

BRAZIL

**CONDITIONAL CREDIT LINE FOR INVESTMENT PROJECTS AND
PROGRAM TO IMPROVE ROAD ACCESS TO SMALL
MUNICIPALITIES (PROACESSO-LHDI) IN MINAS GERAIS**

(BR-L1027)

LOAN PROPOSAL

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Electronic Links and References	
Basic socioeconomic data	http://www.iadb.org/RES/index.cfm?fuseaction=externallinks.countrydata
Status of loans in execution and loans approved	http://ops.iadb.org/approvals/pdfs/BRen.pdf
Tentative lending program	http://opsgsl/ABSPRJ/tentativelending.ASP?S=BR&L=EN
Information available in the RE1/FI1 technical files	IDBDOC referencia #367884
Procurement Plan	http://idbdocs.iadb.org/WSDocs/getDocument.aspx?DOCNUM=635363

ABBREVIATIONS

AADT	Average annual daily traffic
ADT	Average daily traffic
CCLIP	Conditional Credit Line for Investment Projects
CESI	Committee on Environment and Social Impact
CIDE	Contribuição de Intervenção no Domínio Econômico [Economic Development Tax]
CLD	Consolidated liquid debt
CLI	Current liquid income
DER/MG	Departamento de Estradas de Rodagem do Estado do Minas Gerais [Roads Department of the State of Minas Gerais]
DOV	Diretoria de Operação de Via [Road Operations Directorate]
ECP	Environmental control plan
EIP	Environmental institution-building program
FEAM	Fundação Estadual do Meio Ambiente [State Environment Foundation]
FUNTRANS	Fundo Estadual de Desenvolvimento de Transportes [State Fund for Transportation Development]
HDI	Human Development Index
HDM-4	Highway Design and Maintenance Standards Model
IBAMA	Instituto Brasileiro de Meio Ambiente [Brazilian Environmental Administration]
IEF	Instituto Estadual de Florestas [State Forest Administration]
IGAM	Instituto Mineiro de Gestão das Águas [Minas Gerais Water Management Administration]
IRI	International Roughness Index
IRR	Internal rate of return
JBIC	Japan Bank for International Cooperation
LHDI	Low Human Development Index
LRF	Lei de Responsabilidade Fiscal [Fiscal Responsibility Act]
NPV	Net present value
OC	Ordinary Capital
PCR	Project completion report
PPMR	Project performance monitoring report
PMU	Program management unit
PRAF	Programa de Reestruturação e de Ajuste Fiscal dos Estados [Program for restructuring and fiscal adjustment of the states]
PROACESSO	Programa de Acessibilidade a Municípios de Pequeno Porte [Program for Access to Small Municipalities]
PROACESSO- LHDI	Part of the ProAcesso program of the state of Minas Gerais financed by the IDB, according priority to municipalities with low human development indexes
ProMG	Road rehabilitation and maintenance program of Minas Gerais

RIMS	Integrated road infrastructure management system
RSF	Resolução do Senado Federal [Federal Senate Resolution]
SEA	Strategic environmental assessment
SETOP	Secretaria de Estado de Transportes e Obras Públicas [State Department of Transportation and Public Works]

PROJECT SUMMARY

BRAZIL

CONDITIONAL CREDIT LINE FOR INVESTMENT PROJECTS AND PROGRAM TO IMPROVE ROAD ACCESS TO SMALL MUNICIPALITIES (PROACESSO-LHDI) IN MINAS GERAIS (BR-L1027)

Financial Terms and Conditions ¹					
Borrower: The state of Minas Gerais			Amortization period:		25 years
Guarantor: The Federative Republic of Brazil			Grace period:		4 years
Executing agency: Departamento de Estradas de Rodagem do Estado do Minas Gerais [Roads Department of the State of Minas Gerais] (DER/MG)			Disbursement period:		4 years
Source	Program (US\$)	CCLIP line (US\$)	%	Interest rate:	LIBOR-based option
IDB (Ordinary Capital)	50,000,000	100,000,000	60	Inspection and supervision fee:	0%
Local	33,335,000	66,670,000	40	Credit fee:	0.25%
Total	83,335,000	166,670,000	100	Currency:	U.S. dollars from the Single Currency Facility
Project at a glance					
<p>Project objective:</p> <p>The goal of the Conditional Credit Line for Investment Projects (CCLIP) is to contribute to the socioeconomic development of municipalities with lower relative social development in the state of Minas Gerais, by improving conditions for the transportation of freight and passengers on roads that give access to the primary highway system. The purpose of the first program is to facilitate access to social services and income-generating activities for the population of 22 beneficiary municipalities, thanks to a more efficient land transportation system (shorter travel times, lower transportation costs, and greater safety) that is more reliable (passable year round).</p> <p>Structure: The first CCLIP program will finance paving of 595 km of access roads to smaller municipalities with low Human Development Indexes and activities for institutional strengthening of DER/MG. It will also cover all project administration costs and the costs of technical and environmental supervision.</p> <p>Special contractual conditions for the first program under the CCLIP:</p> <p>Conditions precedent to the first disbursement: (i) the entry into force of: (a) the agreement between the government of Minas Gerais and DER/MG for program execution, providing for the transfer of funds from the Bank loan and the local counterpart to DER/MG; and (b) the agreement between the Instituto Estadual de Florestas [State Forest Administration] (IEF) and DER/MG on the program's environmental compensation (paragraph 4.18); (ii) publication of the bidding documents for hiring the program management firm (paragraph 3.5) and hiring of the consulting firm to perform the diagnostic study of DER/MG's information system and prepare the terms of reference for contracting the integrated road management system (paragraph 2.12).</p> <p>Conditions precedent to the start of any works: (i) for works that may require resettlement, completion of the expropriation and resettlement plan for the respective section of the work (paragraph 4.25); and obtention of the Formulário de Orientação Básica or the Licença de Instalação Correctiva for works, as pertinent, under state legislation; (ii) in the event that the road comes under municipal jurisdiction, the entry into force of an agreement between DER/MG and the respective municipality (paragraph 3.11); (iii) contracting of the firm to supervise the works, under terms of reference agreed on with the Bank (paragraph 1.1).</p> <p>Conditions precedent to the start of bidding for the second group of works: (i) conclusion of the detailed studies and final project designs for the works in this group (paragraph 2.8); (ii) publication of the specific bidding notice for contracting the consulting firm that will design the integrated road management system (paragraph 2.12); and (iii) contracting of the firm that will prepare the master plan for transporting hazardous materials (paragraphs 2.13 and 4.20).</p> <p>Special condition for execution: Disbursement of over 5% of the loan (first replenishment of the revolving fund) is contingent on the hiring of the program management firm (paragraph 3.5).</p> <p>Exceptions to Bank policies:</p> <p>None.</p>					

Project consistent with country strategy:	Yes [X]	No []			
Project qualifies as:	SEQ [X]	PTI [X]	Sector []	Geographic []	Headcount [79%]
Verified by CESI on: 2 September 2005					
Environmental and social review: N/A					
Procurement: N/A					

¹ The interest rate, credit fee, and inspection and supervision fee mentioned in this document are established pursuant to document FN-568-3 Rev. and may be changed by the Board of Executive Directors, taking into account the available background information, as well as the respective Finance Department recommendations. In no case will the credit fee exceed 0.75%, or the inspection and supervision fee exceed 1% of the loan amount.*

* With regard to the inspection and supervision fee, in no case will the charge exceed, in a given six-month period, the amount that would result from applying 1% to the loan amount divided by the number of six-month periods included in the original disbursement period.

I. FRAME OF REFERENCE

A. Introduction

- 1.1 The government of the state of Minas Gerais is seeking to target public investment to key areas that are essential for promoting economic revitalization and growth, seeking a balance in regional development. Specifically, the Conditional Credit Line for Investment Projects (CCLIP), whose execution is proposed in two programs, seeks to help reduce regional inequality by improving access to social services and productive economic activities for the population of 46 of the 224 small municipalities that lack paved links to the primary road system. This proposal is for the CCLIP and the first program using the line.

B. Socioeconomic aspects of Minas Gerais

- 1.2 With a population of close to 18.9 million, the state of Minas Gerais covers an area of 588,384 km² and is divided into 10 planning regions and 66 microregions that group 853 municipalities together for administrative purposes. Livestock and crop farming are salient activities in the primary sector, particularly soybeans, sugarcane, coffee, and maize. The secondary sector is chiefly represented by mining and the processing of steel and other byproducts. The forest sector stands out for the production of pulp and paper and charcoal, which is used as a heat reducer in the steel industry. In the last five years, the mining economy has faced a challenging economic and fiscal picture. Although economic activity has grown faster than the national average, the loss of dynamism has affected public and private investment levels. The main bottleneck in developing the state economy is limited fiscal capacity, which has an adverse effect on the provision of essential public services and investment in productive infrastructure. Restrictions on state investment have produced a scenario of territorial imbalance, with economic activities concentrated in the central and southeastern parts of the state (paragraphs 1.4 and 1.5).¹

C. State road infrastructure

- 1.3 In 2005, there were 2,207 motor vehicles for every 10,000 people in Minas Gerais, equivalent to four people per vehicle. The state's road system accounts for 18% of the country's entire road system, and ranks first in the number of roads measured by length and second in the number of paved kilometers. Out of a total length of 269,546 km, just 8.2% is paved. Considering all the state's paved roads (see Link 1), 44.8% belong to the federal system, 53.6% to the state system, and just 4.6% to the municipal system. State roads carry 400 million passengers each year and move goods worth approximately US\$2.3 billion.

¹ Four of Minas Gerais's 10 planning regions (Rio Doce, Mata, Central, and South) account for 75% of state GDP.

- 1.4 Between 1975 and 2002, the state government's efforts were directed at paving the state's main highway corridors, seeking to consolidate the main development hubs and their areas of influence. However, in the most eastern, northern, and northeastern parts of the state, passability and access conditions continue to be deficient, particularly in the rainy season,² adversely affecting passenger and freight transport. The density of the paved highways (Table 1) points to the complex interregional inequalities in the supply of state infrastructure, which divides Minas Gerais into two large areas. The first is composed of the Northern, Northwestern, and Jequitinhonha/Mucuri planning regions and some of the microregions in the Central and Rio Doce planning regions, where the density of paved highways is below the state average. The second, where coverage is better, includes the Triângulo, Alto Paranaíba, West-Central, South, and Mata planning regions and most of the Central and Rio Doce planning regions.

Table 1
Density of paved highways

Planning region	Area (1,000 km ²)	Length (km)	Density (km/1,000km ²)
Mata	35.85	2,528	70.5
South	52.9	3,255	61.5
West-Central	31.74	1,823	57.4
Central	80.53	4,156	51.6
Alto Paranaíba	37.03	1,800	48.6
Rio Doce	41.73	1,695	40.6
Triângulo	54.08	2,124	39.3
Jequitinhonha/Mucuri	62.89	1,258	20.0
Northwest	62.89	1,245	19.8
North	128.73	2,140	16.6
Minas Gerais	588.38	22,024	37.4

- 1.5 Close to 26% of all municipalities in the state have no paved access to the state highway system (see Link 2). These 224 municipalities are concentrated in the poorest parts of the state, which strongly dictates their level of competitiveness, land value and use, economic activities, and access by their inhabitants to social services and places of work. The shortcomings in transportation and accessibility also impose cost overruns for farm inputs, reduce returns on products, limit access to credit and goods markets, hamper access to social services, and have a direct impact on the breakdown of families, given the migration by fathers and young adults to regions where there is demand for seasonal labor. Most of the municipalities are small; 197 have populations of under 10,000 and none have more than 20,000 people. Seventy percent of the municipalities are concentrated in the four northeastern regions (North, Jequitinhonha/Mucuri, Mata, and Rio Doce), whose share of state GDP is small. Figure 1 shows the municipalities with unpaved

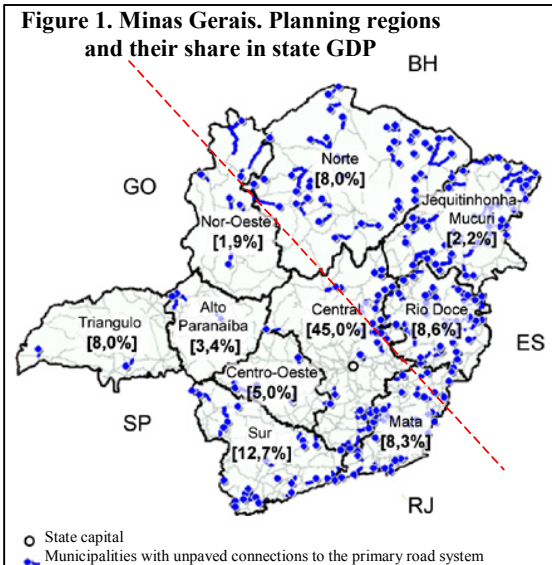
² In the program's area of influence it rains for about 88 days a year, mainly from October to March, with average annual rainfall of 1,154 mm.

access roads and the planning regions' percentage share of state GDP. Minas Gerais's Human Development Index (HDI)³ is 0.766, which places the state in the category of medium human development (HDI between 0.5 and 0.8). The breakdown of the state's municipalities into three categories (low, medium, and high) indicates that of the 224 municipalities without paved access, just three rank above the medium HDI and most rank close to the low development category (see Link 2).

D. Institutional framework of the program

1. Secretaria de Estado de Transportes e Obras Públicas [State Department of Transportation and Public Works] (SETOP)

- 1.6 As part of the government's actions to reformulate the organizational structure of the state apparatus, on 16 January 1992, under Law 10.624 the former Secretariat of State for Public Works was transformed into SETOP, with prime responsibility for formulating and coordinating state policies for transportation and public works and for passenger and freight transport by land, river, and air. SETOP programs, coordinates, and oversees execution of public infrastructure works in the state and establishes mechanisms to regulate transportation service concessions. With respect to indirect administration, SETOP's structure is composed of the Conselho Estadual dos Transportes [State Transportation Council] (CONEST), the Roads Department of the State of Minas Gerais (DER/MG), the Minas Gerais Department of Public Works (DEOP), and Trem Metropolitano de Belo Horizonte S.A.—the company that operates the metropolitan train in that city.
- 1.7 In accordance with the Federal Fiscal Responsibility Act (LRF), the state has taken various administrative measures to reduce the cost of the state apparatus and improve its human resource management. Among other actions, SETOP introduced an integrated personnel management system for all its linked or subordinate agencies, which covers all the forms of payments and salary accounts of public



³ Developed by the United Nations and published since 1990, the HDI measures average achievements in three basic areas for human development: living a healthy and long life, being educated, and having a decent standard of living. The HDI combines four indicators to reflect these three criteria: life expectancy at birth, adult literacy, combined primary, secondary, and tertiary gross enrollment (the latter two reflecting educational achievement), and real per capita GDP.

officials in the direct administration. The state also has a “Single Till” integrated accounting system, where a centralized payment system contains information on the state budget and payment authorizations for previously committed expenditures, which ensures the quality and reliability of financial and accounting information.

2. Roads Department of the State of Minas Gerais (DER/MG)

- 1.8 DER/MG is a decentralized agency linked to SETOP with its own legal status under public law and administrative, operational, and financial autonomy. Its headquarters are in Belo Horizonte, and it has state-wide jurisdiction (paragraphs 4.11 and 4.12). It has 40 regional operations units throughout the state which are responsible for supervising and coordinating the execution of construction works, paving and rehabilitation of roads, engineering works, and river ports in their jurisdictions. DER/MG also concedes, regulates, and inspects collective interurban and metropolitan passenger land transportation services.
- 1.9 Under the government’s policy on transfers to the private sector, for more than 10 years, DER/MG has been outsourcing all activities related to the construction of works. Today, DER/MG carries out road conservation and maintenance with growing private sector participation (see Link 3). In the future, it will engage exclusively in planning, coordinating, tendering, managing, and contracting works, outsourcing all of its operational, supervisory, and road maintenance services. This policy will result in a reduction in the number of regional operations units and will change the structure of their staff, which will mainly be composed of professionals with advanced technical skills.
- 1.10 Today, DER/MG’s workforce is composed of 4,653 employees, 839 of whom work at headquarters in Belo Horizonte. The other 3,814 are distributed among the 40 regional operations units. Seventy-three percent of its total personnel are on the basic level, including service assistants and administrative and road works employees. The other 27% are staff with secondary and university education, including auxiliaries, specialists, and professional analysts. DER/MG periodically conducts training programs for its staff in information technology, road engineering, transportation, and planning, and in the legal and administrative areas.

a. Road maintenance policy

- 1.11 DER/MG is responsible for maintaining 23,700 km of highways that belong to the state, are under temporary state jurisdiction, or are delegated federal systems. Close to 67% of this system is paved. Table 2 presents the current status of upkeep and traffic levels. In 2004, the state introduced a road rehabilitation and maintenance program (ProMG) that implements performance contracts for four years, dividing the work into two types of contracts: (i) road maintenance and rehabilitation services; and (ii) works to maintain rights-of-way (see Link 4). The first stage of ProMG included asphalt resurfacing, structural interventions at critical points, and

pavement markings and road signs along 1,700 km of road, with a budget of 41.8 million reais.

Table 2. Paved road system maintained by DER/MG

Surface condition	Km	%	Traffic level (km)		
			High (ADT >2,000)	Average (ADT 2,000-750)	Low (ADT <750)
Good (IRI <3.0)	6,097	44	655	2,733	2,710
Average (IRI 3.1 to 4.0)	4,326	31	738	2,032	1,556
Poor (IRI >4.1)	3,585	26	702	1,753	1,130
TOTAL	14,007	100	2,095	6,518	5,395

- 1.12 In addition to ProMG, DER/MG's Maintenance Directorate has been implementing other road maintenance programs, including: (i) the structural rehabilitation of pavement in specific sections of the system; (ii) the "Buraco Zero" [Zero Potholes] program, which seeks to standardize the system's passability by patching the asphalt surface; (iii) the "Estrada Real" program for functional rehabilitation of the highways in the area of influence of the 1,400 km tourist circuit; and (iv) complementary routine maintenance works, including cleaning and maintenance and pavement marking and road sign works. According to the projections presented (paragraph 4.12), in the next five years the state will allocate funds for maintenance, upkeep, and rehabilitation of the road system on the order of US\$18,300/km, up from the US\$13,900/km on average it invested from 2000 to 2004. The project team, on the basis of the financial evaluation, considers that the investments in maintenance are adequate for the required levels and consistent with the state government's financial capacity (paragraphs 4.11 and 4.12, Link 5).

b. Road safety

- 1.13 In 2004, 123 fatalities from traffic accidents and 5,145 injuries were reported on the roads in the 18 regional operations units involved in the program. Although there are 4.1 million vehicles registered in the state, the death rate for every 10,000 vehicles is just 0.29, far below the figure of 10 which is the average for Brazil. DER/MG's policy is to reduce the number and seriousness of traffic accidents while building up its capacity for road supervision and management. The state highway police in the area of influence of the sections to be paved under the proposed program numbers about 1,205 officers, assigned to 45 checkpoints. The project team considers that the state's road safety policy, the technical quality of the works to be financed by the program, and the resources available to state highway police are sufficient to maintain the good highway safety performance of the state system. The impact of program works will be minimized through preventive works to provide adequate road signage, traffic calming at urban crossings, and road surveillance, among other measures. The project team reviewed the projects in the representative sample and made a number of comments and recommendations to

ensure that the works will include all the necessary road safety measures (paragraph 4.27).

c. State weight and load control policies

- 1.14 In 2003, DER/MG introduced the current program for weight control on the highways under its jurisdiction. The weigh stations are privately operated by four specialized companies and are supervised by DER/MG. The stations have computer hardware and software for rapid inspection and are able to maintain up-to-date databases, study the origin and destination of freight traffic in the state, and facilitate regional and interregional transportation planning. Today, 11 stations are in operation, eight fixed and three that use mobile scales. By the end of 2006, DER/MG will have 23 new stations operating, all with mobile scales. To determine where they will be installed, DER/MG used information presented by the regional operations units and took the following into consideration in particular: (i) average annual daily traffic (AADT); (ii) the capacity of the highway; (iii) the flow of freight; and (iv) alternative routes.
- 1.15 In the program's area of influence, four weigh stations are already operating with mobile scales. The project team and DER/MG agreed that during the third quarter of 2005, DER/MG would begin to install nine more stations that will start operating in the first half of 2006. DER/MG will have a total of 17 stations with 10 mobile scales operating in the program's area of influence (Link 6).

d. Interurban passenger transport

- 1.16 DER/MG's Road Operations Directorate (DOV) is responsible for legislation, control, and supervision of interurban transportation in the state. Close to 230 companies provide passenger transport services each year, with a fleet whose average age is seven years. In 2004, a total of 80.7 million passengers were carried in 3.06 million trips. The DOV calculates a monthly scheduled departures index to identify the reliability of the collective highway transportation system and monitor the frequency and operating regime of the lines. The index will be included in the logical framework as an indicator of program impact.

E. Rationale and pertinence of the program

1. The state's strategy in the sector

- 1.17 To bring about an improvement in income distribution and raise the standard of living of the population, the government of Minas Gerais passed Law 15.032 on 1 January 2004 which formalized the integrated state development plan as a strategic 20-year roadmap for government action. The main objectives of the plan are: (i) integrated socioeconomic development; (ii) rationalization and coordination of government actions; (iii) increase in productive activities; (iv) alleviation of social and regional inequalities; (v) growth in the labor market; (vi) development of

municipalities with scant possibilities of socioeconomic impetus; (vii) technological development; and (viii) economic and social promotion through integrated government actions. The plan is composed of structured projects which, through concrete actions and quantifiable results, seek to have a multiplier effect on economic and social development in the state. The plan has a total of 31 structured projects, including ones on technological and foreign trade, business competitiveness, health and quality of life, public management and administration, housing, the environment, transportation, and electrification.

- 1.18 The present line of credit will partly finance the state's structured project known as ProAcesso, which is intended to improve road access for the 224 small municipalities that do not have an adequate connection to the main road network (paragraphs 1.4 and 1.5). On average, the ProAcesso roads are less than 25 km long, with average annual daily traffic of 256 vehicles, 20% of which are trucks. The state government hopes to execute the entire ProAcesso project within five years, paving 5,600 km of municipal access roads, giving priority to roads located in the planning regions with the lowest density of paved roads or lacking regular transportation services. For the purposes of execution, the state government divided ProAcesso into two stages. The first is being executed with the state government's own funds (paragraph 1.25) and includes interventions and paving on 65 sections, which will benefit 68 municipalities.

2. Methods for selecting program interventions

- 1.19 In the first process, 123 sections from the universe of 224 candidate municipalities were preselected (paragraph 1.18) using a multicriteria model determined by the following indexes of the social justification of the interventions: (i) ratio of the beneficiary population to the length of access road to be paved (population/km); (ii) municipal HDI; and (iii) number of municipalities benefiting from a specific intervention. Points on a scale of 1 to 5 were assigned together with a weight of 50%, 40%, and 10%, based on the indexes. The 123 sections selected have an average of 340.6 beneficiaries per paved kilometer, an average municipal HDI of 0.650, and a total beneficiary population of 829,123 people.
- 1.20 In the second selection process, a functional, economic, and social profile was prepared for the area of influence of each of the preselected interventions (paragraph 1.19). The preliminary economic evaluation was performed using the Highway Design and Maintenance Standards Model (HDM-4) and estimated the internal rate of return (IRR) for each of the preselected interventions. Of the 123 interventions selected in the first process, those with IRRs below 12% were discarded. The rest were ranked in order of priority, determined using three specific indicators: (a) the IRR for each intervention; (b) the low-income population in the municipality that would benefit directly from the intervention; and (c) savings in travel times to health centers (reduction in travel time multiplied by the number of trips a year). The criteria were assigned a weight of 25%, 50% and 25%,

respectively. Considering the budget available for both phases of the program, the interventions with lower priority according to the weighting were discarded (score over 46) (Link 7).

- 1.21 The Bank's participation permitted an innovative multicriteria methodology to be implemented that combined in the selection process consideration of overall measurable social benefits with the traditional analysis of economic returns on investments (paragraphs 1.19 and 1.20), which determined that the segments of access road selected for paving under the program are, on average, 28 km long, and the beneficiary municipalities have an average HDI of 0.656. Considering the multicriteria methodology described and the structure of the CCLIP, 21 sections (benefiting 22 municipalities) were selected for the first program, 84% of which are located in the northeastern, northern, Jequitinhonha/Mucuri, and Rio Doce regions of Minas Gerais (Link 8).

F. Rationale and pertinence of a CCLIP

1. Introduction

- 1.22 CCLIPs are designed to provide a line of credit in cases in which the Bank has executed several similar investment projects, with a view to financing operations comparable to the earlier ones. To use a CCLIP, it is indispensable for: (i) execution of the previous programs to have been fully satisfactory; (ii) the projects that were financed to have been adequately operated and maintained; and (iii) the proposed executing unit to be the same and to have a solid record of good management. The CCLIP agreement, which will be signed before or at the same time as the contract for the first program, (i) does not in and of itself require a guarantee from the country, apart from the guarantee obtained for each program under the CCLIP; and (ii) does not clear the way for the second program under the line, in case circumstances at the time it is presented are such that the Bank deems it ineligible.
- 1.23 The line of credit will be disbursed over 10 years. The two programs under the CCLIP (paragraph 4.4), both of which are multiple works, will be executed by DER/MG, with which the Bank has experience in five operations in the transportation sector, where DER/MG was the executing agency or co-executing agency of the works (paragraph 1.27). The most recent operations are the program for modernization and expansion of the Fernão Dias federal highway, stages I and II, coexecuted with the São Paulo Roads Department, under an agreement with the former National Roads Department (now the National Transportation Infrastructure Department-DNIT), because the federal government is the borrower. Although some delays in the works have occurred in stage II, which is still in execution, they are not attributable to DER/MG. They were due to the lack of timely counterpart financing, which is the direct responsibility of the federal government (paragraph 1.27).

- 1.24 Also, DER/MG is already executing interventions and paving on 65 sections under ProAcesso with state government resources, and it has solid and sufficient experience in executing similar operations. DER/MG also has extensive experience in: (i) past and present works based on the technical guidelines of standard RT-01.46 (Project criteria for access roads with low traffic volumes) which makes it possible to standardize and measure the outcomes of projects outsourced to the private sector; and (ii) the PROVUR, PROJEQ, and TESOURO programs which, between 1988 and 1995, paved accesses to 93 small municipalities and which taken together involved works over 1,983 km (Link 9).
- 1.25 The project team considers that the three requirements for a CCLIP (paragraph 1.22) have been met and that the Minas Gerais government is eligible for the credit line since: (i) five similar programs have been successfully executed (paragraph 1.27); (ii) in all cases, the contractual clauses have been complied with and the expected objectives have been achieved (paragraph 1.28); and (iii) DER/MG has executed all these programs and has a successful track record, which is not limited to Bank programs (paragraph 1.24). The first program will allow 537 km of municipal dirt roads to be paved, covering all the costs of administration and technical and environmental supervision, and financing activities for the institutional strengthening of DER/MG. The second program, estimated to include 25 additional access roads, will provide continuity for the components in the first program and incorporate the lessons learned from its execution. Consistent with what the Comissão de Financiamentos Externos [External Financing Committee] (COFIEX) has established (paragraph 4.4) and with the nature of the operation, the **second program under the CCLIP can proceed** once: (i) a minimum of 75% of the loan proceeds have been committed and at least 50% have been disbursed; (ii) it is demonstrated that the Minas Gerais government has the capacity to honor its financial obligations; and (iii) the changes proposed for the second program based on the results of the midterm evaluation have been incorporated (paragraph 3.16).

2. The Bank's country strategy

- 1.26 The Bank's country strategy with Brazil focuses on four areas: (i) productivity and infrastructure; (ii) poverty and equity; (iii) living conditions and efficiency in cities; and (iv) modernization of the State and institution-strengthening. In addition, the Bank accords priority to cross-cutting issues such as integration, the environment, and reduction of territorial inequalities related to gender and race. The proposed program is consistent with the Bank's strategy since it helps to: (i) boost productivity in the state of Minas Gerais, by reducing transportation costs and linking the beneficiary municipalities to the state road system; (ii) increase social inclusion and reduce social inequity and poverty by facilitating access to regional markets for products and inputs, to health care and education services, and to jobs, for the population from municipalities with low HDIs; and (iii) modernization of the State, through the institutional strengthening of DER/MG.

3. The Bank's experience

- 1.27 The Bank has experience with five operations in the transportation sector in Minas Gerais, where DER/MG executed or co-executed the works: (i) the **first operation**, approved in 1970, financed the regional development program for northwestern Minas Gerais through loan 252/SF-BR for US\$25.8 million, which included interventions along a total of 2,212 km of rural and feeder roads, involving construction, improvements, and drainage works; (ii) the **second operation**, approved in 1986, financed interventions over a total of 1,117 km in the state road system, including paving, surface sealing, drainage, bridges, and realignment, under the program to improve highways in the Jequitinhonha valley through loans 204/OC-BR and 789/SF-BR for US\$36 million and US\$18 million, respectively; (iii) the **third operation**, approved in 1989, financed a program to upgrade the state's road system through loans 570/OC-BR and 825/SF-BR, for US\$120 million, involving a total of 2,400 km and including paving, rehabilitation, and surface sealing; and (iv) through loans 767/OC-BR and 975/OC-BR, the **fourth and fifth operations** financed the program to modernize and expand the Fernão Dias federal highway, stages I and II (US\$265.9 million and US\$265 million, respectively) in 1993 and 1996. Phase II is still in execution, with physical progress of 94.2% in the São Paulo section and 97.4% in the Minas Gerais section, and 83% of the second loan has already been disbursed. The operations financed doubling, paving, and rehabilitation of the Fernão Dias highway for a total of 563 km (paragraph 1.23).

4. Impact and lessons learned

- 1.28 All the programs were consistent with the philosophy of multiple works operations. As explained in the respective **project completion reports** and as part of the Bank's policies and strategies with Brazil (paragraph 1.26), it is recommendable for the Bank to continue financing road programs in Minas Gerais, given that: (i) DER/MG complied expeditiously with the technical and environmental requirements, the construction specifications, and the budget for the works; (ii) the programs as a whole, despite the challenges of execution, attained the expected success and the development objectives and basic purposes established when the operations were formulated; (iii) all the documents and written commitments that fulfilled the conditions precedent were fully in effect during execution of the operations, making them eligible for disbursements, and the bidding procedures complied fully with the Bank's procurement policies; (iv) the borrower, through DER/MG, presented the audited financial statements on schedule during the program. The accounting and financial contractual clauses were complied with as established in the loan contracts; and (v) DER/MG has met its contractual obligations with respect to maintenance of works financed through previous Bank programs.
- 1.29 Among the lessons learned from the operations financed in Minas Gerais and based on the experience described in the project completion reports, the following stand

out **during the preparation stage**: (i) the executing agency should have an appropriate legal and institutional framework for implementation, and particularly the capacity to structure and execute the program; (ii) the need to have sufficiently detailed engineering studies, avoiding changing or adjusting them and hence significant increases in the cost established for the works; (iii) the need to have reliable geological and geotechnical studies on soil and materials to avoid substantial changes in the initial budgets owing to construction contingencies during the works; (iv) the need to establish selection criteria for sections that are complementary to the representative sample that are consistent with the program's objectives and conditions. **During the execution stage**: (i) minimize delays and cost overruns through tighter control and monitoring of the planning of execution; and (ii) maintain continuous technical, financial, and operational monitoring to avoid serious delays.

G. Coordination with other donors

- 1.30 The Japan Bank for International Cooperation (JBIC) will finance paving and rehabilitation of highways in the area of influence of the Celulosa Nipo-Brasileira S.A. (CENIBRA) factory in the eastern region of Minas Gerais. The program to be financed by the JBIC includes the rehabilitation of access roads to the plant and the paving of 12 municipal access roads under ProAcesso (six of which comply with the social and economic eligibility criteria of the program proposed here). According to the memorandum of understanding signed in March 2005, the Bank will discuss and provide information on issues related to managing the disbursement and bidding processes for the potential JBIC loan. At present, the Minas Gerais government is not negotiating other road infrastructure operations with other international organizations.

II. PROPOSED CCLIP AND PROGRAM

A. Objectives of the CCLIP and the first program

- 2.1 The objective of the CCLIP and the first program is to contribute to the socioeconomic development of municipalities with lower relative social development in the state of Minas Gerais, by improving freight and passenger land transport conditions in 46 of the 224 municipalities with unreliable connections to the federal or state road systems. The first program will cover 22 municipalities, according priority to those with low Human Development Indexes. The CCLIP and the program have the following specific objectives: (i) to reduce the costs of freight and passenger transport; (ii) to improve travel times safely; and (iii) to increase the reliability of transportation to social services and income-generating activities via roads that are permanently and sustainably passable.

B. Description of the first program

- 2.2 The first program under the line of credit will be a multiple works program, with a four-year disbursement period for the Bank loan. It has a total cost of US\$83.3 million, with 60% (US\$50 million) coming from the Bank loan and the remaining US\$33.3 million from the state counterpart. The first program is composed of three components: (i) technical and environmental studies; (ii) civil works associated with paving access roads to municipalities and supervision of the works; and (iii) strengthening of road management. The main investment categories are described below.

1. Studies and engineering designs, administration costs, and supervision (US\$6.69 million)

- 2.3 This component will finance the economic, technical, and environmental feasibility studies for the program works. It will also finance the program administration costs, the main one being the contract with the management firm. The proposed activities are divided into three subcomponents.
- 2.4 **Subcomponent 1. Studies and engineering designs (US\$1.1 million).** This subcomponent will finance the preparation of the additional studies for other projects to be included in the first program.
- 2.5 **Subcomponent 2. Administration costs (US\$2.19 million).** This covers the series of services and activities to be performed by the program management unit (PMU), which will take charge of executing the operation. It also includes the costs of hiring a consulting firm that specializes in managing road programs. As well, it includes the costs of contracting the independent firms that will perform the accounting and financial, and environmental audits of the first program, and

environmental supervision. The management firm is expected to be contracted during the third quarter of 2006.

- 2.6 **Subcomponent 3: Works supervision (US\$3.4 million).** Supervision of the works will be performed by consulting companies specializing in road works supervision and will cover service requirements during the program. The companies will ensure compliance with the work timetables, the designs, and the technical specifications.

2. Paving of 537 km (US\$74.72 million; IDB loan US\$47.92 million)

- 2.7 This includes the sections to be paved under the first program. Based on the designs, the works for each project will be contracted in lots. They will be awarded through international competitive bidding and to that end, DER/MG will establish a specialized bids committee that will verify and select the best bid, in accordance with the procedures established in the Bank's procurement policies and procedures (paragraphs 3.18 and 3.19).
- 2.8 The representative sample for the first program includes 51.5% of the paving works, and their technical studies and designs were reviewed during the analysis mission. Table 3 presents a description of the works in the representative sample for the first program (paragraph 3.6).

Table 3. Representative sample for the first program

Highway (state system)	Section	Length (km)	Estimated cost	
			US\$/km	Total (US\$)
MG 132	Desterro Melo-Alto Rio Doce	21.5	122,204	2,627,378
MG 403	São João da Ponte-Varzelândia	29.5	105,677	3,117,466
MG 314	Coroaci-Junct. BR259	18.3	182,889	3,346,864
MG 307	Junct. BR251-Grão Mogol	52.5	123,873	6,503,354
LMG 744	Coroaci-Virgolândia	22.4	149,721	3,353,741
MG 232	Mesquita-Joanésia	13.7	136,871	1,875,134
MG 211	Novo Cruzeiro-Setubinha	43.6	112,803	4,918,197
MG 108	Lajinha-Junct. to Durandé	22.4	174,442	3,907,497
LMG 682	Águas Formosas-Maxacalis	25.4	138,310	3,513,085
MG 417	Mendes Pimentel - Itabirinha	27.3	151,655	4,141,699
Total representative sample of access roads		276.6	134,863	37,304,415

- 2.9 To ensure year-round passability at a reasonable cost, the pavements will consist of a single structural layer plus a surface layer on the wearing course with double bituminous treatment (TS-2) and, for heavier volumes, two layers (base and subbase). The width of the roads will be 6 meters for volumes of under 100 AADT and 6.6 meters for volumes over 100 AADT. The projects include 0.40 m shoulders and 0.60 m unpaved space for drainage on each side.
- 2.10 **Eligibility criteria for the works.** The 21 sections evaluated and selected when the operation was being prepared are eligible for the first program under the CCLIP. If

it is possible to execute more than 21 sections under the first program, the additional sections will be chosen from among the 25 selected for the second program, respecting the ranking established during preparation of the operation. The following criteria will be used to determine the eligibility of any new sections that were not in the 46 sections initially preselected (Link 8), to replace a section that has already been selected, and for the future addition of other sections. ***In the case of replacements and/or additions:*** (i) The **principle of continuity**. The road must be connected to the state or federal paved system at least on one end. Sections that are connected to or that continue any road that was improved under the first program are also eligible. (ii) **Economic returns**. The economic evaluation of any candidate section should use the Highway Design and Maintenance Standard Model (HDM-4), based on an on-site estimate of the International Roughness Index (IRI) and the methodological parameters defined for the studies already conducted, using the same sensitivity scenarios. The internal rate of return of the candidate section must exceed 12% in the most critical scenario. (iii) **Socioenvironmental**. In the case of works not initially evaluated that require resettlement, it is necessary to present an expropriation and resettlement plan for the section, in accordance with Bank policy OP-710. ***In the case of replacement: order of priority***. The weighted classification indicator for the section should be better than the indicator for the section being replaced, and the IRR for the base scenario of the candidate section should be higher than the base IRR for the section to be replaced. This criterion will also apply in the event that a section selected for the present program is replaced by one of the remaining sections assigned to the second program (see Link 8).

3. Institution building (US\$1.71 million; IDB loan US\$40,000)

- 2.11 Administrative policies and institutional standards in technical transportation and environmental areas will be strengthened through the following activities.
- 2.12 **Subcomponent 1. Integrated road infrastructure management system (RIMS) (US\$1.42 million)**, intended to support the process of modernizing the operational activities of DER/MG, includes actions in the following areas: (i) *Diagnostic study of DER/MG's information system* (US\$80,000) and preparation of terms of reference for contracting the RIMS. (ii) *Development and implementation (including the procurement of operating licenses) of the RIMS* (US\$1.14 million), which will permit DER/MG to program and optimize its technical and managerial functions and enable the employees of the Directorate General and planning and management officials to maintain constant, continuous control over the programmed activities. The RIMS will also modernize, update, optimize, and incorporate DER/MG's operations databases with respect to information on daily traffic in the system, location, number, and recurrence of traffic accidents on state roads, identification of critical points, and management of maintenance, number of works, and budgets. The RIMS will also incorporate the systems for financial management, contract management and control, pavement and engineering works management, and the system for the use and occupation of the

rights-of-way. The RIMS will become a working tool for DER/MG's line units, and by integrating systems and databases, it will reduce duplication of work and inputting errors, facilitating the consultation of information by internal and external users of DER/MG's databases, consulting firms, and control agencies. The RIMS will also facilitate decision-making by the steering agency, once the computerized processes make it possible to obtain an up-to-date balance of accounts, expenditures, procedures, and processes. (iii) *Training for human resources* (US\$150,000) for officials from headquarters and the regional operations units who will operate and maintain the RIMS, the databases, and the Web applications to be developed. (iv) *Preparation and implementation of manuals for road administration and technical operations management* (US\$50,000) and instructional materials to train officials.

- 2.13 **Subcomponent 2. Support for environmental policies (US\$214,000)** is intended to consolidate the work of the DER/MG's environmental advisory service with the development and institutional adoption of an environmental policy and appropriate tools for the environmental management of the state's road projects. It includes training for personnel to perform their functions and actions in the following areas: (i) *management plan for the transportation of hazardous materials* (US\$111,000). The areas covered by this plan include: (a) identification and evaluation of flows of hazardous freight; (b) programs for training and education, control, and attention to the transportation of hazardous materials; and (c) development of a preventive action plan and an emergency plan. (ii) *Support for the Environment Division* (US\$103,000). The tasks to be performed include the establishment of DER/MG's environmental rules and procedures and a system for the environmental monitoring of works and services. Technical support will also be provided for the environmental management, planning, and personnel training areas in DER/MG.

4. Associated costs (US\$209,000)

- 2.14 **Environmental compensation (US\$56,000)** includes measures to compensate for unavoidable environmental impacts such as the removal of plant cover or compensation for the population affected.
- 2.15 **Social communications and environmental education (US\$153,000)** includes education and communications activities for people living in the vicinity of the sections to be paved.

C. Cost and financing

- 2.16 The estimated cost of the first program and its financing structure are presented in the following table.

Table 4. Program cost (in US\$ millions)

Investment category		Total	IDB	%	Local	%	% Total
1	Engineering and administration	6.690	2.040	30.5	4.650	69.5	8.0
1.1	Studies and projects	1.100	-	-	1.100	100.0	1.3
1.2	Program administration	2.190	-	-	2.190	100.0	2.6
1.2.1	Management support firm	1.400	-	-	1.400	100.0	1.7
1.2.2	Accounting auditing	0.200	-	-	0.200	100.0	0.2
1.2.3	Environmental auditing	0.045	-	-	0.045	100.0	0.1
1.2.4	Environmental supervision	0.545	-	-	0.545	100.0	0.7
1.3	Technical supervision of the works	3.400	2.040	60.0	1.360	40.0	4.1
2	Direct investment costs	74.722	47.920	64.1	26.802	35.9	89.7
2.1	Paving (537 km)	74.722	47.920	64.1	26.802	35.9	89.7
3	Institution building	1.714	0.040	2.3	1.674	97.7	2.0
3.1	Diagnostic study of DER/MG's information system	0.080	-	-	0.080	100.0	0.1
3.2	Road infrastructure management system	1.420	-	-	1.420	100.0	1.7
3.3	Management plan for the transportation of hazardous materials	0.111	-	-	0.111	100.0	0.1
3.3	Support for the Environment Division	0.103	0.040	38.8	0.063	61.2	0.1
4	Associated costs	0.209	-	-	0.209	100.0	0.3
4.1	Environmental compensation	0.056	-	-	0.056	100.0	0.1
4.2	Social communications and education	0.153	-	-	0.153	100.0	0.2
TOTAL		83.335	50.000	60.0	33.335	40.0	100.0

III. EXECUTION OF THE FIRST PROGRAM UNDER THE CCLIP

A. Borrower, guarantor, and executing agency

- 3.1 The borrower is the state government of Minas Gerais and the guarantor of the debt service obligations is the Federative Republic of Brazil. The executing agency will be the Departamento de Estradas de Rodagem do Estado do Minas Gerais [Roads Department of the State of Minas Gerais] (DER/MG).
- 3.2 DER/MG will centralize coordination of execution in a specialized unit known as the program management unit (PMU), reporting to the Directorate General of DER/MG, which will be responsible for attending to and supervising the activities linked to execution of the first program. Through the general coordinator, the PMU will also supervise all aspects of the management and auditing of the operation (paragraph 2.5).

B. Program execution and administration

- 3.3 To administer the first program, the execution model that uses a management support firm will be adopted, which has been followed in most of the state road programs financed by the Bank in Brazil with satisfactory results. The PMU will adopt all the necessary procedures for program management, including the programming of physical and financial activities and of execution of the works, as well as monitoring, progress, and compliance. The PMU will support the execution of all services related to program implementation, including activities for land expropriation and environmental monitoring, support for execution of program contracts, preparation of progress reports, disbursement requests, and all the necessary documentation. A consulting firm that specializes in managing road programs will be contracted to provide technical support and administrative advisory services to the PMU (paragraph 3.5).
- 3.4 Program administration will include professionals from DER/MG's directorates involved in program preparation. Administrative activities will be divided into coordination, management, and auditing. The PMU will have the support of DER/MG's directorates, which will oversee execution of the planned activities. Approval of the final project designs will be the responsibility of the Engineering Directorate, and the Construction Directorate will be responsible for supervising the works. The Permanent Group on Institutional Development will supervise the institution-building activities.
- 3.5 The management firm will work under the direction of the PMU and under the direct supervision of the Director General of DER/MG and the executive manager of the ProAcesso program. The main tasks of the management firm include: (i) programming and support during physical and financial execution of the

- contracts, including supervision of the bidding processes that use proceeds from the Bank loan; (ii) establishment, implementation, and operation of a monitoring plan to evaluate the program on the basis of evaluation indicators and verification of compliance; (iii) environmental supervision of the program works; (iv) support in preparing terms of reference for contracting the final projects for engineering, construction, and supervision of the works; (v) support for supervision and oversight of projects and works and the procurement of goods and services; and (vi) preparation of periodic and specific reports on progress in the program.
- 3.6 The representative sample includes 21.7% of the eligible sections under the CCLIP and amounts to 49.9% of the total investment in works under the first program. These works have final project designs and are ready to be put to tender (paragraph 3.9). Other access roads have been identified that could be financed (Link 8) and the necessary studies and designs will be commissioned from consulting firms. These studies will be performed following the same methods and standards used to develop the representative sample.
- 3.7 The unit prices employed to determine the cost of the projects in the sample were obtained from three basic sources: (i) market prices for road projects in the program's area of influence; (ii) the cost of recent road projects carried out by DER/MG; and (iii) direct consultations on specific items by DER/MG with potential suppliers. The designs and construction plans for the works in the representative sample indicate that there will not be any complications related to their construction and therefore there are no problems with technical feasibility.
- 3.8 The external audits of the first program will be accounting and financial audits to be performed by an independent firm acceptable to the Bank (paragraph 3.21). Independent semiannual environmental audits will also be performed, and those reports will be presented simultaneously to the Bank, DER/MG, and the Fundação Estadual do Meio Ambiente [State Environment Foundation] (FEAM) (paragraph 4.23).

C. Program readiness and execution

- 3.9 **Bids.** With authorization from the project team, DER/MG will begin the processes of tendering the works, their technical supervision, and contracting of the management firm. For the purposes of bidding, the works will be divided into lots based on their geographic location and the availability of final project designs. Each of the two groups of works will have a maximum execution period of 24 months. DER/MG will begin the international competitive bidding process for the first group in the second half of 2005, expecting to award the works in the first half of 2006. The second group will be put to tender in the second half of 2006. The bidding conditions will permit the participants to present proposals to execute one or more works. The consulting firms to provide supervision will be hired prior to contracting the works.

- 3.10 **Revolving fund.** A revolving fund limited to 5% of the Bank loan will be established to provide advance funds to carry out the activities financed by the Bank. The executing agency will be responsible for presenting semiannual reports to the Bank on the operation of the fund within 60 calendar days after the end of each six-month period.
- 3.11 **Rights-of-way.** The plans for paving the access roads to the municipalities have maintained the alignment within existing rights-of-way wherever possible. In cases where it will be necessary to procure additional land, Brazil's system for obtaining land for rights-of-way for road works will be used, which permits immediate possession of the necessary land, even though expropriation proceedings are still under way. However, prior to calling for bids for any of the sections in the first program, the borrower will demonstrate to the Bank that it has legal possession of the rights-of-way. DER/MG will also present the Bank with evidence that agreements have been signed with municipalities, when the works fall within municipal jurisdiction.
- 3.12 **Monitoring and evaluation.** The operation will be monitored by the Bank's Country Office. If it so requests, the project team will support it in this task. Monitoring will be performed through: (i) semiannual reports on: (a) progress compared to the execution indicators and disbursement schedule; (b) updated execution and disbursement schedules; (c) compliance with the contractual clauses contained in the loan contract; (d) work program and detailed plan of action for the next two six-month periods; (e) monitoring of the indicators in the logical framework (Annex I) and the updated procurement plan (Annex II); (f) detailed report on the progress and implementation of the environmental programs; and (ii) the normal procedures for obtaining the necessary no objections to the bids for works, services, and procurement of goods.
- 3.13 As for the outcomes indicators for the first program, outcomes will be evaluated on the basis of a series of objective technical indicators specified in the logical framework, which will be measured before and after the program and will permit the project performance report to be updated (paragraphs 1.17, 3.14, and 3.16).
- 3.14 For the investment components, the main evaluation tool will be HDM-4. This model will determine the main economic indicators (IRR, NPV) for each intervention. The baseline for this evaluation, which includes traffic measurements, roughness indexes, and estimates of vehicle operating costs, has already been determined for the sections in the sample.
- 3.15 For the components to build up DER/MG's road management capacity, the results will be evaluated through the institutional performance management indicators with respect to road assets (paved system and maintenance) and the efficiency of the road management models (reliability of public transportation departures and reduction in fares for interurban public transportation). This information is

compiled annually by DER/MG and published in an annual report on performance indicators (paragraph 1.17).

- 3.16 **Midterm and ex post evaluations.** The operation will finance a midterm evaluation when 40% of the first program has been disbursed. It will consist of a comparison of the indicators mentioned in paragraph 3.14 with the direct and other benefits that are representative of the first program's contribution to economic development and a better quality of life. An ad hoc methodology was designed for this purpose. Since the area of influence for the economic evaluation of the sections in the two programs was established as the entire municipal territory, the midterm evaluation will be performed using a control group assigned on the basis of a pilot method, given that the beneficiary municipalities represent a subsample of the universe of eligible candidates (paragraph 1.18). Three indicators were selected as HDI proxies, which reflect: (i) the evolution of local economic production; (ii) the level of education of young adults in the local education system; and (iii) the percentage of pregnant women who have had four or more prenatal check-ups (see Link 10). The performance of the indicators in the logical framework between now and after completion of the paving will be analyzed for three groups of municipalities, two of which will be the control group. **Group I** includes municipalities with paved access that are similar to the municipalities in the first program with respect to geographic location and size. **Group II** includes the 21 municipalities that are beneficiaries of the program. **Group III** includes municipalities with unpaved access roads which are not expected to be paved during the analysis period.
- 3.17 The project team consulted with DER/MG about conducting an ex post evaluation. DER/MG did not consider it advisable to use program funds for it, but it undertook to compile the relevant statistical data for a future evaluation. The information will also be used to evaluate the indicators in the logical framework for the first program (Annex I).

D. Procurement

- 3.18 The procurement of goods and services, the contracting of related works with program resources, and the selection and contracting of consulting services will be conducted in accordance with the Bank's policies of January 2005 (documents GN-2349-4 and GN-2350-4). The executing agency will take charge of the bid processes for works, works supervision, and engineering designs, and the selection and contracting of program consulting services. The Bank will supervise program procurements and contracts on an ex ante basis.
- 3.19 When procurements are financed partially or totally by the Bank, international competitive bidding will be used for individual works or lots whose estimated cost is US\$10 million and higher and for goods and related services whose estimated cost is US\$500,000 and higher. Works estimated to cost US\$500,000 and over but

less than US\$10 million will be contracted through national competitive bidding and those costing less than US\$500,000 through shopping. Goods and related services estimated to cost US\$100,000 and over but under US\$500,000 will be procured through national competitive bidding and those costing less than US\$100,00 through shopping. Consulting services whose estimated cost is US\$200,000 and higher will be announced internationally and the shortlists for consultants whose work is estimated to cost less than US\$500,000 may comprise entirely national consultants.

E. Execution period and disbursement schedule

- 3.20 Given the progress in the engineering designs and taking account of the experience of other projects in Brazil, the execution period for the first program has been established as four years (paragraph 2.2), in accordance with the disbursement schedule shown in Table 5. The maximum period for starting up works is three years. These periods are compatible with the type and volume of works in the first program, with the construction procedures to be used to maintain a normal flow of traffic, and with the institutional capacity of the executing agency and its ability to make the local contribution.

Table 5. Program disbursement schedule (US\$ millions)

Six-month period	1	2/3	4/5	6/7	8	Total
Bank/OC	7.20	16.80	16.80	7.20	2.00	50.00
Local	4.80	11.20	11.20	4.80	1.30	33.30
Total	12.00	28.00	28.00	12.00	3.30	83.30
Percent (%)	14.40	33.60	33.60	14.40	4.00	100.00

F. Auditing

- 3.21 The program's annual financial statements will be presented to the Bank within 120 calendar days after the close of each fiscal year, duly certified by a firm of independent auditors acceptable to the Bank, which will be selected following the procedures in the bidding documents for externally financed audits (document AF-200). The auditors will issue an annual report that will cover, *inter alia*: (i) the executing agency's internal control system; and (ii) procurement and disbursement procedures and their implementation. The audited financial statements at the close of the first program will be presented within 120 days after the last disbursement. The audits will be performed in accordance with terms of reference approved in advance by the Bank (document AF-400) and will be based on the Bank's external auditing requirements (documents AF-100 and AF-300).

G. Maintenance of the program works

- 3.22 The borrower, through the executing agency, will undertake to adequately maintain the works and equipment in the first program, up to technically acceptable standards, and will present a satisfactory road maintenance plan to the Bank before December 2007. Starting in the second year of the contract, DER/MG will present annually to the Bank within the first quarter of each year and for a period of up to five years after the last disbursement of the loan, maintenance reports that will include an evaluation of the results of the maintenance performed in the previous year and a maintenance plan for the following fiscal year, including the proposed budget for executing it.
- 3.23 DER/MG owns fixed weigh stations and mobile scales that will permit it to inspect and fine trucks that are overweight (paragraphs 1.14 and 1.15). For the highways in the first program that have weigh stations in their area of influence, the borrower will present to the Bank for a period of five years after the date on which the loan contract comes into force, a report containing the results from the previous year, including statistics on the number of trucks that were weighed at each station, the number of overweight trucks, the amount of excess weight found, and the fines imposed on violators.

IV. FEASIBILITY AND RISKS

A. Institutional feasibility

- 4.1 To ensure successful coordination and control of all the activities included in the present program, DER/MG has established a program management unit (PMU) (paragraphs 2.5, and 3.3 to 3.5) that will supervise all aspects of management and auditing of the operation and will be supported by a management consulting firm. ProAcesso is also closely supervised and coordinated by the program's executive manager assigned to State Department of Transportation and Public Works (SETOP), who will supervise preparation and scope, and will act as liaison between DER/MG's technical staff and the Secretary of Transportation. Based on DER/MG's track record and the measures to be taken (see link 11), the project team considers that the institutional scheme that will underpin this operation complies adequately with all the requirements of the CCLIP and the technical requirements for execution of the first program (paragraphs 1.23, 1.24, and 1.25).

B. Socioeconomic feasibility

- 4.2 The socioeconomic feasibility of the works to be financed by the CCLIP was verified through a cost-benefit analysis and determination of economic feasibility indicators. The benefits were savings in vehicle operating costs, user time, and road maintenance costs. The analysis was performed for the 46 sections that are candidates for inclusion in the two programs. For 10 of them, which form the representative sample for the first program, the works budgets based on final project designs were available. This sample includes investments that are 49.9% of the total of US\$74.72 million to be invested in the road works under the first program.
- 4.3 The economic analysis (see Link 12) was performed using the HDM-4 model. Current traffic levels were estimated through counts. Future growth rates were calculated by category of vehicle and by section after an analysis of the elasticity of changes in traffic with respect to social and economic variables. The IRR for each section and the overall IRR and NPV indicators for the works under the CCLIP were obtained, and a sensitivity analysis was performed for variations in costs and benefits. Indicators were obtained for the following three hypotheses: a 20% increase in project costs (construction and maintenance), a 20% reduction in benefits (savings in vehicle operating costs and user time), and a simultaneous 10% increase in costs and 10% reduction in benefits. For the 46 sections analyzed, the maximum IRR is 133.8% and the minimum is 15.25%. In the sensitivity analyses on a 20% increase in costs, all the projects had an IRR above 12%. The same holds true for a 10% increase in costs and a simultaneous 10% reduction in benefits. As for sensitivity to a 20% reduction in benefits, five projects have an IRR between 11.8% and 12%, and the IRR for the rest of the projects is over 12%. Indicators

were also obtained for overall returns from the CCLIP and the first program, which gave IRRs of 24.4% and 29.31%, respectively, and whose sensitivity analyses gave values above 12%, demonstrating that the risk that either of the two programs will not be economically feasible even under adverse conditions is low.

Table 6. Results of the economic analysis of the road works in the representative sample for the first program

Highway	Section	ADT ¹	NPV ²	IRR	Sensitivity scenario		
					IRR 1 ³	IRR 2 ⁴	IRR 3 ⁵
MG132	Desterro Melo-Alto Rio Doce	539	2.95	41.0%	34.7%	33.4%	34.1%
Municipal	São João da Ponte-Varzelândia	167	0.92	20.8%	17.2%	16.5%	16.9%
MG314	Coroaci-Junct. BR259	794	4.34	47.3%	39.8%	38.3%	39.1%
MG307	Junct. BR251-Grão Mogol	240	1.78	20.0%	16.6%	15.9%	16.3%
MGT451	Coroaci-Virgolândia	303	0.97	20.6%	17.1%	16.4%	16.8%
MG232	Mesquita-Joanésia	373	1.00	26.9%	22.6%	21.7%	22.2%
MG211	Novo Cruzeiro-Setubinha	131	0.73	16.3%	13.4%	12.9%	13.2%
MG108	Lajinha-Junct. to Durandé	503	2.31	28.8%	24.2%	23.3%	23.8%
LMG682	Águas Formosas-Maxacalis	260	0.38	15.3%	12.5%	11.9%	12.2%
Municipal	Mendes Pimentel-Nova Belém	258	1.12	16.5%	13.4%	12.8%	13.1%

¹ ADT: average daily traffic in 2004; ² NPV: US\$ million; ³ IRR: sensitivity analysis with +20% costs;

⁴ IRR: sensitivity analysis with -20% benefits; ⁵ IRR: sensitivity analysis with +10% costs and -10% benefits.

C. Financial feasibility

- 4.4 In Recommendation 755 of 25 June 2004, the External Financing Committee (COFIEX) authorized preparation of the program for up to US\$166.67 million, with the condition that the operation be carried out in two phases each costing the same.
- 4.5 The contract of acknowledgement, commitment, consolidation and refinancing of the debt of the state of Minas Gerais, signed on 18 February 1998 with the National Treasury Department, permitted the state government to refinance its debt under favorable conditions. The contract stipulated that restructuring and fiscal adjustment programs (PRAF) would be prepared each year, which are periodically reviewed by the department and the targets updated, through an evaluation of the performance of the state's financial indicators. With the passage of the Fiscal Responsibility Act (LRF) (Supplementary Law 101 of 2000), the federal government achieved strict control over fiscal adjustments, establishing rules for public finance that had a positive impact on responsible fiscal management by the states. The Fiscal Responsibility Act held spending on personnel at 60% of liquid income.
- 4.6 The PRAF defines action strategies, objectives, and six basic targets for general support in improving the debt: (i) the state's total financial debt was to be reduced by 2034 to not more than its real liquid income; (ii) primary balance sufficient to cover the programmed debt service; (iii) spending with public accountability, with the idea of bringing government personnel costs down to levels compatible with tax revenues (paragraph 1.7); (iv) real growth in state taxes collected; (v) reform of the

state, adjustment of net worth and sale of assets and property belonging to the Minas Gerais government; and (vi) investment expenditures over real liquid income, intended to shore up spending with investments.

- 4.7 The revision of the PRAF was examined in detail by technical missions from the National Treasury Department, with an evaluation of compliance with the targets, which ratified that the state government complied with its commitments for the period 2004-2006. The state's Department of Finance reported that an analysis by the National Treasury Department showed that the state had met the targets in the PRAF for fiscal year 2004, and confirmation of the official evaluation was expected by the start of the third quarter of 2005.
- 4.8 The state legislative assembly passed Law 14.524 on 1 July 2005 which authorizes contracting the operation with the Bank and makes the counterpart resources available. State law requires credit operations that have been authorized to be included in the multi-year and annual investment budgets. Specifically, plans and projects to be partly financed with loans have to be included in the multi-year plan, in the Budget Guidelines Act, and in the annual budgets. Laws 15.291 and 15.460 and the government's multi-year action plan for 2005-2007 include the ProAcesso program. The 2005-2007 PRAF includes provision for the external credit from the Bank to finance the first program.

**Table 7. Status of current liquid income (CLI)
(as of December 2004)**

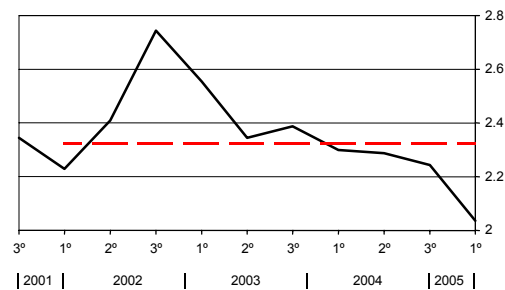
Legal rule	Legal limit	Real limit
Annual personnel costs/CLI (Art. 19 LRF – Law 101/00)	60.00%	48.33%
Global amount of operations in a fiscal year/CLI (Art. 7, subparagraph I, RSF 43/01)	16.00%	0.06%
Annual amount with amortization and other debt charges /CLI (Art. 7, subparagraph II, RSF 43/01)	11.50%	10.81%
Permitted consolidated liquid debt (Art. 7, subparagraph III of RSF 43/01 and Art. 3 of RSF 40/01)	2.2756 times or R\$37,993.367 million	2.24 times or R\$37,464.488 million

- 4.9 As Table 7 shows, the only limit that presents a real challenge to state finances is related to the consolidated liquid debt (CLD). Under Federal Senate Resolution (RFS) 40, the maximum limit is two times the current liquid income (CLI). However, the same resolution established a 15-year adjustment period for states that in 2001 were above that limit. In the case of Minas Gerais, the limit for 2004 was 2.27 times. In the first four months of 2005 (Figure 2) the debt limit was calculated to be 2.03 times, in other words the state government has debt capacity of up to US\$678 million.

4.10 The financial evaluation of the state government (see Link 13) indicates, based on the data obtained from the different state government agencies, the financial and budget documents, and according to the decrees and legal rules in effect, that Minas Gerais has sufficient financial capacity to shoulder the commitments stemming from this Bank loan and to make the required counterpart contributions. The documentation presented to the project team and the data included in the annual balance sheets for 2000 to 2004 indicate that the state government is satisfactorily meeting the targets established with the National Treasury Department and that its current level of debt falls within the limits, permitting it to contract a loan of up to US\$50 million for the first program and a loan of the same size for the second, scheduled to begin in the second half of 2008.

4.11 DER/MG receives operating resources from three main sources: the state treasury, the State Fund for Transportation Development (FUNTRANS), and the economic development tax (CIDE). FUNTRANS was established for an indefinite period under Law 13.542 of 12 January 2000, with the objective of financing and administering resources for services, works, actions, and activities related to the state transportation sector. FUNTRANS is run by DER/MG and the financial agent is the Banco de Desenvolvimento de Minas Gerais. FUNTRANS resources come from the state budget, federal government transfers, credit operations, funds for the transportation sector, income from public transportation concessions, highway concessions, administration of passenger terminals, and traffic fines, among other sources. Since it was established, FUNTRANS has transferred annual resources totaling US\$18.5 million. DER/MG also executes resources from the CIDE, a fuel tax that is transferred semiannually by the federal government and which totaled US\$61.8 million in 2004. It is required to be wholly invested in the roads sector.

Figure 2.
Evolution of CLD/CLI, 2001-2005 (quarters)



Debt limit (Art. 3, RSF 40/01)

4.12 The budget for fiscal year 2004 was US\$329.7 million, with US\$180.5 million going for current expenditures, US\$134.6 million for capital costs, and US\$8.2 million for road maintenance. In light of the renewed commitment of the state government to contribute funds to invest in road infrastructure, it is considered that DER/MG has the portfolio to execute the works to be financed in the first program. Table 8 presents current and projected flows of funds of the DER/MG during the period 2000-2010, including FUNTRANS resources. Starting in 2005, personnel expenditures fall because DER/MG will no longer be covering pension expenditures out of its budget, which will enable it to increase investments significantly.

Table 8. Projected flow of funds – DER/MG (In millions of constant reais as of December 2004)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Current income	360.14	434.35	748.36	467.82	713.02	653.16	528.87	557.42	584.84	613.58	643.71
Capital income	260.36	473.79	242.87	98.54	177.26	221.75	216.25	223.62	231.89	241.15	250.91
Total income	620.50	908.15	991.23	566.36	890.28	874.91	745.12	781.04	816.73	854.74	894.62
Capital expenditures	286.91	498.90	476.08	252.93	363.52	562.28	589.38	620.64	651.85	684.18	718.17
Investments	265.51	421.42	380.60	217.54	314.47	396.54	420.33	443.45	465.62	488.90	513.35
Road maintenance	-	34.22	20.07	30.73	22.22	30.00	33.60	37.60	42.10	47.10	52.70
Rehabilitation	*	*	*	*	*	127.00	131.20	135.30	139.30	143.30	147.20
Operating costs	339.65	412.05	504.01	382.21	487.43	312.63	155.74	160.40	164.88	170.56	176.46
Personnel costs	287.81	357.60	446.93	331.20	445.01	277.43	118.42	121.03	123.54	127.15	130.88
Total expenditures	626.56	910.94	980.09	635.14	850.95	874.91	745.12	781.04	816.73	854.74	894.62
Annual surplus/deficit	(6.06)	(2.80)	11.14	(68.79)	39.33	0	0	0	0	0	0

* **Note:** The rehabilitation expenditures are included under investments. They are estimated separately starting in 2005.

D. Environmental impact

4.13 In accordance with Regulatory Decision 074/2004 of the State Environmental Policy Council (COPAM), only one of the sections in the sample for the first program does not qualify as Class 1 (small size and medium impact), which corresponds to roads that are 10 km to 50 km long. Class-1 projects do not need a prior license but they are required to obtain an operating permit from the competent agency. The head of DER/MG is required to sign Terms of Responsibility, declaring himself responsible, even criminally liable, for all environmental damages that could be caused by the works. At the end of the works and after confirmation of adequate environmental execution by the State Environment Foundation (FEAM), the State Forest Administration (IEF), and the Minas Gerais Water Management Authority (IGAM), the permit is issued. The only section that requires a prior environmental license and an installation license⁴ is MG-307, which is between 50 km and 100 km long and is therefore classified as Class 3 (medium size and medium impact).

4.14 The positive impacts of the first program will mainly occur during the operating stage and will particularly benefit the socioeconomic area. The potential positive impacts are: (i) shorter travel times and better access to workplaces and public services; (ii) reduction in traffic accidents; (iii) better circulation conditions for pedestrians and cyclists in towns crossed by highways; (iv) better roadside air quality; (v) recovery of critical environmental liabilities along the roads; (vi) improvements in environmental management; and (vii) creation of jobs during the works.

4.15 The potential negative impacts, which could occur mainly during the construction stage, include: (i) land expropriation; (ii) interferences with green areas; (iii) deterioration of areas that are sources of materials for the works;

⁴ Single paragraph—The prior and installation licenses for Class-3 and Class-4 projects can be applied for and, if the environmental authority so determines, issued concurrently.

- (v) construction accidents; (vi) slow traffic and congestion close to the works; (vii) sound and air pollution caused by emissions from the equipment used; (viii) noise and vibrations caused by the works; and (ix) potential changes in land use.
- 4.16 **Socioenvironmental impact management plan.** Pursuant to the Bank's rules for a CCLIP, a strategic environmental assessment (SEA) was conducted which gives a detailed presentation of the programs for prevention, mitigation, and compensation for the environmental impacts of the two programs. A summary of the environmental subcomponents described in the SEA is given below.
- 4.17 **Social communications and environmental education programs.** The social communications program will be established—for the beneficiary communities, nearby towns, and users of the roads—to inform them about progress in the works and receive and reply to concerns, complaints, and suggestions regarding the measures adopted in the project. The environmental education program consists of developing actions to be formulated through a participatory process to educate the social sectors directly affected by paving the roads and the sectors directly involved in execution, supervision, and oversight of the works, thereby contributing to the establishment of a culture geared towards sustainable development and helping to improve environmental quality and the standard of living in the beneficiary regions. The social impacts of the program will be one of the subjects considered. The education program will be established by DER/MG's social communications sector, with support from the regional operations units involved. DER/MG will establish a direct channel of communications with the public using funds from the first program.
- 4.18 **Environmental compensation program.** No significant negative impacts on the conservation units are anticipated, given that the selected roads already exist and the main interferences they caused have already occurred. The access road to Grão Mogol is the only section close to a conservation unit, since it borders the recently created Grão Mogol State Park. Even so, the environmental agencies do not consider that paving that section would have relevant negative impacts on the park. DER/MG formally consulted the State Forest Administration, in accordance with federal environmental legislation, about potential compensation measures that would be required and prepared a compensation program also based on Bank policies. Implementation of the works will require little removal of plant cover in the permanent protected areas, which have already been greatly altered and are now covered with secondary growth.
- 4.19 **Environmental institution-building program (EIP).** FEAM declared that DER/MG is complying adequately with the environmental standards required by law. Even so, the SEA analyzed the actions of the executing agency in socioenvironmental areas, identifying its strengths and weaknesses and proposing institutional strengthening for it in environmental matters. The EIP

- (paragraph 2.14) will work in the following areas: (i) a proposal for an environmental policy for all stages of DER/MG's road projects; (ii) a review of standards and manuals; (iii) operational and technical environmental training for professionals and specialists from the Environment Division (DIMA); (iv) procurement of hardware and software for operational improvements in the Environment Division; and (v) development of a plan to manage the transportation of hazardous materials. The EIP will be implemented by consulting companies contracted and supervised by the Environment Division.
- 4.20 **Management plan for the transportation of hazardous materials.** The plan includes studies to identify routes for the transportation of hazardous materials in the state road system and a road management program that will provide DER/MG with knowledge and training in accident prevention and response, in accordance with its institutional responsibilities, and provide for its integration with the other agencies involved. The plan will be developed by consultants.
- 4.21 **Plan to control the impact of construction activities.** A specific environmental control plan (ECP) was prepared for each work in the sample, identifying the points or activities that require special attention from an environmental standpoint, and designing the most appropriate solutions. The ECPs will be part of the bidding documents for construction companies and technical supervision of the works. The bidding documents and contracts will contain clauses establishing the environmental responsibilities of the contractors, the mandatory observance of the environmental specifications established in the ECPs, and the penalties to be applied for nonconformities that have not been rectified. The optimizing measures proposed in the ECPs are: (i) erosion control; (ii) rehabilitation of degraded areas and environmental liabilities; (iii) rehabilitation of the landscape; (iv) support for works and services; (v) urban crossings and narrow bridges; (vi) proximity of water sources; and (vii) dissemination of environmental legislation or agreements.
- 4.22 **Environmental supervision program.** The program will supervise the works and guide the contracted firm to ensure the environmental quality of the services and furnish DER/MG with reliable information for decision-making, in particular: (i) the quality of the field services, including observance of the environmental engineering designs and recommendations (in accordance with the environmental control reports/environmental control plans); (ii) performance of the contracted firm in environmental matters and in the execution of environmental services and the specific legislation; and (iii) attention to the requirements of the environmental agencies (FEAM, IEF, IGAM, and IBAMA) and Bank policies. The plan will be implemented by a consulting company and supervised by the Environment Division.
- 4.23 **Environmental auditing program.** The program will verify and evaluate compliance with the commitments established in the pertinent environmental legislation, Bank policies, and implementation of the measures proposed in the

environmental program. The audits will be performed by a consultant who is independent of the institutions involved in the first program. They will be performed in tandem with the accounting and financial audits and, when necessary, specific audits may be required depending on nonconformities detected. The auditor's reports will be sent to the Bank, the executing agency, and the environmental agency.

- 4.24 **Environmental monitoring of the program.** A georeferenced database and monitoring and evaluation subsystems will be used. The program will be part of the environmental supervision program that will establish and describe the parameters and other indicators for monitoring the indirect impact. The environmental management plan includes environmental training in which the auditors from DER/MG's regional operations units will also participate. The training will provide tools to support the competent agencies in environmental matters and in the initial identification of problems at the same time as they carry out their usual tasks.
- 4.25 Except for geometric corrections of critical points, there will be no major alterations of the alignment of the roads. No impact on low-income groups or indigenous peoples was identified. For potential cases of low-income and/or vulnerable groups needing resettlement or special social and/or legal support, DER/MG will prepare and carry out a specific program, in accordance with the Bank's policy OP-710. The resources will come from the counterpart contribution. The most significant impacts associated with execution of the road works will be mitigated/prevented through the detailed environmental control plans, environmental education, and social communications. The terms of reference for the engineering designs call for the inclusion of environmental protection and mitigation measures. Local labor will be used for construction and maintenance.
- 4.26 DER/MG authorities have already begun the process of public consultations with civil society agents for the first program. For the projects in the representative sample, the consultations have already concluded. They conformed to Bank policies. The results were analyzed and incorporated into the projects. All the environmental studies were prepared in accordance with Brazil's environmental legislation and Bank requirements for similar projects. In compliance with the Bank's information disclosure policy, the socioenvironmental studies were made available to the public over the Internet, at DER/MG headquarters, and at the city halls of the beneficiary municipalities.
- 4.27 **Road safety.** Owing to the probable increase in speed on the roads and to mitigate foreseeable safety problems stemming from the improvements under the first program, all existing urban crossings and narrow bridges will have a differentiated surface. At city limits, housing clusters, schools, or narrow bridges, measures such as the following will be implemented: (i) special signage at regular intervals before and at the start of the city limits; (ii) installation of rumble strips and differentiated

pavement; (iii) construction of sidewalks; (iv) lighting; and (v) other speed reduction mechanisms.

E. Benefits and beneficiaries

- 4.28 The CCLIP and the first program will help to improve the quality of life and the human, economic, and social development of the inhabitants of municipalities with low HDIs that have unreliable connections to the federal and state highways in Minas Gerais. The main benefits expected in the municipalities that will benefit from the two programs are: (i) a reduction in transportation costs and travel times; (ii) greater safety in travel by road, reducing the risk of accidents; and (iii) a reduction in social inequity by providing permanent access on passable roads to social services and income-generating activities.
- 4.29 The main beneficiaries of the CCLIP will be the users of the Minas Gerais road system, particularly the inhabitants of the 22 municipalities targeted by the first program and the users of the sections that have been improved, through the reduction in vehicle operating costs and travel times, and fewer accidents thanks to better road safety. These benefits can also be transferred to owners of trucks that operate on these sections and to consumers of the freight they carry. Improvements in access and passability will bring benefits for the state government, which will be able to guarantee access to social services and workplaces and create the necessary conditions for the development of economic activities in the program's areas of influence.
- 4.30 **PTI/SEQ justification.** The works financed under the proposed program will benefit close to 500,000 people in 22 municipalities in north and northeastern Minas Gerais. Seventy-nine percent of that population has per capita household income of US\$1.70/day. The illiteracy rates are high and functional illiteracy (four to eight years of schooling) is prevalent, with the consequent sluggish economy. The municipalities also have a marked absence of job prospects and, as a result, the capacity of their population to compete actively on the job market is poor.

F. Risks

- 4.31 The first program does not entail any special risks. In the institutional area, DER/MG is a competent executing agency with extensive experience in working with the Bank, an appropriate organizational structure, and broad experience in contracting works with the private sector (paragraph 1.27). DER/MG has already begun work on 42 sections under ProAcesso (paragraph 1.18), which is fundamental experience for executing the CCLIP to be financed by the Bank. In the technical aspects, the works to be carried out are not difficult, and there is an extensive national and international market of trained supervisory and construction companies. As for technical and operational sustainability, DER/MG gives priority to maintaining the road system for which it is responsible and has been performing

continuous maintenance, assigning sufficient budgets (paragraphs 1.11, 1.12, 4.11, and 4.12). In the financial area, the results of the analysis of the state government's financial capacity (paragraph 4.10) show that it will be able to meet its counterpart commitments for the first program, including the resources it will need to allocate in the future for road maintenance (paragraph 4.12). In the environmental area, the works do not present major indirect impacts. The direct impacts are related to construction of the works, and they will be dealt with adequately through specific programs.

**Brazil: Conditional Credit Line for Investment Projects and
Program to Improve Road Access to Small Municipalities (ProAcesso-LHDI) in Minas Gerais
(BR-L1027)
Logical Framework Matrix**

Narrative Summary	Indicators	Means of Verification	Assumptions																		
Goal																					
To contribute to the socioeconomic development of 22 municipalities with low human development indexes in the state of Minas Gerais, by improving the conditions for access to the paved state or federal road system.	One year after completion of the first program, the selected indicators* for municipalities that are direct beneficiaries exhibit the following changes (in percentage points): AFV 30.0 PRPW 5.0 RPYA *AFV = Additional fiscal value; PRPW = Participation rate for pregnant women with four or more prenatal check-ups; and RPYA = Rate of participation of young adults in education	<ul style="list-style-type: none">Population Census (Brazilian Institute of Geography and Statistics)Additional fiscal value (Department of Finance of Minas Gerais)Minas Gerais Social Responsibility Index (Fundação João Pinheiro)	The economy of the state of Minas Gerais continues to grow, against a backdrop of macroeconomic stability.																		
Purpose																					
	By the end of the execution period for the first program (4 years):																				
To provide access to social services and income-generating activities for the inhabitants of the 22 beneficiary municipalities by providing a more efficient land transportation system (shorter travel times, lower transportation costs, improved safety) that is more reliable (passable year-round).	<div>1.1 1.1 The average economic cost of operating vehicles on the sections of road where works were performed, measured in US\$ and in constant values per vehicle/km estimated using HDM-4, changes as follows:</div> <div>Annual targets (baseline in boldface)</div> <table><tr><td></td><td>2004</td><td>2010</td></tr><tr><td>Cars</td><td>0.1448</td><td>0.0952</td></tr><tr><td>Busses</td><td>0.9577</td><td>0.5144</td></tr><tr><td>Trucks</td><td>0.7802</td><td>0.4844</td></tr></table> <div>1.2 Travel time (T) on sections paved under the program (measured in minutes) falls as follows:</div> <table><tr><td></td><td>2004</td><td>2010</td></tr><tr><td>T</td><td>37</td><td>28</td></tr></table>		2004	2010	Cars	0.1448	0.0952	Busses	0.9577	0.5144	Trucks	0.7802	0.4844		2004	2010	T	37	28	<div>1.1 Annual reports on indicators, produced by DER/MG.</div> <div>1.2 Evaluation reports of the sections, using the HDM model, once the works are completed. Runs of the HDM implemented by DER/MG.</div> <div>1.3 Specific time surveys and counts by DER/MG.</div> <div>1.4 Midterm and final evaluation reports by the independent consultant.</div> <div>1.5 Project performance monitoring report (PPMR) and project completion report (PCR).</div>	<div>1.1 The quality of the works and their maintenance are adequate.</div>
	2004	2010																			
Cars	0.1448	0.0952																			
Busses	0.9577	0.5144																			
Trucks	0.7802	0.4844																			
	2004	2010																			
T	37	28																			

Narrative Summary	Indicators	Means of Verification	Assumptions						
	<p>1.3 The Programmed Line Items Index for state interurban public transportation in the program’s area of influence improves as follows:</p> <table><tr><td></td><td>2005</td><td>2010</td></tr><tr><td>Index</td><td>83.7%</td><td>88.1%</td></tr></table> <p>1.4 Charges for interurban public transportation fall approximately 25%.</p>		2005	2010	Index	83.7%	88.1%		
	2005	2010							
Index	83.7%	88.1%							
Components									
<p>1. Road paving works</p>	<p><i>By the end of the execution period for the first program (4 years):</i></p> <p>1.1 In all, 595 km of access roads are paved in the 22 municipalities benefiting from the program.</p>	<p>1.1 Program progress reports by the program management unit.</p> <p>1.2 Annual reports on indicators, produced by DER/MG.</p> <p>1.3 Midterm and final evaluation reports by the independent consultant.</p> <p>1.4 PPMR and PCR</p>	<p>1.1 The program continues to enjoy financial support from the state.</p> <p>1.2 The state of Minas Gerais remains interested in improving road management.</p> <p>1.3 Adequate road maintenance budgets are maintained and executed.</p>						

Narrative Summary	Indicators	Means of Verification	Assumptions
<p>2. Strengthening the road management capacity of DER/MG</p>	<p><i>By the end of the execution period for the program (4 years):</i></p> <p>2.1 DER/MG has an environmental management plan.</p> <p>2.2 DER/MG has the integrated road infrastructure management system installed and operating.</p> <p>2.3 DER/MG has a data bank for transport of hazardous materials.</p> <p>2.4 DER/MG has issued an environmental policy.</p> <p>2.5 DER/MG has a program for transportation of hazardous materials in place by the end of phase two of the CCLIP.</p>	<p>2.1 Certification of the procurement of equipment and services by DER/MG.</p> <p>2.2 Report on activities by DER/MG.</p> <p>2.3 Midterm and final evaluation reports by the independent consultant.</p> <p>2.4 PPMR and PCR</p>	<p>2.1 The program continues to enjoy financial support from the state.</p> <p>2.2 The state of Minas Gerais remains interested in improving road management.</p>
<p>Activities See Budget</p>			

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION

Brazil. Individual Loan /OC-BR to the State of Minas Gerais of the Federative Republic of Brazil. Utilization of the resources of the Conditional Credit Line for Investment Projects established by Resolution DE- /05 Program to Improve Road Access to Small Municipalities (Processo) in Minas Gerais

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 utilize the resources of the Conditional Line of Credit for Investment Projects approved pursuant to Resolution DE- /05, by entering into such contract or contracts as may be necessary with the State of Minas Gerais, as Borrower, and the Federative Republic of Brazil, as Guarantor, for the purpose of granting the former financing for an individual operation for cooperating in the execution of a program to improve road access to small municipalities (Processo) in Minas Gerais. Such financing will be in the amount of up to US\$50,000,000, from the resources of the Single Currency Facility of the Bank's Ordinary Capital, and will be subject to the Financial Terms and Conditions and the Special Contractual Conditions of the Executive Summary of the Loan Proposal.

DOCUMENT OF THE INTER-AMERICAN DEVELOPMENT BANK

PROPOSED RESOLUTION

Brazil. Conditional Credit Line to Program to Improve Road Access to Small
Municipalities (Processo) in Minas Gerais

The Board of Executive Directors

RESOLVES:

1. 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 agreement or agreements as may be necessary with the State of Minas Gerais, to establish a Conditional Credit Line to Program to Improve Road Access to Small Municipalities (Processo) in Minas Gerais, hereinafter referred to as the "Credit Line", of up to the sum of US\$100,000,000, chargeable to the resources of the Single Currency Facility of the Ordinary Capital of the Bank.
2. That the establishment and utilization of the Credit Line shall be carried out in accordance with: (a) the objectives and regulations of the Conditional Credit Line for Investment Projects Lending Instrument established by Resolution DE-58/03 of July 16, 2003; and (b) the specific provisions set forth in document GN-2246-1.
3. That the approval of individual operations, up to an amount not to exceed US\$50,000,000 chargeable to the Credit Line, shall be subject to: (a) the condition that the Federative Republic of Brazil unconditionally guarantees the obligations contracted by the State of Minas Gerais in the respective individual operations as set forth in each of the Executive Summaries of the Individual Loan Proposals; and (b) with the exception of the first of such operations, to the satisfactory performance of the previous program or programs financed under the Credit Line.
4. That the amounts authorized to finance individual operations chargeable to the Credit Line shall be granted as individual loans subject to the usual financial terms and conditions applicable to financing from the resources of the Single Currency Facility of the Bank's Ordinary Capital, in force at the time that the individual operation is approved, which shall be specified in the executive summary of the corresponding loan proposal.

5. That the Bank may only sign an agreement or agreements with the State of Minas Gerais to grant financing for the first individual operation after the Credit Line agreement or agreements between the State of Minas Gerais and the Bank enter into force.

6. Notwithstanding the provisions of paragraph 5 of this Resolution, in the event the Borrower notifies the Bank in writing that the Credit Line agreement or agreements referred to in such paragraph will not enter into force within the period of one year from the date of approval of this Resolution, and upon a written request of the Borrower, the establishment of the Conditional Line of Credit authorized by this Resolution and the authorization for the financing of an individual operation by Resolution DE- /05 shall become void.