Proj. No 6250714 (2)
PN
PD-AAB-655-B1

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

6250714
625-H-002

AFRICA REGIONAL: DAHOMEY - PARAKOU-MALANVILLE ROAD

AID-DLC/P-1085

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

UNCLASSIFIED

AID-DLC/P-1025
May 19, 1972

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Africa Regional - Dahomey - Parakou-Malanville Road

Attached for your review are the recommendations for authorization of a loan in an amount not to exceed $8,000,000 to the Republic of Dahomey ("Borrower") to assist in financing the foreign exchange and local currency costs of goods and services for the reconstruction and upgrading of the Parakou-Malanville Road.

This loan proposal is scheduled for consideration by the Development Loan Staff Committee at a meeting on Thursday, May 25, 1972.

Rachel R. Agee
Secretary
Development Loan Committee

Attachments:
Summary and Recommendations
Project Analysis
ANNEXES A-M

TABLE OF CONTENTS

ANNEXES

Parakou-Malanville Regional Road

SUMMARY AND RECOMMENDATIONS

1. Borrower: The Borrower is the Government of Dahomey (GRD)

2. Amount of Loan: $8 million

3. Terms of Loan: This will be a loan for 40 years with a grace period of 10 years. Interest will be at the rate of 2% during the grace period on disbursed amounts and 3% during the remaining 30 years. Repayment is in U.S. dollars.

4. Total Cost of Activity: Total cost of the project is $18.29 million. The International Development Association (IDA) will contribute $8.23 million and the GRD will contribute $2.06 million.

5. Description of Activity: The project consists of the reconstruction and upgrading to a two-lane bituminous surface a 200-mile road connecting the northern railhead of the Dahomey railroad at Parakou to the Dahomey/Niger border at the bridge crossing the Niger River in Malanville. The A.I.D. loan will finance the reconstruction and upgrading of a part of this road. The IDA will finance the reconstruction and upgrading of the balance of the road together with supervisory engineering services required for the full road. Additional project elements for which A.I.D. financing is not being provided include reconstruction of two sections of the Cotonou-Bohicon road, a preinvestment study of the Bohicon-Dassa Zoume road and expansion of the existing IDA road maintenance training program.

6. Purpose of Activity: To assist the GRD to rehabilitate and upgrade an essential link in the major north-south transport axis of the country which serves as the principal evacuation route for agricultural production in northern Dahomey and as the most economic regional transport route for the external trade of landlocked Niger. The project is essential to ensuring that economic development for both countries is not hindered by a further deterioration of the existing road network resulting in higher transport costs.

7. Background of Activity: The UNDP financed Dahomey Land Transport Survey, completed in 1969, recommended the reconstruction of the Parakou-Malanville road as an extremely urgent project in the transport sector. Under an IDA credit for highway maintenance, the detailed engineering design of the road is being carried out by the Swiss firm, Dorsch Ag. Zug., which completed the preliminary design and cost estimates in October 1971. At the same time the IBRD financed the economic

study of the road by N. D. Lea and Associates and Lamarre Valois International Ltd., a joint venture of Canadian firms. This study was completed in November 1971. In the latter part of 1971, the IBRD submitted this project among others to A.I.D. for consideration of participation in financing. In January 1972 A.I.D. advised the Bank of its interest in the project and took part in an appraisal mission with the IBRD in February. In May 1972 the GRD submitted a request to A.I.D. to assist in financing this project.

8. Export-Import Bank Interest: Ex-Im clearance obtained.

9. Views of A.I.D. and U.S. Missions: The loan is recommended by the Embassies in Cotonou and Niger, the A.I.D. Regional Development Office (RDO) in Niamey and the West Africa Regional Capital Development Office (WARCDO).

10. Statutory Criteria: The loan will meet all statutory requirements. See Annex J.

11. Issues: None.

12. Recommendation: Authorization of a loan to the Government of Dahomey in the amount of $8 million in accordance with the terms and conditions set forth in the draft Loan Authorization in Annex L.

CAPITAL DEVELOPMENT COMMITTEE MEMBERS

	WARCDO	AID/W
Loan Officer and Chairman:	P.J. Bloom	S.P. Walsh
Engineer:	W.A. McDonnell	R. Rose
Counsel:	J. W. Roxborough	M. Kitay
Desk Officer:	S.J. Littlefield (RDO/Niamey)	E. Chiavaroli

I. INTRODUCTION

A. PROJECT DESCRIPTION

The project for which partial A.I.D. financing has been requested consists of:

1. Reconstruction and upgrading to a two-lane standard approximately 200 miles of road between the northern railroad terminus at Parakou and the Dahomey/Niger border at Malanville;

2. The reconstruction of two sections of the Cotonou-Bohicon road (approximately 17 km);

3. Engineering supervision of the reconstruction of the above roads;

4. A preinvestment study of the Bohicon-Dassa Zoume road (77 km);

5. Expansion of the IDA's present road maintenance training program for the GRD Department of Public Works;

6. Construction and equipping of weighing stations at both terminuses of the Parakou-Malanville road.

The A.I.D. loan will be restricted to financing the construction cost of approximately one half of the Parakou-Malanville road. The IDA will finance the other elements of the project, including preparation of bid documents and engineering supervision of construction of the Parakou-Malanville road.

B. RELATIONSHIP TO A.I.D. PROGRAM

This loan is within the framework of A.I.D.'s current program policy in West Africa to support and promote regional cooperation as an essential ingredient for the economic development of this area, particularly as it relates to agriculture and transportation. Improved transportation links are of paramount importance to agriculture in ensuring a means of marketing production and reducing costs of both exports and imports. This project is an essential part of a regional transportation axis between Dahomey and Niger providing the primary access to the sea for the agricultural production in northern Dahomey and western Niger and as a means of importing necessary products for agricultural development and other commercial production. The Parakou-Malanville road project clearly serves the development priorities of the countries involved and is within the sectors chosen by A.I.D. for concentration of assistance. The project is also consistent with the U.S. policies of increased cooperation with multi-lateral international lending institutions and of greater emphasis upon assistance to the "least developed" countries.

C. BORROWER

The borrower will be the Government of the Republic of Dahomey (GRD). The implementing agency will be the Directorate of Public Works (DPW) in the Ministry of Public Works, Mines and Transport. The DPW field organization consists of three districts, South, Central and North, each with three to four sub-divisions. This project would fall within the province of the northern district which has its seat at Parakou. The districts are headed by engineers who are responsible for road construction and maintenance. The DPW employs 12 senior engineers and 35 engineers and assistant engineers who were trained abroad. In addition there are several expatriate experts provided by the Fond d'Aide et de Cooperation (FAC). At present the DPW is being assisted in a highway maintenance program through a $3.5 million credit from the International Development Association (IDA) which will directly benefit the project through a strengthened organization. The IDA credit provides for the overhaul and renewal of the equipment fleet as well as the strengthening and reorganization of the road maintenance organization. In addition, A.I.D. is assisting Dahomey, as well as the other countries within the Entente area, improve their road maintenance capability through the A.I.D. financed Regional Road Maintenance Project in Togo.

D. PROJECT HISTORY AND BACKGROUND

In March 1966, a mission from the International Bank for Reconstruction and Development (IBRD or Bank) visited Dahomey to study the country's roads, ports and railways, and to identify projects suitable for Bank group financing. The mission drew attention to the necessity of improving road maintenance and transport coordination and recommended the undertaking of a comprehensive survey and assessment of Dahomey's land transport requirements. In June 1967, the UNDP agreed to finance the proposed survey with the Bank as Executing Agency. The Dahomey Land Transport Survey was carried out jointly by the Canadian consulting firms, N.D. Lea Associates and Lamarre Valois (Consultants) and a report on the first phase was issued in July 1969. The study recommended the urgent reconstruction and upgrading of the Parakou-Malanville road to reestablish the one-lane paved road which had badly deteriorated from insufficient maintenance. Under an IDA credit for a highway maintenance program which resulted from this study, provision was also included for the detailed engineering and preparation of bidding documents for the recommended reconstruction of this road. The engineering study has been carried out by the Swiss firm, Dorsch Ag. Zug. (Dorsch) and the first phase completed in October 1971, giving cost estimates for both a one-lane and two-lane road.

In early 1971, the Consultants were asked by the GRD and the Bank to do a supplementary economic analysis of the Parakou-Malanville road bringing up to date the former report based on the latest traffic data and other information affecting the economics of the project. This report was completed in April 1971 and recommended a two-lane paved road. An additional supplementary report was issued by the Consultants in November 1971 which made the same recommendation. This latter study took into consideration final cost estimates furnished by Dorsch in October and costs of vehicle operation based on actual road deterioration over a 25-year period.

In the latter part of 1971, the Bank submitted several projects to A.I.D. for consideration of possible A.I.D. financing. Among the projects on this list was the Parakou-Malanville road. On January 13, Assistant Administrator Adams wrote to the Bank advising that A.I.D. was interested in cooperating with the Bank in financing this project and would include the project in its current fiscal year program. In February a joint Bank-A.I.D. mission undertook an appraisal of the route. As a result, A.I.D. agreed to participate in financing this road as described in Sections II and IV below.

II. TECHNICAL ANALYSIS

A. PROJECT DESCRIPTION

Since A.I.D. assistance will be directed to the reconstruction and upgrading of approximately one half of the Parakou-Malanville road, the following discussion is restricted to this discrete project element. The IDA is concurrently finalizing the details of the remaining project elements and will coordinate their financing with that of A.I.D.

The Parakou-Malanville road is approximately 200 miles long and connects the railhead at Parakou with the Niger road network across the Niger River Bridge at Malanville. The road is important in that it is a major link for Niger's imports and exports leading to the port of Cotonou. As a consequence of heavy truck traffic and little maintenance over the past few years, many sections of the single lane road have deteriorated badly. Planned improvements to the road consist of rehabilitation, widening to two lanes, improving the horizontal and vertical alignment and repairing and/or constructing new road structures.

B. ENGINEERING BACKGROUND AND PRESENT CONDITION OF THE ROAD

Initially, the original Parakou-Malanville road was nothing more than a track. Plans dating back to 1927 show the horizontal alignment about what it is today with large bridges and culverts in place at that time. A bituminous pavement was decided upon in 1948 and planning was completed in 1952. The design criteria established were based on extensive investigations of the soils and available materials to improve the road. A design speed of 60 km/hr was decided upon, with radii of 150 meters for horizontal curves and 1000 meters for crest vertical curves. Construction began in 1953 and was completed in 1956. The single lane road was built with a crown width of 7.5 meters and surfaced 3.5 meters wide with a bituminous pavement. In 1958 the first repairs were made in several areas between Km 125 and Km 146. Sand-asphalt, 3 to 8 cm thick was applied to about 15 km of the total road. Four years later, some sections were

reprofiled and resurfaced with sand-asphalt. In 1960, 1962, 1963 and 1965 several sections, varying from 1 km to 45 km for a total of 125 km, were reprofiled. Sections totalling 18 km were given a 10 cm cement stabilized base and the total 125 km length resurfaced with a sand-asphalt treatment. At present most of these sections show light to heavy damage. The last repairs to the road terminated in 1970, after having stabilized about 20 km with cement and resurfaced about 37 km with sand-asphalt. These particular sections have remained in good condition. The existing damages to the road were examined and recorded in detail by Dorsch in their November 1971 report. Deflection measurements were taken to determine the condition of the road structure and bearing capacity of sub-soils; and several types of soils tests were made. All soils were identified, classified and located by road stationing. In addition, the extent of damage to structures and hydrological conditions along the road were also recorded in detail. Today, the general road failures along the whole route consist of tracking, shrinkage caused by deformation of the plastic soils, totally destroyed pavement areas, edges of pavement broken and shoulder conditions in several stages of deterioration. The deterioration of the existing one-way road can be attributed to the following causes: (a) unsatisfactory subsoil conditions due to insufficient compaction; (b) lack of adequate drainage because of poor maintenance; (c) wear and tear on the pavement because the last double surface treatment was applied 15 years ago; (d) inadequate design of the cross sectional thicknesses; and (e) vehicles using the shoulders for passing.

C. STUDIES

Several surveys and reports by consultants and the IBRD have been compiled over the past several years. A detailed "Study of Rehabilitation," performed by Dorsch Ag. Zug., was completed in November 1971 and is the basic reference for recommended road and structure design details, as well as cost estimates for rehabilitating the existing one-lane road and widening to a two-lane road.

D. ENGINEERING

Dorsch performed the rehabilitation study, designated as Phase I, under contract with the Ministry of Public Works, Mines and Transport. The report's purpose was to carry out extensive investigations to provide a cost comparison between rehabilitating the existing one-lane road and the reconstruction to two lanes. Dorsch has completed final engineering design and will prepare bid documents and carry out supervision of construction. See Annex A for design standards, drainage structures and construction materials.

E. COST ESTIMATES

Cost estimates provided by Dorsch in their November 1971 report and updated in April 1972 are based on the standards of construction enumerated in Annex A. Earth quantities were calculated for the reconstruction to two lanes for the entire length of the road. Unit prices were based upon existing prices at that time for all relevant construction materials in Dahomey and anticipated long haulages of materials. Also taken into consideration were price levels taken from tenders submitted in Dahomey and Togo over the past few years as well as those in a cost review included in the Dahomey Land Transport Survey. Total costs estimated by Dorsch for a two-lane road are $17,200,000 at a conversion rate of 250 CFA = $1.00. This sum provides a 20% quantity contingency, 10% price contingency, 6.5% for engineering supervision and includes $2,424,000 for local taxes.

The following cost estimate for the Parakou-Malanville project totalling $16,157,956 is based on the revised Dorsch's figures, but eliminates taxes and includes the addition of two weighing stations, two truck staging areas, two D-7 bulldozers for the DPW maintenance program and reconstruction of 2.8 km within the city of Parakou.

Item	Dollars
Foreign Exchange	9,533,104
Local Currency	1,960,678
Total	11,493,782
Contingency (20%)	2,298,755
Construction Costs	13,792,537
Price Contingency (10%)	1,379,253
Supervision (6.5%)	986,166
Total	16,157,956

F. A.I.D.-BANK CONTRACT AND COST DIVISIONS

The Bank and A.I.D. have agreed that the most expeditious way to carry out the project considering A.I.D. procurement requirements will be through a division of the road into approximately two equal sections with A.I.D. financing the northern half. In view of this agreement, it is proposed to make the division at approximately Bridge No. 187, Station 160 + 490.

The breakdown and summary of project costs computed at $1 = 250 CFA is estimated to be as follows:

Parakou-Malanville Road

	U.S. Costs			Local Costs			
	Construction	Contingency	Engineering	Construction	Contingency	Engineering	Totals
A.I.D.	$5,078,000	$1,624,960	-	$980,339	$313,708	-	$ 7,997,007
IDA	4,455,104	1,425,632	$788,933				6,669,669
GRD				980,339	313,708	$197,233	1,491,280
							$16,157,956

G. IMPACT ON THE ENVIRONMENT

Since the project involves the rehabilitation and upgrading of an existing roadway and alignment, there will be no adverse effect on the existing ecology of the area.

H. TECHNICAL SOUNDNESS

The studies conducted by Dorsch are considered to have been conducted on a sound engineering basis and are adequate for preparation of the invitation for bids. A reconstructed two-lane road as designed by Dorsch and recommended by the Consultants is considered technically sound and proper for the present and future traffic projected to the year 1993. The plans and studies are considered technically sound, the cost estimates reasonably firm and, therefore, the engineering requirements of Section 611 of the Foreign Assistance Act of 1961, as amended, have been met.

III. ECONOMIC ANALYSIS

A. AREA TO BE SERVED

The Parakou-Malanville road serves as an essential part of Dahomey's most important transport axis which includes the port of Cotonou and the

railway from Cotonou to Parakou. The road extends 200 miles north from the railhead at Parakou to the Dahomey-Niger border benefiting almost the entire northern part of the country. It also serves as part of tne main transit route for the external trade of land-locked Niger whose traffic contributes significantly to the operation of the railway and port. This route is important to both countries in providing the needed communications between centers of agricultural production, distribution and consumption. The road bisects the prefecture of Borgou which contains 51,000 square kilometers with an estimated population of 380,000.

B. ECONOMIC IMPORTANCE OF PROJECT

The proposed road project constitutes the highest priority project for Dahomey in the transportation sector and fits in with the general plan for development of agriculture as well. The economy of the country is largely dependent upon the north-south transport axis from Malanville to Cotonou via the route to Parakou. A further deterioration of the Parakou-Malanville road will distinctly affect the agricultural development in both countries because of higher transport costs and will cause Niger to seek other routes for its external trade.

As indicated above, the important movement of trade between Niger and the port of Cotonou passes by this axis which presently serves as the most economic transport route for the external trade of Niger. This trade involves the exportation of nearly all Niger's groundnut crop, the country's premier export earner. It is estimated that 45% of the activity of the port of Cotonou is connected with this trade and the viability of the railroad is dependent on this traffic. In 1970 both the port and the railroad had financial surpluses, the latter for the first time in many years.

In addition, the road serves as the principal outlet for the economy of the northern part of Dahomey and for the regional development program being undertaken in that area.

Dahomey is concentrating on improving its agricultural sector, particularly the production of cotton. In February 1972 the IDA, in cooperation with the Fonds d'Aide et de Cooperation (FAC), extended a $6.1 million credit to the GRD for development of cotton production in the Borgou area. The GRD hopes to make cotton a major export crop with yields reaching 80,000 tons by 1975. The road will play an essential role in this effort.

The projected road improvement is essential to ensuring that economic development for both Dahomey and Niger is not hindered by a further deterioration of the road network resulting in high transport costs.

C. TRAFFIC DENSITY ANALYSIS

1. Present Traffic

Since 1961, the DPW has carried out one-week traffic counts on all major roads once or twice a year. On the Parakou-Malanville road, counts were held at eight posts. Results of these traffic counts are broken down into

categories of vehicles less than two tons, two to ten tons and over ten tons. Average traffic for all vehicle types was fairly stable between 1961 and 1965 ranging from 76 to 87 vehicles per day. This jumped in 1966 and 1967 to 119 and 116 respectively and leveled off between 88 and 97 for the years 1968-1970 (see Annex B). This rise in the years 1966-67 resulted in part from the temporary evacuation of groundnuts from eastern Niger through Cotonou due to the disruption of normal transportation routes through Nigeria caused by the Nigerian civil war. Over the period involved, trucks with a load factor of two to ten tons have steadily decreased and heavier vehicles of over ten tons have increased as it has become more economical to use trucks of a higher load factor.

In order to evaluate the traffic counts undertaken by DPW and to do origin/destination surveys, the Consultants conducted their own traffic survey commencing on March 30, 1971 at 8 a.m. and continuing straight through until April 3 at midnight. Counting stations were at the northern exists of Parakou, N'Dali and Kandi and at the southern exit from N'Dali. Vehicles were counted by the following categories: personal vehicles; taxis; 5 ton trucks; 5 to 9 ton trucks; 10 ton trucks and over; trailers and semis; tankers. Total average traffic for the full four days counted ranged from 90 vehicles at the Kandi counting station to 172 vehicles at Parakou.

2. Future Traffic

a. Introduction

The above traffic counts served as a base for the Consultants' future traffic projections. Greater consideration was given to the more recent year traffic counts including the percentage of vehicle types in each category. This information was correlated with the projected economic growth and development of northern Dahomey and western Niger, which generate the major part of the transport utilizing the Parakou-Malanville road, to arrive at future traffic projects from 1975 to 1993.

Two sets of traffic projections have been made based on two different hypothesis. One, that practically all potential traffic from western Niger to the sea would pass over the Parakou-Malanville road. This is considered to be the high traffic estimate. The second hypothesis, the low traffic estimate, is based on the effective operation of a river transport system by 1975 down the Niger River to Port Harcourt, Nigeria which would operate for seven months of the year and capture an important part of Niger's imports and exports. For light and medium vehicles, less than two tons and two to ten tons, traffic counts have been estimated separately for the following four road sections: Parakou-N'Dali; N'Dali-Bembereke; Bembereke-Kandi; and Kandi-Malanville. For these categories of vehicles, high and low traffic counts are the same since both categories contain only local traffic unaffected by the river transport system. Heavy vehicle counts more than ten

tons are the same for each road segment since it is through traffic transiting the entire route, but reflect the low and high estimates. See Annex C for estimated average daily traffic of the four road sections for 1975-1993.

b. Light Vehicles - Less Than 2 Tons

Projected growth for light vehicles, less than two tons, is predicated solely on existing traffic counts. An annual growth rate of 6% has been applied to vehicles of this type based on 1970 figures which is considered to be a reasonable expectation for growth of this category of vehicles.

c. Medium Vehicles - 2 to 10 Tons

In the vehicle category of 2 to 10 tons, the Dahomey Land Transport Study and 1971 traffic counts show that trucks of 6.5 tons are the most frequently used and have an average load factor of 65% for two directions. This traffic is almost all local traffic. The Consultants have estimated the average daily traffic for this category of vehicle by dividing the estimated annual tonnage of internal transport on the road by 365 x 4.2 (6.5 x 65% = 4.2).

Tonnage for internal traffic is estimated to increase at about 5% per year except for cotton and kenaf. Cotton is expected to grow at slightly higher rates while kenaf is expected to diminish slowly over the study period. The following table shows the estimated tonnage broken down by the localities indicated below:

Local Traffic

	Parakou to N'Dali	N'Dali to Bembereke	Bembereke to Kandi	Kandi to Malanville
1967 Total	28,000	21,000	19,000	11,000
Toward south	15,000	10,000	8,000	3,000
1975 Total	72,000	66,000	54,000	18,000
Petroleum Products north	4,000	3,000	3,000	1,000
Others north	15,000	15,000	15,000	8,000
Toward south	53,000	48,000	36,000	9,000
1980 Total	99,000	92,000	73,000	24,000
1990 Total	139,000	127,000	99,000	35,000

d. Heavy Vehicles - Over 10 Tons

Traffic exiting and entering Niger constitutes the through traffic on the road. The Consultants have divided this into two principal types of vehicles. Tankers with a capacity of 20,000 litres carrying on the average 16 tons going to Niger and returning empty. The second category includes semi-trailers with an average load of 22 tons and a use factor of 80% or 17.6 tons for the direction when most heavily loaded. The average daily traffic of tankers was obtained by dividing the annual importation of petroleum products by Niger estimated for this route by 365 x 16. For semi-trailers the remaining estimated annual imports over this route are divided by 365 x 17.6. This has been calculated for both high and low estimates of tonnage transported over the route based on the two hypotheses stated in Section a above.

The following table indicates the maximum tonnage estimated by the Consultants for Niger imports and exports that could transit by Dahomey.

Annual Tonnage (Metric Tons) - High Estimate

	1970	1980	1990
Petroleum Products	58,000	129,000	203,000
Other Imports	57,000	129,000	215,000
Exports	45,000	110,000	145,000
Total	160,000	368,000	563,000

See Annex [illegible] for a breakdown by products.

The rapid growth of petroleum imports results from the projected use by two uranium mines in Niger which will be in operation by 1975. Other products associated with uranium treatment plants also contribute to the rapid growth of imports. After 1980 the needs resulting from the uranium exploitation will stabilize and the Consultants estimate that the imports will then grow at an annual rate of 7%.

Exports include some substitution of peanut oil for peanuts following the construction of a factory. Among other exports are "niebe" (a type of bean), uranium, leather and skins, and various agricultural products in small quantities. No new large-scale enterprise is projected and the Consultants estimate growth of exports at 4% per annum after 1980.

To make estimates for low traffic, the Consultants considered the effect of an efficient transport system on the Niger River, either from Niamey or Gaya, operating for seven months of the year. The Government of Niger has taken a number of steps toward putting this system into effect. A.I.D. is presently considering a project that would assist in the development of a river transport system by raising the bridge at Gaya and constructing the port. The Canadians are also assisting through providing barges and tugs and have done the initial studies and testing of this system. If it succeeds, the Consultants estimate that in 1980, 78,000 metric tons of petroleum products and 89,000 metric tons of other products will be imported by the river while 60,000 metric tons will be exported. For 1990 the projections are for 282,000 metric tons of imports and 76,000 metric tons of exports. The low traffic estimates represent the difference of the high estimates and the tonnage that would be shifted to a river transport system. The following table summarizes this hypothesis.

Annual Tonnage (Metric Tons) - Low Estimate

	1980	1990
Imports - Total	91,000	136,000
Petroleum Products	(51,000)	(80,000)
Other	(40,000)	(56,000)
Exports	50,000	69,000
Total Tonnage	141,000	205,000

The low traffic figures given above represent the Consultants' estimate of the absolute minimum traffic envisioned for the road.

D. BENEFITS ANALYSIS

The Consultants have calculated benefits for the project solely as the difference in the vehicle operating costs and maintenance of the road with the construction of a new road and without any road improvement. This was done for a road of two lanes and one lane.

Vehicle operating costs were calculated for each of the three road types (existing road, one-lane and two-lane) and for each of the categories of vehicles being discussed (-2 tons, 2-10 tons and +10 tons). Operating costs were determined using a computer program for inclusion in the Dahomey

Land Transport Survey, July 1969. Factors considered included fuel consumption, average running speed, tire wear, travel time, oil costs, maintenance costs, fixed costs, depreciation and interest and a congestion adjustment (which affects a one-lane road). (See Annex E for per kilometer cost by vehicle category and condition of road.)

Operating costs of vehicles for the existing route take into consideration each of the road sections enumerated in Section III.C.2.a above and the different stages of deterioration. The Parakou-Malanville road has badly deteriorated over the past several years. This was due in part to lack of effective maintenance and aggravated by the increase in weight of vehicles which now average 13 tons for a road capacity of 9.5 tons. In a November 1971 report, the Consultants have estimated the state of deterioration of the road for a twenty-five year period in order to determine the operation and maintenance cost in any given year.

For a one and two-lane road, the average type vehicle for each category as described in Sections III.C.2.c. and d. above was utilized in determining the cost. For vehicles less than 2 tons, the Peugeot 404 was chosen as the base. For a one-lane road operating costs were calculated at a slightly higher rate than for the two-lane solution. Operating costs rise because of reduced travel speed and necessity for frequent speed changes which on single lane roads often require a complete stop. A study in Malawi showed that operating costs are the same for a one and two-lane road where traffic is low, but from 50% higher on a one-lane road than a two-lane road where traffic is heavy or exceeding 1,000 vehicles per day. The rise in cost is linear. The Consultants have applied this formula in determining the operating cost of a one-lane road based on the average daily traffic estimates.

Maintenance costs have been developed for a "do nothing" one-lane and two-lane solution. For the "do nothing" solution, the Consultants, as with the operating cost, have considered the rate of deterioration of the road. The Consultants have developed a cost equation to express the relation between maintenance cost and average daily traffic. Resurfacing is considered required every 7 years for a one-lane road and every eight years for a two-lane road.

Annex F contains a breakdown of the vehicle operating costs and maintenance costs for the entire road segment and is based on the average number of kilometers travelled by each vehicle category. Costs are shown for both high and low traffic estimates. Vehicle operating savings and maintenance savings have been calculated by subtracting the cost of a two-lane road and one-lane road from the road without improvements and are shown in Annex G. These comprise the total benefits of the project which are contained in Annex H.

E. INTERNAL RATE OF RETURN (IRR)

Using the benefits discussed in Section III.D above, and the cost estimates developed in Section II, the estimated IRR for a two-lane road, the preferred solution, is 10.2% for the low traffic estimate and 19.9% for the high traffic estimate. (See Annex I.) These figures are slightly lower than estimated by the Consultants in their November 1971 report which calculated the IRR for a two-lane road at 11.8% for the low traffic estimate and 22.4% for the high traffic estimate. The Consultants' analysis did not include the latest Dorsch cost figures which have also been slightly increased in the cost estimates given in this paper. It is believed that the cost estimates in Section II more accurately reflect the real costs.

The Consultants have calculated the IRR for a one-lane road at 16.6% for the low traffic estimate and 26.8% for the high traffic. These percentages are probably slightly overstated since they do not take into account the latest cost estimates of Dorsch.

The Consultants have considered the low traffic estimate as the lowest possible traffic that would utilize the route. While prospects for an effective river transport system now appear more favorable than in the Consultants' report, it is probable that traffic will not shift as dramatically to the river transport as is assumed for the low traffic projections. The low estimate is characterized as particularly conservative since it assumes a large river traffic which could occur only under optimal navigation conditions. The actual IRR for the two-lane solution for low traffic is probably somewhat higher than 10.2%. A probability analysis undertaken by the Bank utilizing a Monte Carlo computer simulation program indicated the most probable economic rate of return for the two-lane road is about 13% with only a 15% probability that the rate of return would fall below 10%. Even at this figure, however, the road is considered economically justified.

While the IRR for a one-lane solution is higher, a two-lane road is considered economically justified for both the low and high traffic estimates. The two-lane road is considered to be technically much more desirable and recommended by the Consultants.

The Bank is presently finalizing its project appraisal report for the Parakou-Malanville Road, which will include an analysis of the incremental return of a two vs one lane road. Preliminary figures resulting from this analysis indicate the incremental IRR for the two-lane road will be in the range of 7 to 9 percent. It is the judgment of the Bank's project department that the Parakou-Malanville road is justified in view of the reduced traffic congestion and lower vehicle operating costs of the two-lane road, as well as the improved yet unquantifiable safety factor inherent in a two-lane road.

IV. FINANCIAL ANALYSIS

A. FINANCIAL REQUIREMENTS

The financial requirements for the supervision and construction of a two-lane paved road are based on the estimates made by Dorsch as modified in Section II of this paper. Costs are shown as follows:

	Two-Lane Road (Dollars)
Foreign Exchange	9,533,104
Local Costs	1,960,678
Total	11,493,782
Contingency (20%)	2,298,755
Construction Costs	13,792,537
Price Contingency (10%)	1,379,253
Supervision (6.5%)	986,166
Total	$16,157,956

B. FINANCIAL PLAN

Because of different procurement policies, A.I.D. and the Bank have agreed to finance separate contracts for construction of the road. Agreement was reached for A.I.D. to finance that portion of the route from Station 160 + 490 to Malanville. Accordingly, the financial requirements will be met as follows:

1. Parakou-Malanville Road

	Foreign Exchange Costs	Local Costs	Total
A.I.D. Loan	$ 6,703,000	$1,294,000	$ 7,997,000
IDA	6,670,000		6,670,000
GRD		1,492,000	1,492,000
Total	$13,373,000	$2,786,000	$16,159,000

2. Other Project Components

Financing for the other project components, including reconstruction of the two sections of the Cotonou-Bohicon road, preinvestment study of the Bohicon-Dassa Zoume road and expansion of the existing road maintenance project, will be provided by the IDA and the GRD according to the following financial plans:

	Foreign Exchange Costs	Local Costs	Total
IDA	$1,560,000	-	$1,560,000
GRD	-	$575,000	575,000
Total	$1,560,000	$575,000	$2,135,000

The World Bank group will finance the foreign exchange costs for its section of the Parakou-Malanville road, including the supervisory engineering for the entire project. The Bank's loan will be on IDA terms, which normally do not permit financing local costs. A.I.D. will finance both the foreign exchange and part of the local costs for its section of the project. The GRD will contribute $ .104 million to the A.I.D. portion of the road and $1.9 million to the remaining project components. This contribution represents 7.4% and 100% respectively of the local costs of the A.I.D. portion of the road and other project components and a total GRD contribution of 60% to the local costs of the complete project. In view of the status of Dahomey as one of the "least developed" countries, this contribution is considered reasonable. Bids on the IDA portion of the road will be let for international tender. Bidding on the A.I.D. financed portion of the road will be open to Code 941 countries, but it is anticipated that only a U.S. construction firm will be able to provide the services required. A.I.D. will review and approve all plans, specifications and bid documents and, as a condition precedent to the loan, will require approval of the contract for supervisory services.

C. OTHER SOURCES OF FINANCING

A.I.D. is participating in this project at the request of the Bank, which has taken the lead in developing the project and arranging financing. Because of the regional and multi-donor aspects of the project, it is particularly appropriate for A.I.D. participation in keeping with its policies for West Africa. Private financing is not available for this type of project and the Export-Import Bank has stated that it was not interested in participating in this project.

D. REPAYMENT PROSPECTS

Several donors or international lending institutions (FAC, FED, IDA) have made funds available to Dahomey for long range development projects particularly in the agricultural and transportation fields. This financing has all been on either a grant or long term basis at lowest concessional rates. IBRD loans have included $4.6 million for palm oil production and $3.5 million for road maintenance and engineering. In addition to budgetary support and considerable technical assistance in the fields of education, agriculture and transportation, FAC also financed $4.6 million of the palm project and is making a $3.1 million contribution to the Borgou cotton program in coordination with the IDA. FED has financed the planting of palm groves and construction of a palm oil factory. In the field of infrastructure, FED financed the international highway from Lome to Cotonou and Porto Novo on a grant basis. These programs are an integral part of the plan to assist Dahomey to be a viable economic unit and to provide the necessary resource base for economic development without overly burdening the country by providing concessional terms.

In FY 1967, A.I.D. made a $850,000 loan to Dahomey for a rural water supply project and in FY 1971 a loan of $1.9 million for a telecommunications project.

External public debt outstanding as of December 1969 amounted to $43 million of which $32 million had been disbursed. Debt service payments have risen somewhat in recent years but in 1969 still accounted for a low proportion of exports (3.6 percent) and government current revenues (3.4 percent). The future service schedule will reach a peak in 1972 and remain relatively high until 1975, but even with more modest export growth than has been experienced in recent years, it is not expected to amount to more than 7 or 8 percent of export earnings.

The proposed A.I.D. loan at concessional terms of 2% interest per annum during the grace period and 3% per annum thereafter over a 40-year period will not add an undue burden on the country's external debt servicing. Continued assistance on concessional terms is expected from France and other donors. An intensive program for the increased production of cash crops is underway and the outlook for increased revenues from exports over the next several years is encouraging. Measures are also being taken to assure better control of government spending and more efficient tax collection. For these reasons, it is concluded that the Borrower will be able to repay the loan as scheduled.

V. IMPLEMENTATION PLAN

A. IMPLEMENTATION SCHEDULE

The implementation schedule for the construction of the two-lane road from Parakou to Malanville is estimated as follows:

Bank Appraisal	May 1972
A.I.D. Loan Authorized	May 1972
IDA Credit Approved	September 1972
Advertise for Prequalification	November 1972
Prequalified Firms Approved	March 1973
Final Design Initiated	June 1972
Final Design Completed & Approved	Dec. 1972
IFB Available	Jan. 1973
Bid Opening	April 1973
Bid Award	June 1973
Contract Signed	July 1973
Contractor Mobilization; Begin Construction	Aug. 1973
Completion Construction (2-1/2 yrs.)	Feb. 1976
Certificate of Acceptance	March 1976

B. MAINTENANCE

The Consultants' report of November 1971 states that over the past 13 years, the Department of Public Works spent 156,000 CFA per kilometer for road maintenance between Parakou and Malanville. During this period, maintenance was considered inadequate. The maintenance required to keep the one-lane road in good condition, with a bitumen type wearing surface, was previously estimated to cost 410,000 CFA per kilometer, including resurfacing every seven years. The existing road has progressively deteriorated to a point whereby some sections of the surface course have completely disappeared.

Because of this deterioration the road may now be classified as laterite along these sections. In November 1971, the above Consultants modified these estimates for a two-lane road, calling for resurfacing once in every eight years at a cost of 3,000,000 CFA per kilometer. The yearly cost to maintain the shoulders was estimated at 35,000 CFA per km; the paved areas at 30,000+ CFA per km and 23,200 CFA per km for embankment and drainage ditches. These calculations were estimated as a function of the average daily traffic. The IBRD has reviewed the GRD proposed road maintenance budget through 1975 and feels it is adequate and reflects a GRD commitment to properly maintain its road network.

The highway maintenance capability of the DPW will be greatly enhanced through assistance currently being provided under an existing IDA credit, as well as additional assistance to be provided to this activity as part of the presently proposed IDA credit. Upon completion of the road, both staff and equipment of the DPW should be adequate for the required maintenance.

In addition, the problem of road maintenance is being addressed by A.I.D. through the implementation of several other projects. The Regional Road Maintenance Training and Improvement project in Togo is designed to assist the Entente States in the development of well-trained road maintenance personnel. Public works personnel up to the rank of foreman are being trained in maintenance, repair and supervision at the regional training center in Lome, Togo. A mobile training unit operating on the Togo-Dahomey border is training less-skilled personnel in road maintenance. As part of this effort, A.I.D. is financing a 14-man contract team to provide assistance to the training center and the mobile unit and is providing funds for scholarships, seminars and commodities. In conjunction with this project, A.I.D. is also financing a Spare Parts Study to assist the Entente States develop a rational system for spare parts maintenance. Such a system should result in a substantial reduction in GRD transportation and road maintenance costs through reduced equipment downtime and the availability of spare parts at reasonable costs.

Part of the Parakou-Malanville project financing will also address the problem of road maintenance through construction of weighing stations at the northern and southern terminuses of the road and the procurement of two D-7 bulldozers for use in the GRD road maintenance program.

VI. ECONOMIC EFFECTS OF THE LOAN

A. IMPACT ON U.S. ECONOMY

This loan does not conflict with any U.S. business interests. To the contrary, the loan will assist the U.S. economy by financing approximately $8 million of U.S. construction services. Although Code 941 procurement will be allowed, it is anticipated that only U.S. firms will be able to provide the services required. Assuming the construction contract for the A.I.D. financed portion of the Parakou-Malanville road is awarded to a U.S. contractor, the likelihood of a U.S. contractor obtaining the IDA contract for the lower portion of the road is greatly increased.

B. EFFECT ON PRIVATE ENTERPRISE

This loan will likely finance a contract between the Government of Dahomey and a private U.S. construction firm.

C. IMPACT ON U.S. BALANCE OF PAYMENTS

The high percentage of the loan used for financing U.S. goods and services will be additional exports for the U.S. economy since without the A.I.D. loan, it is likely construction services would be procured elsewhere. The percentage of local cost financing will have a minimal effect on the balance of payments. In the event a U.S. contractor is able to obtain the IDA financed portion of the road due to lower costs resulting from prior mobilization for the A.I.D. financed contract, the net result will be a positive flow of foreign exchange back to the U.S.

DESIGN STANDARDS AND CONSTRUCTION MATERIAL

I. Pavement Structures. The cross-sectional pavement design, which will vary for the different sections of the road, will generally conform to the following standards; (a) "Recommendations for the Pavement Design of the French Ministry for Public Works and Transports", (b) "Recommendations of the Asphalt Institute" and (c) "AASHO Interim Guide". A crown width of 9.0 meters for a two-lane road has been selected, with a carriageway width of 6.0 meters and shoulders 1.5 meters wide. A design speed of 80 Km/Hr has been used to meet modern traffic requirements. The new road will follow the existing horizontal alignment with the radius of curves lengthened to 600 meters in general, and vertical curves planned for a maximum radius of 5,000 meters. An equivalent axle load of 13 tons was calculated and used as the basis to design equivalent thicknesses of the pavement structures. Depending upon the existing conditions found through field and laboratory investigations for different classifications of soils, pavement structures have been recommended as follows:

(i) Sub-Base Course:

Sub-base material will be either: (a) the existing pavement structure not scarified; (b) existing pavement scarified up to 25 cm and recompacted; (c) existing subgrade scarified up to 25 cm and recompacted, or (d) removing the existing pavement structure, compacting the sub-soil and replacing same with pit run material. Shoulders are to be compacted from 10 cm to 15 cm in depth.

(ii) Base Course:

The base course will be the cement stabilization of borrow pit material by adding 4% cement if the fines do not exceed 25%, and 1% additional cement for each 5% increase in fines up to 35%. The compacted material will be from 10 cm to 15 cm in depth.

(iii) Wearing Course:

The wearing course will be a bituminous double surface treatment with crushed aggregate taken from certain quarries situated within comparatively short haul distances from the existing route.

II. Drainage Structures. There are 463 existing drainage structures of several different types located along the total length of the road. They consist of pipe culverts from one to four barrels, single to four channel box culverts, single and twin culverts with oval cross-sections. It is estimated that 27 additional culverts are necessary, and about 130 structures will require repairs. Approximately 160 have to be elongated up to 3.0 meters for the two lane road, with the lengthening proposed to be accomplished on one side only. Two bridges with a width from 3 to 4 meters will be replaced with bridges for a two lane road because of their condition. A damaged bridge has to be replaced. All other bridges have a roadway width of 6 meters or more and most of them require repairs to guard rails, wing walls, ledges and scouring. The cross-section chosen for the drainage ditches call for a triangular design 4 meters in width and 60 cm in depth, and a trapezoidal design with a bottom width of 1 meter where run-off is greater in hilly country. Side slopes are 1:33 and 1:2 respectively. The designed run offs are planned to keep the ground water below the level of embankment.

III. Construction Materials. Sources of suitable materials for construction were investigated along the entire length of the road. Existing borrow pits were explored and 25 new ones were added to make a total of 54, with the average distance of 6 kilometers between them. Four to twelve test pits were dug at each borrow pit, and extensive soils tests were performed on samples of materials taken. Through these tests and by visual observation, it was found that a 20 to 60 cm layer of sandy or gravelly soil covered underlying laterite soils with fines found to be generally less than 35%. The laboratory tests indicated that material from 31 borrow pits could be used for an untreated sub-base course and material from 2 pits could be used for the base course. Subsequent tests, on materials found unsuitable for base course, proved that these soils could meet the required bearing values through cement stabilization. A cement plant in Cotonou has an annual output to adequately supply the quantities needed for cement stabilization and concrete. There are few sand deposits along the highway with the only significant quantities located near Parakou and close to Malanville. Other deposits of sand are found in small quantities in small watercourses but the gradation indicates that these sands can only be considered for concrete aggregate. It was concluded that none of the available sands meet sand-asphalt grading specifications without blending with quarry sand. Gravel deposits are located along the highway with one pit at Kandi processing material for commercial construction use. Rock quarries have been located by stationing along the road but only eight of them satisfy the Los Angeles abrasion test value of less than 50% for a crushed stone base course. However, the

quantity of rock material is estimated to be sufficient. The available water supplies along the route are located by road stationing with the yield dependent upon the season except for year round sources at five rivers. Nigeria is the closest source for bitumen although other sources are available in West Africa.

MINISTRY OF PUBLIC WORKS AVERAGE DAILY TRAFFIC COUNTS

1961 - 1970

(All Vehicle Types)

	1961		1962		1963		1964		1965		1966		1967		1968		1969		1970	
	Feb	Aug	Apr	Aug	Feb	Aug	Feb	Aug	Feb	Aug	Feb	Aug	Feb	Aug	Feb	Aug	Feb	Aug	Feb	July
Tanarou	100	107	119	48	135	98	107	90	109	150	128	121	147	123	-	124	110	70	95	8
N'Dali	118	107	123	101	110	99	68	108	118	136	140	139	195	135	-	127	-	89	79	66
Quessou Sud	118	79	91	107	101	112	87	75	95	98	119	168	135	109	-	92	131	51	65	63
Beroubone	82	61	68	57	58	72	84	60	68	70	116	85	85	86	-	77	94	82	110	-
Cogounou	80	59	67	57	58	70	83	61	69	71	124	89	120	87	-	84	105	84	99	-
Kandi Sud	81	58	67	57	58	72	83	54	69	70	125	92	133	92	-	67	91	70	112	-
Kandi Nord	80	59	58	59	59	72	83	55	65	70	127	95	128	92	-	65	87	77	95	-
Guene	76	57	63	59	58	72	-	47	63	69	101	75	117	67	-	71	91	74	92	-
Average of all posts (both periods)	84		76		82		78		87		119		116		97		89		88	
Equivalent Vehicle Units 1/	211		190		200		196		224		285		303		242		231		227	

1/ Vehicles of less than 2 tons = 1.5
Vehicles from 2 to 10 tons = 2.5
Vehicles over 10 tons = 4.0

ESTIMATED FUTURE TRAFFIC
AVERAGE DAILY TRAFFIC
KANDI - MALANVILLE

	HIGH HYPOTHESIS					LOW HYPOTHESIS				
YEAR	-2T	2-10T	+10T	TOTAL	EQUIV VEH UNITS 1/	-2T	2-10T	+10T	TOTAL	EQUIV VEH UNITS
1975	40	12	64	116	346	40	12	37	89	238
76	42	12	69	123	369	42	12	36	90	237
77	41	13	75	132	398	44	13	35	92	236
78	47	14	78	139	417	47	14	35	96	245
79	50	15	81	146	436	50	15	33	98	244
1980	53	16	84	153	455	53	16	29	98	235
81	56	16	88	160	476	56	16	31	103	248
82	59	17	92	168	498	59	17	32	108	258
83	62	17	96	175	519	62	17	32	111	263
84	66	18	101	185	548	66	18	33	117	276
1985	70	18	106	194	574	70	18	34	122	286
86	74	19	111	204	602	74	19	35	128	298
87	78	20	117	215	635	78	20	37	135	315
88	83	21	123	227	668	83	21	40	144	336
89	88	22	129	239	703	88	22	42	152	355
1990	93	23	136	252	740	93	23	43	159	368
91	99	24	144	267	784	99	24	47	170	396
92	105	25	152	282	827	105	25	51	181	423
93	111	26	160	297	871	111	26	54	191	447

1/ -2 tons = 1.5
2-10 tons = 2.5
+10 tons = 4.0

ESTIMATED FUTURE TRAFFIC
AVERAGE DAILY TRAFFIC

N'DALI-BEMBEREKE

	HIGH HYPOTHESIS					LOW HYPOTHESIS				
YEAR	-2T	2-10T	+10T	TOTAL	EQUIV VEH UNITS 1/	-2T	2-10T	+10T	TOTAL	EQUIV VEH UNITS
1975	42	43	64	149	426	42	43	37	122	318
76	44	46	69	159	457	44	46	36	126	325
77	47	49	75	171	492	47	49	35	131	332
78	50	52	78	180	517	50	52	35	137	345
79	53	56	81	190	543	53	56	33	142	351
1980	56	60	84	200	570	56	60	29	145	350
81	59	62	88	209	595	59	62	31	152	367
82	62	64	92	218	621	62	64	32	158	381
83	66	66	96	228	648	66	66	32	164	392
84	70	68	101	239	679	70	68	33	171	407
1985	74	70	106	250	710	74	70	34	178	422
86	78	72	111	261	741	78	72	35	185	437
87	83	75	117	275	779	83	75	37	195	459
88	88	77	123	288	816	88	77	40	205	404
89	93	79	129	301	852	93	79	42	214	504
1990	99	83	136	318	899	99	83	43	225	527
91	105	86	144	335	948	105	86	47	238	560
92	111	89	152	352	996	111	89	51	251	592
93	118	92	160	370	1,047	118	92	54	264	623

1/ -2 tons = 1.5
2-10 tons = 2.5
+10 tons - 4.0

ESTIMATED FUTURE TRAFFIC
AVERAGE DAILY TRAFFIC

PARAKOU-N'DALI

	HIGH HYPOTHESIS					LOW HYPOTHESIS				
YEAR	-2T	2-10T	+10T	TOTAL	EQUIV VEH UNITS 1/	-2T	2-10T	+10T	TOTAL	EQUIV VEH UNITS
1975	62	47	64	173	466	62	47	37	146	358
76	66	50	69	185	500	66	50	36	152	368
77	70	53	75	198	537	70	53	35	158	377
78	74	56	78	208	563	74	56	35	165	391
79	78	60	81	219	591	78	60	33	171	399
1980	83	65	84	232	622	83	65	29	177	402
81	88	67	88	243	651	88	67	31	186	423
82	93	69	92	254	679	93	69	32	194	439
83	99	71	96	266	709	99	71	32	202	453
84	105	73	101	279	743	105	73	33	211	471
1985	111	75	106	292	777	111	75	34	220	489
86	118	78	111	307	816	118	78	35	231	512
87	125	81	117	323	857	125	81	37	243	537
88	132	84	123	339	900	132	84	40	256	568
89	140	87	129	356	943	140	87	42	269	595
1990	148	90	136	374	991	148	90	43	281	619
91	157	93	144	394	1,043	157	93	47	297	655
92	166	96	152	414	1,097	166	96	51	313	693
93	176	99	160	435	1,151	176	99	54	329	727

1/ -2 tons = 1.5
2-10 tons = 2.5
+10 tons = 4.0

ESTIMATED FUTURE TRAFFIC
AVERAGE DAILY TRAFFIC

BEMBEREKE-KANDI

	HIGH HYPOTHESIS					LOW HYPOTHESIS				
YEAR	-2T	2-10T	+10T	TOTAL	EQUIV VEH UNITS 1/	-2T	2-10T	+10T	TOTAL	EQUIV VEH UNITS
1975	60	35	64	159	433	60	35	37	132	325
76	64	37	69	170	964	64	37	36	137	352
77	68	39	75	182	499	68	39	35	142	339
78	72	41	78	191	522	72	41	35	148	350
79	76	44	81	201	548	76	44	33	153	356
1980	81	47	84	212	574	81	47	29	157	354
81	86	48	88	222	601	86	48	31	165	375
82	91	49	92	232	626	91	49	32	172	386
83	96	51	96	243	655	96	51	32	179	399
84	102	52	101	255	687	102	52	33	187	415
1985	108	54	106	268	721	108	54	34	196	433
86	114	56	111	281	755	114	56	35	205	451
87	121	58	117	296	794	121	58	37	216	474
88	128	60	123	311	834	128	60	40	228	502
89	136	62	129	327	875	136	62	42	240	527
1990	144	64	136	344	920	144	64	43	251	548
91	153	66	144	363	970	153	66	47	266	582
92	162	68	152	382	1,021	162	68	51	28	617
93	172	70	160	402	1,073	172	70	54	296	649

1/ -2 tons = 1.5
2-10 tons = 2.5
+10 tons - 4.0

ANNUAL TONNAGE OF TRANSPORT OF NIGER ON STUDY ROAD

High Hypothesis

	1970 1/	1980	1990
Imports			
Petroleum Products	58,000	129,000	203,000
Food Products		9,000	13,500
Salt		12,000	19,500
Textiles and Clothes		1,500	2,000
Wood and Paper Products		2,500	7,000
Vehicles and Spare Parts	57,000	14,000	35,000
Machinery		4,000	10,000
Metals		16,000	35,000
Sulpher		45,000	45,000
Other Chemical Products		-	4,000
Miscellaneous		23,000	44,000
Total	115,000	258,000	418,000
Exports			
Peanuts and Related Products		45,000	55,000
Niebe (Beans)	45,000	47,000	55,000
Miscellaneous		14,500	31,500
Uranium	-	3,500	3,500
Total	45,000	110,000	145,000

1/ Based on statistics of the OCDN (Dahomey railway).

PER KILOMETER VEHICLE OPERATING COSTS

Road Category	Quality of Surface	Category of Vehicles (U.S. Dollars) -2 tons	2-10 tons	+10 tons
Two Lane Paved	Excellent	.062	.126	.295
One Lane Paved[1/]	Excellent	.062	.126	.295
One Lane Paved	Fair	.091	.206	.497
One Lane Paved	Poor	.117	.261	.542
Two Lane Laterite[2/]	Fair	.092	.207	.500

1/ Operating costs for one and two lane paved roads that are well maintained are the same when traffic is very low. As the average daily traffic increases, the operating costs increase because of reduced travel speed and necessity for frequent speed changes. This has been considered in calculating the overall vehicle operating costs for a one lane road.

2/ The November 1971 study of the Consultants determined the state of deterioration of the existing road and concluded that at the end of 15 years it would become almost entirely a laterite route in fair condition.

VEHICLE OPERATING AND MAINTENANCE COSTS

LOW TRAFFIC
(millions of CFA1/)

	UNIMPROVED		ONE LANE		TWO LANES	
	Vehicle Oper. Costs	Main-tenance Costs	Vehicle Oper. Costs	Main-tenance Costs	Vehicle Oper. Costs	Main tenance Costs
1975	888	113	565	56	521	29
1976	898	77	569	56	575	29
1977	908	88	574	57	529	29
1978	934	81	596	59	542	30
1979	935	81	595	60	541	30
1980	907	82	576	59	523	30
1981	961	84	617	572	553	30
1982	999	123	637	62	572	972
1983	1025	89	651	64	585	30
1984	1069	92	677	67	608	32
1985	1111	95	717	68	632	33
1986	1158	99	745	70	656	33
1987	1222	103	784	73	691	34
1988	1303	108	834	572	736	34
1989	1367	139	883	79	769	35
1990	1421	117	916	62	797	972
1991	1521	123	995	85	853	37
1992	1621	130	1077	91	908	38
1993	1708	136	1134	95	957	39

1/ 250 CFA = $1.00

VEHICLE OPERATING AND MAINTENANCE COSTS

HIGH TRAFFIC
(millions of CFA 1/)

	UNIMPROVED		ONE LANE		TWO LANES	
	Vehicle Oper. Costs	Main-tenance Costs	Vehicle Oper. Costs	Main-tenance Costs	Vehicle Oper. Costs	Main-tenance Costs
1975	1305	134	855	69	753	34
1976	1395	103	916	74	807	34
1977	1513	111	989	77	870	35
1978	1587	115	1035	81	909	36
1979	1666	119	1107	85	951	36
1980	1749	125	1157	88	995	37
1981	1838	129	1239	572	1042	38
1982	1926	171	1291	95	1087	972
1983	2017	140	1349	99	1135	40
1984	2126	146	1413	102	1190	41
1985	2237	152	1497	106	1249	43
1986	2349	159	1608	110	1306	44
1987	2481	167	1706	115	1378	44
1988	2611	174	1789	572	1444	47
1989	2743	208	1895	126	1516	48
1990	2893	189	1992	132	1597	972
1991	3061	200	2171	137	1684	50
1992	3226	210	2285	143	1773	52
1993	3394	220	2421	151	1863	54

1/ 250 CFA = $1.00

VEHICLE OPERATING AND MAINTENANCE SAVINGS

LOW TRAFFIC
(millions of CFA[1/])

	ONE LANE		TWO LANES	
	Vehicle Operating Savings	Main-tenance Savings	Vehicle Operating Savings	Main-tenance Savings
1975	323	57	367	84
1976	329	21	323	48
1977	334	31	379	59
1978	338	22	392	51
1979	340	21	394	51
1980	331	23	384	52
1981	344	-488	408	54
1982	362	61	427	-849
1983	374	25	440	59
1984	392	25	461	60
1985	394	27	479	62
1986	413	29	502	66
1987	438	30	531	69
1988	469	-464	567	74
1989	484	60	598	104
1990	505	35	624	-855
1991	526	38	668	86
1992	544	39	713	92
1993	574	41	751	97

1/ 250 CFA = $1.00

VEHICLE OPERATING AND MAINTENANCE SAVINGS

HIGH TRAFFIC
(millions of CFA 1/)

	ONE LANE		TWO LANES	
	Vehicle Operating Savings	Maintenance Savings	Vehicle Operating Savings	Maintenance Savings
1975	450	65	552	100
1976	479	29	588	69
1977	524	34	643	76
1978	552	34	678	79
1979	559	34	715	83
1980	592	37	754	88
1981	599	-443	796	91
1982	635	76	839	-801
1983	668	41	882	100
1984	713	44	936	105
1985	740	46	988	109
1986	741	49	1043	115
1987	775	52	1103	123
1988	822	-398	1167	127
1989	848	82	1227	160
1990	901	57	1296	-783
1991	890	63	1377	150
1992	941	67	1453	158
1993	973	69	1531	166

1/ 250 CFA = $1.00

BENEFITS

(Thousands of Dollars)

	HIGH TRAFFIC		LOW TRAFFIC	
	ONE LANE	TWO LANES	ONE LANE	TWO LANES
1975	2,060	2,608	1,520	1,804
1976	2,032	2,628	1,400	1,484
1977	2,232	2,876	1,460	1,752
1978	2,344	3,028	1,440	1,772
1979	2,372	3,192	1,444	1,780
1980	2,516	3,368	1,416	1,744
1981	624	3,548	-576	1,848
1982	2,844	152	1,692	-1,688
1983	2,836	3,928	1,596	1,996
1984	3,028	4,164	1,668	2,084
1985	3,144	4,388	1,684	2,164
1986	3,160	4,632	1,768	2,272
1987	3,308	4,904	1,872	2,400
1988	1,696	5,176	20	2,564
1989	3,720	5,548	2,176	2,808
1990	3,832	2,055	2,160	-924
1991	3,812	6,108	2,256	3,016
1992	4,032	6,444	2,332	3,220
1993	4,168	6,788	2,460	3,392
		7,100 1/		3,500 1/

1/ Benefits for a road project can be fairly calculated for a 20 year period on the estimated life of the road. The Consultants only gave traffic estimates for 19 years. Benefits for the 20th year have been calculated for a two lane road based on the average growth of previous years.

INTERNAL RATE OF RETURN
TWO LANE ROAD - LOW TRAFFIC

Time Period	Costs	Net Benefits	Discounted Value at 10%		Discounted Value at 11%	
			Costs	Benefits	Costs	Benefits
			(In thousands of dollars)			
1973	6994		6358		6295	
1974	6993		5776		5671	
1975		1804		1355		1319
1976		1484		1014		976
1977		1752		1086		1038
1978		1772		999		946
1979		1780		913		856
1980		1744		813		755
1981		1848		784		721
1982		-1688		-650		-594
1983		1996		699		633
1984		2084		633		594
1985		2164		628		556
1986		2272		598		525
1987		2400		574		502
1988		2564		556		482
1989		2808		553		475
1990		-924		-165		-140
1991		3016		492		413
1992		3220		477		399
1993		3392		458		377
1994		3500		427		350
Total			12,134	12,274	11,966	11,183
				+140		-783

The net present value of benefits (less discounted costs) are $140,000 at 10% and a minus $783,000 at 11%. By linear interpolation, the estimated internal rate of return is 10.2%.

INTERNAL RATE OF RETURN
TWO LANE ROAD - HIGH TRAFFIC

Time Period	Costs	Net Benefits	Discounted Value at 19%		Discounted Value at 20%	
			Costs	Benefits	Costs	Benefits
		(In thousands of dollars)				
1973	6994		5875		5826	
1974	6993		4937		4853	
1975		2608		1546		1507
1976		2628		1309		1267
1977		2876		1205		1157
1978		3028		1066		1011
1979		3192		942		891
1980		3368		835		781
1981		3546		738		685
1982		152		27		24
1983		3928		577		526
1984		4164		516		466
1985		4388		456		408
1986		4632		403		361
1987		4904		358		319
1988		5176		316		280
1989		5548		283		250
1990		2055		88		76
1991		6108		220		189
1992		6444		193		168
1993		6788		170		143
1994		7100		149		128
Total			10,812	11,397	10,679	10,637
				+585		-42

The net present value of benefits (less discounted costs) are $585,000 at 19% and minus $42,000 at 20%. By linear interpolation, the estimated internal rate of return is 19.9%.

CHECKLIST OF STATUTORY CRITERIA
DEVELOPMENT LOAN FUND

I. COUNTRY PERFORMANCE

A. Progress Towards Country Goals

1. FAA §§201(b)(5), 201(b)(7), 201(b)(8), 208. Discuss the extent to which the country is:

(a) Making appropriate efforts to increase food production and improve means for food storage and distribution.	Dahomey is implementing several projects to increase food production. It is participating in the Entente Regional Livestock program, is being assisted in improved rice production, and has a grain storage program, as examples.
(b) Creating a favorable climate for foreign and domestic private enterprise and investment.	Dahomey has a liberal policy for the promotion of private enterprise, and is encouraging both foreign investors and national entrepreneurs. There are no specific restrictions concerning private enterprise development, and it is hoped that private sources will provide capital for several projects being developed.
(c) Increasing the people's role in the developmental process.	The Borrower has a program of rural development based on pilot villages, to train farmers and demonstrate how development can be achieved at the village level. Considerable efforts are being made in the educational field at all levels.

(d) Allocating expenditures to development rather than to unnecessary military purposes or intervention in other free countries' affairs.	The level of military expenditures in Dahomey is limited to that required to assure internal order and stability. See I.D.2., page 7. The major share of the budget and priorities are expenditures for development.
(e) Willing to contribute funds to the project or program.	The Borrower will contribute funds to the project within its budgetary limitations.
(f) Making economic, social, and political reforms such as tax collection improvements and changes in land tenure arrangement; 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.	The Borrower currently has a program concerned with the more efficient control of governmental spending, the formation of a more equitable tax base, and for effective tax collection. Both the French and IMF are assisting with advice in this program. There are several newspapers of divergent political opinions. Private enterprise is encouraged both for national entrepreneurs and foreign investors.
(g) Responding to the vital economic, political, and social concerns of its people, and demonstrating a clear determination to take effective self-help measures.	The country is attempting through the building of a resource base by increasing export crops, through regional development programs, and agricultural projects at the village level to effectuate economic and social reforms for the improvement of living standards. Transportation projects can play an important role in bringing the economies of the various regions into greater harmony and development.

B. Relations with the United States

1. FAA §620(c). Is the government indebted to any U.S. citizen for goods or services furnished or ordered where: (a) such citizen has exhausted available legal remedies, including arbitration, or (b) the debt is not denied or contested by the government, or (c) the indebtedness arises under such government's, or a predecessor's unconditional guarantee?	None to our knowledge.
2. FAA §620(d). If the loan is intended for construction or operation of any productive enterprise that will compete with U.S. enterprise, has the country agreed that it will establish appropriate procedures to prevent export to the U.S. of more than 20% of its enterprise's annual production during the life of the loan?	Not applicable.

3. FAA §620(e)(1). Has the country's government, or any agency or subdivision thereof, (a) nationalized or expropriated property owned by U.S. citizens or by any business entity not less than 50% beneficially owned by U.S. citizens, (b) taken steps to repudiate or nullify existing contracts or agreements with such citizens or entity, or (c) imposes or enforced discriminatory taxes or other exactions, or restrictive maintenance or operation conditions? If so, and more than six months has elapsed since such occurrence, identify the document indicating that the government, or appropriate agency or subdivision thereof, has taken appropriate steps to discharge its obligations under international law toward such citizen or entity? If less than six months has elapsed, what steps if any has it taken to discharge its obligations?	No to (a), (b), and (c) to the best or our knowledge.
4. 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, and failed to take appropriate measures to prevent a recurrence and to provide adequate compensation for such damage or destruction?	No

5. FAA §620(l). Has the government instituted an investment guaranty program under FAA §221(b)(l) for the specific risks of inconvertibility and expropriation or confiscation?	There is an AID Guaranty agreement between the United States and Dahomey.
6. FAA §620(o); Fisherman's Protective Act of 1954, as amended, Section 5. Has the country seized, or imposed any penalty or sanction against, any U.S. fishing vessel on account of its fishing activities in international waters? If, as a result of a seizure, the USG has made reimbursement under the provisions of the Fisherman's Protective Act and such amount has not been paid in full by the seizing country, identify the documentation which describes how the withholding of assistance under the FAA has been or will be accomplished.	No
7. FAA §620(q). Has the country been in default, during a period in excess of six months, in payment to the U.S. on any FAA loan?	No
8. FAA §620(t). Have diplomatic relations between the country and the U.S. been severed? If so, have they been renewed.	No

C. Relations with Other Nations and the U.N.

1. FAA §620(i). Has the country been officially represented at any international conference when that representation included planning activities involving insurrection or subversion directed against the U.S. or countries receiving U.S. assistance?	No
2. FAA §§620(a), 620(n). Has the country sold, furnished, or permitted ships or aircraft under its registry to carry to Cuba or North Viet-Nam items of economic, military, or other assistance?	No
3. FAA §620(u); App. 108. What is the status of the country's U.N. dues, assessments, or other obligations? Does the loan agreement bar any use of funds to pay U.N. assessments, dues, or arrearages?	Dahomey is up to date on its U.N. dues, assessments and other obligations. The loan agreement limits the use of the funds to the importation of goods and services or the purchase of local goods and services for the specific project.

D. Military Situation

1. FAA §620(i). Has the country engaged in or prepared for aggressive military efforts directed against the U.S. or countries receiving U.S. assistance?	No

2. FAA §620(s). What is (a) the percentage of the country's budget devoted to military purposes, and (b) the amount of the country's foreign exchange resources used to acquire military equipment? Is the country diverting U.S. development assistance or P.L. 480 sales to military expenditures? Is the country diverting its own resources to unnecessary military expenditures? Has the country spent money for sophisticated weapons systems?

(a) Approximately 12%.
(b) Most military equipment is provided through French assistance. Very little is purchased with Dahomean foreign exchange.
(c) No.
(d) No.
(e) No.

II. CONDITION OF THE LOAN

A. General Soundness

-- Interest and Repayment

1. FAA §§201(d), 201(b)(2). Is the rate of interest excessive or unreasonable for the borrower? Are there reasonable prospects for repayment? What is the grace period interest rate; the following period interest rate? Is the rate of interest higher than the country's applicable legal rate of interest?	Rate of interest is not excessive or unreasonable. Repayment prospects are favorable. (See Section IV.D. of CAP). Grace period is 10 years with 2%, and 3% during last 30 years. Rate of intere t is less than applicable legal rate in country.

-- Financing

1. FAA §201(b)(1). To what extent can financing on reasonable terms be obtained from other free-world sources, including private sources within the U.S.?	Financing for the project is also being provided by IDA on concessional terms. See Section IV B of CAP. Private financing for this project is not possible.

-- Economic and Technical Soudness

1. FAA §§201(b)(2), 201(e). The activity's economic and technical soundness to undertake loan; does the loan application, together with information and assurances, indicate that funds will be used in an economically and technically sound manner?	Yes. See Sections II, III and IV of CAP for technical, economic, and financial analyses.

2. FAA §611(a)(1). Have engineering, financial and other plans necessary to carry out assistance, and a reasonably firm estimate of the cost of assistance to the U.S., been completed?	Yes. See Sections II and IV of CAP.
3. FAA §611(b); App. §101. If the loan or grant is for a water or related land-resource construction project or program, do plans include a cost-benefit computation? Does the project or program meet the relevant U.S. construction standards and criteria used in determining feasibility?	Not Applicable.
4. FAA §611(e). If this is a Capital Assistance Project with U.S. financing in excess of $1 million, has the principal A.I.D. officer in the country certified as to the country's capability effectively to maintain and utilize the project?	Yes.

B. Relation to Achievement of Country and Regional Goals.

-- Country Goals

1. FAA §§207, 281(a). Describe this loan's relation to:	
a. Institutions needed for a democratic society and to assure maximum participation on the part of the people in the task of economic development.	The Project is important in providing transportation between different sections of the country, and to permit the regions away from the capital city to take an increasing role in the country's development.

b. Enabling the country to meet its food needs, both from its own resources and through development, with U.S. help, of infrastructure to support increased agricultural productivity.	The project will provide the necessary transport network to support agricultural development programs in the regions served by the road. See Section III.A. and B. of the CAP.
c. Meeting increasing need for trained manpower.	Adequate training will be provided to the Borrower to assure efficient operations and maintenance of the road network and will contribute generally to the improvement of technical skills of Dahomean transport technicians.
d. Developing programs to meet public health needs.	Better transportation can be useful in providing medical and public health care through increased accessibility of areas.
e. Assisting other important economic, political, and social development activities, including industrial development; growth of free labor unions; cooperatives and voluntary agencies; improvement of transportation and communication systems; capabilities for planning and public administration; urban development; and modernization of existing laws.	Adequate transportation is a vital necessity for all the types of development noted. By serving a number of the most important cities and agricultural regions of the country, it will make an important contribution to Dahomey's overall development plan.
2. FAA §201(b)(4). Describe the activity's consistency with and relationship to other development activities, and its contribution to realizable long-range objectives.	See Section III.B. of the CAP.

3. FAA §201(b)(9). How will the activity to be financed contribute to the achievement of self-sustaining growth?	As indicated in CAP, this project provides the essential transportation link required for economic development. See Section III.B. of CAP.
4. FAA §201(f). If this is a project loan, describe how such project will promote the country's economic development, taking into account the country's human and material resource requirements and the relationship between ultimate objectives of the project and overall economic development.	See Section III of CAP.
5. FAA §201(b)(3). In what ways does the activity give reasonable promise of contributing to development of economic resources, or to increase of productive capacities?	See Section III of CAP.
6. FAA §281(b). How does the program under which assistance is provided recognize the particular needs, desires, and capacities of the country's people; utilize the country's intellectual resources to encourage institutional development; and support civic education and training in skills required for effective participating in political processes.	Better transportation will provide the opportunity for the various regions of the country to have greater contact and exchange, and thus contribute to a better understanding of the requirements of the various areas and of the need to work together in a national effort.

7. FAA §601(a). How will this loan encourage the country's efforts to: (a) increase the flow of international trade; (b) foster private initiative and competition; (c) encourage development and use of cooperatives, credit unions, and savings and loan associations; (d) discourage monopolistic practices; (e) improve technical efficiency of industry, agriculture, and commerce; and (f) strengthen free labor unions?	The project will directly encourage international trade involving Niger and Dahomey. See Section III.A.&B. of CAP. The regions being served are taking part in a national development program which is attracting private investments as well as public funds. Within this context, agricultural cooperatives are being encouraged at the village level to ensure greater efficiency. The project will also permit better management by making possible easy transportation between the regional areas and government and management headquarters in the capital city of Cotonou.
8. FAA §202(a). Indicate the amount of money under the loan which is: going directly to private enterprise; going to intermediate credit institutions or other borrowers for use by private enterprise; being used to finance imports from private sources; or otherwise being used to finance procurements from private sources.	The entire loan will be utilized to procure goods and services from private enterprises.
9. FAA §611(a)(2). What legislative action is required within the receipient country? What is the basis for a reasonable anticipation that such action will be completed in time to permit orderly accomplishment of purposes of loan?	None required.

-- Regional Goals

1. FAA §619. If this loan is assisting a newly independent country, to what extent do the circumstances permit such assistance to be furnished through multilateral organizations or plans?

This project is being financed in part by IDA, a multinational organization. See Sections IV B and C.

2. FAA §209. If this loan is directed at a problem or an opportunity that is regional in nature, how does assistance under this loan encourage a regional development program? What multilateral assistance is presently being furnished to the country.

See Sections III A, B and IV D.

C. Relation to U.S. Economy

-- Employment, Balance of Payments, Private Enterprise

1. FAA §§201(b)(6); 102, Fifth. What are the possible effects of this loan on U.S. economy, with special reference to areas of substantial labor surplus? Describe the extent to which assistance is constituted of U.S. commodities and services, furnished in a manner consistent with improving the U.S. balance of payments position.

There is no special applicability in reference to areas of substantial labor surplus. See Section VI for other question.

2. FAA §§ 612(b), 636(h). What steps have been taken to assure that, to the maximum extent possible, foreign currencies owned by the U.S. and local currencies contributed by the country are utilized to meet the cost of contractual and other services, and that U.S. foreign-owned currencies are utilized in lieu of dollars?	No foreign currencies owned by the U.S. Government are available or could be used for implementation of this project. The GRD will contribute in local currency costs to the extent reasonable within its budgetary limitations.
3. FAA §601(d); App. 109. If this loan is for a capital project, to what extent has the Agency encouraged utilization of engineering and professional services of U.S. firms and their affiliates? If the loan is to be used to finance direct costs for construction, will any of the contractors be persons other than qualified nationals of the country or qualified citizens of the U.S.? If so, has the required waiver been obtained?	The loan agreement requires that the Borrower contract with a qualified Code 941 construction firm. Supervisory engineering services will be financed by IDA and not under the loan. See Section II of CAP. In regard to the last question, Agency rules will be followed in relation to employment of third country nationals.
4. FAA §608(a). Provide information on measures to be taken to utilize U.S. Government excess personal property in lieu of the procurement of new items.	Draft loan agreement contains standard AID provision in this regard.
5. FAA §602. What efforts have been made to assist U.S. small business to participate equitably in the furnishing of commodities and services financed by this loan?	USG and AID normal competitive bid procedures will be followed.

6. FAA §621. If the loan provides technical assistance, how is private enterprise on a contract basis utilized? If the facilities of other Federal agencies will be utilized, in what ways are they particularly suitable; are they competitive with private enterprise (if so, explain); and how can they be made available without undue interference with domestic programs?	Not applicable. Facilities of other Federal agencies will not be used in the project.
7. FAA §611(c). If this loan involves a contract for construction that obligates in excess of $100,000, will it be on a competitive basis? If not, are there factors which make it impracticable?	The contract for construction will be on a competitive basis.

-- Procurement

1. FAA §604(a). Will commodity procurement be restricted to U.S. except as otherwise determined by the President?	Yes
2. FAA §604(b). Will any part of this loan be used for bulk commodity procurement at adjusted prices higher than the market price prevailing in the U.S. at time of purchase.	No

3. FAA §604(e). Will any part of this loan be used for procurement of any agricultural commodity or product thereof outside the U.S. when the domestic price of such commodity is less than parity?	No.

D. Other Requirements

1. FAA §201(b). Is the country among the 20 countries in which development loan funds may be used to make loans in this fiscal year?	In view of the regional character of the proposed AID assistance (See Section III of CAP), the loar falls outside this limitation and is classified as an Africa Regional project.
2. App.§106. Does the loan agreement provide, with respect to capital projects, for U.S. approval of contract terms and firms?	Yes.
3. FAA §620(k). If the loan is for construction of a productive enterprise, with respect to which the aggregate value of assistance to be furnished will exceed $100 million, what preparation has been made to obtain the express approval of the Congress?	Not applicable.

4. FAA §§620(b), 620(f); Has the President determined that the country is not dominated or controlled by the international Communist movement If the country is a Communist country (including, but not limited to, the countries listed in FAA §620(f)) and the loan is intended for economic assistance, have the findings required by FAA §620(f) been made and reported to the Congress?	Yes
5. FAA §620(h). What steps have been taken to insure that the loan will not be used in a manner which, contrary to the best interest of the United States, promotes or assists the foreign aid projects of the Communist-block countries?	The standard AID loan provision will be included in the loan agreement.
6. App. 110. Will any funds be used to finance procurement of iron and steel products for use in Viet-Nam other than as contemplated by §118?	No
7. FAA §636(i). Will any part of this loan be used in financing non-U.S.-manufactured motor vehicles? If so, has the required waiver been obtained?	No

8. FAA §§620(a)(1) and (2), 620(p) Will any assistance be furnished or funds made available to the government of Cuba or the United Arab Republic?	No
9. FAA §620(a). Will any part of this loan be used to compensate owners for expropriated or nationalized property? If any assistance has been used for such purpose in the past, has appropriate reimbursement been made to the U.S. for sums diverted?	No. No, such assistance has been used for this purpose.
10. FAA §201(f). If this is a project loan, what provisions have been made for appropriate participation by the recipient country's private enterprise?	The GRD's private enterprise will have an opportunity to contribute goods and services to the project through supplies of material and other local services.
11. App. §104. Does the loan agreement bar any use of funds to pay pensions, etc., for persons who are serving or who have served in the recipient country's armed forces?	Yes. The loan agreement so limits the use of loan funds.
12. MMA Sec. 901.b. Does the loan agreement provide, for compliance with U.S. shipping requirements; (a) that at least 50% of the gross tonnage of all commodities financed with funds made available under this loan (computed separately by geographic area for dry bulk carriers, dry cargo liners, and tankers) be transported on privately owned U.S.-flag commercial vessels to the extent such vessels are available at fair and reasonable rates for U.S. flag vessels; and (b) that at least 50% of the gross freight revenues generated by goods shipped under the A.I.D. loan are earned by privately owned U.S. flag commercial vessels?	Yes.

13.	FAA §481. Has the country failed to take adequate steps to prevent narcotic drugs from entering the U.S. unlawfully?	No. Dahomey is to the best of our knowledge cooperating with the U.S. and international organizations in the control of narcotic drugs.

OPTIONAL FORM NO. 10
MAY 1962 EDITION
GSA FPMR (41 CFR) 101-11.6

UNITED STATES GOVERNMENT

Memorandum

TO : Mr. Albert P. Disdier, Director, AFR/CDF - AID/W

DATE: APR 25 1972

FROM : Sarah Jane Littlefield
Regional Development Officer

SUBJECT: Parakou-Malanville Road 611E Certification

I, Sarah Jane Littlefield, the principal officer of the Agency for International Development for the Entente States (Dahomey, Ivory Coast, Niger, Togo and Upper Volta), having taken into account, among other things, the maintenance and utilization of projects in Dahomey previously financed or assisted by the United States, the Ministry of Works and Communications' responsibility for maintaining roads throughout Dahomey, and the previous assistance from other donors specifically directed to road construction and maintenance, do hereby certify that in my judgment the Government of Dahomey has both the financial capability and human resource capability to effectively maintain and utilize the capital assistance project, the Parakou-Malanville Road.

AID-DLC/P-1025
ANNEX L

AID Loan No.
Cap. Asst. Paper No.
Project No.

CAPITAL ASSISTANCE LOAN AUTHORIZATION

Provided from: Development Loan Funds

Africa Regional: Dahomey-Parakou-Malanville Road

Pursuant to the authority vested in the Assistant Administrator for Africa 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 I, the Development Loan Fund, to the Republic of Dahomey ("Borrower") of not to exceed eight million dollars ($8,000,000) to assist in financing the foreign exchange and local currency costs of goods and services for the reconstruction and upgrading of the Parakou-Malanville Road, subject to the following terms and conditions:

1. Interest Rate and Terms of Repayment

The Borrower shall, in United States dollars:

(a) Repay the loan to A.I.D. within forty (40) years, including a grace period not to exceed ten (10) years.

(b) Pay A.I.D. interest on the unpaid principal and any interest accrued thereon at the rate of two percent (2%) per annum during the grace period and three percent (3%) per annum thereafter.

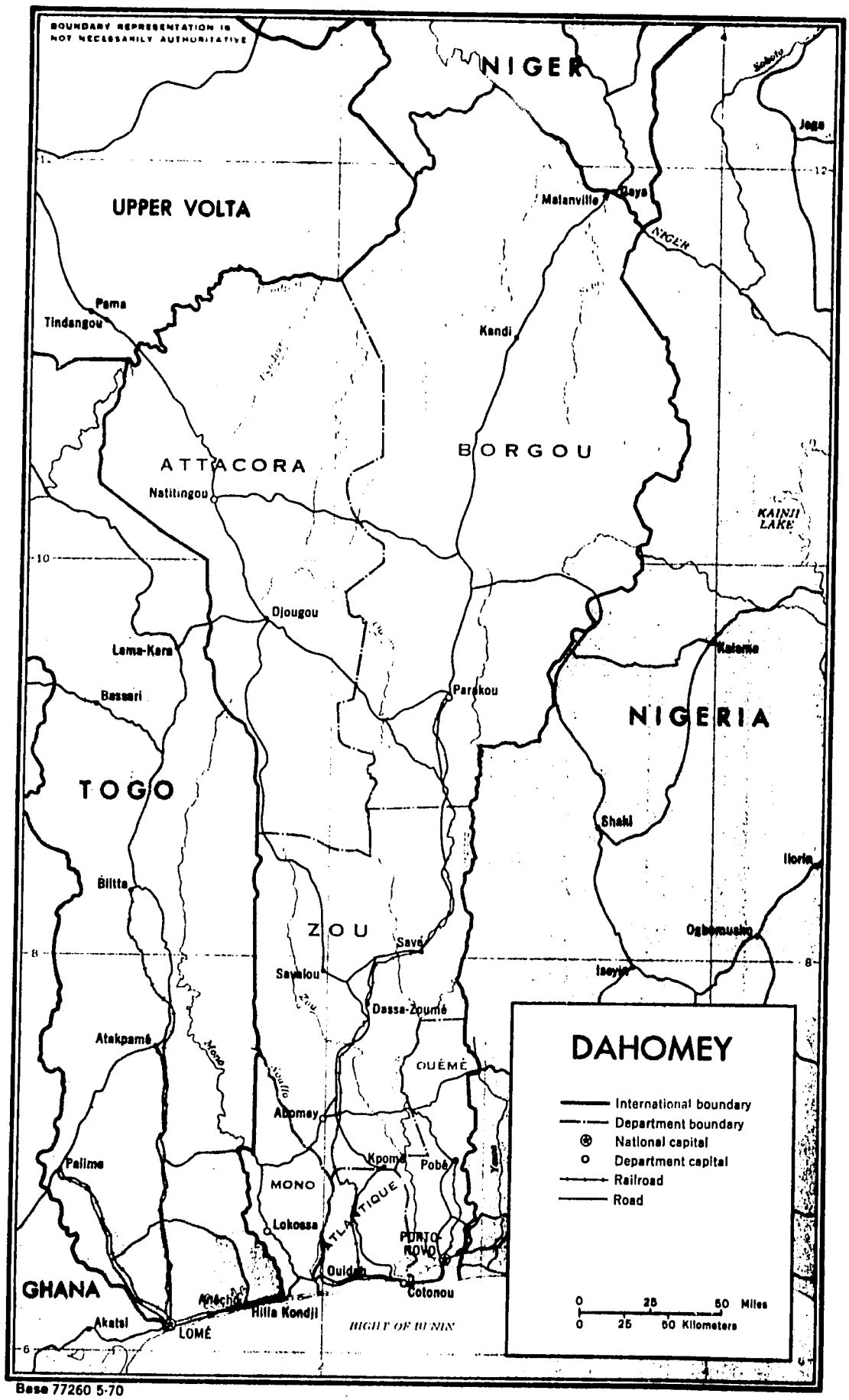
2. Other Terms and Conditions

(a) Goods and services financed under this loan shall be procured from Dahomey and from countries included in Code 941 of the A.I.D. Geographic Code Book.

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

Assistant Administrator for Africa

Date



Base 77260 5-70