

PUBLIC

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**BOLIVIA**

**LA PAZ-SAN BORJA HIGHWAY**

**(BO0022)**

**LOAN PROPOSAL**

**OCTOBER 1975**

B O L I V I A

La Paz-San Borja Highway

Loan Summary

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## B O L I V I A

### LA PAZ-SAN BORJA HIGHWAY PROJECT

#### LOAN SUMMARY

##### 1. Frame of Reference of Project

Highway transportation in Bolivia has undergone significant development during the last five years, a period in which the government has undertaken the construction of a number of road projects important for the country's development. 1/ Bolivia has 37,300 kilometers of highways and roads, of which only 3.1% are asphalt-paved, and is at the stage of building the basic road infrastructure for linking up the various regions of the country. The proposed highway would be part of the basic network as it would link the Beni region with the national highway system.

The area of influence of the project embraces approximately 100,000 square kilometers in two sharply contrasting regions: (i) the Yunga region, formed by valleys running east to west in the eastern mountain range which have a wide variety of topography and climates, thereby permitting various agricultural activities to be carried out according to the elevation in each place, and which are in a stage of intensive development owing to rapid colonization in the region; and (ii) the level Beni region, extending eastward and northward from the Beni River and covered with forests and natural grassland, where most of the country's cattle-raising is concentrated (more than 1,000,000 head of cattle) and there is considerable unexploited potential. The terminal point of the highway (San Borja) is in the heart of this region and is one of the areas where there is greatest development of cattle-raising activities.

The proposed project is consistent with the aims of national integration, and its implementation would encourage resettlement, in these regions, of excess rural population from the country's Altiplano who would provide the necessary labor for agricultural and livestock development in these semi-populated regions, especially the Beni region.

##### 2. Objective and Description of Project

The chief objective of the project is to cooperate in the execution of the first phase (La Paz-San Borja) of the Beni highway, 2/ which forms part of the national program for connection with this department and its integration into the national highway network.

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1/ During these five years the Bank has granted Bolivia five loans and also technical cooperation for preparation of studies and construction of highways. The total amount of these operations is equivalent to US\$61,850,000.

2/ The technical and economic feasibility studies and final engineering plans for the highway to Beni were financed in part by Loan 17/CD-B0.

The La Paz-San Borja highway consists of three sections: (i) La Paz-Cotapata; (ii) Cotapata-Alto Beni River; and (iii) Alto Beni River-San Borja. The highway would be built in two stages in accordance with the country's financial possibilities.

The first stage of the highway would include the following: (1) reconstruction of the 43.2 kilometer La Paz-Cotapata section; (2) construction of an all-weather section approximately 142 kilometers long between the Alto Beni River and San Borja; and (3) construction of three major bridges and 16 minor bridges.

The second stage would comprise: (1) reconstruction of the Cotapata-Alto Beni section; and (2) improvement of the Alto Beni River-San Borja section, to be built in the first stage, to give it the definite characteristics of a highway and extend it as far as Puerto Salinas where the Beni River is navigable.

The project the Bank is requested to finance through this operation consists in the following work included in the first stage of execution of the highway: (1) reconstruction and asphalt paving of the La Paz-Cotapata section; (2) construction of three major bridges over the Yolosa, Yara and Alto Beni Rivers, 75, 200 and 570 meters long, respectively; and (3) construction of 16 minor bridges between the accesses to the Alto Beni and San Borja Rivers, with a combined length of 874 meters.

Construction of the section between the Alto Beni and San Borja Rivers, which is the other section of the first stage of the highway, would be carried out by SENAC and the Army Engineering Service (SIE) with funds of their own other than those for the local contribution to the project and would not form part of the project as defined in the loan contract. However, the borrower agrees to complete this section within the loan disbursement period so that the highway will be finished and there will be access to the bridge construction sites.

### 3. Cost and Financing of Project

The total cost of the project is estimated at the equivalent of US\$56,000,000 as itemized below by major categories:

(In US\$ thousands equivalent)

	<u>Foreign Exchange</u>			<u>Cost in local</u>	<u>Total</u>	<u>%</u>
	<u>Direct</u>	<u>Indirect</u>	<u>Subtotal</u>	<u>currency</u>		
1. Engineering and Administration	1,050	-	1,050	3,000	4,050	7.2
2. Direct Costs (Construction)	7,250	13,000	20,250	14,050	34,300	61.3
3. Financial Charges	1,800	-	1,800	350	2,150	3.8
4. No Specific Allocation	3,400	5,800	9,200	6,300	15,500	27.7
TOTAL	13,500	18,800	32,300	23,700	56,000	100.0
Percentage	24.1	33.6	57.7	42.3	100.0	

The project financing plan by investment categories is estimated as follows

(In equivalent of US\$ thousands)

	IDB Loan			SENAC			Total
	Costs in foreign currency	Costs in local currency	Sub- total	Costs in foreign currency	Costs in local currency	Sub- total	
<u>Engineering and Administration</u>	<u>1,050</u>	<u>2,450</u>	<u>3,500</u>	<u>-</u>	<u>550</u>	<u>550</u>	<u>4,050</u>
Supervision	1,050	2,450	3,500	-	-	-	3,500
Administration	-	-	-	-	550	550	550
<u>Net Costs (Construction)</u>	<u>20,250</u>	<u>7,550</u>	<u>27,800</u>	<u>-</u>	<u>6,500</u>	<u>6,500</u>	<u>34,300</u>
La Paz-Cotapata	13,600	6,400	20,000	-	4,500	4,500	24,500
Yolosa and Yara bridges	750	250	1,000	-	250	250	1,250
Alto Beni river bridge	2,940	610	3,550	-	850	850	4,400
Bridges to San Borja	2,960	290	3,250	-	850	850	4,100
Rights of way	-	-	-	-	50	50	50
<u>Financing Expenses</u>	<u>1,300</u>	<u>-</u>	<u>1,300</u>	<u>500</u>	<u>350</u>	<u>850</u>	<u>2,150</u>
Interest during execution	850	-	850	-	350	350	1,200
Credit commission	-	-	-	500	-	500	500
IDB inspection fee	450	-	450	-	-	-	450
<u>Specified</u>	<u>9,200</u>	<u>3,200</u>	<u>12,400</u>	<u>-</u>	<u>3,100</u>	<u>3,100</u>	<u>15,500</u>
Cost escalation	6,000	2,100	8,100	-	2,000	2,000	10,100
Contingencies	3,200	1,100	4,300	-	1,100	1,100	5,400
<b>TOTAL</b>	<u><u>31,800</u></u>	<u><u>13,200</u></u>	<u><u>45,000</u></u>	<u><u>500</u></u>	<u><u>10,500</u></u>	<u><u>11,000</u></u>	<u><u>56,000</u></u>
<b>Percentage</b>	<b>56.8</b>	<b>23.6</b>	<b>80.4</b>	<b>0.9</b>	<b>18.7</b>	<b>19.6</b>	<b>100.0</b>

4. The project currencies of origin and use would be as follows:

(In US\$ thousands equivalent)

	<u>Currency of Origin</u>		<u>Expenditures to be incurred</u>		<u>Total</u>	<u>%</u>
	<u>Foreign exchange</u>	<u>Local currency</u>	<u>Foreign exchange</u>	<u>Local currency</u>		
IDB	35,000	10,000	31,800 <u>1/</u>	13,200 <u>2/</u>	45,000	80.4
SENAC	500	10,500	500	10,500	11,000	19.6
TOTAL	35,500	20,500	32,300	23,700	56,000	100.0
Percentage	63.4	36.6	57.7	42.3	100.0	

#### 5. Principal Aspects of the Operation

The project would be executed by the Servicio Nacional de Caminos (SENAC), the public agency charged with construction and maintenance of highways in Bolivia. SENAC has adequate personnel and experience for carrying out the project.

The technical and legal documentation needed for beginning the bidding and contracting stage of the project has been prepared by SENAC and was submitted for the Bank's review in August 1975. This documentation includes: (i) documents for prequalification of contracting firms (bases, terms of reference, regulations, etc.); (ii) specifications, plans and construction bidding requirements, which would be supplied to the firms finally chosen to submit proposals; (iii) model construction contract; and (iv) terms of reference and draft contract for supervision of construction. As for this latter point - supervision of construction - the intention of SENAC is to engage the services of the same consulting firm that studied the project during execution of Loan 17/CD-BO. SENAC presented a request to the Bank (August 1975) with this in view, and the request is now being studied.

Analysis of the loan made by the Bank for projects executed by SENAC has shown that the agency had administered them in an acceptable way and that the principal problems which arose in the construction of some highways have

1/ Includes the equivalent of US\$18,800,000 in indirect foreign exchange costs.

2/ US\$3,200,000 of the foreign exchange component of the loan would be used to finance local costs; this would represent 7.3% of the loan and 9.1% of its foreign exchange component.

now been solved or are being solved. The experience gained by SENAC in connection with these loans makes it likely that SENAC's administration will operate more efficiently in the execution of the present project, particularly bearing in mind the foresight shown by SENAC in preparing the documents for award of construction contracts.

The financial analysis of SENAC indicates that the agency would be in a position to provide the local contribution on a timely basis for this project, and the study of the country's fiscal situation confirms that the government will be able to continue its policy of extending financial support to SENAC for the execution of its program of investments in highway infrastructure.

Analysis of the economic feasibility of the project as a whole, performed by the consultants, shows that the project would indeed be economically viable and that its component parts would have the following rates of economic return: La Paz-Cotapata section, 18.8%; Yolosa and Yara bridges, over 50%; Alto Beni River bridge, 15.4%; and minor bridges, 24.2%. All these rates are considered satisfactory. Analysis of the optimum time for building the minor bridges shows the advisability of constructing them simultaneously with the highway. (See Chapter VI of Project Report).



PROPOSED RESOLUTION

BOLIVIA. LOAN TO THE REPUBLIC OF BOLIVIA  
(La Paz-San Borja Highway)

The Board of Executive Directors

RESOLVES:

That the President of the Bank, or such representative as he shall designate, is authorized, in the name and on behalf of the Bank, to enter into such contract or contracts as may be necessary with the Republic of Bolivia for the purpose of granting it a loan to cooperate in the financing of a project consisting of the construction of the following works corresponding to the La Paz-San Borja highway between the departments of La Paz and Beni: (a) La Paz-Cota Pata section; and (b) 19 bridges along the above-mentioned highway. This loan shall be subject substantially to the following conditions:

1. Amount and Currencies: Up to US\$45,000,000, or the equivalent in other currencies which are part of the Fund for Special Operations, of which amount: (a) up to US\$35,000,000 or the equivalent in other currencies (except that of Bolivia), shall be disbursed to pay for goods and services acquired through international competition in the member countries of the Bank and for such other purposes as may be specified in the loan contract; and (b) up to the equivalent of US\$10,000,000 shall be disbursed in Bolivian pesos to cover local expenses. Payments of amortization and interest shall be effected in the respective currencies disbursed, in accordance with provisions to be included in the loan contract.
2. Source of Funds: The Fund for Special Operations.
3. Guarantee: The general responsibility of the borrower.
4. Credit Commission: 1/2 of 1% per annum on the undisbursed portion of the sum indicated in subparagraph 1(a) of this resolution, commencing to accrue from the day the Bank makes the first disbursement for the project, other than for inspection and supervision, or 12 months after the date of this resolution, whichever shall occur earlier. The commission shall be payable in dollars of the United States of America on the same dates as the interest.

5. Amortization: The borrower shall amortize the loan in a period of 40 years from the date of the contract, by means of 60 equal and consecutive semiannual installments. The first installment shall be paid 10-1/2 years after such date.
6. Interest: 1% per annum during the first 10 years from the date of the contract and 2% per annum thereafter. Interest shall be payable semiannually on principal amounts outstanding, and the first payment shall be made 6 months after the date of the contract. At the request of the borrower, resources of the loan may be used to pay the interest in foreign exchange during the disbursement period.
7. Disbursement: Total disbursement of the loan shall be made within a period of 5 years from the date of the contract.
8. Special Conditions:
  - (a) The resources of the loan shall be utilized in their entirety by the Servicio Nacional de Caminos (SENAC). If modifications in the legal provisions or the basic regulations concerning SENAC are approved which, in the opinion of the Bank, may substantially affect the project, the Bank may take such measures as it deems appropriate in accordance with provisions to be set forth in the loan contract.
  - (b) The loan shall be used to participate in the financing of a project estimated at the equivalent of US\$56,000,000, and in no case shall the participation of the resources of the loan exceed 80.4% of the total amount of the project. Consequently, the loan contract shall contain such provisions as the Bank deems appropriate to ensure that such national resources as may be necessary, in addition to the loan, for the complete execution of the project shall be duly provided, in an amount estimated at the equivalent of US\$11,000,000, in accordance with a schedule of investments satisfactory to the Bank.
  - (c) Prior to the first disbursement from the loan, the borrower, through SENAC, shall present evidence to the Bank's satisfaction of having contracted, in accordance with procedures to be set forth in the loan contract for the services of a firm of consulting engineers to: (i) advise in the preparation of the bidding documents and the study of the bids; and (ii) supervise and inspect construction.

- (d) The borrower shall give the highest priority to the execution of the project, and that of the projects financed by the Bank through loans 342/SF-BO, 351/SF-BO and 399/SF-BO, making available at the proper times, and with preference over any other investment in highway projects carried out during the respective periods of execution, such national resources, in addition to the loan mentioned in 8(b) above and to the other loans mentioned above, as may be necessary for the complete execution of the corresponding projects. The borrower shall accord equally high priority to road projects which are financed with funds of its own and which are related to projects financed with resources of the Bank, such as those relating to the Bella Vista-Alto Beni and Alto Beni-San Borja sections of the Beni highway.
- (e) In the acquisition of machinery, equipment and other materials for the project, and in the awarding of construction contracts, the system of public bids shall be followed in each case in which the value of such acquisition or contracts exceeds the equivalent of US\$25,000. The bidding procedures shall appear as an annex to the loan contract.
- (f) The Bank shall establish such inspection procedures as it deems necessary to assure the satisfactory execution of the project, and the borrower shall extend all cooperation which is required for the most effective accomplishment of this purpose. The amount to be charged to the resources of the loan and credited to the general income accounts of the Bank as the Bank's commission for general inspection and supervision shall be established in the contract.

RECOMMENDATIONS

It is recommended that the following conditions be included in the loan contract in addition to the conditions set forth in the proposed resolution:

1. The borrower undertakes to complete prior to the date of the last disbursement of the loan, an all-year access road between the Alto Beni river and the locality of San Borja.
2. Prior to each call for bids for construction, SENAC shall present to the Bank: (i) proof that it possesses the necessary rights to the corresponding lands; and (ii) the bidding requirements, plans, specifications and other documents needed for the call for bids.
3. SENAC shall demonstrate to the Bank: (i) prior to the award of contracts for any of the bridges included in the project, that the respective construction sites are readily accessible to the necessary staff and equipment; (ii) prior to the award of contracts for bridges located East of Alto Beni River, that an access road between Alto Beni River and D'Artagnan River has been built, and that the construction schedule to complete such access road up to the locality of San Borja ensures the compliance of the requirements mentioned in (1) above.
4. The borrower shall undertake to maintain the works financed in part with the resources of the loan in accordance with standards acceptable to the Bank and consistent with the provisions in Section V of Appendix III to this document during a period of 10 years counted from the completion of the project.
5. For the purpose of performing an evaluation of the impact of the project, the borrower shall present to the Bank, one year after completion of the project and annually thereafter during 10 years, reports on the volume and classification of the traffic on each of the section of the highway included in the project.
6. The financial statements on the project shall be audited in the manner prescribed in paragraph 5.10 of the Project Report.
7. The loan contract shall include an annex substantially similar in content to Appendix III (Description of Project) to this document.
8. Of the resources of the loan, the sum of US\$450,000 shall be set aside to cover the commission of the Bank for general inspection and supervision.
9. The dollars of the United States of America to be utilized in the loan from the Fund for Special Operations shall be drawn from the resources contributed to that Fund by virtue of the increases approved by Resolutions AG-2/65, AG-10/67 and/or AG-12/70.

## APPENDIX III

### DESCRIPTION OF PROJECT

(Annex B to Loan Contract)

#### I. Objective and Description of Project

- 1.1 The purpose of the Project is to carry out various construction works corresponding to the La Paz-San Borja highway, which is part of the national program for connection with and integration of Beni Department. The Project consists specifically of: (i) reconstruction of the La Paz-Cota Pata section (approximately 43.2 kilometers long); (ii) construction of bridges over the Yolosa and Yara rivers, approximately 75 and 200 meters long, respectively; (iii) construction of a bridge over the Alto Beni River approximately 570 meters long; and (iv) construction of 16 minor bridges between the crossing of the Alto Beni River and the locality of San Borja.

#### II. Cost and Financing of Project

- 2.1 The total cost of the Project is estimated at the equivalent of US\$56,000,000, and its breakdown by investment category and sources of financing would be as follows:

(In US\$ thousands equivalent)

	BANK LOAN			BORROWER			Total
	Foreign exchange	Local currency	Subtotal	Foreign exchange	Local currency	Subtotal	
Engineering and Administration	1,050	2,450	3,500	-	500	550	4,050
Supervision	1,050	2,450	3,500	-	-	-	3,500
Administration	-	-	-	-	550	550	550
Direct Costs (Construction)	20,250	7,550	27,800	-	6,500	6,500	34,300
La Paz-Cota Pata	13,600	6,400	20,000	-	4,500	4,500	24,500
Yolosa and Yara bridges	750	250	1,000	-	250	250	1,250
Alto Beni River bridge	2,940	610	3,550	-	850	850	4,400
Bridges to San Borja	2,960	290	3,250	-	850	850	4,100
Rights of way	-	-	-	-	50	50	50
Financial Charges	1,300	-	1,300	500	350	850	2,150
Interest during disbursement	850	-	850	-	350	350	1,200
Credit commission	-	-	-	500	-	500	500
Bank inspection fee	450	-	450	-	-	-	450
Specific Allocation	9,200	3,200	12,400	-	3,100	3,100	15,500
Escalation	6,000	2,100	8,100	-	2,000	2,000	10,100
Contingencies	3,200	1,100	4,300	-	1,100	1,100	5,400
TOTAL	31,800	13,200	45,000	500	10,500	11,000	56,000
Percentages	56.8	23.6	80.4	0.9	18.7	19.6	100.0

2.2 The currencies of origin and use would be as follows:

(In US\$ thousands equivalent)

	<u>Currency of Origin</u>		<u>Expenditures to be Incurred</u>		<u>Totals</u>	<u>%</u>
	<u>Foreign exchange</u>	<u>Local currency</u>	<u>Foreign exchange</u>	<u>Local currency</u>		
BANK	35,000	10,000	31,800 <sup>1/</sup>	13,200	45,000	80.4
BORROWER	500	10,500	500	10,500	11,000	19.6
TOTALS	<u>35,500</u>	<u>20,500</u>	<u>32,300</u>	<u>23,700</u>	<u>56,000</u>	<u>100.0</u>
Percentages	63.4	36.6	57.7	42.3	100.0	

<sup>1/</sup> Includes the equivalent of US\$18,800,000 in indirect foreign exchange costs.

### III. Bidding Requirements

3.1 When the corresponding investments are to be financed in whole or in part with foreign exchange from the Bank's Loan, the specific bidding requirements shall be such as to permit unrestricted participation of bidders of or from countries which are eligible under the eligibility rules governing the use of resources of the Fund for Special Operations. Consequently, no conditions precluding or restricting the participation of such bidders shall be established in such specific bidding requirements.

### IV. Selection and Contracting of Consultants

4.1 In the selection and contracting of consultants for the Project, the borrower shall follow procedures satisfactory to the Bank and shall not establish for application, either before or after the rendering of services: (i) provisions or conditions precluding or restricting the selection and contracting of consultants from eligible countries in accordance with the Loan Contract; or (ii) requirements or conditions based on the nationality of such consultants.

### V. Maintenance of the Highway

5.1 For the purpose of ensuring adequate maintenance of the works, the following rules shall be observed to the Bank's satisfaction:

- (a) The basic purpose of the maintenance shall be to keep the Project works in substantially the same condition as they are in when completed.

- (b) The annual maintenance plan shall be presented to the Bank at least three (3) months before the start of each fiscal year and shall include, as a minimum, a description of the agency responsible for maintenance, with a specification of the staff in charge of maintenance; the number, type and condition of the equipment to be used in this work; the location, size and condition of the workshops, warehouses (or depots) and maintenance camps; the type of control to be used to limit the size and weight of vehicles using the highway; and the number of kilometers and location of the sections assigned to each maintenance unit.
- (c) Such plan shall also state the amount of funds available for maintenance (not counting improvement operations) in the budget for the current year and the amount to be assigned in the budget for the year in which the plan will be executed.
- (d) The plan shall include also a report on maintenance conditions, based on a system of evaluation of adequacy. Such system shall be so structured as to provide an over-all rating of maintenance conditions of the highway, the rating to be based on a numerical evaluation of the various components such as pavements, embankments, culverts, drainage structures and bridges.
- (e) The Bank shall have the right to make periodic inspections of the highway. In the event that on the basis of such inspections or of reports received by the Bank it should be determined that the maintenance being done is below the agreed upon levels, the borrower shall take the necessary steps so that the deficiencies noted will be corrected in full.