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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

CAPITAL ASSISTANCE PAPER

Proposal and Recommendations
For the Review of the
Development Loan Committee

526-b-015

PARAGUAY - BRAZIL ROAD REHABILITATION AND IMPROVEMENT

AID-DLC/P-447

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DEPARTMENT OF STATE
AGENCY FOR INTERNATIONAL DEVELOPMENT
Washington, D.C. 20523

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AID-DLC/P-447
June 17, 1966

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Paraguay - Brazil Road Rehabilitation and Improvement

Attached for your review are the recommendations for authorization of a loan in an amount not to exceed \$4,680,000 to the Government of Paraguay ("Borrower") to assist in financing U.S. dollar and Paraguayan guarani costs of the rehabilitation and improvement of a highway from Asuncion, Paraguay to Pto. Presidente Stroessner, Paraguay ("Project").

This loan proposal is scheduled for consideration by the Development Loan Staff Committee at a meeting in the near future.

Rachel C. Rogers
Assistant Secretary
Development Loan Committee

Attachments:

Summary and Recommendations
Project Analysis
Annexes I-IV

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PARAGUAY - BRAZIL ROAD REHABILITATION

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PARAGUAY - BRAZIL ROAD REHABILITATION

SUMMARY AND RECOMMENDATION

1. BORROWER: The Borrower of this loan will be the Government of Paraguay. The Ministry of Public Works and Communications will be responsible for administration of the construction and implementation of the project.
2. AMOUNT: Total cost of the project is estimated to be \$5,460,000. AID will finance \$4,680,000 of the project costs which include \$3,900,000 in foreign exchange and \$780,000 in local currency. The GOP will finance the other \$780,000 in local currency costs and a condition requiring such contribution will be contained in the loan authorization.
3. LOAN TERMS: Amortization in 40 years. Grace period 10 years. Interest at 1% during grace period, 2 1/2% thereafter, on outstanding balance.
4. DESCRIPTION OF PROJECT: This project proposes the rehabilitation of the 205 mile "Brazil Road" extending from Asunción to Pto.Pte. Stroessner on the Brazilian border. The necessary work has already been established by a Brown & Root feasibility study and consists of: Section A (Asunción - Eusebio Ayala), drainage improvement plus surface leveling and reinforcement; Section B (Eusebio Ayala - Coronel Oviedo), almost total base and surface reconstruction; Section C (Coronel Oviedo - Caaguazú), major base reinforcement; and Section D (Caaguazú - Pto.Pte.Stroessner), major surface reinforcement.
5. PURPOSE OF PROJECT: To assist in financing the engineering and construction costs for the necessary rehabilitation of Paraguay's main arterial highway. The importance of this highway to the economic, political and social development of Paraguay is demonstrated not only by the \$20 plus million already invested in its construction but also by the centering upon it of much of the planned growth of the country's economy.

Traditionally, all of Paraguay's foreign trade - save the small though important segment carried by air - has had to travel the 1000 mile Paraguay - Paraná - Plata river system to reach the ocean; dependence on this slow, shallow, unreliable waterway

has imposed a tremendous economic burden on Paraguay, with the social costs necessarily attendant on poverty and isolation. Now, with the granting by Brazil of a free port at Paranaguá, on the Atlantic, plus the projected paving (under a \$25 million IDB loan) of the Brazilian highway from Paranaguá to Pto. Pte. Stroessner, Paraguay will have the opportunity to reap the benefits of modern, efficient, high-speed trucking, following a considerably shorter route to the sea.

Internally, the people of Paraguay have in the past been forced to settle not where the best resources lay but where at least some transportation was available - and at that, lack of adequate transport facilities has been the major limiting factor in the country's overall development. The prompt and vigorous response of government and people to the original construction and surfacing of the Brazil Road attest to its importance: the penetration roads north from Coronel Oviedo, the numerous colonies to the east, the public health clinics along the road, the new city of Pto. Pte. Stroessner, the farms and stores and logging camps all bear witness.

It appears only reasonable to preserve and enhance the value of these existing and projected investments and opportunities by rehabilitating the Brazil Road so that it can properly fulfill its intended functions.

5. BACKGROUND OF PROJECT: The Brazil Road was built in 3 stages: an initial EximBank-financed portion in 1942-43, built by a US construction firm; extension to Pto. Pte. Stroessner as a dirt road by a joint Brazilian - Paraguayan Commission between 1955 and 1959; and completion as an asphalt surfaced road by a US construction firm and a US consulting engineer, under DLF Loans 14 and 216, from 1959-65. Certain failures in the existing road have called for the rehabilitation of a portion of the proposed project; the remainder of the project is intended to reduce maintenance costs and prevent further failures.

7. ALTERNATE FINANCING: IBRD advised AID on May 18, 1966 that it would not be in a position to consider a loan for this project at this time and IDB did likewise on . . . Additionally on . . . Export-Import Bank advised that it was not interested in financing this project.
8. COUNTRY TEAM VIEWS: It is the opinion of the Country Team that this project is vital to the economic, political and social well-being of Paraguay and should be given the highest priority. The sustained opening up of the interior of Eastern Paraguay to colonization, farming and timber exploitation; the relief of population pressures in the heavily settled areas around Asunción; the expansion of the Paraguayan economy through increased accessibility of both internal and external markets; the improvement of tourist and commodity trade with and through Brazil; and the decreased economic dependence upon the river for access to the sea, all will benefit from this project.
9. STATUTORY CRITERIA: All statutory criteria have been or will be met.
10. ISSUES: Issues presented and discussed in the paper relate to:
 1. Inclusion in the project of certain work on Section A (Asunción-Eusebio Ayala).
 2. GOP Debt delinquencies. Discussed in Classified Supplement (AID-DLC/P-447/1).
11. RECOMMENDATION: Authorization of a loan to the Government of Paraguay up to Four Million Six Hundred Eighty Thousand Dollars (\$4,680,000). The loan would be subject to the following terms and conditions:
 - A. Interest and Terms of Repayment

Borrower shall repay the loan to A.I.D. in United States dollars within forty (40) years from the first disbursement under the loan, including a grace period of not to exceed ten (10) years. Borrower shall pay to A.I.D. in United States dollars on the disbursed balance of the loan interest of one (1) percent per annum during the grace period and two and one-half (2 1/2) percent per annum thereafter.

B. Other Terms and Conditions

1. Prior to the first disbursement or issuance of the first commitment document, other than to finance engineering services, Borrower shall furnish AID, in form and substance satisfactory to AID:

- (a) a commitment to allocate through its regular budgetary procedures all necessary monies for the payment, as scheduled, of all GOP debts to AID or its predecessor agencies;
- (b) evidence that Borrower has available, or will have available when necessary, from sources acceptable to A.I.D., the guarani equivalent of at least seven hundred and eighty thousand United States dollars (\$780,000) for use on the Project;
- (c) evidence of arrangements (i) for the establishment and operation of vehicle weighing stations along the Project highway and (ii) for the enforcement on the Project highway of the requirements of Paraguay Decree Law No.22.094 or such subsequent law as AID shall approve with respect to vehicle load limits;
- (d) a detailed plan for the maintenance of the Project highway and all other roads constituting the highway network of Paraguay for which Borrower's Ministry of Public Works and Communications (MOPC) is responsible, which shall include, but not necessarily be limited to plans for
 - (i) the establishment of a reorganized highway department within the MOPC and the establishment of a road maintenance organization within that highway department;
 - (ii) the establishment of regional maintenance districts and the outlining of the responsibilities of each such district;
 - (iii) the provision of adequate facilities, equipment and personnel for each such maintenance district;
 - (iv) the maintenance of road maintenance facilities and equipment;
 - (v) the training of road maintenance personnel;
 - (vi) the reorganization of administrative and accounting offices to support the highway department and its maintenance organization;

- (vii) the obtaining of maintenance experts from external sources to assist in carrying out the plan;
- (viii) the providing and/or obtaining of the financing necessary for the execution of the plan; and
- (ix) a timetable for the implementation of the plan;
- (e) a commitment to allocate to highway maintenance for the calendar years 1967 and 1968 the budgetary and other resources specified in the plan submitted pursuant to the preceding sub-section; and
- (f) Evidence that Borrower has obtained all real property rights, including easements and rights of way, required for completion of the Project, or shall obtain such rights in time to permit the orderly construction of the Project.

3. Borrower shall contribute to the Project, from sources acceptable to A.I.D., the guarani equivalent of at least seven hundred and eighty thousand United States dollars (\$780,000), and Borrower shall also provide, or cause to be provided, any additional resources which are necessary for the timely completion of the Project;

4. Borrower shall cause a nationwide program of road maintenance to be carried out in conformity with the plan approved by AID hereunder and shall make available to that program in timely fashion the resources agreed therein to be provided;

5. Borrower shall establish and operate, or cause to be established and operated, vehicle weighing stations along the Project road and shall enforce on the Project road the vehicle load limit requirements of Paraguay Decree Law No. 22094, or such subsequent law as AID shall approve;

6. Borrower periodically shall consult with A.I.D. concerning its implementation of the highway maintenance program referred to in paragraph B(4) hereof.

7. Equipment, materials and services (except shipping and marine insurance) financed under the loan shall have their origin in and be procured from the United States or Paraguay. Shipping financed under the loan shall be from the United States, and marine insurance financed under the loan shall be placed in the United States.

8. United States dollars utilized under the loan to finance local currency costs shall be made available to Borrower or its designee only through Special Letters of Credit and shall be used only for procurement in the United States.

9. The loan shall be subject to such other terms and conditions as A.I.D. may deem advisable.

Capital Assistance Committee

Loan Officer:	Paul Wenger
Engineers:	Fitzhugh McRee/Harold Monson
Counsel:	Gerald Flood
Economic Advisor:	Joseph Pincus

Drafted: P. Wenger/J. Pincus/F. McRee

June 17, 1966

SECTION I - DETAILED DESCRIPTION OF PROJECT

A. Borrower

1. Name and Description. The Borrower of this loan will be the Government of Paraguay ("GOP"). The administration of the construction contract and the related maintenance work will be the responsibility of the Ministry of Public Works and Communications (MOPC).

2. Organization and Experience of Administering Agency. The Ministry of Public Works and Communications has, in its present form, been the government agency in charge of road construction and maintenance since 1947. MOPC has administered numerous loans and grants, both from AID and from other lending institutions, and is considered generally competent to perform its functions under this project. An MOPC administrative, accounting and financing reorganization proposed in connection with the IBRD/IDA road loan and the Geotécnica road maintenance plan (see Section I.E.2. d) should further increase MOPC's ability to make effective use of available resources and should rationalize and improve its budgetary support so as to insure that adequate resources are in fact available.

3. Previous U.S. and Other Assistance to Borrower. AID and its predecessor agencies, as well as Eximbank have carried out both grant and loan programs in Paraguay for over 25 years; for more than 5 years IBRD/IDA, EDB and other non-US government units have also had comparable programs. Paraguay is considered well suited for external concessional development financing both because of the high degree of need and because the economic, financial, social, and political stability of the country make it probable that substantial beneficial effects will accrue from such financing. The details of Paraguay's external financing are discussed in Section I - F (below) and set forth in tabular form as Annex III, Exhibit 4.

B. History and Background of the Project

This road has long been considered one of the two main highway arteries

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of Paraguay. (The other, Route I, from Asunción to Encarnación is presently being paved under an IERD/IDA loan.) Its construction as a modern road commenced when Eximbank loans totaling \$6 million, granted in 1939 and 1943, financed a Telford (large stones) base paving and asphalt surfacing of the road from Asunción to Eusebio Ayala and a Telford base with laterite (a local sandy soil) surface from Eusebio Ayala to Coronel Oviedo (plus the branch road from Coronel Oviedo to Villarrica which is now about to be paved under an IERD loan). These loans have since been repaid.

In 1955 a Paraguayan - Brazilian joint Commission commenced an unsurfaced continuation of this road to Pto. Pte. Stroessner on the Paraná River, which at that point forms the border between Brazil and Paraguay; this joint project was undertaken in conjunction with the construction by Brazil of the Friendship Bridge across the Paraná and with the granting by Brazil to Paraguay of free port privileges at Paranaguá, on the Atlantic coast, some 800 km from Pto. Pte. Stroessner. This unsurfaced road was completed in 1959; severe monetary inflation of both the cruzeiro and the guaraní during the period of construction makes it impossible to compute the exact cost of this project, but from the scope of work (195 km of road plus 135 meters of reinforced concrete bridges), an estimate of \$5 million would appear reasonable.

In 1958, DLF loan No. 14, for \$2.5 million, was granted for the purpose of gravel surfacing the road from Cnel. Oviedo to Pto. Pte. Stroessner. The surfacing concept was soon changed, however, to that of providing an asphalted road, and the funds under DLF 14 proved inadequate for the task. Therefore, in 1961, DLF Loan No. 216 was granted for \$7.1 million, in order that an asphalt surfaced all weather road might be provided from Asunción to the Brazilian Border. Construction proceeded apace and was completed in early 1965. The total cost of the road was thus in excess of \$20 million (closer to \$30 million in terms of 1966 dollars).

Since this road not only opened up one of the most potentially productive areas of the country, but also provided access both to Paraguay's larger and more advanced neighbor, Brazil, and through Brazil to the sea, it became the focus for much related economic and social development. Numerous colonies, farms, timber exploitation projects, cottage industries, stores, gas stations, restaurants, etc., plus several public health clinics, have

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already opened and many more are in the planning or construction stages. New penetration roads into hitherto untapped northeastern Paraguay feed into the Brazil Road at Coronel Oviedo. The Acaray hydroelectric complex near Pto. Pte. Stroessner will provide cheap power to all of Eastern Paraguay (plus portions of Brazil and Argentina.)

And now the IDB has granted Brazil a \$25 million loan to pave the road from Pto. Pte. Stroessner to Paranagua, completing Paraguay's link to the sea - a first class road without the delays and uncertainties of either a dirt road or the slow and unreliable Paraguay/Parana river system.

Yet, even as the existing road was being completed, certain section of it were beginning to incur failures. According to the engineers, this breakup is progressively worsening and unless arrested by rehabilitation will result in portions of the road becoming partially useless, with the consequent substantial diminution of the economic, social and political values that an adequate road could provide. The remainder of the road requires upgrading to enable it to carry heavy traffic without undue maintenance costs. The technical feasibility and cost of the project have been established by a Brown & Root engineering study, dated August 18, 1965, encompassing design standards adequate to prevent further general failures.

C. Country Team Comments

It is the opinion of the Country Team that this project is vital to the economic, political and social well-being of Paraguay and should be given the highest priority. The sustained opening up of the interior of Eastern Paraguay to colonization, farming and timber exploitation; the relief of population pressures in the heavily settled areas around Asuncion; the expansion of the Paraguayan economy through increased accessibility of both internal and external markets; the improvement of both tourist and commodity trade with and through Brazil; and the decreased economic dependence upon the river for access to the sea will all benefit from this project.

D. Alternative Sources of Financing

IBRD advised AID on May 18, 1966 that it would not be in a position to consider a loan for this project at this time and IDB did likewise on _____. Additionally on _____ Export-Import Bank advised that it was not interested in financing this project.

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E. Engineering Analysis

1. General Description of Project. This project proposes the rehabilitation of the "Brazil Road" extending from Asunción to the Brazil border at Pto. Pte. Stroessner, a distance of some 327 kilometers (205 miles). For purposes of identification the road will be divided into four sections: A, B, C, and D, a map and diagram of which are shown in Annex II, Exhibits 1&2.

Section A - Asunción to Eusebio Ayala (73 km) - This section was built in 1941-42 by the U.S. construction firm of R. Hebard under Eximbank financing. Under DLF Loan No. 216 financing and a contract with the U.S. construction firm of Morrison-Knudsen, with Brown & Root as Consulting Engineers, this section was given an additional bituminous surface treatment. The surface and edges have since ravelled in numerous places and there have been some base failures.

Proposed new work consists of seal coating 20 km, leveling and sealcoating 53 kms, construction of tile drains and 3 pipe culverts.

The estimated cost of this section is \$834,171 of which \$238,280 will be the local currency cost.

Section B - Eusebio Ayala to Cnel. Oviedo (59 km) - This section was also constructed in 1942 by R. Hebard under Eximbank financing and consisted of a Telford base with a laterite surface. Work under the M-K contract and DLF Loan No. 216 consisted of blading off the laterite surface, as specified by Brown & Root, and adding a bituminous macadam surface. Since construction of the bituminous surface numerous major failures have occurred in both the surface and base courses which require extensive reconstruction.

Proposed new work includes reworking and reinforcing the Telford base and subgrade and a new asphalt surface together with several additional drainage structures.

The estimated cost of this section is \$2,175,085 of which \$640,000 will be the local currency cost.

Section C - Cnel. Oviedo to Caaguazí (50 km) - This section was constructed by the GOP on force account under a management contract with M-K with DLF Loan No. 14 financing. A bituminous seal coat only was provided

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under the more recent M-K contract and Loan No. 216 financing. This section has had numerous surface and base course failures.

Proposed new work consists of recompaction of the subgrade and complete reconstruction of three kilometers of base, adding additional thickness of base course and a new bituminous surface for the entire 50 kilometers, and the addition of several drainage structures.

The estimated cost of this section is \$1,108,747 of which \$321,000 is local currency.

Section D - Caaguazú to Brazil Border (245 Km) - Earth work and drainage structures for this section were constructed by the MOP with Brazilian aid. Additional work under Loan No. 216 financing consisted of preparation of the subgrade and construction of base course and surfacing. This section is presently in good condition, but the bituminous surface is too light to stand up long under present and anticipated future traffic.

Proposed new work consists of the addition of a multiple-lift (4 cm) asphalt surface, which will bring this section fully up to the standards required by the projected traffic loads.

The estimated cost of this section is \$1,315,800 of which \$358,800 is local currency.

2. Engineering Plan

a) Technical Feasibility - The scope of the repairs and rehabilitation required to place the road in first class condition and the cost estimates were made for MOPC by the U.S. consulting engineering firm of Brown & Root. This firm had been the consultants in the design and construction of the road under DLF Loan No. 216 financing.

Estimated quantities of work and unit prices used in the cost estimates are considered to be reasonable. Unit prices are based on the recently completed contract with Morrison-Knudsen, and the USAID Transportation Officer, who has been engaged in the supervision of road construction on other projects, states that said prices are accurate and that no substantial rise therein is presently foreseen.

b) Engineering Plan for Execution of Project - The project will be carried out in accordance with construction plans to be prepared by a U.S. Consulting Engineering firm. This firm will also assist in the advertising and award of the construction contract and provide engineering supervision of construction.

The construction contract will be awarded on the basis of competitive unit price bidding by qualified contractors.

c) Implementation Schedule - As a condition precedent to disbursement of funds under the project, MOFC will be required to employ a U.S. consulting engineering firm to supply the services indicated under (b). The first work of the consultant will be the preparation of plans and bid documents. The project will then be advertised for bids. Following is a tentative schedule for carrying out the project:

Selection and contracting with U.S. Consulting firm by MOFC.....	3 Mo.
Preparation of plans, specifications and bid documents.....	3 Mo.
Advertising and receipt of bids, analysis of bids and award of Contract...	3 Mo.
Mobilization by Construction Contractor.....	3 Mo.
Construction operations.....	27 Mo.

d) Road Maintenance - Road maintenance in Paraguay has been sadly neglected in the past. For this reason, the loan agreement for DLF Loan No. 216 required that the construction contractor maintain a portion of the Brazil road for a period of one year after the end of construction. Also, AID under the farm-to-market road program is stressing road maintenance through the training of maintenance personnel.

Realizing the need for better maintenance, MOFC retained the Brazilian consulting engineering firm of Geotécnica S.A. under IFRD/IDA loan financing (Encarnación Road Loan) to make a study and report on maintenance needs for Paraguay. In the report presented by this firm, a five year master plan was proposed for road maintenance.

The scope of the plan encompasses the reorganization of the operations of the MOPC Highway Department, including the maintenance division; the establishment of regional districts; establishment of specific equipment requirements; reorganization of the administrative and accounting departments; and preparation of the specific annual budgets necessary for the five-year program. Other specific proposals regarding the technical assistance needed to implement and continue the maintenance program were advanced. A translation of the Conclusions and Recommendations of the Report is included herein as Annex II Exhibit 8.

The initial phase of the overall road maintenance program has already been undertaken through the IERD/IDA Encarnación Road Loan, wherein \$1.1 million of the total loan of \$8.2 million was reserved for the purchase of road maintenance equipment to be used on a nationwide basis by MOPC in accordance with the overall Geotécnica plan. Presently, \$0.3 million has been disbursed and expenditure of the remaining balance has been authorized, under which equipment orders are presently being placed. The GOP has filed a further loan application with the World Bank for \$2.5 million for the same purpose, but no action will be taken on this proposal until the GOP has acquired the foreign highway and equipment technicians, as proposed in the Geotécnica plan, to review the loan application and certify to the validity of the needs embodied therein; said technicians are expected by MOPC to be on board by May, 1966.

It is contemplated that the equipment currently on order will suffice for MOPC's existing trained personnel and that further purchases would be delayed until late 1966 to allow for the utilization of the newly acquired equipment and the training of additional MOPC personnel.

The MOPC will be required to show evidence of implementation of the Geotécnica plan as a condition precedent to the initial disbursement under the loan of funds for construction. Also, a covenant will be written into the loan agreement requiring the borrower to make adequate provision in its annual budget for funds to properly maintain the road.

e) Compliance with Section 611 of FAA - Since this is an existing road with an established plan, profile, and grade, the quantity estimates are considered to be more accurate than is usual at this stage of a highway project. Also the unit prices used in the cost estimate have been based on the recently completed construction contract for the road. Additionally, the contract for construction will be awarded on a competitive bid basis.

In view of the above factors, it is determined that the pertinent technical requirements of Section 611 have been met.

F. Economic Analysis

1. Paraguay's Economic Situation

Paraguay is a virtually landlocked country in central South America whose only access to the sea is via the thousand mile-long Paraguay-Paraná-Plate river system, which is subject to seasonal and unseasonal declines^{compounded} by shifting shoals.

It has an area of 157,000 square miles (roughly the size of the State of California) and a population of about 2,000,000. Paraguay is one of the least developed countries of Latin America; its per capita product -estimated at \$231 for 1965 - is roughly comparable to that of Honduras or Nicaragua.

The known natural resources of the country are grazing and agricultural lands and forest products. These natural resources are substantially under-utilized at present and could support a much higher standard of living if they were developed. In general, the development of the country prior to 1958, was confined to a relatively small area in the south central portion of Eastern Paraguay containing less than 10% of the country's area. The choice of this area for development was based on its ease of access and ease of development rather than its soil quality or natural resources. This area is bounded on two sides and bisected by navigable rivers which, in conjunction with Paraguay's only inter-city railroad (Asunción-Villarrica-Encarnación), provided the minimal transportation system necessary for development.

Development outside this area has been very slow due to the lack of a transportation system; communication and access to market areas prior to 1958 was largely by the most primitive of oxcart trails or on foot. This lack of transportation facilities forced the bulk of the rural population to farm on a subsistence basis, with the attendant evils of backwardness, lack of opportunity, etc.

At the present time, only three trunk highways serve the entire country: the Trans-Chaco Highway, which extends in a north-westerly direction from Asunción to the Bolivian border, completed as a second class dirt road in 1961; the Encarnación Road, which extends in a southeasterly direction from Asunción to the Argentine border and which is now being surfaced under an IBRD/IDA loan; and the subject highway of the project herein considered,

the Brazil Road. A future fourth trunk highway, presently under construction as a second class road, is that running north and northeast from Coronel Oviedo, tying in the resource-rich, population-poor northeast with the arterial Brazil Road. Additionally, short sections of feeder roads, most of them built since 1958 under the GOP's intensive self-help road program, branch off from the trunks, giving the present road system a length of approximately 4,000 kilometers. Its composition and course of development are set forth in Annex II, Exhibit 7.

The most important of these shorter roads - the Coronel Oviedo-Villarrica Road, which is to be paved under an IERD loan - ties in Paraguay's number four city, Villarrica, with the Brazil Road and the number one (Asunción) and number five (Coronel Oviedo) cities; when the railroad is closed out in the early 1970's as projected in the IERD report, the only means of transportation between Villarrica and Asunción will be via these roads.

In late 1962, under joint AID-MOPC financing, construction began on a farm-to-market road system (including certain penetration roads) branching off the Brazil Road. These farm-to-market roads are serving to stimulate agricultural production and the harvesting of timber products, and increase the national wealth of the country through developing markets for the produce of rural communities and forest areas. This farm-to-market road construction program continues to be a successful undertaking and has made substantial progress in breaking down the barriers of rural isolation. This in turn leads to a better understanding between citizens of the country and opens the way to the introduction of better educational, health and other facilities necessary to an improved standard of living. A good example of such social benefits is the opening of a series of small public health clinics along the Brazil Road between Coronel Oviedo and Puerto Presidente Stroessner.

2. Relation of Project to U.S. Assistance Strategy

The Brazil Road project conforms with the priority goal of the U.S. Assistance Strategy to increase agricultural production in Paraguay. By opening new agricultural areas to colonization and development, as well as improving access to markets and to the river system, the existence of the road permits the GOP to implement programs of land reform, supervised credit, and development of cooperatives that otherwise would not be possible for some

time to come, if at all. These programs serve to promote political and economic stability in the country, to reduce social pressures in the overpopulated area of the capital city, Asunción, and to give impetus to the forces of progress in every sphere of Paraguayan life.

At Coronel Oviedo the east-west Brazil Road intersects the north-south penetration road currently under construction, as well as the soon-to-be-paved Villarrioca road. The Brazil Road also links with the Trans-Chaco Road at Asunción. Together, these roads form the backbone of the national highway system to which AID's program of farm-to-market roads is directly related. Thus the breakdown of the Brazil Road would have a decelerator effect on other U.S. and GOP investments in highway transportation and in the agricultural sector of the economy.

Moreover, to the degree that this road were allowed to deteriorate, the \$20 plus million already invested therein would be lost. Alternatively, the country's resources would be frittered away in the attempt to maintain an inadequately constructed facility.

3. Relation of Project to Economic Development

a) National Considerations

During recent years Paraguay has invested about three-quarters of its public funds in roadbuilding. The most outstanding enterprise of this kind is the project road, running from Asunción to Puerto Presidente Stroessner, on which over \$20 million has already been spent. Connected by a concrete bridge is the Brazilian port of Foz do Iguazú, from which point a Brazilian highway runs east to Paranaguá on the Atlantic coast; this highway is about to be paved, pursuant to IDB financing. The area penetrated by the Asunción-Pto. Pte. Stroessner-Paranaguá highway constitutes the principal development thrust in the 1965-1967 Economic and Social Development Plan of Paraguay.

The following programs are directly related to this highway:

- i. Studies within the triangle: Asunción-Encarnación-Pto. Pte. Stroessner, with a view to selecting the areas of greatest potentialities, and planning roads to intensify agricultural and lumber production in that

area. The cost of these studies is calculated at U\$S 757,000; the road-planning aspect was completed at the end of 1965. The purpose of this program is to incorporate the Department of Itapúa with those parts of the Departments of Caaguazú and Alto Paraná affected by the Brazil Road.

(ii) The hydroelectric plant at Acaray. Heavy equipment for construction of and installation in the plant is being transported to the plant site via the Brazil Road. This project is related to others whose objectives are the improvement of electrical services in Asunción and the electrification of cities in the interior. It is also associated with the program of regional integration arising from studies made by the Economic Planning Council (COPEM) of Misiones, Argentina, and the Study Center for the Socio-Economic Development of Itapúa (CEPRI), Paraguay. To that end, both Misiones and Itapúa are to consume electric current generated by the hydroelectric plant at Acaray.

(iii) Colonization and urbanization of Puerto Presidente Stroessner. The purpose of this undertaking is to promote economic growth in a zone rich in virgin resources. The administration of the project is entrusted to a Special Commission, whose intention is to industrialize the agricultural production of 125,000 acres. The colony currently comprises 700 families; each family are owners of a production unit consisting of 25 hectares. The Commission already has obtained a loan from IDB for a total of U\$S 910,000, part of which has been earmarked for the purchase of machinery and equipment. It is believed that mechanization of the project will increase the revenue of the Commission and enable it to extend its investments.

(iv) The Institute of Rural Welfare (IBR) is both implementing and expanding an extensive Colonization Program. In Paraguay, it is essential to increase the agricultural area under cultivation in order to sustain output growth. At present, the greater part of agricultural production is centered in the Asunción area, where overpopulation, excessive fragmentation of holdings, soil exhaustion, and multicrop exploitation do not permit commercial production to take place. Besides, many farmers are only tenants, or even squatters, not having title to lands they cultivate.

The distribution of land to colonists has brought about a transformation of the area on both sides of the highway between Coronel Oviedo and Puerto Presidente Stroessner (map attached hereto; Annex III, Exhibit 3):

The highway has converted the forest into zones of productive activity; it has created a demand for land which, previously, had no commercial value; not more than nine landowners possessed a total of 3,000,000 hectares in this area in 1940.

This transformation of land holdings in areas now rendered accessible by the new highway was further aided by social reform and self-help measures: the land redistribution law empowers the government to expropriate and to indemnify owners of areas in excess of 10,000 hectares owned by one person in the eastern part of the country, and any excess over 20,000 hectares in the Chaco, provided such lands are not farmed in a "rational" manner. At the same time the Institute of Rural Welfare has settled tens of thousands of colonists in areas opened by the highway; these colonists have received financial assistance both from IER and from the National Development Bank administering funds from an IDB/SPTF loan, though much remains to be done in this area.

For an analysis of the colony situation by the leader of the USAID/USDA/PASA team, see Annex III, Exhibit 3.

An indication of the increasing importance of the portion of Paraguay newly served by the Brazil Road as an agricultural area is shown in the following production statistics for major crops in the Departments of Caaguazú and Alto Paraná for the years 1958 and 1964, in metric tons:

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<u>Crop</u>				<u>ALTO PARENA</u>		
	<u>1958</u>	<u>1964</u>	<u>% Increase</u>	<u>1958</u>	<u>1964</u>	<u>% Increase</u>
Manioc	12,700	104,550	723.2	11,247	27,980	148.8
Sugar cane	23,790	62,400	162.3	968	1,900	96.2
Corn	12,760	14,520	14.3	1,700	3,750	120.6
Sweetpotatoes	3,768	10,300	173.3	598	700	17.0
Cotton	1,436	3,020	110.3	-	80	-
Alfalfa	760	1,760	131.6	68	80	17.6
Tobacco	735	1,500	104.0	12	50	316.7
Wheat (1959)	1,020	570	-44.1	-	-	-
Onions	178	1,280	360.4	9	80	788.9
Peanuts	310	720	132.3	41	60	46.3
Cowpeas	1,010	3,020	199.0	123	330	168.3

As seen from the foregoing table, major increases have occurred not only in crops for domestic consumption (manioc, cowpeas, corn, onions, cotton), but also in those destined primarily for export (sugarcane, tobacco, peanuts). However, the 85,000 square kilometer area that will be served directly by the proposed highway betterment is still for the most part undeveloped; roughly 60% of it is heavily timbered with high quality hardwood forest, slightly rolling in terrain, with little present agriculture but excellent soil and climatic conditions. On the basis of 50 hectare farms, the area would provide for 170,000 farm units which in turn could support an ultimate farm population of over a million.

As shown in the table below, going eastward from the Central Department the level of industrialization in the areas now penetrated by the Brazil Road drops sharply. Inasmuch as the data are from the 1963 economic census, and hence refer to the situation prior to the paving of the Brazil Road, it is to be expected that the opening of the road will generate substantial new manufacturing activity such as sawmills and food processing plants along its route and in areas connected by feeder roads. This industrialization will be accelerated by the construction of the Acaray hydroelectric power project of 45,000 kilowatts. This project is expected to have greater employment and income effects in the next several years than any other single project in Paraguay.

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Industrial Statistics, Census of 1963

	<u>No. of Establishments</u>	<u>Persons Employed</u>	<u>Value of Production</u>	<u>Value Added</u>
Paraguay	<u>5,845</u>	<u>35,652</u>	<u>15,461</u>	<u>5,683</u>
Department				
Central	2,374	19,375	11,071	3,920
Cordillera	992	3,750	246	119
Caaguazú	249	833	121	58
Alto Paraná	22	177	31	13

in \$ 1,000,000

The expected impetus which the Brazil Road and Acaray Hydroelectric Project will give to the country's industrial development efforts should enable Paraguay to benefit more broadly from its participation in the Latin American Free Trade Association, by increasing its exports of processed and semi-processed agricultural products to other member countries.

The possibility of producing wood pulp and paper in the Alto Paraná zone - also served by the Brazil Road - was studied in Paraguay many years ago. Notwithstanding the satisfactory technical conclusions of the experts, no cellulose or paper manufacturing plant was installed, partly, at least, due to the absence of adequate transport for the finished product. Now, the Administrative Commission of Puerto Presidente Stracussner has, in 1965, initiated a nursery to produce half a million pine trees in the colony.

The future for a lumber industry in Paraguay is definitely encouraging. The population of Latin America is expected to grow from 220,000,000 to 320,000,000 during the next 10 years; this growth will create greater demand not only for housing but also for books and newspapers. Between 1960 and 1970 the increased demand for lumber in Latin America is calculated at 226 million square feet. With regard to other markets, the FAO estimates that the demand for lumber and paper in North America, Europe, Australia, and Japan will have increased from 3,767, to 6,458 million square feet and 60 to 150 million tons, respectively, between 1960 and 1975. A few years ago

Europe was still a foremost exporter of lumber products; it is now importing lumber to a value of 600 million dollars a year. Furthermore, no increase in its production is possible, as its forests are already being fully exploited.

Studies of forestation possibilities in Paraguay have been initiated by technicians assigned by FAO. It already has been recognized that the area of convergence of Argentina, Brazil, and Paraguay in the zone of Alto Paraná offers ideal conditions for producing the species of trees required for the manufacture of cellulose and paper. It is certain that the rapid growth of coniferous trees in this prolific zone will assure costs lower than those in the traditional paper producing countries which are less favored climatically. To quote Ing. Lucas A. Tortorelli, forest technician of FAO, "In Paraguay, trees do not stop growing during 12 months of the year; in Scandinavian countries and in Canada the growth of trees is limited to six weeks in summer, during which time the temperature is suitable for development of the plant."

b) Plan Prepared by the World Bank for Development of the Triangle:
Asunción-Encarnación-Puerto Presidente Stroessner

A complete Report based upon studies of the Bank is expected by May 1966; its total scope of expected recommendations is not yet known. However, they have indicated that they are considering a plan to build two highways: one running north from Encarnación to join the Brazil Road near Pto. Pte. Stroessner; the other running in a southeasterly direction from Villarrica to Carlos Antonio López on the River Paraná between Encarnación and Pto. Pte. Stroessner. These highways would offer the zone of Itapúa the alternatives of transporting its production overland to Paranaguá, Brazil or shipping it on the River Paraná to Buenos Aires. Bank technicians attach great importance to surface conditions on the Brazilian stretch of the highway to Paranaguá; the IDB-financed paving of such highway should greatly increase its relative attractiveness as a transport medium.

Transportation by the River Paraná is rendered difficult by the Apipé rapids downstream from Encarnación; the only practical solution to this natural obstruction would appear to be the cutting of an auxiliary canal or building a costly system of dams. Such an enterprise, jointly

undertaken by Paraguay and Argentina, could serve the additional purpose of supplying hydroelectric power to the zone, should the Acaray power eventually prove insufficient; nevertheless such a project is not currently contemplated, ^{partly because of its cost,} since Argentina has decided to give priority to similar undertakings in Shocón and Salto Grande on its frontier with Uruguay and partly since the Acaray project is expected to provide the area with adequate power for some years to come.

c) Relation to other Transport Systems

Other transportation facilities consist of local air lines providing widespread service to the major population centers, and a railroad that currently extends from Asunción to Encarnación, some 236 miles distant; the IBRD report examines the prospects of this railroad with great care and concludes it should be phased out of existence by the early 1970s. Short sections of privately owned narrow-gauge railroad lead inland from the Paraguay River and are used largely for transporting cattle, que- bracho and ranch supplies. The Paraguay and Paraná Rivers and their major tributaries are navigable by river boats up to 1,000 tons during much of the year; however, there are seasons in each year when water depths permit only small craft. About 90% of all freight leaving or entering the country is presently carried by river transport. A major project for future implementation will, of course, be a thorough study of how best to integrate all forms of transportation into a unified, efficient system.

d) Tourism

Another consideration of increasing significance is the importance of the Brazil Road in Paraguay's growing tourist industry. Just beyond Pto. Pte. Stroessner lie the world-famous Iguazú Falls. These falls are reached more easily from Paraguay than from the populated areas of Brazil or Argentina, and except for two Varig flights a week the only way to reach the Falls is via the Brazil Road. This tourist traffic has even occasioned the use of Argentine River boats as floating hotels at Asunción while the passengers wait to visit the Falls. To take advantage of and to encourage the tourist industry, the Paraguayan Social Security Institute has built a hotel-casino (Hotel Acaray) at the foot of the international bridge at Pto. Pte. Stroessner; in Brazil the Hotel Das Cataratas performs a similar function (except for the casino).

The flow of foreigners through hotels in Asuncion (for tourist or other purposes) has grown as follows:

1960	10,751
1961	11,931
1962	13,060
1963	15,925
1964	21,934
1965	25,281

(e) International Considerations

Paraguay's surface connections with other countries have been limited to its river systems, feeding into the Rio de la Plata, and to the railroad which crosses the Parana by ferry at Encarnacion and proceeds through Argentina to Buenos Aires. An alternative route to the sea will thus be provided by the Brazil Road and its soon-to-be-paved extension across Brazilian territory to the port of Paranagua on the Atlantic Ocean, where Paraguay enjoys free port privileges. This 682 mile Asuncion-Pto.Pte.Stroessner-Paranagua road puts Paraguay only two-thirds as far from the sea as the 1018 mile river trip from Asuncion to Buenos Aires. While comparative data are still unavailable, it is quite possible that the shorter and very much faster road haul will bring highway user costs to competitive levels with water transport, especially if the costs of delays involved in shipments by river during the low-water months are discounted. There are 15 "passes" or shallows in the Paraguay River between its confluence with the Parana and Asuncion. At various times it is necessary to unload cargo into small craft at these points to get the goods to Asuncion; the cost of river transportation in Paraguay then rises enormously. It has been estimated that river transportation alone adds at least 10% to the cost of imported merchandise at Asuncion.

Another factor to consider is that with growing industrialization, the composition of Paraguay's export trade might be expected to include more items of higher unit value, which could absorb the cost of land transportation if this were to prove higher than that of the water route. Also, the improvement of the Brazilian portion of the road will permit the utilization of larger capacity multi-axle vehicles, including trailer trucks, for the long hauls; provision of road suitable for such multi-axle carriers would serve to lessen the economic pressure for overloading the single-axle trucks currently utilized.

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The Brazil Road also serves to greatly enhance Paraguay's trade with Brazil and Uruguay and with some portions of Argentina. Moreover, Brazil has adopted measures to facilitate the importation of Paraguayan products under the LAFTA agreement. While it has been difficult for Paraguay to take full advantage of these concessions because of higher industrial productivity in Brazil, the potential exists for exploiting this market.

In short, Brazil has taken the steps to provide a paved road from the Rio Paraná to Paranaguá; it has financed the construction of a bridge across the river to Pto. Pte. Stroessner; it is planning to construct necessary storage facilities at the free port of Paranaguá and it has made important trade concessions. These activities on the part of Brazil are largely predicated on the continued existence of a first class road in Paraguay capable of carrying heavy traffic all year around.

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4. Cost/Benefit Analysis

Since this project proposes the rehabilitation of an existing road, it is well suited to a cost/benefit analysis based upon reasonably firm estimates of the anticipated savings in transport costs multiplied by the projected traffic volume. Certain portions of the more comprehensive qualitative economic analysis hereinabove contained are, of course, only indirectly quantified by this method; however, since the direct and necessary relationship between economic growth and expansion of transport clearly encompasses these other factors, it is considered that the more accurate system of quantification herein contained is the analytical tool which, being available, is most effectively employed.

a) Local Traffic - Traffic counts on the Brazil Road have been obtained from toll station records which have been in existence for as many years as the particular section of road. Based upon these records, fuel consumption, and vehicle registration records, the consultants (Brown & Root) have estimated a traffic rate of growth of 7% per year compounded, or 100% per 10 years. (Annex II Exhibit 7). This Brown & Root calculation is conservative in that it is based solely upon a projected increase in the number of vehicles, and assumes the number of kilometers per year per vehicle will remain unchanged; although this was true in the past, it is only recently that better roads, a more market-oriented economy and a population moving outward from the concentrated Central/Cordillera area have tended to impel greater annual use of each vehicle - trends that are expected to continue and expand. An even more conservative estimate of 50% increase for each 10 years has been used in the computations insofar as Section A is concerned, since this section traverses the already built-up Central/Cordillera area and presently has over three times the traffic volume of the next section (B). However, in order properly to reflect the dynamic economic growth pattern hereinabove discussed, the Brown & Root projections have been used for Sections B, C and D, where the developmental activities are concentrated.

The following table shows the average daily traffic for sections A, B, C, D, for 1965, with projections for 1968, 1978, and 1988. (Due to the proposed IBRD paving of the road between Cnel. Oviedo and Villarrica, plus the new AID roads north from Cnel. Oviedo, it has been estimated that the traffic west toward Asunción, would be increased by 50% and traffic east would be increased by 30% between 1965 and 1968. The toll station records showing one way traffic for 1965 are contained in Annex II, Exhibit 7).

ADT-SECTION	1965	1968	1978	1988
A	1100	1650	2475	3712
B	330	495	990	1980
C	220	285	570	1140
D	140	180	360	720

b) Brazilian Traffic - It is contemplated that the rehabilitation of the Brazil Road into a first class highway will help attract an increasing number of vehicles from Brazil, particularly in conjunction with the forthcoming paving of the Brazilian portion to the coast. These vehicles will make a direct "new money" contribution to Paraguay through their payments of tolls and the gas tax. In computing cost-benefit ratios this new money contribution will be considered as reducing the annual cost of the road.

An examination of the customs records at Pto. Pte. Stroessner indicates an average total of 48 vehicles per day crossed the Brazil border during the period April 1964 to April 1965. (Paving of the road was completed in March, 1965; the "Friendship Bridge" across the Paraná was placed in service the same month - previously, crossing was by ferry). From this value it is estimated that the 1968 Brazilian traffic will be 40 additional vehicles per day. Increases for 1978 and 1988 are based on an estimated 50% increase

for each 10 years, an extremely conservative figure in view of the paving of the Brazilian portion, with its attendant increase in both truck and tourist traffic, plus the prosperity and consequent expansion of leisure time and discretionary income Brazil is expected to enjoy during the cited period of time.

c) Motor Vehicle Operation Costs - An analysis of motor vehicle operation costs in Paraguay, which was made by Brown & Root, shows a saving of 4.6 cents per kilometer as a weighted average saving to all vehicles in operating over pavement in good condition as against an unsurfaced road (Annex II, Exhibit 10). From this value and the condition of surfaces of the various sections as they would be if the repairs were not made, the following values in cents per kilometer per vehicle have been derived: Section A, 1.0 ¢; Section B, 3.0 ¢; Section C, 2.0 ¢; Section D, 1.0 ¢.

d) Road User Savings - Using the values of projected traffic and savings in operation costs to vehicles, the following table shows the total annual savings for the sections A B C D for the years 1968, 1978, 1988.

ANNUAL ROAD USER SAVINGS

SECTION	LENGTH Kms.	A D T	VEHICLES SAVINGS	DAYS PER YEAR	ANNUAL SAVINGS	YEAR
A	73	1650	0.01	365	\$ 440,000	1968
		2475			660,000	1978
		3712			990,000	1988
B	.59	495	0.03	365	\$ 320,000	1968
		990			640,000	1978
		1980			1,280,000	1988
C	50	285	0.02	365	\$ 104,000	1968
		570			208,000	1978
		1140			416,000	1988
D	145	180	0.01	365	\$ 95,300	1968
		360			190,600	1978
		720			381,200	1988

e) Annual Cost of Road - Using an opportunity rate of interest of 8%, the following table shows the annual amortization cost of each of the road sections A B C D.

ANNUAL ROAD COSTS

SEC.	ROAD FACILITY	LIFE YRS	ESTIMATED COST *	AMORT. FACTOR	ANNUAL COST
A	Grading - Drainage Str. Surfacing	30	\$ 98,000	0.089	\$ 8,700
		20	736,000	0.102	75,100
			<u>\$ 834,000</u>		<u>\$ 83,800</u>
B	Grading, Drainage & Base Surfacing	30	\$1,602,000	0.089	\$142,500
		20	573,000	0.102	58,500
			<u>\$2,175,000</u>		<u>\$201,000</u>
C	Grading, Drainage, & Base Surfacing	30	\$ 622,000	0.07265	\$ 55,300
		20	487,000	0.08718	49,700
			<u>\$1,109,000</u>		<u>\$105,000</u>
D	Surfacing	20	\$1,316,000	0.102	\$134,200

* Includes Engineering and Contingencies prorated to the particular section.

f) Brazilian Traffic Contribution - There are three toll stations on the road each collecting a toll of 50 guaranies per vehicle. Tolls are collected for traffic in only one direction; therefore, a vehicle in making a round trip would pay only 3 tolls. The toll contribution per vehicle has been distributed to each section of the road in proportion to its length. The gasoline tax in Paraguay is 7.30 guaranies per liter. In computing the gas tax per vehicle for each section of the road, gasoline consumption

for the average vehicle has been considered as a liter for each 5 kilometers of travel. This tax has also been distributed to each section in proportion to its length.

The following table shows the total contribution of Brazilian traffic for each section of road for the years 1968, 1978, and 1988.

CONTRIBUTION OF BRAZILIAN TRAFFIC

SECTION	LENGTH KMS	ADT	TOLLS PER VEH.	GAS TAX PER VEH.	DAYS PER YEAR	ANNUAL CONTRIB.	YEAR
A	73	40	0.19	0.85	365	\$ 15,200	1968
		60				22,800	1978
		90				34,200	1988
B	59	40	0.15	0.68	365	12,100	1968
		60				18,100	1978
		90				27,200	1988
C	50	40	0.13			10,300	1968
		60				15,500	1978
		90				23,300	1988
D	145	40	0.38	1.68	365	30,000	1968
		60				45,000	1978
		90				67,700	1988

g) Cost-Benefit Ratios - The following table shows cost-benefit ratios for each section of the road considering the annual cost of construction and annual traffic benefits reduced to their present worths at the beginning of the construction period using a discount rate of 8%. (An additional substantial economic benefit accrues from the reduced cost of maintaining a well-built road as contrasted with trying to keep a deteriorating road from completely disintegrating; this saving has not been included herein.)

COST - BENEFIT RATIOS
(\$1,000)

SECTION	INCLUDING BRAZIL TRAFFIC			PARAGUAY TRAFFIC ONLY		
	PRESENT WORTH TRAFFIC BENEFITS	PRESENT WORTH CONSTRUCTION	COST BENEFIT RATIO	PRESENT WORTH TRAFFIC BENEFITS	PRESENT WORTH CONSTRUCTION	COST BENEFIT RATIO
A	\$ 6,415	\$ 822	7.80	\$ 6,200	\$ 822	7.55
B	5,582	1,970	2.83	5,418	1,970	2.75
C	2,036	1,030	1.98	1,890	1,030	1.84
D	2,298	1,315	1.75	1,855	1,315	1.41

See ANNEX II, Exhibit 9, for present worth computations.

5. Ability to Repay the Loan

a) Balance of Payments - Paraguay's balance of payments situation has historically tended to fluctuate with the ups and downs of her economy. (So, too, has her gold/foreign exchange reserve position; Annex III, Exhibit 2). Exports and imports for the years 1954-1965, based on the Central Bank's balance of payments data, have been as follows, in millions of U.S. dollars:

<u>YEAR</u>	<u>EXPORTS, F.O.B.</u>	<u>IMPORTS, F.O.B.</u>	<u>BALANCE</u>
1954	34.8	34.4	0.4
1955	38.2	30.9	7.3
1956	36.3	30.6	5.7
1957	36.1	37.9	- 1.8
1958	33.6	42.3	8.7
1959	35.4	36.5	- 1.1
1960	36.5	43.9	- 7.4
1961	43.1	47.8	- 4.7
1962	39.6	40.3	- 0.7
1963	38.7	40.6	- 1.9
1964	45.4	44.4	1.0
1965 (P)	60.0	51.0	9.0

(P - Preliminary estimates of the Central Bank of Paraguay, January 1966).

However, the effects of the Alliance for Progress in focusing both external and internal attention upon the requisites of orderly growth through the rationalization of economic processes have given rise to a degree of cautious optimism for the future. In their thorough and searching analysis of the Economic Position and Prospects of Paraguay, the IBRD Mission estimated a growth in the value of exports (in constant prices) of 6% a year between 1965 and 1970; (The increase was 7% between 1963 and 1964, and 32% between 1964 and 1965). This estimate was based on their views of domestic production prospects of export commodities, on long-term market prospects, on the likely availability of transport facilities, and on present and proposed Paraguayan measures to promote exports.

With respect to imports, the IBRD Mission projects an annual expansion of 7% between 1965 and 1970, as compared with 5% a year during 1962-1964 and 15% between 1964 and 1965. The projections are based on import requirements by the public sector and on the estimated import component deemed necessary to bring about a growth of 5-6% a year in GNP during 1965-1970. (Projections of import requirements of investment goods can only be rough approximations, of course; they will fluctuate with disbursements on project loans on ongoing and possible new projects). Inasmuch as the IBRD Mission had the most staff and time to devote to trade projections, compared to the USAID and

CIAP, we may use the IBRD data for purposes of analysis. The balance of payments situation accordingly is expected to be as follows during 1966-1970, in millions of dollars:

	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>
Current Account					
Balance	- 28.5	- 29.6	- 19.4	- 14.7	- 12.8
Capital Account	35.3	34.2	19.9	15.4	12.9
Increase in Reserves	6.8	4.6	0.5	0.7	0.1

The result of the above operations would produce an increase of \$12.7 million in Paraguay's exchange reserves during the years 1966-1970. The projections are premised upon the continuation of internal and external monetary stability, and upon the development of institutions for preparing adequate feasibility studies of high priority projects and for implementing development projects and programs.

b) External Public Foreign Exchange Debt

The external public foreign exchange debt of Paraguay, outstanding as of January 1965, was equivalent to \$65.3 million. The interest and principal payments are estimated at \$6.8 million in 1965 and \$5.3 million in 1966, and are scheduled to remain under \$6 million during the remainder of the 1960s. These service payments represent about 13% of estimated exchange earnings in 1965, 10% in 1966, and will decline to around 9% in 1970. In addition, service payments on external private debt are roughly \$1 million a year during the remainder of the 1960s.

If programmed new borrowing were to take place, there would be a modest rise in these service payments in 1966, by \$0.3 million. By 1970, these service payments would rise by \$2.7 million, and the combined foreign exchange service on new and outstanding external public debt would approach 13% of projected export earnings in 1970. An additional one third of the external debt of Paraguay is repayable in local currency. The outstanding amount of this debt is equivalent to US\$ 34 million,

and service payments in 1965 amounted to the equivalent of almost US\$ 2 million. Combined external debt service payments due in foreign exchange and in guaranties absorbed about 50% of gross public savings in 1965, and even with the projected rise in public sector savings may still absorb almost 40% of these savings in 1968. This high ratio derives from Paraguay's extensive need for external resources to match its limited domestic savings in carrying out its development efforts.

Paraguay currently has a favorable external debt structure: the average length of maturities on the outstanding debt is between 15 and 20 years, and grace periods average about 5 years. The average interest rate on outstanding loans is more than one third repayable in local currency and less than two-thirds in foreign exchange. It is imperative that this favorable debt structure be maintained, since any significant departure could generate an unmanageable debt service burden and adversely affect Paraguay's credit worthiness. Thus, short - and medium - term borrowing should be avoided. Paraguay needs to obtain its loans on a very long-term basis to maintain its creditworthiness, and such loans should provide substantial financing for local cost requirements as well. Under such terms Paraguay will be able to service its external debt.

Estimated External Debt Services Payments in Foreign Exchange,
1965-1970

(In thousands of U.S. dollars)

	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>	<u>1969</u>	<u>1970</u>
<u>Central Government:</u>	<u>1,090</u>	<u>471</u>	<u>524</u>	<u>428</u>	<u>562</u>	<u>763</u>
Amortization	852	220	265	156	254	417
Interest	238	251	259	272	308	346
<u>Autonomous Agencies:</u>	<u>4,425</u>	<u>4,665</u>	<u>4,958</u>	<u>5,213</u>	<u>5,265</u>	<u>5,320</u>
Amortization	3,386	3,401	3,180	3,209	3,271	3,590
Interest	1,039	1,264	1,778	2,004	1,994	1,730
<u>Central Bank:</u>	<u>1,297</u>	<u>187</u>	<u>178</u>	<u>170</u>	<u>10</u>	<u>12</u>
Amortization	1,250	150	150	150	—	—
Interest	47	37	28	20	10	12
<u>Private Sector:</u>	<u>2,200</u>	<u>1,160</u>	<u>1,011</u>	<u>968</u>	<u>728</u>	<u>900</u>
Amortization	1,793	862	757	758	774	798
Interest	407	298	254	210	154	102
<u>TOTAL</u>	<u>9,012</u>	<u>6,483</u>	<u>6,671</u>	<u>6,779</u>	<u>6,765</u>	<u>6,995</u>

External Public Debt Outstanding as of December
31, 1964 *

<u>Repayable in Foreign E</u>	<u>Disbursed</u>	<u>TOTAL</u>
	<u>22,343</u>	<u>65,264</u>
IBRD Loans	-	2,200
IDA	528	9,600
IDB	1,719	13,450
Purchase of British-owned railroad	490	490
Privately placed debt	3,735	6,907
a) Suppliers' credits	(2,061)	(5,233)
b) Other	(1,674)	(1,674)
Government loans:		
United States	<u>12,094</u>	<u>15,840</u>
a) Export-Import Bank	7,503	7,503
b) AID	4,591	8,337
Other Western governments	<u>3,754</u>	<u>7,754</u>
Argentina	130	130
Brazil	61	61
Japan	2,588	2,588
Spain	975	1,975
Germany	-	3,000
Loan from Czechoslovakia	23	23
<u>Repayable in local currency</u>	<u>14,081</u>	<u>34,138</u>
AID	10,571	12,321
IDB	3,510	17,317
SPAIN	-	4,500
<u>Total External Debt</u>	<u>36,424</u>	<u>99,402</u>

* Debt with an original or extended maturity of one year or more.

SOURCE: IBRD, Economic Department, July 13, 1965

G. Financial Analysis

1. Financial Plan. The total cost of the project proposed herein is estimated by Brown & Root and USAID/P to be \$5.46 million. Of this amount AID will finance \$4.68 million, which includes \$3.90 million in dollar costs and \$.78 million in guaranties. The GOP is to finance the remaining \$.78 million in guarant costs; their agreement to undertake such financing will be presented in conjunction with this Capital Assistance Paper. Said GOP contribution may include up to \$40 million (\$320,000) out of the \$80 million of PL 480 generated loan funds which were originally allotted by AID to the Central Bank and National Development Bank (by Project Agreement No. 526-A-14-AD, dated October 25, 1962) for short term agricultural credit use and subsequent re-allocation by mutual consent; AID and GOP had previously tentatively agreed to use the full \$80 million as the entire GOP contribution for the Airport Rehabilitation, but the GOP has now requested the use of \$40 million of said funds as a portion of the GOP contribution hereto and USAID/P recommends AID acquiescence. The remainder of said GOP contribution hereto, plus any additional funds that may be required pursuant to the covenants and conditions of the Loan Agreement, shall be internal public savings generated in conformity with the self-help provisions of the Alliance for Progress.

The consulting engineer estimates the construction time on this project as being 27 months (following upon a 1 year period for engineering, bidding and mobilization). From this, an estimated schedule of disbursements would be (expressed in US\$):

CY 1966	\$ 100,000
CY 1967	\$1,872,000
CY 1968	\$1,872,000
CY 1969	\$ 836,000

2. Proposed Terms. Terms recommended for this loan are:

Amortization	-	40 years
Grace Period	-	10 years
Interest	-	1% during grace period 2 1/2% during payoff period

3. Reasonableness of Proposed Terms and Financial Plan. The financial plan which contemplates AID financing of 50% of the local currency cost of the project, and the terms which are most concessional offered by AID, are deemed reasonable under the circumstances. As shown in the Economic Analysis (Section F), Paraguay's urgent need is for developmental financing with the minimum possible requirement for GOP local cost contributions and on the most concessional terms available: Current and projected GOP revenue budget deficits are in the neighborhood of 20%* and the chances of near-term amelioration of this situation are dim; projected annual debt service requirements may reach 13 percent of projected export exchange earnings and approach 40% of gross public savings; the need for development capital is both long-term and immediate; the project is one of basic infrastructure rather than income producing; per capita annual income in Paraguay is estimated at only \$231 for 1965. Therefore, harder terms and a larger local cost contribution would only serve to weaken the country's ability to carry out the necessary over-all program of economic development.

* Annex III Exhibit 2

SECTION II - IMPACT ON U.S. ECONOMY

A. Competition with U.S. Enterprise

No competition with U.S. enterprise will arise from this project; on the contrary, U.S. firms will have their markets expanded thereby since the growth of Paraguay's economy will enable Paraguay to buy more U.S. products.

B. Source/Origin Procurement of Goods and Services

The loan provisions will limit procurement to the United States and Paraguay; some \$3.9 million worth of U.S. commodities and services will be utilized which would go unused in the absence of this loan.

SECTION III - COVENANTS AND CONDITIONS

1. Prior to the first disbursement or issuance of the first commitment document, other than to finance engineering services, Borrower shall furnish AID, in form and substance satisfactory to AID:

- (a) a commitment to allocate through its regular budgetary procedures all necessary monies for the payment, as scheduled, of all GOP debts to AID or its predecessor agencies;
- (b) evidence that Borrower has available, or will have available when necessary, from sources acceptable to A.I.D., the guarani equivalent of at least seven hundred and eighty thousand United States dollars (\$780,000) for use on the Project;
- (c) evidence of arrangements (i) for the establishment and operation of vehicle weighing stations along the Project highway and (ii) for the enforcement on the Project highway of the requirements of Paraguay Decree Law No. 22.094 or such subsequent law as AID shall approve with respect to vehicle load limits;
- (d) a detailed plan for the maintenance of the Project highway and all other roads constituting the highway network of Paraguay for which Borrower's Ministry of Public Works and Communications (MOFC) is responsible, which shall include, but not necessarily be limited to plans for
 - (i) the establishment of a reorganized highway department within the MOFC and the establishment of a road maintenance organization with that highway department;
 - (ii) the establishment of regional maintenance districts and the outlining of the responsibilities of each such district;
 - (iii) the provision of adequate facilities, equipment and personnel for each such maintenance district;
 - (iv) the maintenance of road maintenance facilities and equipment;
 - (v) the training of road maintenance personnel;
 - (v) the reorganization of administrative and accounting offices to support the highway department and its maintenance organization;

- (vii) the obtaining of maintenance experts from external sources to assist in carrying out the plan;
 - (viii) the providing and/or obtaining of the financing necessary for the execution of the plan; and
 - (ix) a timetable for the implementation of the plan;
- (e) a commitment to allocate to highway maintenance for the calendar years 1967 and 1968 the budgetary and other resources specified in the plan submitted pursuant to the preceding sub-section; and
 - (f) evidence that Borrower has obtained all real property rights, including easements and rights of way, required for completion of the Project, or shall obtain such rights in time to permit the orderly construction of the Project.

3. Borrower shall contribute to the Project, from sources acceptable to A.I.D., the guarani equivalent of at least seven hundred and eighty thousand United States dollars (\$780,000), and Borrower shall also provide, or cause to be provided, any additional resources which are necessary for the timely completion of the Project;

4. Borrower shall cause a nationwide program of road maintenance to be carried out in conformity with the plan approved by AID hereunder and shall make available to that program in timely fashion the resources agreed therein to be provided;

5. Borrower shall establish and operate, or cause to be established and operated, vehicle weighing stations along the Project road and shall enforce on the Project road the vehicle load limit requirements of Paraguay Decree Law No. 22.094, or such subsequent law as AID shall approve;

6. Borrower periodically shall consult with A.I.D. concerning its implementation of the highway maintenance program referred to in paragraph B(4) hereof.

7. Equipment, materials and services (except shipping and marine insurance) financed under the loan shall have their origin in and be procured from the United States or Paraguay. Shipping financed under the loan shall be from the United States, and marine insurance financed under the loan shall be placed in the United States.

8. United States dollars utilized under the loan to finance local currency costs shall be made available to Borrower or its designee only through Special Letters of Credit and shall be used only for procurement in the United States.

9. The loan shall be subject to such other terms and conditions as A.I.D. may deem advisable.

SECTION IV - ISSUES

1. Inclusion in the project of certain work* on the portion of the road between Asunción and Eusebio Ayala ("Section A") is an Issue. In the preliminary evaluation of the subject it was assumed that such work was not essential to the road's serviceability and longevity; therefore it was not directly included in the IRR or approved for consideration by the CAEC.

However, as the intensive review proceeded, it became increasingly clear that inclusion in the project of the described work on Section A is justifiable and desirable. Although this section has held up reasonably well for over 20 years, it is only in the last 6 or 8 years that its traffic load has been substantial - there were very few motor vehicles in Paraguay prior to the late 1950s (Annex II, Exhibit 7). Furthermore, this road was built in the early 1940's to what is now recognized as an inadequate standard; the rough surface of asphalt-directly-on-Telford gives more than a slow, rough ride, it causes magnified impact loads at the bumps, which bring both base and surface under severe strain. As a result, AID's engineers found that despite the newness of the light surface seal coat (less than 2 years old), the asphalt surface and the edges of the pavement were raveling in numerous places, accompanied by some base failures. The substantial increase in traffic projected for the upcoming years (Annex II Exhibit 7) will necessarily result in an accelerated rate of deterioration for this portion of the road unless it is brought up to satisfactory standards; mere maintenance could only delay this process, not arrest it.

Although a road is certainly less vulnerable than a chain to the failure of its weakest link, it is clear to the CP that Paraguay's need for a satisfactory, all weather, reasonably high speed road from Asunción to the sea (the Brazilian portion of which road will be paved pursuant to a \$25 million IDB loan) is such that the upgrading of Section A should be included in the project if this basic purpose is to be satisfactorily achieved. (It should be noted, parenthetically, that the bus turnouts and ditch cleaning

* Additional drainage facilities, repairs of surface and base failures, plant mix leveling course and double asphalt seal coat.

requested in the loan application are excluded from the project recommended herein as non-essential; the water control work, leveling, base repairs and surfacing included in the project are deemed essential by the engineers.) A further reason for including Section A in the project is the favorable Cost/Benefit ratio thereof:

(See Section I., F., above.)

2. GOP debt delinquencies. Discussed in Classified Supplement (AID-DLC/P-447/1).

SECTION V - IMPLEMENTATION PLAN

Now that USAID/Paraguay has both a permanent Capital Development Officer and a Transportation Officer plus ready access to the services of the Regional Counsel, it is recommended that the Mission Director be granted implementation authority on this loan, in conjunction with the Regional Counsel as necessary.

It is expected that this loan will be authorized before the end of June 1966 and that the Loan Agreement will be signed within a 30-60 day period thereafter.

The loan project committee estimates that approximately three months will be required after signing of the Loan Agreement to satisfy the conditions precedent and the requirement for evidence of consulting engineering services. Review and approval will be necessary of the consulting engineering firm selected by the GOP, the scope of work to be performed and the final draft contract agreed to by the GOP and the engineering firm.

The consulting engineer will be required to prepare construction plans and contract documents, advertise and receive bids, evaluate bids received and make an award recommendation to the GOP. This together with review and approval of a construction schedule prepared by the consulting engineer, evidence of right-of-way over the road route and maintenance plans will require an estimated six months.

It is, therefore, estimated that nine months will be needed to meet all conditions precedent. Thus, by mid CY1967, the construction contractor could begin mobilization.

Loan disbursements could have already commenced in favor of the consulting engineer in later CY1966 and would start in favor of the contractor in mid CY1967. The table under Financial Analysis presents the projected disbursement schedule.

During the course of construction, the GOP will be required to submit quarterly progress reports. These reports may be prepared on their behalf by the consulting engineer. In such event, the GOP must indicate its acceptance of the report.

Upon conclusion of construction of the road project, including any needed clean-up, the consulting engineer will prepare a final report and certify to the GOP that it accepts the work of the contractor, and that the project covered by this A.I.D. loan is finished. A site inspection by A.I.D. and the GOP will be then carried out. If the project is accepted, the contractor and consulting engineer, in that order, will be paid the remaining amounts under their contracts and released. The USAID/Paraguay will then submit a final report to AID/W.

PARAGUAY - BRAZIL ROAD REHABILITATION

CHECK LIST OF STATUTORY CRITERIA (ALLIANCE FOR PROGRESS)

1. Foreign Assistance Act of 1961, as amended (hereinafter FAA), Section 102. Precautions that have been or are being taken to assure that loan proceeds are not diverted to short-term emergency purposes (such as budgetary, balance of payments, or military purposes) or any other purpose not essential to the country's long-range economic development.

The proceeds of this loan will be used exclusively on the project as set forth hereinbefore and all disbursements will be made pursuant to applicable AID regulations.
2. FAA Section 102. Information on measures taken to utilize United States Government excess personal property in lieu of the procurement of new items.

All procurement will be conducted by private contractors subject to United States Government rules and regulations.
3. FAA Section 102. Information whether the country permits, or fails to take adequate measures to prevent, the damage or destruction by mob action of United States property,

Both the people and the Government are favorable to the United States and hostile mob action could not occur.
4. FAA Section 201(d). Information and conclusion on legality (under laws of country and United States) and reasonableness of lending and relending terms of the loan.

Loan terms are consistent with United States and Paraguay laws.
5. FAA Section 251(a). Manner in which loan will promote country's economic development and contribute to the welfare of its people.

Rehabilitation of this road will be of great economic and social benefit to Paraguay as set forth hereinbefore.
6. FAA Section 251 (b)(1). Extent to which country is adhering to the principles of the Act of Bogota and Charter of Punta del Este and is showing a responsiveness to the vital economic, political, and social concerns of its people, and extent to which country has demonstrated a clear determination to take effective self-help measures.

Starting from an extremely modest economic base, Paraguay has made moderate progress since the inception of the Alliance and has supported the economic and social goals thereof. Possessed of a turbulent and undemocratic history, the country has nevertheless taken significant steps in recent years toward tranquillity, stability and personal and political freedom. Although hindered by the inadequacy of its resources, Paraguay is seeking, with at least some success, to attain an increasing level of self-help.

7. FAA Section 251(b)(2). Information and conclusion on activity's economic and technical soundness.

See Section E and F.

8. FAA Section 251(b)(3). Information and conclusion on activity's relationship to and consistency with other development activities, and its contribution to realizable long-range objectives.

See Sections A and E.

9. FAA Section 251(b)(4). Information and conclusion on possible effects on U.S. economy, with special reference to areas of substantial labor surplus.

There will be no adverse effect on the U.S. economy as a result of this project; in fact, this project will benefit the U.S. economy both directly through the use of U.S. commodities and services therein and indirectly through the increased purchases of U.S. products by a more prosperous Paraguay.

10. FAA Section 251(b). Information and conclusion on availability of financing from other free-world sources, including private sources within the United States.

Other free-world financial sources are not interested in financing this project.

11. FAA Section 251(b). Information and conclusion on capacity of the country to repay the loan.

It is believed that Paraguay has the capacity to repay this loan.

12. FAA Section 251(b). Information and conclusion on country's efforts to repatriate capital invested in other countries by its own citizens.

Capital flight is considered not to be a major problem in Paraguay at this time.

13. FAA Section 251(b). Information and conclusion on reasonable prospects of repayment.

It is believed that there are reasonable prospects of repayment of this loan.

14. FAA Section 251(e). Information and conclusion on availability of an application together with sufficient information and assurances to indicate reasonably that funds will be used in an economically and technically sound manner.

There is sufficient information to indicate that the funds under this loan will be used in an economically and technically sound manner.

15. FAA Section 251(g). Information and conclusion on use of loan to assist in promoting the cooperative movement in Latin America.

Not Applicable.

16. FAA Section 252(a). Total amount of money under loan which is going directly to private enterprise, is going to intermediate credit institutions or other borrowers for use by private enterprise, is being used to finance imports from private sources, or is otherwise being used to finance procurements from private sources.

All funds under this loan will be used to procure goods and services from private sources.

17. FAA Section 601(a). Information and conclusions whether loan will encourage efforts of the country to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; and (f) strengthen free labor unions.

The loan funds will be used to rehabilitate a road that is a vital link in Paraguay's internal and foreign trade, that is of great benefit to free, competitive private enterprise both within and without the country and that is a major factor in promoting improved technical and economic efficiency of industry, commerce and agriculture.

18. FAA Section 601(b). Information and conclusion on how the loan will encourage U.S. private trade and investment abroad and how it will encourage private U.S. participation in foreign assistance programs (including use of private trade channels and the services of U.S. private enterprise).

This loan will encourage private trade and participation through its use of U.S. goods and services.

19. FAA Section 601(d). Conclusion and supporting information on compliance with the Congressional policy that engineering and professional services of U.S. firms and their affiliates are to be used in connection with capital projects to the maximum extent consistent with the national interest.

This policy will be complied with.

20. FAA Section 602. Information and conclusions whether loan will permit American small business to participate equitably in the furnishing of goods and services financed by it.

American small business will have the opportunity to furnish goods and services.

21. FAA Section 604(a); App. Section 108. Compliance with restriction of commodity procurement to U.S. except as otherwise determined by the President and subject to statutory reporting requirements.

Will be complied with.

22. FAA Section 604(b). Compliance with bulk commodity procurement restriction to prices no higher than the market price prevailing in the U.S. at time of purchase.

Will be complied with.

23. FAA Section 604(d). Compliance with requirement that marine insurance be purchased on commodities if the host country discriminates, and that such insurance be placed in the U.S.

Will be complied with.

24. FAA Section 611(a)(1). Information and conclusion on availability of engineering, financial, and other plans necessary to carry out the assistance and of a reasonably firm estimate of the cost of the assistance to the United States.

Necessary substantive technical and financial planning for the project has been completed and a reasonably firm estimate of cost for the project has been obtained.

25. FAA Section 611(a)(2). Necessary legislative action required within recipient country and basis for reasonable anticipation such action will be completed in time to permit orderly accomplishment of purposes of loan.

Not Applicable.

26. FAA Section 611(b); App. Section 101. If water of water-related land resource construction project or program, information and conclusion on benefit-cost computation.
- Not Applicable.
27. FAA Section 611(c). Compliance with requirement that contracts for construction be let on competitive basis to maximum extent practicable.
- Will be complied with.
28. FAA Section 612(b) and 636(h). Appropriate steps that have been taken to assure that, to the maximum extent possible, the country is contributing local currencies to meet the cost of contractual and other services and foreign currencies owned by the U.S. are utilized to meet the cost of contractual and other services.
- Borrower is contributing 50% of the local cost financing to this project. For discussion see Section I.G.
29. FAA Section 619. Compliance with requirement that assistance to newly independent countries be furnished through multilateral organizations or plans to maximum extent appropriate.
- Not Applicable.
30. FAA Section 620(a); App. Section 107(a). Compliance with prohibitions against assistance to Cuba and any country (a) which furnishes assistance to Cuba or failed to take appropriate steps by February 14, 1964, to prevent ships or aircraft under its registry from carrying equipment, materials, or supplies from or to Cuba; or (b) which sells, furnishes, or permits any ships under its registry from carrying items of primary strategic significance, or items of economic assistance to Cuba.
- Paraguay provides no assistance to Cuba.
31. FAA Section 620(b). If assistance to the government of a country, existence of determination it is not controlled by the international Communist movement.
- Paraguay is not controlled by the international Communist movement.
32. FAA Section 620(c). If assistance to the government of a country, existence of indebtedness to a U.S. citizen for goods or services furnished or ordered where such citizen has exhausted available legal remedies or where the debt is not denied or contested by such government or the indebtedness arises

Under an unconditional guaranty given by such government.

Not Applicable.

33. FAA Section 620(d). If assistance for any productive enterprise which will compete in the U.S. with U.S. enterprise, existence of agreement by the recipient country to prevent export to the U.S. of more than 20% of the enterprise's annual production during the life of the loan.

Not Applicable.

34. FAA Section 620(e)(1). If assistance to the government of a country, extent to which it (including government agencies or subdivisions) has, after January 1, 1962, taken steps to repudiate or nullify contracts or taken any action which has the effect of nationalizing, expropriating, or otherwise seizing ownership or control of property of U.S. citizens or entities beneficially owned by them without taking appropriate steps to discharge its obligations.

Paraguay has taken no such action.

35. FAA Section 620(f); App. Section 109. Compliance with prohibitions against assistance to any Communist country.

Paraguay is not a Communist country.

36. FAA Section 620(g). Compliance with prohibition against use of assistance to compensate owners for expropriated or nationalized property.

Will be complied with.

37. FAA Section 620(h). Compliance with regulations and procedures adopted to insure against use of assistance in a manner which, contrary to the best interests of the U.S., promotes or assists the foreign aid projects or activities of the Communist-bloc countries.

This project will not promote or assist the foreign assistance aid projects or activities of the Communist-bloc countries.

38. FAA Section 620(i). Existence of determination that the country is engaging in or preparing for aggressive military efforts.

Paraguay is not engaging in such activity.

39. FAA Section 620(k). If construction of productive enterprise where aggregate value of assistance to be furnished by U.S. will exceed \$100 million,

identification of statutory authority.

Not Applicable.

40. FAA Section 620(l). Compliance with prohibition against assistance after December 31, 1966, for the government of a country which fails to institute investment guaranty program.

Paraguay has an investment guaranty program.

41. FAA Section 620(n); App. 107(b). Compliance with prohibition against assistance to countries which traffic or permit trafficking with North Vietnam.

Paraguay neither traffics nor permits trafficking with North Vietnam.

42. FAA Section 620(o). If country has seized, or imposed any penalty or sanction against, any U.S. fishing vessel on account of its fishing activities in international waters, information on the consideration which has been given to excluding the country from assistance.

Not Applicable.

43. FAA Section 621. Information and conclusion on how the loan in providing technical assistance will utilize to the fullest extent practicable goods and professional and other services from private enterprise on a contract basis. If the facilities of other Federal agencies will be utilized, information and conclusion on whether they are particularly suitable, are not competitive with private enterprise, and can be made available without undue interference with domestic programs.

The project will be completely carried out by private contractors.

44. App. (Section unnumbered). Use of funds to carry out FAA Section 205, which pertains to IDA.

Not Applicable.

45. App. Section 102. Compliance with requirement that payments in excess of \$25,000 for architectural and engineering services on any one project be reported to Congress.

Will be complied with.

46. App. Section 104. Compliance with bar against funds to pay pensions, etc., for military personnel.

Will be complied with.

47. App. Section 106. If country attempts to create distinctions because of their race or religion among Americans in granting personal or commercial access or other rights otherwise available to U.S. citizens generally, application which will be made in negotiations of contrary principles as expressed by Congress.

Paraguay does not make any such distinctions.

48. App. Section 111. Compliance with existing requirements for security clearance of personnel.

Security clearance of personnel under contract for services will be obtained.

49. App. Section 112. Compliance with requirement for approval of contractors and contract terms for capital projects.

Contractors and contract terms will be approved by AID.

50. App. Section 114. Compliance with bar against use of funds to pay assessments, etc., of U.N. member.

No funds under this loan will be used to pay assessments, etc., of U.N.

51. App. Section 115. Compliance with regulations on employment of U.S. and local personnel for funds obligated after April 30, 1964 (Regulation 7).

This requirement will be complied with.

52. App. Section 401. Compliance with bar against use of funds for publicity or propaganda purposes within U.S. not heretofore authorized by Congress.

This requirement will be complied with.

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AID-DLC/P-447
ANNEX II
June 17, 1966

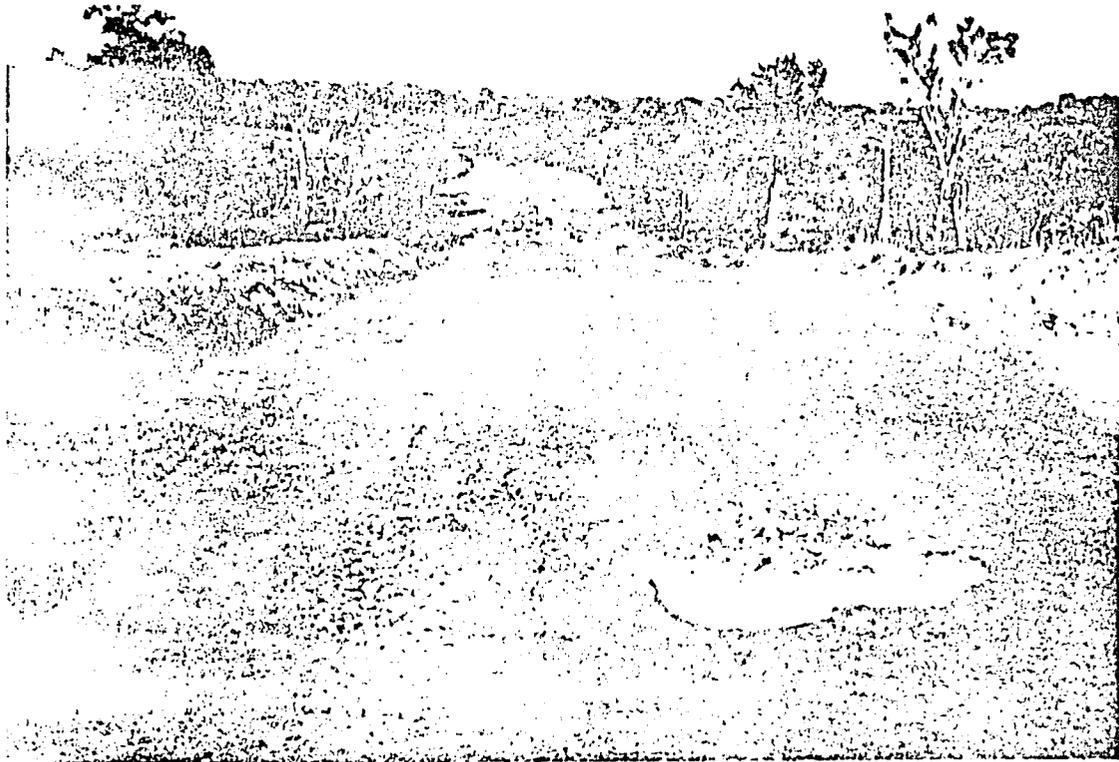
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UNCLASSIFIED

BRAZIL ROAD-TYPES OF FAILURES
(Extent of Failures Varies from 5 to 200 Meters Each.)



DETAILED DESCRIPTION OF PROJECT

Existing Highway - This highway, with a length of 327 kilometers (205 miles), follows an almost due east course from Asuncion to the Brazil border at Pto. Pte. Stroessner, where it connects with the Brazilian highway system* by means of a new international bridge. Portions of the road were constructed in 1941-42 by the U.S. Construction firm of R.W. Hebard (Section A and base course for Section B); a portion (Section C) was constructed under DLF loan No. 14 through a management contract between the GOP and the U.S. construction firm of Morrison-Knudsen; and the greater part of the remainder was constructed under DLF loan No. 216, with Brown & Root as Consulting Engineer and M-K as Contractor.

For purposes of identification, the road has been divided into four sections, A, B, C, and D, a diagram of which is shown on the next page together with a resume of what was done under DLF loans 14 and 216 and the present condition of these sections.

A detailed description of each section, starting with Section A at Asuncion, together with a statement of the proposed new work follows:

* The road from Pto. Pte. Stroessner to the Brazilian seaport of Paranagua, where Paraguay has been granted free port privileges, is to be paved under financing from a \$25 million IDB loan.

		Asuncion	
<p><u>SECTION A</u> - Constructed in 1942-44 Telford base and bituminous surface. Asphalt surface treatment under Loan No. 216 Surface has been constructed about two years and is raveling, with some base failures.</p>	73	73 km	Section A
	73	Eusebio	
<p><u>SECTION B</u> - Old Telford base constructed in 1942 and covered with laterite. Laterite removed and bituminous surface course constructed under DLF loan No. 216. Numerous base and surface failures. Needs complete reconstruction.</p>	132	Ayala 59 km	Section B
	132	Coronel	
<p><u>SECTION C</u> - Constructed under loan No. 14. Sealcoated under loan No. 216. Surface and base failures. Needs major reinforcement.</p>	182	Oviedo 50 km	Section C
	182	Caaguazu	
<p><u>SECTION D</u> - Grading and drainage by MOPC. Base and surfacing under loan No. 216 funding. No failures, but needs heavier surface treatment to withstand increased traffic volume.</p>	327	145 km	Section D
	327	Puerto	

PARANA RIVER
Brazil Border

Pte. Stroessner

SECTION A - Asuncion to Eusebio Ayala (73 km) - This section, as originally constructed, consisted of a Telford (large size stone) base 35 to 50 cms. thick, with a bituminous macadam surface. Under DLF loan No. 216 financing and a contract with Morrison-Knudsen, this section was given an additional bituminous surface treatment, the work being performed by Ministry of Public Works forces under a sub-contract with M-K.

The asphalt surface has been down some two years, is raveling in numerous places and has had some base failures which have been repaired by M-K. Also the edges of the pavement are raveling in numerous places.

Proposed new work consists of the following:

1. Dress and refinish shoulders to uniform section;
2. Install new culverts and tile drainage;
3. Repair holes and edge failures of surfacing;
4. Repair minor base failures;
5. Place plant mix leveling course (km 20-73);
6. Place double asphalt coat.

SECTION B - Eusebio Ayala to Cnel. Criedo (59 km) - This section was also constructed by R.W. Hebard in 1942 with construction consisting only of a Telford base and laterite surfacing. This base was considered to be 30 cm (12 in) thick, therefore, construction under DLF loan No. 216 consisted of only blading off the laterite surface and adding a bituminous macadam surface. Since construction of the bituminous surface (1962) numerous failures have occurred in both the bituminous surface and the base. These failures are so extensive that complete reconstruction of this section is required.

A considerable number of spot repairs have already been made in this section by removing completely the old base and surface down to a depth of 30 cm and replacing it with the old stone and additional stone if required. In numerous instances the thickness of the old base was found to be only 4 to 6 inches when it should have been 12 inches.

Following is proposed new work:

- 1) Clean and regrade side ditches;
- 2) Construct two new relief bridges;
- 3) Install four concrete pipe culverts;
- 4) Remove existing bituminous macadam and base course;
- 5) Correct and raise existing embankment;
- 6) Recompact subgrade;
- 7) Crush old Telford base and replace;
- 8) Place new dense graded basalt base course;
- 9) Place prime coat;
- 10) Place multiple lift asphalt pavement.

SECTION C - Cnel. Oviedo to Caaguazu (50 km) - This section was constructed under DLF loan No. 14 financing and under the supervision of Morrison-Knudsen through a management contract with the GOP. A bituminous seal coat only was provided under loan No. 216 financing.

This section has had numerous surface and base course failures. During the original construction under M-K management, due to lack of screening equipment to properly grade the material for base course, the coarse material was placed first with the fines on top and an attempt made to fill the voids in the coarse material through rolling. Apparently this left a layer of fine material on top which is now peeling off with the bituminous surface in places.

Proposed new work consists of:

- 1) Clean and regrade side ditches;
- 2) Construct one new relief bridge;
- 3) Install 4 concrete pipe culverts;
- 4) Remove existing base and surfacing for 3 km;
- 5) Correct and recompact subgrade for 3 km;
- 6) Replace base course for 3 km;
- 7) Place 15 cm additional dense graded basalt base course - 25 km;
- 8) Place 7.8 cm additional dense graded basalt base course - 25 km;
- 9) Place prime coat - 50 km;
- 10) Place multiple lift asphalt pavement - 50 km.

SECTION D - Caaguazu to Brazil Border (145 km) - Earth work and drainage structures for this section were constructed by the MOPC with Brazilian aid. Under loan No. 216 financing and the M-K contract, work consisted of preparation of the subgrade, placing of 25-35 cm of dense graded basalt base course, and a double asphalt surface treatment.

This section has had no appreciable failures. However the increase in heavy logging trucks and anticipated increase in traffic from Brazil, when their roads to the international bridge are paved, indicates that the present light asphalt surface will not be adequate. Therefore, it is proposed to add a multiple lift asphalt surface to adequately handle this increased traffic.

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ANNEX II

EXHIBIT 3 p. 1 of 1

RECOMMENDED DESIGN STANDARDS

Design Speed 80 km. per hour

Width of Pavement 6.0 meters

Width of Base 6.8 meters

Width of Shoulder 1.5 m min

Total Width of Road 9.0 m min.

Pavement Crown 2.5%

Superelevation 10% max.

Clear Roadway Width on Structures . . 6.05 meters

Design Load, Bridges H20-S16

Design Axle Load, for Pavement Design. 12 metric tons

ASUNCION - PTO. PTE. STROESSNER HIGHWAY

C O S T E S T I M A T E

The estimated costs presented below are based upon a rate of exchange of 126 Guaranes to 1 U.S. dollar:

<u>Description</u>	<u>U.S. \$</u>		<u>G O P ₡</u>	<u>Total U.S. \$ Equivalent</u>
Construction Items	3,527,839.00	plus	177, 912,164	4,939,840.00
Engineering Services and Contingencies	352,784.00	plus	17,791,216	493,984.00
Five Motor Truck Scales	25,000.00	plus	630,000	30,000.00
	<u>US\$3,905,623.00</u>	plus	<u>₡196,333,380</u>	<u>US\$5,463,824.00</u>

(U.S.\$ 1,558,201.00)

ESTIMATED COST OF CONSTRUCTION ITEMS
ASUNCION - PTE. STROESSNER HIGHWAY

Section "A" Asunción - Capiatá Km. 0 - Km. 20

Item Nos.	Estimated Quantity	Unit of Measure	Description	Unit Price		Amount	
				U.S. \$	GOP ₡	U.S. \$ (Plus)	GOP ₡
1	22,000	Lin. M	Finish Shoulders	0.35	18.90	7,700.00	415,800
2	1,000	Ton	Repair Asphalt Surface	16.00	756.00	16,000.00	756,000
3	22	Lin. M	Install 0.80 m Pipe Culvert	17.50	945.00	385.00	20,790
4	131,000	M ²	Place Double Seal Coat	0.35	18.90	45,850.00	2,475,900
Total:						\$69,935.00	(+) ₡3,668,490

Section "A" Capiatá - Eusebio Ayala Km. 20 - Km. 73

1	86,000	Lin. M	Finish Shoulders	0.35	18.90	30,100.00	1,625,400
2	100	M ²	Repair Asphalt Surface	10.50	567.00	1,050.00	56,700
3	11	Lin. M	Install 0.80 m Pipe Culvert	17.50	945.00	192.00	10,395
4	318,000	M ²	Place Double Seal Coat	0.35	18.90	111,300.00	6,010,200
5	200	Lin. M	Install Tile Drains	42.00	2,268.00	8,400.00	453,600
6	20,160	Ton	Place Plant Mix Leveling Course	16.00	756.00	322,560.00	15,240,960
Total						\$473,602.00	(+) ₡23,397,255

Total Cost Section "A" \$543,537.00 ₡27,065,745

Section "B" Eusebio Ayala ~ Cnel. Oviedo Km. 73 - Km. 132

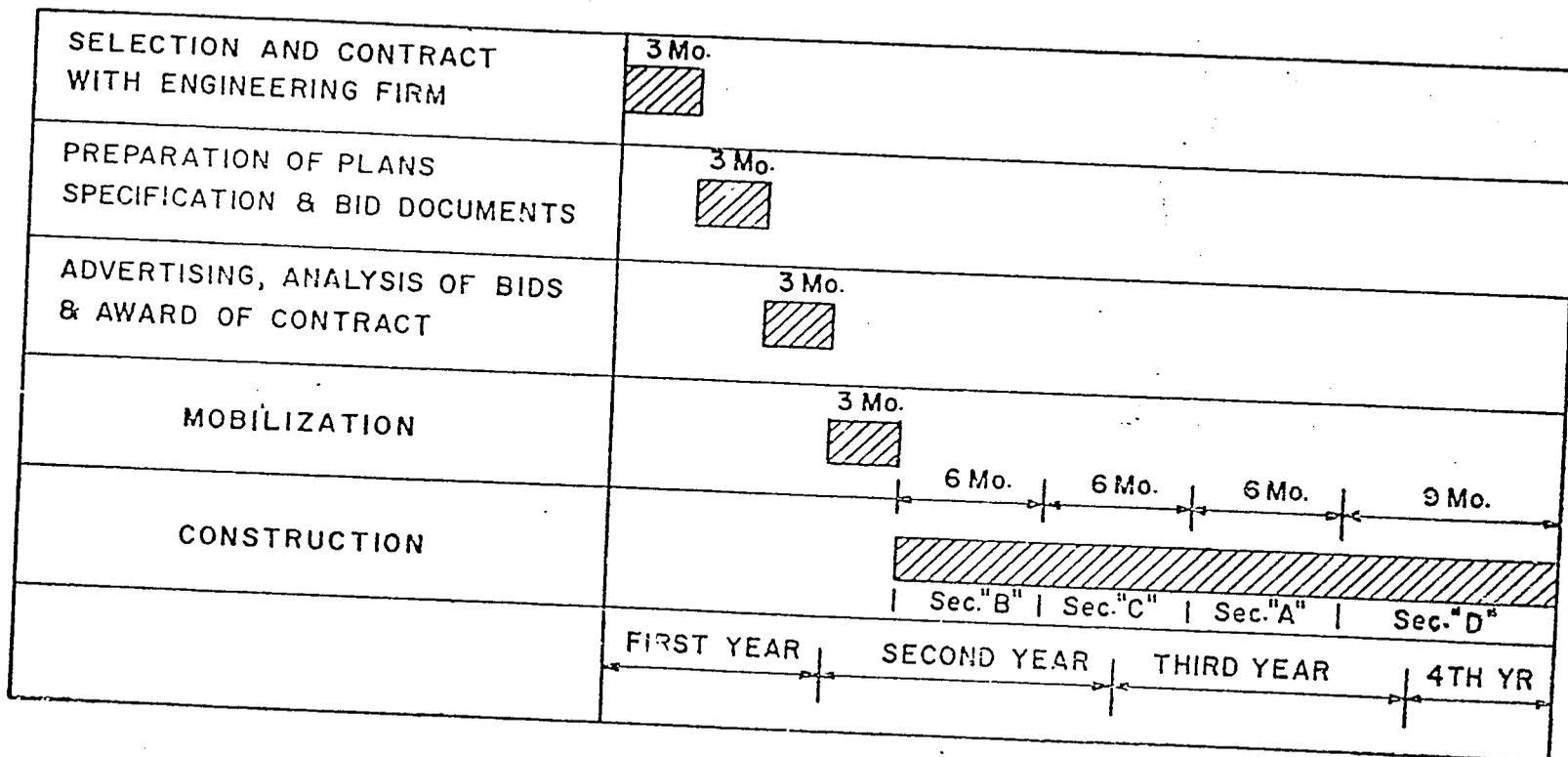
Item Nos.	Estimated Quantity	Unit of Measure	Description	Unit Price		Amount	
				U.S. \$	GOP ₡	U.S. \$	(Plus) GOP ₡
1	72,000	M ³	Ditch Excavation	0.70	37.80	50,400.00	₡ 2,721,000
2	2	Each	Construct Bridges	29,400.00	1,587,600.00	58,800.00	3,175,200
3	44	Lin. M	Install 1.0 M. Conc. Pipe	24.50	1,323.00	1,078.00	58,212
4	36,000	M ³	Construct Embankments	0.875	47.25	31,500.00	1,701,000
5	354,000	M ²	Remove and Replace Macadam	0.21	11.34	74,340.00	4,014,360
6	86,360	M ³	Remove, Crush and Replace Base	5.60	302.40	483,616.00	26,115,200
7	37,760	M ³	Place Basalt Base Course	8.40	453.60	317,184.00	17,127,936
8	75,520	Gal.	Bituminous Prime Coat	0.35	18.90	26,432.00	1,427,328
9	354,000	M ²	Place Asphalt Conc. Pavement	1.00	47.25	354,000.00	16,726,500
Total Cost Section "B"						\$1,397,350.00 (+)	₡73,067,400

Section "C" Cnel. Oviedo - Caaguazú Km.132 - Km.182

Item Nos.	Estimated Quantity	Unit of Measure	Description	Unit Price		Amount	
				U.S. \$	GOP ₡	U.S. \$ (Plus)	GOP ₡
1	36,000	M ³	Ditch Excavation	0.875	47.25	31,500.00	1,701,000
2	1	Each	Construct 42 M Bridge	44,100.00	2,381,400.00	44,100.00	2,381,400
3	44	Lin. M	Install 1.0 M Conc. Pipe	24.50	1,323.00	1,078.00	58,210
4	3,150	M ³	Remove and Replace Base	2.10	113.40	6,615.00	357,210
5	21,000	M ²	Recompact Subgrade	0.18	8.82	3,780.00	185,200
6	36,563	M ³	Place Additional Base Course	8.40	453.60	307,129.00	16,584,970
7	65,000	Gal.	Bituminous Prime Coat	0.35	18.90	22,750.00	1,228,500
8	300,000	M ²	Place Asphalt Conc. Pavement	1.00	47.25	300,000.00	14,175,000
Total Cost Section "C"						\$716,952.00	₡36,671,510

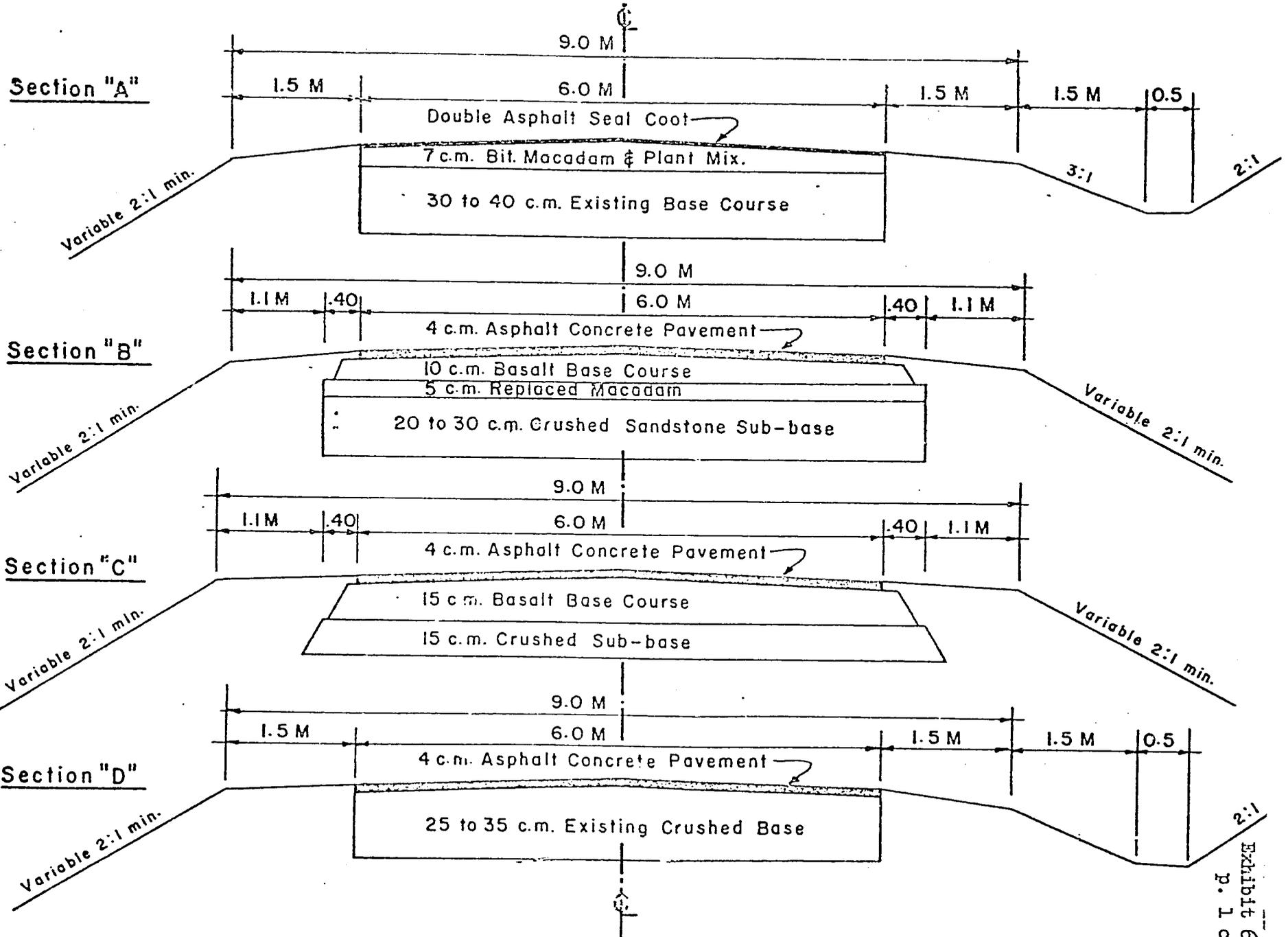
Section "D" Caaguazú - Puerto Pte. Stroessner Km.182 - Km.327

1	870,000	M ²	Place Asphalt Conc. Pavement	1.00	47.25	870,000.00	41,107,500
Total Cost Section "D"						\$ 870,000.00	₡ 41,107,500
Total Sections "A", "B", "C" and "D"						\$3,527,839.00	₡177,912,160
Total Cost Expressed in U.S. Dollars				\$	4,939,840.00		
Total Cost Expressed in GOP Guaraníes				₡	622,419,878.00		



BAR CHART — SCHEDULE OF OPERATIONS

TYPICAL COMPLETED SECTIONS



BROWN & ROOT, INC.
Engineering Department

Client : F A R A G U A Y - M.O.P.C.

Subject: BETTERMENT RUTA 2 & 7 ASUNCION - PUERTO STROESSNER

NATIONWIDE TRAFFIC PROJECTION

Fuel consumption and vehicle registration have increased at about the same rates, indicating the usage of vehicles, expressed in kilometers per vehicle per year, is unchanged. Based upon these records, however, it is estimated that the total vehicle mileage per year has more than doubled during the past 10 years, representing an average increase of more than 7% per year.

In Paraguay, there is one vehicle for each 17,500 dollars of production. In the United States, there are two vehicles for the same amount of production. In countries undergoing development, the percentage increase of vehicles per capita will usually be much greater than the percentage increase of production per capita. It is estimated that the ratio of these two factors will be at least two in Paraguay. Thus, by expecting a conservative average national increase in production of 2-1/2% per capita, it is anticipated that the average increase of traffic (vehicle kilometers per year) on the highways will be 5%, plus another 2% for population growth, making a total of 7%. This projected rate of growth of traffic agrees well with the rate of increase of fuel consumption and vehicle registration over the past 10 years.

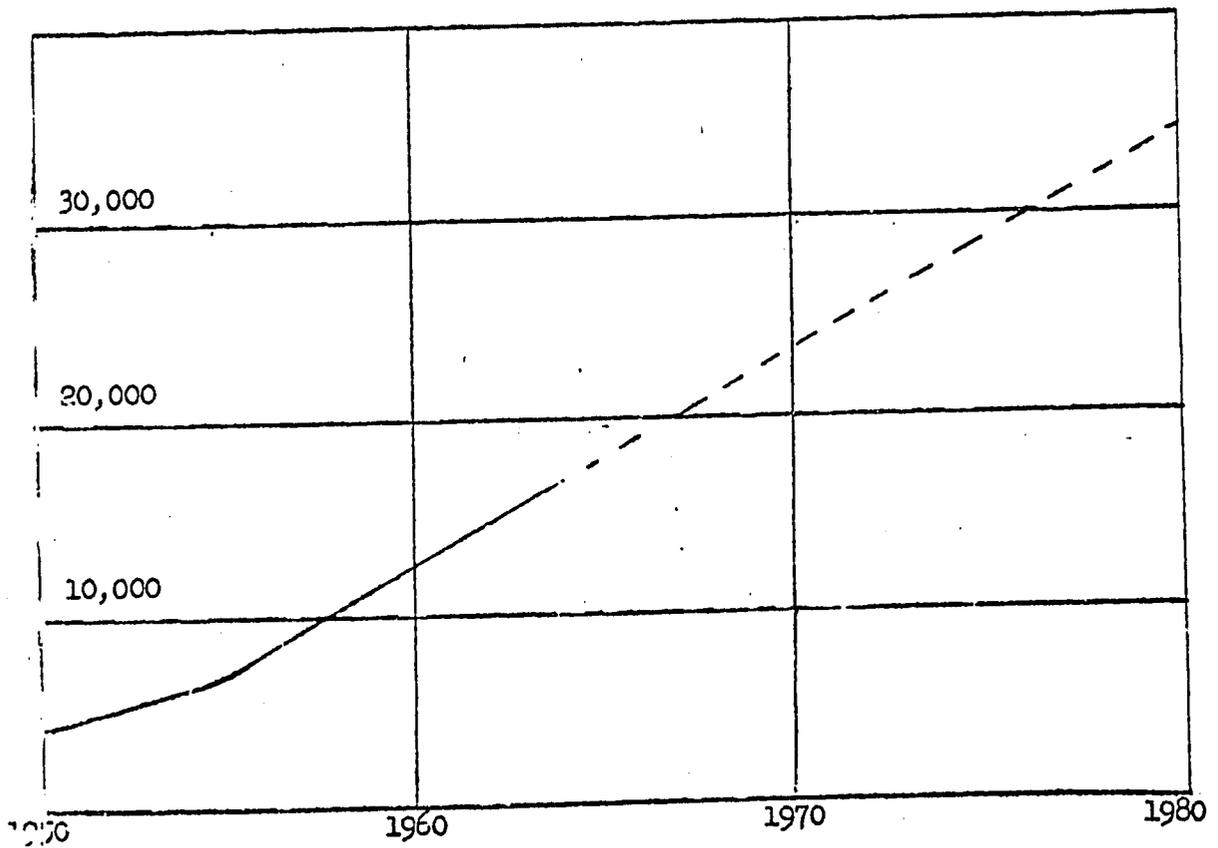
At this rate of growth, traffic on the highways will again be doubled within ten years. With such a small number of vehicles in the country at the present time this average increase is expected to continue for at least 20 years.

BROWN & ROOT, INC.
Engineering Department

VEHICLES REGISTERED IN PARAGUAY

YEAR	PASSENGER CARS	TRUCKS	BUSES	TOTAL
1950	-	-	-	4,700
1955	3,783	2,429	299	6,511
1960	5,100	4,972	784	10,856
1964	10,700	2,800	1,000	14,500

NATIONWIDE
PROJECTED TRAFFIC INCREASE



MOTOR VEHICLE IMPORTATION
1965
MONTHLY DISTRIBUTION

CLASSIFICATION	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	TOTAL
Automobiles	64	40	38	50	45	59	79	366
Small Trucks	84	66	66	69	98	63	100	546
Large Trucks	9	33	19	25	44	26	11	167
Jeeps	3	2	3	5	6	6	25	50
TOTAL	160	141	126	149	193	154	206	1.129

Information source: "Automotores", monthly publication - Public Registration: 15,832

Monthly Average : 1.129 \cdot /. 7 = 161 v/m
 Annual Estimate : 161 x 12 = 1.932
 Approximately : 2.000 vehicles/year

ROAD NETWORK BY TYPE OF CONSTRUCTION

<u>Years</u>	<u>Asphalt</u>	<u>Gravel</u>	<u>Dirt</u>	<u>Total</u>
1938	--	159.8	60.4	220.2
1945	74.4	354.8	245.0	674.2
1950	77.9	474.4	278.2	830.5
1955	84.9	513.7	547.0	1,145.6
1956	87.2	523.3	574.1	1,184.6
1957	100.7	573.8	719.5	1,394.0
1958	120.5	585.4	935.5	1,641.4
1959	130.5	589.8	1,003.0	1,723.3
1960	184.5	653.1	1,307.5	2,145.1
1961	213.3	705.7	1,536.9	2,455.9
1962	213.3	780.8	1,837.9	2,832.0
1963	311.9	811.9	1,997.9	3,121.5
1964	421.0	898.2	2,865.8	4,185.0

Source: Secretaría Técnica de Planificación

Days Major Routes Closed from Rain - 1964

	<u>Jan.</u>	<u>Feb.</u>	<u>Mar.</u>	<u>Apr.</u>	<u>May</u>	<u>Jun.</u>	<u>Jul.</u>	<u>Aug.</u>	<u>Sep.</u>	<u>Oct.</u>	<u>Nov.</u>	<u>Dec.</u>	<u>Total</u>
1 Asuncion-Encarnacion	2	-	1	7	1	1	2	6	6	1	3	1	31
2 Asuncion-Cnel. Oviedo				A s p h a l t									
3 Asuncion-S. Estanislao				U n d e r C o n s t r u c t i o n									
4 Paso de Patria-San Ignacio	3	-	2	7	2	1	2	4	7	1	3	2	34
5 Concepcion-Pedro Juan Caballero	1	4	2	3	5	2	1	3	4	2	4	2	33
6 Encarnacion-Capitan Meza	1	-	1	6	1	1	2	3	6	1	2	1	25
7 Cnel. Oviedo-Pto. Pte. Stroessner	2	2	3	6	1	4	3	6	4	2	4	1	38
8 Villarrica-Caazapa	-	1	1	7	1	1	3	5	5	1	5	2	32
9 Trans-Chaco	2	4	4	9	4	4	2	8	7	2	6	3	55
10 Rosario-San Estanislao	1	4	2	7	2	3	2	6	6	1	5	2	41
11 San Pedro-Nueva Germania	1	4	2	7	2	3	2	5	3	1	3	3	36

Source: Direccion General de Vialidad

ONE WAY MONTHLY VEHICLE FLOW AND TOLLS PAID*
BRAZIL ROAD, 1965

	<u>YPACARAI</u>		<u>CNEL. OVIEDO</u>		<u>PASTOREO</u>	
	<u>No.</u> <u>Receipts</u>	<u>Toll</u> <u>Paid</u> <u>(Gs.)</u>	<u>No.</u> <u>Receipts</u>	<u>Toll</u> <u>Paid</u> <u>(Gs.)</u>	<u>No.</u> <u>Receipts</u>	<u>Toll</u> <u>Paid</u> <u>(Gs.)</u>
Jan.	15,540	777,000	3,000	150,000	1,100	55,000
Feb.	18,490	924,500	4,600	230,000	1,600	80,000
Mar.	18,700	935,000	4,700	235,000	2,300	115,000
Apr.	16,090	804,500	4,800	240,000	2,100	105,000
May	15,900	795,000	4,200	210,000	1,600	80,000
Jun.	14,500	725,000	5,300	265,000	2,400	120,000
Jul.	15,020	751,000	5,500	275,000	2,300	115,000
Aug.	15,640	782,000	5,600	280,000	2,200	110,000
Sep.	15,740	787,000	5,100	255,000	2,100	105,000
Oct.	14,940	747,000	4,900	245,000	1,900	95,000
Nov.	18,840	942,000	5,400	270,000	2,300	115,000
Dec.	<u>22,800a/11,400</u>	<u>1,140,000</u>	<u>4,100</u>	<u>205,000</u>	<u>2,500</u>	<u>125,000</u>
TOT.	202,000	10,110,000	57,000	2,860,000	24,400	1,220,000

a/ Includes a religious pilgrimage to Caacupe, between Ipacarai and Cnel. Oviedo

* The toll is collected in only one direction; MOFC & military vehicles pass without toll.

Source: Ministry of Public Works and Communications, January 17, 1966

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ANNEX II
EXHIBIT 8, P.1 of 16

TRANSLATION

REPORT OF CONCLUSIONS

and

RECOMMENDATIONS

on the

ROAD MAINTENANCE PROGRAM

and

UPKEEP OF EQUIPMENT

Prepared for

THE MINISTRY OF PUBLIC WORKS

A N N E X E S

- I - Reorganization of the General Administration of Public Roads
- II - Up-To-Date Revisions of some Recommendations contained in Report No. 8
- III - Modifications to the Budget and Justification of the Budget
- IV - Implementation Program of the proposed reorganization

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ANNEX II
EXHIBIT 8, P.2 of 16

TRANSLATION

GEOTECNICA S.A.

GA-89/65

Asuncion, December 9, 1965

Ministry of Public Works and Communications
General Administration of Public Roads
City

Ref.: Report on Conclusions and Recommendations on
the Road Maintenance Program and Upkeep of
Equipment

Attention: Engineer O. Sitjar, Director

Dear Sir,

We have pleasure in attaching our Report on Conclusions and
Recommendations on the Road Maintenance Program and Upkeep of Equipment,
including 4 Annexes which form part of same.

Sincerely yours,

OTHELO MACHADO
Director Superintendent

Annexes:

- I - Reorganization of the General Administration of Public Roads
- II - Up-To-Date Revisions of some Recommendations contained in Report
No. 8
- III - Modifications to the Budget and Justifications of the Budget
- IV - Implementation Program of the proposed reorganization

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TRANSLATION

REPORT ON CONCLUSIONS AND RECOMMENDATIONS

I - INTRODUCTION

Considering the unquestionable importance of highway maintenance as a necessary protection to capital invested by the Country, the Ministry of Public Works included a Program of Highway Maintenance in its professional service contract with Geotecnica S.A. This Maintenance Program covered a period of 5 years and included a study of the organization and manner of operation of the General Administration of Public Roads with a view to making pertinent recommendations; the Program also included an eventual revision of the correlative functions of the General Administration of Roads Boards in respect of the Maintenance Program to be proposed.

After analyzing the principal objectives of the fore-mentioned study, the Ministry of Public Works and the IDA emphasized the need to initiate this work with a general report on the national network of roads and its need of maintenance. The objective in view was the establishment of a well-balanced 5 year Maintenance Plan which would include changes of practices, operation, equipment and budgetary and technical methods, giving preference to specific problems of greatest urgency.

In order to perform this work it was first necessary to take an inventory under the directions of the Advisors; the task was carried out by a group of technicians with participation of Ministry Engineers whose collaboration was of inestimable value. Without their assistance it would have been impossible to cover more than 2,000 kilometers of roads - frequently almost impassable - to take an itemized inventory on about 1,500 kilometers of principal highways. Furthermore, reliable information on secondary roads, forming the national network, was obtained from both Engineers and technical personnel of the Ministry.

The Advisors also took an inventory of all road construction equipment available to the Ministry. A close inspection of the condition of each item was made; the need of spare parts and repairs was duly considered and a list of priorities was prepared. The Technicians also surveyed and evaluated the needs of installations, workshops and office facilities in the existing premises.

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TRANSLATION

Based upon the fore-mentioned studies and inventories the advisors prepared and submitted to the Ministry various reports which covered specific parts of the problem. Nine of the partial reports (including this report on Conclusions and Recommendations) were as follows:

1. Cost evaluation of used Soil Laboratory Equipment to be purchased by the Ministry of Public Works
2. List of Spare Parts:
 - 2-1 Total initial list submitted for preliminary bids
 - 2-2 Revised list submitted in draft as annex to Report No. 4 "Highway Maintenance Equipment under the responsibility of the General Administration of Public Roads"
 - 2-3 Request for Spare Parts
 - 2-4 Complementary Request for Spare Parts
3. List of minimum requirements of Maintenance Equipment with corresponding technical specifications
 - 3-1 Annex to Report No. 4 in draft
 - 3-2 Revision with the competitive bids
4. Report on "Highway Maintenance Equipment under the responsibility of the General Administration of Public Roads" with annexes mentioned in items 2-2 and 3-1 and a definition of work of Construction, Improvement and Maintenance together with an explanation of the difference between these activities
5. Instructions to bidders of the "International Call for Tenders for provision of Highway Maintenance Vehicles and Equipment"
6. Inventory of Road-building Equipment in the proposed maintenance areas 1,2 and 3, in three volumes
7. Summary Report of Studies on Maintenance
8. Program on Highway Maintenance and Upkeep of Equipment
9. Report on Conclusions and Recommendations with annex

TRANSLATION

These Partial Reports submitted at various times served not only to satisfy specific proposals related to work which in no manner could be interrupted, but also facilitated solutions which would have been possible in a program of such administrative and technical proportions only after consultations and revisions which would reflect requirements as seen by the Ministry.

In order to facilitate an overall understanding not only of the problem but also of the usefulness of recommendations made by the advisors, a summary of the work was prepared. This summary has been included in this Report; reference has moreover been made to the principal matters studied and to the Reports in which they appeared.

In this Report the advisors set forth justifications and revisions of some Conclusions and Recommendations based upon complementary studies made after submittal of the afore-mentioned Partial Reports.

The Consultants believe that the Program of Highway Maintenance and Upkeep of Road-building Equipment in the Republic of Paraguay will be clearly defined by submittal of this Report and Annexes.

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

1. Overland transportation is an essential factor in the economic development of Paraguay. The Construction, Improvement and Maintenance of the Country's net-work of roads should primarily be centered in the region lying between the Rivers Parana and Paraguay where most of the population and the greater part of the national produce are located. The western area, considered within the economic structure of the Country, should take second place; nevertheless by reason of the Panamerican Highway, maintenance and asphaltting of the Trans-Chaco stretch has undoubted importance.
2. At the time of taking the Road-making Equipment Inventory (1964), there exist about 1,500 kilometers of principal highways, some 600 kilometers of secondary roads and approximately 1,000 kilometers of country lanes; only 360 kilometers (1) of a total of 3,100 kilometers have been

(1) At the time of submitting this Report (1965) paved roads total 432 Kms.

TRANSLATION

asphalted, about 812 kilometers are surfaced with gravel and the remainder are dirt roads.

The construction of approximately 1,600 kilometers of roads is under preliminary study; about 250 kilometers are actually being built. Almost the entire network of roads is in extremely bad condition; with exception of the asphalted stretches, traffic is allowed only in dry weather. In order to prevent damage to the surface, the Highway Police close unpaved roads not only during wet weather but also for some time after rain has ceased; this closing of roads to traffic may take place during any season and totals 30 to 100 days a year.

3. As an indispensable first step the Advisers recommend integration of all existing roads, as well as those under construction or projected, within a judiciously elaborated Road Plan; it is also recommended that the roads be made known by simple names adaptable to recording practices and to the compilation of operational data. In view of the contents of Ministerial Resolution No. 692 (by which the text of the Project for the locations of Roads, Bridges and Artistic Works were approved), the Advisers recommend a complementary study of the Resolution and its final adoption after making the revisions which may be deemed necessary. The localities and the presence of economic factors during the first stages should be taken into account correlatively with the topographical conditions and development probabilities which might allow postponement of the most costly improvements to a more distant future.

In order to perform this work, the Advisers attach particular importance to the creation of a Planning Division which would have direct contact with the General Director of Highways.

4. The Advisers recommend the immediate introduction and implementation of an ample Program of Maintenance and Improvement which will gradually make it possible for roads to be open to traffic throughout the year. The Program recommended in this study will permit attainment of this objective.
5. The Program contemplates a total budget of U\$S 9,000,000 (2) for the

(2) See Schedule I and 2 Annex III of this Report. Modifications to the Budget and Justification of the Budget

TRANSLATION

5 years 1965 through 1969, including the purchase of equipment, vehicles, spare parts and materials, the building of installations, payment of salaries and the defraying of administrative expenses of maintenance workshops. In this total is included U\$S 1,100,000 corresponding to Credit 12-PA del BIRF for investment in capital during 1965 and an additional U\$S3,574,000 (3) for the same purpose from 1966 through 1969. The amount required for other operational expenditure during the 5 year period is U\$S869,000 including general administration; this amount is distributed in the proportion of 80% for routine maintenance and 20% for gradual improvements.

6. The Advisors arrived at the conclusion that a closer study of the actual expenditure, accountable to highway maintenance and upkeep of road-building equipment, would involve a costly work of analysis, incompatible with benefits to be obtained by reason that the accountancy is uniform and undistinguishable for all branches of the Ministry.

Consequently a system of accountancy was evolved for the sector under review; it is foreseen that this system will furnish adequate information on operational costs and will suffice for the control of expenditure under the various headings of the budget. The valuation of the budgetary plan of the Advisors should be revised each successive year in the light of information collected since its initiation. Faced with the present condition of the greater part of the network of roads, the Advisors consider that special and extraordinary maintenance (differing maintenance), with its specific budget, will only be put into practice after minimum conditions of traffic serviceability have been attained.

7. The Advisors recommend the immediate purchase of a number of machines, vehicles spare parts and equipment. They also recommend the rehabilitation of a part of the Ministry equipment; the other part is considered irreparable.
8. For the purchase of new equipment the Advisors recommend an ample International Call for Tenders in accordance with a model already furnished and approved. Some flexibility in the technical specifications would be allowed since this could result in appreciable economy.

(3) See Schedule 1 and 2 Annex 3 of this Report. Modifications to the Budget and Justification of the Budget

TRANSLATION

- Nevertheless such benefit should be critically compared with difficulties and costs which could arise by the use of a variety of equipment and spare parts over an extensive network of roads where supply conditions do not exist.
9. The Advisors recommend the reorganization of the organic structure of the General Administration of Public Roads relative to personnel and to the definition of their functions. They also recommend a program of staff training with its indispensable measures of stimulus and awards.
 10. In order to carry out major repairs to equipment, the Advisors recommend enlargement of the existing Central Workshop of the Ministry of Public Works and Communications which is conveniently located at the junction of Highways I and II in San Lorenzo; it is also recommended that a District Workshop be built at Coronel Oviedo; that the District Workshop at San Ignacio be enlarged and that improvements be made to the workshop facilities at Encarnacion. The Advisors submitted plans of metal-built workshops together with lists machinery and tools and indications for the storage and issue of spare parts at each one. District Workshops will be installed at Concepcion and Mariscal Estigarribia as a second stage of the Plan.
 11. The Advisors recommend that the Country be divided into 5 Road Maintenance Districts. Districts Nos. 1, 2 and 3 with headquarters in San Lorenzo, Coronel Oviedo and San Ignacio should be installed at once. Each District will be responsible for the maintenance of approximately 700 kilometers of roads. Within these Districts maintenance centers should be installed when considered necessary. The installation of the 4th District in Concepcion and the 5th in Mariscal Estigarribia will be deferred to a second stage of the Road Plan. Meantime existing roads in the 4th and 5th Districts could continue to be maintained by the F.F.A.A. and other organizations.
 12. In order to avoid a duplication of authoritative structures whose functions almost overlap, the Advisors propose the gradual disappearance of the Road Boards; nevertheless they recognize that there exist good reasons for the continuance of the Road Boards in services not associated with Maintenance as long as the greater number of rural lanes do not come up to the standards required for the principal network of roads.

TRANSLATION

The Road Boards serve with manual labor to maintain roads almost exclusively used by ox-drawn carts; since the Boards could not be replaced at short notice without impairing the new maintenance organization, they would be gradually relieved of their responsibilities over a longer period of time. The Advisors do not consider it practicable to include a clause of extinction of the Road Boards in this Plan.

13. The Advisors submitted specific technical recommendations on the maintenance of paved and dirt roads.
14. The Advisors recommend a plan which limits and controls the weight and dimensions of vehicles traveling over paved roads, as also the purchase of at least 3 machines to weigh trucks. One of these weighing machines should be installed at the junction of Highways I and II in San Lorenzo, one on Highway I near Encarnacion and one on Highway II near Presidente Stroessner.
15. The Advisors recommend that the system of tollgate collections presently used in Paraguay be revised and that this tax be incorporated in the general tax system of the Country.
16. The Advisors recommend that implementation of the reorganization suggested be considered urgent, and submit a specific plan to this end.

III - SUMMARY OF THE PRINCIPAL MATTERS COVERED BY THE VARIOUS REPORTS

1. General Information on Paraguay
Ref.: Report No. 8. Pages 2 - 8
2. Study of the Network of Roads in Paraguay. Inventory of Existing Roads, Summary of Road Inventory.
Ref.: Report No. 8 Pages 8 - 18
Report No. 4 Pages 1 - 9
Report No. 6 3 Volumes
3. Study of the Organizations entrusted with the Construction and Maintenance of Roads
Ref.: Report No. 8. Pages 20 - 29

TRANSLATION

4. Definition of work of Construction, Improvement and Maintenance of Highways together with an Explanation of the Difference between these activities.
Ref.: Annex of Report No. 4. Pages 1 - 6
5. Proposed Reorganization of the General Administration of Public Roads.
Ref.: Report No. 8 Pages 32 - 50
Report No. 9 Annex 1
6. Pre-Requisites for DGV Personnel, Definition of Responsibilities and Scale of Salaries for the Proposed Organization.
Ref.: Report No. 8 Pages 52 - 59
7. Recommendation for Staff Training.
Ref.: Report No. 8 Pages 59 - 61
8. Inventory of Road-Making Equipment. Recommendations on Equipment and Existing Installations. Proposals for the Reorganization of Maintenance Centers.
Ref.: Report No. 8 Pages 63 - 79
Report No. 4 Pages 10 - 20
9. Recommendations on Purchasing, Call for Tenders, Recording and Warehousing of Road-Building Equipment, Workshop Machinery and Tools, Spare parts and Materials.
Ref.: Report No. 8 Pages 81 - 89
10. Present Situation and Recommendations on the Stabilization and Budgeting of Maintenance Work.
Ref.: Report No. 8 Pages 91 - 104
11. Proposals for Capital and Operational Budgets
Ref.: Report No. 7 Pages 7 - 8
Report No. 9 Annex III
12. Technical Instructions on Paved and Dirt Highway Maintenance.
Ref.: Report No. 8 Pages 109 - 147

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13. Limitation and Control of Weights and Dimensions of Vehicles on the Highways.
Ref.: Report No. 8 Pages 149 - 151
14. Recommendations on Technical Standards for Improvement and Maintenance of Roads.
Ref.: Report No. 9 Item II - 3
15. Implementation Program for the Proposed Reorganization.
Ref.: Report No. 9 Annex IV

IMPLEMENTATION PLAN OF THE MAINTENANCE PROGRAM

Phase	Probable time from the date of Approval of the Plan by the Ministry.
<u>Administrative Reorganization</u>	
Assignment of the present Officials to their new responsibilities..	1 Month
Creation of the new Divisions and Sections with existing personnel.	1 Month
Contracting of new Officials to complete the new establishment....	2 Months
<u>Road-Construction and Maintenance Districts</u>	
Installation of Districts in provisional Headquarters to be acquired through grant of concessions or by rental by the Ministry	2 Months
Redistribution of existing machinery between the Road-Construction and Maintenance Districts	3 Months
Arrival of new machinery purchased through Call for Tenders	6 Months
Construction of New District Headquarters	6-9 Mos.
<u>OFFICES</u>	
Modifications to the Central Office	6 Months
Installation of District Offices	6-9 Mos.

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List of Personnel to be Contracted

<u>Occupation</u>	<u>Required</u>	<u>Presently Existent</u>	<u>To be Contracted</u>
Engineers	14	9	5
Officials	100	99	1
Topographers	9	6	3
Qualified Employees	267	245	22
Assistants and Laborers	277	143	134

EXCERPTS FROM DRAFT CONTRACT WHEREBY GOP TO RETAIN CONSULTANTS

The Government, through this Contract, establishes the utilization of the Services of the Consultants according to the following terms and provisions:

The Consultants shall send to Paraguay first class experts who will serve in their respective fields under the General Director of Highways of the Ministry, to assist and advise the office of the Direction General of Highways in the adoption and performance of an adequate program of maintenance of national routes. The Consultants shall accordingly advise the introduction of modern methods in the organization and functioning of the Department of Conservation of said Direction.

For the purposes mentioned in Clause 2.02, the Consultants shall consider the studies previously made, duly evaluating them and making the recommendations of the need for amplifying or improving upon them, with special emphasis on:

- a) Inventory of existing roads, shops and equipment.

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- b) Cost Accounting System.
- c) Control of vehicle weights and dimensions.
- d) Requirements and specifications for equipments, shops and spare parts for the maintenance of the different types of roads.
- e) Organization of the Maintenance Department, including personnel.
- f) Detailed Annual Budget (foreign exchange cost and local cost) for the period 1967 - 1970.

The Consultants shall also perform the following:

- a) Prepare bidding documents as may be required for the purchase of maintenance equipment, assist the Ministry in the analysis of bids and make recommendation for award.
- b) Review all programs that may be proposed by international financing institutions in connection with road maintenance and advise the Ministry as to how such programs may best complement the National Programs for Road Maintenance and Betterment.
- c) Prepare and submit quarterly progress reports covering the Consultants work and the status of the Maintenance Program. These reports are to be prepared in English and Spanish with two copies submitted directly to the Bank and four copies to the Ministry.

The above listing is specific but not limiting; the Consultants shall take action by their own initiative within the limits of their responsibilities to favorably satisfy the best interests of the Government with relation to the Project referred to in this Contract. The Consultants shall prepare and submit to the Ministry, within six months after the effective date of this Contract, a comprehensive report summarizing their recommendations to achieve the objective described in Clause 2.02. The report shall also include, among other things, a proposed priority schedule for implementing the Consultants recommendations and a detailed list of

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the specific annual requirements in equipment, spare parts, supplies and materials for the period 1967-1970. The report shall be prepared in both English and Spanish with three copies submitted directly to the Bank and twenty copies to the Ministry.

The Consultants shall provide:

- 1 (One) Engineer in the field of Maintenance of Roads.
- 1 (One) Mechanical Engineer specialized in road equipment.
- 1 (One) Expert specialized in Shops and Warehouses.
- 1 (One) Expert in Accounting.

A total of 36 man-months of Services will be provided under this Contract in accordance with the Bar Chart attached hereto as Annex No. 1.

The employment of any other additional specialist shall be agreed upon by both the Ministry and the Consultants.

PROPOSED ORGANIZATION CHART

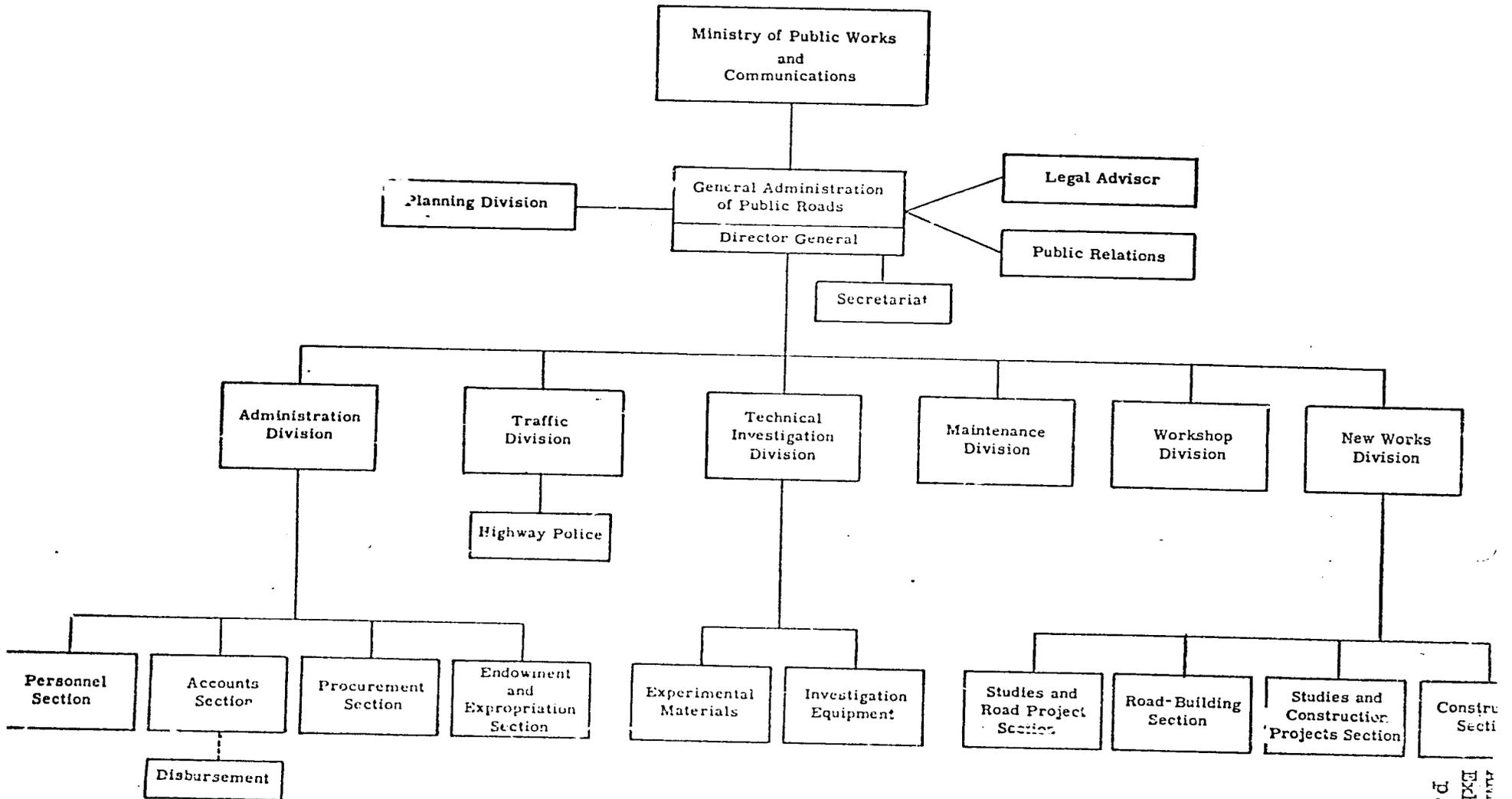


TABLE I - SCHEDULE OF BUDGETS

1. CAPITAL BUDGET

No. HEADINGS	CAPITAL BUDGET FOR THE FIVE YEARS 1965 - 1969 U\$S					NECESSARY CONTRIBUTIONS	
	1965	1966	1967	1968	1969	CREDIT 12 FA	OT IER CREDIT
1 Equipment and Vehicles	633.621	1.197.799	921.350	631.672	213.192	633.621	2.964.013
2 Spares, Machines & Tools	251.000	167.691	134.152	126.235	70.353	251.000	498.431
3 Installations	215.379	120.000	90.000	60.000	30.000	215.379	300.000
TOTALS	1.100.000	1.485.490	1.145.502	817.907	313.545	1.100.000	3.762.444

* For Foreign Purchase of Metal Structures and Culverts.

2. OPERATIONAL BUDGET

HEADINGS	OPERATIONAL BUDGET FOR THE FIVE YEARS 1965 - 1969 U\$S					OBSERVATIONS
	1965	1966	1967	1968	1969	
1. General Administration	150.800	150.800	150.800	150.800	150.800	Accepted
2 Maintenance of Highways	505.800	505.800	505.800	505.800	505.800	80% Maintenance
3 DTDI and Regional Workshops	212.400	212.400	212.400	212.400	212.400	20% Improvements
TOTALS	869.000	869.000	869.000	869.000	869.000	

COST BENEFIT-RATIO ANALYSIS

Cost-Benefit Ratios are computed by reducing the annual cost of construction and the annual benefits to traffic to their present worths at the beginning of the construction period for each section using a discount rate of 8%. (See table page 25 for cost-benefit ratios.)

Contribution of Brazil Traffic - There are three toll stations on the road each collecting a toll of 50 guaranies (39.7¢) per vehicle. Tolls are collected for traffic in only one direction; therefore, a vehicle in making a round trip will pay only 3 tolls. In computing the toll contribution for each vehicle, the tolls have been distributed to each section in proportion to its length.

In making a round trip each vehicle will contribute the following amount, in cents per ADT, for each section:

$$\text{Section A} - \frac{3 \times 50}{2} \times \frac{73}{227} \times \frac{100}{126} = 19¢$$

$$\text{Section B} - 75 \times \frac{59}{227} \times \frac{100}{126} = 15¢$$

$$\text{Section C} - 75 \times \frac{50}{227} \times \frac{100}{126} = 13¢$$

$$\text{Section D} - 75 \times \frac{145}{227} \times \frac{100}{126} = 38¢$$

The gas tax in Paraguay is 7.30 guaranies per liter. In computing the gas tax per vehicle, gasoline consumption for the average vehicle has been considered as one liter for each 5 kilometers of travel. This tax has also been distributed to each section in proportion to its length. The following computations show the gas tax contribution for each vehicle for each section of road:

$$\text{Section A} - \frac{7.30}{5} \times 73 \times \frac{100}{126} = 85¢$$

$$\text{Section B} - 1.46 \times 59 \times \frac{100}{126} = 69¢$$

$$\text{Section C} - 1.46 \times 50 \times \frac{100}{126} = 58¢$$

$$\text{Section D} - 1.46 \times 145 \times \frac{100}{126} = 168¢$$

The annual contribution per vehicle for both tolls and the gas tax from the Brazilian traffic for each section would be:

$$\text{Section A} - (0.85 + 0.19) \times 365 = \$380$$

$$\text{Section B} - (0.68 + 0.15) \times 365 = \$303$$

$$\text{Section C} - (0.58 + 0.13) \times 365 = \$259$$

$$\text{Section D} - (1.68 + 0.38) \times 365 = \$752$$

Savings to Paraguayan Traffic - An analysis of motor vehicle operation in Paraguay, which was made by Brown and Root, shows a saving of 4.6 cents per kilometer as a weighted average saving to all vehicles in operating over payment in good condition as against an unsurfaced road. From this value and the condition of surfaces of the various sections as they would be if the repairs were not made, the following values in cents per kilometer have been derived: Section A, 1.0¢; Section B, 3.0¢; Section C, 2.0¢; Section D, 1.0¢.

Following are computations showing the annual savings per vehicle for each section of road:

$$\text{Section A} - 0.01 \times 73 \times 365 = \$266$$

$$\text{Section B} - 0.03 \times 59 \times 365 = \$646$$

$$\text{Section C} - 0.02 \times 50 \times 365 = \$365$$

$$\text{Section D} - 0.01 \times 145 \times 365 = \$530$$

Present Worth Computations - The tables on the following pages show the values of annual savings and benefits to traffic* and the present worth of these savings discounted to the beginning of construction together with

* This refers to Paraguayan vehicle owners only, since we are interested in benefits to the Paraguayan economy. This ignores the possibility that some savings to Brazilian vehicle owners will be passed along to Paraguayan shippers and consignees in the form of reduced transportation charges on exports and imports.

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EXHIBIT 9, P. 3 of 7

the totals over a 20-year period for each section of road. An examination of these tables will show the savings to the Paraguayan traffic alone will pay off the construction investment for the various sections as follows:

Section A - 2 years

Section B - 8 years

Section C - 12 years

Section D - 14 years

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SECTION A

YEAR	P.W. FACTOR	TRAFFIC SAVINGS			GAS TAX & TOLLS		
		ADT	ANNUAL SAVINGS (1000)	PRESENT WORTH (1000)	ADT	ANNUAL BENEFIT (1000)	PRESENT WORTH (1000)
1969	0.926	1732	\$461	\$427	42	\$15.9	\$14.7
70	0.857	1815	483	413	44	16.7	14.3
71	0.794	1897	504	400	46	17.5	13.9
72	0.735	1980	527	387	48	18.2	13.4
73	0.681	2062	548	373	50	19.0	12.9
74	0.630	2145	571	359	52	19.7	12.4
75	0.584	2227	592	346	54	20.5	12.0
76	0.540	2310	614	331	56	21.3	11.5
77	0.500	2392	636	318	58	22.0	11.0
78	0.463	2475	657	305	60	22.3	10.5
79	0.429	2599	691	296	63	23.9	10.2
80	0.397	2722	724	287	66	25.1	10.0
81	0.368	2846	757	278	69	26.2	9.6
82	0.340	2970	790	269	72	27.3	9.3
83	0.315	3093	822	259	75	28.5	9.0
84	0.292	3217	855	249	78	29.6	8.6
85	0.270	3341	888	240	81	30.7	8.3
86	0.250	3465	920	230	84	31.9	8.0
87	0.232	3589	955	221	87	33.1	7.7
88	0.215	3712	986	212	90	34.2	7.4
		TOTAL \$6200			TOTAL \$214.7		

SECTION B

YEAR	P.W. FACTOR	TRAFFIC SAVINGS			GAS TAX & TOLLS		
		ADT	ANNUAL SAVINGS (1000)	PRESENT WORTH (1000)	ADT	ANNUAL BENEFIT (1000)	PRESENT WORTH (1000)
1968	0.926	495	\$319	\$295	40	\$12.1	\$11.2
69	0.857	530	342	293	42	12.7	10.9
70	0.794	567	366	290	44	13.3	10.4
71	0.735	607	392	288	46	13.9	10.2
72	0.681	648	418	284	48	14.5	9.9
73	0.630	694	448	282	50	15.1	9.5
74	0.584	743	480	280	52	15.7	9.2
75	0.540	795	513	277	54	16.4	8.9
76	0.500	850	548	274	56	17.0	8.5
77	0.463	910	587	272	58	17.6	8.2
78	0.429	974	628	270	60	18.2	7.8
79	0.397	1041	673	267	63	19.1	7.6
80	0.368	1113	719	264	66	20.0	7.4
81	0.340	1192	769	261	69	20.9	7.1
82	0.315	1275	823	259	72	21.8	6.9
83	0.292	1365	880	257	75	22.7	6.6
84	0.270	1460	942	254	78	23.6	6.4
85	0.250	1563	1010	253	81	24.5	6.1
86	0.232	1673	1078	250	84	25.4	5.9
87	0.215	1790	1153	248	87	26.3	5.7
		TOTAL	\$5418		TOTAL	\$164.4	

SECTION C

YEAR	P.W. FACTOR	TRAFFIC SAVINGS			GAS TAX & TOLLS		
		ADT	ANNUAL SAVINGS (1000)	PRESENT WORTH (1000)	ADT	ANNUAL BENEFIT (1000)	PRESENT WORTH (1000)
1969	0.926	305	\$111	\$102.9	42	\$10.8	\$10.0
70	0.857	326	119	102.0	44	11.4	9.8
71	0.794	349	127	100.8	46	11.8	9.4
72	0.735	374	136	100.0	48	12.4	9.1
73	0.681	400	146	99.3	50	12.9	8.8
74	0.630	428	156	98.2	52	13.5	8.5
75	0.584	458	167	97.5	54	14.0	8.2
76	0.540	490	179	96.6	56	14.5	7.8
77	0.500	525	192	96.0	58	15.0	7.5
78	0.463	561	205	95.0	60	15.5	7.2
79	0.429	600	219	94.0	63	16.3	7.0
80	0.397	642	234	92.8	66	17.1	6.8
81	0.368	687	251	92.3	69	17.9	6.6
82	0.340	735	269	91.4	72	18.6	6.3
83	0.315	787	287	90.3	75	19.4	6.1
84	0.292	842	307	89.6	78	20.2	5.9
85	0.270	902	329	88.7	81	21.0	5.7
86	0.250	965	352	88.0	84	21.8	5.4
87	0.232	1033	377	87.5	87	22.5	5.2
88	0.215	1107	404	87.0	90	23.3	5.0
		TOTAL		\$1,889.9	TOTAL		\$146.3

SECTION D

YEAR	P.W. FACTOR	TRAFFIC SAVINGS			GAS TAX & TOLLS		
		ADT	ANNUAL SAVINGS (1000)	PRESENT WORTH (1000)	ADT	ANNUAL BENEFIT (1000)	PRESENT WORTH (1000)
1970	0.926	206	\$109	\$100.9	44	\$33.1	\$30.6
71	0.857	221	117	100.3	46	34.6	29.6
72	0.794	236	125	99.3	48	36.1	28.6
73	0.735	253	134	98.3	50	37.6	27.6
74	0.681	271	143	97.3	52	39.1	26.6
75	0.630	290	153	96.3	54	40.6	25.5
76	0.584	310	164	95.7	56	42.1	24.6
77	0.540	332	176	95.0	58	43.6	23.5
78	0.500	355	188	94.0	60	45.1	22.6
79	0.463	380	201	93.0	63	47.3	21.9
80	0.429	407	215	92.2	66	49.6	21.3
81	0.397	435	230	91.3	69	51.8	20.6
82	0.368	465	246	90.5	72	54.1	19.8
83	0.340	498	264	89.6	75	56.3	19.1
84	0.315	533	282	88.7	78	58.7	18.4
85	0.292	570	302	88.2	81	60.8	17.7
86	0.270	610	323	87.1	84	63.2	17.0
87	0.250	652	346	86.5	87	65.3	16.3
88	0.232	697	369	85.6	90	67.7	15.7
89	0.215	746	395	85.0	93	69.9	15.0
		TOTAL		\$1,854.8	TOTAL		\$443.0

ESTIMATED VEHICLE OWNERSHIP AND OPERATING COSTS IN PARAGUAY

	Truck 10-Ton Diesel 120%	Truck 6-Ton Gasoline 100%	Micro 20-place Gasoline 80%	Car 6-place Gasoline 160%
DEPRECIATION AND AVERAGE VALUE				
List price, Asuncion	\$ 2,900,000	1,300,000	905,000	1,002,000
List price less customs duties, taxes, etc.	\$ 1,340,000	650,000	640,000	420,000
Deduct cost of tires	\$ 160,000	140,000	42,000	32,000
Total Cost less tires	\$ 1,180,000	510,000	598,000	388,000
Estimated salvage value after 5 years	370,000	200,000	220,000	150,000
Total Depreciation less tires	\$ 810,000	310,000	378,000	238,000
Average value over 5-year period	\$ 755,000	355,000	409,000	269,000
ANNUAL COSTS				
Total Depreciation \cdot/\cdot 5	\$ 162,000	62,000	75,600	47,600
Repairs, 75% of Annual Depreciation	123,750	46,500	56,700	40,350
Interest, Insurance, Licenses and Storage, 15% of Average Value	143,250	53,250	61,350	40,350
Total Annual Fixed Costs	\$ 432,000	161,750	193,650	134,500
COST PER KILOMETER ON EXISTING UNSURFACED ROAD				
Annual Fixed Cost \cdot/\cdot 32,000 km/year	\$ 13.50	5.05	6.05	4.20
Fuel - speed of 50 km/hr. @ 2/3 max. h.p. @ \$15/lt.	4.40	4.40	3.00	2.70
Lubrication and miscellaneous services, 40% of fuel cost	1.76	1.76	1.20	1.08
Tire wear = tire cost \cdot/\cdot 30,000 km.	5.33	4.67	1.40	1.07
Tire repairs, 15% of tire wear	0.80	0.70	.21	0.16
Driver and helper (\$8,000 + 6,000)/month \cdot/\cdot 2,667 km/mo.	5.25	5.25	5.25	0
Social benefits, 40% of \$14,000	2.10	2.10	2.10	0
Total Cost Per Kilometer	\$ 33.14	23.83	19.21	9.21
COST PER KILOMETER ON PAVEMENT IN GOOD CONDITION				
Annual Fixed Cost \cdot/\cdot 48,000 km/year	\$ 9.00	3.37	4.03	2.80
Fuel - speed of 65 km/hr. @ 2/3 max. h.p. @ \$15/lt.	4.40	4.40	3.00	2.70
Lubrication and miscellaneous services, 40% of fuel cost	1.76	1.76	1.20	1.08
Tire wear = tire cost \cdot/\cdot 40,000 km.	4.00	3.50	1.05	0.80
Tire repairs, 15% of tire wear	0.60	.52	0.16	0.12
Driver and helper (\$8,000 + 6,000)/month \cdot/\cdot 4,000 km/mo.	3.50	3.50	3.50	0
Social Benefits, 40% of \$14,000	1.40	1.40	1.40	0
Total Cost Per Kilometer	\$ 24.66	18.45	14.34	7.50
Net Benefit Per Kilometer	\$ 8.48	5.38	4.87	1.71
Percent of Average Daily Traffic	30%	40%	20%	10%
Weighted value for Average Daily Traffic = \$5.82 or \$0.046 per km.	2.54	2.14	0.97	0.17

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Exhibit

1. IBRD Analysis of Local Currency Financing Needs
2. Basic Economic Data on Paraguay
3. Colonization Program - Current Planning Activity
4. Status of Authorized Loan Projects
5. Related Economic Planning

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EXCERPTS FROM IBRD REPORT "ECONOMIC POSITION AND PROSPECTS OF PARAGUAY"

The financing of the ongoing public sector investment projects will continue to present a difficult problem in 1966. The Mission estimates the overall investment deficit of the Central Government at \$258 million and of the autonomous agencies at \$26 million, or a combined deficit of \$284 million. In arriving at these figures, the Mission made allowance for reasonable growth in revenues resulting from an expanding economy and improved tax administration. No consideration was given to new taxes or to new tax rates since the Minister of Finance indicated that none are contemplated for 1966. The Mission also made allowance for a reasonable growth in current expenditures by the Government. In the case of the autonomous agencies, both revenues and expenditures were projected on the basis of the experience and/or prospects for each one of the agencies and they are believed to be quite realistic. Recourse to the Central Bank for the above amount plus the unblocking of some \$165 million of previously sterilized deposits for the Paraguari-Encarnacion Road and PL-480 funds would raise the monetary issue by the Central Bank to \$450 million and would again be incompatible with the Government's determination to maintain internal and external stability. Thus unless further increases in revenues and/or reduction in current expenditures materialize, the authorities may be faced with the necessity for again stretching out the pace of projected disbursements on ongoing public investments.

A serious problem is likely to exist in the near-term (1965-66) in connection with attaching external loans to public sector investment projects, unless the external lenders are prepared to finance both the foreign exchange and the local expenditure component of the new project. The foregoing analysis of the ongoing public sector projects conclusively demonstrates that the major problem facing Paraguay is to generate an adequate volume of internal resources necessary to match the external component already in the pipeline. At the very best, public sector savings over the near-term can be raised to the level required by the ongoing projects. The financing of the external component only of possible new projects which would require the generation of additional internal resources by the Central Government would merely serve to aggravate the already existing serious problem.

The problem of determining the respective shares of financing from

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external and from internal sources can obviously be answered best only in the context of each individual loan made for specific projects. Nevertheless, it appears desirable to set out some average cost-sharing principles for the total public investment effort to which external financing is attached. In setting forth such broad guidelines, two major considerations are relevant. The first is the balance of payments outlook and the amount of external capital that must be relied upon to meet balance of payments objectives. The second is the fiscal and monetary policy to be followed in achieving the Government's objective of growth under conditions of relative stability. The total volume of external capital already in the pipeline and its projected rate of utilization fully meets the requirements of the balance of payments during 1965-67. Thus, the capital inflow in 1966-67 projected under possible new loans and credits does not need to give primary consideration to its balance of payments implications.

The situation is, however, completely different from the standpoint of the second criterion mentioned above. Given the maximum improvements in the government's savings efforts which it is reasonable to expect, the projected capital inflows would necessitate a greater recourse by the government of borrowing from the Central Bank than would be consistent with its policy of maintaining relative monetary and price stability. It follows that the government will be able to achieve its fiscal, monetary and balance of payments objectives only if the inflow of external capital in 1965-67 is greater than the direct import content of the investment effort. This implies that project loans will need to cover at least part of the domestic costs of the projects they are intended to finance. The Mission believes that in the near-term project loans need on the average to cover the direct import component of public investment which in Paraguay is very high-possibly as much as two-thirds, plus the full amount of the domestic component in all instances where local resources must be supplied by the Central Government. Project loans which can rely on other sources for the local currency financing, need not cover more than the foreign exchange component.

PARAGUAY

I. BASIC DATA

Area:	157,052 sq. miles	
<u>Population:mid- 1964</u>	1,900,000	
Rate of growth, 1955-64:	2.65% p.a.	
Population density per sq. mile	12.1	
<u>Gross national product 1964:</u>	¢49,641 million-US\$394 million	
Rate of growth, 1955-1964:	2.9% p.a.	
1964:	3.0% p.a.	
Per capita(1964):	US\$208 (at Official Exchange rate)	
<u>Gross domestic product at 1962 market prices:</u>	¢ 47 billion	
of which, in percent, Agriculture:	22.3	
Cattle:	10.9	
Minig:	0.1	
Forestry:	3.7	
Manufacturing:		
Industry:	17.4	
Services:	38.0	
<u>Percent of GDP at market prices</u>	<u>1964</u>	<u>1957-1964</u>
Gross investment	15.7%	16.1%
Gross savings	13.2%	12.9%
Balance of payments current account deficit	2.5%	3.2%
Investment income payments	0.6%	0.5%
Government taxation revenue (or current revenues)	8.7%	8.9%(1963-1964)
<u>Resources gap as % of investment</u>	16.9%	19.8%
Relationship to large monetary or customs area:	Member of ALALC	
		Overall rate of change in
		<u>1957-1964</u>
Total money supply	million <u>1964</u> ¢ 4473	124%
Time and savings deposits	" ¢ 1724	1034%
Commercial bank credit to private sector	" ¢ 2622	518%
Other lending to private sector (BNF)	" ¢ 1215	-35%
Rate of change in prices	2%	9% p.a.

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<u>Public sector operations</u>	<u>1964</u>	<u>Rate of change, 1963-64</u>
Government current receipts mill.	¢ 4,366	3.5%
Govt. current expenditures mill.	¢ 4,092	3.9%
Surplus on current account mill.	¢ 274	-2.0%
Govt. capital expenditures 1/m	¢ 914	24.8%
Public investment expenditures 1/ million	¢ 1,978	31.3%
Total external assistance to public sector 2/ million	¢ 849	29.8%
<u>*External public debt (in US\$)</u>	<u>1963</u>	<u>Most recent year</u>
Total debt	US\$46.1 million	US\$ 56.3 million (12/31/64)
Total annual debt service	US\$ 3.3 million	US\$ 5.2 million (1964)
Debt service ratio	9%	11.4% (1964)
<u>Balance of payments (in US\$)</u>	<u>Most recent year</u>	<u>Overall rate of change</u>
Total exports	US\$45.4 million(1964)	- 14.6%(1962-64)
Total imports	US\$44.3 million(1964)	- 9.9%(1962-64)
Net invisibles 3/	US\$11.6 million(1964)	- 68.9%(1962-64)
Net current account balance	US\$10.6 million(1964)	- 38.5%(1962-64)
	<u>Past Average</u>	<u>Most recent year</u>
Commodity concentration of exports (customs data)	Livestock 31% (1957-1964)	Livestock 33% (1964)
Gross foreign exchange reserves of the Central Bank	US\$ 3.0 million (1958-1964) (or less than one months' imports)	April 1965 US\$ 9.0 million (or less than two months' imports)

-
- 1/ Real and financial investment (see Table 9a)
2/ External Financing in the Public Sector Investment Program.
3/ Private donations are included.

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P O P U L A T I O N

Total and by selected Departments

	1950 Census	1962 Census	Intercensal Variation per cent
PARAGUAY	1,328.452	1,816.890	37
<u>Departments</u>			
Caaguazú	71,699	123.590	72
Alto Paraná	9.531	26.680	180

Source: Dirección General de Estadística y Censos

GROSS DOMESTIC PRODUCT, BY SECTORS OF PRODUCTION 1955-1964
(Millions of guaranies constant 1962 prices)

	1955	1956	1957	1958	1959	1960	1961	1962	1963 (Estimated)	1964 (Estimated)
Agriculture	7,904	7,852	8,189	8,504	8,733	8,908	9,204	9,813	10,454	10,500
Cattle	4,286	4,365	4,305	4,709	4,427	4,388	5,015	4,630	4,955	5,120
Forestry	1,397	1,614	1,584	1,568	1,551	1,511	1,611	1,628	1,535	1,730
Hunting and fishing	33	33	28	26	35	37	43	40	42	44
<u>Sub-total</u>	<u>13,620</u>	<u>13,864</u>	<u>14,106</u>	<u>14,807</u>	<u>14,746</u>	<u>14,844</u>	<u>15,873</u>	<u>16,111</u>	<u>16,986</u>	<u>17,394</u>
Mining	38	37	50	47	31	57	57	46	70	70
Industry	6,102	6,069	6,421	6,647	6,886	6,494	7,112	7,169	7,656	8,180
Construction	613	617	668	679	742	995	900	1,015	1,039	1,086
<u>Sub-total</u>	<u>6,753</u>	<u>6,723</u>	<u>7,139</u>	<u>7,373</u>	<u>7,659</u>	<u>7,546</u>	<u>8,069</u>	<u>8,230</u>	<u>8,765</u>	<u>9,336</u>
Electricity	167	185	195	215	234	226	233	253	264	271
Water and San.Servs.	5	10	32	57	18	75	76	30	84	88
Trans.& Comm.	1,552	1,637	1,670	1,636	1,591	1,621	1,788	1,822	1,934	2,019
<u>Sub-total</u>	<u>1,724</u>	<u>1,832</u>	<u>1,897</u>	<u>1,908</u>	<u>1,873</u>	<u>1,922</u>	<u>2,097</u>	<u>2,155</u>	<u>2,222</u>	<u>2,378</u>
Commerce,finance	7,741	6,831	8,229	8,950	8,380	8,984	9,324	9,435	9,600	9,750
Government	1,635	1,698	1,759	1,785	1,805	1,849	1,807	1,820	1,820	1,840
Housing	1,308	1,343	1,381	1,416	1,454	1,500	1,545	1,591	1,600	1,650
Other services	3,395	3,455	3,722	4,024	4,217	4,158	4,403	4,443	4,500	4,600
<u>Sub-total</u>	<u>14,079</u>	<u>13,327</u>	<u>15,091</u>	<u>16,175</u>	<u>15,856</u>	<u>16,491</u>	<u>17,079</u>	<u>17,291</u>	<u>17,520</u>	<u>17,840</u>
<u>Total</u>	<u>36,176</u>	<u>35,746</u>	<u>38,233</u>	<u>40,263</u>	<u>41,134</u>	<u>40,803</u>	<u>43,119</u>	<u>43,787</u>	<u>45,553</u>	<u>46,948</u>

Note: Details may not add due to rounding

1/Piedra Triturada 22.0 para X (Ruta 11)

Sources: Cuentas Nacionales de la República del Paraguay y otros antecedentes estadísticos, Tomo I; Requerimientos Financieros Externos en el Bienio 1965-1966, Parte la.

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GROSS DOMESTIC PRODUCT, BY SECTORS OF PRODUCTION, 1964-1970
(Millions of guaranies constant 1962 prices)

Sector	1964 (estimated)	1965	1966	1967	1968	1969	1970	% Increase 1964-70
Agriculture	10,500	11,207	11,882	12,581	13,370	14,231	15,149	44
Cattle	5,120	5,216	5,332	5,656	6,011	6,398	6,809	33
Forestry	1,730	1,800	1,880	1,986	2,112	2,247	2,391	38
Hunting and Fishing	44	46	48	50	53	56	58	32
<u>Sub-total</u>	<u>17,394</u>	<u>18,269</u>	<u>19,142</u>	<u>20,273</u>	<u>21,546</u>	<u>22,932</u>	<u>24,407</u>	<u>40</u>
Mining	70 ^{1/}	72	74	85	90	95	101 ^{2/}	44
Industry	8,180	8,740	9,634	10,394	11,046	11,757	12,513	53
Construction	1,086	1,257	1,324	1,428	1,518	1,616	1,720	58
<u>Sub-total</u>	<u>9,336</u>	<u>10,069</u>	<u>11,032</u>	<u>11,907</u>	<u>12,654</u>	<u>13,468</u>	<u>14,334</u>	<u>54</u>
Electricity	271	286	308	333	358	383	409 ^{3/}	51
Water and Sanitary Services	88	94	100	108	116	124	132 ^{4/}	50
Transportation & Communications	2,019	2,102	2,297	2,486	2,671	2,858	3,050 ^{5/}	51
<u>Sub-total</u>	<u>2,378</u>	<u>2,482</u>	<u>2,705</u>	<u>2,927</u>	<u>3,145</u>	<u>3,365</u>	<u>3,591</u>	<u>51</u>
Commerce, Finance Government	9,750	9,950	10,200	10,673	11,241	11,184	12,048	24
Housing	1,840	1,850	1,900	1,981	2,087	2,194	2,307	25
Other Services	1,650	1,720	1,800	1,883	1,983	2,085	2,193	33
<u>Sub-total</u>	<u>4,600</u>	<u>4,700</u>	<u>4,850</u>	<u>5,083</u>	<u>5,354</u>	<u>6,262</u>	<u>6,300</u>	<u>37</u>
<u>Sub-total</u>	<u>17,840</u>	<u>18,220</u>	<u>18,750</u>	<u>19,620</u>	<u>20,665</u>	<u>21,725</u>	<u>22,848</u>	<u>28</u>
<u>TOTAL</u>	<u>46,948</u>	<u>49,040</u>	<u>51,629</u>	<u>54,727</u>	<u>58,010</u>	<u>61,490</u>	<u>65,180</u>	<u>39</u>

Note: Detail may not add due to rounding

^{1/}Piedra triturada 22.0 para X (Ruta 11)

^{2/}Con Valle-mi ampliado; no se exporta piedra.

^{3/}Se estima en función de la demanda proyectada por ANDE y en 1970 el de incremento por electrificación rural.

^{4/}Se estima pasar de 16,000 a 21,000 usuarios según proyecto de ampliación CORPOSANA.

^{5/}Se proyecta aparte (ver anexos)

Source: Requerimientos Financieros Externos en el Bienio 1965-1966, parte 1a.

GOLD AND FOREIGN EXCHANGE RESERVES,

1953 - 1965

(In thousand of U.S. dollars)

Year	Gold	Convertible Bilateral		Gross Reserves	Liabilities		Net IMF position	Net Reserves		Total Net Reserves
		foreign exchange	AGREE - MENT		Short-term	Bilateral Agreements		Central Bank	Private BANKS	
1952	190	4,616	2,757	7,563	-	1,374		6,189	3,987	10,176
1953	190	3,747	1,900	5,837	-	3,567		2,270	5,031	7,301
1954	190	3,322	855	4,367	- 52	- 3,571	375	1,119	4,705	5,824
1955	190	1,002	4,371	5,563	- 353	- 1,711	375	3,874	4,700	8,574
1956	181	1,062	6,787	8,030	- 120	- 700	- 1,125	6,085	3,189	9,274
1957	136	1,419	4,880	6,435	- 23	- 368	- 3,625	2,419	1,057	3,476
1958	86	272	7,025	7,381	- 589	- 40	- 4,375	2,377	- 63	2,314
1959	108	2,751	1,077	3,936	6	- 941	- 2,563	426	- 1,261	- 835
1960	95	372	542	1,009	- -	- 1,044	- 2,375	-2,410	- 1,070	- 3,480
1961	82	2,357	79	2,518	- -	- 1,433	- 438	647	- 2,468	- 1,821
1962	81	698	41	820	- 764	- 743	1,312	625	- 1,693	- 1,068
1963	81	1,318	429	1,828	-1,500	- 134	1,812	2,006	- 735	1,271
1964	81	3,066	476	3,623	- 600	- 19	2,312	5,316	- 778	4,538
1965	1,018 a/	6,440 b/	1,176	8,632	- -	- 9	2,812	11,435	- 2,521	8,914

a/ Includes purchase of \$ 937,000 in gold that will be paid to the IMF as the gold contribution to increasing Paraguay's quota in the Fund.

b/ Since September 1965, includes an investment of \$250,000 in BRD bonds.

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GOVERNMENT FINANCES, 1960-64
(In millions of guaranies)

	1960	1961	1962	1963	1964	1964 January- March	1965 January- March
<u>Cash revenues</u>							
Ordinary	2,586.8	2,842.9	3,424.7	3,496.7	3,658.5	868.4	1,119.2
Special Laws	732.0	788.8	903.8	871.3	897.7	182.6	263.1
Total	3,318.8	3,631.7	4,328.5	4,368.0	4,556.2	1,051.0	1,382.3
<u>Authorized expenditures</u>							
Ordinary	2,671.3	2,942.9	3,542.0	3,844.5	4,140.3	781.4	932.4
Special Laws	684.0	812.9	910.3	889.2	890.5	175.5	198.5
	3,355.3	3,755.8	4,452.3	4,733.7	5,030.8	956.9	1,130.9
Redemption of debt held by Central Bank (net)	-36.6	—	-2.6 ^{1/}	-47.1 ^{1/}	-33.4	-76.5	-167.2
Changes in departmental balances (increase -)	) 33.4 ^{1/})	36.2 ^{1/}	-116.0	-11.4	-32.7	38.0	7.3
Check float	)	)	-30.9	3.2	-31.0	8.5	81.6
<u>Adjusted cash expenditure</u>	3,352.1	3,792.0	4,337.7	4,677.7	4,933.7	926.9	1,052.6
<u>Treasury surplus or deficit (-)</u>	-56.5	-124.1	-158.7	-365.7	-474.6	94.1	251.4
<u>Cash surplus or deficit (-)</u>	-33.3	-160.3	-9.1	-309.8	-377.5	124.1	329.7
<u>Central Bank financing</u>							
Loans	22.3	94.4	149.1	309.0	485.6	-70.0	-174.8
Transfer of profits	50.4	—	—	—	—	—	—
Change in government deposits (increase -) ^{2/}	-39.4	65.9	-140.0	0.8	-108.1	-54.1	-154.9

Sources: Ministry of Finance, and Central Bank of Paraguay.

^{1/}Estimates.

^{2/}Excluding P.L. 480 counterpart fund balances.

Note: Totals may not add owing to rounding.

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CENTRAL GOVERNMENT REVENUES AND EXPENDITURES, 1963-1970
(in millions of guaranies)

	1963	1964	1965	1966	1967	1968	1969	1970
1. Wages and Salaries	1833	1990	2195	2195	2267	2366	2453	2561
2. Purchases	1456	2159	1356	1401	1461	1534	1501	1681
3. Transfers	<u>587</u>	<u>661</u>	<u>661</u>	<u>725</u>	<u>742</u>	<u>771</u>	<u>823</u>	<u>861</u>
a. Persons (Pensions, etc.)	<u>376</u>	<u>415</u> 1/	<u>415</u> 1/	<u>465</u>	<u>480</u>	<u>500</u>	<u>550</u>	<u>577</u>
b. Agencies	<u>211</u>	<u>246</u>	<u>246</u>	<u>260</u>	<u>262</u>	<u>271</u>	<u>273</u>	<u>284</u>
1) Public Enterprises	51	75	75	80	82	84	86	86
2) Decentralized Agencies	160	169	169	177	177	183	183	193
3) Municipalities	—	2	2	3	2	4	4	5
4. Interest on Public Debt	<u>63</u>	<u>86</u>	<u>86</u>	<u>99</u>	<u>101</u>	<u>114</u>	<u>117</u>	<u>110</u>
a. Internal	11	19						
b. External	52	67						
5. Total Current Expenditures (1 + 2 + 3 + 4)	<u>3939</u>	<u>4092</u>	<u>4262</u>	<u>4420</u>	<u>4571</u>	<u>4787</u>	<u>4994</u>	<u>5213</u>
6. Amortizations	<u>176</u> 2/	<u>213</u> 3/	<u>303</u>	<u>143</u>	<u>146</u>	<u>147</u>	<u>151</u>	<u>156</u>
a) Domestic	24	59						
b) external	152	154						
7. Transfers on Capital Account	191	267	339	355	382	400	420	441
8. Real Investment	541	647	1221	1144	798	867	1054	800
9. Total Expenditures (5+6+7+8)	<u>4847</u> 2/	<u>5219</u>	<u>6125</u>	<u>6062</u>	<u>5897</u>	<u>6201</u>	<u>6619</u>	<u>6710</u>
10. Current Revenues	<u>4219</u>	<u>4366</u>	<u>4896</u>	<u>5114</u>	<u>5615B</u>	<u>5897E</u>	<u>6178B</u>	<u>6477B</u>
11. Deficit or Surplus (9-10)	-628	-853	808	-948	-282	-304	-441	-233
12. Inflow of External Funds	362	397	75	615	352	376	571	455
13. Changes in Accumulated Saving or Reserve	-73	-75		75	—	—	—	—
14. Domestic Borrowing	339	531						
15. Gap to be Financed (-) or Surplus (+)	—	—	-346	-258	70	72	130	212

1/Contributions to International organizations and non-pension payments to individuals are expected to decline.

2/Includes \$ 63 million registered by the Central Bank

3/Includes \$ 46 million registered by the Central Bank

Source: Actual data from Treasury, projections by IBRD mission.

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CENTRAL GOVERNMENT REVENUES AND EXPENDITURES, 1963-1970
(In millions of guaranies)

	1963	1964	1965	1966	1967		1968		1969		1970	
	(Actual)	(Actual)	(Budget Estimates)		A	B	A	B	A	B	A	B
TOTAL	4219	4366	4896	5114	5370	5615	5635	5997	5916	6178	6215	6477
I. Foreign Trade	<u>1764</u>	<u>1861</u>	<u>2055</u>	<u>2121</u>	<u>2199</u>	<u>2199</u>	<u>2280</u>	<u>2280</u>	<u>2368</u>	<u>2368</u>	<u>2460</u>	<u>2460</u>
1. Customs duties	816	880	924	970	1020	1020	1070	1070	1125	1125	1181	1181
2. Import surcharges	411	556	725	761	799	799	840	840	882	882	926	926
3. Export taxes	296	237	210	190	170	170	150	150	130	130	110	110
4. Consular fees	241	188	196	200	210	210	220	220	231	231	243	243
II. Internal Trade	<u>994</u>	<u>958</u>	<u>1149</u>	<u>1207</u>	<u>1267</u>	<u>1267</u>	<u>1331</u>	<u>1331</u>	<u>1398</u>	<u>1398</u>	<u>1470</u>	<u>1470</u>
1. General sales tax	345	350	395	415	435	435	457	457	480	480	504	504
2. Petroleum taxes	170	177	188	197	207	207	217	217	227	227	238	238
3. Alcohol taxes	180	108	144	149	154	154	155	155	155	165	170	170
4. Cattle taxes	118	148	242	257	272	272	288	288	305	305	326	326
5. General consumption taxes	181	175	180	189	199	199	210	210	221	221	232	232
III. Stamp Taxes	<u>308</u>	<u>320</u>	<u>349</u>	<u>367</u>	<u>385</u>	<u>385</u>	<u>404</u>	<u>404</u>	<u>424</u>	<u>424</u>	<u>445</u>	<u>445</u>
IV. Income Taxes	<u>437</u>	<u>430</u>	<u>493</u>	<u>543</u>	<u>597</u>	<u>697</u>	<u>657</u>	<u>767</u>	<u>722</u>	<u>832</u>	<u>794</u>	<u>904</u>
V. Inheritance	<u>13</u>	<u>15</u>	<u>20</u>	<u>21</u>	<u>22</u>	<u>87</u>	<u>23</u>	<u>91</u>	<u>24</u>	<u>92</u>	<u>25</u>	<u>93</u>
VI. Real Estate Taxes	<u>194</u>	<u>217</u>	<u>270</u>	<u>283</u>	<u>297</u>	<u>377</u>	<u>313</u>	<u>397</u>	<u>328</u>	<u>412</u>	<u>344</u>	<u>428</u>
VII. Other	<u>131</u>	<u>239</u>	<u>251</u>	<u>261</u>	<u>271</u>	<u>271</u>	<u>282</u>	<u>282</u>	<u>293</u>	<u>293</u>	<u>304</u>	<u>304</u>
VIII. Non-tax Revenues	<u>378</u>	<u>326</u>	<u>309</u>	<u>311</u>	<u>322</u>	<u>332</u>	<u>345</u>	<u>345</u>	<u>355</u>	<u>359</u>	<u>373</u>	<u>373</u>
1. Pension fund	158	187	200	210	23	230	242	242	254	254	267	267
2. Post office	10	22	25	26	27	27	28	28	29	29	30	30
3. Other	110	117	74	75	75	75	75	75	76	76	86	76

Source: Actual data from Treasury, Projections by IBRD mission.

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HECTAREAS CULTIVADAS Y PRODUCCION OBTENIDA DE LOS PRINCIPALES
CULTIVOS AGRICOLAS 1953/64

	CORDILLERA		CAAGUAZU		ALTO PARANA		CENTRAL		Total por producto	
	Has.	Toneladas	Has.	Toneladas	Has.	Toneladas	Has.	Toneladas	Has.	Toneladas
Cotton	9.700	7.760	3.780	3.020	120	80	2.700	2.030	16.300	12.950
Alfalfa	410	1.870	570	1.760	20	80	280	780	1.280	4.490
Rice	1.220	2.680	300	500	100	100	300	870	1.920	4.150
Peas	370	290	200	110	170	100	940	520	1.680	1.020
Sweet potatoes	1.400	18.300	1.200	10.300	50	700	1.000	7.600	3.650	36.900
Sugar cane	2.500	60.200	1.950	62.400	70	1.900	4.500	170.000	9.020	295.100
Onions	360	1.550	180	1.280	20	80	250	1.340	810	4.250
Bean	600	320	610	350	170	120	180	140	1.560	950
Corn	16.700	23.380	12.100	14.520	2.500	3.750	11.450	17.070	42.750	58.720
Mandioca	13.700	191.800	6.150	104.550	1.660	27.980	14.530	230.800	36.040	555.130
Peanuts	4.640	3.250	730	720	70	60	2.040	1.500	7.480	5.530
Potato	60	150	40	90	7	20	420	1.780	527	2.040
Cowpeas	6.800	5.650	3.780	3.020	370	330	3.350	2.340	14.300	11.340
Tobacco	1.200	1.700	1.100	1.500	50	50	890	486	2.740	3.736
Wheat	460	330	640	570	- -	- -	60	40	1.160	940
Total	60.120	319.230	33.330	204.690	5.377	35.350	42.390	437.956	141.217	997.226

Soybean
Sorghum
Castor bean
Total

Fuente: Elaborado con datos obtenidos del Departamento de Economía Agrícola del Ministerio de Agricultura y Ganadería

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Relative significance of the agricultural production of the Department of Cordillera, Caaguazú, Alto Paraná and Central.

PRODUCTS	Percent of national production represented by the 4 Departments*	
	Hectareas	Metric Tons
Cotton	36.8	35.9
Alfalfa	26.1	22.9
Rice	24.0	20.8
Peas	48.0	48.6
Sweet potatoes	37.6	42.8
Sugar cane	34.0	30.6
Onions	27.9	31.2
Beans	42.2	37.2
Corn	26.9	28.5
Mandioc	34.9	38.3
Peanuts	33.0	28.8
Potatoes	32.9	31.9
Cowpeas	45.4	48.0
Tobacco	36.5	40.2
Wheat	<u>14.5</u>	<u>13.0</u>
Total	32.4	34.8

*Cordillera, Caaguazú, Alto Paraná, and Central

POPULATION DENSITY AND DISTRIBUTION OF FARM UNITS

BY DEPARTMENTS

<u>Department</u>	<u>Percent of territorial area</u>	<u>Percent of farm units</u>	<u>Hectares per capita</u>
Capital	<u>0.02</u>	<u>0.59</u>	<u>0.7</u>
Concepción	11.40	4.30	46.2
San Pedro	5.40	6.10	16.7
<u>Cordillera</u>	<u>2.90</u>	<u>15.20</u>	<u>3.7</u>
<u>Guairá</u>	<u>1.00</u>	<u>8.20</u>	<u>2.3</u>
<u>Caaguazú</u>	<u>2.20</u>	<u>7.40</u>	<u>5.9</u>
Caazapá	2.80	7.50	7.2
Itapúa	4.10	10.60	7.6
Misiones	3.70	3.80	18.1
<u>Paraguarí</u>	<u>4.00</u>	<u>16.50</u>	<u>4.7</u>
Alto Paraná	1.80	0.52	1.4
<u>Central</u>	<u>0.86</u>	<u>10.80</u>	<u>1.6</u>
Neembucú	4.80	4.80	19.2
Amambay	2.00	1.30	29.6
Presidente Hayes	29.40	1.00	46.1
Boquerón	20.40	1.10	268.0
Olimpo	2.90	0.10	511.0

The underlined numbers indicate areas of greatest density. It will be seen that three of the four departments penetrated by the Brazil Road (Central, Cordillera, Caaguazú, and Alto Paraná) are areas of highest population density and also rank high in percentage of farm units.

PARAGUAY

MAPA Nº 1

Producción Agropecuaria y Forestal

ANNEX III
Exhibit 2
P. 14 of 16
DISTRIBUCION GRATUITA

Consideraciones Generales: En la realización del presente trabajo se tuvieron en cuenta los datos proporcionados por el Ministerio de Agricultura y Ganadería correspondientes a la cosecha 1964.

La producción nacional está básicamente tomada por departamentos, y se ha considerado la importancia relativa de las distintas producciones, agrupando aquellas que fueran de menor importancia económica. La lista que se cita más abajo describe cada uno de los productos tomados con los departamentos productores que tienen mayor importancia.

Cualquier sugerencia, observación o crítica será bien recibida.

Sección Grafica - USAID

ALGODON:

Paraguari
Itapúa
Cordillera
Caaguazú

TABACO:

Caaguazú
Cordillera
Paraguari
Itapúa
Caazapá

TUNG:

Itapúa
Cordillera
Guairá

YERBA MATE:

Itapúa
San Pedro
Guairá
Amambay
Caazapá
Caaguazú

CAFE:

Amambay
Cordillera
Guairá
Concepción

CAÑA DE AZUCAR:

Guairá
Cordillera
Paraguari
Central
Caaguazú

ALFALFA:

Itapúa
Paraguari
Caazapá

ARROZ:

Itapúa
Misiones
Cordillera

TRIGO:

Itapúa
Misiones
Caaguazú
Cordillera
Boquerón

MAIZ:

Itapúa
Paraguari
Cordillera
Caazapá
Caaguazú
Guairá
Central

MANI:

Paraguari
Cordillera
Caaguazú
Central
Itapúa
Boquerón

POROTO Y HABILLAS:

Paraguari
Cordillera
Caaguazú
Caazapá
Itapúa
Guairá
Central

MANDIOCA:

Cordillera
Paraguari
Itapúa
Caaguazú
San Pedro
Guairá
Central

PAPA:

Central
Caazapá
Itapúa
Paraguari

FRUTAS CITRICAS

Itapúa
Cordillera
Paraguari
Caazapá
Caaguazú
Central

PIÑAS Y BANANAS:

Paraguari
Central
Cordillera

OTRAS FRUTAS:

Itapúa
Guairá
Central
Cordillera

GANADO VACUNO:

Presidente Hayes
Neembucú
Paraguari
Concepción
Boquerón
Misiones

OTROS GANADOS:

Itapúa
Paraguari
Neembucú
Presidente Hayes
Cordillera

CARBON Y LEÑA

Cordillera
Paraguari
Caaguazú
Concepción
San Pedro
Itapúa

ROLLIZOS Y MADERAS ASERRADAS:

Itapúa
Concepción
Cordillera
Caaguazú
Alto Paraná

GUARDE Y COLECCIONE ESTE MAPA QUE ES PARTE DE UNA SERIE, LA CUAL FORMARA UN PRACTICO ATLAS

MAPA No. 2

PARAGUAY

Distribución Gratuita

Producción Industrial

En la realización del presente trabajo se observó los resultados del Censo Industrial del año 1963, según datos del Ministerio de Industria y Comercio.

En la clasificación se usó la nomenclatura del mencionado Censo, tomando los grupos de productos industriales de acuerdo a los departamentos de mayor importancia económica relativa en cuanto al número de personal empleado. En el mapa, la Capital de la República y el Dpto. Central se han separado de los otros departamentos dada la gran importancia industrial y la diversidad de producción que presentan.

Cualquier sugerencia, observación o crítica será bien recibida.

Sección Gráfica USAID

ORDEN DE IMPORTANCIA DE LOS DEPARTAMENTOS SEGUN INDUSTRIAS

PRODUCTOS ALIMENTICIOS

CAPITAL
CENTRAL
GUAIRA
CORDILLERA
ITAPUA
PTE. HAYES
CONCEPCION
PARAGUARI

BEBIDAS

CAPITAL
CORDILLERA
CENTRAL
GUAIRA
CAAZAPA
ITAPUA

TABACO

CAPITAL
CENTRAL
CAPITAL
ITAPUA

TEXTILES

CAPITAL
NEEMBUCU
CENTRAL
ITAPUA

CALZADOS Y PRENDAS DE VESTIR

CAPITAL
GUAIRA
CENTRAL
AMAMBAY
CORDILLERA
PARAGUARI
CONCEPCION

MADERAS Y CORCHO

CAPITAL
CAAGUAZU
GUAIRA
CENTRAL
ITAPUA
SAN PEDRO

MUEBLES Y ACCESORIOS

CAPITAL
PARAGUARI
CONCEPCION
CENTRAL
GUAIRA
ITAPUA
MISIONES

PAPEL Y CARTON

CENTRAL
CAPITAL

INDUSTRIAS GRAFICAS

CAPITAL
ITAPUA
BOQUERON
CONCEPCION
AMAMBAY

CUEROS Y PRODUCTOS DEL CUERO
(excepto Coleadas)

CAPITAL
CENTRAL
PARAGUARI
CORDILLERA
CONCEPCION

CAUCHO

CAPITAL
CENTRAL

QUIMICA

CAPITAL
CENTRAL
BOQUERON
CORDILLERA
ITAPUA

MINERALES NO METALICO

CAPITAL
CONCEPCION
CENTRAL
CORDILLERA
BOQUERON
CAAGUAZU

METALICAS BASICAS

CAPITAL
BOQUERON

PRODUCTOS METALICOS

CAPITAL
PARAGUARI
BOQUERON

MATERIAL ELECTRICO Y DE COMUNICACIONES

CAPITAL
CENTRAL
BOQUERON

MECANICAS

CAPITAL
CENTRAL
BOQUERON
GUAIRA

MATERIAL DE TRANSPORTE

CAPITAL
PARAGUARI
GUAIRA
BOQUERON
CORDILLERA

DIVERSAS

CAPITAL
CENTRAL

ELECTRICIDAD, AGUA Y VAPOR

CAPITAL
CENTRAL
BOQUERON
NEEMBUCU

GUARDE Y COLECCIONE ESTE MAPA QUE ES PARTE DE UNA SERIE, LA CUAL FORMARA UN PRACTICO ATLAS

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ANNEX III
EXHIBIT 3, P 1 of 4

January 14, 1966

MEMORANDUM

TO : Joseph E. Walker,
Rural Development Officer

FROM : Adlai F. Arnold,
PASA Team Leader

SUBJECT: Current Planning Activity in the Institute of Rural Welfare
Designated to Increase Agricultural Output in the Colonies

For several days the IBR in cooperation with the National Planning Secretariat, the Ministry of Agriculture, the National Development Bank and STICA has been engaged in an intense planning effort called A Program of Expansion of the Production of Agriculture and Livestock in the Colonies. The National Planning Secretariat seems to be pushing the effort but, of course, the planning section of IBR is heavily involved.

The Program:

The period of the program is to cover three years, 1966-1968, with a broad strategy covering action along six lines: (1) providing an adequate technical orientation, (2) more teaching of techniques of production, (3) more adequate credit, (4) formation of cooperatives and the commercialization of Agriculture, (5) the provision of financial and technical means, and (6) increasing the production on farms by more intensive use of land and extension of the areas cultivated.

Fundamental objectives are listed as: 1st. Incorporate the Campesino into the socio-economic development of the country. 2nd. Accelerate the increase of areas into new production and the promotion of better yields, and 3rd. Accelerate the maturation of the great investments of infrastructure.

Quantified goals are: (1) to concentrate assistance to 20,000 families in 1966, and to extend this number to 15,000 more families for a total of 35,000 families by 1968, and (2) for the three years of the program to add 150,000 cultivated hectares in the areas of concentration.

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Underlying all such planning is an effort to assess the resources available for the execution of the plan, therefore quite a number of technicians in the institutions involved are being called on to supply data and estimates across the board to the natural and human resources involved. I am receiving copies of this material for my files.

Location and size of areas affected:

Three principal routes in Paraguay's road building program have been selected as the focal points of action: (1) Coronel Oviedo to Brazilian Border, (2) Coronel Oviedo - Lima - Tacuati (Route V), and (3) Concepcion - Horqueta - Pedro Juan Caballero. These are referred to as the Eastern Axis, the Northern Axis, and the Northern Transversal Axis (Eje este, Eje norte, y Eje Transversal norte).

For 1966 the effort will be limited to the two Axes radiating to the East and North of Coronel Oviedo. In the period 1967-68 it is planned to add the Axis along the route from Concepcion to Pedro Juan Caballero as well as the new colonies to be formed south of the river Monday in Eastern Paraguay. The zones roughly are limited to belts along the roads extending 20 kilometers deep on each side and will encompass 30 colonies in 1966 with an estimated 20,000 families extending to 50 colonies by 1968 including from 30 to 35 thousand families. I have tables showing the particular colonies affected, number of farms and area. A summary is as follows:

	<u>Total</u>	<u>Northern Axis</u>		<u>Eastern Axis</u>	
		<u>Official Colonies</u>	<u>Private Colonies</u>	<u>Official Colonies</u>	<u>Private Colonies</u>
Number of Farms	16,124	3,579	1,785	9,752	908
Number of Hectares	580,199	71,378	47,048	316,415	145,358
Number of Colonies	30	12	2	12	4

Colonias fundadas y habilitadas entre 1958 y 1962 sobre la Ruta Cnel. Oviedo - Pto. Pte. Stroessner y sus adyacencias

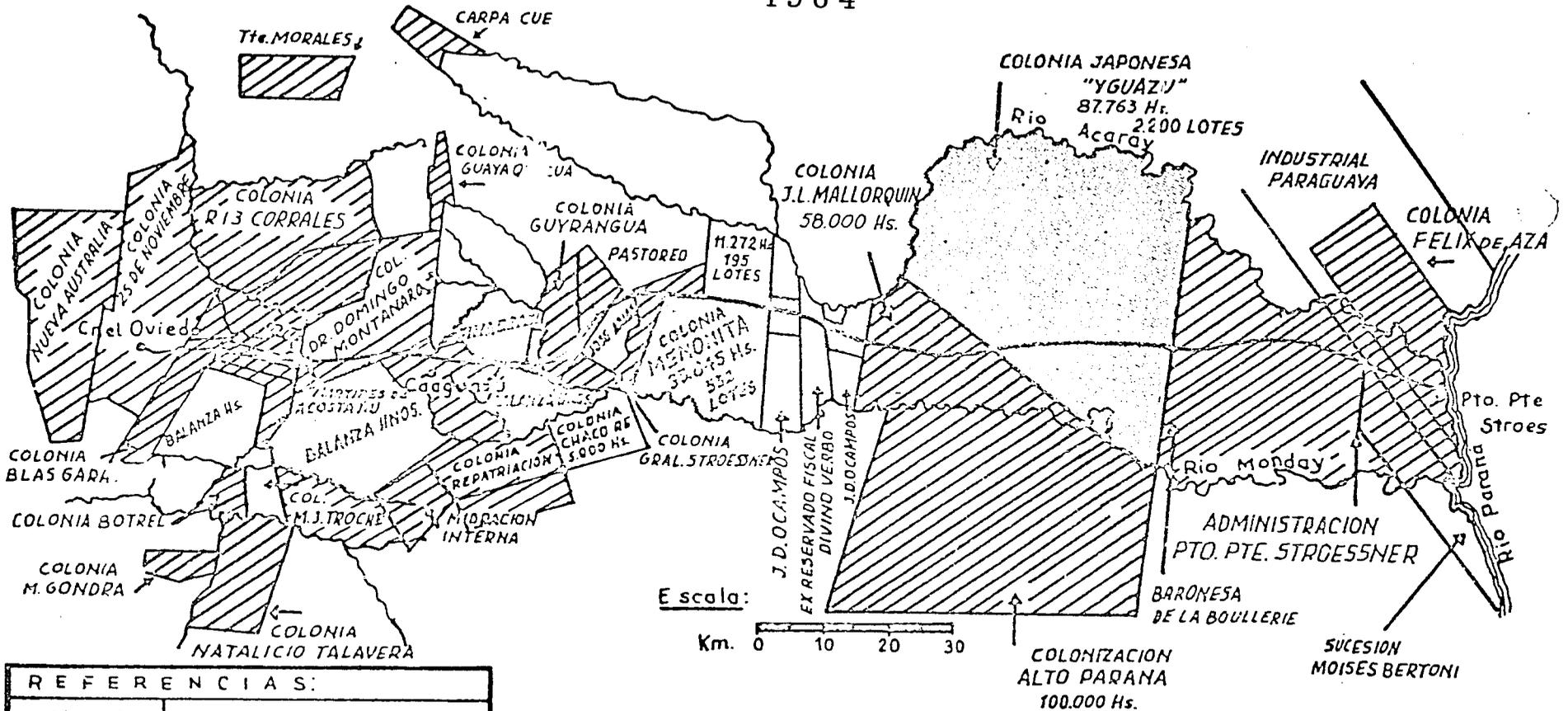
	<u>Superficie (Hectáreas)</u>
A) <u>Colonias Nacionales</u>	
Guayaqui-cuá	875
Domingo Montanaro	25.000
Caaguazú	8.741
Guyrayngua	1.300
Presidente Stroessner (en Pastoreo)	8.608
Presidente Stroessner (en Pte. Stroessner)	50.000
Juan León Mallorquín	44.036
Repatriación (inc. "Migración" y "Chaco")	33.100
B) <u>Colonias Particulares</u>	
La Fabril S.A.	2.977
Balanzá	2.239
Albino Mernes	m.d.
Pedro Guggiari	471
Victor Renfeld	3.211
Colonias Mennonitas (2 colonias)	45.117
José Domingo Ocampos (2 colonias)	6.256
Colonización Japonesa (Yguazú)	70.190

- FUENTES: 1) "El Ministerio del Interior y la fundación de Pto. Pte. Stroessner" 1957-1964. Folleto impreso en la Dirección de Comunicaciones del Ministerio del Interior
- 2) Informaciones del Instituto de Bienestar Rural

COLONIAS SOBRE LA RUTA Cnel. OVIEDO - Pto. Pte. STROESSNER

(DEPARTAMENTOS DE CAAGUAZU Y ALTO PARANA)

1964



Escala:
Km. 0 10 20 30

REFERENCIAS:	
● Ciudades	▨ Colonias Nacionales
~ Rios	▨ Colonias Particulares
— Ruta	

P A R A G R A P H

I

Status of Authorized Loan Projects, Since Act of Bogotá (September, 1960)
(In US\$ Thousands)

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	Date signed	Lending Agency	Authorized Amount	<u>DRAH</u>	
				Actual 12/31/964	Actual 12/31/965
1. Administración Nacional de Telocomunicaciones. Telecommunication system improvement. 3.5% interest. 19 semi-annual payments beginning one year after first disbursement. Payable 100% in \$ and 50% in US\$ each payment. P.M. (final maturity) 1971.	5/25/61	AID(DLP)	1,000.0	663.3	845.9
2. Banco Nacional de Fomento. General development. 5.7% interest. 14 semi-annual installments. Payable in \$ & P.M. 1972.	7/28/61	IDB	2,832.9 g/	2,428.9	2,832.9
3. Comisión de Administración de Puerto Presidente Stroessner. Urbanization and Colonization Plan. 4.5% interest. 18, semi-annual payments beginning 2/1/62. Payable in \$. P.M.: 1971.	7/23/61	IDB	250.0	242.6	250.0
4. GOP-Project assistance. 4% interest. 13 semi-annual payments beginning 2 years after the first disbursement. Payable in \$ or in US\$. P.M.: 1971.	8/24/61	AID(PI450)	2,762.0	2,341.1	2,377.8
4. GOP Railroad purchase. No interest. Payable in Sterling Pounds. P.M. 1981.	10/21/61	The Paraguay Central Railway Company Limited (English)	560.0	560.0	560.0
5. GOP-Surfacing of road to Puerto Presidente Stroessner. 3% interest. 29 semi-annual payments, beginning 1 year after the first disbursement. First 25 payments of principal and 2% of interest payable in guaraníes; balance in US\$. P.M.: 1982.	10/23/61	AID(DLP)	7,100.0	6,395.7	6,913.7
7. GOP-Surfacing and bridge construction. Road to Encarnación. 6.75% service charge. Repayment semi-annual since 2/15/72 up to 6/15/81; 0.5% of principal each payment; thereafter, 1.5% of principal each payment. Payable in US\$. P.M.: 2011.	10/25/61	IDA	6,000.0	241.7	691.0

UNC
ANNEX III
EXHIBIT 4, p. 1 of 6

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	Date signed	Lending Agency	Authorized Amount	DRAIN	
				Actual 12/31/75a	Actual 12/31/76b
8. Compañía Algodonera Paraguaya S.A. - Vegetable oil plant enlargement. 5.75% interest. 20 semi-annual payments. Payable 10% in \$s and 60% in US\$ each payment. F.M.:1971	10/31/61	I D B	550.0	550.0	550.0
9. Instituto de Bienestar Rural. Preparation of a project of Colonization in the Alto Paraná area. 4.75% interest. 10 equal semi-annual payments beginning 11/30/1966. Payable in \$s. F.M.:1971	12/3/62	I D B	800.0	440.4	170.5
10. Banco Nacional de Fomento. Small farmers credit 1.25% interest. 40 semi-annual installments. Payable in \$s. F.M.:1963	2/1/63	I D B	2,900.0	560.0	2,634.5
11. GOP. Project assistance. 4.5% interest. 45 semi-annual payments, beginning 7 years after first disbursement. Payable in US\$ or in \$s. F.M.:1973	2/26/63	AID(PL480)	990.0	-	158.7
12. Pan Western Enterprises, Inc. Ranch improvement and cattle raising; cusbracho and black pain 7% interest. 14 equal semi-annual installments, beginning 3 years after the first disbursement. Payable in \$s F.M.: 1976.	5/8/63	AID (PL400, Coolay Funds)	825.4	767.4	767.4
13. Flota Mercante del Estado. Passenger and cargo ships. 6.5% interest. 16 equal semi-annual payments beginning 6 months after delivery of ships. Payable in US\$	5/21/63	GO Spain	3,650.0	-	-
14. Banco Central del Paraguay for Industria Paraguaya de Carnes S.A. Meat packing enlargement, 7.5% interest. 5 equal annual installments. Payable in US\$ F.M.: 1968	5/29/63	First Nat'l Boston Bank of N.York	375.0	375.0	375.0
15. Manufactura de Pilar S.A. Textile, vegetable oil and soap plants improvement. 5.75% interest. 17 semi-annual installments. Payable in US\$ F.M.: 1973	6/6/63	I D B	2,200.0	1,719.1	2,200.0
16. Banco Nacional de Fomento. Exports financing. Revolving credit under terms of 180 day renewable for equal terms. 6% interest. Payable in US\$	6/12/63	Chase Manhattan Bank	1,000.0 F/	637.5	5/

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 III
 Exhibit 4, p. 2 of 6

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	Date signed	Lending Agency	Authorized Amount	DRAIN	
				Actual 12/31/64	Actual 12/31/65
7. Banco Central del Paraguay for Industria Paraguaya de Carne S.A. Meat packing plant enlargement. 7.5% interest. 5 equal annual installments. Payable in US\$. F.M.:1963	9/4/63	Manufacturers Hanover Trust & Co.	375.0	375.0	375.0
8. COP - Airport repair project preparation. No interest. 6 equal semi-annual payments beginning 18 months after signature of the agreement. Payable in US\$. F.M.:1967	11/20/63	I D B	47.5	47.5	47.5
9. Banco Nacional de Fomento. Small industry development. 5.5% interest. Semi-annual payments. Payable in D.M. F.M.:1978	12/2/63	Kreditanstalt für Wiederaufbau (German Bank)	3,000.0	-	1,079.8
20. Banco Central del Paraguay. Livestock development. 0.75% interest. 60 semi-annual installments. 10 years of grace payable in US\$. F.M.:2013	12/23/63	I D A	3,600.0	280.7	1,691.9
21. COP - Project assistance. 0.75% interest. Payable in 2 1/2 years. 15 semi-annual payments, beginning 3 years after the first disbursement. Payable in US\$ or in Gs.	7/14/64	AID (PI/30)	510.0	-	-
22. Administración Nacional de Electricidad. Rio Arcey hydroelectric plant (including the sum advanced for expenses of the bid). 10% interest. 40 semi-annual installments. 5 years of grace. Payable the 20 first installments in Gs from 2/18/70 after that the remainder amount could be paid optionally in Gs if accepted by the AID. F.M.:1969	3/17/64	I D B	3,150.0	352.6	1,974.0
23. Banco Nacional de Fomento. Industrial credit. 4% interest. 25 equal consecutive semi-annual installments, beginning 4 years after the signature of the agreement. Payable from 3/18/68 proportionally in the same currency disbursed. F.M.:1979	8/17/64	I D B	4,000.0	-	-
24. Banco Nacional de Fomento. Increase of agricultural production. 7.5% interest for 10 years thereafter 2%. Payable in 10 years of semi-annual installments beginning 3 years after the first disbursement. Payable in US\$.	9/25/64	A I D	3,000.0	-	-

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ANNEX III
Exhibit 4, p. 3 of 6

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	Date signed	Lending Agency	Authorized Amount	DRAIN	
				Actual 3/31/64	Actual 12/31/65
16. Paraguayan Navy Forces, Construction of a dry dock. 6.5% interest. 15 semi-annual installments beginning 3 years after the signature of the agreement. Payable in US\$ F.M.: 1974	11/13/64	CO Spain	1,850.0	-.-	10.7
17. Instituto Paraguayo de In-Vivienda y Urbanismo. Low cost housing program. 1.25% interest, 0.75% service charge. 30 years beginning at the date of the signature of the contract. 59 semi-annual installments; the first 4 ones at \$ 5,000 each. Payable in US\$. F.M.: 1974	12/1/64	I D B	3,400.0	-.-	-.-
17. GOP - Supplementary loan for surfacing the road to Encarnacion and bridge construction (see No. 3) 6.5% interest. 25 years, 40 semi-annual installments beginning Feb. 15, 1970. Payable in US\$ F.M.: 1969	12/16/64	I B R D	2,200.0	-.-	-.-
28. GOP. Project assistance 0.75% interest. Repayable in 25 years 45 semi-annual installments, beginning 3 years after the first disbursement. Payable in US\$ or Gs. F.M.: 1974	1/14/65	AID (P.L. 480)	1,500.0	-.-	78.0
29. Banco Nacional de Fomento. Export financing. Revolving credit under terms of 180 days renewable for equal terms 6% interest. Payable in US\$	2/22/65	Banker Trust Company (NY)	1,000.0	-.-	2/
30. Universidad Nacional. General improvement building equipment and services (academic and administrative) 1.25% interest, 0.75% service charge. 57 semi-annual installments; the first on April 30/64. Payable in US\$ or Gs. F.M.: 1974	4/29/65	I D B	1,500.0	-.-	-.-
31. International Products Corporation. Cattle purchasing and ranch improvement. 9% interest. 7 semi-annual installments, beginning 2 years after the first disbursement. Payable in Gs. F.M.: 1974	5/11/65	AID (PL 480 Cofely Funds)	436.5	-.-	326.8

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EX III
Exhibit 4, p. 4 of 6

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	Date signed	Lending Agency	Authorized Amount	LTAH	
				Actual 12/31/954	Actual 12/31/965
12. Comision de Administracion de los Ferros Presidentes S.A. (Comision de Administracion de los Ferros Presidentes S.A.) - 25% interest, 15 years 25 semi-annual installments beginning 4 years after the signature of the agreement. Available in Dec. P.M. 1960	7/15/65	I D B	660.0	-	-
TOTAL:			75,002.1	18,532.5	27,532.5

1/ The amount agreed (\$ 1 billion) was not fully disbursed

2/ The original amount of \$ 200,000 was enlarged to a \$ 1 billion credit in February 22, 1965.

3/ Revolving credit. The total debt outstanding of the two credits (nos. 16 and 20) as of to date was of US\$ 33,023.26. This sum is included in the Total.

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ANNEX III
Exhibit 4, p. 5 of 6

REF ID: A66100

Reporte sobre Superiores de Cuentas

Balance as of December 31st (Thousands of U.S. \$)

	1961	1962	1963	1964	1965
Reserves	575.2	600.0	652.0	690.8	770.0
Assets Agency and Government Enterprises	602.0	625.0	4,650.0	5,338.5	5,700.0
Special Fund	1,100.0	1,100.0	1,345.0	985.0	2,000.0
TOTAL	2,277.2	2,325.0	6,647.0	6,714.3	8,470.0

FIN

Monetary Control - Banco Central del Paraguay
Balance as of December 31st (Thousands of US\$)

	1961	1962	1963	1964	1965
Bank of London - South America (N York)	3,000.0	1,000.0	1,000.0	500.0	0
TOTAL	3,000.0	1,000.0	2,000.0	1,100.0	0

Economic Division
USAID Paraguay
February 15, 1966

Dr. Miguel Cardona
Economic Specialist

Dr. Joseph Pincus
Economic Advisor

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ANNEX A II
Exhibit 4, p. 6 of 6

RELATED ECONOMIC PLANNING

The Paraguayan economy is basically agrarian. Its principal export products are meat, lumber, cotton, quebracho extract, oilseeds, hides, and tobacco. For internal consumption it produces a wide variety of fruits and vegetables. Its main food import is wheat, coming almost entirely from Argentina and the United States. Industry is in its infancy, being handicapped by a small national market, an insufficiency of executive and managerial personnel, and inadequate credit for medium and long-term lending. The USAID program in private sector development aims at establishing the institutional framework to eliminate these bottlenecks. The production of canned meat, and meat by-products, flour, essential oils, and cotton textiles are the principal manufacturing activities in Paraguay.

Tourism has been expanding rapidly during the past five years as a result of new hotel, highway, and airline facilities established in Paraguay and neighboring countries. An even greater influx of tourists is projected upon completion of paving of the connecting portions of the Brazilian highway system, compounded by increased prosperity and expanded leisure time in Paraguay's giant neighbor.

The GOP adopted a 2-year (1965-1966) development plan in July 1965, but the CIAP has recommended the extension of the plan to the year 1967. While the plan is poorly drawn, statistically weak, and poorly projected, it does contain certain policy recommendations that are worth implementing, particularly with respect to fiscal and administrative reforms. The plan for Paraguay's economic development is export oriented, this being considered the quickest way of raising domestic income.

Accordingly, priority is given to opening the interior of the country to increase the output of traditional export products and to develop new ones. Also, transportation from interior producing centers to Asunción and other export points on the nation's borders is given major importance in the plan. Not only are new export markets to be sought in Brazil, Bolivia, and northern Argentina, but the costs of transport are to be reduced to improve the competitiveness of Paraguayan products in domestic and more distant foreign markets. For example,

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since the new all-weather road to Pto.Pte. Stroessner has been opened, manioc (the staple item of Paraguayan diet, along with meat) from the higher - yielding areas of Cnel. Oviedo and Alto Paraná now arrives in the Asunción market and, even after paying freight of 1.4 guaraníes per kilo, competes successfully with manioc from the local low-yielding soils.

Paraguay's development potential rests in its land, animals, and forests, in its hydroelectric power potential, and in its hardworking people. The basic problem of development in this country is to transform its disadvantageous geographic position, limited resources, and tropical climate into positive growth factors. This requires opening the interior of the country to productive activities and providing the new producing areas with relatively cheap transportation and marketing facilities; the problem of Paraguayan agriculture is not land shortage, but rather to discover projects offering high rates of return per unit of (scarce) capital invested. The cost of transportation is an important factor affecting this rate of return.

The most appropriate program for transport development in Paraguay, according to the IBRD, is one that concentrates on road transport for movement within the country and for perishable or high value foreign trade and on river transport for bulk foreign trade. The major emphasis in the transport program is on highways; this will hold true at least until 1969, when completion of a contemplated comprehensive hydrographic survey sponsored by the UN Special Fund will provide a feasibility study of possible river channel improvements.

The current major highway projects, in the eyes of IBRD are:

- a. Paraguari - Encarnación; being paved under IBRD/IDA loan.
- b. Road and agricultural survey of the Triangle (Asunción - Pto.Pte. Stroessner - Encarnación); in planning stage by IBRD.
- c. Brazil Road, especially from Cnel. Oviedo to Pto.Pte. Stroessner; the project herein treated.
- d. Cnel. Oviedo - Ruta 5; the north penetration road now being constructed by GOP force account with AID grant financing.

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- e. Concepción - Pedro Juan Caballero; under U.S. and Paraguayan army construction.
- f. Coronel Oviedo - Villarrica expected to be paved under an IBRD loan.

The Coronel Oviedo - Villarrica road improvement and asphaltting will provide a reliable link joining the agricultural and industrial area around Villarrica, in the Triangle, with the Cnel. Oviedo - Pto. Pte. Stroessner section of the Brazil Road to the east and the Cnel. Oviedo to Asunción portion in the west. This is a very high priority project because of its relation to the elimination of the railroad.

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LOAN AUTHORIZATION

Provided From: Alliance for Progress Funds
PARAGUAY : Brazil Road Rehabilitation and Improvement

Pursuant to the authority vested in the Deputy U.S. Coordinator, Agency for International Development ("A.I.D."), by the Foreign Assistance Act of 1961, as amended, and the delegations of authority issued thereunder, I hereby authorize the establishment of a loan ("Loan") pursuant to Part 1, Chapter 2, Title VI, Alliance for Progress, to the Government of Paraguay ("Borrower") of not to exceed four million six hundred and eighty thousand United States dollars (\$4,680,000) to assist in financing U.S. dollar and Paraguayan guarani costs of the rehabilitation and improvement of a highway from Asuncion, Paraguay to Pto. Presidente Stroessner, Paraguay ("Project"), this loan to be subject to the following terms and conditions.

A. Interest and Terms of Repayment

Borrower shall repay the loan to A.I.D. in United States dollars within forty (40) years from the first disbursement under the loan, including a grace period of not to exceed ten (10) years. Borrower shall pay to A.I.D. in United States dollars on the disbursed balance of the loan interest of one (1) percent per annum during the grace period and two and one-half (2 1/2) percent per annum thereafter.

B. Other Terms and Conditions

1. Prior to the first disbursement or issuance of the first commitment document, other than to finance engineering services, Borrower shall furnish AID, in form and substance satisfactory to AID:

- (a) a commitment to allocate through its regular budgetary procedures all necessary monies for the payment, as scheduled, of all GOP debts to AID or its predecessor agencies;
- (b) evidence that Borrower has available or will have available when necessary, from sources acceptable to A.I.D., the guarani equivalent of at least seven hundred and eighty thousand United States dollars (\$780,000) for use on the Project;

- (c) evidence of arrangements (i) for the establishment and operation of vehicle weighing stations along the Project highway and (ii) for the enforcement on the Project highway of the requirements of Paraguay Decree Law No.22.094 or such subsequent law as AID shall approve with respect to vehicle load limits;
- (d) a detailed plan for the maintenance of the Project highway and all other roads constituting the highway network of Paraguay for which Borrower's Ministry of Public Works and Communications (MOPC) is responsible, which shall include, but not necessarily be limited to plans for
 - (i) the establishment of a reorganized highway department within the MOPC and the establishment of a road maintenance organization with that highway department;
 - (ii) the establishment of regional maintenance districts and the outlining of the responsibilities of each such district;
 - (iii) the provision of adequate facilities, equipment and personnel for each ^{such} maintenance district;
 - (iv) the maintenance of road maintenance facilities and equipment;
 - (v) the training of road maintenance personnel;
 - (vi) the reorganization of administrative and accounting offices to support the highway department and its maintenance organization;
 - (vii) the obtaining of maintenance experts from external sources to assist in carrying out the plan;
 - (viii) the providing and/or obtaining of the financing necessary for the execution of the plan; and
 - (ix) a timetable for the implementation of the plan;
- (e) a commitment to allocate to highway maintenance for the calendar years 1967 and 1968 the budgetary and other resources specified in the plan submitted pursuant to the preceding sub-section; and

(f) Evidence that Borrower has obtained all real property rights, including easements and rights of way, required for completion of the Project, or shall obtain such rights in time to permit the orderly construction of the Project.

3. Borrower shall contribute to the Project, from sources acceptable to A.I.D., the guarani equivalent of at least seven hundred and eighty thousand United States dollars (\$780,000), and Borrower shall also provide, or cause to be provided, any additional resources which are necessary for the timely completion of the Project;

4. Borrower shall cause a nationwide program of road maintenance to be carried out in conformity with the plan approved by AID hereunder and shall make available to that program in timely fashion the resources agreed therein to be provided;

5. Borrower shall establish and operate, or cause to be established and operated, vehicle weighing stations along the Project road and shall enforce on the Project road the vehicle load limit requirements of Paraguay Decree Law No. 22094, or such subsequent law as A.I.D. shall approve;

6. Borrower periodically shall consult with A.I.D. concerning its implementation of the highway maintenance program referred to in paragraph B(4) hereof.

7. Equipment, materials and services (except shipping and marine insurance) financed under the loan shall have their origin in and be procured from the United States or Paraguay. Shipping financed under the loan shall be procured from the United States, and marine insurance financed under the loan shall be placed in the United States.

8. United States dollars utilized under the loan to finance local currency costs shall be made available to Borrower or its designee only through Special Letters of Credit and shall be used only for procurement in the United States.

9. The loan shall be subject to such other terms and conditions as A.I.D. may deem advisable.

Deputy U.S. Coordinator
Alliance for Progress

Date