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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

COSTA RICA - HIGHWAY MAINTENANCE

A.I.D.
Reference Center
Room 1656 NS

AID-DLC/P-817

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

UNCLASSIFIED

AID-DLC/P-817
April 25, 1969

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Costa Rica - Highway Maintenance

Attached for your review are the recommendations for authorization of a loan in an amount not to exceed \$7,100,000 to the Government of Costa Rica to assist in financing the United States dollar and local costs of purchasing highway maintenance equipment and shop equipment and facilities necessary for an adequate highway maintenance program, of training personnel in highway maintenance, and of highway maintenance consulting services.

This loan proposal is scheduled for consideration by the Development Loan Staff Committee at a meeting on Friday, May 2, 1969.

Rachel C. Rogers
Assistant Secretary
Development Loan Committee

Attachments:

Summary and Recommendations
Project Analysis
ANNEXES I-VI

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COSTA RICA--HIGHWAY MAINTENANCE

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COSTA RICA - HIGHWAY MAINTENANCE LOAN

SECTION I

SUMMARY AND RECOMMENDATIONS

1. BORROWER: The Government of Costa Rica. The maintenance program will be executed by the Maintenance Department of the Highway Administration (DGV) of the Ministry of Transport. A line of credit to the municipalities (Municipality Fund) for purchase of feeder road maintenance equipment will be administered by the Central Bank and channeled through the commercial banking system. A line of credit to truckowners (Truckowners Fund) to finance the purchase of used tandem or "dead" axles, or tow-trailers, will be administered by the Banco Nacional de Costa Rica (BNCR).
2. AMOUNT OF LOAN: US\$7.1 million, of which US\$6.1 will finance dollar costs, and will be disbursed in two tranches. The cost breakdown of the AID loan is as follows:

<u>Item</u>	<u>Amount</u> (US\$1,000,000)
Maintenance equipment	4.46
Shop equipment	0.24
Consulting Services	0.32
Training	0.04
Subtotal	<u>5.06</u>
Municipality Fund	1.10
Truckowners Fund	1.00
Total	<u>7.16</u>

3. PURPOSE OF THE LOAN: The maintenance project is designed (1) to equip the DGV with sufficient maintenance equipment and shop equipment and facilities for an adequate maintenance program; (2) to contribute to the development of a strong Maintenance Department within the DGV by training personnel and by the implementation of the proposed Department reorganization; (3) to introduce an effective program of vehicle load control.

1 U.S. Dollar = 6.65 colones

The Municipality Fund is designed to make commercial credit available to municipalities for the purchase of feeder road maintenance equipment, as approved by the DGV, in order (1) to require and encourage the municipalities to participate more actively in their legal responsibility for maintaining streets and feeder roads; (2) to facilitate the imposition by the DGV of a system of priorities in feeder road maintenance (for elaboration, see Section II.G.3), and (3) to relieve the DGV of some of the pressure exerted on it by the municipalities to divert maintenance equipment and funds from its intended use on national and regional highways.

The Truckowners Fund will provide credit to the small independent truckowner on easy terms for the purchase of used "dead" or tandem axles, or two-trailers, in order (1) to assist him in adapting his vehicle to the newly enforced vehicle-load control regulations; and (2) to diminish the probability that the truckers will pose effective political resistance to vehicle load control.

The overall purpose of the loan is to insure proper protection for the heavy investment being made by the COCR in highway construction-- an investment which has been financed to a considerable extent by IERD, IDA, AID and other USG funds. The IERD technical staff has recommended that their proposed financing of the Limón highway (US\$15.0 million) be contingent upon the approval of the AID highway maintenance loan. The IDB loan for the construction of 344 kms. of feeder roads (US\$7.2 million) requires that within twelve months of the signing of the loan agreement, the COCR obtain funds for the purchase of equipment sufficient to maintain the roads under construction.

4. BACKGROUND: In October 1961, the Bureau of Public Roads was contracted by the COCR to provide technical assistance to the Ministry of Transport in the preparation and execution of its highway investment program. Under this contract -- and as consultant on subsequent IERD, IDA, and IDB road construction loans -- the BPR prepared a complete analysis of maintenance conditions in Costa Rica, and presented a series of recommendations as to the purchase of equipment, re-organization measures, the training of personnel, and the enforcement of vehicle load control. The BPR report, presented in May 1968, became the subject of discussions between the DGV, the Mission and the BPR as to the possibility of AID financing for a maintenance project.

The BPR report provided sufficient information for developing an equipment loan. Raw data for an economic analysis was provided by a recently-completed Ministry of Transport study on road user

costs in Costa Rica; the study followed the methodology of the World Bank manual by Jan de Weille. The Mission's benefit-cost analysis was based on this data. The BPR report and the Ministry of Transport data constitute the basis of the maintenance project presented in this paper.

5. INTEREST OF OTHER FINANCIAL AGENCIES: The Ex-Im Bank, IDB and IBRD have indicated no interest in financing this project. Other free world financing is not available on reasonable terms.

6. STATUTORY CRITERIA: All Statutory Criteria of the US Foreign Assistance Act of 1961, as amended, have been met (see Annex I and Annex II).

7. COUNTRY CLEARANCE: USAID/CR approved this project for financing on April 2, 1969.

8. ISSUES:

1. Borrower's Contribution to the Project.

The total cost of the proposed highway maintenance project is US\$5.1 million (see accompanying table). Of this amount, US\$429,000 of local currency equivalent will be contributed by the COCR for costs of inland freight, maintenance headquarters and shop improvements, and the local costs of training and consultants. In addition, the project will require an increase of US\$4.0 million local currency equivalent in DGV annual operating costs for maintenance during the 1970-1972 implementation period—assuming that the past level of maintenance expenditures was 60% of budgeted levels (as estimated by EPR and the Mission). Hence the total maintenance project and program amounts to US\$9.5 million, of which the DGV contribution is 47%. Because of the major increase in maintenance operating costs required to insure adequate implementation of the proposed maintenance program, it appears that the borrower's contribution is more than sufficient.

TABLE IV-1

ESTIMATED COST OF PROJECT, 1969-1972
(US\$1000)

ITEM	FIRST PHASE				SECOND PHASE				TOTAL	
	1969		1970		1971		1972		GOCR US\$ Equiv.	AID US\$
	GOCR US\$ Equiv. ^{a/}	AID US\$	GOCR US\$ Equiv.	AID US\$	GOCR US\$ Equiv.	AID US\$	GOCR US\$ Equiv.	AID US\$		
Maintenance Equipment ^{b/}	-	1840	-	-	-	2064	-	-	-	3904
Spare Parts (15%)	-	276	-	-	-	310	-	-	-	586
Shop Equipment	-	240	-	-	-	-	-	-	-	240
Inland Freight	23	-	-	-	20	-	-	-	43	-
Maintenance Hdqrs. and Shops	114	-	113	-	-	-	-	-	227	-
Training	20	15 ^{c/}	39	13	39	12	-	-	98	40
Consultants ^{d/}	4	16	21	121	18	90	18	89	61	316
Subtotal (Project)	161	2387	173	134	77	2476	18	89	429	5086
Increase in operating costs ^{e/}	0 ^{f/}	-	1263	-	1338	-	1398	-	3999	0
Total (Project & Program)	161	-	1436	-	1415	-	1416	-	4428	5086
% Participation									46.6%	53.5%

a/ ¢ 6.65 = US\$1.

b/ Includes 10% addition for possible price increases (see equipment list Annex V-8).

c/ Includes US\$9000 for training equipment (see Annex V-11).

d/ Due to proposed project. (See Annex V-13 for breakdown of consultant costs.)

e/ Total operating costs from Annex IV-1, minus local costs of A.I.D. project, minus ¢7 million per annum as estimate of maintenance expenditures without A.I.D. project.

f/ Equipment is estimated to arrive in late 1969--early 1970.

2. Past Diversion of Maintenance Equipment and Funds

The inadequate maintenance of national and regional highways in Costa Rica is to a considerable extent the result of diversion of an adequate level of appropriated maintenance funds for other purposes--principally, force account construction, feeder road construction, and feeder road maintenance. Much of the demand for force account construction arose from the necessity to terminate projects under the IBRD loan for which funds were completely disbursed (1967) before the projects were completed, due to unanticipated cost increases. Since these remaining projects are almost completed, and since the DGV is itself interested in phasing out of force account construction, it is expected that this source of past diversion will be substantially reduced. The Minister of Planning has agreed to a formula to this effect (see Annex III-1, page 7 of 7), and the conditions precedent and covenants require DGV compliance.

As to diversion to feeder road maintenance, the DGV hopes to fortify its attempts to resist political pressures for such diversion through the conditions precedent and covenants requiring that the equipment be used only for highway maintenance. The demands for diversion to feeder road maintenance are economically legitimate to the extent that they are public, and not private; because they arise within the highway maintenance sector, moreover, the DGV cannot completely ignore them. The Mission has therefore proposed a Municipality Fund with the purpose: (1) of relieving somewhat the pressure to divert highway maintenance equipment to feeder roads by encouraging the municipalities to buy feeder road maintenance equipment themselves; (2) of using this equipment-buying procedure as a mechanism by which the DGV can impose a scheme of priorities on the various feeder road maintenance programs; and (3) of contributing to a strengthening of local self-help tax efforts, given the already existing municipality taxing authority for feeder road maintenance.

Finally, the tranche approach to the loan--dividing the loan into two stages with more than half the equipment in the second tranche--is intended to give substantial leverage to A.I.D., and, more important, to the DGV in resisting political pressures to divert equipment.

3. Vehicle Load Control

Vehicle load control is not enforced in Costa Rica today. However, the heavy foreign-financed investment being made in modern highway construction and modern maintenance practices cannot be justified when the circulation of substantially overloaded trucks raises to unreasonable levels the costs of maintenance and requires premature reconstruction of highways. The GOCR has agreed to a set of detailed conditions on the amplification and enforcement of the existing vehicle load control program; the equipment list includes three fixed, and two portable, scales. Because of the probability that trucker resistance to vehicle load control could represent a substantial obstacle to such a program--and because of the Mission's concern that, given the current degree of overloading (between 50-100% of legal limits), strict enforcement might destroy a substantial number of small independent truckers (1500-2000)--the project includes a line of credit to the small trucker which will enable him to adapt his vehicle so as to carry the same load but no longer exceed the legal limits.

9. RECOMMENDATIONS: It is recommended that a US\$7.1 million loan to the GOCR be authorized, to be divided among the administering agencies as follows:

- (a) US\$5.1 million to the DGV, for the implementation of the maintenance program;
- (b) US\$1.0 million to the Central Bank for the Municipality Fund, to be channeled through the commercial banking system;
- (c) US\$1.0 million to the Banco Nacional de Costa Rica, for the Truckowners Fund.

The loans will be subject to the following terms and conditions:

- (a) repayment of the loan by the GOCR within forty (40) years of the date of disbursement, including a ten (10) year grace period. Interest rate of 2% will be charged during the grace period, and 3% thereafter. Interest and principal will be repaid in U.S. dollars in semi-annual installments.
- (b) repayment by the final borrower of the sub-loans to the Central Bank for the Municipality Fund within eight (8) years at 10% interest; the commercial bank will charge a commission of about 2½%, and the Central Bank will charge about ½%. Amortization payments and remaining portion of interest will return to Central Bank rotating fund to be used for same purpose. (Conditions precedent to first disbursement will require contractual agreement between the GOCR and the Central Bank on exact terms and commissions.)
- (c) repayment by the final borrower of the sub-loan to the BNCR for the Truckowners Fund will be within five (5) years at 6% interest; the BNCR will charge a commission of about 2%. Amortization payments and the remaining portion of interest payments will revert to the Central Bank Municipality Fund. (Conditions precedent to first disbursement will require contractual agreement between the GOCR and the BNCR on exact terms and commissions, as well as on inspection procedures for the installations to be made.)
- (d) Interest and principal to be repaid by the GOCR in U.S. dollars in semi-annual installments.

An outline of the remaining conditions precedent and covenants of the loan agreement follows. This outline has been signed by the Minister of Transport and the Director of the Highway Administration.

I. Conditions Precedent to First Disbursement

Precedent to Disbursement for Consultant

1. Standard conditions precedent following signing of loan agreement.
2. Approval by A.I.D. of the selection of United States and/or Costa Rican consultant firm(s), and approval of the contract by A.I.D.; both in accordance with A.I.D. procedures.

Precedent to Disbursement for Equipment (First tranche, to cover part of equipment for Ministry, one-half of Municipality Fund, all of Truckowners Fund).

3. Consultant and A.I.D. approval of the DGV maintenance plan, which will follow an established order of priorities:
(a) national, regional and IDB feeder roads, and (b) other roads.
4. Consultant and A.I.D. approval of vehicle load control plan prepared by Planning Department of Ministry of Transport. Plan will include: (a) transfer of responsibility and budgetary funds for vehicle load control from Dirección de Transporte Automotor to Dirección General de Vialidad, (b) proposed location and time phasing for purchase of fixed and portable weighing station equipment, (c) considerable increase in salary of DGV inspectors at permanent and portable weighing stations, (d) continuous surveillance at permanent weighing stations, (e) allowance and clearing of sufficient right-of-way alongside all permanent weighing stations for trucks to park for off-loading or re-balancing of load, and detention until fines are paid, (f) the stationing of at least one policeman at each permanent and portable weighing station, (g) the placement of permanent weighing stations in clear view of the highway with appropriate signs, and (h) the placement of small traffic barriers directly ahead of the scales to prevent truck drivers from braking rapidly and damaging the scales.
5. The 1970 budget proposal and law will include a separately identifiable appropriation for roads to be maintained under the project, i.e., national, regional, and IDB feeder roads.

6. Consultant and A.I.D. will verify that the 1970 budget, as approved by the Legislative Assembly, for national, regional and IDB feeder roads, is in accordance with the DGV maintenance plan.
7. Consultant and A.I.D. approval of 1970 DGV allocation of funds within the budget law which can be used for vehicle load control program.
8. Completion of work in progress on load control stations at San Isidro and Barranca.
9. Ministry of Transport and BPR certification of satisfactory completion and acceptance of the last road construction project completed and financed under A.I.D. Loan 515-L-009. = 515223/06
10. Letter from the Contraloría de la República stating that procedures will be established to comply with the audit provisions of the condition precedent No. 1 to the second disbursement. 132-DA10
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11. A contract between the GOCR and the Banco Nacional de Costa Rica (BNCR) satisfactory to the consultant and A.I.D., specifying the terms under which the BNCR will administer the Truckowners Fund.
- 12.. A contract signed by the GOCR, the Central Bank, and the commercial banks, satisfactory to the consultant and A.I.D., specifying the terms under which the banking system will administer the Municipality Fund.
13. Waiver by the Legislative Assembly of the \$250,000 legal limitation on equipment purchases by the Municipalities to the extent that such purchases are financed by the Municipality Fund. (Assembly ratification of the loan agreement with such a condition will constitute the necessary legal waiver action.)

II. Conditions Precedent to Release of Second Tranche(Second part of equipment for DGV, second half of Municipal Fund)

The DGV will show evidence, reviewed by the consultant and satisfactory to A.I.D. that:

1. The 1970 budgetary allocation specified for maintenance of roads under the A.I.D. project has been made available by the Ministry of Finance as needed, and has been used for the intended purpose, and that neither the funds nor the equipment have been diverted to other operations. This evidence will be supported by a year-end audit carried out by the Contraloría de la República.
2. The 1971 budget law also includes a separately identifiable appropriation for roads to be maintained under the project.
3. The Maintenance Department reorganization has been completed according to the implementation plan, including the projected construction of field offices and shop facilities.
4. A vehicle load control law, decree or regulation has come into effect, which authorizes the Ministry of Transport, above and beyond existing legislation, to detain overloaded vehicles until the excess cargo is off-loaded and the corresponding fine is paid. The law will specify the fines to be charged.
5. Enforcement of the vehicle load control plan presented as condition precedent to the first disbursement has occurred. This evidence will be supported by records of total cargo weighed, cargo offloaded, and fines collected.
6. A training program for maintenance personnel has been established and is in operation.
7. The operating procedures designated in the approved maintenance plan have been instituted in at least three of the six maintenance zones.
8. All obsolete equipment replaced by project equipment has been disposed of so that it will not continue to be a maintenance burden on the Maintenance Department repair shops.

9. Force account construction has not exceeded the level agreed to by the Ministries of Planning and Transport, i.e., no more than 10% of DGV highway construction expenditures, or no more than 25% of the maintenance and major betterments expenditures for national, regional and IDB feeder roads, whichever is less.

III. Covenants

1. Until all project equipment has been delivered the consultant and A.I.D. will verify that national annual budget appropriations for maintenance of national, regional and IDB feeder roads, and for vehicle load control are in accordance with the DGV maintenance 1969-1973 plan and that the Ministry of Finance has made the funds available as needed.
2. As indicated in its 1972 expenditures projections, the DGV will initiate in 1972 procurement of the bulk of maintenance equipment to continue the replacement program started under the A.I.D. project.
3. The DGV will include funds in its annual budget requests following 1972 for routine replacement of equipment that has become obsolete.
4. The Congress, the Ministry of Finance, and the DGV will allocate sufficient annual funds to the maintenance of national, regional and IDB feeder roads after all project equipment has been delivered so as to permit execution of the mutually agreed-to maintenance program. The Budget Law will continue to include a separately identifiable appropriation for maintenance of national, regional and IDB feeder roads.
5. The DGV will give priority to the maintenance program, diminish progressively the road construction and betterment work done by force account, and ensure to the maximum extent possible that all major reconstruction and new construction be executed by qualified contractors.

6. An annual audit of maintenance fund expenditures and usage of A.I.D. maintenance equipment will be carried out by the Contraloría de la República until the project loan funds are fully disbursed. The GOCR will assure that comparable annual audits will be conducted in succeeding years.
7. Equipment purchased with loan funds will not be used for other than routine maintenance work (excluding major betterments), except in emergency cases where prior approval is reached by A.I.D. and the Ministry of Transport.
8. The DGV will continue its vehicle load control program and will provide adequate funds for spare parts and replacement of weighing equipment.

PROJECT COMMITTEE:

Chairman	- J.Tendler - AID/W-LA/DR
Loan Officers	- J.Tendler - AID/W-LA/DR E.Schlomann - USAID/CR
Engineers	- C.Strong - USAID/CR K.Kohler - AID/W - LA/DR/ENG
Economist	- J.Tendler - AID/W - LA/DR
Legal Officer	- A. Mudge - USAID/Panama
Drafting Officer	- J.Tendler - AID/W - LA/DR

Approved by: L.E. Harrison - USAID/CR-DOM

SECTION II: ECONOMIC ANALYSIS

A. The Costa Rican Economy and Transport

The Costa Rican economy has been growing impressively since the Irazú Volcano ceased its eruptions of the 1963-1965 period--in part because of the stimulation of the Central American Common Market, in part because of a favorable resource array. Average annual growth in the 1965-68 period has approached 8% in real terms, with good prospects for continuation of this performance. This achievement has generated significant demands for basic infrastructure services, requiring heavy capital investment. In its effort to expand its physical capital base rapidly, Costa Rica has at times given inadequate attention to the maintenance of its existing capital stock. This situation is most noticeable, and of great economic impact, in the case of roads. The purpose of the Highway Maintenance Project is to assist Costa Rica to continue its rapid increase in national income while at the same time avoiding the high degree of capital wastage now occurring because of inadequate road maintenance.

The GOCR has attempted to organize public expenditure in such a way as to foster rapid development in the private sector, particularly through efforts to remove obstacles to both internal and external trade. The most important contribution the Government has been able to make toward broadening the market has been through

attempts to reduce transportation costs. The effort to reduce transport costs and expand market size is especially relevant to Costa Rica because of its membership in the Central American Common Market, its rugged topography and its generally heavy reliance on external trade (about 23% of GNP is accounted for by exports). The country's mountainous terrain contributes to the fact that transportation costs account for a relatively large proportion of the total cost of goods sold; the resultant burdening of the unit cost of goods exported has diminished the country's comparative advantage in skilled labor and natural resources (i.e. soils and climate particularly suited to the cultivation of high-quality agricultural products). The more dramatic adverse consequences for the export sector are no less damaging than the comparable adverse consequences for the prices of locally consumed goods.

With respect to the GOCR's efforts to commit public resources to the transport problem, maintenance has particular relevance. Governments can assist the process of growth only to the extent that there is a willingness on the part of the population to exchange private for public services. Infrastructure investments will be made, to a great extent, only if the Government can convince the public that the tax dollars required to pay for public-

sector investment are better used in the public rather than the private interest. (External financing makes it a little easier on the taxpayer, but still does not exempt him from substantial contributions.) The success of any country in the process of demanding additional taxes from its population is affected by the taxpayers' image of how public monies are being spent. Since more taxpayers come into contact with roads than any other form of public investment, poorly maintained roads create adverse public opinion about the quality of public financial institutions and hence make even more difficult any government efforts to increase the taxpayer's contribution.

B. Highway Sector

Costa Rica has concentrated considerable investment resources in the highway transport sector, which accounts for 79% of ton-kilometers of cargo transported in the country, and 96% of passenger-kilometers.^{1/} Highway construction and reconstruction investment have amounted to US\$47 million during the last six years, of which US\$25 million was financed by international lending institutions. During this period, GNP rose at an annual rate of 6.1%, and GOCR expenditures at a rate of 3.7% (in 1967 constant colones). At the same time, Highway

1/ 1966 data, Ministry of Industry and Commerce.

Administration (DGV) expenditures rose at 13.1%, highway construction expenditures at 17.9%, and user tax receipts at 9.6% (see Annex II-1 and II-2). The number of kilometers of paved and gravel road increased at a rate of 9.6% during the period, and consumption of gasoline and diesel at 9.3%. Vehicles in circulation increased at 10.6% per annum--the rate of increase for passenger and cargo vehicles being about the same (see Annex II-3). The heavy investment in highways will continue during the implementation of the proposed project (1969-1973), when US\$67 million (foreign and local financing) will be spent in highway construction and reconstruction.^{2/}

The construction standards enforced by the international lending institutions which have financed Costa Rica's recent highway investment have had--and will continue to have--the effect of modernizing the country's highway "plant." The poor construction techniques of the past are being abandoned for a more costly investment which will prove economic in the long run because of the resulting savings in maintenance, reconstruction, and user costs.

^{2/} - These figures are taken from the DGV budget figures (Annex IV-1), rather than the chart on foreign loans (Annex IV-5), since the former data more adequately reflect actual expenditures.

The heavy cost of modernizing the country's highway system has assumed, for its economic justification, a correspondingly modern supply of maintenance services. As can be seen from Annex II-4; however, Costa Rica's estimated annual maintenance expenditure per kilometer is presently less than half of what should be spent to maintain adequately a modern highway system. This low level of expenditure was understandable in the past, when it occurred along with a poorly constructed road network: poor construction increases the cost of maintenance to unreasonable levels, and requires, regardless of the quality of maintenance, heavy subsequent investments in improvement and reconstruction. ^{3/} On a well-designed and constructed road network, in contrast, maintenance costs are much lower, and variations in the road's quality and useful life are very much a function of the level of maintenance.

3/ A study of bituminous road surfaces in the United States demonstrated that the maintenance expenditures on such roads were increased by about \$1000 per mile when the road did not have an adequate base (i.e., per-mile maintenance expenditures increased from about US\$1000-1500 to US\$2000-2500). The majority of Costa Rica's existing paved highway system is bituminous surface constructed on inadequate base. (Expenditure figures from, Mathew J. Betz, "Highway Maintenance Costs--A Consideration for Developing Areas," Highway Research Record, No. 94, of the Highway Research Board of the Division of Engineering and Industrial Research, National Academy of Sciences--National Research Council, 1965, pp. 7-8.

In sum, the lack of a maintenance sector as modern as the new construction techniques in Costa Rica would mean that the extra investment which the country has made in good construction was a needless extravagance. The economic feasibility of paying more for better construction is almost entirely dependent on the assumption that adequate maintenance will be forthcoming and that vehicle load control will be enforced.^{4/} The purpose of the proposed project is to enable the maintenance sector of Costa Rica to catch up to the level of advancement already being attained in construction.

C. Benefit-Cost Analysis

The most important benefits that will result from the improved maintenance and vehicle load control program of the proposed project take three forms: (1) savings, to the consumer of road services, in vehicle operating costs, (2) savings, to the GOCR, in the cost of future investments for road improvement and reconstruction, and, (3) savings, to the GOCR, in annual maintenance costs.

There are other indirect benefits--such as the increased traffic and production generated by better-maintained roads. This newly generated traffic and production, nevertheless, would be accompanied by a corresponding increased investment in agricultural productive capacity, and would also require increased investment in road services. It is best not to include these indirect benefits in

^{4/} - For the costs caused by vehicle overloading, see Annex II-4a.

such an analysis if they cannot be balanced against the increased investment costs required to bring them about. Since such estimation would be highly conjectural, the quality of the data would not justify the use of the cost-benefit technique.

This analysis deals only with the benefits to consumers of road services (savings in vehicle operating costs) and does not include the other two forms of savings that accrue to the GOCR. This approach was decided upon because the Ministry of Transport had good-quality data on vehicle operating costs in Costa Rica; on the other hand, there was no data available on costs caused by vehicle overloading, nor on the extra costs of improvement and reconstruction due to poor maintenance. Although estimates of these costs could have been made on the basis of US data, the Mission preferred to limit the study to vehicle operating costs because of the fine quality of the data, and because of the desire to have a conservative estimate of the benefits. Furthermore, since the savings in reconstruction and maintenance costs would accrue in the latter years of the nine-year analysis period-- and since the opportunity cost of capital was estimated at 20%-- it was assumed that these latter-year benefits would have a significantly reduced present value in this analysis.

The accompanying table is a summary of the results of the analysis, in which three rates of discount were used--10, 15,

and 20%. Since 20% may be most representative of the opportunity cost of long-term capital in Costa Rica, the benefit-cost ratio for this project can be considered to be approximately 2.8--a satisfactory result, especially given the fact that savings in maintenance, improvement and reconstruction costs are not included in the analysis. The methodology, assumptions and all calculations of the analysis are spelled out in complete detail in the tables of Annex II-5.

TABLE II - 1 SUMMARY: BENEFIT - COST ANALYSIS

(C1,000,000)

Year	Nominal Values		Present Value of Annual Costs and Benefits at:					
	Costs	Benefits	10% discount		15% discount		20% discount	
			Costs	Benefits	Costs	Benefits	Costs	Benefits
1970	27.4	15.5	27.4	15.5	27.4	15.5	27.4	15.5
1971	25.9	27.9	23.5	25.4	22.5	24.3	21.6	23.3
1972	13.1	42.4	10.8	34.9	9.9	32.0	9.1	29.4
1973	13.0	59.0	9.8	44.3	8.6	38.8	7.5	34.2
1974	13.5	71.0	9.2	48.5	7.7	40.6	6.5	34.2
1975	14.0	76.9	8.7	47.8	7.0	38.2	5.6	30.9
1976	14.6	83.3	8.2	47.0	6.3	36.0	4.9	27.9
1977	15.1	90.2	7.8	46.3	5.7	33.9	4.2	25.2
1978	15.7	97.7	7.4	45.6	5.2	31.9	3.7	22.8
1979	-16.5	-	-7.0	-	-4.7	-	-3.2	-
TOTAL	135.8	563.9	105.8	355.3	95.6	291.2	87.3	243.4

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Rate of Discount

10%	15%	20%
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Benefit-Cost Ratio 3.4 3.1 2.8

SOURCE: Tables of Annex II-5.

Costs. The project implementation period is three-four years, and the period chosen for analysis was nine years--based on a rough average of the estimated useful lives of the equipment. ^{5/} The annual operating costs for maintenance were considered to be those additional to what would have been spent if there were no maintenance program--i.e. additional to the 1968 level of maintenance expenditures (without diversion). For the years remaining after the project implementation period, additional annual operating costs were assumed to increase at a rate consistent with past increases (5%), and annual expenditures on equipment replacement were estimated on the basis of annual depreciation of the project equipment (12.5%) as well as on the basis of the equipment replacement expenditure budgeted by the DGV for 1974 (¢ 3.1 million).

Benefits. In brief, the raw data used by the Mission was the Transport Ministry's study of vehicle operating costs in Costa Rica (Table CE-II, based on the methodology of the World Bank manual on road user savings by Jan de Weille); Ministry figures on annual vehicle-kms for project roads, and vehicle fleet data according to type of vehicle; and the existing Ministry historical series for

^{5/} To estimate useful life of maintenance equipment in Costa Rica, BPR uses as a rule of thumb a correction factor of 1.5 times the standard useful lives of equipment used in the USA. This correction factor is based on the higher cost of new equipment and the lower cost of repair in Costa Rica, in relation to the United States.

such data. Average user costs per vehicle-km for various vehicles types were multiplied by a correction factor representing the average operating cost increase due to passing from well-maintained to poorly-maintained roads (20-40% increase). These vehicle-km cost increases (i.e. user savings due to project) were multiplied by estimates of total annual vehicle-kms on project roads, as distributed between the two types of pavement to be maintained under the project, and the various types of vehicles. The resulting figures on annual total user savings due to adequate maintenance were then increased by a vehicle-km growth factor for each year of the analysis. These annual totals were corrected downward according to the estimation that during the first four years of the analysis period only a fraction (gradually increasing) of these total annual benefits would be realized, given the fact that it would take some time for the condition of all project roads to be improved. These adjusted total annual savings, discounted to the present, appear in the accompanying table.

Conclusion. The high benefit-cost ratio shown in Table II-1, page 21, is striking--given the high rate of discount used, the conservative estimates of rates of average annual increase in traffic on project roads, the heavy incidence of costs in the first two years of the project, and the non-inclusion of benefits

accruing to the GOCR. This high return reflects to a great extent the relatively high levels of traffic on Costa Rica roads, in relation to the investment costs of a modern maintenance program. In other words, consumer use of the Costa Rican road network is intensive enough to make economically profitable the investment in modern maintenance services.

SECTION III: DETAILED DESCRIPTION OF THE PROJECT

A. Background

In October, 1961, a Special Agreement of Cooperation was signed between the United States and the Republic of Costa Rica whereby the Bureau of Public Roads (BPR) would provide technical assistance to the Ministry of Transport in the preparation and execution of a major GOCR highway investment program, the Plan Vial. The first phase of the plan consisted of fifty-three roads totaling 513 kilometers.^{1/} As part of the BPR-USG agreement, the BPR was instructed to assist the Highway Administration (DGV) in the preparation and execution of a highway maintenance plan, to assist in the development and implementation of a training program in highway maintenance, to aid in the selection of maintenance and shop equipment, and to recommend any reorganization measures which might be advisable.

The BPR was subsequently retained as consultant by the Ministry of Transport for the IBRD, IDA and IDB projects.^{2/} Under the IDB loan agreement, the consultant was instructed, among other things, to recommend a proper maintenance system for the country's feeder roads.

^{1/} Financed by IBRD Loan 299-CR for US\$5.5 million, and IDA Credit 10-CR of US\$4.7 million (October 1961), plus US\$7.0 million GOCR local currency contribution, for reconstruction and improvement of 513 kms of the National and Regional highway system.

^{2/} IDB Loan 80 TF/CR for US\$4.0 million (June 1964), plus US\$3.3 million GOCR local currency contribution, for construction of 317 kms of feeder roads.

In May, 1968, the BPR Technical Assistance Staff completed its evaluation of highway maintenance under the aforementioned contracts with the USG and the IDB, and made a series of recommendations for a program of improvement in maintenance practices. During this period, the Mission had entered into discussions with the Ministers of Planning and of Transport concerning the possibility of financing a maintenance program based on the BPR recommendations. Working from the BPR report, the Mission, the BPR and the Ministry of Transport prepared a preliminary loan document which included proposed annual maintenance budgets for the three-year period 1969-1971. On the basis of this information, the Mission submitted an Intensive Review Request to Washington in October 1968. The request was approved on December 4, 1968, and on December 11, 1968, the Minister of Planning made a formal loan request to the Mission for a US\$4.2 million loan for financing a program of highway maintenance (see Annex III-1 for exchange of correspondence).

B. Project, Borrower, and Participating Agencies

The GOCR is the borrower for the proposed project. Interest rates are 2% during a ten-year grace period, and 3% during a thirty-year amortization period. The project has three component parts--the latter two intended to increase the probability of successful implementation of the main part, the maintenance program (see accompanying table).

TABLE III-1
SUMMARY COST OF PROJECT ^{a/}
 (US \$1000)

ITEM	First Phase (12/69)		Second Phase (6/71)		GRAND TOTAL	
	GOCR	AID	GOCR	AID	GOCR	AID
	US\$ Equiv.	US\$	US\$ Equiv.	US\$	US\$ Equiv.	US\$
Maintenance Project	334	2521	95	2565	429	5086
Maintenance Program ^{b/}	<u>1263</u>	<u>-</u>	<u>2736</u>	<u>-</u>	<u>3999</u>	<u>-</u>
SUBTOTAL	1597	2521	2831	2565	4428	5086
Municipality Fund	-	500	-	600	-	1100
Truckowner Fund	<u>-</u>	<u>1000</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1000</u>
TOTAL	1597	4021	2831	3165	4428	7186

^{a/} Based on Table IV-1, page 60

^{b/} Additional annual operating costs of Maintenance Department due to project.

1. Maintenance Program

A US\$5.1 million loan to the Government of Costa Rica (GOCR) for purchase by the Highway Administration (DGV) of US-procured maintenance equipment, spare parts and shop equipment, including funds for foreign consulting and training. The borrower will contribute US\$429,000 of local currency equivalent for inland freight, the local costs of consultants and training, and for improvements and construction of maintenance headquarters and shops. In addition, DGV implementation of the proposed maintenance program will require a total increase of US\$4.0 million equivalent in the Maintenance Department's annual operating costs, over the 1970-1972 period. The loan will be divided in two almost equal disbursements, about eighteen months apart. The second disbursement will be dependent on the fulfillment of conditions agreed to by the borrower.

The implementing agency is the Ministry of Transportation, through the Highway Administration (Dirección General de Vialidad--DGV). The DGV is subordinate to the Ministry of Transportation, and, like the Ministry, is not financially autonomous (see Section IV.C. for information on DGV funding). The Ministry of Transportation was created under Law No. 3155 of August 5, 1963, as successor of the old Ministry of Public Works--part of a reorganization intended to facilitate the planning for and implementation of the Plan Vial; the DGV was established by Law

No. 3251 of December 19, 1963, and receives about 85% of the Transport Ministry's budgetary appropriations.

The Maintenance Department of the DGV is responsible for maintenance of the country's national and regional highways, as well as those feeder roads whose construction was financed by the IDB.^{3/} Maintenance of non-IDB feeder roads and city streets are the legal responsibility of the municipalities, although the DGV provides partial assistance on a matching fund basis (see Section III.C.3.).

2. Municipality Fund

A US\$1.1 million loan to the GOCR to open a line of credit--to be administered by the Central Bank and channeled through the commercial banking system--for the purchase of US-procured feeder-road maintenance equipment by the municipalities. The final borrower will pay interest rates of about 10% per annum, with an eight-year amortization period in annual installments, and a grace period of up to one year.

^{3/} In 1967, the IDB decided, upon recommendation of the BPR, that the municipalities did not have the financial or technical capacity to maintain properly the 317 kms of feeder roads being constructed with IDB financing. In 1968, therefore, responsibility for IDB feeder road maintenance was transferred to the DGV. Accordingly, the 1968 DGV budget included an appropriation of \$1.7 million for maintenance of the IDB feeder roads. This provision will be applicable to the 344 additional kms of feeder road construction to be financed by the IDB.

Since all equipment financed by the AID dollars will be new equipment from the US, and since each purchase will be significantly large, the Mission proposes use of the Letter of Commitment procedure. Colon repayments into the Municipal Fund (as well as colon repayments originating from the Truckowners' Fund) will rotate permanently and be available to the municipalities for the subsequent acquisition of maintenance equipment.

The Central Bank will charge an administration fee of about $\frac{1}{2}\%$, and the commercial banks, about $2\frac{1}{2}\%$; remaining interest payments will revert to the rotating fund. A contract between the GOCR, the Central Bank, and the commercial banks which specifies these will be a condition precedent to the first disbursement for maintenance equipment (No. 12).

Purchases financed by the Municipality Fund will require prior approval of the DGV in accordance with a "positive list" of equipment adequate for this purpose. The DGV list, which adds up to the US\$1.1 million total, designates equipment type, number of units needed, and number of each type of unit that is feasible for each municipality (see Annex III-2 and III-3). The last feature will help to avoid the monopolization of the credit by a few rich municipalities.

The list is based on a calculation of feeder road maintenance equipment needs, in accordance with the DGV's supervisory responsibility under the Cooperative Plan (see Section III.C.3.). DGV approval of duty-free equipment purchases is already required by law (see Annex III-4).

Equipment purchases through this line of credit will also be conditioned upon approval of the Comptroller General of the Republic, who will attest to the municipality's fiscal capacity to undertake such debt. The Comptroller General will also verify that subsequent annual municipality budgets include sufficient funds for amortization of these equipment purchases, before approving these budgets. Approval by the Comptroller General of duty-free equipment purchases by the municipalities is already required by law (see Annex III-4), as is the annual approval of each municipality's annual budget.^{3a/} The Legislative approval normally required for municipality equipment loans over \$250,000 will be waived in the loan agreement.

Monitoring of equipment use will be carried out by the DGV under its normal supervisory control of Cooperative Plan work, and will be reviewed by the consultant.

3. Truckowners Fund

A US\$1.0 million loan to the GOCR to open a line of credit--

^{3a/} - Ley de Hacienda Municipal, Law No. 180 of August 28, 1923, as amended, Articles 13 and 14.

to be channeled through the Banco Nacional de Costa Rica (BNCR) and its 49 branches--for the purchase and installation costs of used "dead" or tandem axles, or small tow-trailers, for single-axle conventional trucks. Because financing is intended to reach small independent truckowners, it will be limited to those owning no more than two or three trucks. Since trailers and many axles are available locally, such purchases will be made with colones generated through the regular Special Letter of Credit system; any imported axles will be procured in the United States and purchased with dollars according to A.I.D. Letter of Commitment procedures.

The sub-loans will be made at an interest rate of about 6%, with a five-year amortization period and no down payment, with a grace period of up to six months. The BNCR will retain approximately 2% to cover expenses, and will transfer remaining interest and amortization payments to the Municipality Fund. The BNCR is the preferred intermediate credit institution because its many branches and their dispersion throughout the country, as well as their ongoing work with the Juntas Rurales de Credito, qualify it as the banking institution likely to be more accessible to small independent truckers.

In its administration of this fund, the BNCR will agree with GOCR (as advised by DGV) on such procedures as specifications for the

installations, pre-qualification of installation shops, inspection of trucks to be adapted to determine the mechanical feasibility, inspection of the trucks to be purchased, inspection of the installation, and a short (perhaps 3-day) trial period of the converted truck by the borrower, who will then sign a document testifying to his acceptance of the installation. Maximum tow-trailer capacity will also be specified (e. g. about 2-4 tons), in accordance with the capacity of the truck's motor, and, more important, in accordance with the project's intent of facilitating only the redistribution of the load that a trucker is accustomed to carry, rather than facilitating a substantial increase in that load.

These aspects of the fund will involve the hiring by the BNCR of an independent appraisal firm, as approved by AID/W, and may include the employment of an inspector, under the A.I.D. financing, to review and approve the installations. Condition precedent No. 11 to the first disbursement for consultant services requires that these specific procedures be contractually agreed to by the BNCR and GOCR (as advised by the DGV). For the benefit of USAID and the borrower, MC 1415.8 is reproduced in Annex III-4a, explaining AID/W inspection procedures.

In contrast to the Municipality Fund, this line of credit will be opened in its totality after the conditions precedent to the first disbursement for equipment are met. The Mission considered this desirable, since the fund is designed to create an atmosphere more conducive to vehicle load control,

and since such control is a major condition precedent to release of the second tranche for the maintenance program.

It is assumed that the fund will cover about 700 such axle or trailer purchases, each such financing averaging about US\$1500 colon equivalent. The fleet of single-axle trucks above 8000 kg in Costa Rica is estimated at 3,500--in other words, the fund could be applied to about 20% of the trucks in circulation. Few Costa Rican owners of single-axle trucks own more than two trucks; hence it can be assumed that this fleet is owned by 1000 to 1500 individuals.

Needless to say, it is not possible to predict how many of the truckowners will wish to borrow from the Fund, how many will have trucks at the end of their useful lives and therefore may be ready to replace their trucks with vehicles more suitable to the newly enforced standards, and how many may be operating under such marginal conditions that they would just as well be washed out of the system. Nevertheless, it is the Mission's judgment, shared by the General Manager of the BNCR, Ministry of Transport personnel, and the shops specialized in this type of installation that the approximately 700 installations which could be financed under the Fund represent a reasonable number in terms of demands on administrative and shop capacity. Should more resources be required, and should these installations prove to have a significant effect on the

success of the load control program, colon repayments might be returned to the fund to handle additional demand, or the loan agreement might be amended (see Section III .C.4 for more explicit justification of this approach).

C. Justification of Project Design

1. The Maintenance Problem

The various aspects of "the maintenance problem" are not very different in Costa Rica than in other developing countries:

(a) poor construction standards and vehicle overloading beyond road design specifications increase maintenance costs to unreasonable levels;

(b) budgeted maintenance funds are often diverted to construction--especially when central governments undertake economy programs--because of the political and economic power of those groups who have much to gain from highway construction--the equipment dealers, the road-building firms, and landowners to be benefited. Maintenance, in contrast, lacks a pressure group which will object strongly when funds are diverted from it;

(c) municipalities and cantons often succeed in diverting equipment from use in highway maintenance for purposes of feeder road

maintenance and other municipal construction activities. This is especially true in a small and democratic country like Costa Rica, where the lines of access from the lowest to the highest political levels are direct and short. Hence a highway department director with the best of intentions about maintenance priorities is often overruled by political priorities.

These recurrent features of the maintenance problem in developing countries underlie the fact that roughly forty percent of the funds appropriated for highway maintenance in Costa Rica over the last six years have been used for other purposes. This means that Costa Rica's Highway Administration needs more than an adequate maintenance equipment fleet and adequate budget commitments to guarantee that the required maintenance will be forthcoming. Aside from the GOCR contractual commitments to maintenance to be required in the loan agreement, the proposed project attempts to cope with the various features of the maintenance problem in three ways: the tranching disbursements, the Municipality Fund, and the Truckowners Fund.

2. The Tranche Approach

The original DGV-BPR project proposal was divided into three stages separated by one year, with a majority of the maintenance equipment purchases falling in the first stage. The Mission

altered this pattern to two almost equal tranches approximately eighteen months apart, with more than half the maintenance equipment falling in the second tranche (see Table IV-1). The project was divided this way so that the second tranche would represent significant leverage for the DGV, not to mention A.I.D., in resisting requests to divert equipment and budget appropriations after the first disbursement. This disbursement pattern carried the additional intention of easing the absorption by the DGV of such a large fleet of equipment; toward the same end, all expenditures on shop improvement and construction were placed in the first tranche.

The Mission's concern over the "absorptive capacity" of the DGV was also related to its interest in diminishing the probability of diversion of "unabsorbed" new equipment by the equipment-poor municipalities. Finally, the equipment purchases were weighted to the second tranche with the expectation of mobilizing the interest of the equipment dealers in favor of the performance standards required for the second stage-- principally, with respect to the passage and enforcement of a vehicle load control law, and the prevention of diversion of

maintenance funds

and equipment.^{4/}

3. Feeder Roads, Diversion, and the Municipality Fund

The municipal road boards ("Juntas Cantonales") are the only maintenance entities outside the Maintenance Department of the DGV. The municipalities, through the Juntas Cantonales, are legally responsible for feeder road maintenance, as determined in the General Public Roads Law No. 1851 of 1955 (Chapter 1, Article 2). According to this law, the sixty-nine cantons of Costa Rica^{5/} are legally authorized to raise funds for feeder road maintenance from:

- (a) levies on property bordering feeder roads ("detalles de caminos," Article 14);
- (b) "plusvalia" taxes on those property owners who have benefited from the improvements or construction of feeder roads bordering their property (Article 10); and
- (c) general appropriations from municipality budgets for feeder road maintenance (Article 11).

^{4/} The equipment dealers, unlike the atomized trucking industry, are a small group with interests in other sectors of the economy, and, especially important for the purpose being discussed here, in the communications industry. In the past, their association has done considerable promotion work in the area of highway construction, e. g., sponsoring Central American seminars on highway construction techniques, or taking care of Ministry of Transport entertainment expenditures for visiting delegations of international lending agencies looking into the possibilities of highway construction loans. The Mission has met with the equipment dealers' association, and it is clear that they understand that their interests are best served by the planned enforcement of vehicle load limitations and by fulfillment of the proposed maintenance program.

^{5/} The canton is the geographical designation of the administrative unit, the municipality.

In addition, a certain percentage of federal taxes on agricultural produce exported from a region revert to the municipalities, and can be earmarked for feeder road maintenance purposes.^{6/}

The detalles de caminos have been levied and collected with limited, although widely varying, degrees of success. The "plusvalia" taxes have never been levied, despite their further elaboration in Law No. 2719 of February 1961, probably because of the technical and political difficulty of determining the value increase accruing to a property owner due to road improvement.^{6a/} Municipality budget contributions to feeder road maintenance have varied considerably. Finally, the wealthier agricultural cantons have succeeded in raising feeder road maintenance funds, mostly through the tax reversion on produce they export from the region (principally in the cases of banana, sugar and tobacco production).^{6aa/}

^{6/} - The most important of these are the sugar, tobacco and banana taxes. On sugar, 1.25 colones per quintal of sugar cane reverts to the cane-producing municipalities, in proportion to the amount of cane delivered by each municipality to the mills; these funds are to be utilized in construction and maintenance of public roads (Law No. 2719 of February 19, 1961). In the case of tobacco, approximately 2.5% of the tax on cigarettes reverts to the tobacco-producing municipalities; the funds are to be used for feeder road improvement (Law No. 2072 of November 15, 1956). For bananas, 15% of the federal tax on bananas reverts to the banana-producing province of Puntarenas, and 10% to Limón Province; funds can be used for various purposes, one of which is feeder road improvement (Law No. 1842 of 12/24/54).

^{6a/} - The second IDB feeder road loan to Costa Rica, approved on 4/8/69, requires that within one year of the signing of the loan agreement, the GOCR will bring the "plusvalia" law into effect (Recommendation #6 of loan paper). The property valuations to be made will be based on a cadastral survey now being undertaken by the GOCR with A.I.D. financing.

^{6aa/} In practice, this type of tax achieves the same effect as a "plusvalia," without having to run through the technical and administrative complications. That is, the increased value of a producer's land owing to a feeder road is not determined at the discretion of public officials according to previously set, arbitrary measures--as in the case of the "plusvalia"--but, rather, according to the increased realized return marketed by the producer who benefits from the improved road. This direct linkage of the taxpayer's realized monetary return to his tax contribution probably explains the success of this tax in relation to the "plusvalia"--as well as to the other taxes.

In 1963, the Ministry of Transport initiated a "Cooperative Plan" for maintenance of cantonal feeder roads, supported by an annual budgetary appropriation. The plan was introduced because of, (a) the insufficiency of the taxes collected by the municipalities for feeder road maintenance; (b) the shortage of skilled maintenance personnel at the municipal level; (c) the economic inefficiency of financing and equipping for feeder road maintenance on such a small scale; and, (d) the DGV's desire to impose some supervision and system of priorities on the maintenance of feeder roads. By making available budgetary allocations for feeder road maintenance to the municipalities on a one-to-one matching basis (see budget figures in Annex IV-1), the Ministry of Transport hoped to encourage the municipalities to exploit to a greater extent the taxing powers already possessed by them for feeder road maintenance.

Under the Cooperative Plan, the Ministry makes maintenance contracts of two types:

(1) in those cantons which have taxed themselves to the point where they have been able to buy an adequate maintenance equipment fleet (only five cantons, see Annex III-3), the cantons provide the equipment and spare parts, and the Ministry provides fuel, labor, lubricants, repair services, and technical supervision; the funds are part of the annual budgetary appropriation for the Cooperative Plan;

(2) in the remaining cantons, the Ministry attempts to round out any existing maintenance equipment owned by a canton--or, if it is more economic, by a group of cantons--with equipment acquired specifically for the Cooperative Plan out of the annual budgetary allocation. The cantons supply what equipment they have (plus spare parts), and the Ministry supplies its Cooperative Plan equipment, fuel, lubricants, labor, repair work, and supervision. In contrast to the previous case, the costs are divided fifty-fifty between the Ministry and the cantons, equipment rental being included as part of total costs. When the cantons are in debt to the Ministry for their share of the total, the Ministry often reduces the debt by using Cooperative Plan equipment on maintenance of national and regional highways, or by allowing debt repayment in kind, in the form of spare parts needed for maintenance equipment in the national and regional highway fleet-- a rather ingenious device that helps the Ministry get around a spare parts procurement procedure that is more dilatory than that of the municipalities.

In both types of Cooperative Plan contracts, maintenance priorities are set by a commission composed of a representative of the Ministry of Transport, of the municipality, and of the local road board. In the case where several cantons unite to form a feeder road maintenance unit, the equipment complement spends a determined amount of time in each canton, in accordance with the priorities set by the commission.

The existence of the Cooperative Plan has not prevented the diversion of a certain part of the highway maintenance budget for national and regional highways to feeder road maintenance. The BPR estimates that about C\$3.0 million of recent annual maintenance budgets for national and regional highway maintenance have been diverted to feeder road maintenance and betterment--above and beyond funds allocated through the Cooperative Plan (for total annual "diversion" figures, see Annex IV-1).

Needless to say, the relatively well-developed local institutional system for dealing with feeder roads has played a role in successfully channeling pressures to divert funds for feeder roads away from highway maintenance. Through the proposed Municipality Fund, which will be administered largely independently of the Ministry, local pressure will be deflected away from the DGV's highway maintenance program to some extent, and at the same time, a well-developed local institutional structure will be stimulated to activate a dormant local self-help tax authority.

The equipment list on which the proposed Municipality Fund is based was originally part of the DGV-BPR project proposal to AID. The DGV-BPR hoped that the AID loan would include US\$1.1 million for the DGV to purchase equipment for feeder road maintenance carried out by the local road boards with technical assistance from the Ministry. The DGV-BPR expected that this purchase would alleviate considerably local pressures to divert DGV highway maintenance equipment. The Mission

decided, however, that these goals might be more efficiently accomplished by offering credit on favorable terms directly to the local road boards for purchase of feeder road maintenance equipment--each purchase requiring authorization by the DGV as suitable for the type of work required. This decision was based on the fact that

(a) feeder road maintenance is legally the responsibility of the local road boards;

(b) there is an already existing well-developed local tax authority for feeder road maintenance purposes;

(c) equipment procurement is a much easier procedure on the local level than on the national level--reflected by the fact that the local road boards have been replacing spare parts for their own equipment used in Cooperative Plan work, as required by the DGV, and have paid part of their debt to the DGV in spare parts, because of the relative ease of such procurement at the local level;

(d) municipalities have made such equipment purchases at $10\frac{1}{2}\%$ interest, 5-year terms in the past through the Banco Nacional de Costa Rica and other banks; this demonstrates that there would not be a lack of demand for equipment purchased in this manner, once it was made clear that the Ministry of Transport was not going to supply the funds;

(e) any step that lessens the DGV's financial and administrative intertwining with the local road boards will help alleviate the

constant pressure by these local units to divert equipment from national and regional highway maintenance;

(f) there is an important difference in the Costa Rican "diversion" problem, in contrast to the way such maintenance equipment diversion occurs in many other developing countries. In Costa Rica, political pressure to divert highway maintenance equipment usually occurs in the form of a representation made by several dozen medium-size landowners to the Minister of Transport or the President of the Republic, requesting the use of highway maintenance equipment on a feeder road which borders their collective properties and has become impassable.

In many other developing countries, in contrast, a good deal of equipment diversion goes for private rather than public uses (e.g. for grading the access road to the plantation of a large and politically powerful landholder), or for public uses outside the highway sector (e.g., the grading of a site for a housing project). Since Costa Rica is more developed than many other countries with similar maintenance problems, public sectors outside the highway sector are not as equipment-poor as in these less developed countries, and hence the pressures for such inter-sectoral diversion are not as great.

Because of the smaller-size of landholdings in Costa Rica than in many other developing countries, the pressure of several dozen small landholders for maintenance of a feeder road is a public

rather than a private demand, and thus deserves some consideration in a scale of priorities for public financing. In contrast, the diversion of public maintenance equipment by a landholder for private use represents an economically unjustifiable use of scarce public capital. ^{6b/} In short, the purposes of the equipment "diversion" that the proposed project is attempting to eliminate are not, in themselves, socially wasteful, nor lacking in some economic justification.

Since there is a demonstrated demand by the local road boards and/or municipalities to buy feeder road maintenance equipment on credit, then it is economically inefficient for the equipment to be given to the municipalities. For this reason--and given the considerable possibilities for mobilizing local tax efforts for roads in Costa Rica--the Mission believes it desirable to open a line of credit to the local road boards for feeder road maintenance equipment.

6b/ In that one assumes that a landholder with enough political power to divert public equipment has enough financial power to buy or rent the equipment privately (or at least, that his private demands fall very low on a scale of priorities for scarce public funds).

4. Vehicle Load Control Problem and the Truckowners Fund

In 1964, the Ministry of Transport initiated a vehicle load control program in conjunction with the purchase of weighing station equipment under IBRD and IDB road construction loans.^{7/} Existing legislation^{8/} declared the circulation of overloaded trucks illegal, and authorized the Ministry to fine infractors. The legislation did not specify the fines to be charged, which were to be determined in each case by local judges ("Agentes Judiciales de Tránsito"). Vehicle load limits were set in accordance with norms adopted for all Central America.^{9/}

Intensive enforcement of vehicle load control was short-lived, and is now sporadic. Stations were manned less than twelve hours a day; judicial discretion in the setting and collection of fines facilitated evasion; weighing station inspectors, unprotected by armed guards, could be intimidated by angry truckdrivers; and the low salary of weighing station personnel made them susceptible to bribery. Just as important, responsibility for vehicle load control

^{7/} Four permanent and four portable units. The portable units have fallen into disrepair, and two of the permanent stations are only now being installed (San Isidro and Barranca). Of the two operating permanent stations, Cartago and Valencia, the latter no longer has significance because the road it covers is bypassed by the new San José-El Coco Highway.

^{8/} Executive Decree No. 2 of March 22, 1960; Executive Decree No. 3 of September 14, 1962; and Executive Decree No. 10 of December 15, 1963.

^{9/} See next page.

rested with the Auto Transport Administration (vehicle registration, license plates, etc.), which, although subordinate to the Ministry of Transport is nevertheless independent of the Highway Administration. Hence responsibility for protecting the heavy investment in highways fell outside the Highway Administration--the entity for whom it was of greatest interest to prevent damage to that investment. Responsibility for an institutionally difficult and politically unpleasant enforcement program was placed within an entity which had nothing to lose from highway damage.

Although two fixed scales are in operation eight hours a day at Cartago and Valencia, vehicle load control is, for all intents and purposes, not enforced in Costa Rica--as evidenced by casual observation of overloaded trucks on the highways; interviews with truckowners who have no compunctions about telling a government representative how much they overload in order to "break even;" by interviews with agricultural producers who relate how they build the body of their trucks to carry twice the load permitted by the law; by the fact that northward-bound trucks are often seen at the Nicaraguan border (where vehicle load control is vigorously enforced) dividing their load between two trucks; by the fact that auto body shops have

9/ In Law No. 3148 of August 6, 1963, Costa Rica ratified the Central American Agreement on Highway Traffic, formulated at the Fifth Meeting of the Committee for Economic Cooperation of the Central American Isthmus at Tegucigalpa (June 10, 1958).

had considerable business during the last few years from truckowners requesting the removal of "dead" or tandem axles installed in 1964 when the load control threat was credible;^{10/} and finally, by the detailed handwritten records kept at the weighing stations of the amount of overload.^{11/}

The proposed loan has been designed so as to try to overcome the considerable obstacles to enforcement of vehicle load control. (All items mentioned in this and the following paragraphs appear in conditions precedent to first disbursement No. 4, No. 7, No. 8; and conditions precedent to second disbursement No. 4, No. 5.) Transfer of responsibility for control will be made from the Auto Transport

^{10/} One of the five auto body shops specializing in this type of installation removed 100 such axles in the last three years. The truckowners' reason for requesting removal was that, since vehicle load control was no longer enforced, the extra axle was not worth the extra expenditure on tires and fuel. The same truckowner was ignorant of the saving he was making in wear and tear of his truck by having another axle on which to distribute his overload. This may simply illustrate the high costs of capital to such a truckowner, which cause current costs saved (tires and fuel) to be much more heavily weighted than anticipated future costs to be incurred (early breakdown of his truck).

^{11/} These detailed records show type of vehicle, authorized weight, actual weight, amount of excess, type of produce carried, origin and destination, and issuance of the ticket. They are in contrast to the common spectacle of overloaded vehicles on Costa Rican highways--a fine example of the futility of relying on a legalistic solution of the vehicle load problem.

Administration to the Highway Administration, the entity which has an investment to protect and is therefore likely to be more vigorous in seeking that protection. A vehicle load control bill now in the Congress sets fines per kilogram of overload (see Annex III-5), and authorizes the Ministry to detain a truck at a weighing station until the fine is paid; the specific designation of fines minimizes the degree of personal discretion that now prevails in the setting and paying of the fine.

The conditions precedent also require that vehicle legislation allow the Ministry to detain a truck until the excess cargo is offloaded, whether or not the fine is paid. The scales to be purchased under the loan will have automatic recording devices, so that there will be an untamperable record of overweight that can be used for monitoring. Considerable increases in the salaries of weighing station inspectors will be required, as well as the placement of weighing stations in clear view of the highway with appropriate marking, the clearing of right-of-way in order to allow for the offloading of excess cargo, and the placement of barriers to prevent truckowners from braking rapidly and damaging the scales (a common and deliberate occurrence). The three fixed scales to be purchased with loan funds will be located at the Nicaraguan border (Peñas Blancas), the Panamanian border (Paso Canoas), and Cartago. The Cartago scale will be a replacement of the

existing manually-operated Spanish-style scale, which cannot be used with automatic recording devices.

The degree of emphasis placed on vehicle load control in this project is based on the Mission's concern that without it maintenance costs will still be so high that the user savings that should result from the proposed project will not be realized, and that adequate maintenance will not be possible. Because vehicle load control is one of the most difficult institutional accomplishments, the Mission is not fully satisfied with total reliance on the conditions precedent and covenants for achievement of this essential feature of the project. The line of credit to be offered to small and medium-sized truckowners is intended to build into the project an additional incentive toward the successful enforcement of vehicle load control.

The following observations formed the basis of the Mission's decision to include this line of credit as part of the project:

(a) Eighty-five percent of Costa Rica's heavy trucks in circulation over 8,000 kg are conventional trucks with a single rear axle. The gross weight authorized these trucks by law

is 12,000 kg, but most truckowners load the vehicles to about 20,000 kg. The bulk of the Costa Rican trucking industry is highly atomized, with most truckers owning one or two trucks; they are unorganized, and compete severely with each other. ^{12/}

The larger trucking firms as a group (the largest in the country owns 32 trucks and tractor-trailers) probably account for much less total overloading because of their small percentage share in total trucks; because they are usually engaged in inter-Central-American traffic, and therefore have to conform to load controls which are enforced in Nicaragua; ^{13/} and, most important, because they are more aware of the costs they impose upon themselves (in spare parts and shortened vehicle life) by overloading beyond factory authorized limits; this consciousness, in turn, is in part dependent on the fact that access to capital is not so difficult or costly for them as it is for the small truckowner--thus, anticipated future savings accruing from

^{12/} When an attempt to enforce load control was started in 1963-64, an incipient trucker organization was formed with the purpose of trying to impose higher rates; but as soon as it became clear that load control could be evaded, the organization dissipated.

^{13/} Two of the five Costa Rican shops specializing in "dead" axle installation have as their major customer a large Costa Rican trucking firm which has become engaged increasingly in Central American traffic, and therefore has to comply with Nicaraguan vehicle load enforcement.

careful treatment by the large trucker of his vehicle fleet have a higher present value, in relation to increased current returns from overloading, than in the case of the independent, capital-poor truckowner.

As related to the proposed project, to the extent that a modern highway system requires a modern system of maintenance and vehicle load control, the "modern" trucker is more technically and financially capable of complying with load control regulations. The purpose of the Truckowners Fund is to provide to the "primitive" truckowner one of the components of this modernity-- i.e. a lower cost of capital and a "way out" which makes compliance with vehicle load control less economically irrational to him. When faced with the alternative of (1) risking considerable current losses by overloading and hoping to evade the scales, the fines, and the enforced offloading of excess, or, (2) undertaking a commitment to make low-interest future payments on an installation that will eliminate the need to run the risk of current losses, the capital-poor truckowner will find it economically rational to accept the latter alternative: the present value of the future costs of debt service will be lower to him than the risk of high current losses at the weighing stations.

(b) The Mission originally considered financing the purchase of tandem trucks by those small truckers willing to trade in or scrap their single-axle trucks, but was concerned about stimulating an undue increase in the country's trucking fleet (which has been growing at a rate of about 10% during the last six years). Also, the apparent severe competition among small truckers indicates that the industry might be better off if many marginal enterprises perished with the onset of vehicle load control. This would leave a higher percentage of modern streamlined trucking services in Costa Rica.

On the other hand, the rugged topography and small landholding patterns characteristic of Costa Rica probably make it desirable to continue to have a substantial supply of "divisible" trucking services--i.e. the small farmer is not able to provide large and guaranteed long-term loads to his supplier of trucking services. Moreover, the rugged terrain, where much of the country's small farming takes place, is not suitable for larger sophisticated trucking equipment. Both factors indicate an economic need for some supply of small-trucker services.

Furthermore, the man who buys his own truck and thereby gains economic independence and social status is an important phenomenon in much of Latin America. The Mission was concerned about the possibility of destroying completely this phenomenon--and the chance for upward social mobility that it represents--by a brusque introduction and enforcement of vehicle load control.

Lastly, it should be remembered that the Truckowners Fund was not only conceived as an attempt to help out the small truckowner, but, just as important, as a pre-emptory maneuver to diminish the truckers' inevitable resistance to vehicle load control--a resistance which could decrease considerably the chances for enforcement.

(c) The proposed financing is not intended to ward off the organization of truckers to set and increase freight rates, but rather to attempt to diminish the trucker's resistance to load control. Trucking freight costs are considered average-to-low in Costa Rica. If load control resulted in an increase in these costs, it would mean that a part of the cost of road building and maintenance was being transferred from the Government to the users of road services, and more important, that the resulting decrease in road damage was producing a decrease in the total unit costs of road building and maintenance in the country.

(d) Timing is right for the enforcement of vehicle control limits for a reason other than the fact that a heavy investment is being made by Costa Rica in modern construction and maintenance practices. Nicaragua is the only Central American country which has successfully imposed a vehicle load control program, in accordance with the standards established by Central American agreement of 1958. Evidence of this control was cited above: the division of load between two trucks at the

Costa Rica-Nicaragua border, and the gradual adaptation by international trucking companies of their hauling practices for all Central American countries to Nicaraguan limits. In this sense, Nicaragua's load control program provides an "external economy" to the Costa Rican highway sector, to the extent that Costa Rican roads are traversed by such international traffic. The existence of effective load control in a country bordering Costa Rica makes it much easier for Costa Rica to start its program, for Nicaragua has already taken the most difficult pathbreaking steps to breaking the resistance of inter-Central-American traffic to load control. ^{14/}

(e) Many independent Costa Rican truckers had installed "dead axles" in 1963-1964, when they believed that load control would be enforced; when they saw that enforcement could be evaded, they had the axles removed. One of the major shops dealing in these axles has requests to take them off from those truckers who work only in Costa Rica, and

^{14/} Nicaraguan roads are better and flatter than those in Costa Rica, so that per-haul operating costs would be lower in Nicaragua; therefore, the per-haul loss imposed on the trucker by load control would not be as great in Nicaragua as in Costa Rica, where operating costs are higher due to poorer roads with greater grades and curvature. This might be one of the explanations for the success of the Nicaraguan program. Also, the "dead axle" functions better on flat and good roads, and hence the Nicaraguan roads offer to the trucker a better "way out" of the load control problem. On the other hand, since the justification of the Costa Rican road and maintenance investment is to upgrade its road conditions, this possible rationale for the difficulty of load control in Costa Rica should lessen considerably.

requests to install them from those truckers who haul in, and/or pass through, Nicaragua. In the past two or three years, three shops specializing in such installations have installed about 70 axles--"dead" and tandem, used and new. Hence, there seems to be sufficient evidence that a credible load control program will generate demand for the installation of dead or tandem axles.

(f) The Mission decided to include tow-trailers as a possibility for such financing, since in some cases, the truck-driver may find this solution more mechanically feasible--given the type of vehicle he owns, and given the type of terrain or road surface he is accustomed to traverse.

(g) The Mission considered it important to limit the financing to used "dead" and tandem axles because the new units are exceedingly expensive (US\$3000-US\$5000) in relation to the fact that they will be installed in used trucks. Moreover, because of the Mission's concern about limiting access to this fund to the small truckowner, and because larger trucking firms often buy new axle kits, it was believed that the availability of financing for new axles might result in the credit being used up by those truckers who could most afford the purchase on their own (despite the limit on number of trucks owned that will be placed on qualification for

this financing).

Finally, the relative capital scarcity of a country like Costa Rica is notably apparent in the age of vehicles seen on city streets and roads, in the abundance of vehicle repair shops, and in the degree to which repairs are made on seemingly worn-out equipment. In the US, in contrast, the cost of repair is higher than replacement much earlier in the life of a vehicle. (Note that the DPR estimates an average life for the DGV maintenance equipment at one-and-a-half times the standard average life in the US, precisely because of these cost factors).

It is the Mission's judgment that, by adapting the loan to Costa Rican realities, the prospects for successful execution of the project will be considerably enhanced. Moreover, an array of insurance measures (e.g. prequalification of shops, inspections etc., see Section III. B.3) will be implemented to minimize the "used equipment risks."

It is hoped--because of the consultant's and DGV's monitoring of the vehicle load control program, because of the heavy dependency of the second disbursement on enforcement of that program, because of the

DGV's strong interest in taking over responsibility for the program and carrying out the conditions precedent, and because of the financing to truckowners to adapt their vehicles to load enforcement--that the project will be able to overcome the substantial obstacles to achievement in this sector.

SECTION IV : FINANCIAL ANALYSIS

Annex IV-1 shows a complete accounting of the DGV's receipts and expenditures over the past eight years, and a projection of these figures through 1973. All figures and percentages in the following discussion are based on this table.

A. Funding Requirements

The proposed maintenance project consists of US \$4.7 million for maintenance equipment, ^{1/} spare parts and shop equipment; and US\$356,000 for foreign consulting and training; amounting to US \$5.1 million to be financed by AID (see accompanying table). The borrower will contribute US \$429,000 of local currency equivalent for local costs of consultants and training, improvements and construction of maintenance headquarters and shops, and inland freight.

In addition to these expenditures, it is estimated that the proposed project will increase the DGV's annual operating costs for highway maintenance by a total of US \$4.0 million equivalent during the 1970-1972 period. Adding this to the GOCR US \$429,000 contribution to project expenditures, the total GOCR contribution to the proposed program amounts to US \$4.4 million equivalent--47% of total program expenditures.

B. Financial Schedule

Project funds will be disbursed in two stages, the first disbursement scheduled for December 1969, after fulfillment of the conditions precedent--followed by an approximately eighteen-month period during

1/ Including 10% additional for possible price increases.

TABLE IV-1

ESTIMATED COST OF PROJECT, 1969-1972
(US\$1000)

ITEM	FIRST PHASE				SECOND PHASE				TOTAL	
	1969		1970		1971		1972		GOCR US\$ Equiv.	AID US\$
	GOCR US\$ Equiv. ^{a/}	AID US\$	GOCR US\$ Equiv.	AID US\$	GOCR US\$ Equiv.	AID US\$	GOCR US\$ Equiv.	AID US\$		
Maintenance Equipment ^{b/}	-	1840	-	-	-	2064	-	-	-	3904
Spare Parts (15%)	-	276	-	-	-	310	-	-	-	586
Shop Equipment	-	240	-	-	-	-	-	-	-	240
Inland Freight	23	-	-	-	20	-	-	-	43	-
Maintenance Hdqrs. and Shops	114	-	113	-	-	-	-	-	227	-
Training	20	15 ^{c/}	39	13	39	12	-	-	98	40
Consultants ^{d/}	4	16	21	121	18	90	18	89	61	316
Subtotal (Project)	161	2387	173	134	77	2476	18	89	429	5086
Increase in operating costs ^{e/}	<u>0</u> ^{f/}	-	<u>1263</u>	-	<u>1338</u>	-	<u>1398</u>	-	<u>3999</u>	<u>0</u>
Total (Project & Program)	161	-	1436	-	1415	-	1416	-	4428	5086
% Participation									46.6%	53.5%

^{a/} ₤ 6.65 = US\$1.

^{b/} Includes 10% addition for possible price increases (see equipment list Annex V-8).

^{c/} Includes US\$9000 for training equipment (see Annex V-11).

^{d/} Due to proposed project. (See Annex V-13 for breakdown of consultant costs.)

^{e/} Total operating costs from Annex IV-1, minus local costs of A.I.D. project, minus ₤7 million per annum as estimate of maintenance expenditures without A.I.D. project.

^{f/} Equipment is estimated to arrive in late 1969--early 1970.

which the DGV will fulfill the conditions precedent to release of the second tranche. This two-stage approach is intended to facilitate the financial and technical absorption of the equipment by the DGV, and to allow sufficient time for fulfillment of certain conditions precedent and performance measures which would be impossible to meet before the first disbursement.

The first tranche amounts to US\$2.5 million, and the second, US\$2.6 million. The respective amounts for maintenance equipment only are US\$1.8 million in the first tranche, and US\$2.1 million in the second. The project was divided in this manner so as to leave more than half of the equipment purchases for the second phase. Expenditures on scales, shop equipment, construction and improvement are all in the first tranche, in order to capacitate the DGV for operation and servicing of the project equipment, and for enforcement of the vehicle load control program.

C. Source and Application of Funds

The DGV receives all domestic receipts from its annual budgetary appropriation; all expenditures are requisitioned through the Ministry of Finance, on the basis of monthly allotments. Where bulk purchases are desirable--as in the case of spare parts--longer term allotments have been allowed by the Finance Ministry. There are no additional revenues which automatically accrue to the DGV or Ministry of Transport. Although user taxes are collected--as well as non-user taxes which were

set up by law to finance foreign debt amortization of highway loans-- these specific revenues are nevertheless brought together with all other Central Government receipts into a single fund, the Caja Unica. Even the tolls collected on the San Ramón-El Coco highway, which were calculated so as to cover debt amortization on and maintenance of the road, are deposited in the Caja Unica. Annex IV-2 shows a breakdown of the tax and non-tax receipts of the Caja Unica, and Annex IV-3 shows a functional breakdown of expenditures for 1966-1968 with projections for 1969-1970.

The GOCR annual budgetary law specifies allocations for DGV administration (¢6.7 million for 1969), maintenance (¢13.9 million), highway construction (¢10.0 million), feeder road construction (¢7.7 million), and Cooperative Plan construction (¢2.8 million).^{2/} The budget law does not now distinguish between national-regional-IDB road maintenance, and other maintenance expenditures; the DGV will introduce such a distinction, however, in the 1970 and successive budget laws (see condition precedent #5 to first disbursement).

The GOCR annual budgetary law is usually implemented by "extraordinary" budgets, also approved by Congress, during the course of the year. The 1969 budget law (December 29, 1968) provides ¢41.1 million

^{2/} These figures are not consistent with the DGV budget figures because of differences in the method of preparation of the DGV internal budget.

for the DGV, and it is expected that the DGV will receive total budgetary receipts (ordinary plus extraordinary) of ₦44.5 million by the end of the year.

D. DGV's Financial Capacity to Support Proposed Maintenance Program

The proposed project requires that the DGV increase its annual budgeted expenditures on highway maintenance from ₦11-12 million to ₦13-17 million a year. This amounts to a 20-50% increase, or, if estimated diversion is excluded from past figures, the project requires an increase from ₦5-6 million to ₦13-17 million a year, more than double the past levels (see accompanying table).

Although the percentage increase is substantial, it is not unreasonable in terms of the past growth rate of DGV expenditures, the share of total projected DGV costs in total GOCR receipts, or in terms of the share of projected maintenance expenditures in total DGV expenditures. During the 1962-1968 period, DGV budgetary receipts have varied between 5% and 11% of Central Government receipts. In 1967 and 1968, these shares were 10.2% and 7.3%. When projected for the years of project implementation (1969-1972), DGV total expenditures ^{3/} fall well within this same percentage range of projected Central Government revenues (see Annex IV-2 for projection of Central Government revenues). Finally, the annual rate of increase of projected DGV expenditures necessary to

^{3/} Including GOCR contributions to anticipated foreign-financed road construction projects.

TABLE IV - 2
ACTUAL AND PROJECTED RECEIPTS AND EXPENDITURE OF GOCR, DGV,
AND MAINTENANCE DEPARTMENT
 (@1,000,000 current)

	ACTUALS							PROJECTIONS			
	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
GOCR receipts ^{a/}	381.1	385.7	433.4	473.6	523.0	541.0	636.6	652.0	687.6	715.1	743.7
DGV expenditures ^{b/}	21.0	30.5	39.4	49.1	55.7	55.4	46.2	44.5	57.4	61.6	70.8
DGV/GOCR	5.5%	7.9%	9.1%	10.4%	10.7%	10.2%	7.3%	6.8%	8.3%	8.6%	9.5%
Maintenance expenditures ^{c/}	3.9	6.9	6.6	8.6	7.1	6.6	7.2	13.1	16.6	16.4	16.4
Maintenance/DGV	18.6%	22.6%	16.8%	17.5%	12.7%	11.9%	15.6%	29.4%	28.9%	26.6%	23.2%
Cost increase over 1968 due to project								5.9	9.4	9.2	9.2
% increase over previous year								81.9%	7.9%	-	-

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Average Annual Increase (Constant ₡)	1962-1968	1968-1972
GOCR Receipts	8.7%	4.0%
DGV Expenditures	13.1%	11.3%
Maintenance Expenditures	10.7% ^{d/}	23.0%

^{a/} Source: Annex IV-2. 1971 and 1972 are projections of 1970 figure at 4% which is the average annual rate of the 1968-1970 increase; estimate is conservative, in light of the past GNP growth rate of 10%, and the past growth rate of GOCR expenditures at 8.7%.

^{b/} Source: Annex IV-1.

^{c/} Maintenance of National, Regional and IDB roads; source: same as ^{b/}.

^{d/} Current colones.

cover, among other things, the operating costs of the proposed project over the implementation period (11.3% p. a.) is no greater--and is even less--than this same rate of increase (in constant colones) during the 1962-1968 period (13.1%).

The constancy of this projected percentage is important for the implementation of the proposed project, not only because of the increased expenditures required for maintenance but also because the DGV budget is committed by international loan agreements to heavy local contributions for road construction during the 1969-1972 period. That the added costs of the proposed project--as well as local contributions to highway construction--do not cause projected DGV costs to rise above the usual relationship to Central Government receipts indicates that the maintenance program does not require unrealistic revenue projections. Hence, the priority claim for maintenance expenditures imposed on the DGV budget by the conditions precedent and covenants of the loan agreement should not put an excess strain on DGV or GOCR finances.

The accompanying table shows that the percentage share of highway maintenance expenditures (excluding diversion) in total DGV expenditures has varied between 11% and 23% since 1962. In 1967 and 1968, the percentages were 11.7% and 14.6%. This variance is almost totally a function of the change in expenditures for construction; the absolute amount spent for maintenance has remained more or less stable. During the project implementation period, the share of highway maintenance is

projected to increase to between 22% and 30% of DGV expenditures. This share is considerably higher than that of the last two years; but assuming that past diversion will decrease considerably, maintenance expenditure during the implementation period will not consume a significantly larger share of the projected DGV budget.

It should be added that although taxes are not earmarked for the transport sector, the total amount of user taxes, and of non-user taxes enacted specifically for amortizing foreign loans for highways, has more than covered DGV expenditures over the last eight years (see Annex IV-4). User taxes in themselves have more than covered DGV expenditures, which shows that the GOCR has been willing and able to tax the consumers of the highway services which it has supplied through such heavy investment.

CIAP's analysis of the over-all fiscal situation in Costa Rica provides a macroeconomic setting for the highway maintenance loan, and specifically refers to the loan as desirable and fiscally viable.

E. Sources of Financing of Various Road Construction Programs, 1969-1973

Annex IV-5 shows past, present, and anticipated future financing for road construction programs during the implementation period. The local contributions required for these projects are already taken into account in the DGV budget projections discussed above and shown in Annex IV-1.

F. Alternative Sources of Financing

On November 27, 1968, the IBRD made known that it was not

interested in financing the proposed project; on January 13, 1969, the Export-Import Bank; and on January 17, 1969, the Inter-American Development Bank.

G. Ability to Repay

As Annex IV-6 illustrates, GOCR debt service obligations are expected to remain at a fairly constant level through 1977. Costa Rican GNP has been rising at over 7% since 1965 and current prospects are for even more rapid growth during the next few years. Moreover, the Costa Rican balance of payments has been improving; anticipated continued progress, stimulated by strong export sales, should raise foreign reserves. In short, there is no reason at the present time to anticipate GOCR difficulties in meeting the obligations under the loan. Moreover, as Annex IV-6 shows, during the period of the loan's amortization (1980-2010), the average annual addition to GOCR foreign debt service attributable to the loan is less than 5% of average annual foreign debt service during the 1969-1977 period.

SECTION V - ENGINEERING ANALYSIS

A. Present Road System

The 1968 inventories of the highway and other surfaced road systems in Costa Rica show a total length of 6,131 kms.--including 1,475 kms. of national highways, 860 kms. of regional highways, 3,796 kms. of feeder roads, in addition to 12,300 kms. of dry weather dirt roads. About 50% of the national and regional highways, and about 3% of the feeder roads are paved (see Annex V-1). During the ten-year period 1958-1968, per capita mileage in Costa Rica increased from 2.59 kms. per-1000 inhabitants to 3.62 kms.--an increase of 40%.

The Ministry of Transportation is responsible for the maintenance of all national and regional highways, and 316 kms. of the feeder roads constructed with IDB financing. The remainder of the feeder roads are maintained by the municipalities.

The road construction program planned from 1969 to 1973, including funds anticipated from foreign lending agencies, is estimated to cost about 444 million, or US\$67 million. By 1973, this should result in the reconstruction of 683 kms. and new construction of 194 kms. of paved roads, and 79 kms. of gravel roads--all of which will be added to the maintenance program of the Ministry.

National Highways are defined as those connecting Costa Rica with a neighboring country, that join two or more provinces, two or more

cities with a population of 5,000 inhabitants, a city of 5,000 inhabitants with a national highway, an air or seaport, a railway or other center of importance. Regional Highways are those which service a certain region or province, and in addition connect cities of not less than 2,000 inhabitants, or join with another national or regional highway or other center of importance. Feeder Roads are all other surfaced public roads not included in the previous classifications. Plan Vial Roads are those constructed with foreign loan funds and include a number of feeder roads.

B. Technical Description of Project for Highway Maintenance

The loan is being made available for assistance to the GOCR for improved operation of the road maintenance program on national and regional highways and those feeder roads financed under Plan Vial for the operating period ending December 31, 1972. Funds will be used for the procurement of maintenance equipment and parts, shop equipment, training of highway department employees in the U. S. and Costa Rica, training equipment and materials and the services of a consultant. Project equipment will not be assigned to or used on feeder roads and/or streets (except in the case of IDB roads). Moreover, project equipment will be used only for routine maintenance and spot road betterment and will not be utilized in major betterment, reconstruction or new construction projects.

The project is designed to contribute to the development of a strong Maintenance Department within the Highway Administration, to equip the DGV with sufficient useable maintenance equipment, proper shop facilities for equipment repair, trained personnel, a satisfactory funding of the maintenance program, capacity to carry out a vehicle load control program, and a programmed operation that will allow proper maintenance of the road system.

C. Present Level of Maintenance

A detailed inventory and evaluation of road conditions by road group classifications was made by representatives of the BPR and the Highway Administration in 1967 and 1968. This evaluation showed that the maintenance level of the roads was as a whole unsatisfactory.

BPR - DGV EVALUATION OF COSTA RICAN ROAD CONDITIONS,
ACCORDING TO LEVEL OF MAINTENANCE, 1968

SYSTEM	Very Good - Good		Good - Fair		Fair - Poor		Total
	KM	%	KM	%	KM	%	KM
National ^{1/}	145.2	13.0	556.9	50.0	410.6	36.9	1,112.7
Regional	27.1	3.4	695.8	86.1	85.2	10.5	808.1
Feeder ^{2/}	<u>13.5</u>	5.9	<u>198.7</u>	86.4	<u>17.6</u>	7.7	<u>229.3</u>
TOTAL	185.8		1,450.9		513.4		2,150.1

^{1/} Does not include Interamerican Highway under reconstruction.

^{2/} Only roads built under IDB loan.

Bituminous surfaced roads usually develop potholes during the rainy season, caused to a large degree by, (1) poor drainage, and the lack of a surface seal, both of which allow water to infiltrate the base and sub-base courses, and (2) the traffic of overloaded vehicles. Shoulders, slopes and drainage ditches on a majority of the highways are in bad condition, and in many cases shoulders no longer exist, which leaves the road surface standing above the shoulder area. Gravel roads show the poorest maintenance. In some instances, this has been aggravated by poor design and construction, which increases maintenance requirements. The major problem is nevertheless the insufficiency of normal maintenance work for both the road surface and the road drainage.

D. Engineering Plan for Project Execution

1. Maintenance Plan: The BPR developed a "Highway Maintenance Plan for Costa Rica" during the 1966-68 period. The plan includes a detailed evaluation of the present Maintenance Department, including structural organization and operating procedures, and makes recommendations for improvement. The condition of present equipment and shop facilities is also evaluated, and recommendations are made for equipment purchases for maintenance, and for shop expansion, a training plan, and funding requirements. The BPR report, along with additional material made available by the

Ministry of Transportation, was used to support the loan application, the purpose of which is to request financial assistance for the continued work of the Maintenance Department on routine maintenance and spot betterment.

Routine Maintenance refers to the work necessary to keep a road in the condition in which it was constructed. This includes the maintaining of drainage channels and structures in good operating condition, removal of slides, maintenance of shoulders and slopes, and maintenance of the roadway surface in a uniformly satisfactory condition. Spot Betterment includes work done at specific points on the road in order to improve a condition such as widening of switchbacks, or to install or improve drainage structures, increase radii on sharp curves, change grades, etc. Major improvement or reconstruction of a road is not considered spot betterment and will be carried out by the construction division of the DGV.

In the past the facilities and funds of the maintenance division were often diverted to road reconstruction and new construction, much of this work having been done by force account. The Ministry has agreed to give maintenance operations priority, and has assured the Mission that all new construction and major betterment work--within certain established limitations--will

be executed on a contract basis by qualified firms (see Annex III-1, letter from the Minister of Planning, condition precedent #9 to the second disbursement, and covenant #5).

2. Organizational Structure of the Highway Administration

a. Present Organization

The operations of the DGV are divided into divisions which include Programming, Legal, Administration and Financial, Shops and Warehouses, Design, Laboratory, Construction and Maintenance. The DGV administers its operations from the central office in San José through six zone offices located in San José, Alajuela, Cartago, Liberia, San Isidro de El General and Limón. Each zone office is responsible for the work carried out within the zone and is supported as necessary by the central office, which has its own shops, warehouse and an equipment complement. The zone organization is divided into sections for the shops and warehouses, maintenance, Cooperative Plan work with the municipalities, force account and contract work, and bridges. The Maintenance Production Centers, located at quarries and gravel pits, produce aggregate and road surfacing materials.

b. Proposed Reorganization

The DGV has begun a general reorganization which will continue unless modified by the consultant's recommendations and is expected to be completed by the end of 1970. The changes relate primarily to organizational patterns, including the consolidation of the planning operations in one division, the establishment of a Supplies Division, and the centralization of Administrative Services. In addition, the sub-zone shops, to be designated as Maintenance Section Headquarters, will be increased from 5 to 17, their location depending upon geographical considerations.

Emphasis is being placed on better use of the administrative and operating staff and maintenance^{of}/facilities on first priority work--that is, maintenance of the national and regional highway network. Assistance to the municipalities and cantons, financed out of a separate budgetary allocation, will be considered second priority work (see conditions precedent #3 and #5 to first disbursement). The reorganization plan does not require a material increase in personnel but seeks better trained personnel, and a better organization for the administration of operations.

Annexes V-2, V-3, and V-4 show past, present and future organization charts. Annex V-5 shows the detail of the Maintenance Department and Annex V-6 illustrates a representative zone organization.

Annex V-7 is a summary of the qualifications of the Maintenance Department's key personnel.

3. Procurement: Procurement will be made in the United States by the Ministry of Transportation with the assistance of the consultant. Procurement procedures will meet all AID requirements including small business notification, reasonable price, insurance and shipping, etc.

4. Excess Property: Excess U.S. property will be considered in the procurement program. The DGV will seek assistance from AID in ascertaining the availability of such equipment for project use. The costs of inspection, acquisition, and any other charges incident to the DGV may be financed under the loan. Prior to the procurement of any goods other than excess property, the DGV shall indicate to AID in writing that such goods either cannot be made available from excess property on a timely basis, or that they are not technically suitable for the project. At least 10% parts will be ordered with any

excess maintenance equipment procured for the project.

5. Equipment Program: The BPR report included an evaluation of the equipment in the Department of Machinery and Supplies of the DGV. Each piece of equipment was classified by make, model and year, and its condition described as very good, good, fair, bad or unusable. The condition of the equipment as a whole was rated from fair to bad. Practically all equipment not rated as bad or obsolete had been purchased recently with foreign loans under the Plan Vial and Feeder Road Programs; the rest was purchased by the Ministry in the 1950's, and funds were not subsequently budgeted for regular replacement.

The percentage of certain types of DGV maintenance equipment that has already reached the obsolescence limit was reported by the BPR as follows: ^{1/}

Motor graders	55.9%
Crawler loaders	84.6%
Dump trucks	60.7%
Tractors, all sizes	54.3%
Rollers	53.3%
Concrete Mixers	64.6%
Compressors	55.1%
Pumps	73.9%

^{1/} The BPR calculates the useful life of maintenance equipment in Costa Rica as 1.5 times the standard useful life in the U.S.

The maintenance equipment to be purchased under the loan will be used primarily to replace obsolete equipment-- amounting to 69% of the project expenditures for equipment. Additions to the present inventory will cover the increase in new road lengths coming under maintenance, some additional traffic counters, scales for the expanded vehicle load control program, some quarry equipment, and some radio equipment for the maintenance engineers and warehouses.

Annex V-8 is a complete listing of the equipment to be purchased for the maintenance and production centers. Annex V-9 is an itemized justification for the purchase of the additional equipment which is not strictly for replacement and Annex V-10 lists the shop equipment to be purchased to supplement the Ministry's present inventory; Annex V-11 lists the training aids required to supplement Ministry training equipment, and Annex V-12 is a list of the equipment to be purchased by the DGV in the fourth year of the program (1972) for replacement; Annex III-2 lists the equipment to be purchased by the Municipalities through the AID line of credit to be administered by the Banco Nacional de Costa Rica, for feeder road maintenance under the Cooperative Plan.

6. Repair Shops and Warehouses: The Department of Shops and Warehouses is divided into two divisions: (1) Ministry and General Services, which oversees equipment control and repair, and building maintenance, and, (2) Procurement, responsible for procurement and warehousing.

Shops. Present shop facilities include the Central Shops in San José, six Zone Shops located at the zone headquarters and five Sub-Zone Shops. The proposed reorganization plan includes the Central Shop in San José, the six Zone Shops and seventeen Maintenance Section Headquarters which will include the present Sub-Zone Shops.

The Central Shop will do all equipment rebuilding, including motor overhauls and any special repair work which cannot be done in the zone shops. The Zone Shops will take care of general repairs on field equipment. The proposed Maintenance Section Headquarters will have fuel pumps and tanks and minor repair equipment.

The equipment to be procured under the loan will be used to supplement the equipment in the Zone and Maintenance Section Headquarters Shops. The Central Shop was modernized in 1964 and will not have to be improved at this time. The shop reorganization has been initiated, and the shop

administrator was recently changed from a mechanic to an engineer. The Central and Zone shops appear to be well organized and are unusually well kept as repair facilities.

Warehouses. The Central Warehouse is located in the Central Shop and Sub-warehouses are located in the Zone Shops. Warehouse stocks are now controlled with IBM records; when the radio equipment to be procured under the loan is installed, the efficiency of the inter-warehouse operations will be considerably increased. The warehouses appear to be well organized and maintained.

Training. During the three-year implementation period, 13 technicians, 9 engineers and 9 engineering inspectors will be sent to the United States for three-month training sessions in various state highway organizations. An already-existing Ministry of Transportation training school will be reopened for the training of maintenance foremen, field crews, equipment operators and shop foremen and mechanics. The school will be operated by Costa Rican instructors under the supervision of the consultant. The training school, now partially equipped, will obtain additional equipment and training material funded under the loan (see Annex V-11). A maintenance manual will be

developed for the school, covering equipment maintenance and highway maintenance, so that training can be carried on in an orderly manner after the three-year loan period.

8. Consultants. Since the type of road maintenance project proposed in this loan has already been executed successfully in the past by private consultants, it would appear that private consultants should be used in this case so as to be consistent with PD 33 and M.O. 1425.1.1, August 22, 1967. The Minister of Transport and the Director of the DGV have agreed to the use of private consulting firms.

It is anticipated that four foreign and/or local technicians would be used on the project--two for 39 months, one for 36 months, and one for 12 months. The Ministry would furnish additional local personnel support as needed. Loan funds would be used for the consultant's dollar costs and the GOCR would finance his local costs, in addition to making available office space and facilities, transportation and supporting personnel (see Annex V-13 for estimate of consultant costs).

The foreign staff responsibilities would in general be as follows:

(1) Supervisory Highway Maintenance Engineer, 39 months.

As project manager, would be responsible for the administration of the consultant's operations; should be qualified to evaluate field maintenance shop and warehouse operations; would contribute to the development of the maintenance manual, and give general assistance in the operation of the training school.

(2) Field Maintenance Engineer, 36 months

Would spend major portion of time in the field, working with the zone maintenance offices and monitoring maintenance operations.

(3) Equipment and Training Engineer, 39 months

Would be responsible for technical assistance in the field on equipment operation and maintenance, and for technical supervision of the training school, would contribute to the equipment maintenance section of the Maintenance Manual, should be well qualified in the field of equipment use and maintenance.

(4) Administration and Organization Specialist, 12 months.

Primarily responsible for assisting the Ministry in

establishing the reorganization plan, programming, controlling planned operations, and developing a fiscal control over all fund allocations; would prepare an Organization Manual covering these operations; should be well qualified in organization and operations.

The consultants will review the maintenance organization and operational plans prepared by the BPR and DGV, including the vehicle load control program and, if necessary, make any recommendations they feel necessary to modify the plan; specific recommendations will be made as to the most appropriate type of fixed scales to be purchased, given the necessity for scales with automatic weight-recording devices, yet taking into account the difficulty of servicing electronic equipment in Costa Rica. The consultant will assist in the procurement of all equipment through review of specifications and assistance in procurement procedures. The consultant will also prepare monthly reports on the operation of the Maintenance Department, which will cover the various operations of the Department, and will be based on Department reports, as well as on field, shop and office observations.

The consultant will be employed through the normal procedure of advertising in the Commerce Business Daily.

9. Basis for Determining Project Items and Cost Estimates

The types and numbers of maintenance and shop equipment items were determined jointly by the BPR and Ministry, based upon detailed studies conducted during a period of almost two years. These studies consisted of an evaluation of the present condition of the DGV maintenance equipment and shop operations. Maintenance equipment to be purchased under the loan will be primarily for replacement of obsolete items, and for shop equipment related to expansion of field shops. The training equipment and facilities list was based on items needed to re-open and operate the training school, and drew on the previous operating experience of the school.

The cost of the consultants' technical services was estimated on the basis of the foreign technical personnel requirements necessary to meet the objectives of the loan.

The technical and financial requirements of FAA Section 611 have been met for this project.

10. Vehicle load control (see Section III.C.4.).
11. Implementation. Annex V-14 shows the implementation schedule for the project.

E. Evaluation of Previous Assistance to Highway Sector

AID Loan 515-L-009 for US\$2.1 million was granted in July 1963 for use in the reconstruction, improvement and construction of twelve sections of road (120.33 total kms) that were part of the Plan Vial. Although the original projected completion period was two years, there were numerous delays and cost increases due to change orders. Subsequently, five of the twelve contracts were rescinded and reassigned because of the lack of performance by the contractors. The last AID disbursement was made in June 1967, at which time two subprojects were still to be completed. By April 1969, these two projects were completed, the last project awaiting final approval by the BPR and the Ministry of Transport. The Ministry and the BPR will be required to certify satisfactory completion of the last project, if such approval has not been made prior to the first disbursement of funds for the consultant (see condition precedent No. 9).

All items not reimbursed and all expenditures after closure of the AID, IBRD and IDA loans have been paid by the GOCR. There are four IBRD subprojects still to be terminated by force account construction with GOCR funds; the projects were 90% complete at the end of CY 1968. The DGV anticipates completion by mid-1969.

F. Relationship to San Ramón-El Coco Highway, Inter-American Highway and Feeder Road Programs

There are three major road construction programs in progress fi-

nanced by multilateral lending agencies (see Annex IV-5): (1) construction of the San Ramón-El Coco highway, a 42-km continuation of the highway connecting San José with the El Coco international airport. The project is financed by CABEI (with AID funds), (2) the Inter-American Highway, financed jointly by USG grants (2/3) and Export-Import Bank loan financing (1/3), and supervised by the BPR, and, (3) the IDB feeder road program. The first stage of the IDB feeder road program is nearing completion and comprises 40 roads totaling 317 kms; the second stage loan, approved March 1969, finances the construction or improvement of 19 roads with a total length of 344 kms. All four loan agreements require that the Highway Administration commit sufficient funds for an adequate maintenance program, so as to guarantee the protection of the heavy investments being financed by these institutions.

G. Ability of National Highway Department to Execute and Administer
The Project

The DGV appears to have sufficient technical and administrative capacity to support the administration of the loan. At present it has 430 specialized personnel and 3,400 non-technical employees. The Administration has a continuing scholarship program for bringing new engineers into the organization in order to replace those lost through normal personnel turnover, and has been successful in maintaining its engineering staff requirements.

CERTIFICATION PURSUANT TO SECTION 611 (e) OF THE FOREIGN
ASSISTANCE ACT AS AMENDED

I, Lawrence E. Harrison, the principal officer of the Agency for International Development in Costa Rica, having taken into account, among other things, the maintenance and utilization of projects in Costa Rica previously financed or assisted by the United States, do herewith certify that in my judgment, Costa Rica has both the financial capability and the human resources capability to maintain and utilize effectively the capital assistance project, HIGHWAY MAINTENANCE EQUIPMENT LOAN.

This certification is based on, among other factors, a careful review of the financial assistance previously provided to the Costa Rican highway sector by the United States for construction, reconstruction and betterment of national, regional and feeder roads. In general, the projects were carried out in a competent manner, either by contract (under the supervision of the Highway Administration), or by the Administration under force account.

Although the Costa Rican Government will be sufficiently hard pressed for foreign exchange that the USAID recommends concessional terms for the financing of this loan, the Government is current in the payment of its debts, and can be reasonably expected to have sufficient foreign exchange to meet the payments on this loan. In fact the project investment in improved highway maintenance and control of vehicle loads

should alleviate investment requirements for highway maintenance and construction in future years.

The proposed loan will cover the cost of (1) new maintenance equipment, technical consultants' services and the supplementary training of supervisory and maintenance personnel, (2) a line of commercial credit to the Municipalities for the purchase of feeder road maintenance equipment, and, (3) a line of credit to independent truckowners for the purchase of axles and/or tow-trailers that will help adapt their vehicles to legal load limits.

Loan conditions and covenants will require adequate budgetary provisions for funds specifically allocated to the Highway Administration for maintenance of project roads. Furthermore there will be restrictions regarding force account construction and betterment. Loan conditions and covenants also cover enforcement of vehicle load legislation, and annual audits of the use of maintenance funds by the Comptroller General of the Republic. All conditions and covenants are designed to ensure the proper utilization of loan funds in the implementation of this capital assistance project.

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CHECKLIST OF STATUTORY CRITERIA

(Alliance for Progress)

In the right-hand margin, for each item write answer, or, as appropriate, a summary of required discussion. As necessary, reference the section(s) of the Capital Assistance Paper, or other clearly identified and available document, in which the matter is further discussed. This form may be made a part of the Capital Assistance Paper.

The following abbreviations are used:

FAA - Foreign Assistance Act of 1961, as amended by the Foreign Assistance Act of 1968.

App. - Foreign Assistance and Related Agencies Appropriations Act, 1969.

COUNTRY PERFORMANCE

Progress Towards Country Goals

1. FAA §.208; §.251(b).

A. Describe extent to which country is:

(1) Making appropriate efforts to increase food production and improve means for food storage and distribution.

(2) Creating a favorable climate for foreign and domestic private enterprise and investment.

REPLIES TO QUESTIONS IN THIS CHECKLIST
APPEAR BEGINNING AT PAGE 19 OF THIS ANNEX

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AID 1240-2 (1-69)

*(3) Increasing the public's
role in the developmental
process.*

*(4) (a) Allocating available
budgetary resources to
development.*

*(b) Diverting such
resources for unnecessary
military expenditure (See
also Item No. 18.) and
intervention in affairs of
other free and independent
nations. (See also Item No. 17.)*

*(5) Willing to contribute funds to
the project or program.*

AID 1240-2 (1-69)

(6) Making economic, social, and political reforms such as tax collection improvements and changes in land tenure arrangements, and making progress toward respect for the rule of law, freedom of expression and of the press, and recognizing the importance of individual freedom, initiative, and private enterprise.

(7) Adhering to the principles of the Act of Bogota and Charter of Punta del Este.

(8) Attempting to repatriate capital invested in other countries by its own citizens.

(9) Otherwise responding to the vital economic, political, and social concerns of its people, and demonstrating a clear determination to take effective self-help measures.

B. Are above factors taken into account in the furnishing of the subject assistance?

AID 1240-2 (1-69)

Treatment of U.S. Citizens

2. FAA §.620(c). *If assistance is to government, is the government liable as debtor or unconditional guarantor on any debt to a U.S. citizen for goods or services furnished or ordered where (a) such citizen has exhausted available legal remedies and (b) debt is not denied or contested by such government?*

3. FAA §.620(e)(1). *If assistance is to a government, has it (including government agencies or subdivisions) 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 steps to discharge its obligations toward such citizens or entities?*

4. App. B.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, what steps (will be) (have been) taken during loan negotiations to influence elimination of such distinctions?*

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5. FAA §.620(o); Fishermen's Protective Act. §.5. *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,*

a. *has any deduction required by Fishermen's Protective Act been made?*

b. *has complete denial of assistance been considered by A.I.D. Administrator?*

Relations with U.S. Government and Other Nations

6. FAA §.620(d). *If assistance is for any productive enterprise which will compete in the U.S. with U.S. enterprise, is there an 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?*

7. FAA §.620(j). *Has the country permitted, or failed to take adequate measures to prevent, the damage or destruction by mob action, of U.S. property?*

AID 1240-2 (1-69)

8. FAA §.620(l). *If the country has failed to institute the investment guaranty program for the specific risks of expropriation, in convertibility or confiscation, has the A.I.D. administration within the past year considered denying assistance to such government for this reason?*

9. FAA §.620(q). *Is the government of the recipient country in default on interest or principal of any A.I.D. loan to the country?*

10. FAA §.620(t). *Has the country severed diplomatic relations with U.S.? If so, have they been resumed and have new bilateral assistance agreements been negotiated and entered into since such resumption?*

11. FAA §.620(u). *What is the payment status of the country's U.N. obligations? If the country is in arrears, were such arrearage taken into account by the A.I.D. Administrator in determining the current A.I.D. Operating Year Budget?*

12. FAA §.620(a); App. §.107(a) and (b). *Does recipient country furnish assistance to Cuba, sell strategic material to Cuba, or permit ships or aircraft under its flag to carry cargoes to or from Cuba.*

AID 1240-2 (1-69)

13. FAA §.620(b). *If assistance is to a government, has Secretary of State determined that it is not controlled by the international Communist movement.*

14. FAA §.620(f), App. §.109. *Does recipient country have a communist government*

15. FAA §.620(i). *Is recipient country in any way involved in (a) subversion of, or military aggression against, the U.S. or any country receiving U.S. assistance, or (b) the planning of such subversion or aggression.*

16. FAA §.620(n); App. 107(b) and 116. *Does recipient country furnish goods to North Viet-Nam or permit ships or aircraft under its flag to carry cargoes to or from North Viet-Nam?*

Military Expenditures

17. FAA §.620(s). *What percentage of country budget is for military expenditures? How much of foreign exchange resources spent on military equipment? Is U.S. P.L. 480 or development assistance used for military purposes? Are country's resources devoted to unnecessary military expenditures to a degree which materially interferes with*

AID 1240-2 (1-69)

its development? (Consideration of these points to be coordinated with PPC/MAS.)

18. FAA §.620(v). App. §.119. *How much spent by country during current U.S. fiscal year for sophisticated military equipment purchased since January 1, 1968? Has corresponding amount been deducted from current OYB, or is the weapons purchase determined by the President to be important to U.S. national security? (Responses to these questions to be coordinated with PPC/MAS.)*

CONDITIONS OF THE LOAN

General Soundness

19. FAA §.201(d). *Information and conclusion on reasonableness and legality (under laws of country and U.S.) of lending and relending terms of the loan.*
20. FAA §.251(b)(2); §.251(e). *Information and conclusion on activity's economic and technical soundness. If loan is not made pursuant to a multilateral plan, and the amount of the loan exceeds \$100,000, has country submitted to A.I.D. an application for such funds together with assurances to indicate that funds will be used in an economically and technically sound manner.*

AID 1240-2 (1-69)

21. FAA §.251(b). *Information and conclusion on capacity of the country to repay the loan, including reasonableness of repayment prospects.*

22. FAA §.611(a)(1). *Prior to signing of loan will there be (a) engineering, financial, and other plans necessary to carry out the assistance and (b) a reasonably firm estimate of the cost to the U.S. of the assistance?*

23. FAA §.611(a)(2). *If further legislative action is required within recipient country, what is basis for reasonable expectation that such action will be completed in time to permit orderly accomplishment of purposes of loan?*

24. FAA §.611(e). *If loan is for capital assistance, and all U.S. assistance to project now exceeds \$1 million, has Mission Director certified the country's capability effectively to maintain and utilize the project?*

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

AID 1240-2 (1-60)

Loan's Relationship to Achievement
of Country and Regional Goals

26. FAA §.207; §.251(a). Extent to which assistance reflects appropriate emphasis on; (a) encouraging development of democratic economic, political, and social institutions; (b) self-help in meeting the country's food needs; (c) improving availability of trained manpower in the country; (d) programs designed to meet the country's health needs, or (e) other important areas of economic, political, and social development, including industry; free labor unions, cooperatives, and voluntary agencies; transportation and communication; planning and public administration; urban development; and modernization of existing laws.

27. FAA §.209. Is project susceptible of execution as part of regional project? If so why is project not so executed?

28. FAA §.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.

AID 1240-2 (1-69)

29. FAA §.251(b)(7). Information and conclusion on whether or not the activity to be financed will contribute to the achievement of self-sustaining growth.
30. FAA §.281(a). Describe extent to which the loan will contribute to the objective of assuring maximum participation in the task of economic development on the part of the people of the country, through the encouragement of democratic, private, and local governmental institutions.
31. FAA §.281(b). Describe extent to which program recognizes the particular needs, desires, and capacities of the people of the country; utilizes the country's intellectual resources to encourage self-government; and supports civic education and training in skills required for effective participation in governmental and political processes essential to self-government.

AID 1240-2 (1-69)

32. FAA §.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.*
33. FAA §.619. *If assistance is for newly independent country; is it furnished through multilateral organizations or plans to the maximum extent appropriate?*
34. FAA §.251(h). *Information and conclusion on whether the activity is consistent with the findings and recommendations of the Inter-American Committee for the Alliance for Progress in its annual review of national development activities.*
35. FAA §.251(g). *Information and conclusion on use of loan to assist in promoting the cooperative movement in Latin America.*

AID 1240-2 (1-69)

36. FAA §.209; §.251(b)(8).
*Information and conclusion
whether assistance will
encourage regional development
programs, and contribute to the
economic and political
integration of Latin America.*

Loan's Effect on U.S. and A.I.D
Program

37. FAA §.251(b)(4); §.102.
*Information and conclusion on
possible effects of loan on
U.S. economy, with special
reference to areas of sub-
stantial labor surplus, and
extent to which U.S. commodities
and assistance are furnished in
a manner consistent with improv-
ing the U.S. balance of payments
position.*
38. FAA §.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).*

AID 1240-2 (1-69)

39. FAA §.601(d). *If a capital project, are engineering and professional services of U.S. firms and their affiliates used to the maximum extent consistent with the national interest?*

40. FAA §.602. *Information and conclusion whether U.S. small business will participate equitably in the furnishing of goods and services finance by the loan.*

41. FAA §.620(h). *Will the loan promote or assist the foreign aid projects or activities of the Communist-Bloc countries?*

42. FAA §.621. *If technical assistance is financed by the loan, information and conclusion whether such assistance will be furnished to the fullest extent practicable as 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.*

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43. FAA §.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.*

Loan's Compliance with Specific Requirements

44. FAA §.201(d). *Is interest rate of loan at least 2% per annum during grace period and at least 3% per annum thereafter?*
45. FAA §.608(a). *Information on measures to be taken to utilize U.S. Government excess personal property in lieu of the procurement of new items.*
46. FAA §.604(a); App. §.108. *Will all commodity procurement financed under the loan be from U.S. except as otherwise determined by the President?*

AID 1240-2 (1-69)

47. FAA §.604(b). *What provision is made to prevent financing commodity procurement in bulk at prices higher than adjusted U.S. market price?*

48. FAA §.604(d). *If the host country discriminates against U.S. marine insurance companies, will loan agreement require that marine insurance be placed in the U.S. on commodities financed by the loan?*

49. FAA §.604(e). *If off-shore procurement of agricultural commodity or product is to be financed, is there provision against such procurement when the domestic price of such commodity is less than parity?*

50. FAA §.611(b); App. §.101. *If loan finances water or water-related land resource construction project or program, is there a benefit-cost computation made, insofar as practicable, in accordance with the procedures set forth in the Memorandum of the President dated May 15, 1962?*

51. FAA §.611(c). *If contracts for construction are to be financed, what provision will be made that they be let on a competitive basis to maximum extent practicable?*

AID 1240-2 (1-69)

56. App. §.112. *If loan is for capital project, is there provision for A.I.D. approval of all contractors and contract terms?*
57. App. §.114. *Will any loan funds be used to pay U.N. assessments?*
58. App. §.115. *Compliance with regulations on employment of U.S. and local personnel for funds obligated after April 30, 1964 (Regulation ?).*
59. FAA §.636(i). *Will any loan funds be used to finance purchase, long-term lease, or exchange of motor vehicle manufactured outside the United States, or any guaranty of such a transaction?*
60. App. §.401. *Will any loan funds be used for publicity or propaganda purposes within U.S. not authorized by the Congress?*
61. FAA §. 620(k). *If construction of productive enterprise, will aggregate value of assistance to be furnished by U.S. exceed \$100 million?*

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CHECKLIST OF STATUTORY CRITERIA
(Alliance for Progress)

COUNTRY PERFORMANCE

Progress Towards Country Goals

1. FAA §.208; §.251 (b).

- A. (1) Although agricultural production has increased faster than population, basic foods are still imported. The country is now intensifying efforts in order to increase rice production by at least 10 per cent per year and corn production by over 5 per cent. In 1966 corn production was stable and rice output increased only one per cent, but in 1967 corn production increased by 5.2 per cent and rice by 8.6 per cent. A slight increase in corn and similar or greater increase in rice production are expected in 1969. The National Production Council purchases and stores the basic grains at support prices fixed before the planting season; in most cases these support prices are higher than U.S. prices. The Council also distributes basic foods at fixed prices through almost 100 of its own outlets in low income areas.
- (2) Costa Rica is creating a favorable climate for foreign and domestic private enterprise and investment. Net private foreign investment is US \$10 to US \$15 million per year. The Constitution guarantees foreigners equal rights with Costa Ricans. Major tax benefits are given to encourage both, domestic and foreign investment.
- (3) Creation of an Export and Investment Promotion Center with significant public support; formation of rural electric and agricultural cooperatives and credit unions; universal primary education is really achieved and both secondary and university enrollments are growing by more than 10 per cent a year. Over 350 land titles are distributed each year.
- (4)(a) Because of the unusually small--by Latin American standards--military burden on the budget, and because of the effective democratic system of Costa Rica which exacts governmental responsiveness to popular needs, the GOOCR budget is heavily--90% or more--oriented toward economic and, particularly, social development.
- (b) Costa Rica has no military forces and is not intervening in the affairs of other free and independent nations.

- (5) The GOCR will contribute US \$4,428,000 equivalent, i.e. 46.6% of total cost of project. This includes the increase in annual operating costs due to the project between 1970 and 1972.
- (6) Tax measures taken by the GOCR increased tax collections over 25 per cent between 1966 and 1968. An AID-financed cadastral project is designed to lead to land reforms and has already increased revenues from property taxes. The Instituto de Tierras is attacking land tenure problems, and expects to distribute over 5,000 titles over the next five years. There is a historical respect for the rule of law in Costa Rica, for freedom of expression of the press and recognition of the importance of individual freedom, initiative and private enterprise. The independent court system is allowed 5 per cent of the national budget.
- (7) The GOCR adheres to the principles of the Act of Bogota and the Charter of Punta del Este.
- (8) The fiscal stabilization measures now being undertaken should encourage repatriation of capital invested in other countries by its own citizens.
- (9) The GOCR is showing a responsiveness to the vital economic, political and social concerns of its people. The Government has demonstrated a clear determination to take effective self-help measures as demonstrated by its efforts in education and taxation.

B. The above factors are taken into consideration in furnishing assistance to the Government's highway maintenance program.

Treatment of U. S. Citizens

2. FAA §. 620 (c).

No such problem is known to exist in Costa Rica at this time.

3. FAA §. 620 (c) (1).

No such actions have been taken or threatened in Costa Rica.

4. App. §. 106.

Costa Rica creates no distinctions because of race or religion in granting personal or commercial access or other rights otherwise available to U.S. citizens generally.

5. FAA §. 620 (o); Fishermen's Protective Act. §. 5.

Costa Rica has not seized, or imposed any penalty or sanctions against any U. S. fishing vessel on account of its fishing activities in international waters.

(a) Not applicable.

(b) Not applicable.

Relations with U.S. Government and Other Nations

6. FAA §. 620 (d).

Loan funds will not finance a productive enterprise which will compete with U. S. enterprise.

7. FAA §. 620 (j).

There is no recent history in Costa Rica of mob action directed against U.S. property. The Government provides adequate preventive police protection.

8. FAA §. 620 (l).

The investment guarantee program for inconvertibility and expropriation or confiscation is in effect.

9. FAA §. 620 (q)

Costa Rica is not delinquent on A.I.D. obligations except for an interest payment delinquency (US\$2,133.84 due July 1, 1968, and US\$2,133.06 due January 1, 1969) on a loan to the private coffee marketing entity, SICA, and a one-month interest and principal payment delinquency (US\$27,389.11 due March 27, 1969) by the government water authority, SNAA. SNAA has advised the Mission that a dollar check for payment has already been requested from the Central Bank; the check should be received by A.I.D. before April 30, 1969.

10. FAA §. 620 (t).

No such incident has occurred.

11. FAA §. 620 (u).

Costa Rica is not delinquent in its UN obligations.

12. FAA §. 620 (a); App. §. 107 (a) and (b).

Costa Rica does not (a) furnish assistance to Cuba nor are ships or aircraft under its registry permitted to carry equipment, materials or supplies from or to Cuba nor (b) does Costa Rica sell, furnish or permit any ships under its registry to carry cargoes to or from Cuba.

13. FAA §. 620 (b).

Costa Rica is not controlled by the international Communist movement. The Secretary of State has so determined.

14. FAA §. 620 (f), App. §. 109.

Costa Rica does not have a Communist Government.

15. FAA §. 620 (i).

Costa Rica is not in any way involved in (a) subversion of, or military aggression against, the U.S. or any country receiving U.S. assistance, or (b) the planning of such subversion or aggression.

16. FAA §. 620 (n); App. 107 (b) and 116.

Costa Rica does not furnish goods to Vietnam nor permit ships or aircraft under its flag to carry cargoes to or from Vietnam.

Military Expenditures

17. FAA §. 620 (s). What percentage of country budget is for military expenditures?

Costa Rica has no standing army, only an internal security force, and has no military expenditures.

18. FAA §. 620 (v), App. §. 119.

Costa Rica has not purchased any sophisticated military equipment since January 1, 1968.

CONDITIONS OF THE LOAN

General Soundness

19. FAA §. 201 (d).

The proposed loan is consistent with the laws of Costa Rica and the United States and its terms are considered reasonable by both the borrower and AID. The most concessional lending terms of the loan are neither excessive nor unreasonable for the Borrower nor higher than the applicable legal rate of interest in Costa Rica. Rates for relending of the Municipality Fund will be monitored to assure their reasonability.

20. FAA §. 251 (b) (2); §. 251 (e).

The project is economically and technically sound as demonstrated in the benefit-cost analysis contained in the Economic Analysis, as well as in the Engineering and Financial Analyses sections of this Capital Assistance Paper. The GOCR has submitted a formal loan application to AID (see Annex III-1) together with assurances which indicate that funds will be used in an economically and technically sound manner.

21. FAA §. 251 (b).

The terms of the loan are within the capacity of Costa Rica for repayment and there are reasonable prospects that the loan will be repaid.

22. FAA §. 251 (b).

The necessary substantive engineering and financial planning for the project have been completed (see Sections IV and V) and a reasonably firm estimate of the cost of the project to the US has been obtained (See Section IV and Table IV-2).

23. FAA §. 611 (a) (2).

Ratification of the loan agreement by the Legislative Assembly is required. No significant opposition to the loan is anticipated. Disbursement of the second tranche of the loan will be contingent on the prior passage and enforcement of legislation to limit vehicle weights and to impose penalties on the circulation of overweight vehicles.

24. FAA §. 611 (e).

The Mission Director has certified to the GOCR's capability to effectively maintain and utilize the project. (See Annex I).

25. FAA §. 251 (b).

No financing by other international lending agencies is available to the Borrower on feasible terms, nor does it appear that private sources within the United States would be interested in providing financing at terms which could be met by the borrower. (See Section v).

Loan's Relationship to Achievement of Country and Regional Goals26. FAA §. 207; § 251 (a).

- (a) The loan is to the GOCR and will be administered by the Highway Administration of the Ministry of Transport. One purpose of the loan is to strengthen the Administration's administrative and technical capacities, and to induce the Government to permanently provide the necessary funding to the Administration required to adequately maintain the country's road network.
- (b) The loan will not directly contribute to meet the country's food needs, however, properly maintained highways will facilitate movement of agricultural products, reduce losses through spoilage, reduce damage to vehicles and cost of repairs, thereby benefiting the agriculture sector of the country and stimulating self-help in meeting the country's food needs.
- (c) The loan provides US \$40,000 for training of Costa Rican highway maintenance personnel in the U.S. and the GOCR will contribute US \$98,000 local currency equivalent for training purposes. The training program provided for under the loan will therefore improve significantly the availability of trained manpower in the country (see Summary).
- (d) The loan has no direct effect on the country's health needs.

- (e) The loan is specifically designed to meet Costa Rica's long term transportation needs by providing the necessary highway maintenance equipment in sufficient quantity to properly maintain the country's national and regional highway system and the feeder roads constructed under the Plan Vial (see Section V).

27. FAA §. 209.

This type of project is more effectively administered by an individual country.

28. FAA §. 251 (b) (3).

This activity is consistent with, and closely related to other development activities being undertaken or planned and will contribute to realizable long range objectives as explained in Section I and II.

29. FAA §. 251 (b) (7).

The activity, which will improve road conditions and make it possible to keep open year-round many roads now impassable during the rainy season, will significantly contribute to self-sustaining growth, especially in regions which are now difficult to reach, or cut off for a large part of the year from the rest of the country.

30. FAA §. 281 (a).

The loan will contribute to the objective of maximum participation in the task of economic development on the part of the people of Costa Rica by enabling the Government to keep the lines of communication open to all parts of the country and thereby facilitate colonization, formation of rural cooperatives, private investment in agricultural development and the formation of democratic local government institutions through improved accessibility of municipal and central governments to the citizens especially in rural areas.

31. FAA §. 281 (b).

The program is designed to meet the transportation needs of the people.

32. FAA §. 601 (a)

The loan will contribute:

- (a) to the flow of international trade through proper maintenance of the highways linked with the Inter American Highway and with the major parts of the country.
- (b) to foster private initiative and competition by providing better access to existing and new markets for agricultural and industrial products, and by the reduction of transportation costs.
- (c) to facilitate the development and use of cooperatives, credit unions, and savings and loan associations, by facilitating communications between the capital and outlying rural districts.
- (d) not applicable in view of the nature of the loan.
- (e) to improvement in technical efficiency of industry, especially agro-industry, agriculture and commerce by improving road conditions and maintaining access between producers of agricultural products, processing plants and the consumer or harbors from which products are exported.
- (f) not applicable in view of the nature of the loan.

33. FAA §. 619

Costa Rica is not a newly independent country.

34. FAA §. 251 (h)

This activity is consistent with the findings and recommendations of the Inter-American Committee for the Alliance for Progress.

35. FAA §. 251 (q)

Improved communications through improved highway maintenance should assist the development of cooperatives in Costa Rica.

36. FAA §. 209, §. 251 (b) (8)

Improved communications and transportation resulting from improved highway maintenance should increase trade with other Central American countries and otherwise strengthen regional ties thereby contributing to the economic and political integration of Central America.

Loan's Effect on U.S. and AID Program

37. FAA §. 251 (b) (4); §. 102

US \$6,185,000 of the loan proceeds will be used for direct financing of procurement of goods and services from the United States under standard AID procedures; hence the loan will have a favorable impact on the US economy. As a result the US proportion of Costa Rican imports will be improved and permanent trading relationships strengthened, which should have a favorable effect on the US balance of payment position. The remainder of the loan, to be used for financing local costs, will be subject to special Letter of Credit procedures assuring that the dollars used to generate local currency will be spent in the United States.

38. FAA §. 601 (b)

The loan will significantly increase US exports to Costa Rica and will provide for private US consultant services. Thus US private trade and possibly investment in Costa Rica will be facilitated.

39. FAA §. 601 (d)

All engineering and professional services financed by the loan will be provided by US and/or Costa Rican firms.

40. FAA §. 602.

Loan agreement and implementation letters will include express provisions for US small business to have the opportunity to share equitably in the furnishing of goods and services financed under the loan.

41. FAA §. 620 (h)

Loan agreement will expressly provide thereagainst.

42. FAA §. 621

Technical assistance financed by the loan will be provided as professional services from private US enterprise on a contract basis. Costa Rican firms will also be eligible.

43. FAA §. 252 (a)

The loan is to a public borrower; however, the total US \$6,185,000 of the dollar loan proceeds will be used to purchase imports and services from private US entities except to the extent of possible procurement of US excess personal property.

Loan's Compliance with Specific Requirements

44. FAA §. 201 (d)

Interest rate of loan will be 2% per annum during grace period and 3% per annum thereafter.

45. FAA §. 608 (a)

The loan agreement will include express provisions for use of US Government excess personal property to the extent reasonably feasible.

46. FAA §. 604 (a), App §. 108

All proceeds of the loan will be spent for procurement from the United States either by direct financing or by special Letters of Credit.

47. FAA §. 604 (b)

The loan agreement and implementation letters will expressly provide against the financing of commodity procurement in bulk at prices higher than adjusted US market prices.

48. FAA §. 604 (d)

The loan agreement will expressly provide that if Costa Rica discriminates against US marine insurance companies, marine insurance on commodities financed by the loan must be placed in the United States.

49. FAA §. 604 (e)

Loan proceeds will not be used to finance off-shore procurement of agricultural commodities.

50. FAA §. 611 (b) App. §. 101

Loan proceeds will not be used to finance water and water-related land resource construction projects or programs.

51. FAA §. 611 (c)

Loan proceeds will not be used to finance construction.

52. FAA §. 620 (g)

Loan will not provide funds for compensation of land owners.

53. FAA §. 612 (b); § 636 (h)

The GOCR will include in its annual budgets the required funds to meet all local costs of contractual US consultant services. Dollar costs of contractual services will be paid out of loan proceeds.

54. App. §. 104

No loan funds will be used to pay pensions, etc. for military personnel.

55. App. §. 111

The regulations concerning loyalty and security clearance for US contractor personnel will be complied with.

56. App. §. 112

The loan agreement will contain a provision for AID approval of all contractors and contract personnel.

57. App. §. 114

No loan funds will be used to pay U.N. assessments.

58. App. §. 115

Regulation 7 will be applied.

59. FAA §. 636 (i)

No loan funds will be used for this purpose.

60. App. §. 401

No loan funds will be used for this purpose.

61. FAA §. 620 (k)

Loan funds will not be used for construction of productive enterprise.

GROWTH OF ECONOMY, PUBLIC EXPENDITURES, AND HIGHWAY SECTOR, 1962-1968

(1967 Constant \$ Millions)

Year	GNP	Popu- lation (Mil- lions)	GOCR Expendi- tures	GOCR Road Invest- ment ^{a/}	DGV Expendi- tures	User Tax Receipts	Total Kms. ^{b/} (1000's)	Gas & Diesel Consump- tion Million Gals.	Vehicle Fleet (1000's)
1962	3,364	1.3	475.3	23.4	22.7	43.4	3.5	24.0	36.5
1963	3,578	1.4	500.3	33.4	32.0	51.9	4.3	25.7	38.5
1964	3,586	1.4	539.3	40.4	40.0	61.6	5.4	28.3	41.5
1965	3,949	1.5	605.1	43.5	50.5	62.3	5.6	30.2	47.0
1966	4,225	1.5	698.1	48.1	32.0	76.1	5.7	35.1	55.1
1967	4,465	1.6	751.3	64.4	56.6	74.2	5.9	38.0	60.4
1968 ^{c/}	4,786	1.6	785.8	62.6	47.3	75.2	6.1	40.9	66.3
Average annual rate of growth	6.1%	3.1%	8.7%	17.9%	13.1%	9.6%	9.6%	9.3%	10.4%

Source: USAID/CR and DGV

^{a/} Including foreign financing

^{b/} Paved and gravel roads

^{c/} Estimates

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GROWTH OF ECONOMY, PUBLIC EXPENDITURES, AND HIGHWAY SECTOR , 1962-1968

(1962 = 100, Constant ¢ of 1967)

Year	GNP	Popu- lation	GOCR Expendi- tures	GOCR Road Invest- ment ^{a/}	DGV Expendi- tures	User Tax Receipts	Total Kms. ^{b/}	Gas & Diesel Consump- tion	Vehicle Fleet
1962	100	100	100	100	100	100	100	100	100
1963	106	104	105	143	141	120	120	107	105
1964	107	107	114	173	176	142	153	118	114
1965	117	111	127	186	223	144	158	134	129
1966	126	115	147	206	229	175	161	147	151
1967	133	118	158	275	249	171	166	158	165
1968	142	120	165	268	209	173	173	171	182 ^{c/}

Source: USAID/CR and DGV

a/ Including foreign financing.

b/ Paved and gravel roads.

c/ Based on DGV estimate.

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VEHICLES IN CIRCULATION IN COSTA RICA, 1967 ^{a/}

	Number	% of Total	Average Annual Growth Rate, 1962 - 1967 %
Passenger Cars	18,271	30.1	11.8
Station Wagons	3,947	6.5	8.8
Jeeps	7,554	12.5	10.2
Buses	2,215	3.7	10.1
Motorcycles	<u>11,432</u>	<u>18.9</u>	<u>9.4</u>
<u>Subtotal: Passenger vehicles</u>	<u>43,419</u>	<u>71.9</u>	<u>10.5</u>
Trucks ^{b/}	13,678	22.7	11.8
Other ^{c/}	<u>3,256</u>	<u>5.4</u>	<u>7.4</u>
<u>Subtotal: Freight Vehicles</u>	<u>16,934</u>	<u>28.1</u>	<u>10.9</u>
TOTAL	<u><u>60,353</u></u>	<u><u>100.0</u></u>	<u><u>10.6</u></u>

a/ Source: Auto Transport Administration.

b/ Includes pickups, panels, trucks, trailers.

c/ Agricultural vehicles and heavy construction equipment, such as motor graders, tractors, etc.

UNIT MAINTENANCE EXPENDITURE ON NATIONAL, REGIONAL AND IDB ROADS,

1966-1968, AND PROJECTED COSTS, 1969-1971

	1966	1967	1968	1969	1970	1971	1972
Maintenance expenditures (¢ millions) ^{a/}	7.1	6.6	7.2	13.1	16.6	16.4	16.4
No. of Kms. ^{b/}	2,253	2,355	2,555 ^{c/}	2,610	2,665	2,720	2,775
Colones per Km.	3,151	2,803	2,818	5,019	6,228	6,029	5,909
US\$ per Km.	474	422	421	755	937	907	889
US\$ per mile	763	679	678	1,215	1,508	1,460	1,431

BPR recommended expenditure per mile^{d/} US\$1,442

US\$ maintenance costs, per mile^{e/}

Gravel roads (3 states)	951
Bituminous (7 states)	1,125

Recommended maintenance expenditure^{f/}

On Inter-American highway, per mile	
Guatemala	1,812
El Salvador	1,506
Honduras	1,477
Nicaragua	1,702
Costa Rica	(1,408) ^{g/}

a/ Source: Annex IV.

b/ No. of new kilometers for 1969-1973 projected by dividing total number of new kilometers estimated for 1969-1973 (273) by five.

c/ Increase a result of DGV assuming responsibility in 1967-1968 for 220 Km of IDB feeder roads.

d/ Weighted average of BPR recommendation of US\$1,529 for National-Regional roads (88%) and US\$805 for IDB feeder roads (12%).

e/ Source: BPR, Highway Maintenance in Costa Rica, May, 1968.

f/ Estimated by International Road Federation in 1960 for 1960-65, cited in BPR.

g/ Does not include seal treatment.

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Costs Resulting from Vehicle Overloading

Data does not exist on the increased costs of maintenance and construction resulting from vehicle overloading, largely because of the difficulty of separating out the various factors that contribute to road deterioration. The American Association of Highway Officials (AASHO), however, has devised a series of "equivalence factors" for purposes of road design. These factors give, for the observed or projected traffic on a road, the equivalent number of 18,000-lb-loaded axles (roads are designed for weight per axle, rather than weight per vehicle).^{1/} For example, on a flexible pavement, a 36,000-lb-loaded single axle is equivalent, in terms of its effects on the pavement, to twenty-four 18,000-lb-loaded axles; that is, the equivalence factor for a 36,000-lb-loaded axle is 24 (it is exactly 24.2). Although the loaded axle in this example carries only twice the weight of an 18,000-lb-loaded axle, its effect on the pavement is as if twenty-four, rather than two, 18,000-lb-loaded axles had passed over it. In short, the relationship between increase in the load on an axle, and its equivalence to number of 18,000-lb-loaded axles is exponential. (Coincidentally, the maximum legal load permitted on a single rear axle in Costa Rica is about 18,000 lbs.)

Through these equivalence factors, data on vehicle overloading could be converted into traffic forecast data, for purposes of estimating the effects of such overloading on the life of the pavement. That is, overloading has the same effect as uncounted or underestimated traffic, which submits the road to greater levels of traffic than it was designed for, and therefore causes premature deterioration and requires earlier reconstruction than was expected. The cost of undertaking this construction prematurely can be taken as a proxy for the costs incurred by vehicle overloading--a measure which is conservative, since it does not include the increase in annual maintenance costs due to the overloading.

An idea of the effects of vehicle overloading in Costa Rica can be obtained through use of the AASHO equivalence factors (see accompanying table). In Central America, the maximum legal weight of a loaded single-rear-axle truck is about 27,000 lbs--with a maximum of 18,000 lbs permitted on the rear axle, and 9,000 lbs on the front axle. Estimates of the overload of Costa Rican trucks range from 50% to 100%.

^{1/} "Factors for Reducing Axle Loads to Equivalent Daily 18-Kip Single Axle Load Applications, AASHO Interim Pavement Design Guides," Machine Tabulation, August 1964. The equivalence factors used in the example below correspond to Structural Number 1; there is a series of equivalence factors for each of six structural numbers but the variance of these factors according to structural number is small, and not significant for the purposes of the example.

Taking a typical overloaded truck in Costa Rica, it is assumed that the overload is 70% in total, with 30% of the overload on the front axle and 70% on the back axle. The front axle then carries a real total load of 14,000 lbs, and the back axle, 31,000 lbs. In the case of the back axle, this means that what is counted in traffic forecasts for design purposes as an 18,000-lb-loaded axle (the legal limit), is really about twelve 18,000-lb-loaded axles, in terms of the effect of that axle on the pavement (the equivalence factor of a 31,000-lb-loaded axle is 12.08). In the case of the front axle, what is counted in the traffic forecast as a 9,000-lb-loaded axle (the legal limit), is equivalent to six 9,000-lb-loaded axles (the equivalence factor of a 9,000-lb-loaded axle is .05, and of a 14,000-lb-loaded axle is .32).

Single rear-axle trucks account for about at least 30% of the average daily traffic (ADT) counted on the roads to be maintained under the proposed project. Let it be assumed (conservatively) that 50% of this traffic circulates under the overloaded conditions described in the above example (i.e. 15% of total ADT). Let it also be assumed that the average of the equivalence factors for each overloaded axle in the example above gives a nine-truck equivalent for each truck counted as one in the ADT ($12+6+2=9$). This means that vehicle overloading is roughly equivalent to a 120% mistake in the traffic forecasts on which road design is based ($9 \times 15 = 135 + 85 = 220$). That is, real ADT's are 120% more than as calculated. Given the conservative assumptions underlying this estimation and given the fact that increased annual maintenance costs due to overloading are not included, the example provides a graphic picture of the essentiality of vehicle load control in a modern highway system.

EXAMPLE OF TRUCK OVERLOADING IN COSTA RICA

(lbs.)

	<u>Front Axle</u>	<u>Rear Axle</u>	<u>Total</u>
Legal load	8,800	17,600	26,400
Overload (70%) ^{a/}	<u>5,544</u>	<u>12,936</u>	<u>18,480</u>
Total load	<u>14,344</u>	<u>30,536</u>	<u>44,880</u>
AASHO Equivalence Factor ^{b/}	.32	12.08	
Equivalence to Number of Legally-loaded axles	6.4 ^{c/}	12.08	

a/ - Assumes 70% of overload on back axle, 30% on front axle.

b/ - Equivalence to number of 18,000- lb.-loaded single axles on flexible pavement.

c/ - Equivalence to number of 8,800-lb-loaded axles.

**TABLE III-1: ANNUAL COSTS AND DISCOUNTED PRESENT VALUES, DGV
MAINTENANCE PROGRAM, 1970-1978 a/
(₱1,000)**

Year	1 Nominal Cost	Discounted Present Value					
		2	3	4	5	6	7
		10% Discount Factor	Present Value	15% Discount Factor	Present Value	20% Discount Factor	Present Value
<u>1970 a' /</u>							
1. DGV program costs b/	8,399						
2. DEV project costs	2,221						
3. AID proaject costs c/	<u>16,731</u>						
Subtotal	27,351		27,351		27,351		27,351
<u>1971</u>							
1. DGV program costs	8,898						
2. DGV project costs	512						
3. AID project costs	<u>16,465</u>						
Subtotal	25,875	.909	23,520	.870	22,511	.833	21,554
<u>1975</u>							
1. DGV program costs	9,297						
2. DGV project costs	120						
3. AID project costs	592						
4. DGV equip. purchase d/	<u>3,100</u>						
Subtotal	13,109	.826	10,828	.756	9,910	.694	9,098
<u>1973</u>							
1. DGV program costs	9,900						
2. DGV equip. purch. e/	<u>3,100</u>						
Subtotal	13,000	.751	9,763	.658	8,559	.579	7,527
<u>1974</u>							
1. DGV program costs	10,400						
2. DGV equip. purch.	<u>3,100</u>						
Subtotal	13,500	.683	9,220	.572	7,722	.482	6,507
<u>1975</u>							
1. DGV program costs	10,920						
2. DGV equip. purch.	<u>3,100</u>						
Subtotal	14,020	.621	8,706	.497	6,967	.402	5,636
<u>1976</u>							
1. DGV program costs	11,466						
2. DG V equip. purch.	<u>3,100</u>						
Subtotal	14,566	.564	8,215	.432	6,292	.335	4,899

Year	1 Nominal Cost	Discounted Present Value					
		2	3	4	5	6	7
		10% Discount Factor	Present Value	15% Discount Factor	Present Value	20% Discount Factor	Present Value
1977							
1. DGV program costs	12,039						
2. DGV equip. purch.	3,100						
Subtotal	15,139	.513	7,766	.376	5,692	.279	4,223
1978							
1. DGV program costs	12,641						
2. DGV equip. purch.	3,100						
Subtotal	15,741	.467	7,351	.327	5,147	.233	3,667
Subtotal (Positive Costs)	152,301		112,720		100,148		90,444
1979 (Salvage Value) g/							
1. 1970 equip. costs	-837						
2. 1971 equip. costs	-2,058						
3. 1972 equip. costs	-775						
4. 1973 equip. costs	-1,163						
5. 1974 equip. costs	-1,550						
6. 1975 equip. costs	-1,938						
7. 1976 equip. costs	-2,325						
8. 1977 equip. costs	-2,713						
9. 1978 equip. costs	-3,100						
Subtotal (Negative Costs)	-16,459	.424	-6,978	.284	-4,674	.194	-3,193
GRAND TOTAL	134,842		105,742		95,474		87,251

a/ Analysis is extended until 1978 because the average useful life of the project equipment is assumed by the BPR to be roughly eight years. Although 1970-1978 covers nine rather than eight years, it is assumed that because of procurement and shipment delays, equipment will not be in full use until the second half of 1970.

a¹/ Project costs for 1969 are added to 1970 project costs, so as to make 1970 Year #1 of the project. Costs for 1969 are expected to be incurred, at best, in late 1969.

b/ Item #1 always refers to additional maintenance operating costs due to the AID project--that is, above and beyond what the DGV would have normally spent for maintenance. These figures exclude DGV project-related costs, which are shown in item #2. Cost estimates are taken from Annex IV-1 to the financial section, in which it is assumed that DGV annual operating costs for maintenance would be \$7 million without the proposed project.

c/ Colon equivalent at \$6.65 per dollar.

d/ Although this purchase is not part of the project costs, it is a necessary feature of the DGV equipment replacement program started with the proposed project. This purchase is also a condi-

---footnotes continued ---

tion precedent of the second disbursement.

- e/ DGV annual maintenance equipment replacement expenditures are projected at the same level as the 1972 purchase (€3.1 million). This amount is almost equal to the average annual replacement that would be necessary on the project equipment, assuming an eight-year average life, and 12.5% annual depreciation. (US\$3900 divided by 8 = US\$487,000, multiplied by €6.65 = €3.2 million.)
- f/ DGV expenditure projections for the proposed project end in 1973. Additional DGV operating costs for maintenance for continuing this program are estimated by AID to increase at 5% per year - the same rate of increase for 1970-1973. A constant increase will be necessary, moreover, due to the projected completion of new pavement under foreign-financed construction programs (see Annex IV-5). This rate of increase is not unconservative, in view of the 13.1% annual rate of increase of (constant) DGV expenditures over the 1962-1968 period.
- g/ According to BPR estimates, an average useful life for the project equipment is eight years. The salvage value of the 1970 purchase is assumed to be 5% of total cost, and the depreciation rates applied to the successive equipment purchases are 12.5% per year.

AVERAGE USER COSTS PER 1000 KM (without taxes)

(Colones of 1968)

Type of Vehicle	Average Speed ^{a/} (Km/h)	Average Grade ^{b/} (%)	Fuel ^{c/}	Lubricants ^{d/}	Tires ^{e/}	Maintenance		Depreciation ^{h/}	Correction Factor for Curves ^{i/}	Total
						Parts ^{f/}	Labor ^{g/}			
I - PAVEMENT ^{j/}										
1. Automobile ^{k/}	56	4	33.49	3.30	9.62	8.46	1.56	45.85	27.44	129.72
2. Autobus ^{l/}	40	4	64.93	6.96	33.26	114.13	4.72	129.69	16.65	370.34
3. Pick-up ^{m/}	56	4	49.36	4.66	10.24	21.29	1.93	95.43	21.57	204.48
4. Truck ^{n/}	48	4	63.13	6.75	36.97	82.19	5.09	75.87	20.93	290.93
5. Tractor-trailer ^{o/}	40	4	166.64	10.38	62.42	159.74	8.08	346.60	18.45	772.81
II - GRAVEL ^{p/}										
1. Automobile	48	6	48.03	4.00	30.51	11.69	2.25	61.13	25.40	183.01
2. Autobus	40	6	90.95	8.20	138.30	238.64	9.01	166.01	12.66	663.77
3. Pick-up	48	6	69.26	6.00	30.40	33.04	1.91	144.99	19.39	304.99
4. Truck	40	6	91.32	8.20	118.58	145.42	9.01	110.65	17.03	500.21
5. Tractor-trailer	32	6	320.73	12.56	248.24	292.35	14.84	512.37	19.53	1420.62

Source: Planning Department, Ministry of Transport.

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FOOTNOTES TO TABLE CB -II, AVERAGE USER COSTS PER 1000 KM

- a/ Average speeds on Costa Rican roads as calculated by Planning Department in 1964.
- b/ Average grade in Costa Rica, as calculated by Planning Department.
- c/ Based on per/gallon prices of ₡1.58 for gasoline (without taxes), and ₡1.40 for diesel. Average fuel consumption factors taken from Jan de Weille, Quantification of Road User Savings, World Bank Occasional Papers No. 2, 1967.
- d/ Average lubricant consumption based on Jan de Weille, and multiplied by prices of ₡10.97 per gallon.
- e/ Based on the following tire prices and wear factors:

Type of Vehicle	Cost of Set of Tires	Wear Factor per 1000 Km
Auto	₡ 740	.0520
Bus	3,630	.0550
Pickup	880	.0466
Truck	3,630	.0611
Trailer	13,330	.0657

- f/ Fixed percentages of depreciation, as recommended in Jan de Weille.
- g/ Idem.
- h/ Purchase value (without taxes) minus salvage value minus tires, divided by useful life, multiplied by a factor based on speed.
- i/ Factors taken from Jan de Weille.
- j/ Largely asphalt pavement, 1178 Km.

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CONTINUATION FOOTNOTES TO TABLE CB - II: AVERAGE USER COSTS PER 1000 KM

k/ Vehicle analyzed was a medium-size Opel.

l/ Vehicle analyzed was a 40-passenger Chevrolet bus.

m/ Vehicle analyzed was 3/4-ton Chevrolet pickup.

n/ Vehicle analyzed was 4 1/2-ton Chevrolet truck (9-ton gross weight).

o/ Vehicle analyzed was 12-ton Magirus Jupiter (25-ton gross weight).

p/ All weather gravel roads, 1157 km.

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USER SAVINGS RESULTING FROM MAINTENANCE
(Colones of 1968)

TYPE OF VEHICLE	1 User costs on good roads per vehicle-km a/	2 Correction factor for bad roads b/	3 User savings due to mainte- nance, per vehicle-km (#1 x #2) c/	4 Average annual vehicle-kms per type of vehicle, 1960 d/	5 Vehicles in circulation 1966 e/	6 Total annual vehicle-kms, 1966 (#4 x #5) (km millions)	7 Annual vehicle km - on project roads, 1966 (km millions) j/	8 Adjusted annual vehicle kms on project roads (km millions) k/
I PAVEMENT								
1. Automobile	.12972	0.205	.0266	13,000	27,154 ^{f/}	353	166	140
2. Autobus	.37034	0.396	.1466	35,000	2,058	72	33	38
3. Pickup	.20448	0.246	.0503	7,000	7,761 ^{g/}	54	25	32
4. Truck	.29093	0.359	.1044	12,000	4,259 ^{h/}	51	24	31
5. Tractor-Trailer	.77281	0.419	.3238	60,000	267 ^{i/}	16	7	14
					Subtotal	546	255	255
II GRAVEL								
1. Automobile	.18301	0.205	.0375	3,000	27,154	81	39	39
2. Autobus	.66377	0.396	.2628	25,000	2,058	51	24	24
3. Pickup	.30499	0.246	.0750	7,000	7,761	54	25	25
4. Truck	.50021	0.359	.1796	24,000	4,259	102	51	51
5. Tractor-Trailer	.142062	0.419	.5952	5,000	267	1	0.5	0.5
					Subtotal	289	139.5	139.5
					TOTAL	835	394.5	394.5

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FOOTNOTES TO TABLE CB-III: USER SAVINGS RESULTING FROM MAINTENANCE (Colones)

- a. Figures are per 1000-km totals from Table CB-II divided by 1,000.
- b. It is assumed that user costs on poorly-maintained paved roads are half the difference between user costs on well-maintained paved roads and well-maintained gravel roads. For example, the correction factor for autos was arrived at in the following manner:

$$\begin{array}{r} .18301 \\ - .12972 \\ \hline .05329 \end{array} \times 1/2 = .02664 \times \frac{1}{.12972} = 0.205$$

The same correction factors were used for gravel roads.

- c. That is, cost increase per vehicle-km owing to change from poorly-maintained to well-maintained roads. These figures are arrived at by the multiplication of column #1 figures by Column #2 figures, indicated in the column heading by (#1 x #2).
- d. Source: Department of Planning, Ministry of Transport. Figures based on questionnaires sent by Department of Planning to all vehicle owners in 1960, to which the response rate was 2.8%. It is assumed that these average vehicle-km figures do not vary significantly during such a six-year period.

Year 1960 is last year for which such data available on per-vehicle basis. Division of figures for each type of vehicle between paved and gravel roads prevents double-counting in the multiplication of the following column.

- e. Source: Auto Transport Administration, Ministry of Transport. Year 1966 is last year for which data available to this degree of detail.
- f. Also includes jeeps and station wagons, for purposes of arriving at user savings figures that reflect total vehicles in circulation. User costs for jeeps and station wagons are similar to those for automobiles. Automobiles are 60% of this total.
- g. Also includes panels, for same reasons cited in footnote above. Pickups are 70% of this total.
- h. Vehicle cost figures refer to 2-axle trucks, but total includes tandem-axle trucks. Two-axle trucks are 96% of this total.

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CONTINUATION FOOTNOTES TO TABLE CB-III: USER SAVINGS RESULTING FROM MAINTENANCE (Colones)

- i. Vehicle-cost figures refer to 2-axle tractor/tandem semitrailer, but total also includes 2-axle tractor/single-axle semitrailer, tandem truck/single-axle trailer, tandem tractor/single-axle semitrailer, tandem tractor/tandem semitrailer. Two-axle tractor/tandem semitrailers account for 66% of total tractor-trailers.
- j. Column #6 results were checked against more recent Ministry of Transport data based on average km/gal data from 1960 questionnaire referred to above. Km/gal figures corrected to 1966 in accordance with Department of Planning estimates of changes in average vehicle size during the 1960-1966 period:

<u>Type of Vehicle</u>	<u>Average km/gal</u>	
	<u>1960</u>	<u>1966</u>
Auto	26.9	32.0
Bus	15.5	16.0
Pickup	20.4	20.4
Truck	16.0	18.0
Tractor-trailer	12.0	12.0
<u>Total weighted average</u>		<u>27.0</u> (weighted by number of vehicles of each type in 1966-- see column 5)

A total vehicle-km figure for 1966 was obtained by multiplying the 27 km/gal figure by the total amount of gasoline and diesel consumed in transport in 1966--25.37 million gallons--to obtain a result of 685 million total vehicle kms. (In 1966, gasoline was not yet refined in Costa Rica; Department of Planning estimates that 78% of total gasoline imported is consumed in transport and that 26% of total diesel imported is consumed in transport.)

Because the Ministry total for 1966 (685 vehicle-kms) was less than the results obtained by multiplication in column #6 (835 vehicle-kms), column #7 adjusts downward the column #6 results, in accordance with the Ministry totals. A further downward adjustment is made in accordance with Ministry data on totals for national-regional-IDB roads only (395 vehicle-kms). The weights used to divide these vehicle-km figures between the different types of vehicles and pavement for national-regional-IDB roads are taken from the total vehicle-km calculation. For 1966, total vehicle-kms in Costa Rica were 685 million, of which 395 million represents traffic on national-regional-IDB feeder roads, 250 million on city streets, and 40 million on feeder roads.

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CONTINUATION FOOTNOTES TO TABLE CB-III: USER SAVINGS RESULTING FROM MAINTENANCE (Colones)

- k. Column #7 was further adjusted to account for the fact that the percentage share of automobiles in the total on paved roads seemed unduly high (65%) in view of Ministry of Transport counts, which usually record a percentage of approximately 55% passenger vehicles (not including buses) on paved roads. In column #8, therefore, column #7 figures were adjusted so as to make the automobile figure 55% of the total; the remaining vehicle-mileage was divided between the other categories in accordance with a rough estimate of the distortions in column #7.

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(CONTINUATION #1) YEAR 1966 AND PROJECTED
 NOMINAL USER SAVINGS ON WELL MAINTAINED ROADS, 1970-1973^{1/}

(1968 \$1,000,000)

TYPE OF VEHICLE	9	10	11	12	13	14	15	16	17
	1966 (#3 . #8)	Factor	Value (#9 . #10)	Factor	Value (#9 . #12)	Factor	Value (#9 . #14)	Factor	Value (#9 . #16)
I PAVEMENT									
1. Automobile	3.724	1.427	5.314	1.560	5.809	1.705	6.349	1.864	6.941
2. Autobus	5.570	1.370	7.630	1.483	8.260	1.604	8.934	1.736	9.669
3. Pickup	1.609	1.366	2.197	1.476	2.374	1.596	2.567	1.725	2.775
4. Truck	3.236	1.366	4.420	1.476	4.776	1.596	5.164	1.725	5.582
5. Tractor-Trailer	4.533	1.366	6.192	1.476	6.690	1.596	7.234	1.725	7.819
II GRAVEL									
1. Automobile	1.462	1.427	2.086	1.560	2.280	1.705	2.492	1.864	2.725
2. Autobus	6.307	1.370	8.640	1.483	9.353	1.604	10.116	1.736	10.948
3. Pickup	1.875	1.366	2.561	1.476	2.767	1.596	2.992	1.725	3.234
4. Truck	9.159	1.366	12.511	1.476	13.518	1.596	14.617	1.725	15.799
5. Tractor-Trailer	.029	1.366	.039	1.476	.042	1.596	.046	1.725	.050
TOTAL			51.590		55.869		60.511		65.542

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FOOTNOTES (CONTINUATION #1)

1/ The growth factor used to project the vehicle-kms. through 1978 could have been based either on historic rates of growth of vehicles in circulation, or on historic rates of growth of total annual vehicle-kms. (the latter is to a great extent a function of the former). The average annual rate selected was that for growth of vehicles in circulation because (1) it was one-to-two percentage points lower than the rate for total vehicle-kms. (see table below), (2) because the basic figures for vehicles-in-circulation were more directly obtained than those for total-annual-vehicle-kms., and therefore more reliable as a base for projection, and (3) because the different rates of growth for each type of vehicle could be computed directly from the vehicles-in-circulation data, thus giving a user-saving estimate for each type of vehicle, whereas the computation of these different rates from total-vehicle-km. data would have to be based on estimated weights.

The projection rates for the various types of vehicles were based on observed growth rates for the 1959/61-1966/68 period; these rates were generally lower than those observed for the 1950/52-1966/68 period, and for the 1963/65-1966/68 period. The rate for automobiles was 9.3%; for buses, 8.2%, for pickups, 8.1%; for trucks, 8.1%; and for tractor-trailers, 8.1%.

AVERAGE ANNUAL GROWTH RATES (%), 1950-1968

	Autos	Buses	Trucks ^{a/}	Total Vehicle Kms. ^{b/}
1950/52-1966/68	10.8	7.1	10.5	n.a.
1959/61-1966/68	9.3	8.2	8.1	10.0
1963/65-1966/68	14.5	10.3	14.9	12.3

Source of Raw Data: Auto Transport Direction, Ministry of Transport.

a/ Includes pickups, trucks, and tractor-trailers.

b/ On national-regional-IDB feeder roads only. Terminal dates are 1964/66, rather than 1966/68.

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(CONTINUATION #2): PROJECTED NOMINAL

 USER SAVINGS ON WELL-MAINTAINED ROADS,
 1974 - 1978
 (1968 \$1,000,000)

TYPE OF VEHICLE	18	19	20	21	22	23	24	25	26	27
	1974		1975		1976		1977		1978	
	Factor	Value								
		(#9 . #18)	2.358	(#9 . #20)		(#9 . #22)		(#9 . #24)		(#9 . #26)
I PAVEMENT										
1. Automobile	2.037	7.585	2.226	8.289	2.433	9.060	2.660	9.905	2.907	10.825
2. Autobus	1.878	10.460	2.033	11.323	2.199	12.248	2.380	13.256	2.575	14.342
3. Pickup	1.865	3.000	2.016	3.243	2.180	3.507	2.355	3.789	2.546	4.096
4. Truck	1.865	6.035	2.016	6.523	2.180	7.054	2.355	7.620	2.546	8.238
5. Tractor-Trailer	1.865	8.454	2.016	9.138	2.180	9.881	2.355	10.675	2.546	11.541
II GRAVEL										
1. Automobile	2.037	2.978	2.226	3.254	2.433	3.557	2.660	3.888	2.907	4.250
2. Autobus	1.878	11.844	2.033	12.822	2.199	13.869	2.380	15.010	2.575	16.240
3. Pickup	1.865	3.496	2.016	3.780	2.180	4.087	2.355	4.415	2.546	4.773
4. Truck	1.865	17.081	2.016	18.464	2.180	19.966	2.355	21.569	2.546	23.318
5. Tractor-Trailer	1.865	.054	2.016	.058	2.180	.063	2.355	.068	2.546	.073
TOTAL		70.987		76.894		83.292		90.195		97.696

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PROJECTED USER SAVINGS ON WELL-MAINTAINED ROADS,
 NOMINAL AND DISCOUNTED VALUES, 1970-1978
 (1968 \$1,000,000)

Year	1	2	3	4	5	6	7	8	9
	Total <u>a/</u> Nominal Saving	Correction Factor <u>b/</u>	Adjusted Total Nominal Saving (#1 x #2)	<u>10% Discount</u> Factor Present Value (#3 x #4)		<u>15% Discount</u> Factor Present Value (#3 x #6)		<u>20% Discount</u> Factor Present Value (#3 x #8)	
1970	51.500	.30	15.477	1.000	15.5	1.000	15.5	1.000	15.5
1971	55.869	.50	27.935	.909	25.4	.870	24.3	.833	23.3
1972	60.511	.70	42.357	.826	34.9	.756	32.0	.694	29.4
1973	65.542	.90	58.988	.751	44.3	.658	38.8	.579	34.2
1974	70.987	1.00	70.987	.683	48.5	.572	40.6	.482	34.2
1975	76.894	1.00	76.894	.621	47.8	.497	38.2	.402	30.9
1976	83.292	1.00	83.292	.564	47.0	.432	36.0	.335	27.9
1977	90.195	1.00	90.195	.513	46.3	.376	33.9	.279	25.2
1978	97.696	1.00	97.696	.467	45.6	.327	31.9	.233	22.8
	Total (Discounted Present Value):				355.3		291.2		243.4

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a/ Totals from columns #11, 13, 15, 17, 19, 21, 23, 25, 27 of Table CB-III.

b/ It is assumed that it will take four years to change maintenance conditions from bad to good on all the mileage covered by the proposed project - because of the phased disbursement, estimated delays in equipment arrival, and the normal time period necessary to improve maintenance conditions over a considerable amount of mileage. It was therefore assumed that 30% of the projected user savings from improvement of maintenance from bad to good will accrue in 1970, 50% in 1961, 70% in 1972, 90% in 1973, and 100% in 1974.

3/24/69

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November 22, 1968

Ing. José Joaquín Rodríguez
Minister of Transportation
Ministry of Transportation
San José, Costa Rica

Dear Mr. Minister:

For several months officials of the Government of Costa Rica, Bureau of Public Roads and the Agency for International Development have worked together with the objective of reaching an agreement on the appropriate bases for the establishment of a program of road maintenance. Preliminary discussions have proved quite fruitful and the foundation has been established for the submission of a formal loan application by the Government of Costa Rica.

Such loan application should summarize the underlying reasons for the loan request and the general purpose of the loan and should indicate the dollar amount requested, broken down into amounts required for U. S. procurement and technical assistance; it should also indicate the proposed contributions of the Government of Costa Rica to the Project. The attached Table, which was included in the Intensive Review Request referred to below, may be used as a guide in preparing the application.

Furthermore it would be most useful if a statement is included in the loan application that the Government of Costa Rica proposes to take the following actions:

- 1) The Government of Costa Rica will make provisions in its annual budget to fund the local costs of the project totalling \$11.4 million equivalent for the three-year period 1969-1971, as well as an additional \$0.8 million for equipment purchases in 1970 - 1971.
- 2) The Government of Costa Rica will make available periodic contributions to the Project as needed for the continuing maintenance of equipment purchased and for the continuing operation of the maintenance program.

Ing. José Joaquín Rodríguez

November 22, 1958

- 3) The Government of Costa Rica will make available adequate funds to carry on the equipment replacement and the procurement programs on a continuing basis after the completion of the project.
- 4) The Government of Costa Rica will give maintenance operations priority over road construction, and maintenance will have first call on the Ministry of Transportation funds.
- 5) The Government of Costa Rica will ensure adherence to the general priorities for maintenance in accordance with a previously established schedule which is to be prepared by the Ministry of Transportation and approved by A. I. D. ; such listing will be based upon the following descending order of priority: National and Regional Highways, IDB financed feeder roads, and roads including those under the cooperative feeder road agreements with local governments.
- 6) The Government of Costa Rica will ensure that all major reconstruction and new construction work above certain cost limits mutually agreed upon between the Government of Costa Rica and A. I. D. , will be executed on a contract basis.
- 7) The Government of Costa Rica will present to A. I. D. an operational plan to enforce vehicle weight and dimension limitations and control of off-road vehicles on the Costa Rican highway network including passage of the necessary legislation to enforce penalties and prohibit circulation of overweight vehicles.

During preliminary discussions with Messrs. Black and Bushnell you indicated your satisfaction with the substance of the Intensive Review Request sent to Washington on October 28, 1958. It would be most useful if you would enclose in the formal loan application a statement of concurrence with this document.

With reference to Item 6 above we wish to bring to your attention the statement on page 3 of the IRR which states, "It is considered desirable to limit the functions of the Maintenance Department to maintenance operations and the Ministry to award all construction to qualified contractors selected by competitive bidding".

In our discussions this general policy has been found to be mutually acceptable. However, we realize that there are some jobs of small size which would not be of interest to even a small contractor and for which force account construction by the Highway Department would be considered acceptable. Your suggestions as to the scope and limits of force account construction will be appreciated.

In conclusion we wish to bring to your attention that we are still awaiting the sections of the Capital Assistance Paper which the Ministry of Transportation

Ing. José Joaquín Rodríguez

November 22, 1968

has agreed to furnish. It is our understanding that much of the required information has already been prepared by the Ministry's work group. Therefore, we would appreciate your arranging the prompt transmittal of the material already prepared to this Mission and the completion of the balance at the earliest possible date.

Sincerely yours,

Robert B. Black
Director
U. S. A. I. D. / Costa Rica

Drafters: H. Smolkin
E. A. Schlomann
C. N. Strong

Clearances: E. A. Kiefer (in draft)
W. E. Schaefer

TRANSLATION of Letter received December 16, 1968

San José, 11 December 1968

Mr. William E. Schaefer
Director
AID Mission in Costa Rica
American Embassy
San José

Dear Mr. Director:

In the name of the Government of Costa Rica, I make a formal request to the Agency for International Development for a loan in the amount of US\$4.18 million to be used in financing a maintenance program of National and Regional Highways and Feeder Roads.

The program will be initiated in 1969 with an execution period of three years and will comprise the following:

1. Maintenance works of National and Regional Highways.
2. Maintenance works of Feeder Roads constructed by the Ministry of Transports with financing by the Inter-American Development Bank.
3. Acquisition of maintenance equipment.
4. Purchase of repair parts for maintenance equipment.
5. Acquisition of equipment for shops.
6. Improvement of maintenance installations.
7. Construction of new installations.
8. Technical assistance.

The project has a total cost of US\$12.22 million, of which the expenditures in foreign money are estimated at US\$4.69 million and the expenditures in local

currency at US\$7.53 million. The Government of Costa Rica will contribute US \$8.04 million and the IAD loan will finance US\$4.18 million.

A breakdown of local and foreign costs of the project is shown in the attached Table #1.

This project is justified for the following reasons:

- a) During the last years a noticeable deficit has accumulated in the maintenance of National and Regional Highways because the maintenance equipment of the Ministry of Transports is in bad operating condition.
- b) In accordance with commitments with the Inter-American Development Bank, the Ministry has been recently obligated to provide adequate maintenance to Feeder Roads constructed with foreign funds.
- c) The cost of operation of old equipment obliges the Ministry to divert large sums of money for repair of same, which is urgently needed for the maintenance operations.
- d) The shops need to renew their equipment and acquire new units in order to give efficient service.
- e) There is a need to improve and build new installations to give better distribution of maintenance operations through-out the country.
- f) To obtain greater efficiency in the maintenance operations it is necessary to train the professional and semi-professional personnel who will be in charge of the technical direction of the maintenance programs.

The loan funds will be exclusively destined for the purchase of equipment required for the period of the first three years, and to finance the foreign currency costs of the necessary technical assistance.

For this program, the Government of Costa Rica will adopt the following measures:

1. In the budgets corresponding to the years 1969 to 1971 will be included the necessary allotments to give a total contribution of local expenses for the sum of US\$8.04 million.

2. The Government of Costa Rica will give additional contributions as needed for a better maintenance service of the purchased equipment likewise so that there will not be interruptions in the maintenance program during the period of the project nor in the following years.
3. The Government of Costa Rica will contribute the funds necessary to replace the equipment opportunely.
4. The Government of Costa Rica will give due priority and importance to the maintenance programs.
5. The Government of Costa Rica will perform the maintenance works during the project period in accordance with programs and schedules prepared by the Ministry of Transports and approved by AID.
6. The Government of Costa Rica will execute by contract all the works of construction and betterment that have a cost superior to ₡1,000,000 except those that by their nature and complexity cannot be done by this system.
7. The Government of Costa Rica will present to the AID a plan for the strict fulfilment of the regulations of weight control and dimensions of the vehicles in Costa Rica.

Cordially,

Miguel Angel Rodríguez E.
Minister
Director of the Planning Office

MAR/brs

D-36-69
San José, January 16, 1969

Mr. Lawrence E. Harrison, Director
AID Mission to Costa Rica
American Embassy

Dear Sir:

I refer to my letter number D-643 dated December 11, 1968, requesting a loan from AID to assist in a road maintenance program in Costa Rica, to inform you that upon reconsideration of paragraph 6 of that letter, the Planning Office wishes that paragraph to read as follows:

"6: The Government of Costa Rica will not carry out by force account work in an amount higher than 25% of the investment for maintenance and improvements, or higher than 10% of the investment for construction, depending on which is a lower figure."

Cordially,

Miguel Angel Rodríguez E.
Minister
Director of the Planning Office

cc: Highway Administration
Eng. Enrique Angulo

COOPERATIVE PLAN EQUIPMENT TO BE FINANCED
BY CENTRAL BANK CREDIT TO MUNICIPALITIES ^{a/}

(US\$1000)

	Unit Price CIF	No. Units	Total Cost
Motorgraders	20.0	12	240.0
Loaders, 1½ c.y. (Rubber tired)	15.0	15	225.0
Rollers, two wheels (10-12 ton)	15.0	1	15.0
Rollers, two wheels tandem	10.5	1	10.5
Cargo trucks, 8 Tons	4.5	3	13.5
Front loader crawler (1½ cu yd)	20.1	4	80.4
Tractors D4	18.4	10	184.0
Dump trucks, heavy duty	10.9	24	261.6
Tractors (rubber tired)	7.0	4	28.0
		TOTAL	1,058.0

^{a/} - See Annex III-3 for justification of number of units selected.

ANNEX _____: COOPERATIVE PLAN MAINTENANCE EQUIPMENT BY GROUPS ^{a/}

Maintenance Zone and Group Number, and Name of Canton(s) ^{b/}	Motor-graders			Loaders, 1 1/4 cy. (rubber-tired)			Rollers, 10-12 ton (two wheels)			Cargo Trucks, 8 ton			Front loader Crawler, 1 1/2 c.y.			Tractors D-4			Dump trucks, heavy duty			Tractors (rubber-tired)			Rollers, tandem (two wheels)		
	MT	C	P	MT	C	P	MT	C	P	MT	C	P	MT	C	P	MT	C	P	MT	C	P	MT	C	P	MT	C	P
1-1 Curridabat, Escazú, Moravia Tibás			2			1									1			4						1			1
1-2 San Isidro, Flores, Santa Bárbara, Santo Domingo, San Rafael y San Pablo	1		1	1		1									2		1	2	5		1		1				
1-3 ^{c/} Acosta, Aserrí	1					1									1	3		2	2	2							
1-4 ^{c/} Puriscal	1	1		1											2			2	5		1						
1-5 Aguirre	1												1		1	1		2	2		1						
1-6 Turrubares															1	1		1	1								
1-7 Goicoechea		1			1	1		1											3								
2-1 Alajuela, Poás			1		1				1		1						3		6								
2-2 Atenas, San Mateo, Orotina	1												1	2		1	2	3	1								
2-3 Valverde Vega, Naranjo, Palmares	1	1				1									1	1		4				2					
2-4 ^{c/} Grecia			1			1							1					5				1					
2-5 ^{c/} San Ramón			1			1									2			3	1			1					
2-6 San Carlos, Alfaro Ruz	1					1							1		2	1	1	6									
3-1 Cartago			1			1				1					1			2	2								
3-2 Dota, Tarrazá			1			1								1	2			2									
3-3 Turrialba			1			1									3			6									
4-1 ^{c/} Puntarenas			1			1			1									3	1								
4-2 ^{c/} Montes de Oro, Abangares			1			1									1			1	2								
4-3 ^{c/} Tilarán			1			1							1				3		4								
4-4 Liberia, Bagaces, Upala, La Cruz, y Cañas			1			1				1					1			4					1				
4-5 Santa Cruz, Carrillo	1		1			1								1		1	2	3	2								
4-6 Nicoya, Nandayure			1			1									2			2	2								
5-1 Limón			1			1			1									3	1								
5-2 Pococí			1			1										1		2	2								
6-1 Pérez Zeledón			2										1		2			5			1						
6-2 Golfito			1										1	1				1	2								
6-3 Buenos Aires																	1										
6-4 Osa																	1					1					
6-5 Coto Brus			1			1									1			2					1				
TOTAL UNITS FOR PURCHASE:			12			15			1			3			4		10		25			4					1

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a/ For each group, shows equipment owned by Ministry of Transport (MT), by the canton (C), and equipment that should be purchased to round out the fleet of each group (P). The DGV's approval of municipality applications for purchase of maintenance equipment with the AID line of credit will be based on this plan. See Annex III-2 for unit and total cost of equipment to be purchased.

b/ First number is MT maintenance zone, and second number refers to the unit (canton or group of cantons) covered by this feeder road maintenance equipment fleet.

c/ These five groups are those cantons wealthy enough to buy all their own equipment; in these cases, the canton's contribution is the equipment and spare parts, and the DGV's contribution is fuel, lubricants, labor, and supervision (in accordance with a special Cooperative Plan appropriation in the annual budgetary law). The other less wealthy cantons contribute some of their own equipment, to which the Ministry adds other necessary equipment, at a rental fee; sometimes the poorer cantons band together in order to pool their equipment and that equipment made available by the Ministry. In either case--that is, where the Ministry supplies equipment at a rental--the financial burden is divided on a fifty-fifty basis between the canton(s) and the Ministry.

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ANNEX III, Page 9 of 13
Exhibit 3, Page 1 of 1

DECREE REGARDING MUNICIPALITY EQUIPMENT PURCHASES

LA GACETA - Official Newspaper - Second Semester - Year LXXXVI - San José,
Costa Rica, Thursday, October 29, 1964

LEGISLATIVE ASSEMBLY

No. 3430

THE LEGISLATIVE ASSEMBLY OF THE REPUBLIC OF COSTA RICA;

Decrees:

Article 1---Authorization is hereby granted to the Ministry of Economy & Finance to exempt the Municipalities, District Councils and Canton Road Boards from the payment of customs taxes on the importation of essential machinery and equipment such as crawler tractors, wheel tractors, front-end loaders, dump trucks, motorgraders, tandem rollers, trucks and pickups.

Article 2---The above-mentioned entities will submit in writing the respective application to the Ministry of Economy & Finance, accompanied by a recommendation of the Ministry of Transport regarding the equipment specifications, together with a report from the Controller General of the Republic affirming that the soliciting entity has sufficient financial resources to undertake the purchase and operation of the equipment for which duty-free importation is requested.

MANUAL CIRCULAR

AGENCY FOR INTERNATIONAL DEVELOPMENT

SUBJECT Inspection and Appraisal of A.I.D.-financed Used Equipment* and Parts	TRANSMITTAL LETTER NO.	CIRCULAR NO.
	13:248	1415.8
	EFFECTIVE DATE	TERMINATION DATE
	September 11, 1968	- -
FILING INSTRUCTIONS		
File as M.O. 1415.8		

I. Scope

The policies and interim procedures under which used equipment (other than U.S.-Government-owned excess property) may be authorized for A.I.D. dollar financing are outlined herein. These policies and interim procedures apply both to loan- and grant-financed commodity procurement by a borrower/grantee or importer under program or project assistance activities. This manual circular does not apply to rebuilt and reconditioned machine tools and metalworking equipment for which the procedures outlined in M.C. 1454.3 - Procurement of Rebuilt or Reconditioned Machine Tools and Metalworking Equipment (TL 15:166), continue operative. Nor does this manual circular pertain to acquisition of U.S.-Government-owned excess property, the procedures for which are set forth in M.O. 1415.6 - Commodity Procurement: Acquisition of U.S. Government-Owned Excess Property.

II. General

A. It is A.I.D. policy to confine its financing to equipment items that are unused, unless approval is given to requests by a borrower/grantee for authority to procure used equipment, including rebuilt or reconditioned equipment.

B. If such procurement is authorized, the normal requirements are (1) that the used equipment comply with prescribed standards (See paragraph III.A.1.c. below.); (2) that financing be conditioned upon tests, inspections, and appraisals which are acceptable to A.I.D. and that are made by A.I.D.-designated inspectors; and (3) that the costs of inspection testing and appraisal be borne by the borrower/grantee or importer.

III. Interim Procedures

A. Used Equipment Located in the U.S.

1. The A.I.D. Mission submits to A.I.D./W, for authorization by the Regional Assistant Administrator, details of each proposed purchase by a borrower/grantee of used equipment together with:

a. The borrower/grantee agreement to pay for costs of testing, inspection, and appraisal and a citation to the allotment of funds against which such costs are to be charged.

b. The borrower/grantee representation:

(1) That specific requirements of the program involved will be fully satisfied if used equipment is authorized.

(2) That economic considerations (remaining life, spare parts supply, etc.) and financial factors (relative costs) justify the procurement of used equipment.

c. The condition standard to which the used equipment must be repaired when made available by the supplier for inspection, i.e., (1) repaired to operating condition, (2) overhauled, or (3) completely rebuilt.

d. The Mission's recommendations as to the merits of the proposed purchase.

2. If the Regional Bureau wishes to authorize the purchase of used equipment, it will by memorandum, citing the funds to be used, request the Office of Engineering (ENGR) to develop specific instructions for inspection, testing, and appraisal. (ENGR may on occasion employ outside professional assistance to develop specific scopes of work, using the cited funds for this purpose.) The instructions developed by ENGR and the funding citation are submitted to the Office of Procurement for inclusion in the Task Order to be issued by the Office of Procurement to the firm selected to perform inspection under the terms of its Basic Ordering Agreement with A.I.D.

3. The Office of Engineering receives^d reports prepared pursuant to the Task Order issued and, in consultation with the Office of Procurement and other appropriate offices, prepares a recommendation as to whether the equipment

*The term "used equipment" means equipment other than unused equipment. It includes rebuilt, remanufactured, and reconditioned equipment.

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Exhibit 4a, Page 2 of 2

CIRCULAR NO.	PAGE NO.	EFFECTIVE DATE	TRANS. LETTER NO.
1415.8	2	Sept. 11, 1968	13:248

inspected is technically acceptable for A.I.D. financing. The inspection, testing, and appraisal reports and recommendation thereon are forwarded to the Regional Bureau for final decision. If the Regional Bureau approves the proposed purchase, it issues a special letter to the supplier advising that A.I.D. inspection requirements have been met and that the transaction cited in the letter is approved for A.I.D. financing subject to compliance with other requirements. This special letter of advice serves as a required payment document which the supplier must submit.

B. ICI-financed Used Equipment Located in the U.S.

1. In the case of loans to Intermediate Credit Institutions (ICIs), the subborrower submits requests for financing of used equipment, together with supporting justification, to the primary borrower (ICI) for transmittal to the A.I.D. Mission for action. Mission approval should be granted only after the factors listed in paragraph III.A.1.(b) above are taken into account.

2. While A.I.D./W approval is not required to authorize the procurement of used equipment in the case of ICI-financed purchases, testing, inspection, and appraisal must still be performed by an inspection firm selected by A.I.D./W. The procedures for selecting and in-acting the inspector and for receiving reports are the same as indicated in paragraphs III.A.2. and A.3. above.

C. Used Equipment Located Outside the U.S.

In the case of a proposed purchase of equipment located outside the United States, the submission of the borrower/grantee/Mission (containing information set forth in paragraph III.A.1. above) should be accompanied by the recommendations of the Mission as to the qualifications of the firm nominated by the borrower/grantee to perform the appraisal, inspection,

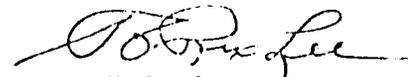
and any necessary testing. After A.I.D./W authorizes a purchase (as required for all purchases of used equipment, except for those made under loans by Intermediate Credit Institutions), and after A.I.D./W approves the nominated inspection firm, the Mission should proceed to contract with that firm. Costs of inspection, appraisal, etc., are charged to the appropriate allotment pertaining to the loan or grant under which the used equipment would be financed. If, in the judgment of the Mission, the report of the appraisal, inspection, and testing indicates that the purchase should be permitted, the Mission should issue a special letter to the effect that A.I.D. inspection requirements have been met. As in the case of paragraph III.A.3. above, this special letter of advice serves as a required payment document which the supplier must submit.

D. Payment of Inspection Service for Rejected Equipment

Under this interim procedure, the inspection firm will be paid from the appropriate loan or grant fund involved irrespective of whether or not the purchase of the used equipment is approved; provided, of course, that the job appraisal, inspection, and testing is performed in accordance with the terms of the Task Order.

IV. Exceptions and Modifications

The Regional Assistant Administrator may authorize exceptions to and modifications of the interim procedure on a case-by-case basis after consultation with the Office of Procurement and other offices concerned.



H. Rex Lee
Assistant Administrator

Address inquiries concerning this manual circular to A/PROC.

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ARTICLE 86 OF TRAFFIC BILL REFERRING TO LOAD CONTROL;
DIARIO OFICIAL, AUGUST 13, 1968, ADDENDUM NO. 62 TO GACETA NO. 182

"Article 86. Overloaded cargo vehicles will be detained until the driver or responsible enterprise show evidence that they have paid to the National Banking System an amount in fines for each excess kilogram in total, or for each excess kilogram on the axle that is most overloaded, as per the following table:

- a) Up to 500 Kg.¢ 0.05/Kg.
- b) In excess of 500 Kg. 0.10/Kg.

"In no case will the passage of overloaded vehicles on public roads be authorized."

DGV RECEIPTS AND EXPENDITURES, 1962-1968 (ACTUALS), 1969-1973 (PROJECTIONS)
(₱1,000,000, Current)

	1962	1963	1964	1965	1966	1967	1968	1969 ^{a/}	1970	1971	1972	1973
I. DGV Receipts	<u>32.4</u>	<u>51.2</u>	<u>59.9</u>	<u>67.5</u>	<u>73.4</u>	<u>90.5</u>	<u>90.4</u>	<u>113.7</u>	<u>148.3</u>	<u>143.9</u>	<u>119.4</u>	<u>121.2</u>
A. Budgetary ^{b/}	21.0	30.5	39.4	49.1	55.7	55.4	46.2	44.5	57.4	61.6	70.8	71.2
B. Foreign (C equiv. at ₱6.65) ^{c/}	<u>11.4</u>	<u>20.7</u>	<u>20.5</u>	<u>18.4</u>	<u>17.7</u>	<u>35.1</u>	<u>44.2</u>	<u>69.2</u>	<u>90.9</u>	<u>82.3</u>	<u>48.6</u>	<u>50.0</u>
1) Loans	7.6	19.5	20.3	18.2	17.5	30.6	25.1	38.2	63.5	66.8	48.6	50.0
2) Grants ^{d/}	3.8	1.2	0.2	0.2	0.2	4.5	19.1	31.0	27.4	15.5	-	-
II. DGV Expenditures	<u>32.4</u>	<u>51.2</u>	<u>59.9</u>	<u>67.5</u>	<u>73.4</u>	<u>90.5</u>	<u>90.4</u>	<u>114.9</u>	<u>148.3</u>	<u>143.9</u>	<u>119.4</u>	<u>121.2</u>
A. Local	<u>21.0</u>	<u>30.5</u>	<u>39.4</u>	<u>49.1</u>	<u>55.7</u>	<u>55.4</u>	<u>46.2</u>	<u>44.5</u>	<u>57.4</u>	<u>61.6</u>	<u>70.8</u>	<u>71.2</u>
1) Administration	<u>3.0</u>	<u>5.0</u>	<u>6.1</u>	<u>7.4</u>	<u>6.0</u>	<u>7.0</u>	<u>8.6</u>	<u>8.6</u>	<u>8.7</u>	<u>8.8</u>	<u>8.8</u>	<u>8.9</u>
2) Construction	<u>10.3</u>	<u>11.2</u>	<u>19.3</u>	<u>24.2</u>	<u>29.6</u>	<u>29.3</u>	<u>19.7</u>	<u>17.6</u>	<u>25.0</u>	<u>27.0</u>	<u>31.0</u>	<u>33.0</u>
a) National & regional highways	1.1	2.8	5.2	7.5	10.9	10.2	4.5	2.0	6.0	6.0	8.0	8.0
b) IBD feeder roads	-	-	4.4	3.7	4.2	5.1	2.9	5.2	8.0	10.0	12.0	14.0
c) Cooperative Plans	-	-	3.0	3.5	3.0	2.5	2.0	1.0	1.0	1.0	1.0	1.0
d) Other ^{e/}	9.2	8.4	6.7	9.5	11.5	11.5	11.4	9.4	10.0	10.0	10.0	10.0
3) Maintenance	<u>7.7</u>	<u>14.3</u>	<u>14.0</u>	<u>17.5</u>	<u>20.1</u>	<u>19.1</u>	<u>16.8</u>	<u>18.4</u>	<u>23.7</u>	<u>25.8</u>	<u>31.0</u>	<u>29.3</u>
a) National, regional highways ^{f/}	3.9	6.9	6.6	8.6 ^{k/}	7.1	6.6	7.2	13.1	16.6	16.4	16.4	16.9
(1) Diversion	2.6	4.6	4.5	5.8	4.8	4.5	4.8	-	-	-	-	-
b) Major betterments ^{h/}	-	-	-	-	-	-	-	1.3	3.0	5.2	7.2	8.0
c) Other works ^{i/}	1.2	2.8	2.0	1.6	6.2 ^{j/}	5.0 ^{j/}	1.8	1.0	1.0	1.0	1.0	1.0
d) Cooperative Plans	-	-	0.9	1.5	2.0	3.0	3.0	3.0	3.1	3.2	3.3	3.4
e) Equipment Purchases	-	-	-	-	-	-	-	-	-	-	3.1 ^{k/}	-
B. Foreign Financing	<u>11.4</u>	<u>20.7</u>	<u>20.5</u>	<u>18.4</u>	<u>17.7</u>	<u>35.1</u>	<u>44.2</u>	<u>69.2</u>	<u>90.9</u>	<u>82.3</u>	<u>48.6</u>	<u>50.0</u>
1) Construction	11.4	11.6	14.7	12.8	17.2	32.5	44.2	54.6	90.0	67.3	48.0	50.0
2) Equipment ^{l/}	-	9.1	5.8	5.6	0.5	2.6	-	14.6	0.9	15.0	0.6	-

See next page for footnotes

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FOOTNOTES, ANNEX F. 1

- a/ The approved ordinary budget for 1969 included ₡41.1 million for the DGV; extraordinary budget appropriations of ₡3.4 million are expected.
- b/ Actuals; 1965-1968 includes carryovers from previous year's budget (permitted only for construction).
- c/ 1969-1973 projections assume approval of IDB 2nd-stage feeder road loan (mid-1969), and IBRD loan for Limón Highway (early 1970).
- d/ USG grant for Inter-American Highway.
- e/ Bridges, construction of feeder roads outside IDB and Cooperative Plan, right-of-way, engineering and design.
- f/ Includes IDB feeder roads for which maintenance expenditures started in 1967-1968; Mission reduced DGV figures by 40% as rough estimate of diversion of funds and equipment to other uses (BPR estimates 50% diversion). Diversion shown in following line.
- g/ Increase accounted for by heavy maintenance of Inter-American highway as prerequisite to BPR approval of loan.
- h/ In national and regional highways; before 1969, this item combined with following "other works" item; after 1969, estimates are in accordance with recommendations of BPR report.
- i/ A residual item, reflecting work on municipal squares, feeder roads outside Cooperative Plan, etc.; combined with "major betterments" before 1969.
- j/ Increase caused by use of maintenance equipment to complete reconstruction of roads under IBRD-financed project; IBRD funds ran out in 1967, because of under-estimation of costs and DGV assumed responsibility for completing the project roads by force account.
- k/ ₡3.1 million for replacement of maintenance equipment for national, regional and IDB roads.
- l/ DGV estimates 80% use in maintenance, 1969-1972 figures consist of equipment, consultant and training dollar costs of AID loan.

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ANNEX IV, Page 2 of 7
Exhibit 1, Page 2 of 2

Government
Current Central American Income
(millions of Colones)

	<u>Actual</u> <u>1966</u>	<u>Actual</u> <u>1967</u>	<u>Prelim.</u> <u>1968</u>	<u>Est.</u> <u>1969 2/</u>	<u>Mission</u> <u>Projection</u> <u>1970</u>
<u>TOTAL</u>	<u>523.0</u>	<u>541.0</u>	<u>636.6</u>	<u>652.0</u>	<u>687.6</u>
<u>I TAX INCOME</u>	<u>474.2</u>	<u>485.7</u>	<u>572.8</u>	<u>580.9</u>	<u>609.4</u>
A. <u>Direct Taxes</u>	<u>113.3</u>	<u>136.3</u>	<u>168.5</u>	<u>153.5</u>	<u>171.5</u>
Income Taxes	88.9	103.2	136.2 3/	117.5	132.5 4/
Property Taxes	24.4	33.1	32.3	36.0	39.0
B. <u>Indirect Taxes</u>	<u>360.9</u>	<u>349.4</u>	<u>404.3</u>	<u>427.4</u>	<u>437.9</u>
Cigarettes	9.4	9.2	9.5	10.0	10.5
Beer	16.7	15.4	12.8	14.0	15.0
Liquor Factory	30.0	30.1	34.6	36.0	38.0
Consumption Tax	25.0	29.4	23.9	26.2	29.5
Sales Tax	--	23.1	75.8	87.0	95.7
Gasoline	--	13.5	38.2	43.7	46.5
Other Consumption	9.2	10.0	17.4	17.6	17.6
Import Duties	174.3	156.6	154.9	150.7	151.0
Petroleum Duties	41.9	23.1	6.0	--	--
Export Duties	7.8	5.2	9.5	9.6	10.1
Tax on Coffee Prod.	34.2	20.4	7.8	19.4	10.6 5/
Other Production Taxes	0.9	0.6	0.3	0.2	0.4
Other Indirect Taxes	11.5	12.8	13.6	13.0	13.0
<u>II NON TAX INCOME</u>	<u>48.8</u>	<u>55.3</u>	<u>63.1</u>	<u>71.1</u>	<u>78.2</u>
A. <u>Income from Services & Surplus of Public Enterprises</u>	45.0	52.8	58.7	67.2	74.2
B. Title 4 - Transfers	3.8	2.5	4.4	3.9	4.0

SOURCE: UNDAID/OR (Code 51, February 21, 1969)

1/ Data for 1968 are preliminary GOGR data; after careful review by CIAP, IMF and Mission officers we agreed accept 1968 income figures. Also agreed accept 1969 estimates, noting they include two favorable assumptions: sales tax estimate assumes improved administration and coffee estimate assumes collection coffee tax at 5% instead of 2-1/2% because smaller crop and higher prices. Mission considers prospects reasonable on both assumptions. Moreover, Mission considers GOGR 1969 income tax estimate unduly conservative.

2/ Assumes no additional tax action.

3/ Includes income tax surcharge 14.6.

4/ Assumes recovery income tax performance in 1970 and takes into consideration Mission belief 1969 estimate too low.

5/ Assumes coffee tax at 2-1/2% because factors contributing higher tax rate 1969 considered transitory.

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ANNEX IV, Page 4 of 7
Exhibit 3, Page 1 of 1

Expenditures of the Central Government 1966-1969
(millions of Colones)

	<u>Actual</u> <u>1966</u>	<u>Actual</u> <u>1967</u>	<u>Prelim.</u> <u>1968</u>	<u>Est.</u> <u>1969</u>
<u>TOTAL</u>	<u>686.3</u>	<u>751.4</u>	<u>787.1</u>	<u>858.7</u> 1/
1. <u>ADMINISTRATION</u>	<u>392.5</u>	<u>415.9</u>	<u>445.0</u>	<u>509.3</u>
<u>Legislative Branch</u>	<u>6.8</u>	<u>8.2</u>	<u>9.2</u>	<u>9.4</u>
Assembly	4.1	5.1	5.7	5.3
Controller General	2.7	3.1	3.5	4.1
<u>Executive Branch</u>	<u>357.0</u>	<u>374.6</u>	<u>397.1</u>	<u>452.9</u>
Presidency	10.7	6.0	6.9	5.9
Government	24.8	24.8	25.5	27.7
Foreign Relations	5.6	4.1	4.3	5.1
Public Security	16.9	18.0	19.2	23.5
Finance	23.7	23.2	23.8	25.8
Agriculture	9.4	10.6	10.7	13.0
Industry and Commerce	4.5	4.2	3.8	4.6
Transportation	91.0	92.7	83.2	90.5
Education	149.4	171.4	192.5	226.6
Public Health	15.9	14.7	22.5	24.5
Labor and Welfare	5.1	4.8	4.7	5.3
<u>Judiciary Branch</u>	<u>23.6</u>	<u>29.0</u>	<u>32.2</u>	<u>37.3</u>
<u>Election Tribunal</u>	<u>5.1</u>	<u>4.1</u>	<u>6.6</u>	<u>9.7</u>
2. <u>TRANSFERS AND SUBSIDIES</u>	<u>174.4</u>	<u>211.8</u>	<u>212.5</u>	<u>205.8</u>
3. <u>DEBT SERVICE</u>	<u>119.1</u>	<u>123.6</u>	<u>129.5</u>	<u>181.3</u>

1/ Total is 11.6 lower than sum of figures below: difference represents normal non-spending of authorized expenditures (26.1) and estimated savings from not filling authorized but vacant personnel positions (11.6).

SOURCE: USAID/CR (Cable 512, Feb. 21, 1969)

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HIGHWAY - RELATED TAXES, AND THEIR SHARE OF HIGHWAY

EXPENDITURES, 1962-1968 ^{a/}

(€1,000,000, Current)

	1962	1963	1964	1965	1966	1967	1968
Taxes ^{b/}	<u>45.4</u>	<u>54.4</u>	<u>72.9</u>	<u>68.8</u>	<u>86.9</u>	<u>86.4</u>	<u>88.2</u>
User taxes	40.2	49.5	60.7	61.0	74.7	74.2	76.7
Other taxes ^{c/}	5.2	4.9	12.2	7.8	12.2	12.2	11.5
Highway - Related Expenditures	<u>33.0</u>	<u>37.0</u>	<u>46.8</u>	<u>62.9</u>	<u>70.5</u>	<u>66.5</u>	<u>57.2</u>
DGV actuals	21.0	30.5	39.4	49.1	55.7	55.4	46.2
Amortization of Highway Debt	12.0	6.5	7.4	13.8	14.8	11.1	11.0

a/ Source: DGV, February, 1969.

b/ Taxes on gasoline, diesel, lubricants, registration, licenses, plates, tires, tubes, import and consumption taxes on vehicles and spare parts.

c/ Set up by law to finance servicing of foreign debt on highways; taxes on banana, sugar and liquor production, and share of National Insurance Institute.

FOREIGN LOANS TO COSTA RICA HIGHWAY SECTOR, 1955-1968 ^{a/}
(US\$1,000,000)

Date	Agency Loan No.	Amount	GOCR Contribution (US\$ equiv.)	Project	No. of Roads	Kilometers		Km. Completed 12/31/68.		Scheduled Completion Date
						Con-struction	Recon-struction	Con-struction	Recon-struction	
11/3/55	EXIM-754	21.5	-	Inter-American Highway ^{c/}	1	550	405	215	115	1971
	USG-322 ^{b/}	46.3	-							
6/15/60	EXIM-1151	3.0	-	San José-El Coco	1	12	-	12	-	1965
10/13/61	IBRD-299	5.5	7.0	First Stage, Plan Vial	41	43	470	40	199	1970
10/13/61	IDA-10	4.7	-							
7/23/63	AID-009	2.1	-	First Stage, Plan Vial	12	40	80	40	57	1969
6/2/64	IDB-80	4.0	3.3	Feeder Roads	40	317	-	253	-	1969
7/31/66	CABEI-6	4.7	1.0	El Coco-San Ramón	1	42	-	-	-	1971
1/31/68	CABEI-9	5.8								
TOTAL		97.6	11.3		95	1004	955	560	371	
Anticipated Loans, 1969-1970										
	IDB	7.2	4.8	Feeder Roads	19	243	101	-	-	-
	CABEI	.5	-	Studies, Southern Coastal Highway	-	-	-	-	-	-
	CABEI	1.8	-	Inter-American Hwy.	1	-	155	-	-	-
	AID	5.1	.4	Maintenance Equipment						
	IBRD ^{d/}	15.0	4.0	Siquirres-Limón Hwy.	1	60	-	-	-	-
TOTAL		29.6	9.2		21	303	256			

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^{a/} Total amount, not disbursements.

^{b/} Grant, not loan; USG annual appropriation administered by BPR. Amount represents 1955-1968 annual appropriations.

^{c/} Total length of Inter-American Highway is 659 Kms., of which 562 Kms. was financed with EXIM and USG funds (remaining 97 Kms. financed by GOCR). The 405 Kms. of reconstruction includes some reconstruction of new pavement that deteriorated rapidly.

^{d/} Exact dollar and colon amounts not yet definitely decided upon.

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GOCR FOREIGN DEBT
SERVICE OBLIGATIONS, 1968-1977
(US\$1,000,000)

Foreign Debt Service	1969	1970	1971	1972	1973	1974	1975	1976	1977
Bonded	.904	.389	.389	.046	.046	.046	.046	.046	.046
Loan	<u>7.683</u>	<u>9.415</u>	<u>10.616</u>	<u>10.209</u>	<u>9.164</u>	<u>9.671</u>	<u>9.850</u>	<u>9.597</u>	<u>9.971</u>
TOTAL	8.588	9.804	11.005	10.255	9.210	9.716	9.916	9.643	10.017

ESTIMATE OF GOCR FOREIGN DEBT SERVICE BURDEN
OF HIGHWAY MAINTENANCE LOAN (US\$)

	<u>Method I</u> ^{a/}	<u>Method II</u> ^{b/}
Grace Period (1969-1979)		
Average Annual Service on Maintenance Loan ^{c/}	157,000	157,000
% of 1969-1977 Average Annual Total Debt Service ^{d/}	1.65%	1.65%
Amortization Period (1980-2010)		
Average Annual Service on Maintenance Loan	440,000	410,767
% of 1969-1977 Average Annual Total Debt Service ^{d/}	4.5%	4.2%

a/ For amortization period, assuming 3% on total loan for fifteen years, plus annual payment of principal.

b/ For amortization period, assuming 3% on half of loan for 30 years, plus annual payment of principal.

c/ Annual interest at 2% for ten years.

d/ See total debt service figures above.

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GROWTH OF COSTA RICAN ROAD SYSTEM, IN KILOMETERS, BY CLASSES AND
TYPES OF SURFACE, 1960-1968

<u>System</u>	<u>1960</u>	<u>1961</u>	<u>1962</u>	<u>1963</u>	<u>1964</u>	<u>1965</u>	<u>1966</u>	<u>1967</u>	<u>1968</u>
<u>GENERAL TOTAL</u>	<u>3,116</u>	<u>3,341</u>	<u>3,549</u>	<u>4,264</u>	<u>5,442</u>	<u>5,610</u>	<u>5,727</u>	<u>5,882</u>	<u>6,131</u>
Paved <u>1/</u>	n. a.	n. a.	1,060	1,089	1,120	1,148	1,166	1,190	1,299
Improved <u>2/</u>	n. a.	n. a.	2,489	3,175	4,322	4,462	4,561	4,692	4,832
<u>NATIONAL HIGHWAYS</u>	<u>1,035</u>	<u>1,095</u>	<u>1,161</u>	<u>1,233</u>	<u>1,317</u>	<u>1,351</u>	<u>1,407</u>	<u>1,480</u>	<u>1,475</u>
Paved	n. a.	n. a.	611	615	625	643	656	678	752
Improved	n. a.	n. a.	550	618	692	708	751	802	723
<u>REGIONAL HIGHWAYS</u>	<u>751</u>	<u>766</u>	<u>781</u>	<u>810</u>	<u>828</u>	<u>838</u>	<u>846</u>	<u>856</u>	<u>860</u>
Paved	n. a.	n. a.	354	371	371	381	386	391	426
Improved	n. a.	n. a.	427	439	457	457	460	465	434
<u>FEEDER ROADS</u>	<u>1,330</u>	<u>1,480</u>	<u>1,607</u>	<u>2,221</u>	<u>3,297</u>	<u>3,421</u>	<u>3,474</u>	<u>3,546</u>	<u>3,796</u>
Paved	n. a.	n. a.	95	103	124	124	124	121	121
Improved	n. a.	n. a.	1,512	2,118	3,173	3,297	3,350	3,425	3,675

1/ Concrete and asphalt pavement.

2/ Surfaced with gravel or selected material (ballast).

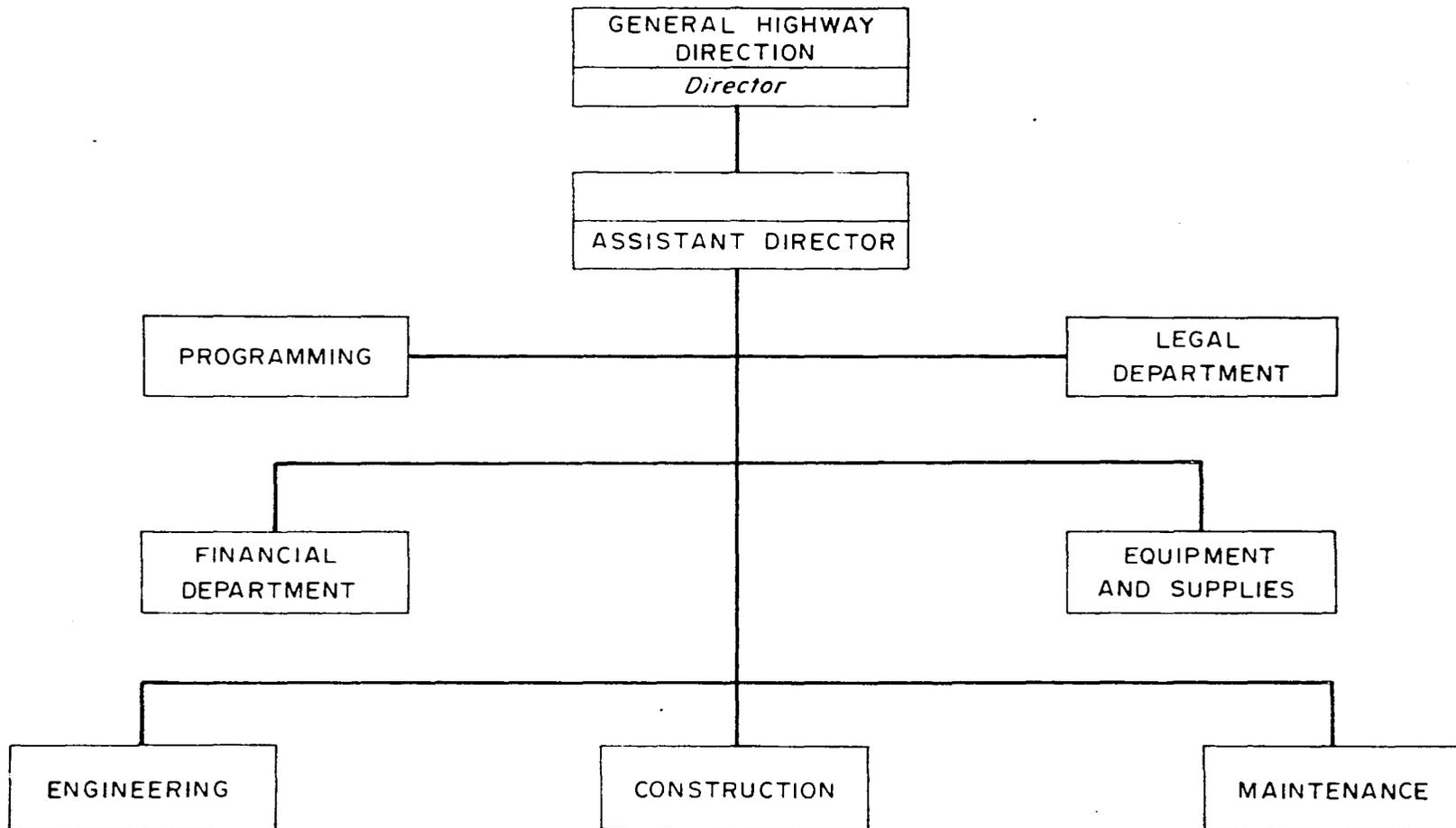
n. a. Data not available.

SOURCE: Ministry of Transportation, Planning Department

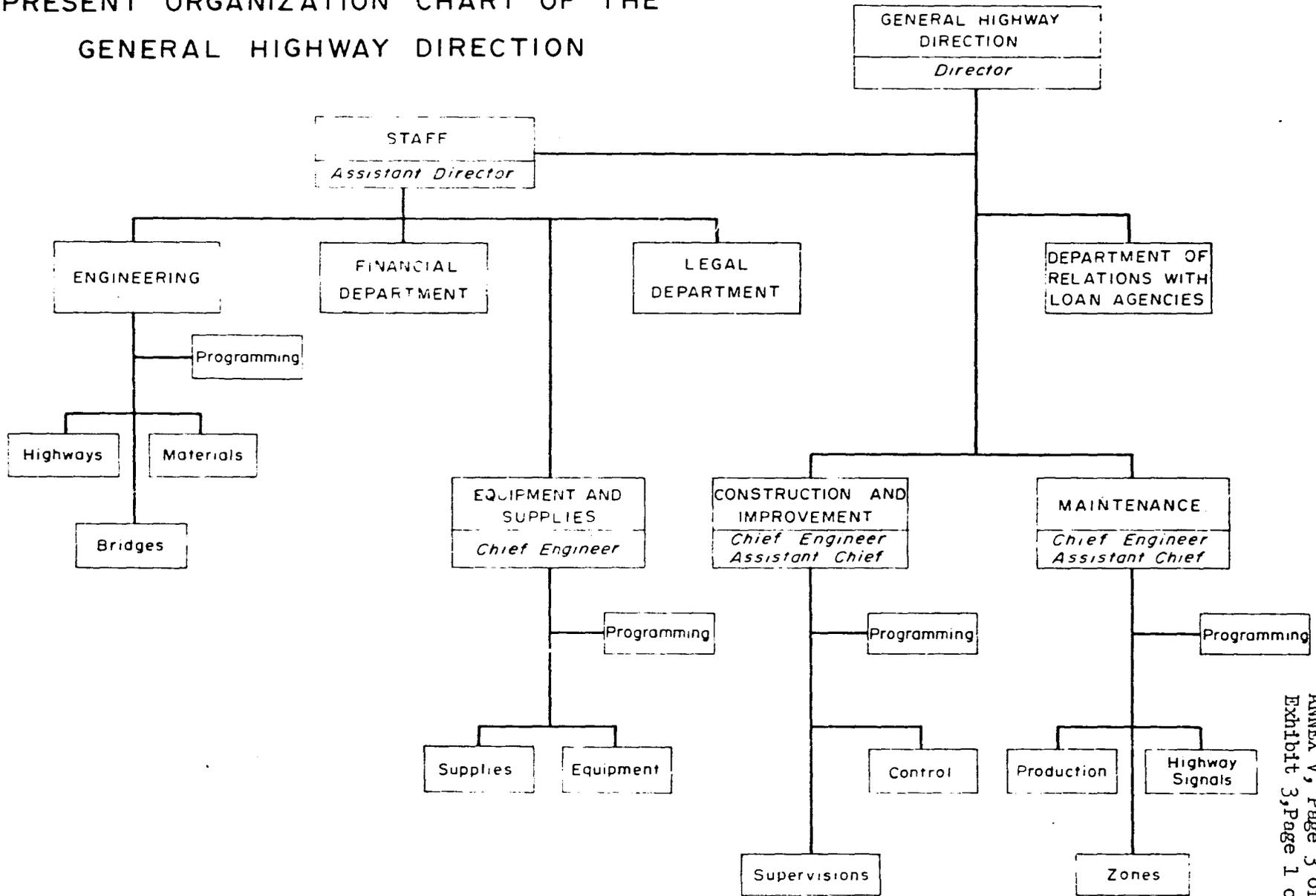
3/17/69

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PAST ORGANIZATION CHART OF THE
GENERAL HIGHWAY DIRECTION

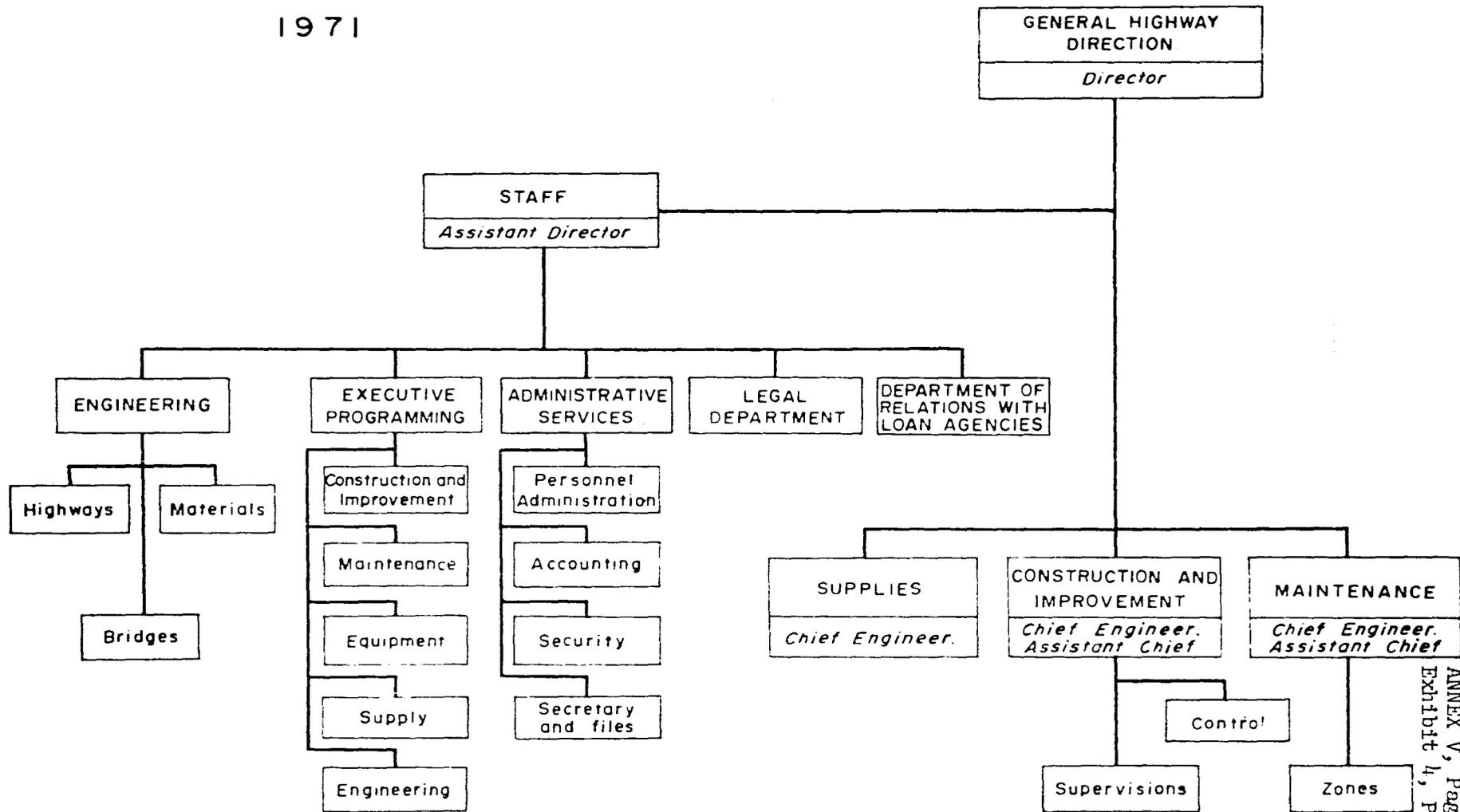


PRESENT ORGANIZATION CHART OF THE GENERAL HIGHWAY DIRECTION



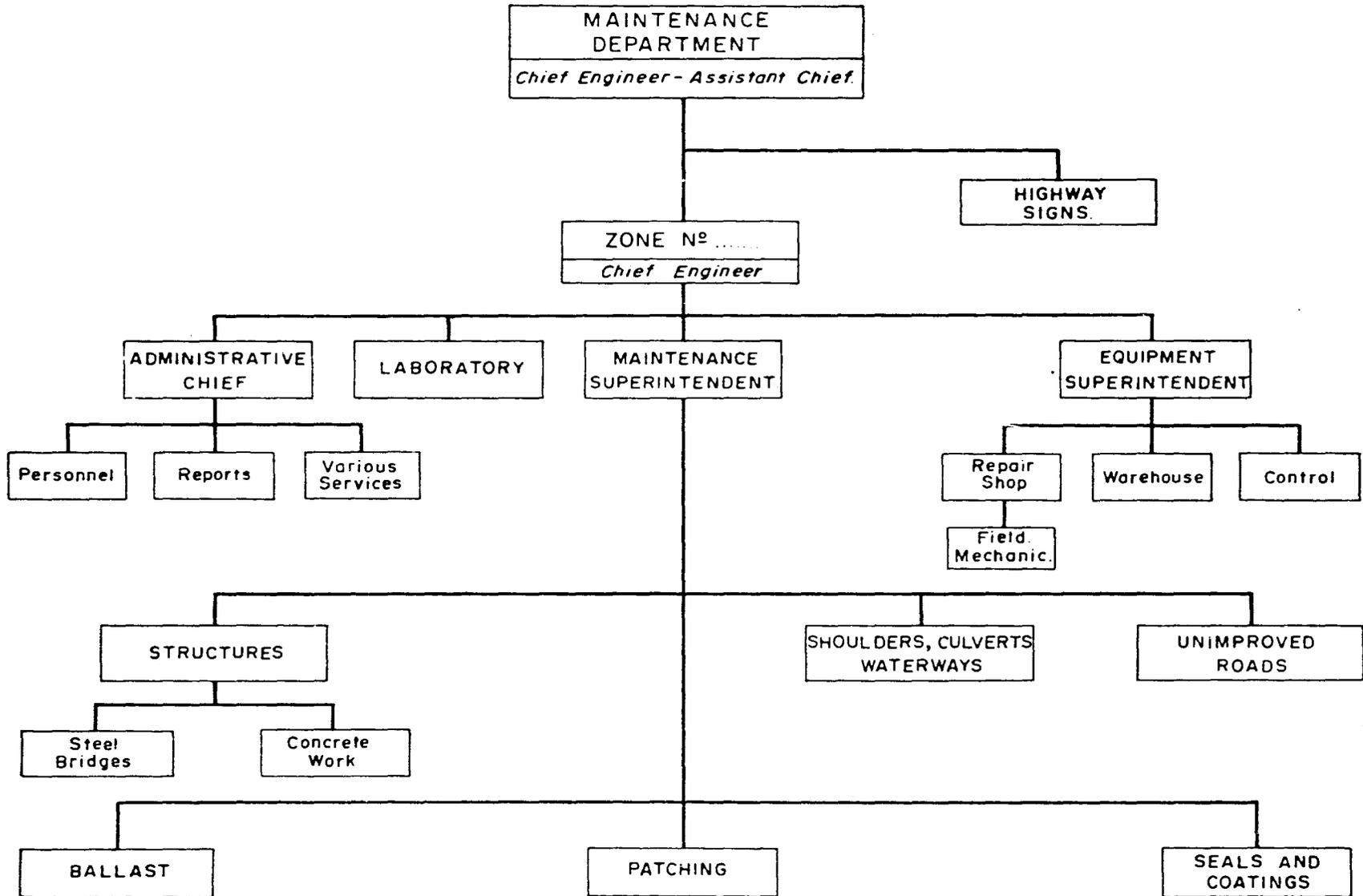
FUTURE ORGANIZATION CHART OF THE GENERAL HIGHWAY DIRECTION

1971

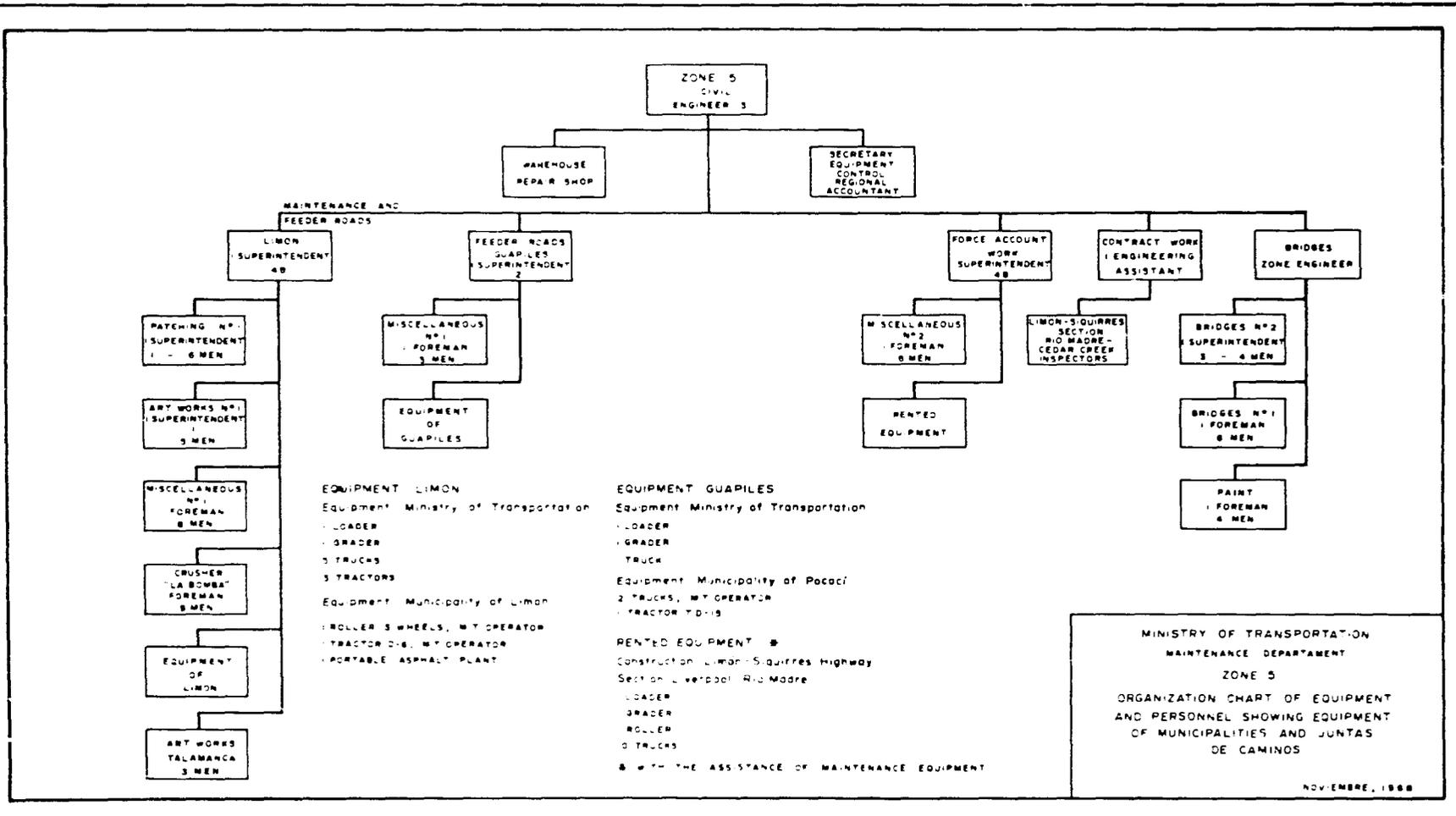


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DETAIL OF MAINTENANCE DEPARTMENT



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SUMMARY OF TECHNICAL QUALIFICATIONS OF THE

MAINTENANCE DEPARTMENT STAFF

DIRECCION GENERAL DE VIALIDAD

Oscar Ulloa González - Chief Engineer Maintenance Department.

Age 36, married. Graduated from Engineering School, University of Costa Rica 1955. U. S. Bureau of Public Roads and Ministry of Transportation: Chief of Field Laboratory on construction of Interamerican Highway, Resident Engineer on construction and maintenance in provinces of Puntarenas and Guanacaste, construction of Autopista San José - El Coco Airport, Chief of Section of Planning and Supervision, Chief Engineer of District 1. At present, Chief of Maintenance Department, responsible for programming and execution of maintenance and betterment of highways, roads and bridges throughout Costa Rica.

Francisco Carazo Alfaro - Assistant Engineer Maintenance Department.

Graduated from University of Costa Rica 1955. Worked with U. S. Bureau at Public Roads 1954-1958 in field laboratories. Since 1958 with Ministry of Transportation in Feeder Roads Section and Chief of Zones 1-1 and 1-2; since August, 1968 Assistant Engineer, Central Maintenance.

Enrique Solano Rivera - Chief, Program and Control Division, Plan Vial.

Bachelor of Science and Letters 1956; graduated from School of Civil Engineering, University of Costa Rica 1966; took courses in Administration of Programs for construction and maintenance of highway - ESAPAC and ICAP. Assistant construction engineer with Empresa Constructora ECA; ICE office engineer on river control; with Maintenance Department, Ministry of Transportation since 1965.

Ricardo A. Umaña P. - Chief Engineer Force Account Construction (Major

Improvements). Completed engineering studies, School of Engineering, University of Costa Rica 1962. With Ministry of Transportation since 1964.

Edgar Corrales Cordero - Chief Engineer of Maintenance Zone 2.

Graduated from School of Civil Engineering 1956. Professor of Mathematics and Physics (13 years) in Costa Rica Night School. With Ministry of Transportation since 1956: Planning Office, construction of roads and bridges, engineer with National Commission of Railways; since 1967 in Maintenance Department Plan Vial.

Edgar Meléndez Cerda - Chief Engineer of Maintenance Zone 4.
With Ministry of Transportation since 1962; Chief of Contract Construction
Projects on National and Regional highways.

Oscar Fco. Ramírez Arias - Chief of Highway Signals Section.
Bachelor of Science and Letters 1958. With Ministry of Transportation
since 1959: Office of design, traffic engineer, Chief of Highway Signals
Section in Maintenance Department since 1965.

Enrique Estrada Lara - Inspector of Maintenance and Improvement of Bridges
and Culverts. With Ministry of Transportation since 1954: Construction
and repair of bridges and culverts, concrete construction and erection of
steel structures.

MAINTENANCE EQUIPMENT PURCHASE LIST

(US\$1,000)

ITEM NO.		UNIT PRICE CIF	NO. UNITS # 1	SUBTOTAL COST # 1	NO. UNITS # 2	SUBTOTAL COST # 2	TOTAL UNITS	NO. REPLACEMENT	COST OF REPLACEMENT ITEMS	TOTAL COST
1	Motorgraders	20.0	10	200.0	5	100.0	15	11	220.0	300.0
2	Loaders, 1 1/4 c.y. (Rubber tired)	15.0	10	150.0	12	180.0	22	19	285.0	330.0
3	Aggregate spreaders traction type	4.0	-	-	3	12.0	3	1	4.0	12.0
4	Flaberty Aggregate spreader - self-propelled	17.3	1	17.3	-	-	1	-	-	17.3
5	Trucks with lubricating equipment	6.0	3	18.0	-	-	3	-	-	18.0
6	Trucks with welding equipment	5.7	3	17.1	3	17.1	6	3	17.1	34.2
7	Tank trucks (4000 gal. - Asphalt)	31.1	1	31.1	1	31.1	2	-	-	62.2
8	Pick-ups	2.7	30	81.0	10	27.0	30	30	81.0	81.0
9	Jeeps	3.3	6	19.8	6	19.8	12	12	39.6	39.6
10	Rollers, two wheels tandem (10-14 ton)	13.0	2	26.0	4	52.0	6	6	78.0	78.0
11	Rollers, two wheels tandem (6-8 ton)	10.5	4	42.0	4	42.0	8	2	21.0	84.0
12	Walk-behind vibratory rollers (3-5 ton)	2.3	12	27.6	-	-	12	-	-	27.6
13	Rollers self-propelled tandem (3-5 ton)	2.7	2	5.4	2	5.4	4	2	5.4	10.8
14	Power mower attachment	4.0	2	8.0	2	8.0	4	-	-	16.0
15	Field storage asphalt tanks (5000 gal.)	0.8	6	4.8	6	4.8	12	-	-	9.6
16	Asphalt heater portable (325 gal.)	2.2	6	13.2	6	13.2	12	-	-	26.4
17	Asphalt mixer bituminous (portable)	8.2	4	32.8	3	24.6	7	2	16.4	57.4
18	Asphalt distributor truck (1000 gal.)	9.3	2	18.6	-	-	2	2	18.6	18.6
19	Semi-asphalt distributor (2000 gal.)	25.5	-	-	1	25.5	1	1	25.5	25.5
20	Asphalt storage tank (20 000 gal.)	17.3	1	17.3	-	-	1	-	-	17.3
21	Asphalt storage tank (10 000 gal.)	12.0	-	-	1	12.0	1	-	-	12.0
22	Asphalt portable heater (5000 gal.)	6.8	1	6.8	-	-	1	-	-	6.8
23	Asphalt pavement finisher	21.0	1	21.0	-	-	1	1	21.0	21.0
24	Cargo trucks (12-15 tons)	6.0	1	6.0	2	12.0	3	3	18.0	18.0
25	Dump trucks heavy duty - 4 1/2 yd	10.9	40	436.0	29	316.1	69	69	752.1	752.1
26	Dump trucks light duty - 3 yd.	9.3	-	-	36	334.8	36	20	186.0	334.8
27	Tilt bed trailers 10 tons	4.0	3	12.0	3	12.0	6	-	-	24.0
28	Low bed trailer - 25 tons	4.9	1	4.9	2	9.8	3	2	9.8	14.7
29	High bed trailer - 10 tons	3.9	1	3.9	-	-	1	-	-	3.9
30	Rock wagons 6 c.y.	18.8	6	112.8	6	112.8	12	6	112.8	225.6
31	Dumpster Dumpster Units	5.9	3	17.7	3	17.7	6	6	35.4	35.4
32	Cargo trucks, 8 tons	4.5	5	22.5	5	22.5	10	5	22.5	45.0
33	Rubber-tired tractors (50 HP)	5.7	2	11.4	2	11.4	4	-	-	22.8
34	Tractor truck unit	12.0	1	12.0	2	24.0	3	2	24.0	36.0
35	Portable crusher (primary and secondary)	136.0	1	136.0	-	-	1	1	136.0	136.0
36	Portable crusher (secondary)	53.4	-	-	1	53.4	1	1	53.4	53.4
37	Cone crusher	18.0	1	18.0	-	-	1	-	-	18.0
38	Tractors D7 with rippers	34.5	1	34.5	4	138.0	5	2	69.0	172.5
39	Crawler shovel (1 cu. yd.) heavy duty	82.7	-	-	1	82.7	1	1	82.7	82.7
40	Front loader crawler type (2 1/2 cu. yd.)	27.9	1	27.9	1	27.9	2	-	-	55.8
41	Gradall	60.0	-	-	1	60.0	1	1	60.0	60.0
42	Small portable compressor 135 cu. ft.	6.0	3	18.0	3	18.0	6	-	-	36.0
43	Jackhammer	0.6	6	3.6	-	-	6	6	3.6	3.6
44	Concrete mixer (2 bags)	3.0	1	3.0	1	3.0	2	2	6.0	6.0
45	Tampers - Air	0.4	-	-	7	2.8	7	-	-	2.8
46	Concrete vibrators	0.6	12	7.2	-	-	12	6	3.6	7.2
47	Water pumps 2"	0.6	4	2.4	4	2.4	8	8	4.8	4.8
48	Water pumps 4"	0.8	3	2.4	3	2.4	6	-	-	4.8
49	Power brooms	2.2	2	4.4	1	2.2	3	3	6.6	6.6
50	Traffic counters	0.9	9	8.1	-	-	9	9	8.1	8.1
51	Stationary scales	3.8	3	11.4	-	-	3	1	3.8	11.4
52	Portable scales	1.9	3	5.7	-	-	3	3	5.7	5.7
53	Transceiver radios	2.0	10	20.0	18	36.0	28	-	-	56.0
	Subtotal		220	1672.6	204	1876.4	424	249	2436.5	3549.0
	Plus 10% allowance for possible price increases			167.3		187.8			243.7	354.9
	TOTAL			1839.9		2064.0			2680.2	3903.9

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JUSTIFICATION FOR PURCHASE OF ADDITIONAL EQUIPMENT

Road Maintenance Equipment

Approximately 87% of dollar expenditures under the loan will be used for the purchase of new maintenance equipment (including 15% spare parts). Two-thirds of this equipment (69% of total estimated dollar cost) will replace existing DGV equipment which is obsolete or near the end of its useful life.

Additional units will be required in order to enable the Highway Department 1) to improve the technical efficiency of its current maintenance operations and 2) to provide for future maintenance of new roads being added to the country's road system, i.e., Interamerican Highway, El Coco-San Ramón, Plan Vial, Feeder Roads. An itemized justification for these additional units is presented below:

4	Motorgraders	Required for second disbursement to cover Kms. coming under Ministry's maintenance responsibility.
3	Loaders - 1/2 C.Y.	Same as above
2	Aggregate Spreaders - traction type	To work with second 2000 gal. asphalt distributor on routine or scattered seal coat work.
1	Aggregate Spreader - Flaherty self-propelled	For use on continuous seal coating operations, with other 2000 gal. asphalt distributor, on national and regional highways.
3	Trucks with lubricating equipment	To provide 1 unit for each zone (with 3 on hand)
3	Trucks with welding equipment	Same as for lubricating equipment.

2	Tank Trucks (4000 gal.)	To transfer asphalt materials from storage centers to field operations.
6	Rollers, two-wheel tandem (6-8 ton)	To provide 1 unit for each maintenance zone.
12	Rollers, vibrating walk-behind (3-5 ton)	To equip each maintenance section with at least 1 unit of this type for patching and shoulder repair work.
2	Self-propelled tandem Roller (3-5 ton)	Needed to compact asphalt patches and shoulders.
4	Rubber-tired Tractors (50 HP) with Power Mower Attachment	To replace hand labor clearing shoulders and R/W in some locations.
12	Field Storage Asphalt Tanks-5000 gal.	For patching in 12 maintenance sections which have principally asphalt highways to maintain.
12	Asphalt Heaters, portable (325 gal.)	For heating pots for asphalt patching work in 12 above maintenance sections.
5	Bituminous Asphalt Mixers - Portable	To be used in place of old concrete mixers for both cold and hot patching.
6	Tilt Bed Trailers - 10 Tons	1 unit for each zone to haul maintenance equipment within zone.
5	Cargo Trucks - 8 tons	To provide all maintenance zones (except Limón) with material and supply hauling equipment.
7	Air Tampers	To compact fill material around drainage structures and bridge repair.
6	Concrete Vibrators	For drainage structures and bridge repair.
6	Water Pumps 4"	To provide each zone with 1 unit for drainage structure and bridge repair work.
1	Storage Tank - 20,000 gal.	To provide asphalt storage at San José headquarters for seal coating and other purposes.

1	Storage Tank - 10,000 gal.	Same as above.
1	Portable Asphalt Heater - 5,000 gal.	To heat asphalt in R.R. tank cars or storage tanks.
2	Front End Loader, Crawler Type - 2 1/2 C.Y.	For use with the two portable crusher mobile units.
1	Cone Crusher	To be added to Carmen crushing unit to process fine aggregate for seal coating.
3	Tractors D 7, with Rippers	For use in ripping and processing volcanic rock material for replacement of subbase, base and shoulders.
6	Rock Wagons - Dumpers 6 C.Y.	To use with the two portable crusher mobile units.
6	Small Portable Compressors - 135 C ^u . ft.	To provide 1 unit for each maintenance zone for use with air accessories in maintenance and quarry work.
1	Tractor Truck Unit	To provide additional means of moving heavy maintenance equipment and materials.
1	Low-Bed Trailer	
1	High-Bed Trailer	
16	Dump Trucks, Light Duty - 3 C.Y.	To provide for additional maintenance requirements due to new kilometers of highway added during period.
28	Radio Transmitters and Receivers	To provide communication between all maintenance headquarters.
2	Stationary Scales	To equip 2 additional permanent weighing stations.

**ADDITIONAL SHOP EQUIPMENT NEEDED TO SUPPLEMENT
 PRESENT MINISTRY OWNED EQUIPMENT**

Quantity	Description	Size	Unit Cost FOB Factory \$US	Estimated Total Cost \$US
6	Lathe	6"	500	3,000
3	Lathe	9"	2,100	6,300
7	Aligner Wheel	Shop	1,000	7,000
3	Press Shop	25 Ton	500	1,500
6	Press Hand Shop	100 Lbs.	75	450
6	Press Track Portable	60 Ton	175	1,050
4	Press Drill Pedestal	1 $\frac{1}{2}$ "	1,250	5,000
14	Grinder Bench	4"	100	1,400
16	Compressor, Gas & Elect.	Shop	1,100	17,600
14	Charger Battery		95	1,330
24	Cleaner Spark Plug		50	1,200
6	Cleaner Steam		450	2,700
40	Cylinder Oxygen		40	1,600
40	Cylinder Acetylene		40	1,600
10	Generator Electric	30 Kw.	3,000	30,000
10	Generator Electric	10 Kw.	1,200	12,000
24	Creeper Floor		20	480
32	Tank Storage	1000 Gls.	400	12,800
6	Puller Assortment		200	1,200
6	Reamer Assortment	1/4" - 1-1/4"	200	1,200
24	Tool Hand Assortment		300	7,200
6	Outfit Brake Repair		500	2,000
6	Outfit Blacksmith		350	2,100
18	Outfit Tire Repair		400	7,200
6	Tester Injector Portable		75	450
6	Tester Ignition		300	1,800
14	Drill Electric Hand	1/4"	40	560
14	Drill Electric Hand	1/2"	95	1,330
4	Welder Arc	300 amp.	2,300	9,200
10	Welder Acetylene		300	3,000
6	Vise	3"	25	150
14	Vise	5"	70	420
16	Units Lubrication	Shop	1,000	16,000
18	Jack Floor	4 Ton	200	3,600
18	Jack Floor	10 Ton	350	6,300
18	Jack Hand	3 Ton	20	360
18	Jack Hand	5 Ton	25	450
18	Jack Hand	10 Ton	45	810
18	Set Tap & Die	Small	25	450
18	Set Tap & Die	Medium	65	1,170
6	Set Tap & Die	Heavy Duty	170	1,020

Quantity	Description	Size	Unit Cost FOB Factory \$US	Estimated Total Cost \$US
48	Extinguisher	2½ Us	25	1,200
18	Washer High Pressure		300	5,400
24	Pump Dispensing Fuel	Station	500	12,000
6	Hoist Floor Portable	2 Ton	650	15,600
6	Hoist Chain	2 Ton	125	<u>750</u>
	TOTAL			210,950
	Estimated Shipping Costs			29,000
	Total Estimated Cost			\$240,000

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TRAINING AIDS REQUIRED TO SUPPLEMENT

MINISTRY TRAINING EQUIPMENT

1	Movie projector with sound and microphone attachments 16 M M	\$ 1,000.00
1	Projector for slides	200.00
1	Projector (Opaque reflector type) for projecting diagram illustrations and drawings directly on screen	500.00
1	Portable tape recorder for field use	100.00
1	Tape recorder for school headquarters use	200.00
1	Movie camera 16 M M	350.00
1	Camera for still photos	200.00
1	Projection screen for travel to field	75.00
1	Projection screen for school headquarters	75.00
1	Instruction movies for equipment operators	2,000.00
1	Instruction movies for equipment maintenance personnel	1,400.00
1	Instruction movies for mechanical personnel	1,400.00
1	Instruction movies for highway maintenance personnel	<u>1,500.00</u>
	Total	\$ 9,000.00

DGV EQUIPMENT REPLACEMENT PURCHASE FOR 1972
(US \$1000)

	Unit Price CIF	No. of Units	Total Cost
Loaders, 1¼ c. y. (Rubber tired)	15.0	4	60.0
Trucks with lubrication equipment	6.0	3	18.0
Pick ups	2.7	6	16.2
Jeeps	3.3	6	19.8
Power mower attachment	4.0	3	12.0
Self propeller tandem roller 3-5 Ton	2.7	2	5.4
Cargo trucks, 3 Tons	4.5	10	45.0
Semi-asphalt distributor (1000 gal) w	25.5	1	25.5
Water pumps 2"	0.6	7	4.2
Tractors D7 with rippers	34.5	3	103.5
Rock wagons 6 c. y.	18.8	3	56.4
Dump trucks, heavy duty	10.9	9	98.2
Flat truck	5.2	1	5.2
		<u>TOTAL</u>	<u>469.4</u>

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ESTIMATED COST OF CONSULTANTS
(US \$1000)

	1969 ^{a/}		1970		1971		1972		TOTAL	
	GOCR US\$ Equiv.	AID US\$	GOCR US\$ Equiv.	AID US\$	GOCR US\$ Equiv.	AID US\$	GOCR US\$ Equiv.	AID US\$	GOCR US\$ Equiv.	AID US\$
1 Maintenance Engineer ^{b/}	0.9	8.0	3.5	31.5	3.5	31.5	3.5	31.5	11.4	102.5
1 Equipment & Training Engineer ^{b/}	0.9	8.0	3.5	31.5	3.5	31.5	3.5	31.5	11.4	102.5
1 Field Engineer ^{c/}	-	-	3.5	26.5	3.5	26.5	3.5	26.5	10.5	79.5
1 Administrative & Organization Specialist ^{b/}	-	-	3.5	31.5	-	-	-	-	3.5	31.5
Office Staff	1.2	-	4.3	-	4.5	-	4.5	-	14.5	-
Transportation	0.6	-	2.5	-	2.5	-	2.5	-	8.1	-
Office Services	0.6	-	0.6	-	0.6	-	0.6	-	2.4	-
TOTAL	4.2	16.0	21.4	121.0	18.1	89.5	18.1	89.5	61.8	316.0

^{a/} Costs calculated on basis of last quarter 1969.

^{b/} Annual cost estimated at US\$35,000, of which 10% (for living allowance), computed in local costs.

^{c/} Annual cost estimated at US\$30,000 (10% in local costs).

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HIGHWAY MAINTENANCE LOAN: IMPLEMENTATION SCHEDULE

Loan Authorized	1 June 1969
CBD Notice Inviting Submission Technical Proposals from Construction Firms	1 June 1969
Receipt Technical Proposals	5 July 1969
Sign Loan Agreement	15 July 1969
Selection and Approval of Consultant by A.I.D.	15 July 1969
Ratification by Legislative Assembly	31 August 1969
Conditions Precedent	
Consultant	1 October 1969
1st Phase Procurement	15 December 1969
2nd Phase Procurement	1 July 1971
Sign Consultant Contract	20 August 1969
Consultant on Board	15 October 1969--31 Dec.1972
First Phase Procurement	
IFB drafted and approved	31 January 1970
Notice to Commerce Business Daily	1 February 1970
Bid Opening	15 March 1970
Bid Evaluation, Award Recommendations, etc.	15 May 1970
Approved by A.I.D.	31 May 1970
*Approved by GOCR	15 June 1970
*Signing of Purchase Contracts	15 June 1970
*Delivery of Equipment (120 days)	15 October 1970
Second Phase Procurement	
IFB drafted and approved	15 June 1971
Notice to Commerce Business Daily	1 July 1971
Bid Opening	15 August 1971
Bid Evaluation, Award Recommendations, etc.	15 October 1971
Approved by A.I.D.	1 November 1971
*Approved by GOCR	15 November 1971
*Signing of Purchase Contracts	15 November 1971
*Delivery of Equipment (120 days)	15 March 1972

* Note: These dates may be as much as 50 days later in the event of an appeal to GOCR by unsuccessful bidder.

Draft
LOAN AUTHORIZATION

Provided from: Alliance for Progress Loan Funds
(Costa Rica: Highway Maintenance)

Pursuant to the authority vested in me as Deputy U.S. Coordinator of the 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 pursuant to Part I, Chapter 2, Title VI, (Alliance for Progress) of said Act, as amended, to the Government of Costa Rica ("Borrower") of not to exceed Seven Million One Hundred Thousand United States Dollars (\$7,100,000) to assist in financing the United States dollar and local costs of purchasing highway maintenance equipment and shop equipment and facilities necessary for an adequate highway maintenance program, of training personnel in highway maintenance, and of highway maintenance consulting services. This loan shall be subject to the following terms and conditions:

I. Interest and Terms of Repayment

Borrower shall repay the loan to A.I.D. in United States dollars within forty (40) years from the date of 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 two percent (2%) per annum during the grace period and three percent (3%) per annum thereafter.

II. Other Terms and Conditions

A. 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 Central America, and marine insurance financed under the loan shall be placed in the United States with a company authorized to do marine insurance business in any state thereof.

- B. United States dollars utilized under the loan to finance local costs shall be made available to the Borrower or its designee through Special Letter of Credit procedures and shall be used only for procurement in the United States.
- C. As a condition precedent to any disbursements or the issuance of any letters of commitment under the loan, A.I.D. shall have approved the consulting firm or firms and the consulting contract or contracts.
- D. The following shall be conditions precedent to any disbursements for equipment:
 - 1. Consultant and A.I.D. approval of the Maintenance Department of the Highway Administration ("DGV") maintenance plan, which will follow an established order of priorities: (a) national, regional and IDB feeder roads, and (b) other roads.
 - 2. Consultant and A.I.D. approval of vehicle load control plan prepared by Planning Department of Ministry of Transport. Plan will include: (a) transfer of responsibility and budgetary funds for vehicle load control from Direccion de Transporte Automotor to Direccion General de Vialidad, (b) proposed location and time phasing for purchase of fixed and portable weighing station equipment, (c) considerable increase in salary of DGV inspectors at permanent and portable weighing stations, (d) continuous surveillance at permanent weighing stations, (e) allowance and clearing of sufficient right-of-way alongside all permanent weighing stations for trucks to park for off-loading or re-balancing of load, and detention until fines are paid, (f) the stationing of at least one policeman at each permanent and portable weighing station, (g) the placement of permanent weighing stations in clear view of the highway with appropriate signs, and (h) the placement of small traffic barriers directly ahead of the scales to prevent truck drivers from braking rapidly and damaging the scales.
 - 3. The 1970 budget proposal and law will include a separately identifiable appropriation for roads to be maintained under the project, i.e., national, regional, and IDB feeder roads.
 - 4. Consultant and A.I.D. will verify that the 1970 budget, as approved by the Legislative Assembly, for national, regional and IDB feeder roads, is in accordance with the DGV maintenance plan.

5. Consultant and A.I.D. approval of 1970 DGV allocation of funds within the budget law which can be used for vehicle load control program.
 6. Completion of work in progress on load control stations at San Isidro and Barranca.
 7. Ministry of Transport and BPR certification of satisfactory completion and acceptance of the last road construction project completed and financed under A.I.D. Loan 515-L-109.
 8. Letter from the Contraloria de la Republica stating that procedures will be established to comply with the audit provisions of the condition precedent No. 1 to the second disbursement.
 9. A contract between Borrower and the Banco Nacional de Costa Rica (BNCR) satisfactory to the consultant and A.I.D., specifying the terms under which the BNCR will administer the Truckowners Fund.
 10. A contract signed by Borrower, the Central Bank, and the commercial banks, satisfactory to the consultant and A.I.D., specifying the terms under which the banking system will administer the Municipality Fund.
 11. Waiver by the Legislative Assembly of the \$250,000 legal limitation on equipment purchases by the Municipalities to the extent that such purchases are financed by the Municipality Fund. (Assembly ratification of the loan agreement with such a condition will constitute the necessary legal waiver action.)
- E. As a condition precedent to the second disbursement under the loan (second part of equipment for the DGV and second half of Municipal Fund), Borrower shall present evidence, satisfactory to A.I.D., that:
1. The 1970 budgetary allocation specified for maintenance of roads under the A.I.D. project has been made available by the Ministry of Finance as needed, and has been used for the intended purpose, and that neither the funds nor the equipment have been diverted to other operations. This evidence will be supported by a year-end audit carried out by the Contraloria de la Republica.
 2. The 1971 budget law also includes a separately identifiable appropriation for roads to be maintained under the project.

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3. The Maintenance Department reorganization has been completed according to the implementation plan, including the projected construction of field offices and shop facilities.
4. A vehicle load control law, decree or regulation has come into effect, which authorizes the Ministry of Transport, above and beyond existing legislation, to detain overloaded vehicles until the excess cargo is offloaded and the corresponding fine is paid. The law will specify the fines to be charged.
5. Enforcement of the vehicle load control plan presented as condition precedent to the first disbursement has occurred. This evidence will be supported by records of total cargo weighed, cargo offloaded, and fines collected.
6. A training program for maintenance personnel has been established and is in operation.
7. The operating procedures designated in the approved maintenance plan have been instituted in at least three of the six maintenance zones.
8. All obsolete equipment replaced by project equipment has been disposed of so that it will not continue to be a maintenance burden on the Maintenance Department repair shops.
9. Force account construction has not exceeded the level agreed to by the Ministries of Planning and Transport, i.e., no more than 10% of DGV highway construction expenditures, or no more than 25% of the maintenance and major betterments expenditures for national, regional and IDB feeder roads, whichever is less.

F. Borrower shall covenant that:

1. Until all project equipment has been delivered the consultant and A.I.D. will verify that national annual budget appropriations for maintenance of national, regional and IDB feeder roads, and for vehicle load control are in accordance with the DGV maintenance 1969-1973 plan and that the Ministry of Finance has made the funds available as needed.

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2. As indicated in its 1972 expenditure projections, the DGV will initiate in 1972 procurement of the bulk of maintenance equipment to continue the replacement program started under the A.I.D. project.
3. The DGV will include funds in its annual budget requests following 1972 for routine replacement of equipment that has become obsolete.
4. The Congress, the Ministry of Finance, and the DGV will allocate sufficient annual funds to the maintenance of national, regional and IDB feeder roads after all project equipment has been delivered so as to permit execution of the mutually agreed-to maintenance program. The Budget Law will continue to include a separately identifiable appropriation for maintenance of national, regional and IDB feeder roads.
5. The DGV will give priority to the maintenance program, diminish progressively the road construction and betterment work done by force account, and ensure to the maximum extent possible that all major reconstruction and new construction be executed by qualified contractors.
6. An annual audit of maintenance fund expenditures and usage of A.I.D. maintenance equipment will be carried out by the Contraloria de la Republica until the project loan funds are fully disbursed. Borrower will assure that comparable annual audits will be conducted in succeeding years.
7. Equipment purchased with loan funds will not be used for other than routine maintenance work (excluding major betterments), except in emergency cases where prior approval is reached by A.I.D. and the Ministry of Transport.
8. The DGV will continue its vehicle load control program and will provide adequate funds for spare parts and replacement of weighing equipment.

Such other terms and conditions as A.I.D. may deem advisable.

Deputy U.S. Coordinator
Alliance for Progress

(date)
