a parallel road. Works in Segment 3 cannot be completed as planned for lack of funds.

- 1.22 Although not a roads project, the Sea Defence Rehabilitation Program (877/SF-GY) is another civil works operation being executed by the MPW&C. This Program, approved in December 1991, has also been very slow. The Ministry of Agriculture was initially responsible for the Program and carried out two unsuccessful bids during four years. In January 1996, responsibility was transferred to the MPW&C and more progress has been made. A successful bidder was designated in February 1997 and negotiations are proceeding although the problem of insufficient funding by the three agencies involved (IDB, IDA and CDB) may affect the scope of the combined program. An agreement with the low bidder is expected by year-end with construction starting in early 1998.

D. Other donor experience in the sector

- 1.23 The World Bank has lent the Government US\$16 million of IDA funds towards the costs of an Infrastructure Rehabilitation Project. This operation focuses mainly on the rehabilitation of the Essequibo Coast Road north and west of Georgetown, as well as periodic maintenance of 4 km of sea defenses. A technical cooperation program of US\$3 million was included for the creation of a Port Authority, the establishment of an Axle Weight Control Program and the institution of a Roads Maintenance Fund.
- 1.24 The IDA project has faced difficulties similar to those affecting the Bank's. The original contractor failed and a second tendering attracted only three bidders, one in financial difficulties and the other two showing poor performance with other projects. A third tendering exercise was done and a contractor finally selected.
- 1.25 The European Community (EC), through the National Indicative Program (Lomé Convention) is financing an Economic Infrastructure Rehabilitation Project in the amount of US\$25.9 million. The program includes rehabilitation of the 1.8-km floating bridge over the Demerara River at a cost of US\$9 million.
- 1.26 The EC has also financed the establishment of a ferry service between Suriname and Guyana. For the first time significant numbers of vehicles (50 per day) will be able to cross the border in early 1998 and will impact the volume of traffic in the eastern Berbice region and over the Berbice River.

- 1.27 Finally, in 1996 the CDB approved a loan of US\$11 million to rehabilitate the main road between Soesdyke and Linden along the east bank of the Demerara River. The 71-km road will be resurfaced and eight of the nine major bridges along the route will be rebuilt with timber decking and superstructures (the ninth is concrete).

E. Lessons Learned

- 1.28 Three principal lessons can be learned from the experience of international lending agencies in transport sector projects:
1. *Projects must be fully prepared before financing.* The first stage of the main roads program would have benefitted from greater attention to the eventual requirements in execution. The need to divert traffic on the Georgetown-Mahaica segment was unforeseen and in the event caused the large-scale redirection of funds leaving insufficient monies available to complete the third segment. Furthermore, the exclusion of major bridges means that, with this Project, contractors will have to remove recently-laid pavement to rebuild the bridges beneath.
  2. *The institutional capability of the MPW&C is limited.* At present, the PEU is responsible not only for overseeing all new investment projects and programs in the transportation sector, but also those dealing with sea defenses. Given the relatively small size of the Unit and its status as a contracted-out service, the pressures of on-going programs is overwhelming. Either the number of projects in the sector will have to be reduced or the Ministry itself will have to be re-designed to carry the load more evenly.
  3. *Government desire to use local contractors is counterproductive.* By breaking up contracts into small pieces, international competitive bidding is discouraged and local and regional contractors have a major advantage in getting awards. The capability of these firms to carry out the works on time and within budget is uneven at best, with the result that some works are seriously delayed, construction is often chaotic or bidding procedures have to be repeated before work can begin.

F. Project linkages with bank strategy

- 1.29 The Bank's country strategy supports the GOG's key development challenges for maintaining a sound macroeconomic environment:
- a. the external debt burden must be reduced and the public sector made more efficient;
  - b. the quality of health and education needs to be improved; and
  - c. given the important implications for the country's productive capacity and efficiency and integrity of its natural resource endowment, Guyana must restore the infrastructure that has out-

lived its useful lifetime following years of national economic decline.

- 1.30 The Bank lending program places increased emphasis on supporting GOG's policy in the social sectors, infrastructure, agriculture and finance. The main objectives in these areas include human resource development, infrastructure enhancement, and improvement of natural resource management. In all these sectors, the weakness of the public sector is the primary cause of poor project execution and needs to be addressed. The Bank also supports a reduction of poverty through further support for a community driven social investment fund (SIMAP) and indirectly through its social sector lending.
- 1.31 The proposed Project is directed towards the infrastructure sector, where improvements will unleash the potential for economic growth and promote a more active participation of the regions in the use of the vast natural resources of the country. Institutional measures related to the program will be directed towards strengthening the capacity of the MPW&C to administer and maintain the road network. In addition, infrastructure improvements to be implemented with resources from the proposed program will be supported by increased user charges. This will be designed in such a way that the people and industries that the system is to serve, will not be adversely penalized.

G. Rationale for bank financing

- 1.32 This Project is the logical continuation of loan 890/SF-GY. It is designed to attend the bridges, culverts, safety, and drainage elements that were not included in the earlier operation due to financial constraints and executive capability of the MPW&C. The Project Team expects one of the bridges to become a toll facility. By itself this is an unlikely target for private-sector participation. The Berbice River crossing is very different. The amount of the investment -- US\$11 million for ferries or upwards of US\$30 million for a bridge -- would argue for seeking funds to supplement those of the international lending community and the Guyanese treasury. The ferry service operates with a small current profit, and projections of a modernized service are for increased net returns. Similarly, a toll bridge could be designed so as to provide financial incentives to a private-sector operator or manager.
- 1.33 Once the feasibility study of the crossing alternatives is complete, the nature of private-sector participation will be discussed on the basis of more definitive cost data and revenue projections.

## II. THE PROJECT

### A. Objectives

- 2.1 The principal objective of the Project is to continue the Main Road Rehabilitation Program by replacing, rebuilding or rehabilitating existing bridges along the Main Road system. Additionally, the Project includes associated activities such as increasing road safety, improving the Berbice River crossing, and assistance for upgrading national road planning and maintenance. This approach will not only integrate the highway rolling surfaces and bridges, but also provide a secure and integrated institutional framework for the sector.
- 2.2 The Project would reduce overall road transportation costs along the main road network, improve vehicular and pedestrian safety, and alleviate congestion around bridges, particularly in urban areas. By doing so, the Project would contribute towards attaining one of the country's primary objectives of improving infrastructure required to stimulate greater production. The Project will have minimal long-term impacts upon the local socio-economic and ecological balance.
- 2.3 The logical framework of the Project is presented in Annex 1.

### B. Regional context

- 2.4 The Project will benefit principally the area along the Atlantic Coast between the Demerara and Correntyne Rivers (see map, page 4). The coastal plain comprises only 5% of the land area of Guyana but is home to 90% of the population of Guyana and the vast majority of its productive capacity. It also holds nearly the entire all-weather transportation network and the bulk of all communications facilities.
- 2.5 Most rice and sugar are grown and processed here. The Mahaica-Mahaicony-Abary region (MMA) has benefitted from major drainage and irrigation programs undertaken since colonial days. Efforts to expand production in the region intensified in the late 1970s and again ten years later. <sup>3/</sup> Thousands of acres were drained, leveled and sown to cash crops with the result that production rose dramatically. In the five years ending in 1996, rice and sugar production nearly doubled.

### C. Project description

- 2.6 This is a multiple works project with the following components:

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<sup>3/</sup> From the time it joined the Bank in 1977, Guyana has received four loans to improve agricultural conditions in the MMA area and a fifth specifically to finance the purchase of equipment for sugar and rice production (loans 536/SF, 559/SF, 465/OC, 807/SF, and 839/SF for a total of US\$131.1 million).

- a. **Civil works:** rehabilitation or reconstruction of bridges on main roads including the rehabilitation or construction of approaches and related drainage facilities and sluices.
- b. **Road safety:** infrastructure improvements and institutional planning to develop a comprehensive road safety program.
- c. **Berbice River crossing:** funding of a feasibility study of the proposed Berbice River crossing, improvement of the existing ferry service, and partial funding of the construction of a new bridge if found feasible.
- d. **Technical cooperation** to strengthen the Ministry of Public Works and Communications in three aspects: (i) institutional organization; (ii) capacity to operate and maintain the main roads and bridges network; and (iii) development of a transport sector policy.

2.7 A description of each of these components follows.

1. Civil works

2.8 There are 284 bridges and culverts along the main roads connecting Timahri with Georgetown and Rosignol. Most of these were designed and built more than 30 years ago and have exceeded their useful lifetimes. Increased traffic over the years has brought with it congestion particularly around structures crossing canals and rivers, where pedestrians and other non-motorized traffic share the roadway with motorized vehicles 4/. In addition, vehicles have gained in weight, placing more stress on bridge structures, many of which are partially made from greenheart wood from Guyanese forests 5/. Table II-1 shows a breakdown of these structures by length and type.

Table II-1 Number of Structures by Type		
	Total (1)	Initial (2)
<b>Bridges</b>	<b>72</b>	<b>48</b>
>60 m	3	2
60>30 m	2	2
15<30 m	13	7
6<15 m	19	16
<6 m	35	21
<b>Culverts</b>	<b>195</b>	<b>21</b>
4<6 m	6	1
2<4 m	57	12
<2 m	132	8
<b>Others</b>	<b>17</b>	<b>0</b>
<b>TOTAL</b>	<b>284</b>	<b>69</b>
Source: Figg Engineering, <i>Bridge Inspection and Replacement Prioritization</i> , 10 June 1997.		

4/ Average levels of motorized traffic ranges from 20,000 vpd near Georgetown, to 3,300 at Mahaica, 2,400 in Mahaicony, and 2,900 in Rosignol (1995).

5/ Of the total number of bridges, 17 are timber-based.

a. Engineering

- 2.9 The Project will raise the standards of all structures on the main road network to modern levels over a five-year period. The design studies propose modular structures that can be simply adapted to all bridges along the route 6/. The roadway width of each structure will conform to the road itself, including two 11-foot lanes and 6-foot shoulders on both sides. Where pedestrian and other non-motorized traffic warrants - principally near towns and villages - one or two 4½-foot pedestrian sidewalks will be added.
- 2.10 Civil works are divided between two major bridges and 270 smaller structures 7/. The larger structures cross the Mahaica and Mahai-cony Rivers - at 177' and 226', respectively. Designs for the Mahai-cony bridge are complete and ready for contracting. Two alternatives for crossing the Mahaica River are being analyzed and a decision is expected within a few months. The bridge will be designed as part of the continuing works.
- 2.11 Sixty-nine structures were selected for the initial construction package (see Table II-1, column 2). These represent about half the total length and repair cost of the Project bridges. They were selected according to eight primary categories of works:
- a. Replacement of the Mahaica and Mahai-cony bridges.
  - b. Replacement of structures with severe damage or deficiencies.
  - c. Replacement of structures with timber decks or beams.
  - d. Replacement of structures under 26' wide.
  - e. Replacement of structures between 26' and 36' wide.
  - f. Structures with pavement under 26' wide.
  - g. Structures with pavement between 26' and 36' wide.
  - h. Structures requiring enhancements only.
- 2.12 Final designs of these works will be complete and ready for immediate tendering upon loan approval. The bidding documentation has provisions for (a) partnering and quality assurance/quality control (QA/QC) procedures; (b) using designs and materials that require minimal maintenance; (c) structuring bonus and penalty clauses to encourage timely execution within budget; and (d) applying simple techniques to permit continuous use of the roadway during construction.
- 2.13 In all cases, the corresponding approach roads and drainage facilities are included in the designs and costs, as is the replacement or reconstruction of sluices when necessary.

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6/ Design studies, financed with a US\$750,000 grant from the Japanese Special Fund (ATN/JF-5323-GY), were done by Figg Engineering.

7/ Of the total of 284 structures along the highway, 11 are currently under construction or recently rebuilt and one needs only routine maintenance.

b. Environmental Management

- 2.14 The Project was classified by the CMA as Category III on 10th September 1996, and the Environmental Summary was approved by CESI on 10th October 1997. The works included in the operation will consist almost entirely of rehabilitation and replacement of existing bridges and approach roads. Temporary negative environmental impacts are expected during construction and longer-term impacts have been identified. Mitigating measures will become part of the terms of reference and specifications of both Supervisory firm and contractors.
- 2.15 There will be positive impacts of Project implementation, such as improvement of drainage of areas along the roads, and increased road safety and comfort of road users.

2. Road safety

- 2.16 There have been about 4,000 accidents annually in Guyana during the last four years, leaving 2,000 people injured and over 150 dead each year. Most fatal accidents occur between Timemehri and Georgetown, followed closely by the Georgetown-Rosignol road. Pedestrians suffer one in every three deaths.

Type of Accident	1992	1993	1994	1995
Fatal	128	157	121	137
Serious	559	520	517	566
Minor	1,097	1,056	1,014	1,105
Damage	2,151	2,315	2,348	2,175
Total	3,935	4,048	4,000	3,983
No. Persons Injured	1,565	1,576	1,752	1,824
No. Fatalities	155	196	135	166
% fatal accidents in: Georgetown-Timemehri	16.4	19.7	15.7	23.4
Georgetown-Rosignol	32.8	32.5	34.7	32.1

Source: Catherine Cameron, *Road Safety Study*, December 1996.

- 2.17 Two parallel approaches are proposed to improve road safety: civil works and technical cooperation 8/. Civil works include protected sidewalks around schools, signaled pedestrian crosswalks in urban areas, crash barriers on bridge approaches and guard rails on the outside edges of sharp curves, rumble strips and traffic chokers in sensitive areas, and retro-reflective signs. The purpose is generally to "calm" traffic and bring speeds and driver attention into harmony with the multiple uses that roads serve in Guyana.
- 2.18 The technical cooperation component is directed towards specific activities designed to organize traffic and educate the Guyanese

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8/ Two consultants were hired by the Bank to help formulate this proposal, and a third was brought to Guyana from Jamaica under the CT-Intra program (Catherine Cameron, Kwei Quaye, and Kevin Morgan). Their reports are cited in the Bibliography.



population on road safety-related matters. The components of the TC are:

- a. development of school safety patrols and hiring adult crossing guards;
- b. creation of a traffic safety unit within the MPW&C and development of a sign and road marking maintenance program;
- c. purchasing police vehicles and other hardware to be used within a well-developed program of traffic enforcement <sup>9/</sup>;
- d. national campaigns on minibus and pedestrian safety;
- e. improvement of the accident data management system; and
- f. training in traffic engineering and road safety.

- 2.19 For those areas in which funding is required, an estimate of the amounts required has been included within the Project budget. Organizational needs have been discussed with Government and local organizations. *The Project Team recommends that it be a condition prior to first disbursement for civil works that the Borrower present, to the Bank's satisfaction, a plan for implementing a road safety program.*

### 3. Berbice river crossing

- 2.20 The Berbice River flows roughly south to north, passing through rich alluvial soils planted to rice and sugarcane. The area on both sides of the river is highly productive and has accounted for a large part of the growth in agricultural production in recent years. Ferries now provide the only means of crossing the 1-½ miles between Rosignol on the west bank with New Amsterdam on the east. The Transport & Harbours Department (T&HD) of the MPW&C operates the ferry service on an irregular schedule day and night. The ferry generates a profit used to subsidize other operations of the T&HD, but conditions of both the ferryboats and stellings are unsafe and unreliable.
- 2.21 The T&HD reports that the existing ferries carried 2.1 million passengers and 226,000 vehicles over the river in 1996. This is expected to rise to over 3.3 million passengers and nearly 310,000 vehicles by the year 2000. At this point the service will be unable to handle expected traffic and will become a serious obstacle to continued economic growth in the region. Even today normal waiting times are reported at one hour for light vehicles and three hours for trucks and busses. The critical nature of the Berbice crossing led the Bank to commission a number of studies oriented towards finding the most practical and economically viable alternative to the existing service. Two basic options exist: an improved ferry service or a bridge.

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<sup>9/</sup> The Cameron study referred to above has an extensive description of the police force, its activities and suggestions for supportive assistance. See *Cameron*, Section 3.4, pp 15 ff.

- 2.22 The replacement of the existing ferryboats with simple modern vessels that load and discharge vehicles from the bow and stern would increase the carrying capacity from about under 1,000 vpd currently, to over 2,400 vpd, sufficient to meet expected demand until the year 2005. Such boats could be modified to nearly double their capacity if required. To accomodate these vessels the stellings would require improvements as well. The total cost of this alternative is estimated at US\$11 million, and designs are practically complete.
- 2.23 A new bridge over the Berbice would increase crossing capacity significantly, and hence generate more developmental benefits for the region. But this comes at a greater initial cost. A quick study of viable alternative contruction sites and bridge types led to a least-cost estimate of about US\$21 million exclusive of designs, engineering and overhead that could add as much as 40% to the total cost.
- 2.24 The studies undertaken to date give only a first impression of costs and none of potential benefits. To gain the level of precision required to take a rational decision between improved ferries or a new bridge, and on a final design and site for the latter, a full feasibility study is required. The study (terms of reference on file) will consider the most likely alternatives, providing sufficient detail to estimate costs within 25%. Expected to take about one year to complete, the study will cover engineering and economic feasibility, environmental impacts, and the socioeconomic effects of viable alternative means of crossing the Berbice. *The results of this analysis must be reviewed by the Bank and the Government authorities before any investment with Project resources is made for the Berbice crossing.*
- 2.25 Although final information must await the completion of the feasibility study, there are a number of factors that militate for an interim decision on the scope of the Project. In preparing a budget the Project Team considered the following factors:
- a. the existing ferryboats are unsafe and need urgent improvement;
  - b. the existing ferry service cannot meet demand beyond the year 2000 and will become a developmental bottleneck in a rapidly-growing region;
  - c. the improved ferry system would cost about one-third of the lowest-cost bridge option, even without considering that the existing ferryboats could be re-deployed on the Essequibo River;
  - d. improved ferryboats can be built and stellings improved within two years of a decision - a new bridge will take at least four years to design and build;
  - e. if funding is not included in this Project, long delays can be expected between the time a decision is taken and new funding is approved, with the consequent impact on regional development.
- 2.26 The Project therefore includes funding of final designs and construction of replacement ferryboats and stellings pending the outcome of the feasibility study. Should the outcome favor the ferry

system, construction could begin almost immediately following the decision; should it favor the bridge option, resources of the Project would have to be reallocated to such items as final designs, access roads and/or temporary repairs to the existing ferryboats and stellings. The inclusion of funds for the ferry as well as for the feasibility study reflects some remaining uncertainty and the need to refine the cost and benefit estimates of the bridge alternative. Nevertheless, designs for the ferry are practically complete. Even if the bridge were found to be the most viable alternative, some investment in the ferry would be warranted as an immediate and interim measure. The adoption of this procedure, particularly within a multiple-works project, does not preclude the likelihood that, if funds are not used for the ferry, they can be reassigned to other road and bridge works without compromising the purpose and intent of the operation.

#### 4. Technical cooperation

- 2.27 The Bank, in conjunction with the Guyanese authorities, has detected three areas in which technical cooperation might assist the Ministry to improve its planning, construction and maintenance of the transportation system: (a) development of a transport sector policy; (b) institutional organization; and (c) capacity to operate and maintain the main roads and bridges network.

##### a. Development of a transport sector policy

- 2.28 The policy and institutional setting of the transport sector is unclear. In May 1997 the Government released the draft National Development Strategy (NDS), prepared in cooperation with the Carter Center 10/. Chapter 38 of the NDS, which deals with Transport Development, outlines six areas for priority attention:

- (i) **Cost recovery.** The NDS advocates a system of tolls, taxes and fees oriented towards a self-sustaining road maintenance fund.
- (ii) **Expansion of infrastructure.** The Strategy places highest priority on improved crossings of the Berbice and Demerara Rivers and extension of the road network south to Lethem. It recommends that all projects be subject to environmental impact assessments.
- (iii) **Human resources development.** The NDS points up the "critical shortage of skilled staff" which it attributes to low salaries and benefits in the public sector.

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10/ Ministry of Finance, *A National Development Strategy for Guyana, Shared Development through a Participatory Economy*, 1996.

- (iv) **Regulatory framework.** The Ministry is unable to discharge its responsibilities for maintaining and controlling the nation's roadways.
- (v) **Public transport.** The setting and review of fares is not properly attended, and safety and licensing regulations are not enforced.
- (vi) **Investment strategies.** Public sector funding is insufficient to meet the needs of the sector. The NDS advises that strategies be devised for attracting private funds for investment and even operation of roads, bridges and ferries.

2.29 The NDS prescribes a policy framework for the sector but does not provide an operating mechanism to implement this policy. Nor is it clear that Government will adopt all the elements of the policy set forth. Therefore, the Project includes funds to hire specialized consultants to help the authorities through the decision-making process and into policy implementation (draft terms of reference on file).

b. Institutional organization

2.30 From the NDS it is clear that one of the major limitations to improving land transportation is the inadequacy of the MPW&C. The Bank therefore provided consultant services to review the institutional framework of the sector and advise the Ministry on proposed reforms. Their recommendations are discussed in paragraphs 4.7 *et seq.* below. In addition, the Project includes funding of a consultant in traffic management who would assist the MPW&C over a three-year period in developing the road safety program and a plan for creating and implementing a road maintenance management system (RMMS), as well as advising the Ministry on other matters.

c. Operation and maintenance of main roads and bridges

2.31 Maintenance activities are now decentralized to the ten regional offices of the MLG&RD that usually contract out works. Neither that Ministry nor the MPW&C has adequate planning, programming reporting and monitoring tools to administer routine maintenance systematically. The result has been an excessive reliance upon road rehabilitation and reconstruction.

2.32 The Project will introduce a very simple routine maintenance management system (RMMS) program for the main roads and bridges to be operated by the MPW&C. The RMMS will be designed to overcome two key obstacles to effective maintenance of roads and bridges: establishment of desirable, affordable and minimum levels of funding; and preparing annual plans and monthly programs of maintenance works. It is expected that most work will be contracted out to local micro-

enterprises and contractors supervised in the local regions. The RMMS will gradually be extended to cover all main roads.

- 2.33 Funding is provided within the Project to develop, establish and implement the RMMS, including the financing of maintenance activities on the main road network during the execution period of the loan. Terms of reference for this study have been agreed with the MPW&C and are on file.

D. Project cost and financing

- 2.34 The total cost of the Project is estimated at US\$45.6 million including financial costs and a margin for contingencies and price escalation (see Table II-3). The IDB would finance US\$41.0 million of the total, and the GOG the US\$4.6 million remainder.

1. Civil works (US\$18.6 million, 40.8% of the total)

- 2.35 Construction costs were estimated on the basis of a sample of 69 works representing half the total length of all bridges and culverts along the road from Timehri Airport to Rosignol. The availability and unit costs of construction materials in Guyana and the volumes of materials required were verified from plans provided by the design engineers. Direct costs of the bridges is estimated at US\$14.7 million; supervision is expected to represent slightly more than 10% of the direct costs because the selected firm will be held responsible for the timeliness, quality and budget for the works. Land acquisition is not expected to be a major item given that most works except those surrounding the larger bridges will be carried out within the existing right of way.

2. Berbice River crossing (US\$11.6 million, 25.4% of the total)

- 2.36 The cost of replacing the two ferryboats is estimated at US\$5.0 million, and of upgrading the stellingen at US\$6.0 million. The costs of the feasibility and design studies were estimated from anticipated consultant-months of activity. If the Bank and the GOG agree that the feasibility studies show a bridge to be more feasible than the improved ferry, alternative sources of funds for this work will be sought and the Project financing adapted accordingly.

<b>Table II-3</b> <b>COST AND SOURCES OF FINANCING</b> (In US\$ million equivalent)				
<b>COST ITEMS</b>	<b>IDB</b>	<b>GOG</b>	<b>TOTAL</b>	<b>%</b>
<b>1. DIRECT COSTS</b>	<b>33.4</b>	<b>3.9</b>	<b>37.3</b>	<b>81.8</b>
<b>1.1 Civil works</b>	<b>17.1</b>	<b>1.5</b>	<b>18.6</b>	<b>40.8</b>
1.1.1. Direct construction costs	14.7	-	14.7	
1.1.2. Engineering studies	0.7	-	0.7	
1.1.3. Supervision	1.5	-	1.5	
1.1.4. Administration	0.2	-	0.2	
1.1.5. Land acquisition	-	1.5	1.5	
<b>1.2. Road safety</b>	<b>2.2</b>	<b>-</b>	<b>2.2</b>	<b>4.8</b>
1.2.1. Physical works	1.5	-	1.5	
1.2.2. Technical cooperation	0.7	-	0.7	
<b>1.3. Berbice River Crossing</b>	<b>11.6</b>	<b>-</b>	<b>11.6</b>	<b>25.4</b>
1.3.1. Feasibility study	0.6	-	0.6	
1.3.2. Ferry, stelling / bridge	11.0	-	11.0	
<b>1.4. Technical cooperation</b>	<b>2.5</b>	<b>2.4</b>	<b>4.9</b>	<b>10.7</b>
1.4.1. Policy implementation	0.3	-	0.3	
1.4.2. Institutional reorganization <sup>a/</sup>	0.7	-	0.7	
1.4.3. RMMS	1.5	2.4	3.9	
<b>2. FINANCIAL COSTS</b>	<b>1.6</b>	<b>0.7</b>	<b>2.3</b>	<b>5.0</b>
2.1 Interest	1.2	-	1.2	
2.2 Credit fee	-	0.7	0.7	
2.3 Inspection and supervision	0.4	-	0.4	
<b>3. UNALLOCATED EXPENSES</b>	<b>6.0</b>	<b>-</b>	<b>6.0</b>	<b>13.2</b>
3.1 Contingencies (9.9%)	4.0	-	4.0	
3.2 Price escalation (2.5% per annum)	2.0	-	2.0	
<b>TOTAL</b>	<b>41.0</b>	<b>4.6</b>	<b>45.6</b>	<b>100.0</b>
<b>%</b>	<b>89.9</b>	<b>10.1</b>	<b>100.0</b>	
<b>Notes:</b> <u>a/</u> Includes US\$500,000 for consultancy in implementing the reorganization plan, and US\$200,000 for a long-term consultant in traffic management.  Detail may not add to totals due to rounding.				

3. Road safety (US\$2.2 million, 4.8% of the total)

- 2.37 The cost of physical works under the road safety component (crosswalks, reflective traffic-calming devices, and road signs and markings) was estimated from unit costs in Canada adapted to Guyanese conditions (see Table II-4). The technical assistance portion was estimated on the basis of expected consultant-months of activity.

Table II-4

Cost of Physical Road Safety Components  
(In US\$)

Component	Units	U Cost	Sub-Total	Total
Protected sidewalks and signage around schools	61			386,000
High-traffic areas	29	10,000	290,000	
Low-traffic areas	32	3,000	96,000	
Improved urban crosswalks and traffic signals	18	35,000	630,000	630,000
Guard rails and rumble strips on sharp curves	50	6,500	325,000	325,000
Retro-reflective signs	340	100	34,000	34,000
Police equipment				125,000
Bicycles & helmets	30	500	15,000	
Scooters & helmets	8	5,000	40,000	
Radar units	15	4,000	60,000	
Spares for the above			10,000	
<b>TOTAL</b>				<b>1,500,000</b>

4. Technical cooperation (US\$4.9 million, 10.7% of the total)

- 2.38 As above, the costs of the individual programs were taken from required consultant-months. The costs of the RMMS include contracting of routine maintenance operations on the two portions of the main road system during disbursement of the loan.

### III. PROJECT EXECUTION

#### A. Execution mechanism

- 3.1 The MPW&C, through its Project Execution Unit (PEU), will be the executing agency 11/. This unit was created in the early 1990s to coordinate several transportation projects including those of the IDB and the World Bank. It is headed by a consultant hired with World Bank funds and has a staff of 20 full-time professionals plus administrative support.
- 3.2 The experience of the Bank and other donor agencies in executing transportation projects in Guyana has been less than satisfactory (see paragraphs 1.21 *et seq.* above). Low salaries within the MPW&C have led many capable professionals to leave government for the private sector where they may earn far greater salaries. As a result, the Bank and the Ministry have decided to institute a tiered project supervisory system with clear differentiation among the functions and responsibilities in each layer, and regular meetings during Project implementation.

#### 1. Works supervision

- 3.3 A single contractor will be retained for each construction package. The contractor will be overseen by a supervisory firm hired by the MP&C with Project funds, in accordance with terms of reference agreed with the Bank (on file). The firm will have the direct responsibility to familiarize itself with designs; make minor adjustments where applicable; establish appropriate inspection, QA/QC procedures; review and approve modifications to works within the guidelines established in the terms of reference; and prepare disbursement requests. The firm will also review all technical documentation at the beginning of its contract and at regular intervals throughout Project to ensure, *inter alia*, the adequacy of the programming of work such as geotechnical and subsurface investigation, drainage, environmental specifications and mitigation measures, and worker safety recommendations, and confirm that Contractor qualifications and equipment capacity satisfy design requirements. Twice yearly the firm will submit a report to the Executing agency and the Bank outlining progress compared with the Project Monitoring Checklist in Annex 2 and the Project Execution Schedule (on file). The supervisory firm will also prepare as-built drawings for all work performed upon the completion of each major work component. *It is recommended that it be a condi-*

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11/ As the reorganization of the MPW&C progresses the monitoring functions of the PEU will be transferred to the Construction Division under the new structure. This process is not expected to interfere with the implementation of the Project because of the tiered approach to be used and the key role to be played therein by the supervisory firm.



*tion of the eventual contract that this firm be hired prior to completing contractor pre-qualification to ensure adequate supervision over the process and avoid unnecessary claims.*

## 2. Project administration

- 3.4 The role of the MPW&C will be to monitor the Project through the PEU (or eventually the Construction Division). The responsibilities of this unit are twofold: to monitor the activities of the supervisory firm, and to administer the operation by maintaining financial controls, reviewing disbursement requests and acting on behalf of the borrower in such matters as contractor claims and major design changes.
- 3.5 Since its creation the responsibilities of the PEU expanded from its initial concentration on managing new road projects to administering all investment projects under the aegis of the MPW&C. Because of this dilution and the multiple components of this Project *it is recommended that, prior to prequalification of the civil works contractor, the Ministry hire a qualified person to be directly responsible for the IDB-funded road projects.*

## 3. Project oversight

- 3.6 The Bank will have oversight responsibilities principally through the Country Office in Guyana with the support of the Project Team. Review meetings will be held at least twice yearly among representatives of the Bank, the PEU, and the supervisory firm to oversee the advance of the Project in function of the PMC and Project Execution Schedule and a report to be prepared for that purpose by the PEU. *It is recommended that, prior to mobilization of the civil works contractor, a partnering conference be held among representatives of the MPW&C, the supervisory firms, the contractor, and the IDB.*

### B. Land acquisition and resettlement

- 3.7 With the exception of the Mahaica River bridge, all works will be built within existing rights of way. Although there is some encroachment by squatters on the rights of way in larger towns, this is not expected to interfere with the works, nor are there any residences that will require resettlement.
- 3.8 The Mahaica bridge is not included in the initial package of works. For the future, nonetheless, two alternatives are being studied. The first would extend the road along the railroad embankment and over a new bridge replacing the railroad span. The second would re-route the road over a new span close by the existing bridge. Because of the need to acquire land for the access road and to widen the structure, a few business establishments and residences may be affected.
- 3.9 The Government has developed procedures for compensating residents and property owners including relocation to and titling of nearby land parcels. A Land Evaluation Committee advises all affected per-

sons of the procedure and asks them to value their own property. Untitled landholders ("squatters") may be offered a parcel of titled land and a new structure in another location, or a lump-sum settlement corresponding to the value of a replacement dwelling. For titled landholders, the value of both land and structure is considered; either relocation or lump-sum compensation may result. Once the Committee has reached agreement with the landholder the execution unit of the corresponding ministry prepares a contract and oversees the solution. The process takes about three months to from start to finish.

- 3.10 Although the above procedure is generally acceptable to the Bank, it must be supplemented with additional information as set forth in the Resettlement Guidelines (on file). *It is therefore recommended that the loan carry a condition requiring the borrower to submit, to Bank satisfaction, specific resettlement plans for each Project works requiring involuntary resettlement. These plans would supplement EPA requirements and should include consultations with the affected community and the development of alternatives to minimize negative social impacts.*

C. Routine maintenance program

- 3.11 The Project has a specific line item within the technical co-operation program for developing a simple road maintenance management system (see paragraphs 2.35 et seq.). It is expected that Bank funds will be used to finance that portion of such routine maintenance activities as are contracted out to private-sector enterprises in accordance with the procurement regulations of the loan. *The Project Team recommends that it be a condition prior to first disbursement for civil works that the MLG&W present a plan for implementing an RMMS to Bank satisfaction.*

D. Procurement of goods and services

- 3.12 In contracting works to be financed by the Bank, the IDB Basic Procurement Policies and Procedures will be followed. *International competitive bidding will be required for goods and services valued at US\$350,000 or more and for civil works valued at US\$1.0 million or more. All Bank-financed civil works will be let in packages to pre-qualified firms as a condition to the eventual loan contract.*
- 3.13 Works and services to be financed exclusively from funds provided by the GOG will be procured in accordance with the laws and procedures in effect in Guyana.

E. Revolving fund

- 3.14 The scope of the Project and the anticipated pace of construction favor creating a revolving fund of up to 5% of Bank funding to cover estimated outlays for a 120-day period to accelerate payment for Bank-funded components.

F. Schedule for Project execution

- 3.15 Prequalification of firms for Project supervision and for construction of the initial works will begin in late 1997. We expect construction to begin within twelve months of signing the respective loan contract. This time span could be shortened if the procurement process can be advanced through the local regulatory procedures. The Project will be carried out in two programs and construction should be finished within five years of initial mobilization. The Execution Schedule on file shows the timing relationship among the various elements of the Project.

G. Ex-post evaluation

- 3.16 The GOG has agreed to perform an ex-post evaluation of the Project within one year after final disbursement in accordance with terms of reference to be mutually agreed.

#### IV. BORROWER AND EXECUTING AGENCY

##### A. Entities involved

- 4.1 The borrower is the Government of the Cooperative Republic of Guyana (GOG). The executing agency is the Ministry of Public Works and Communications (MPW&C).

##### B. Sectoral institutional framework

###### 1. Legal mandate

- 4.2 Basic responsibility for the planning, construction, operation and maintenance of the transportation network of Guyana was assigned to the Ministry of Public Works and Communications, formed from a merger of some functions of previous ministries in 1996.

- 4.3 Formally the MPW&C has two major objectives:

- a. to ensure the effective, efficient and safe design, supervision, construction and maintenance of civil works in Guyana;
- b. to develop and maintain orderly, adequate and efficient air, land and water transportation systems within Guyana.

- 4.4 The Ministry is not only accountable for the transportation system, but for civil works in general, including sea defenses and public buildings. Its responsibilities include the planning, designing, construction and maintenance of public civil works, training and supervision of contractors, inspection of works, and advising Government on transport issues.

###### 2. Internal organization

- 4.5 Problems in the MPW&C mirror those of the entire public sector in Guyana: low salaries <sup>12/</sup>, lack of qualified staff, insufficient recruitment, a need for training, inadequate budgeting process, paucity of system information, lack of clear lines of responsibility and accountability, no national level planning, and poor donor coordination.

- 4.6 A study commissioned by the Bank recommended that the administration of roads and sea defenses be separated into an autonomous agency to attract qualified staff and provide greater administrative independence. The chief executive officer of the Agency would report to the Permanent Secretary, and an advisory Board of Directors made up of representatives of all interested parties would report to the Minis-

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<sup>12/</sup> The salary of the Permanent Secretary and Chief Works Officer ranges up to a maximum of G\$125,071 (US\$895); specialist engineers may earn up to G\$58,556 (US\$420) monthly.

ter. The Agency would be divided broadly into five divisions <sup>13/</sup>: Planning & Project Development, Rehabilitation & Construction, Maintenance, Management Information, and Finance & Procurement. Overall, the operations of the Ministry would be oriented towards management of out-sourcing contracts for most works and even some planning and MIS activities. Funding would come from a dedicated budget.

- 4.7 A reorganization of the Ministry on the scale proposed would take several years of careful planning. In discussions with Guyanese authorities an agreement was reached that the Bank will supply funds within the loan to hire a consultant to help Government design a reorganization plan, *that this consultant will be hired within six months of loan signature, and that the plan will be submitted to the Bank within one year of loan signature.* Given that the PEU has been developed over the years as a significant technical unit, the reorganization is expected to build upon this Unit. In the meantime, the PEU will still have the capability of monitoring on-going development projects.

#### C. Sectoral financial base

- 4.8 Budgeted expenditures on roads and bridges rose in 1996 by nearly two-thirds largely due to progress on the Georgetown-Timehri road and the Demerara Harbour Bridge (see Table IV-1). Reduced expenditures on these works are being offset to an extent in the current year; we expect an overall reduction in outlays by 18%.

- 4.9 It is notable that, while current expenditures for roads represent a very small fraction of total government outlays (3%), capital expenditures for the sector recently approach a quarter of the total. This is a direct reflection of two trends referred to repeatedly above: a very strict control on recurrent expenditures that has led Govern-

**Table IV-1**  
**Total Government and**  
**Road Sector Expenditures**  
(in US\$ million equivalent)

	1994	1995	1996 <sup>a</sup>	1997 <sup>a</sup>
<b>Gov't Expenditures</b>	<b>290.7</b>	<b>282.4</b>	<b>328.1</b>	<b>350.8</b>
<b>Current</b>	213.4	201.1	217.6	234.5
<b>Capital</b>	77.3	81.3	110.5	116.3
<b>Road Sector Expend.</b>	<b>11.06</b>	<b>18.64</b>	<b>30.32</b>	<b>24.89</b>
<b>Current</b>	2.89	2.29	3.40	2.93
<b>Capital</b>	8.17	16.34	26.92	21.96
<b>% Roads to Total</b>	<b>3.8</b>	<b>6.6</b>	<b>9.2</b>	<b>7.1</b>
<b>Current</b>	1.4	1.1	1.6	1.2
<b>Capital</b>	10.6	20.1	24.4	18.9

Notes: Detail may not add to totals due to rounding

Source: IDB data from GOG National Budget, Guyana National Energy Authority and MPW&C

<sup>13/</sup> The recommended organization chart is on file.

ment to curtail maintenance expenses sharply, and increasing emphasis upon reconditioning the nation's deteriorating physical infrastructure.

# 1. Counterpart financing

- 4.10 The Project is expected to require US\$4.6 million in counterpart financing, practically all to be used for routine maintenance works, land acquisition, and similar local costs. Counterpart financing will likely be spent evenly throughout the five years of Project execution.
- 4.11 To ensure the availability of counterpart funding, a summary sources and uses of funds was done (see Table IV-2). Demands for funding were taken from on-going operational expenses and planned public-sector projects in the sector. Sources were taken from anticipated foreign funding of approved projects and those expected to begin disbursement soon. Purely for comparison purposed, data are shown for revenue being received from road users through taxes and import duties on vehicles, fuel and parts, and road user fees.
- 4.12 The resulting figures show the amount of local funding required through 1999 to be within the range of past outlays by Government. It is interesting to note that road users in fact not only pay for the services they are provided, but leave a small surplus to Government to use in other sectors.

<p><b>Table IV-2</b>  <b>SOURCES AND USES OF FUNDS IN THE TRANSPORT SECTOR</b>  (In millions of US\$ equivalent)</p>					
	1995	1996*	1997*	1998*	1999*
<b>USES OF FUNDS</b>					
Maintenance	1.99	3.08	2.64	5.00	5.00
Financial costs	0.30	0.32	0.29	0.30	0.31
Capital expenditures	16.34	26.92	21.96	30.00	40.00
<b>TOTAL</b>	<b>18.63</b>	<b>30.32</b>	<b>24.89</b>	<b>35.30</b>	<b>45.31*</b>
<b>SOURCES OF FUNDS</b>					
International & bilateral funding	9.78	15.90	13.43	23.06	32.86
Required local funding	8.85	14.42	11.46	12.24	12.45
Government revenue from road users	21.84	27.66	30.54	34.00	38.00

**NOTES:**

\* Includes expenditures on the Berbice ferry (US\$10 million) under this Project.

Detail may not add to totals due to rounding

Source: IDB data from GOG National Budget, Guyana National Energy Authority and MPW&C.

## 2. Cost recovery

- 4.13 The Government is considering establishing a toll for crossing the Mahaica bridge. Indicative tolls, subject to analysis 14/, would be G\$50 per four-tired vehicles, and G\$100 for vehicles with more tires. On the basis of actual traffic counts, some 2,500 vehicles cross the Mahaica bridge daily, of which 2,000 are light vehicles and 500 are heavy. If local residents (assumed at 20% of the total) are exempted from the toll, the above figures would translate into gross annual revenues rising from US\$315,000 at current traffic levels, to over US\$550,000 in the year 2003. This volume of funds would be sufficient to maintain the entire Timehri-Georgetown-Rosignol road.
- 4.14 The Berbice ferry has a well-established toll system that, despite not having been adjusted for over a decade, still produces a financial surplus used to subsidize other operations of the T&HD. Surpluses have risen from just over G\$100 million (US\$0.7 million) in 1993, to nearly G\$150 million (US\$1.1 million) in 1995. The financial returns for operating this ferry are projected to reach nearly G\$200 million in 2000 if modern ferries are put into service.
- 4.15 It is Government's intention that the Berbice bridge, when and if built, be self-sustaining with tolls sufficiently high to finance operating and maintenance costs and provide a depreciation reserve large enough to replace the structure after 25 years. The required level of these tolls and the ability of the bridge operating unit to collect them will be part of the feasibility study referred to in ¶2.27 above. Government has also expressed its interest in attracting private-sector participation in the financing and operation of the bridge if built.

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14/ US\$ 25,000 for a short-term study by specialist in tolls is included in the Project budget.

## V. VIABILITY AND RISKS

### A. Feasibility summary

- 5.1 The Project Team has reviewed all available information regarding the Project and concludes that there are no known technical, environmental, financial or socio-economic obstacles to proper implementation. A solution to the institutional weaknesses detected in the Executing Agency has been proposed. To the fullest extent possible, the Team has attempted to anticipate issues and ensure that they have been considered in designing the Project so as to maximize benefits accruing and reduce to a reasonable minimum unexpected costs.

#### 1. Technical feasibility

- 5.2 The technical feasibility of the proposed Project has been established on the basis of the Project Team's review of the studies, basic and final designs and specifications <sup>15/</sup> to verify that they meet relevant engineering standards. Considerations related to proper environmental management and provisions for foreseeable forces of nature have been incorporated into final designs and construction specifications. *It is recommended that bidding documents and contracts include the environmental guidelines and mitigation measures set forth in Annex III of the Environmental Study prepared by Figg Engineering.*
- 5.3 The Project Team has provided for the contracting of an internationally reputable supervisory firm to supplement scarce local expertise in managing projects of this scope in order to ensure the technical capacity and experience necessary for timely Project execution. The Team has also included funding for hiring international consultants to help design and implement a pilot road maintenance management system.
- 5.4 Finally, the execution schedule takes into account the nature of the works to be financed and the amount of time required to carry out the bidding process. It is the opinion of the Project Team that the schedule is realistic so long as sufficient resources are assigned from the GOG budget (see ¶5.22 below).

#### 2. Environmental feasibility

- 5.5 Studies made of the environmental impact of the Project are consistent in pointing out that the environmental and social impacts of the Project are likely to be restricted to the immediate area of influence of the road, and limited to the construction period. The major impacts are expected to be noise, dust pollution, storm run-off from

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<sup>15/</sup> This information comes from the consultant's 80% design study. Final information to be completed by mid-November.



construction activity, and traffic disruption and restricted access. These impacts are controllable. To ensure mitigation measures are taken, it is recommended that the MPW&C adopt the Environmental Management Plan set forth in the EIA, and agree on its role in implementation prior to hiring the civil works contractor. In addition, before first disbursement for civil works the Ministry should fill the position of environmental specialist. Furthermore, monitoring activities have been set out for the supervisory consultants and the contractor, and the loan will carry the condition that the MPW&C consult with local authorities concerning their role in managing the disposition of construction materials and wastes. In the longer term, construction of the works will in most cases lead to improvements in existing conditions, particularly insofar as drainage and pedestrian and traffic safety are concerned.

### 3. Socioeconomic impact

- 5.6 The Project will have a significant impact upon the rural poor of Guyana who rank among the poorest in the hemisphere. It is often said in Guyana that the people "live on the roads" but with time these have become increasingly hazardous. As a result of the Project, bridges and their approaches along the main road system will be widened and shoulders will be paved so that pedestrians will not have to compete with vehicles for road space. Crosswalks and special safety measures around schools will protect young children, and educational programs will extend these benefits as these children grow older.
- 5.7 Nearly half the motorized vehicles using the main roads are minibuses serving the general public. Improvements to the roadway -- bridges and pavement -- will benefit users of these vehicles as well as their owners, by reducing traveling times and making journeys more comfortable. Also, the proposed national bus safety program will result in higher safety standards in benefit of the travelling public at large. The introduction of minibuses over the last decade has increased the mobility of the population notably, permitting greater access to urban jobs from outlying areas, hence reducing rural-urban migration while opening employment opportunities to many previously denied access.
- 5.8 Although it is dangerous to make any direct correlation between the improvement of public transportation and the increase in the number of women in the work force, the facts are the introduction of minibuses improved access to the workplace for women, and these two grew together during the last decade. In 1980 the percentage of women in the work force was 25.5, growing to 39.3 by 1992 <sup>16/</sup>. Over this same time frame the number of minibuses rose from 2% to about 15% of the motor pool, now accounting for nearly half of motorized traffic

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<sup>16/</sup> Women's Affairs Bureau, *Changes in the Situation of Women in Guyana: 1980-1993*. May 1994.

on the main roads. Direct observation and interviews confirm that women represent far more than half of all minibus riders.

- 5.9 In other ways as well the Project may have a disproportionately beneficial effect on women. The study cited in the footnote stresses that:

[w]holesale and retail trade accounts for the largest proportion (23.2%) of employed women. In absolute numbers, almost as many women as men are employed in this industry. (p.110)

Even this statistic underestimates the role of women in commerce given their predominant participation in the underground market of which trading is an essential component. Improved transportation has important ramifications for commerce, both in the formal and informal sectors.

- 5.10 Improvements in the quality of transportation of fragile agricultural produce to regional markets reduces losses, and the vendors of these products are primarily women. Additionally, improved access to educational and health facilities generally (although by no means uniquely) benefit women.
- 5.11 In sum, the Project is likely to have important positive impacts upon the rural poor and women in general in its area of influence.

#### 4. Economic feasibility

- 5.12 The economic analysis of this Project has four major components: determination of the least-cost alternative for construction materials, economic viability as indicated by the net present value (NPV), the sensitivity of viability to possible changes in major variables, and the calculation of average incremental cost (AIC).

##### a. Least-cost alternative

- 5.13 Two basic types of bridges are generally built in Guyana: timber and concrete. Timber, as a local product, has had a cost advantage for many years, but concerns over conservation and the high costs of maintaining timber superstructures have tipped the scales. Data from a recent construction project along the Soesdyke-Linden road were used to compare both investment and maintenance costs. There is no clear preference between the initial cost of timber versus concrete structures, but maintenance of timber bridges was shown to be more than five times as expensive as concrete structures, thus substantiating the choice of the latter technique for this Project.

##### b. Net present value

- 5.14 Benefits from repairing, rebuilding and/or widening bridges fall into several categories: reduced vehicle operating costs (voc) due to reduced road roughness, higher average speeds and less congestion;

time savings of vehicle operators and passengers; traffic disruptions from structural damage or collapse of bridges; and lower accident rates and improved safety of vehicle occupants and pedestrians. This last aspect does not easily lend itself to measurement and was not included in the calculations that follow. It must be said that the calculation of economic benefits of this Project is imprecise and the results are subject to a number of assumptions and approximations that are explored in the sensitivity analysis in ¶5.17.

5.15 The reduction in voc was computed from average costs gathered for vehicles in Guyana. It was assumed that the widening and improvement of bridges will translate into a maintained speed over each structure rather than the slowing or stopping now required. Traffic counts along the road were obtained for 1995 and 1997 and traffic was projected to grow at similar rates into the future.

5.16 The NPVs were then computed for each bridge at 12% discount, extrapolating traffic counts between counting stations and using the construction costs as verified by the Project Team. The results are summarized in Table V-1. Economic returns tend to fall into one of four categories depending largely upon the volume of traffic and the costs of widening, and in some cases, lengthening the structures. The total net present value of the first package of Project works is equivalent to US\$92 million. The designing engineers are now including a shorter standard bridge, and some bridges will be designed with a single sidewalk or protected shoulders. Consequently construction costs are expected to be reduced, further raising the economic returns.

c. Sensitivity analysis

5.17 The sensitivity analysis is summarized in Table V-2, which shows that most bridge projects are economically robust. For the base case, 53 of 69 of the bridges demonstrate robust results, and this number does not go below 46 (a fifteen percent drop), except for the case where no savings are attributed to slowing down for the medium width bridges. In this case, only 26 are robust and 27 have clearly negative returns. The second most significant impact is when time savings are eliminated, where the number of robust bridges is the 46 and the number of those clearly negative increases to 8.

**Table V-1**  
**Net Present Values**  
**Initial Package**  
(in US\$ millions)

	# of Bridges	Total NPV
Robust	53	93.5
Marginally Positive	9	0.1
Marginally Negative	4	*
Negative	3	-0.1
Totals	69 <sup>a</sup>	93.5

Notes:

\* Less than US\$ 50,000

<sup>a</sup> excludes the Abary Bridge.

Table V-2  
Results of Sensitivity Analysis

Scenario	NPV (US\$ '000)	Bridge Distribution		
		Robust	Marginally Positive	Marginally Negative
Base Case	92,783	53	9	4
Change in vehicle growth (1)	72,550	50	5	8
Change on slowing down in velocity (2)	35,442	52	9	4
Results without time savings (3)	54,918	46	10	5
Traffic disruption due to structural damage in 2 yrs	93,796	57	7	4
Traffic disruption due to structural damage in 10 yrs	91,515	49	5	9
No time and VOC savings on mid-width bridges (4)	51,328	26	10	6
Change in acceleration or deceleration stretch (5)	44,943	48	8	5
Increase in costs by 20%	91,341	51	4	7

Notes:

- (1) Georgetown-Rosignol: Annual growth from 6% to 3%; Georgetown - Timheiri: growth from 5% to 2.5%
  - (2) High volume congested zones: A vehicle slows down to 24 kph (15 mph) instead of 32 kph (20 mph). Low traffic zones: A vehicle slows down to 40 kph (25 mph) instead of 32 kph (20 mph)
  - (3) Only VOC and Traffic Disruption savings
  - (4) Bridge width between 6.7m and 11.28m
  - (5) 100m instead of 200m
- Definition of Ranges:
- Robust, Net Benefit > \$ 20,000
- Marginally Positive, Net Benefit between \$ 0 and \$ 20,000
- Marginally Negative, Net Benefit between \$ 0 and \$ -20,000
- Negative, Net Benefit < \$ -20,000

d. Average incremental cost

5.18 Borrowing from what is common practice in other infrastructure sectors, considerable insight can be gained by computing the long-run marginal costs of the bridges, in this case the average incremental cost (AIC). AIC is defined as:

$$AIC = NPV(I+M)/NPV(T_p), \text{ where } NPV(x) = \text{net present value of } x, \\ I = \text{initial investment,} \\ M = \text{maintenance costs, and} \\ T_p = \text{projected traffic.}$$

AIC expresses the cost per vehicle driving the road over the bridges and may be used to answer the question of whether it is a reasonable amount for users to pay.

5.19 Table V-3 shows AICs for groups of bridges along the Timheiri-Georgetown and Georgetown-Rosignol road. From these data it can be seen that the economic costs of the latter road would be warranted if road users are willing to pay US\$0.30 per trip. Although further study is required to verify the willingness and ability of users to pay tolls of this order, they seem reasonable in light of the levels

actually paid for crossing the Berbice River and given the provisional level of tolls to be charged for crossing the Mahaica and Mahaicony bridges.

## 5. Institutional feasibility

5.20 The MPW&C has suffered the effects of prolonged fiscal austerity that has driven from it many of its skilled professional staff. It is now opportune to consider a major reconstitution of the Ministry, orienting it towards an organization that concentrates upon the core functions of planning, programming and budgeting, while overseeing specialized consultants and contractors hired to carry out the daily functions of road construction and maintenance. Paragraphs 4.7 *et seq.* above discuss this issue at length and include a condition to the eventual loan requiring the GOG to present the Bank a plan for reorganizing the Ministry to the Bank's satisfaction. The Project Team believes that this proposal can bring lasting improvements in the Ministry.

5.21 The Project Team also believes that, during implementation of the reorganization plan, the Project Execution Unit can implement the Project as described in this Document. The progressive nature of planned institutional improvements and the fact that direct project management will be the responsibility of the supervisory firm give confidence that any disruptions in the process will be minor and short-lived.

## 6. Financial feasibility

5.22 The financial base of the sector and the availability of counterpart funding was treated in Section C of Chapter IV. As a condition of the eventual loan the Borrower will be requested to submit to the Bank financial statements of the Project audited by the Auditor General in accordance with norms acceptable to the Bank.

Table V-3  
AIC of Bridges within the Project

Road Segment	# of bridges	Costs (US cents)
1. Georgetown - Rosignol	50	30.26
Sheriff St - Vigilance	17	2.95
Vigilance - Grove	14	6.51
Grove - Mahaica	5	1.70
Mahaica - De Hoop	2	5.21
<i>Sub-total</i>	38	13.42
Mahaicony - Burma	2	8.19
Burma - Rosignol	10	8.65
<i>Sub-total</i>	12	16.84
2. Georgetown - Soesdyke	20	4.08
Houston - Soesdyke	20	4.08

Source: Charles L. MacDonald, *Guyana: Bridge Rehabilitation — Economic Analysis*. 20 September 1997.

B. Risks

- 5.23 The largest single risk to satisfactory project implementation is the weakened state of the Ministry of Public Works and Communications. The Project Team believes that, even with the existing PEU, the Project can be successfully carried out although there would be on-going defects in road and bridge maintenance and little long-term improvement in the way that the sector is organized and operated.
- 5.24 The institutional risk will be ameliorated by the introduction of institutional improvements as amply described in Chapter III.
- 5.25 Secondly there is the risk that road maintenance proves to be inadequate. Again, there are conditions within this document for implementing the program and assuring its financing.

**G U Y A N A**  
**Bridge Rehabilitation Project - GY0026**  
**Logical Framework**

OBJECTIVES	INDICATORS	MEANS OF VERIFICATION	ASSUMPTION
Create a self-sustaining system for maintaining the main road and bridge network after ten years, gradually extending the network by absorbing selected secondary roads	Main road network expands at a rate double that of the economy; road conditions require only routine and periodic maintenance and scheduled reconstruction.	Annual data of MPW&C  Annual plans and monthly programs generated by RMMS	
1) Improve main road network to a maintainable state over a period of ten years 2) Ongoing improvements in road safety  3) Improved efficiency of MPW&C 4) Establish a systematic approach to ordering expenditures on the main road network and for developing budgetary requirements	1) More than 60% of the main road network under routine and periodic maintenance. 2) Number of reported accidents per veh/km or per total km traveled declining steadily 3) Basic staffing completed by 2003 4) RMMS applied to main network by 2002	1) Annual data from MPW&C as verified by MOF  2) Data collected by transport authority  3) MPW&C & CO information 4) Maintenance scheduling and budget follows RMMS recommendations	GOG maintains policy of modernization and rational road investments  Guyanese economy and revenue base expand at ad  No natural disasters
1) Priority bridges improved  2) Road safety program launched  3) Feasibility study concluded  4) MPW&C reorganization agreed and RMMS program & road strategy prepared	1) Work on designated bridges complete within disbursement period 2) Reduction of accident rate per veh/km by 5% by 2000; further reduction by 15% by 2006 3) Decision on construction of Berbice River bridge by Dec. 1998 4) Reorganization plan accepted by Bank within a year of loan signing; RMMS used to develop budget for main road maintenance in 1999	1) Reports by supervisory engineers and CO 2) Data collected by transport authority  3) Reports by supervisory engineers and CO 4) Announced decision by authorities and budget allocation	Staffing of executing agency  Adequate operating expenses to MPW&C  No interruptions of work program due to political conditions or labor disputes
1) Select, design and rebuild priority bridges on the main road system 2) Execute an organized road safety program 3) Prepare feasibility studies of the proposed Berbice River bridge 4) Implement TC program	1) US\$17.1 million  2) US\$2.2 million  3) US\$0.6 million  4) US\$4.9 million	1) Routine CO progress reports and annual on-site reviews 2) <i>ibid.</i>  3) <i>ibid.</i>  4) <i>ibid.</i>	Competitive bidding attract contractors  Counterpart funding adequate  Inflationary pressures controlled Protect financial plan

## PROJECT MONITORING CHECKLIST

Milestone	Condition to be Met Prior to Milestone		
	Civil Works & Berbice	Environmental	Institutional
Loan signature			
First disbursement for civil works		PEU environmental specialist position filled (¶5.5)	Plan for developing and implementing an RMMS presented to Bank (¶3.11)  Plan for implementing a monitoring program presented to Bank (¶2.19)
Pre-qualification of civil works contractors completed	Project Supervisory Firm contracted in accordance with agreed ToR (¶3.3)	Bidding documents include environmental guidelines and mitigation measures set forth in Annex III of Figg's <i>Environmental Study</i> (¶5.2)	Hiring of IDB Project manager by the PEU (¶3.5)
Hiring civil works contractor		Environmental Management Plan from <i>Environmental Study</i> adopted by MPW&C (¶5.5)	
Civil works contractor mobilization	"Partnering" conference (¶3.6)	Consultation with local authorities regarding disposition of construction materials and wastes (¶5.5)	
Disbursement for Ferry, Stelling / Bridge (Item 1.3.2 of budget)	Feasibility study of optimal crossing of Berbice complete and agreed with Bank (¶2.24)		



## GUYANA

## Main Road Rehabilitation Project

## Phase 2: Bridge Rehabilitation

(GY-0026)

## Procurement Plan

Description No. Lots:	% Financing		Method of Procurement	Pre-qualification Yes/No	Publicity SPN  Quarter/Year
	IDB	Local			
Total: US\$ mil- lions			ICB/Other		
<u>Project Supervision</u>					
Lots: 1	100	0	ICB	Yes	IV/1997 I/1998
Total: US\$1.5 million					
<u>Civil Works</u>					
Lots: 2	100	0	ICB	Yes	IV/1997 II/1998
Total: US\$14.7 million					
<u>Ferryboats, Stellings / Bridge</u>					
Lots: 1	100	0	ICB	Yes	IV/1998
Total: US\$11.0 million					
<u>Technical Studies</u>					
Lots: 5	100	0	ICB	No	I-II/1998
Total: US\$4.2 million					

Threshold amounts: goods and services: US\$350,000  
civil works: US\$1,000,000  
consultancy: US\$200,000

PROPOSED RESOLUTION

GUYANA. LOAN \_\_\_\_/SF-GY TO THE CO-OPERATIVE REPUBLIC OF GUYANA.  
(Main Road Rehabilitation Program, Phase II - Bridge Rehabilitation)

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Co-Operative Republic of Guyana, as Borrower, for the purpose of granting it a financing to cooperate in the execution of the Main Road Rehabilitation Program, Phase II - Bridge Rehabilitation. Such financing will be for the amount of up to forty-one million United States of America dollars (US\$41,000,000) or its equivalent in other currencies, except that of Guyana, which are part of the resources of the Fund for Special Operations of the Bank, and will be subject to the "Special Contractual Conditions" and the "Terms and Financial Conditions" set forth in the Executive Summary of the Loan Proposal.