Proj. 690046-(2)
PN- PD-AAC-859-B1

UNCLASSIFIED 690046

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

690-046

MALAWI - MALAWI ROADS PHASE II

AID-DLC/P-2044

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

UNCLASSIFIED

AID-DLC/P-2044

June 7, 1974

MEMORANDUM FOR THE DEVELOPMENT LOAN COMMITTEE

SUBJECT: Malawi - Malawi Roads Phase II

Attached for your review are recommendations for authorization of a loan to the Government of Malawi in an amount not to exceed Eleven Million Four Hundred Thousand Dollars ($11,400,000) to assist in financing the foreign exchange and local currency costs of road construction and supervision of the Lilongwe-Mchinji, Zambia Border Road.

This loan is scheduled for consideration by the Development Loan Staff Committee on Thursday, June 13, 1974. Also please note your concurrence or objection is due by close of business Tuesday, June 18, 1974. If you are a voting member a poll sheet has been enclosed for your response.

Development Loan Committee
Office of Development
Program Review

Attachments:

Summary and Recommendations
Project Analysis
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June 7, 1974

MALAWI ROADS (PHASE II)

SUMMARY AND RECOMMENDATIONS

1. Borrower: The Government of the Republic of Malawi (GOM)

2. Loan Amount: $11,400,000

3. Terms:

   a. Maturity: Forty (40) years including a ten (10) year grace period.

   b. Interest: 2 percent per annum during the grace period, and 3 percent per annum thereafter.

   c. Repayment: Interest and principal payable in U.S. dollars.

4. Financial Plan:

A.I.D. Loan	$11,400,000
GOM Financial Contribution	2,249,000
Total	$13,649,000

5. Description of the Project: The proposed project consists of road construction and construction supervision of the 78 mile Lilongwe-Mchinji, Zambia Border Road. The construction phase will include upgrading the existing earth-surfaced road to a bituminous road, realignment of a section of the road, thereby reducing the road length by 4 miles to 74 miles and the construction of several bridges.

6. Purpose of the Loan: To finance all foreign exchange costs and a portion of the local costs of the project.

7. Background of the Project: The Lilongwe-Mchinji, Zambia Border Road is the main road through one of Malawi's most productive agricultural areas and serves as the major Malawi-Zambia trade route and Zambia's only access to Mozambique ports. The UNDP financed and IBRD implemented a technical and economic feasibility study to determine the viability of upgrading the existing earth-surfaced road to a bituminous road. The study was conducted by Scott, Wilson, Kirkpatrick and Partners, consulting engineers, and the Economist Intelligence Unit, and was completed in April 1973 and justified improving the road. The GOM had already requested, prior to the study, A.I.D. financial assistance for road construction and construction supervision for the project.

8. Export - Import Bank Clearance: Received June 6, 1974

9. Country Team Views: Country team strongly endorses the project.

10. Statutory Criteria: Satisfied; see Annex I

11. Recommendations: Authorization of a loan not to exceed $11,400,000 to finance construction work and construction supervision of the Lilongwe-Mchinji, Zambia Border Road.

Capital Assistance Committee:

REDSO/EA

Loan Officer: P. Guedet
Engineer: D. Gephart
Lawyer: W. Jones

AID/W

Desk Officer: E. Gales
Engineer: P. Stearns
Lawyer: R. Johnson

I. INTRODUCTION

A. Description of Project.

The Lilongwe-Mchinji, Zambia Border Road is a 78 mile road located in central western Malawi, extending from Lilongwe, Malawi's new capital, via Mchinji to the Zambian border. This road passes through one of Malawi's most productive agricultural areas and also serves as Malawi's major trade route with Zambia. Additionally this transport link is Zambia's only access to Mozambique Indian Ocean ports since the closure of the Rhodesian-Zambian border. This loan will finance realigning, upgrading and paving the existing road, and supervisory engineering services.

B. Background.

Malawi is a landlocked country extending over 540 miles from north to south and less than 120 miles from east to west. It is bordered on the east and south by Mozambique; on the northwest by Zambia, and by Tanzania to the north and northeast. Malawi's population is estimated at about 4.7 million and is increasing annually at 2.5 percent. Agriculture contributes about 50% of the GDP with large farms responsible for about 11% of agricultural production. Cash sales represent 28% of total agricultural production and total production is increasing at 9% annually.

Since early 1971, the Government of Malawi has discussed with A.I.D. officials the need to upgrade the Lilongwe-Mchinji, Zambia Border Road. Vehicle traffic has increased substantially since moving the capital from Zomba to Lilongwe and establishing closer commercial connections with Zambia, especially since the closure of the Rhodesia-Zambia border.

The existing route is of substandard design on several sections and consists of an earth surface which requires extensive maintenance. The present alignment also crosses into Zambia territory for a short stretch, thus creating potential border problems. In addition to connecting with the paved Great East Road on the Zambian border to Lusaka, the route provides access to the towns of Namitete and Tembwe located in an area of agricultural development.

This road presently serves two Administrative Districts in Malawi, including a large part of the Lilongwe District which includes the IDA financed Lilongwe Agricultural Development Project and all of the Mchinji District. Additionally it serves nearly all of Zambia's transit traffic which has an origin or destination in the eastern region of Zambia, as well as some traffic with origin or destination in Lusaka or the copperbelt of Zambia.

As a result of the recent Zambia/Rhodesia border closure this road has taken on greater importance since the Zambia import and export traffic requires alternative transport routes to the ocean. The Mchinji-Lilongwe road has been selected as one of Zambia's external routes to the ocean. This route will provide for truck movements of cargo between Lusaka and the Malawi railheads presently at Salima or Balaka, thereby providing railroad access to the ports of Beira or Nacala. A paved road now exists between Lilongwe and Balaka so this route is primarily used rather than the gravel Lilongwe/Salima route. A recent Canadian loan (CIDA) will finance rehabilitation of the Salima-Balaka rail line, purchase new rolling stock and construction of a new rail line between Salima and Lilongwe. Estimated completion of the new rail road to Lilongwe is 1978.

Both the GOM and GOZ are anxious to improve the alignment and structure of the Lilongwe-Mchinji route to facilitate a more efficient, economical truck transport link to the railhead. Also the GOM wants this route improved to assist in the movement of agricultural products in the Lilongwe area.

This road is an important section of the traffic corridor between Lilongwe and Lusaka, the capital cities of Malawi and Zambia, respectively. The Lilongwe-Mchinji-Zambia Border Road, will provide the shortest and only route to the Indian Ocean Ports of Beira and Nacala for Zambia's international traffic. Even in its unfinished state, this road has at times carried as much as 19,000 tons a month of Zambian imports and exports. However, with closure of the Rhodesia-Zambia border, the paving of the 400 mile road from Lusaka, Zambia to the Malawian border now completed, and with the newly constructed Zomba/Lilongwe road passing through the new rail junction at Liwonde, this road effectively links Lusaka and the copperbelt to Lilongwe and to the Malawian railheads and to the Indian Ocean ports. In 1978 the Canadian-financed railway improvements between Balaka and Salima and the new rail line between Salima and Lilongwe should be completed, including additional rolling stock. With these considerable improvements, including upgrading the Lilongwe-Mchinji Road, this route will be the shortest and least-cost route to the Indian Ocean for Malawi-Zambia trade.

Due to the substantial increase in traffic, the existing road has deteriorated to the extent of impeding traffic most of the time and making the road impassable during the rainy season. This has resulted in excessive maintenance expenditures to operate an inadequate but critical transportation route.

The GOM officially requested A.I.D. assistance for the road during GOM Ministry of Finance representatives' visits to the United States in April 1971 and again in October 1972. During this time the GOM received

UNDP/IBRD financial assistance to employ Scott, Wilson, Kirkpatrick and Partners (SWKP) to conduct economic feasibility and engineering studies on the Lilongwe-Mchinji, Zambia Border Road and the Lilongwe, Kasungu and Mzimba Road. In January 1973, A.I.D. officially informed the GOM that it would consider financing the final engineering and construction of the Lilongwe-Mchinji, Zambia Border Road if the feasibility studies being prepared by SWKP justified both upgrading the road and new alignments for sections of the road. The study was completed in April 1973, justifying the economic viability and technical feasibility for improving and realigning the road as well as emphasizing the road's essential relationship to Malawi-Zambia trade and Zambia's access to ocean ports. The study suggested two possible alignments. The first alignment was improving the existing road, realigning it to take a small section of the road out of Zambia. The second alignment was virtually a new road. In August 1973, the GOM decided on the first alignment. In January 1974 a lump sum engineering design contract was signed by the GOM and Daniel, Mann, Johnson and Mendenhall (DMJM). Work is well underway and preliminary cost estimates for road construction were submitted to REDSO/EA on May 6. The funds for final engineering design services were provided under Malawi Roads Phase I (690-H-002) which also finances the final engineering design, construction and construction supervision for the 52 mile Chikwawa-Bangula Road.

C. Relationship of Project to U.S. Assistance Strategy

As the most populated independent, majority-ruled state in Southern Africa, Malawi forms an important link in our strategy of supporting economic development relative to the minority-ruled states of the region. U.S. assistance in the transportation sector will assist Malawi to further expand its economic, social and political development. Furthermore, the proposed project would complement the IBRD's (IDA credit), Lilongwe Agricultural Development Project and provide Zambia with an economical route to the Indian Ocean.

D. Borrower and Implementing Agency

The Borrower will be the Malawi Government (GOM), acting through the Ministry of Finance. The Ministry of Works and Supplies, Roads Department will be the implementing agency. The main and secondary roads are maintained by the Roads Department and the minor roads are the responsibility of the local authorities. Feeder roads constructed under the IDA project are maintained by the project manager.

E. Export-Import Bank Clearance

The Export-Import Bank's Board of Directors considered this proposed loan on June 6, 1974 , and concluded that in view of the need for local cost financing and concessional lending terms, the project was not appropriate for Export-Import Bank financing.

II. Technical Analysis

A. Detailed Description of the Lilongwe-Mchinji Zambian Border Project.

1. Location. The road is a 78-mile east/west section of the Malawi road system designated route M-4. The road starting north of the town of Lilongwe, extends west from its junction with existing route M-1 78 miles to the Zambian Border, passing through the towns of Namitete, Kamlendo and Mchinji. The project follows the existing route M-4, from the junction of M-1 to the town of Namitete (30 miles), then by new realingment (24 miles) from Namitete to the town of Kamlendo, and then by the existing road from Kamlendo to Mchinji and the Zambian Border (20 miles) for a total length of approximately 74 miles. The project traverses flat to slightly rolling terrain throughout at an elevation varying from 3,500 to 4,500 feet above sea level. Major stream crossing at the Bua and Namitete Rivers will be made. The road improvements will consist of approximately 24 miles of construction on new location and 50 miles of reconstruction on existing location, resulting in a distance saving of about 4 miles from the present existing route. The new location will provide for route M-4 to be totally located within the country of Malawi, as a portion of existing M-4, between Namitete and Kamlendo now infringes on the border of Mozambique and for approximately a 4 mile strip enters the Republic of Zambia.

The drainage requirements of the road are standard, and will require culvert cross drainage and the construction of five short span bridge structures. Portions of the present roadway lie below the adjacent ground thereby requiring the construction of a shallow fill embankment section as part of the reconstruction and minor relocations of the existing route.

B. Engineering Design Services.

1. Background. In early 1972 the Government of Malawi (GOM) requested UNDP to finance a feasibility study for the improvement of a 78 mile route in central Malawi extending westward from the Capital of Lilongwe through Mchinji to the border with Zambia. The IBRD in administering the UNDP grant, contracted with the firms of Scott, Wilson, Kirkpatrick & Partners (SWKP) and The Economist Intelligence Unit to carry out the engineering and economic investigation respectively.

This study was completed in April 1973 and was the basis for the final design engineering as performed by the U.S. consultant firm Daniel, Mann, Johnson and Mendenhall (DMJM), financed under A.I.D. Loan No. 690-H-002.

2. Final Design Details. This work is being performed by DMJM under a GOM/DMJM contract financed by A.I.D.

Design standards were initially established by the GOM as agreed by A.I.D., to have a roadway constructed to a Malawi Class I Standard.

The Class I Standard provides for an asphalt surfaced roadway of 22 foot width with two 5 foot select material shoulders. These widths are compatible with U.S. standards for design of rural highways carrying similar traffic volumes. The pavement structure will be designed for the total equivalent number of 1800 pound axle loads which according to the estimated traffic projections, are expected to occur over a 20 year period.

In the flat to slightly rolling terrain there are no vertical alignment restrictions and grades are less than 5 percent. The design for horizontal alignment will provide for a design speed of 60 m.p.h. (100 k.p.h.) The project will generally be a "borrow" type embankment construction to place the finished roadway above the existing ground level. The embankment height will vary in order to clear cross drainage culverts and provide adequate structural support over areas where swampy ground and unstable soils conditions may exist. Pavement designs are based on the British Road Research Laboratory Report LR-279 and the Asphalt Institute Series MS-1 dated December 1969.

The type of pavement structure being considered by DMJM consists of six inches of select borrow subbase material overlain by six inches of cement treated base material, with a wearing surface of a double bituminous surface treatment.

The section of existing asphalt surfaced roadway (4.4 miles) at the east end of the project, which is being investigated for bearing capacity will receive an asphalt overlay of 4.0 to 4.5 inches of sand-asphalt mix providing indicated sand deposits now being investigated are available in sufficient quantity to allow for this type mix.

Quality control of materials will be based on testing procedures in accordance with the American Society of Testing Materials (ASTM) and the American Association of State Highway Officials (AASHO) standards.

3. Alignment. The new alignment of the roadway, both horizontal and vertical, will reflect better than minimum geometric standards for a design speed of 100 k.p.h. (60 m.p.h.) The Eastern portion of the road, from junction M-4 with M-1, lies on flat to slightly rolling terrain with curves of less than 2 degrees. Three stream crossings are proposed in the Lilongwe-Namitete section (30 miles) being the Ntipwe River, Kakuyu River, with new structures planned for these crossings. This section of road closely follows the existing route M-4 with slight deviations to obtain good horizontal geometrics. The new location (24 miles) from Namitete to Kamlendo follows the natural ridge line, along flat to slightly rolling terrain. Two river crossings are proposed on this section, being the Bua River and the Likosi River. From Kamlendo to the Zambian Border (20 miles) the alignment follows the existing route M-4 on generally flat to slightly rolling terrain. Existing bridge

structures for five river crossings and crossroad drainage culverts will be utilized. Vertical alignment throughout the 74 mile section exceeds the minimum geometric requirements for the 100 k.p.h. design speed.

4. Bridges. The reconstruction and new roadway alignment will provide for the construction of five bridges, from 45 to 315 feet in length. Two of these bridges will be on new location. Structural design of bridges will be based upon the AASHO H-20 Design Loading, and is adequate for estimated traffic loads on class I roads. Bridges will be designed to provide a 23 foot wide roadway with 3 foot walkways on both sides. This latter provision was recommended by DMJM following field investigations which showed a high volume of pedestrian and bicycle traffic.

All bridges will be of a standard type of construction consisting of a cast-in-place reinforced concrete deck placed on steel beams resting on concrete abutments. For purposes of estimating the costs, all abutments were considered to require a foundation of steel shelled, concrete filled piles. The actual extent of piling required will be determined by soil borings taken at all bridge sites. Steel beam and slab construction is particularly adaptable to this project as they are quickly erected and require a minimum of falsework.

C. Engineering Services.

Supervisory Engineering. Supervisory Engineering services will be provided by a U.S. consultant firm. It is anticipated by the GOM that the services of DMJM, now doing the final design, will be retained to provide the Supervisory Engineering and construction inspection during the construction phase. These services would be covered by a time-rate, lump sum contract between the consultant and the GOM.

The supervisory work will be carried out by expatriate engineers as well as locally hired technicians if available. It is estimated that the time-rate, lump-sum, supervisory engineering contract will cost $890,200, based upon an estimated construction time of 30 months.

The construction of the project (74 miles) is estimated to take 30 months due to the two rainy seasons during each of which four to five months of construction work would be curtailed. This will provide three working seasons for the contractor to complete the work, including a mobilization period of four months.

D. Construction Services.

Construction of this project is expected to be carried out by a U.S. or other Code 941 Contractor prequalified for bidding following the A.I.D. prequalification procedure. A prequalification notice will be published in the Commerce Business Daily and other appropriate publications.

Bids for this project will be prepared on a competitive unit price basis with award to the lowest responsive bidder. It is expected that the present A.I.D. financed-on-going construction of the Chikwawa-Bangula Road in Malawi, with its six prequalified U.S. contractors will present an incentive for the same U.S. firms to bid on this project.

U.S. procurement of steel beams, reinforcing steel, culverting and construction equipment is anticipated. These materials and equipment as well as POL and other plant equipment can be mobilized to the site by rail through Mozambique from Beira or Nacala to Salima or Balaka in Malawi, thence by road to Lilongwe. Other possible mobilization routes by road and rail are through Tanzania and Zambia.

E. Cost Estimates.

Construction costs were developed on a unit cost basis by the consultant's analysis of the Ministry of Works' construction records and the consultant's most recent cost analysis (April, 1974) and projections of costs (June, 1975) for the 52 mile construction of the A.I.D. financed Chikwawa-Bangula Road in Southern Malawi. Calculations for quantities of work items were based upon the following.

1. Mobilization. Mobilization calculated on a lump sum basis taking into account existing equipment, material, and shipping costs and the time factor to complete mobilization requirements.

2. Earthwork and Subbase. The majority of earthwork construction consists of fill for the embankment and a topping of select material subbase. The consultant is investigating the availability and quality of materials from sites adjacent to the route. Following preliminary site investigations to determine the quantity and quality of the materials, and computing average haul distances to embankment placement sites, the estimated costs of these items were established.

3. Pavement (base and surface). Material sites have been tentatively identified for source of base and surfacing materials. Quantities have been calculated for a 6" thickness of cement stabilized gravel for the base and for an asphalt prime and double surface treatment.

4. Structures. Bridges were estimated on a linear foot basis using the cost of standardized steel beam, slab material components, standard pile lengths and the estimated number of lengths of spans of the structures.

5. Culverts. From the review of the SWKP report and additional field and topography investigations the consultant obtained data concerning flooding, rainfall, and catchment areas from which they calculated the expected water runoff. From these runoff data and stream flows the

necessary culvert or structure opening and site location requirements were determined. For minor drainage structures (culverts) the consultant used recently obtained prices of culvert materials and placement costs to estimate the costs of culvert construction.

6. Miscellaneous. Costs for roadway clearance, maintenance of traffic, signing, camp operations, vehicle support etc. were calculated on a lump sum basis from recent cost projections made for the Chikwawa-Bangula Road.

7. Right-of-way-costs. These will be assumed by the GOM and are included as a Malawian contribution.

8. Engineering Construction Costs (June, 1975): Summary breakdown as follows:

	FX Cost	Local Cost	Total Cost
(a) Mobilization and General	$ 923,000	$ 540,000	$1,463,000
(b) Earthwork			
Embankment	1,158,300	505,400	1,663,700
Subbase	657,500	294,800	952,300
(c) Pavement (base & surface)	3,021,400	1,283,200	4,304,600
(d) Structures (bridges)	427,500	174,600	602,100
(e) Culverts	99,600	28,700	128,300
(f) Miscellaneous	397,500	123,000	520,500
Sub-Total	$6,684,800	$2,949,700	$9,634,500
15% quantity contingency	1,002,700	442,500	1,445,200
Total construction cost	$7,687,500	$3,392,200	$11,079,700
15% Cost escalation (June 1976)	1,153,200	508,900	1,662,100
Estimated total construction cost	$8,840,700	$3,901,100	$12,741,800
Engineering Supervision Cost (man months) 162 expatriates 600 locals	700,000	132,000	832,000
7% escalation cost	49,000	9,200	58,200
Sub-Total	749,000	141,200	890,200
Estimated Total Project Cost	$9,589,700	$4,042,300	$13,632,000

Note: Malawi Kwacha 1.00 = U.S. $1.20.

The above cost estimate includes a 10% contingency to project cost to June 1975, the beginning of the road construction. The construction cost price index has risen over the past two years in excess of 12% per year with POL prices rising in excess of 75% over the past year. Consequently a 15% cost escalation is also applied to cover possible cost increases to June, 1976, the mid-point of the construction period.

F. Maintenance.

The Roads Department, within the GOM Ministry of Works and Supplies (MOWS) is responsible for maintaining the Malawi road system. The Ministry has a competent staff of expatriate and Malawian engineers, skilled laborers, and equipment operators to maintain Malawi's road network. The Malawi road network for paved all weather roads is increasing at the rate of 16 percent per year and takes an increasing and important portion of the Roads Department annual budget. The MOW's annual budget is sufficient for required road maintenance work. The Ministry of Finance considers the MOW's road maintenance work an important factor in preventing major and costly road repairs.

The MOW's road maintenance equipment section has been strengthened by the past (1970) addition of $2 million A.I.D.-financed equipment (used on the Lake Shore Road Construction Project) made available to the Roads Department to carry out maintenance of the Malawi Road system.

The road and pavement design for the proposed project should require a minimum of maintenance for the first five years following construction. Maintenance required during this period will consist principally of normal routine maintenance of hand labor for clearing of shoulders and shaping of ditches and culvert entrances and minor patching of roadway surface. The MOW has the capability to carry out maintenance of bituminous surfaced roads as evidenced by the recently completed bitumen surfacing and chipping of the 126 mile Lake Shore Road while concurrently maintaining some 774 miles of asphalt roads within the country. This work is carried out by MOW forces and equipment. In view of the foregoing there is every reason to believe the project as proposed can be efficiently maintained by the GOM.

G. Labor Intensive Considerations.

During the final design stage the consultant is considering the applications of labor intensive methods for the construction phase of this project. It was concluded that labor intensive methods are feasible for clearing of right-of-way, bridge construction, culvert installation and miscellaneous work such as signs installation, camp construction, rip-rapping, culvert and bridge slopes, etc. It is anticipated that the contractor will utilize, to the extent available, local labor for these operations.

Conversely all earthwork, subbase, base and surfacing will be constructed by capital intensive methods. This is due to the haul distance, material preparation, compaction requirements and other specification control requirements governing the construction of the base and surface courses which cannot be met by labor intensive methods. This also applies to pile installation, concrete mixing and specific operations related to the installation of structures.

The bid documents for construction of the project will be based on end result specifications with the contractor having the flexibility, in terms of bidding, of determining his least cost approach to meet the job requirements without undue restrictions and constraints. Therefore, it is left to the contractor to determine the extent of using labor intensive methods versus capital intensive methods in order to allow his firm to submit the lowest responsive bid.

H. Technical Soundness.

In early 1972, the GOM requested UNDP to finance a feasibility study on the improvement of the 78 mile route (M-4) from Lilongwe through Mchinji to the border with Zambia. The IBRD in administering the UNDP grant, contracted with the firms of Scott, Wilson, Kirkpatrick & Partners (SWKP) and the Economist Intelligence Unit to carry out the preliminary engineering and economic feasibility investigations. This study resulted in the SWKP Report "Study of the Lilongwe-Mchinji Border Road and the Lilongwe-Mzimba Road" dated April, 1973.

After reviewing the SWKP report and deciding on the appropriate alignment, the GOM signed a contract with the U.S. firm of Daniel, Mann, Johnson and Mendenhall to carry out the final road design and preparation of IFB documents for construction of the route.

An analysis of the construction cost data based on the methodology used by DMJM in developing these costs was made and summarized in Section "E" above. The engineers contingency factor of 15 percent included in the construction costs is based on recent experience on road projects in eastern and southern Africa. It is believed that the cost estimates are reasonably accurate within the intent of Section 611(a) of the Foreign Assistance Act of 1961, as amended. Similarly, the technical and economic investigations associated with the development of this project were found to be acceptable and sufficient to provide the basis for subsequent construction.

I. Implementation Schedule.

The construction period, as noted in Section "D" allows 30 months including an estimated 8 months of curtailment due to the rainy season. It is to the advantage of the GOM as well as A.I.D. that construction services be initiated as soon as possible to facilitate implementation of the project and minimize price escalation.

The following schedule is proposed:

1.	Authorize Loan	June, 1974
2.	Sign Loan Agreement	July, 1974
3.	Prequalify Construction Contractors	Sept. 1974
4.	Completion final design and Preparation IFB documents	Nov. 1974
5.	Issue IFB documents	Dec. 1974
6.	Open Bids (60-day period)	Feb. 15, 1975
7.	Execute Engineering Supervision Contract	March, 1975
8.	Award Construction Contract	March 15, 1975
9.	Contractor Mobilize (90 days)	April, 1975
10.	Start Construction	June, 1975
11.	Complete Construction	Oct., 1977

III. ECONOMIC ANALYSIS

A. Transport Sector.

Malawi is a physically small landlocked country with a total area of 45,747 square miles of which Lake Malawi occupies approximately one-fifth. Its length and its lake lie north-south, which encourages a natural emphasis on longitudinal lines of internal transport. The lack of an indigenous sea outlet requires considerable transportation integration with Mozambique. Malawi's location also provides potential benefits from Zambian and Mozambique transit traffic. In the former case, such trade in the past has proved to be more a function of short term political expediency than of economics. However, now with the closure of the Rhodesian-Zambian border and given medium to long term effective pursuits of internal transport efficiency, Malawi is well situated to become a least-cost link in Zambia's international trade network.

The transportation infrastructure that Malawi inherited at the time of independence was incapable of handling the volume of goods produced by Malawi. The need for new and improved roads was widespread.

Since independence considerable road construction and road improvements have been effected. Although there is still serious pressure on the transportation system in specific areas, many of the necessary road improvements have been completed. Between 1964-1971 the GOM committed $62.5 million or over one-third of its development budget to the transportation sector. For the 1974/75 budget year, the GOM allocated $7.1 million, representing 29 percent of the development budget.

Historically, the central core for commodity transport for Malawi has been the railway with the road transport industry providing a feeder service to the railway. This general distinction between long haul rail service and feeder-service road transport has decreased considerably since independence. This development has occurred because of a number of interrelated factors, particularly the removal of the railways special preference along scheduled routes in 1966 and the accelerated increase in road transport capacity that was both a cause and effect of this change. Rail, however, will continue to remain the sole practical outlet to the Indian Ocean ports of Nacala and Beira.

Roads. Malawi's total road network consists of 6,756 miles of which 774 are bitumen, 315 gravel and 5,667 miles of dirt roads. These routes are connected to focal points at Blantyre/Limbe in the south and Lilongwe in the central region. Road development strategy has partly followed a north-south direction conforming to the physical design of the country. There are still some missing links and inadequate sections are being given high priority by the government. The principal road links with adjacent territories are south-west to Rhodesia, (M2) and the proposed road running north-west from Lilongwe to Zambia (M4). The existing network of feeder roads, (principal function is to facilitate the despatch of agricultural produce from farms or estates to markets) is mostly low grade, earth surfaced with limited drainage and sub-standard bridging.

Road Transport. The number of vehicle licenses issued increased at an annual rate of 6.0 percent between 1964-71. The annual rates of increase in licenses issued for cars, light commercial vehicles and large commercial vehicles (excluding motor cycles) were 4.3 percent, 8.1 percent and 8.6 percent respectively.(See Annex III.)New registrations of all vehicle types (excluding motorcycles) increased at over 6 percent a year, but there were significant variations between different classes of vehicles. For example, new registrations of cars were relatively static over the 1964-71 period, but the rate of increase for light commercial vehicles was just under 7 percent a year. The largest increases were in new registrations of larger commercial vehicles.

Commercial vehicle ownership is dominated by four transport companies, United Transport (Malawi) Limited and Road Motor Services are the largest, controlling 30 percent of the total road haulage capacity. The other two main freight companies are Press Transport Limited and Roadmarc which is jointly owned by Road Motor Services and the Agricultural

Development and Marketing Corporation (ADMARC) and carries agricultural produce for ADMARC. Besides the four main haulage companies, there are about six small companies each with 8 to 15 trucks. Numerous small operators owning only one or two vehicles account for the industry's remaining capacity. Annex IV indicates numbers and capacity of the licensed commercial vehicle fleet in Malawi.

Rail Service. The Malawi Railway system is 3'6"gauge running southward from Salima in the Central Region through Balaka, Blantyre, and Nsanje, Malawi's southern border with Mozambique. This Railway line also extends 62 miles eastward from the main line, at eleven miles south of Balaka (Nkaya) to connect with the Mozambique Railway line to Nacala. These lines connect with Mozambique Railways which terminate at efficient, deep water ports of Beira and Nacala. The rail mileage between the Malawi border and Beira is 206 and from the border to Nacala 384 miles. Rail mileages from Salima are 496 miles to Beira and 554 miles to Nacala. The Balaka-Salima section (97 miles), is being rehabilitated and also construction is under way for a new 86 mile rail line between Salima and Lilongwe, both financed by a $20 million Canadian loan (CIDA). This loan will include equipment and a $2.3 million grant to finance technical personnel through 1978 when the Balaka-Salima improvements and the new rail line to Lilongwe are completed. This is the second Canadian loan for railway improvements. The previous loan was in 1971 for $2.5 million to purchase four heavy-axle locomotives, which are on site and in operation.

The British have provided a $2.7 million development loan which is being disbursed over a 5-year period (1971-1975) for the improvement of the railway between Balaka and the southern border. The GOM is contributing $300,000 from its own resources for this project.

TABLE I. ANNUAL GROSS OPERATING SURPLUS AND TONNAGE CARRIED BY MALAWI RAILWAYS

(In Thousands)

	Gross Surplus	Total Tonnage	Zambian Traffic	Excluding Zambian Traffic
1966	$ 1,811	765	73	692
1967	2,339	939	116	823
1968	1,807	1,039	104	935
1969	882	995	9	986
1970	1,174	1,069	7	1,062
1971	1,367	1,096	7	1,089
1972	1,114	1,164	6	1,158

body, operate
schedules (bot
cover the central and northern regions. The airline also
international services from Chileka to Salisbury, Beira,
Nairobi, Seychelles and Johannesburg. Air Malawi's fleet
of two Viscounts, two Hawker Siddeley 748s, two Britten Norman
s and a BAC 1-11. The construction of a $320,000 maintenance
Chileka Airport has allowed Air Malawi to undertake maintenance
of its own aircraft fleet but also those of visiting airlines
lly based light aircraft. Several international airlines
Malawi. At present there is no evidence of any unfulfilled demand
rnal or external air service. Air Malawi is producing a workable
ating surplus.

Lake Service. The Lake Service has been operated by Malawi
Ltd. since 1953, although full ownership of assets was only
in 1969. Its primary function has been to serve the transportation
the northern region. The principal lake service fleet consists of
ps. In addition, there are five tugs, six barges and several oil
. Lake Service headquarters is at Monkey Bay, where dockyard and
cilities exist. The only other port facilities are at Chipoka -
ent rail/lake interchange point and Khata Bay. The Lake Service
ealize an $89,000 profit for 1973, however, from 1964 to 1972 it
at a deficit. Lake Service tonnage grew from 13,800 tons and
assengers in 1964 to 35,000 tons and 130,000 passengers in 1973.

Road Related Agricultural Sector

The vast majority of Malawi's 4.7 million population depends
livelihood on farming. Out of an economically active population
ximately 1.5 million, it is estimated that approximately 900,000
and their dependents derive their income from small-scale
ure (250,000 are in paid employment in Malawi and about 300,000
ing in neighboring countries). Agriculture accounts for over
nt of total exports, which in 1971 amounted to $66 million and
nated at $75 million in 1973. It is in this sector that the
development effort is being concentrated. In order to increase
ural productivity the GOM, with the assistance of the IDA, is
g productive agricultural projects such as extension and marketing
ns and constructing farm-to-market feeder roads.

Between Lilongwe and Mchinji the road passes through one of the most productive agricultural areas in Malawi. The Lilongwe Plain is the largest maize growing area in the country and it is also the source of a large proportion of Malawi's exports of groundnuts and tobacco. In 1970 this area produced approximately 60 percent of the country's gross maize surplus. Top priority is being given to increasing agricultural productivity through the establishment of agricultural projects and settlement schemes.

The IDA has been involved in the Lilongwe Development Project since 1968. An initial $6 million covered the financing for the first four years of the 13 year program for the integrated development of agriculture on about 1.1 million acres of land around Lilongwe. Field development was completed ahead of schedule in September 1971 and the funds were fully disbursed. All aspects of the project have progressed satisfactorily and crop yields have met the original goals. Some 24,000 farmers have received seasonal credit with loan repayments in excess of 96 percent. Also a good network of feeder roads was constructed. Because of the success of this project a $7.3 million Phase II project was initiated in 1971 providing assistance to an additional 28,000 farmers.

This integrated smallholder project provides for a complete feeder road network, a soil conservation system of mechanically constructed terraces, marketing centers, credit, land registration and extension advice. The major crops are maize, groundnuts and tobacco, and a breeding ranch is operated to supply feeder cattle for a cattle fattening program. The project has been successful in reaching a large proportion of farmers, achieving substantial yield increases for maize and groundnuts, and in obtaining excellent repayment records in its credit operations. The project has proven so successful that a third phase is being planned which will add a new four year program estimated at $13 million for early 1975 implementation. This phase will include 211,000 acres, 23,000 farm families and construction of 295 miles of feeder roads, 1,075 miles of diversion ditches and 160 miles of waterways.

C. Malawi-Zambia Trade.

The trade between the two countries is modest due to both countries having similar agricultural structures and also Zambia's exports are predominantly minerals. In 1971 Malawi's imports from Zambia were valued at $3.7 million or 4 percent of total imports. When examining Malawi's exports, Zambia trade is of greater importance, being valued at $5.3 million and representing 5 percent of Malawi's exports in 1971. Zambia's exports to Malawi consist of pipe tobacco, groundnuts and tobacco for re-export through Mozambique. Malawi's exports to Zambia are more significant and the main items are sugar, cattle cake, fish, dried vegetables, tea, rice, and re-exports of fuel and salt. There are also

occasional, but large, shipments of maize and flour. The majority of Malawi's exports to Zambia consist of re-exports of fuel. The Zambian Government makes special provisions for the Eastern Province of Zambia to be supplied by Malawi. All of Malawi's fuel re-exports and at least half of the other goods are to the Eastern Province. See Annex V for an itemized account of Malawian imports and exports to Zambia for the years 1968 through 1971.

Malawi-Zambian trade should increase due to the Zambian policy of intensive agricultural, industrial and tourist development of the Eastern Province. This includes constructing four new game lodges with 150 beds each, in the Luangwa Valley National Park, the first to be completed in 1974/75. The effects of this intensive development policy should increase Malawian exports of raw materials such as fuel and animal feeds. Also the development of Lilongwe should encourage greater trade with the Eastern Province since it will be the nearest major service and social center to Eastern Zambia. The Eastern Province of Zambia will continue to depend on Malawi in view of its lack of rail access and remoteness from Lusaka and the Copperbelt. Annex VI indicates the actual trade in 1971 and projected growth in commodity trade between Malawi and Zambia for the years 1974 through 1993.

D. Zambian Transit Trade.

The Lilongwe-Mchinji, Zambia Border Road is the main road link between Malawi and Lusaka, Zambia's capital, and the copperbelt in Zambia. This road is also the major connection to the present railheads of Salima and Balaka (in 1978 Lilongwe will be the main railhead) which connects to the Mozambique railway and to the ports of Beira and Nacala. This route has assumed a greater importance since Zambia decided to discontinue using Rhodesia's railway for its transit traffic and the subsequent closing of the Zambia-Rhodesia Border in January, 1973.

Zambia's average total monthly trade in 1972 was 120,000 tons of imports (1.4 million tons for the year), excluding pipeline traffic. Prior to January 1973, this traffic was carried on four main routes; Rhodesia railways (75,000 tons/month), Zaire (17,000 tons/month), Tanzania (25,000 tons/month), Malawi (2,000 tons/month) and by air transport (1,000 tons/month). Zambia's exports were 785,000 tons in 1972 (65,000 tons per month) and are estimated at 895,000 in 1974. In 1972 the exports consisted of 700,000 tons of copper and 85,000 tons of lead and zinc. Since Zambia's total import tonnage is greater and more bulky than the exports, alternative routes carrying the monthly imports will obviously have the capacity to carry the exports. These routes will have to absorb 75,000 tons of monthly imports that were previously carried by Rhodesia railways.

In March 1973, a United Nations team visited Zambia and assessed the transportation problem resulting from the Rhodesia-Zambia Border closing. After reviewing the capacity of the normally travelled routes and the capabilities of the equipment being used, it was determined that these different modes of transport with improvements and additional equipment, could assume the 75,000 tons normally carried on the Rhodesian railways. See Annex VII for breakdown of revised Zambian trade tonnage for the alternative routes.

In order for Malawi and Tanzania to efficiently carry a portion of the 75,000 tons a month, extra equipment is required and rehabilitation must be completed on certain sections of the routes. Meanwhile, Malawi and Tanzania have already assumed the additional transit traffic but under difficult conditions and inefficient operations. Presently only the railway through Zaire is transporting the revised monthly requirements of 23,000 tons of imports and 38,000 tons of exports. See Annex VII.

In March 1973, the Malawian and Zambian Governments met and agreed that the Lilongwe-Mchinji, Zambia Border Road would become an important alternative route and Zambia would increase its monthly transit traffic to the Mozambique ports. The two Governments agreed that this route would carry 34,000 tons a month of Zambian goods (not including existing Malawi-Zambia trade) consisting of 7,000 tons of exports and 27,000 tons of imports. In 1973, Zambia's lead and zinc exports were transported through Malawi to the Beira Port. This export item represents the 7,000 tons a month agreed to between Malawi and Zambia in March 1973. In addition to these exports, an estimated 9,000-12,000 tons of imports per month were shipped through Malawi in 1973.

If Malawi is to efficiently transport 34,000 tons of Zambia goods a month (7,000 tons exports and 27,000 tons imports), it must alleviate four existing transport impediments. These include improving the Lilongwe-Mchinji Road, upgrading the Lilongwe-Salima road or extend the railhead from Salima to Lilongwe, rehabilitate the Salima-Balaka section of the railway and add ancillary railway equipment. Through the Canadian loan, both the Salima-Balaka railway section and the new railhead to Lilongwe, including some new equipment, will be ready by 1978.

When these major transport improvements are completed, Malawi will offer Zambia one of the two least-cost links (other is Zaire/Angola route) to ocean ports. It will be Zambia's shortest route to an ocean port (1,052 miles to Beira and 1,110 miles to Nacala) compared to nearly 1,400 miles to Dar es Salaam and Lobito. And with the exception of Lobito, the Mozambique ports are more efficient, less congested and port charges considerably less expensive than at Dar. In fact, Dar es Salaam port has

recently increased port charges by over 400 percent from last year and vessel waiting time ranges from three to four weeks. During 1973, Dar es Salaam port handled an average of only 23,000 tons a month of Zambian copper. This amount is less than half of the estimated 65,000 tons per month that was estimated by the U.N. team in order to assist Zambia. See Annex VII. Due to these difficulties, Zambia may start shipping 10,000 tons of copper per month through Malawi and also increase its copper exports through Zaire to Lobito.

E. Requirements and Justification for Road.

The growth of Malawi's economy is dependent on the availability of an efficient and reliable transportation system. This is particularly so in relation to a good road network and railway system since Malawi, being both landlocked and dependent on an agricultural economy, relies on roads and railways to provide the only satisfactory means of moving its agricultural products to domestic markets and also for agricultural exports to the Indian Ocean ports of Beira and Nacala.

Improved transportation facilities are needed not only for the more efficient collection and distribution of agricultural produce and merchandise but also to support the GOM efforts now being made to develop the tourist industry. Lake Malawi has a number of resort hotels that offer water sports and fishing; but these are of little economic benefit unless adequate all-weather roads are available to these areas. A sizeable portion of tourists visiting these resorts are from Zambia.

The SWKP report projected conservatively that the "normal" traffic (traffic not including Zambia transit traffic) is estimated to grow at 9 percent annually. The economic and technical feasibility study prepared by SWKP determined that the Lilongwe-Mchinji, Zambia Border Road is economically viable, yielding an internal rate of return in excess of the 12 percent opportunity cost of capital in Malawi. Furthermore, the study justifies the technical feasibility and the geometric standard of an all-weather road. The IDA has and will continue to establish a network of feeder roads in the area. And under present plans, the railway is being extended from Salima to Lilongwe.

Recently the Lilongwe-Mchinji, Zambia Border Road has been impassable due to heavy rains causing trucks to be mired on the road. Reports indicate that in one day 32 trucks were immobilized on various parts of the road because of quaggy road conditions. At other times, especially during the dry season, the road corrugation and dust create dangerous driving conditions, accompanied by vehicle delays and high operating costs.

The Malawian transit check station positioned a few miles westward from Lilongwe is recording 140 heavy commercial vehicles (7-20 tons) a day on the Lilongwe-Mchinji, Zambia Border Road. This increasing volume of traffic coupled with deteriorating road conditions and favorable economic indicators attests to the need and justification for upgrading the road. Transportation plays a critical role in a country so largely dependent on smallholder agriculture and attempting to accomodat Zambia transit traffic.

F. Economic Evaluation

Two factors are based on the economic viability of upgrading the road. These are road user savings and road maintenance cost savings. Both normal traffic and Zambian transit traffic are included in these computations. The SWKP report stated that although the road will benefit the area by providing savings in vehicle operating costs no significant new benefits could be attributable to an improved road for purpose of the benefit-cost analysis. Few if any possibilities of large scale induced production are likely to materialize due to upgrading the road. Although conditions of the road are poor and deteriorating, this does not discourage production in the area and utilization of the road. The area is densely populated (200-300 per square mile) with high agricultural productivity. The road benefits will be reduction of vehicle operating cost and road maintenance cost.

1. Existing and Projected Traffic. The average total daily traffic count for this road at several census points in October and November 1972 (before the Zambia-Rhodesia border closure) was 124 vehicles. Since the count was conducted in 1972 and past vehicle counts indicate a substantial increase in excess of nine percent, the estimated 1974 average daily traffic (ADT) of 244 vehicles (includes 98 Zambia transit vehicles) for the 78 miles (73.4 earth surface and 4.4 miles paved) of existing road appears reasonable. As already indicated, a current traffic count recorded 140 heavy commercial vehicles per day. Heavy vehicles in the 1972 count represented 34 out of an ADT of 124. See Table II. The SWKP study assumes that future normal traffic will demonstrate the same percentage increase by vehicle types as for 1974. The Zambia transit traffic figures represent actual trucks required to transport the 34,000 tons per month of Zambian imports and exports handled by Malawi's transport system. SWKP study adopted a conservative approach, since there are strong indications that this traffic will increase markedly over the next few years. Because of the congested port facilities at Dar es Salaam copper as well as lead and zinc may soon be transported on this road.

TABLE II

Estimated Average Daily Traffic (ADT) By Vehicle Type

Vehicle Type:	1974	1979	1984	1989	1994	1998
Cars (9% increase a year)	50	77	119	184	285	403
Commercial Vans (2 axle - 1.5 tons) (9% increase a year)	28	44	68	105	161	228
Pick-up Trucks (8% increase a year)	21	31	46	68	99	135
Large Buses (7% increase a year)	7	12	17	23	33	44
7-10 Ton Trucks (8% increase a year)	31	46	68	99	146	200
11-28 Ton Trucks (Truck and Trailer Units) (11 % increase a year)	9	14	24	41	70	108
Sub-Total	146	224	342	520	794	1,118
Zambia Transit Trucks 7-10 Ton Trucks	39	39	39	39	39	39
11-28 Ton Trucks	59	59	59	59	59	59
TOTAL	244	322	440	618	892	1,216

2. Vehicle Operating Costs.

The following table gives vehicle operating costs for six vehicle types for the existing and improved road. Vehicle operating costs are derived from economic running and economic fixed costs. The running costs consist of depreciation, maintenance and repairs, fuel, tires, lubricants and insurance. While the fixed costs are driver wages, overheads, and interest charges, divided by annual average mileage for each vehicle type. Fuel costs for operating each type of vehicle have been revised to reflect the current Malawi petroleum prices. See Annex VIII for a detailed breakdown of running and fixed costs.

TABLE III

Vehicle Operating Costs

Total Running and Fixed Costs Per Mile (U.S. Cents)

Vehicle Type	Existing Road	Improved Road
Car	13.3	10.1
Commercial Van	17.4	13.1
Pick-up truck	21.7	16.6
Large buses	57.4	42.2
7-10 ton trucks	47.1	32.5
11-28 ton trucks	103.0	70.3

3. Road Maintenance Costs and Savings.

Presently maintenance costs are $4,980 per mile for the existing road and $1,050 per mile for an improved bituminous road. Maintenance replacement cost for the existing road is now about $3,063 per mile and will increase to over $12,000 per mile by 1998, assuming normal traffic growth. In comparison the replacement cost per mile for the improved road is estimated at $5,160 once every five to six years or about $1,000 per mile a year for resealing. Accordingly, total maintenance savings for the improved road range from $293,000 in 1978 to $1,171,000 in 1998. See Annex IX for a detailed yearly costs and savings breakdown.

4. Road User Benefits.

These benefits are estimated to start at the beginning of 1978, the first year when the improved road is expected to be in operation.

These estimated savings are based on a shorter distance by four miles on the relocated road and also taking into consideration the difference in operating costs per vehicle-mile on an earth versus bituminous surface road. The estimated savings in normal traffic for 1978 is $464,000 and is over two million dollars in 1998. Road user savings for Zambian transit traffic remains constant, as do the number and type of vehicles, at $642,000 per year.

G. Benefit-Cost Analysis and Internal Rate of Return.

1. Benefits. The benefits are confined to road users' savings and road maintenance costs savings. These benefits consist of savings to normal and Zambia transit traffic.

2. Costs. The cost items are final engineering design, construction and construction supervision of the road. These costs are presented in Section II of this paper. The financial disbursements are divided approximately equally during the years 1975 through 1977, the years during which the work is expected to be conducted.

The benefit and cost streams are shown in Annex X.

3. Internal Rate of Return and Sensitivity Analysis. The internal rate was determined by finding an interest rate which, when used to discount the data in the column showing the difference between benefits and costs, brings the sum of discounted values to zero. The internal rate of return was found to be 16 percent.

Sensitivity analyses were conducted to arrive at an internal rate of return under the assumption that benefits or costs may increase or decrease from the paper's principle projections. Therefore, the following three sensitivity tests were performed:

(a) If the costs increase by 25 percent and all other factors remain constant, the internal rate of return falls to 12.1 percent.

(b) If the benefits decrease by 10 percent and all other factors remain constant, the internal rate of return declines to 14.1 percent.

(c) If the benefits increase due entirely to 10,000 tons of copper per month being transported over the raod, and all other factors are constant, the internal rate of return increases to 16.9 percent.

In all cases, the internal rate of return never drops below the 12 percent opportunity cost of capital in Malawi. See Annex XI for the internal rate of return calculations.

H. Incidence of Other Benefits.

At independence, Malawi had a grossly inadequate transportation system, but massive investments in all transportation modes have since eliminated most of the bottlenecks. The largest portion of public sector investment since 1964 has been for transportation. The expansion of the transport system has been a prerequisite for raising agricultural production and exports, and subsequently raising the standard of living of small farmers. It is estimated by the IDA that average annual net cash incomes of farm families within the area of the road and involved in IDA Lilongwe Agricultural Project should increase $120 per year for a fully participating farmer raising cattle. The average net income for a farmer producing 10 acres of maize is estimated to increase from $96 to $170 per year.

IV. Financial Analysis.

A. Financial Requirements.

The following requirements are based on Daniel, Mann, Johnson and Mendenhall's preliminary cost estimates (May, 1974) plus a 25 percent construction cost escalation provision to estimate costs to June 1976, the mid-point of the construction period. Also a 15 percent contingency is added for any unexpected increases of quantities and costs in materials.

	FX Costs	Local Costs	Total Costs
Road Construction	$8,840,700	$3,901,000	$12,741,800
Engineering Construction Supervision	749,000	141,200	890,200
TOTAL	$9,589,700	$4,042,300	$13,632,000

B. Financial Plan.

The following is the proposed financial plan for the project. The GOM's financial contribution represents 17 percent of the estimated road cost, a four percent increase over previous GOM financial contributions to A.I.D.-financed projects. Additionally, the Government is providing a $1,546,000 contribution-in-kind consisting of right-of-way for the road; housing and crop compensation to people being displaced along the realigned section of the road; GOM engineer assigned to the project during design and construction; GOM management services; and irreplaceable

natural resources such as gravel, stone, and limestone. The GOM contribution-in-kind represents a sunk cost. These items being contributed for the road project offer, for the most part, no alternative use and therefore are not considered in the benefit-cost analysis. The total GOM contribution is $3,795,000, representing 25 percent of the project cost, thereby complying with the recently enacted FAA 110(a) requiring recipients of A.I.D. loans to contribute 25 percent of the total project costs. The GOM's proposed contribution is itemized in an official letter of May 9, 1974 from the GOM Secretary to the Treasury to the United States Ambassador to Malawi.

	FX Costs	Local Costs	Total
A.I.D.	$9,606,000	$1,794,000	$11,400,000
GOM	-	2,249,000	2,249,000
TOTAL	$9,606,000	$4,043,000	$13,649,000

C. Other Sources of Assistance.

The GOM's development outlay during 1964-1972 was primarily financed by external assistance. Throughout the period, the United Kingdom remained the main source of foreign aid, both in absolute and relative terms, although of diminishing importance. Aid from the U.K. to Malawi has gradually changed from grants to soft loans, and from contributions to the recurrent budget to aid to the development budget. In this process, total aid disbursements from the U.K. decreased from $21.3 million (70 percent grants) in 1964 to $15 million (10 percent grants) in 1971/72. In the same period, aid to the recurrent budget decreased from $17.5 million to $ 5 million and aid to the development budget increased from $3.8 million to $10 million. While the U.K. reduced its aid, Malawi was able gradually to mobilize finances from other foreign sources, both bilateral (mainly South Africa, Germany and U.S.A.) and multilateral (mainly World Bank Group), so that sources other than the U.K. now provide about 70 percent of Malawi's external finances for development.

South Africa has become an important creditor since 1969, largely as a result of the loans extended to finance the Nacala railway project and the new capital at Lilongwe. One loan for the equivalent of $12 million was extended by the Industrial Development Corporation of South Africa to finance the Nacala Railway project and another $2.3 million was extended for the purchase of rolling stock for the line. In 1969 the South African Government extended a $11.2 million loan to finance the new capital of which $7 million had already been disbursed by the end of 1970. The loans

outstanding from the IDA have been used for the Lilongwe and the Shire Valley agricultural development schemes, as well as for education, road and electric power projects. A large part of the loans from Germany have been used for the Salima agricultural scheme and road construction. These loans carry rates of interest ranging from 2 percent to 5 percent and have maturities ranging from 15 to 30 years. A.I.D. extended a $8.2 million loan to finance a section of the Lakeshore Road, a loan of $1.2 million to finance construction of seven university dormitories and a $8.3 million loan to finance final engineering design, construction and construction supervision for the Chikwawa-Bangula Road and final engineering design for the Lilongwe-Mchinji Road.

D. Prospects for Repayment.

At the end of 1973, Malawi's external public debt was $171.6 million, including undisbursed commitments. Interest and amortization payments in 1973 amounted to $6.7 million or 7.4 percent of the value of exports of goods and non-factor services.

The GOM's projection of the debt service over the 1970s assumes that over half of the required public capital inflow will be available on the softest terms available and the rest increasingly harder terms, with 10 percent on full commercial terms. Based on these assumptions the total debt service will amount to $14.4 million in 1975 and $25 million in 1980. As a percentage of exports of domestic goods and services, the debt service ratio will rise to 13.7 percent in 1975, peaking at 15.0 percent in 1978 and easing to 14.6 percent in 1980. Any shortfall in exports or an increase in the rate of growth of imports would necessitate higher capital inflows and raise the debt service ratio. Based upon the foregoing, it is concluded that there are reasonable prospects for repayment of this loan.

V. Economic Effects of the Loan.

A. Effect on U.S. Economy and Balance of Payments.

This loan will assist the U.S. economy by employing a U.S. engineering firm for construction supervision for the road. Furthermore, it is likely that a U.S. construction contractor or a U.S. contractor in joint venture with a local or 941 Code country firm will probably construct the road since it is doubtful that any local contractor has the construction capabilities to carry out the job.

B. Effect on Private Enterprise.

The proposed loan will finance a contract with private engineering and construction firms. Additionally, once completed, the road will assist in the development of privately-owned farms, commerce in the area of the road and increase trade between Malawi and Zambia.

C. A.I.D. Geographic Code 935 Procurement Waiver for Petroleum, Oil, Lubricants (POL) and Bitumen.

When preparing the preliminary cost estimates for this project the consulting engineer investigated the alternatives of purchasing POL products from the Republic of South Africa (Code 935), the United States and other 941 Code countries. It was determined, as for previous road projects in Malawi and Botswana, that a substantial cost difference 1/ exists between purchasing POL from 941 Code countries and the Republic of South Africa or Mozambique, the normal and established sources of POL for Malawi. For the A.I.D.-financed Chikwawa-Bangula Road (Malawi) a 935 Code POL waiver was approved with estimated savings of $350,000 and avoided costly logistic support that the construction contractor would have been required to provide in order to store large quantities of POL products. POL and bitumen requirements for this project are estimated at $1.5 million.

If a contractor is required to purchase POL from Code 941 countries, he would have to order large quantities of POL and provide storage facilities to insure adequate supplies during the contract period. In addition to the added expense of procuring and shipping cost due to utilizing other than normal supply sources, a considerable service and logistic cost would incur, all at the expense of the GOM. Therefore, this paper and accompanying loan authorization permits procurement of POL products, bitumen and related transportation services from A.I.D. Geographic Code 935 countries.

D. Environmental Impact.

The project will have minimal environmental impact on the area. No major problems are anticipated to develop either during or after construction of the new roadway facility. With regard to road dust and soil erosion runoff, it is expected that with the completion of the new facility these existing adverse conditions due to the present roadway will improve, creating a net positive benefit to the environment. For a full discussion of this project's impact on environmental conditions, see Annex XIII.

ANNEX I

CHECKLIST OF STATUTORY CRITERIA

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

The following abbreviations are used in the checklist:

FAA - Foreign Assistance Act of 1961, as amended

FAA, 1973 - Foreign Assistance Act of 1973

App. - Foreign Assistance and Related Program Appropriation Act, 1974

MMA - Merchant Marine Act of 1936, as amended.

I. FULFILLMENT OF STATUTORY OBJECTIVES

A. Needs Which the Loan is Addressing

1. FAA Section 103. Discuss the extent to which the loan will alleviate starvation, hunger and malnutrition, and will provide basic services to poor people enhancing their capacity for self-help.

The project will assist in correcting these social imbalances. (See CAP Sections III "B" and "H"

2. FAA Section 104. Discuss the extent to which the loan will increase the opportunities and motivation for family planning; will reduce the rate of population growth; will prevent and combat disease; and will help provide health services for the great majority of the population.

Not applicable

3. FAA Section 105. Discuss the extent to which the loan will reduce illiteracy, extend basic education, and increase manpower training in skills related to development.

The project's construction contractor and supervising engineer will employ and provide some training for approximately 200 local employees.

4. FAA Section 106. Discuss the extent to which the loan will help solve economic and social development problems in fields such as transportation, power, industry, urban development, and export development.

Project will address these problems. See CAP Sections I. "C", III. "B", "C", "D" and "H".

5. FAA Section 107. Discuss the extent to which the loan will support the general economy of the recipient country: or will support development programs conducted by private or international organizations.	See CAP Sections III "C", "D" and "E".
B. Use of Loan Funds	
1. FAA Section 110. What assurances have been or will be made that the recipient country will provide at least 25% of the costs of the entire program, project or activity with respect to which such assistance is to be furnished under Sections 103-107 of the FAA?	A.I.D. has received GOM letter from Secretary to Treasury of May 9, 1974 assuring 25 percent contribution. See CAP Section IV "B".
2. FAA Section 111. Discuss the extent to which the loan will strengthen the participation of the urban and rural poor in their country's development, and will assist in the development of cooperatives which will enable and encourage greater numbers of poor people to help themselves toward a better life.	See CAP Section III "H"
3. FAA Section 112. Will any part of the loan be used to conduct any police training or related program (other than assistance rendered under Section 515(c) of the Omnibus Crime Control and Safe Streets Act of 1968 or with respect to any authority of the Drug Enforcement Administration of the FBI) in a foreign country?	No
4. FAA Section 113. Describe the extent to which the programs, projects or activities to be financed under the loan give particular attention to the integration of women into the national economy of the recipient country.	No direct impact

5. FAA Section 114. Will any part of the loan be used to pay for the performance of abortions as a method of family planning or to motivate or coerce any person to practice abortions?

No

II. 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.

See CAP Sections III "B" and "H". Malawi has given appropriate emphasis to increasing food production. Road construction and an improved road network will directly contribute. Malawi recently signed a loan for the purpose of fostering agricultural development in the area served by the road.

(b) Creating a favorable climate for foreign and domestic private enterprise and investment;

See CAP Section V "A" and "B" Malawi has established the Malawi Development Corporation which assists and encourages investment.

(c) Increasing the people's role in the developmental process:	GOM has established a corps of young pioneer groups now actively participating in Malawi's development. Developmental programs have been intended to benefit the general population.
(d) Allocating expenditures to development rather than to unnecessary military purposes or intervention in other free countries' affairs:	Major budget allocations are to development and recurring non-defense budgets. For the 1974/75 budget year the GOM allocated $7.1 million to the transport sector. This is 29 percent of the Development Budget.
(e) Willing to contribute funds to the project or program:	The GOM will make a substantial contribution to this project and other projects financed by the IDA, U.K. and FRG. See CAP Section V "B"
(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;	Within the limits of the segment of its population in the money economy, a tax system has been established. New lands are developed outside of the traditional tribal holdings. Land tenure is not a major problem in Malawi.

(g) Responding to the vital economic, political and social concerns of its people, and demonstrating a clear determination to take effective self-help measures.	GOM has assured responsibility for local costs of external assistance projects and the 1971-80 Development Plan is directed to the needs of Malawi.
B. Relations with the United States	
1. FAA Sec. 620(c). If assistance is to a government, 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?	No such indebtedness exists.
2. FAA Sec. 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 enterprises annual production during the life of the loan?	Not applicable
3. FAA Sec. 620(e)(1). If assistance is to a government, 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) imposed or enforced discriminatory taxes or other exactions, or restrictive maintenance or operation conditions? If so, and more than six months has elapsed since such occurrance, 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?	Malawi has not taken such steps or actions

4. FAA Sec. 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?	There has been no such action against U.S. property in Malawi.
5. FAA Sec. 620(l). Has the government instituted an investment guaranty program under FAA Sec. 221(b)(1) 234(a)(1) for the specific risks of inconvertibility and expropriation or confiscation?	Yes, Malawi has signed an Investment Guarantee Agreement with the U.S.
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 activities in international waters? If, as a result of a seizure, the U.S.G. 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.	Not applicable. Malawi is land-locked.
7. FAA Sec. 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?	Malawi is not in default on any FAA loan.
8. FAA Sec. 620(t). Have diplomatic relations between the country and the U.S. been severed? If so, have they been renewed?	The U.S. and GOM have maintained diplomatic relations since Malawi's independence.

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

1. FAA Sec. 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?

The GOM has attended no such conference.

2. FAA Secs. 620(a), 620(n). Has the country sold, furnished, or permitted ships or aircraft under its registry to carry to Cuba or North Vietnam, items of economic, military or other assistance?

Malawi has taken no such actions.

3. FAA Sec. 620(u); App. Sec. 107. 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?

Malawi is not in default on its international obligations. The Loan Agreement bars use of funds to pay U.N. assessments, etc.

D. Military Situation

1. FAA Sec. 620(j). 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 Sec. 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, and (c) has the country spent money for sophisticated weapons systems purchased since the statutory limitation

Answers, as follows:
(A) About 4.5 percent.
(B) Negligible
(C) Malawi has not purchased sophisticated weapons systems.

(2) Is the country diverting U.S. development assistance or PL 480 sales to military expenditures?	No
(3) Is the country diverting its own resources to unnecessary military expenditures? (Findings on these questions are to be made for each country at least once each fiscal year and, in addition, as often as may be required by a material change in relevant information.)	No

III. CONDITION OF THE LOAN

A. General Soundness

Interest and Repayment

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.	The rate of interest is not excessive or unreasonable. The rate of interest is not higher than the legal rate. See CAP Section IV "D" and Annex XIV.

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.?	See CAP Section IV "C".

Economic and Technical Soundness

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 CAP Sections II and III.

2. FAA §611(e)(1). Have engineering, financial, and other plans necessary to carry out assistance, and a reasonable firm estimate of the cost of assistance to the U.S., been completed?	Yes, See Section II.
3. FAA §611(b); App. §101. If the loan or grant is for a water or related land-resources 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(c). 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?	See Annex II.

B. Relation to Achievement of Country and Regional Goals

Country Goals

1. FAA §§207, 281(a). What is 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?	Although this loan has no direct relation to this goal, improving a transportation network is certainly a prerequisite to any serious efforts to increase the involvement of its people in the task of 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 assist agricultural development.
(c) Meeting increasing need for trained manpower?	No direct relation.
(d) Developing programs to meet public health needs?	Not applicable.

(c) 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?

This project will provide assistance in most of these areas.

2. FAA §201(b)(4). Describe the activity's consistency with and relationship to other development activities, and its contribution to reliable long-range objectives.

See CAP Sections I "B" and "C".

3. FAA §201(b)(9). How will the activity to be financed contribute to the achievement of self-sustaining growth?

See CAP Sections III "B", "C" and "D".

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 CAP Sections III "B", "C", and "H".

5. FAA §201(b)(3). In what ways does the activity give reasonable promise of contributing to the development of economic resources, or to the increase of productive capacities?

See CAP Sections III "B", "C", "E" and "H".

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 participation in political processes.

The proposed road will serve as an important transport link encouraging the movement of people and goods and participation in trade and social endeavors

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?

See CAP Section III "C" for answer to (A); Sections V "A" and "B" for answer to (B); Question (C) Not applicable; See Sections V "A" and "B" for answer to (d); See Sections III "B" and "H" for (e); and question (F) not applicable.

8. FAA §209(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 proceeds will finance private engineering and road construction firms to improve the road. See CAP Sections V "A" and "B".

9. FAA §611(a)(2). What legislative action is required within the recipient 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?

The GOM Parliament approved the loan, and there is no anticipated need for any further legislative action.

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?

The engineering and economic feasibility study for the project was financed by UNDP and implemented by the EBRD. Also the IDA is financing an agricultural project that will benefit directly from improving the road.

See CAP Sections I "B" and III "B".

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 CAP Sections I. "C", III "D" and IV "C"

C. Relation to U.S. Economy

Employment, Balance of Payments, Private Enterprise.

1. FAA §§201(b)(6); 102. 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.

See CAP Sections V "A" and "B".

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?

Not applicable

3. FAA §601(d); Amn. §108. 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?

See CAP Sections V "A" and "B".

4. FAA §608(a). Provide information measures to be taken to utilize U.S. Government excess personal property in lieu of the procurement of new items.	Not practical in road construction projects of this type.
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?	See CAP Sections V "A" and "B".
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. The loan does not provide for financing technical assistance.
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?	Competitive bidding will take place. See CAP Sections V "A" and "B".
8. FAA §601(b). Describe the efforts made in connection with this loan to encourage and facilitate participation of private enterprise in achieving the purposes of the Act.	See CAP Sections V "A" and "B".

Procurement

1. FAA §604(a). Will commodity procurement be restricted to U.S. except as otherwise determined by the President?	Yes, however Code 935 procurement waiver for POL products has been requested.
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
4. FAA §604(f). Will the agency receive the necessary pre-payment certification from suppliers under a commodity import program agreement as to description and condition of commodoties, and on the basis of such, determine eligibility and suitability for financing?	Not applicable.
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?	Yes
2. App. §105. 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 production 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) and App. §109(b) been made and reported to the Congress?	Malawi is not a Communist or Communist dominated country.

5. FAA Section 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-bloc countries?	**The project has no relationship to any Communist bloc project, and the Loan Agreement prohibits such use of loan funds.**
6 FAA Section 636(i). Will any part of this loan be used in financing non-U.S. manufactured automobiles? If so, has the required waiver been obtained?	**No**
7. FAA Section 620(g). 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**
8. FAA Section 201(f). If this is a project loan, what provisions have been made for appropriate participation by the recipient country's private enterprise?	**See CAP Sections V "A" and "B".**
9. App. Section 103. Will any funds under the loan be used to pay pensions, etc., for persons who are serving or who have served in the recipient country's armed forces?	**No**
10. MMA Section 901.b. Does the loan agreement provide for compliance with U.S. shipping requirements 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 vessles to the extent such vessels are available at fair and reasonable rates for U.S. flag vessels and that at least 50% of the gross freight revenue generated by all shipments financed with funds made available under this loan and transported on dry cargo liners be paid to or for the benefit of privately-owned U.S. flag commercial vessels?	**Yes**

11. FAA Section 481. Has the President determined that the recipient country has failed to take adequate steps to prevent narcotic drugs produced or procured in, or transported through, such country from being sold illegally within the jurisdiction of such country to U.S. Government personnel or their dependents or from entering the United States unlawfully? **No**

12. App. Section 110. Is the loan being used to transfer funds to world lending institutions under FAA Sec. 209(d) and Sec. 251(h)? **No**

13. App. Section 601. Are any of these funds being used for publicity or propaganda within the United States? **No**

14. FAA Section 612(d) and Section 40 of PL 93 189 (FAA of 1973). Does the United States own host country excess foreign currency and, if so, what arrangements have been made for its release in compliance with Section 40 (FAA of 1973)? **No**

15. FAA Section 604(d). Will provisions be made for placing marine insurance in the U.S. if the recipient country discriminates against any marine insurance company authorized to do business in the U.S.? **Yes**

16. Section 29 of PL 93 - 189 (FAA of 1973). Is there a military base located in the recipient country which base was constructed or is being maintained or operated with funds furnished by the U.S., and in which U.S. personnel carry our military operations? If so, has a determination been made that the government of such recipient country has, consistent with security, authorized access to such military base on a regular basis to bona fide news media correspondents of the U.S.? **No**

17. FAA Section 640(c). Will a grant be made to the recipient country to pay all or part of such shipping differential as is determined by the Secretary of Commerce to exist between U.S. foreign flag vessel charter or freight rates? **No**

18. App. Section 113. Will any of the loan funds be used to acquire currency of recipient country from non-U.S. Treasury sources when excess currency of that country is on deposit in U.S. Treasury?	No
19. App. Section 114. Have the House and Senate Committees on Appropriations been notified five days in advance of the availability for obligation of funds for the purposes of this project?	Yes

ANNEX II

I, Charles D. Ward, the principal officer of the Agency for International Development in the Southern Africa Region (OSARAC), having taken into account, among other things, the maintenance and utilization of projects in Malawi previously financed or assisted by the United States (specifically the Lake Shore Road), the performance of the Ministry of Works and Supplies which has responsibility for maintaining roads throughout Malawi, and the previous assistance from other donors specifically directed to road construction and maintenance, do hereby certify that in my judgment the Government of Malawi has both the financial capability and the human resource capability to effectively maintain and utilize the capital assistance project to be constructed under this loan, the Lilongwe-Mchinji Zambia Border Road.

Charles D. Ward
Regional Development Officer

ANNEX III

Malawi - Motor Vehicle Licenses Issued

Year	Cars		Light Commercial Vehicles		Large Commercial Vehicles		Total (excluding motor cycles)	
	No.	Annual change (%)	No.	Annual change (%)	No.	Annual change (%)	No.	Annual change (%)
1964	8,022		4,496		1,694		14,212	
1965	6,436	-19.8	4,475	-0.5	1,366	-19.4	12,277	-13.6
1966	8,292	+28.8	5,510	+23.1	1,535	+12.4	15,337	+24.9
1967	8,418	+1.5	5,934	+7.7	1,991	+29.7	16,343	+6.6
1968	8,893	+5.6	6,240	+5.2	1,866	-6.3	16,999	+4.0
1969	9,777	+9.9	6,696	+7.2	2,009	+7.7	18,482	+8.7
1970	9,771	-0.1	7,747	+15.7	2,115	+5.3	19,633	+6.2
1971	10,205	+4.4	7,635	-1.4	2,769	+30.9	20,609	+5.0
Average annual percentage change		+4.3		+8.1		+8.6		+6.0

Source: Annual Reports of the Malawi Road Traffic Commissioner.

Annex IV

Number of Private Goods Vehicles Licensed by Carrying Capacity, 1965-1970

Carrying Capacity (cwt)	1965	1966	1967	1968	1969	1970
Up to 1½ tons	1,875	2,346	2,565	2,782	3,082	3,185
1½ tons to 3 tons	212	313	427	461	404	482
3 tons to 5 tons	144	173	184	171	196	177
5 tons to 7 tons	759	951	847	935	996	929
7 tons to 10 tons	220	281	396	454	534	542
10 tons & Over	55	84	101	145	160	112
All	3,625	4,148	4,520	4,948	5,372	5,427

Source: Annual Reports of the Malawi Road Traffic Commissioner

Annex V Major Product Movements Between Malawi and Zambia 1968-1971
(Short tons)

	1968	1969	1970	1971
Malawian Imports				
Tobacco	3,578	3,323	3,972	4,775
Malawian Exports				
Maize	-	5,600	1	5,703
Sugar beet and cane	-	2,500	1,200	1,447
Rice	88	124	417	829
Cattle cake (groundnut)	-	1,608	960	1,230
Cattle cake (cottonseed)	30	420	660	150
Dried vegetables	362	2,703	1,214	303
Fish, including smoked and preserved	77	221	255	266
Tea	295	566	509	585
Fresh fruit (incl. coconuts)	-	74	32	92
Bakery products	19	14	14	71
Fruit preparations	-	-	21	51
Pipe tobacco	34	32	44	59
Total major exports	905	13,862	5,327	10,786
Malawian Re-exports				
Motor spirit	6,070	5,266	5,767	4,382
Diesel	8,857	6,377	5,685	3,779
Flour	-	-	-	1,737
Common salt	582	1,558	1,493	1,674
Paraffin	1,159	1,185	1,325	1,170
Lubricants	361	434	340	312
Total major re-exports	17,029	14,820	14,610	13,054

Source: Malawi Annual Statements of External Trade, 1970 and 1971

Annex VI Projected Major Commodity Trade Between Malawi and Zambia

(Short tons)

Commodity	1971	1974	1979	1984	1989	1993
Tobacco	4,775	6,700	12,000	15,000	20,000	25,000
Cattle cake	1,380	1,800	3,000	4,100	5,300	6,800
Tea	585	780	1,300	2,000	2,600	3.300
Fuel and lubricants	9,643	15,000	29,000	47,000	68,000	101,000
Salt	1,674	1,900	2,400	3,100	4,000	5,100
Rice	829	1,100	1,800	2,300	2,900	3,700
Groundnuts	3,900	4,700	6,600	9,300	15,000	24,000
Total movements	22,786	31,980	56,100	82,800	117,800	168,900
Index (1971=100)	100	140	246	363	517	741
Average annual growth rate (per cent)	-	11.9	11.8	8.2	7.3	7.4

Source: SWKP Report

Annex VII

Zambia Import Transit Traffic

	Zambia Trade Prior to Rhodesia-Zambia Border Closure (1972)		Alternative Routes Absorbing Rhodesian Traffic		Revised Traffic for Alternative Routes	
	Tons per year	Tons per month	Tons per year	Tons per month	Tons per year	Tons per month
Rhodesia	900,000	75,000	-	-	-	-
Zaire	200,000	16,700	72,000	6,000	276,000	23,000
Tanzania	300,000	25,000	480,000	40,000	780,000	65,000
Malawi	20,000	1,700	300,000	25,000	324,000	27,000
Air & Other	10,000	800	48,000	4,000	60,000	5,000
	1,430,000	119,200	900,000	75,000	1,440,000	120,000

Source: Revised United Nations Team Report on the Rhodesia-Zambia Border Closure

Annex VIII

VEHICLE OPERATING COSTS

Vehicle	Existing Road	Improved Road
	Economic Running Costs Per Mile (U.S. Cents)	
Passenger Car	11.5	8.6
Commercial Van	14.1	10.9
Pick-up Trucks	16.7	13.2
Large Buses	37.3	25.6
7-10 Ton Trucks	33.5	41.5
	Economic Fixed Costs Per Mile (U.S. Cents)	
Passenger Car	1.8	1.5
Commercial Van	3.3	2.2
Pick-up Trucks	5.0	3.4
Large Buses	20.1	16.6
7-10 Ton Trucks	13.6	9.1
11-28 Ton Trucks	43.6	28.8
	Total Economic Running and Fixed Costs Per Mile (U.S. Cents)	
Passenger Car	13.3	10.1
Commercial Van	17.4	13.1
Pick-up Trucks	21.7	16.6
Large Buses	57.4	42.2
7-10 Ton Trucks	47.1	32.5
11-28 Ton Trucks	103.0	70.3

Source: SWKP Report

Annex IX

ESTIMATED ROAD MAINTENANCE COSTS AND SAVINGS

YEAR	MAINTENANCE COSTS (1974 Prices)				TOTAL MAINTENACE COST	
	Ordinary Maintenance		Maintenance Replacement		Total Maintenance		Maintenance Savings
	Existing Road	Improved Road	Existing Road	Improved Road	Existing Road	Improved Road	
	$	$	$	$	$	$	$
1978	140,701	72,401	224,824		365,525	72,401	293,124
1979	147,586	75,495	239,064		386,650	75,495	311,155
1980	156,091	79,317	253,236		409,327	79,317	330,010
1981	165,001	83,321	269,446		434,447	83,321	351,126
1982	174,316	87,507	287,697		462,013	87,507	374,506
1983	184,441	92,057	305,918	356,040	490,359	448,097	42,262
1984	195,376	96,971	326,181		521,548	96,971	424,577
1985	207,526	102,431	348,455		555,981	102,431	453,550
1986	220,891	108,437	372,770		593,661	108,437	485,224
1987	234,661	114,625	397,085		631,746	114,625	517,121
1988	250,456	121,723	425,452		675,908	121,723	554,185
1989	267,466	129,367	457,872	356,040	725,338	485,407	239,931
1990	286,501	137,921	492,303		778,804	137,921	640,883
1991	306,751	147,021	528,776		835,527	147,021	688,506
1992	324,571	156,849	569,301		893,872	156,849	737,023
1993	352,516	167,587	611,837		964,353	167,587	796,766
1994	378,436	179,235	660,467	356,040	1,038,903	535,275	503,628
1995	407,191	192,157	713,149		1,120,340	192,157	928,183
1996	438,781	206,353	765,831		1,204,612	206,353	998,259
1997	472,801	221,641	832,683		1,305,484	221,641	1,083,843
1998	509,656	238,203	899,534		1,409,190	238,203	1,170,987

Source: SWKP Report

Annex X

SUMMARY OF BENEFITS AND COSTS FOR LILONGWE-MCHINJI, ZAMBIA BORDER ROAD, 1974-1998

(In thousand dollars)

(1974 Prices)

End Of Calendar Year	End Of Evaluation Year	Road User Savings (Normal Traffic)	Road User Savings (Zambia Transit) Traffic	Savings In Road Maintenance	Total Benefits	Cost of Final Engineering, Supervision & Road Construction	Difference Between Benefits And Costs
1974	1					$ 500	$- 500
1975	2					1,582	- 1,582
1976	3					4,000	- 4,000
1977	4	$	$	$	$	4,000	- 4,000
1978	5	464	642	293	1,399		1,399
1979	6	500	642	311	1,453		1,453
1980	7	551	642	330	1,523		1,523
1981	8	602	642	351	1,595		1,595
1982	9	655	642	375	1,672		1,672
1983	10	712	642	42	1,396		1,396
1984	11	771	642	425	1,838		1,838
1985	12	843	642	454	1,939		1,939
1986	13	918	642	485	2,045		2,045
1987	14	995	642	517	2,154		2,154
1988	15	1,086	642	554	2,282		2,282
1989	16	1,184	642	240	2,066		2,066
1990	17	1,298	642	641	2,581		2,581
1991	18	1,418	642	689	2,749		2,749
1992	19	1,548	642	737	2,927		2,927
1993	20	1,687	642	797	3,126		3,126
1994	21	1,840	642	504	2,986		2,986
1995	22	2,012	642	928	3,582		3,582
1996	23	2,204	642	998	3,844		3,844
1997[a/]	24	2,411	642	1,084	4,137		4,137
1998[a/]	25	2,637	642	1,171	4,450		4,450

a/ No residual value is attributed to the road.

Source: SWKP Report

Annex XI

CALCULATION OF INTERNAL RATE OF RETURN FOR THE LILONGWE-MCHINJI, ZAMBIA BORDER ROAD

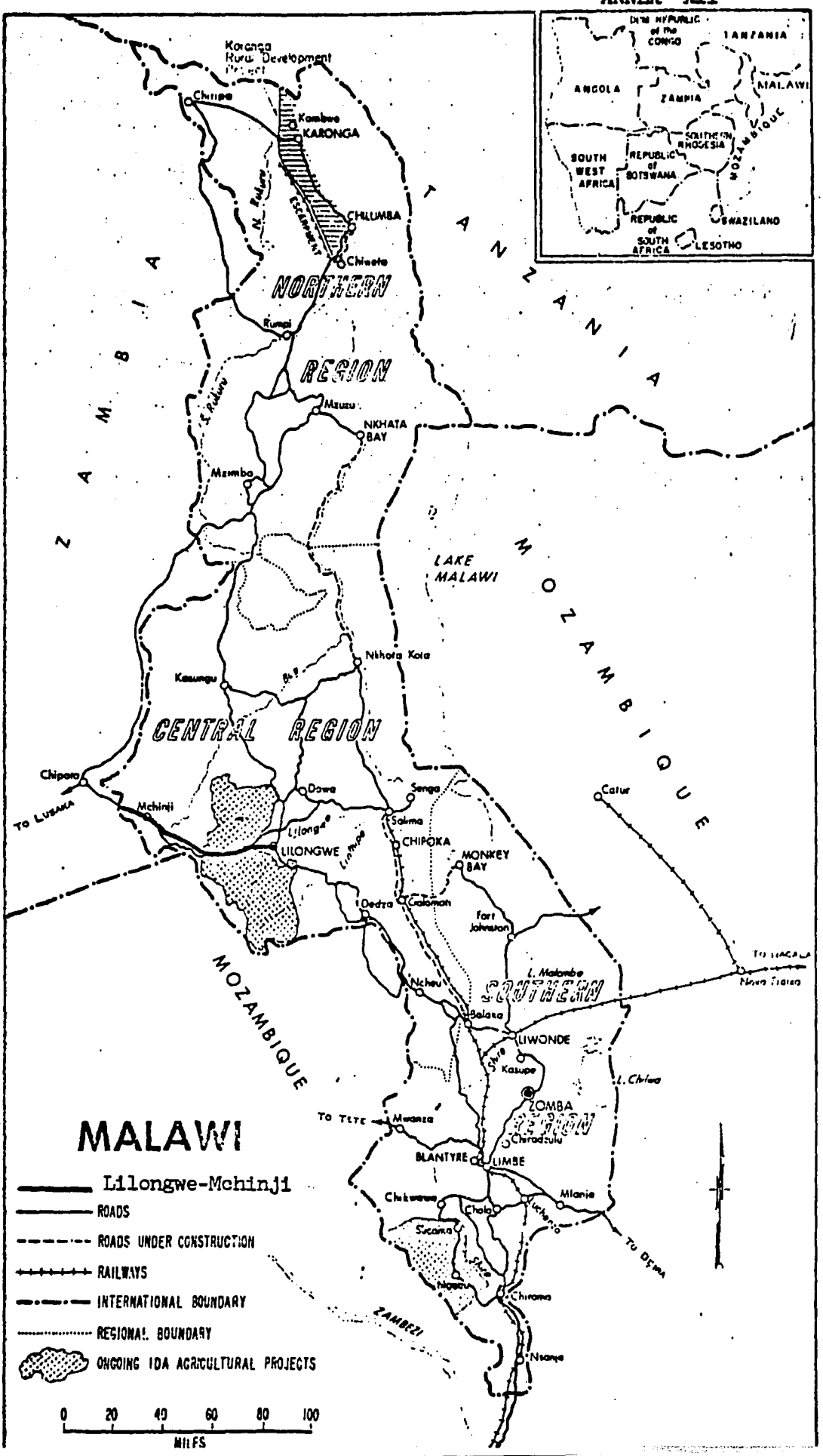
BENEFITS AND COSTS, 1974-1998

(Figures in thousand dollars)

End Of Calendar Year	End Of Evaluation Year	BENEFITS AND COSTS				
		Difference Between Benefits And Costs	Discount Factor At 14%	Discounted Value At 14%	Discount Factor At 20%	Discounted Value At 20%
1974	1	$ - 500	.877	$- 439	.833	$ - 417
1975	2	-1,582	.769	-1,217	.694	- 1,098
1976	3	-4,000	.675	-2,700	.579	- 2,316
1977	4	-4,000	.592	-2,368	.482	- 1,928
1978	5	1,399	.519	726	.402	562
1979	6	1,453	.456	663	.335	487
1980	7	1,523	.400	609	.279	425
1981	8	1,595	.351	560	.233	372
1982	9	1,672	.308	515	.194	324
1983	10	1,396	.270	377	.162	226
1984	11	1,838	.237	436	.135	248
1985	12	1,939	.208	403	.112	217
1986	13	2,045	.182	372	.093	190
1987	14	2,154	.160	345	.078	168
1988	15	2,282	.140	320	.065	148
1989	16	2,066	.123	254	.054	112
1990	17	2,581	.108	279	.045	116
1991	18	2,749	.095	261	.038	105
1992	19	2,927	.083	243	.031	91
1993	20	3,126	.073	228	.026	81
1994	21	2,986	.064	191	.022	66
1995	22	3,582	.056	201	.018	65
1996	23	3,844	.049	188	.015	58
1997	24	4,137	.043	178	.013	54
1998	25	4,450	.038	169	.010	45
				794		-1,599

Note: The internal rate of return (by interpolation) is 16%.

ANNEX XII


Karonga Rural Development Project
Chilipa
Karonga
KARONGA
N. Rukuru
ESCARPMENT
CHILUMBA
Chiweta
NORTHERN
REGION
Rumai
S. Rukuru
Mzuzu
NKHATA BAY
Mzimba
ZAMBIA
TANZANIA
MOZAMBIQUE
LAKE MALAWI
Nkhota Kota
Kasungu
CENTRAL REGION
Chipata
TO LUSAKA
Mchinji
Dowa
Salima
Lilongwe
CHIPOKA
LILONGWE
MONKEY BAY
Dedza
Balaka
Fort Johnston
Nchew
SOUTHERN
L. Malombe
Zomba
Blantyre
Limbe
Liwonde
Kasupe
L. Chilwa
Mwanza
TO TETE
Chiradzulu
Chikwawa
Chiromo
Nsanje
ZAMBEZI
Mlanje
TO BEIRA
Catur
TO NACALA
MALAWI
Lilongwe-Mchinji
ROADS
ROADS UNDER CONSTRUCTION
RAILWAYS
INTERNATIONAL BOUNDARY
REGIONAL BOUNDARY
ONGOING IDA AGRICULTURAL PROJECTS
0 20 40 60 80 100
MILES
Dem. REPUBLIC of the CONGO
TANZANIA
ANGOLA
ZAMBIA
MALAWI
MOZAMBIQUE
SOUTH WEST AFRICA
REPUBLIC of BOTSWANA
SOUTHERN RHODESIA
REPUBLIC of SOUTH AFRICA
SWAZILAND
LESOTHO

ANNEX XIII

Environmental Analysis

Summary: The information and conclusions presented in this environmental analysis are based on experience gained by the REDSO mission from the Malawi Phase I Road Project and other projects in East Africa.

It was concluded that the overall effect of this project will have little to no negative impact on the environment, since most construction will involve reconstruction of an existing route.

The improvement of the existing facility is expected to reduce the present dust problem and lessen the soil erosion run-off now existing on the present roadway, for an overall improvement of these conditions in the roadway area.

Construction of the facility is expected to cause an increase in vehicular and pedestrian accidents, but with police surveillance by the Government this can be controlled. The major adverse effect of the projec is anticipated to be the possible increase in incidence of Malaria and Schistosomiasis due to stagnant water standing in abandoned material pits. This problem, if it arises, can be controlled by the Lilongwe Land Develop ment Project Administration in the area. If livestock watering sites are not required in the construction area, the contractor can be instructed to level off, drain and seed pit areas as required.

Environmental Impact and Concerns: There are six major categories of environmental impact to be considered within this project. These areas of impact or concern are:

1. The impact of stream and drainage sedimentation and contamination during the construction phase.

2. The impact of dusting problems during the construction phase.

3. The impact of ecology unbalance that could result from the twenty-four mile section of new roadway location.

4. The impact of concurrent and subsequent erosion that could occur both during construction and subsequent to construction.

5. The possible introduction and or increase of water source diseases including Malaria and Schistosomiasis that could occur due to open and abandoned material pits or embankment borrow pits following completion of construction.

6. The introduction of a high speed asphalt surfaced roadway with its ensuing danger to pedestrian and village population and the unwanted sound created by exhaust systems of vehicular traffic.

Analysis of Impacts and Concerns:

1. Construction Activity, Stream Sedimentation - Nearly all construction activity will take place on low gradient to slightly rolling terrain and erosion by water is expected to have no detrimental effect during the construction operation due to the distinct rainy season with its limited construction activity. Stream sedimentation and contamination due to water erosion from the runoff other than the construction area is expected to be minimal and is anticipated not to be any greater than the presently existing conditions. As a great portion of the present drainage channels are dry during most of the year, stream contamination due to sedimentation would be non-existent. Sedimentation is not expected to be a detrimental factor contributing to any worsening of environmental conditions.

2. Construction Activity, Dusting - The present existing roadway (M-4) has a gravel/dirt surface, which during the dry season (8 months per year) creates a major dust problem due to the high speed traffic. The construction activities are expected to lessen this dust problem due to the contractor having to maintain a detour roadway adjacent to his work section. For the section of new roadway location the dust problem is anticipated to be negligible with regard to an environmental impact on the area.

Using standard construction methods of water trucks, road detour control and intermediate road section completions the dusting problem during construction is expected to show an improvement over the present road use and the contribution of dusting to the environment from the actual construction operation is expected to be minimal.

3. Ecology Unbalance, New Road Location - The twenty-four mile section of new road location from Namitete to Kamlendo will entail clearing and grubbing, embankment construction, shallow earth cuts, and a minor channel change of two major streams. The road location generally follows ridge lines and other areas which are marginal for agricultural use. This area contains no game or other wildlife, has little useable timber and will have little to no impact on the limited aquatic life.

The roadway and structure designs provide for minimal disturbance of the soils by the use of embankment sections and rip-rapping will also be placed on roadway embankments at culvert ends and at checkdam sites, to slow and direct runoff flows to control erosion. The impact on the environment due to the new road location is anticipated to be minimal.

4. Land Erosion, During and After Construction - The effect of erosion during and after construction is anticipated to be minimal as

a balanced roadway cross section is being used throughout most of the length whereby excavation from wide side ditches is utilized in constructing a raised roadway embankment.

This allows cross culverts to be kept at a higher elevation thereby minimizing the need for excavation of long outlet ditches. Drainage outlets are also kept at an elevation so that runoff will not disrupt the series of contoured drainage courses which were constructed by the Lilongwe Land Development Project to control erosion. It is estimated that the effects of erosion now resulting from the unimproved existing road facility is much greater than that expected with the completion of the road improvement.

5. Incidence of Malaria and Schistosomiasis - The construction of the new facility will require borrowing material from pits and select material area which in turn will result in the creation of a series of seasonal breeding places and shelters for vectors along the completed roadway.

This in turn could provide a suitable habitat for the establishment of Malaria and filariasis carrying mosquitoes and schistosomiasis, the snail borne disease, all of which are vectors now infecting a portion of the population of Malawi.

It is anticipated that some control on the above vectors will be provided by the seasonal drying up of these pond areas and by requiring the contractor to construct, where feasible, drainage outlets and where possible to locate the pits for maximum exposure to the sun or shade in opposition to the natural preference for breeding. However, complete drainage control cannot be provided and it is anticipated that during and shortly after the rainy season a problem could exist. Control of these ponded areas for the above mentioned diseases can best be accomplished through the Malawi Government structured Lilongwe Land Development Project by use of malluscicides and insecticides, if these diseases become a problem. Control of this problem is then possible through the Lilongwe Land Development Organization.

6. High Speed Facility - The proposed construction will provide a high speed facility for vehicular operation. The geometric design standards are established for 100 KPH speeds, but will allow speeds in excess of this amount. It is anticipated that with the completion of the facility to Class I Malawi Road Standards with its asphalt surface the incidence of vehicular accidents and pedestrian fatalities will increase. Due to the heavy truck traffic on this route between Zambia and Malawi and the projected increase in ADT flows road accidents can be expected to increase. It is true that the design and construction provide a safer facility with regard to all weather surface and geometrics. However, without a concurrent imput of police traffic control and police roadway surveillance, accident rates are expected to increase. Local police enforcement, especially at the village level could help to control the situation.

ANNEX XIV
A.I.D. Loan No.:
Cap. Asst. Paper No. AID/DLC/P-2044

CAPITAL ASSISTANCE LOAN AUTHORIZATION

Provided from: FAA Section 106

Malawi Roads Phase II

Pursuant to the authority vested in the Administrator of the Agency for International Development (hereinafter called "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 to the Government of Malawi ("Borrower") of not to exceed Eleven Million Four Hundred Thousand Dollars ($11,400,000) to assist in financing the foreign exchange and local currency costs of road construction and construction supervision of the Lilongwe-Mchinji, Zambia Border Road. This loan is subject to the following terms and conditions:

1. Interest Rate and Terms of Repayment. Borrower shall repay the loan to A.I.D. 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. interest on the unrepaid principal, and on 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) Equipment, materials and services, except petroleum, oil, lubricants (POL) and bitumen, financed by the loan shall be procured from Malawi and from countries included in Code 941 of the A.I.D. Geographic Code Book as in effect at the time orders are placed for such equipment, materials and services. POL and bitumen may be procured from countries included in Codes 941 or 935 of the A.I.D. Geographic Code Book. The approval of this authorization constitutes a waiver within the meaning of Manual Order 1414.1.1 and a certification that exclusion of procurement of POL and bitumen from Code 935 sources would seriously impede attainment of U.S. foreign policy objectives and objectives of the Foreign Assistance Program.

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

Administrator

ANNEX XV

MALAWI'S ECONOMIC PERFORMANCE

Although endowed with relatively modest natural resources, Malawi has made considerable economic progress since attaining independence in 1964. This progress has been widespread and has stemmed largely from an increase in agricultural production and exports, an improvement in the supporting infrastructure, and the development of manufacturing industries geared to processing domestic crops and to producing import substitutes. There has also been expansion in practically all other sectors of the economy. As a result, during the period 1964-70 the gross domestic product at market prices rose at a compound annual rate of 10.2 per cent at current prices and of 5.4 per cent in real terms. Gross national product (GNP) increased at a slightly faster pace, reflecting a gradual reduction in net factor payments abroad owing mainly to rising remittances from migrant Malawian workers. GDP per capita rose from about $50 in 1964 to $84 in 1971, representing an average annual rate of increase of 9.7 per cent.

These developments involved some significant changes in the structure of the economy. The value added of the monetary sector expanded at a much faster pace than that of the subsistence sector. Consequently, the contribution of the monetary sector to GDP at market prices rose from 52.2 per cent in 1964 to 62.5 per cent in 1970. In the case of agriculture, forestry and fishing, the rate of increase of marketed production was more than twice as large as that of subsistence production, the expansion in the agricultural sector as a whole was lower than that of GDP. Hence the share of this sector in GDP showed a steady decline from 57.9 per cent in 1964 to 51 per cent in 1970. Over the same period the share of manufacturing increased from 8.3 per cent to 12.6 per cent and that of distribution from 8.1 per cent to 9.6 per cent.

In 1970 Malawi's economic growth was lower than in most recent years. Although GDP at current market prices rose by 10.3 per cent to $356 million, in real terms the rise was equivalent to 1.8 per cent, compared with 7.5 per cent in 1969. The slowdown in the rate of growth was attributable largely to unfavorable weather conditions, which adversely affected production of food crops, particularly maize. However, production of most export crops expanded considerably, and with generally favorable export prices, total exports continued to increase. Other factors in the slowdown in 1970 were a leveling off of building and construction activity, mainly as a result of the completion of the Nacala railway project providing a second link for the Malawi rail system with that of Mozambique, and a lower rate of expansion in the distribution sector.

In 1971 there was a marked acceleration in the growth of the economy. With better weather conditions and an increase in areas under cultivation,

production of food crops showed important gains, while output of most export crops also increased considerably. According to certain forecasts prepared by the authorities on the basis of 1970 prices, the value added of agriculture and its related activities increased by 11.8 per cent in 1971. As in previous years, the most dynamic section of agriculture was the estates, partly reflecting the favorable response of growers to expanding opportunities in the tobacco market as well as the success in establishing Malawian growers on an estate basis. The substantial expansion in agricultural production contributed importantly to the growth of other sectors of the economy, particularly distribution.

In 1973 gross domestic product (GDP) increased by 8.5 per cent in real terms, and per capita income rose by 6 per cent after allowing for 2.6 per cent population growth. Agriculture continued to account for nearly 50 per cent of total production, and the non-monetary sector accounting for 32 per cent. The proportion of GDP generated from the monetary sector continued to grow. In 1964 the monetary economy accounted for 52 per cent of total production, by 1970 the percentage was 62.5 and in 1973 it reached 65 per cent. Manufacturing in the monetary sector increased by 23 per cent in real terms and accounted for 12.8 per cent of GDP compared with 11.3 per cent and 10.5 per cent in the two preceding years. The output of goods for the domestic market grew by 13.3 per cent, intermediate goods by 21.5 per cent and export production by 9.2 per cent. The building and construction sector was up 25.5 per cent and public utility consumption increased by 11.9 per cent. Transport and communications increased by 33 per cent. This sector increased considerably greater than other sectors in the economy.

Prices rose approximately 17.6 per cent and exported commodity prices increased by 11 per cent, with the terms of trade continuing to follow the adverse trend that began in 1971. Gross fixed capital information has been increasing at over 20 per cent per annum compounded over the last ten years and presently represents 20 per cent of GNP compared with 9 per cent in 1964. Overall 1973 was a year of impressive growth with net inflows of long term capital amounting to $20.2 million to the private sector and $29 million to the public sector. This resulted in revenue exceeding expenditures by a small amount which reflected a rise in official foreign exchange reserves to $32.8 million.

Excerpted from IMF, Malawi - Recent Economic Developments, March 1972 and GOM Economic Report, 1974.