Chapter 8 - Roads Sector

A. STATE OF THE ROAD SECTOR

(i) Recent History

1. Malawi's road infrastructure has built up considerably since the early 1960s when the network stood at about 10,000 kilometers. The expansion to the present level of 15,100 kilometers[1] includes a major increase in rural access provided under the IDA supported District Road Improvement Project (DRIMP) in the 1980s as well as a substantial increase in the proportion of paved roads. For some period of time, the allocation of funding for maintenance of this network kept pace with this expansion – though rather less so than average in the rural areas. The Ministry of Works and Supplies (MOWS) benefited from having a substantial technical and human resource base and adequate funds[2]. Malawi's maintenance performance was ranked among the highest achievers in Sub Saharan Africa according to a Bank study.

2. The situation however began to worsen at the beginning of the 1990s and had seriously deteriorated by the middle of the decade. A number of factors were at work: the requirement for rehabilitation (resurfacing, spot improvement, reconstruction) and periodic maintenance (reseal, re-gravel) – on top of the required expenditure for routine maintenance – grew as the average age of the road network increased; key personnel were lost to the sector reducing the technical and managerial capacity for maintenance; changes in economic priorities (before and consequent to major political shifts taking place in 1994) increased the priority of social expenditures and others relative to infrastructure. In 1995/6 maintenance spending in real terms reached a low point (one third the level in 1989/90).

(ii) Basic Technical and Financial Data

3. Of the 15,100 kilometres in the public road network: roughly 6,500 are main or secondary; 7,600 are tertiary or district; and 1,000 kilometres are urban. There may be about 10,000 kilometres of roads and tracks outside of the public network (Table 8.1). The Public Roads Act determines the responsibility for managing the different administrative classes. Historically, MOWS had been responsible for main, secondary and tertiary roads and, since 1980, had been managing the district road network on an agency basis on behalf of the local authorities, which were not able to mobilise the technical or financial capacity. The four urban authorities have responsibility for their roads (excluding the urban sections of main and secondary throughways) although other than Blantyre and Lilongwe these authorities have had very few resources to work with to date. In 1996/97 though, total urban road allocations were about 10% of total in terms of the proportion of the road network. Roads were last reclassified in 1992.

1Due to rounding and some inconsistencies in data, figures may not add up to those in the Annex tables.
[2] The then Life President was also Minister for Works and Supplies.

Table 8.1: Length of Public Road by Class (km)

Surface	Main/Sec	Tertiary	District	Subtotal	Urban	Total
Paved	2,675	0	0	2,675	598	3,273
Unpaved	3,807	4,121	3,500	11,428	506	11,934
Total	6,482	4,121	3,500	14,103	1,033	15,137

Source: SWK/Iberinsa and Bank estimates (with rounding)

4. 21% of the network is paved, the rest is unpaved, mostly gravel but some earth surfaced (e.g. 3,260 kilometres of DRIMP roads). The percentage of paved roads has increased over time, i.e. it was only 15% in 1980. Costs and the pattern of maintenance expenditure differ from type to type, i.e. typically gravel needs extensive actual maintenance in relation to total life cycle cost. Rehabilitation costs also differ sharply with these incurred for a failed paved road being the highest. Costs will also depend on the quality of the road (good – fair – poor) and on the location of the road in relation to available sources of plant, material, skilled and unskilled labour. The most recent comprehensive traffic analysis carried out in 1996 indicate that about 78% of traffic is carried on roads with more than 200 vehicles/day but that such roads only account for 14% of the total number of roads[3]. Because no comprehensive inventory had been undertaken since 1987 and given that the road planning system had become run down in the interim, data on the condition of the road network are indicative estimates only, i.e. in 1997 for paved roads it was estimated that 18% only were in good condition and 24% in poor condition (based on IRI index) whereas for unpaved roads it was estimated that 12% were in good condition and 20% in poor condition (based on average attainable speeds) (See Table 8.2). Conditions have deteriorated further since – the percentage of roads in good condition is probably in the range 10-15% and in poor condition in the range 25-30%.

Table 8.2: Condition of the Road Network (km)

	Good	Fair	Poor	Total
Paved Roads				
ADT>200	279	1102	514	1895
ADT<200	153	511	116	780
Urban	129	260	139	528
Subtotal	561	1873	769	3203
%	18	58	24	100
Unpaved Roads				
Open all year	834	3537	219	4590
Dry season only	354	4190	1098	5642
Not passable			612	612
Unknown				584
Urban	125	125	256	506
Subtotal	1313	7852	2185	11934
%	11	66	18	100
Total	1874	9725	2954	15137
%	12	64	20	

Source: SWK/Iberinsa and BCEOM, Lahmeyer Study (Jan 1994.

3 Reference the SWK Iberinsa reports “Studies to Support the Road Maintenance Initiative”, March 1997

5. Malawi's network is equivalent to 1,540 km per million persons or 127 km per 1000 square kilometres. Malawi is broadly in line with SADC for the size of the network in relation to area and also in relation to population when Namibia and South Africa are excluded. This compares to Zambia, a much less densely populated, but equally poor, as follows: 4,077 km of roads per million persons and 48 km per 1000 square kilometres (Table 8.3). In comparison to average, Malawi has a relatively high proportion of roads paved. Its rural network at 47% is relatively important in size but is below the SADC average of 58%. Roads in relation to GNP in Malawi are slightly over the SADC average but less than half of the ratio for Zambia (Table 8.4). Roads have typically counted for more than 75% of capital expenditure in the transport sector whereas transport accounted for 16% of total Government expenditure. In 1996/97, the public sector investment program amounted to 7.5% of GDP – thus road sector capital expenditure equated to 1.2% of GDP. This is low relative to the figure of 2.2% of GDP derived from a study of 33 developing countries in the 1980s. It is also somewhat less than Zambia which stands at 1.9% in the similar time period.

*Table:8 3: Roads network in the SADC Region**

Country	**Area (1000km2**	**Population (millions)**	**Total GNP (US$m)**	**Total Network (Km)**	**Main Network (km)**	**Ratios**	
						Km of roads per 1000km2	**Km of roads per million population**
Angola	1,246	10.8	7,200	72,021	2,3570	58	6,669
Botswana	582	1.5	3,797	20,805	5,094	36	13,870
Lesotho	30	2.0	1,090	10,790	5,927	360	5,395
Malawi	118	9.8	1,896	15,137	6,482	127	1,540
Mozambique	802	16.2	1,034	25,468	4,371	32	1,572
Namibia	824	1.5	2,415	65,733	13,786	80	43,822
South Africa	1,221	41.5	106,167	525,927	20,000	431	12,673
Swaziland	17	0.9	930	3,011	1,396	173	3,346
Tanzania	945	29.6	2,561	85,000	10,300	90	2,872
Zambia	753	9.0	2,580	36,700	20,680	48	4,077
Zimbabwe	391	11.0	5,896	77,868	18,338	199	7,079
SADC	6,929	134	135,566	963,310	125,288	139	7,200
COMESA[4]	5,244	161.2	37,248	243,350	64,094	46	1,514
ECOWAS[5]	6,139	208.2	67,036	441,428	173,164	72	2,120
UDEAC[6]	5,366	57	20,331	256,668	90,148	48	4,483

Source: Review of the Road Sector in Sub-Saharan African countries, Final Report, April 1999.

Note: Due to inconsistencies in data, the figures in this table may not concur with those in the text.

1. The Common Market for Eastern and Southern Africa (Angola, Botswana, Lesotho, Malawi, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe).
2. Economic Community of West Africa States (Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea Bissau, Liberia, Mali, Mauritania, Niger, Nigeria, Senegal, Sierra Leone, Togo).
3. Customs and Economic Union of West African States (Cameroon, Central African Republic, Chad, Congo Br. D.R. Congo, Gabon, Sao Tome & P)

Table 8.4 – 1997 Classification of Roads in the SADC Region

Countries	**Total Network (Km)**	**Main Network (km)***	**Paved road (Km)**	**Unpaved (Km)**	**Rural network (Km)**	**Urban Network (Km)**	**% of Urban total Network**	**% of Rural to total Network**	**% of Paved to total Network**
Angola	72,021	23,570	8,200	15,370	47,000	1,451	2%	65%	11%
Botswana	20,805	5,094	3,656	1,438	4,211	500	2%	20%	18%
Lesotho	10,790	5,927	844	5,083	3,641	182	2%	34%	8%
Malawi	15,137	6,482	2,675	3,807	7,621	1,033	5%	47%	18%
Mozambique	25,468	4,371	3,058	1,313	7,846	1,811	7%	31%	12%
Namibia	65,733	13,786	5,170	8,616	27,244	1,403	2%	41%	8%
South Africa	525,927	20,000	20,000	-	340,927	165,000	31%	65%	4%
Swaziland	3,011	1,396	752	644	1,515	100	3%	50%	25%
Tanzania	85,000	10,300	3,800	6,500	6,500	3,800	4%	8%	4%
Zambia	36,700	20,680	6,582	12,280	14,520	1,500	2%	25%	18%
Zimbabwe	77,868	18,338	8,689	9,649	54,240	5,290	7%	70%	11%
SADC	963,310	125,288	63,288	62,415	556,992	181,635	19%	58%	7%

Source: Review of the Road Sector in Sub-Saharan African countries, Final Report, April 1999.
* Note, due to data inconsistencies, the numbers do not always add.

(iii) Expenditure in the 1990s

6. Maintenance allocations in the 1990s were well below what was needed to assure the quality of the network, e.g. MK24 million (US$1.6 million) in 1994/95 about 15% of requirements. Some progress was achieved with the introduction of the Medium Term Expenditure Framework (MTEF) which covered the road sector. Some improvements were wrought in expenditure management and allocations to road maintenance increased significantly, i.e. to MK140 million (US$6.8 million) by 1997/98. From 1996/1997 the policy was to encourage contracting out of works to the private sector as the capacity of MOWS continued to deteriorate rapidly. In the period 1993-97 budgeted expenditure on roads through MOWS was in the range 1.3% - 2.9% of Government recurrent expenditure. The provision of in terms of resources available per kilometre of road vary from a low of US$190 to a high of US$540 in this period although evidently the actual distribution of spending was skewed in favor of relatively few roads given the inadequacy of this allocation. (Table 8.5)

Table 8.5: Selected Indicators of Past Road Sector Expenditure

	1992/93	1993/94	1994/95	1995/96	1996/97	1997/98
Recurrent						
MK mn	28	31	27	32	106	140
US$ mn	7.0	7.2	1.7	21	7.1	6.9
Km of road	13,500	14,600	14,600	14,600	14,600	13,600
US$/km	521	541	189	145	488	507
Capital						
MK mn			477	205	320	337
US$ mn			30	17	21	17
Foreign %				81	85	
Ratio of capital to recurrent			17:1	6:1	3:1	3:1

Source: SWK/Iberinsa and MOWS estimates

7. Estimated capital spending in 1996/97 was MK320 million (US$21.5 million) and the ratio of capital to maintenance spending had come down to about 3:1 compared to over 17:1 in the early part of the 1990s. Foreign financing accounted for about 85% of total capital

expenditure in 1996/7 more or less in line with the average for the 1990s. Funding in the 1990s came largely from: EU; KfW; AfDB; and Kuwait (with OPEC and BADEA). This support tended to be one of two types of projects, i.e. major upgrading or reconstruction projects for the main and secondary road network; medium scale projects involved resealing and rural road and bridge improvement. This support was not prioritised or scaled on the basis of a single comprehensive program for the roads sector and, while significant, has fallen well short of what would be required to a fully maintainable state.

B. ROAD SECTOR REFORMS

(i) New Policy Framework

8. Public pressure – both general and interest group related (road users) - grew in the 1990s for action to address the deterioration in the roads network. Various stakeholder consultations were held under the umbrella of the Bank managed and donor financed Road Maintenance Initiative (RMI) including notably a workshop in May 1995, which set out the broad lines of a new policy framework for the road sector. This was quickly endorsed by Government and has set the scene for subsequent developments in the road sector, including the confirmation of the new institutional and financing framework by May 1997. The new policy framework is intended to support the commercialisation of road management, to increase the domestic resources made available, and to increase the efficiency of their use.

9. A parallel policy reform initiative started from 1997 with the assistance of the RMI sibling – the Rural Travel and Transport Program (RTTP) – to address a matter of long standing concern to Government, that is lack of access and mobility in rural areas. This seeks to build on the efforts made to invest more in rural infrastructure – through DRIMP and latterly through MASAF – to develop programs and strategies to provide more cost effective transport means, to increase choice and to reduce travel time.

(iv) The National Road Authority*:* a public – private partnership institution

10. The new policy framework gives rise to the creation of a new road user responsive institutional structure. This took the form initially of the establishment of a National Road Authority (NRA) in terms of an Act passed April in 1997. NRA is charged with:

ensuring public roads are maintained and rehabilitated as required at all times;

raising the required funds for adequate maintenance and rehabilitation of public roads;

advising the responsible minister (then of Works and Supplies) on, inter alia, preparation and efficient implementation of the annual roads program and overloading of vehicles on public roads.

11. The Act established a Board to manage the affairs of the NRA, specifying its composition and powers, with a view to ensuring that public and private sector stakeholders had a direct say in the size and composition of the roads program – and consequently of road sector expenditure. The Board had 13 members of whom 9 (including both the Chairman and Vice-Chairman) are from the private sector.

(v) Financing Reforms: the Road Fund

12. This also included reform in the means by which road maintenance was to be funded in future – through identified road user charges, incremental to existing Government revenue resources, to be channelled to the road management structure through a Road Fund. This was expected to increase the flow of resources to road maintenance as well as assure firstly a stable and secure flow of resources, and an adjusting flow of resources to match supply with demand for road maintenance expenditure. The Road Fund is established by the same Act which created NRA. The fund is to consist of a variety of financial resources, but most notably of road user charges to be determined from time to time by the minister on the advice of the Board. The fund is to cover, inter alia,:

administrative expenses of the fund,

the cost of maintaining public roads,

share of the cost of maintaining other roads, and

contribution to the cost of donor-funded rehabilitation or development programs.

(vi) Status of Road Sector Reforms

13. NRA became operational July on 1998 and funded a limited routine maintenance program during its first year of operation. From July 1, 1999, NRA has become more or less fully operational, although all key technical and financial positions are still to be filled. Two important facets of the early stage of NRA operations are as follows: (i) NRA is effectively managing most of the road sector work load itself, although in the design of the road sector reform, execution of road works should be carried out by other agencies namely a Central Roads Agency (CRA) for main, secondary and tertiary roads and local authorities for rural district and urban roads (the CRA is currently integrated in NRA as the Operations Department); (ii) the process of transfer of functions from MOWS to NRA is incomplete and there remains some uncertainty about the role the NRA will take in some areas (the rump of MOWS' roads functions have been transferred to a Public Works Department in the Ministry of Transport and Public Works created in May 1999). This process is not likely to be completed much before June 2001.

14. The Road Fund was established April in 1998. Its primary resource base since that time has been a fuel levy, initially set at MK1/liter for petrol and MK0.99/liter for diesel, which has been collected by the Petroleum Control Commission (PCC) and channeled directly (normally) within a period of 45 days to the NRA account. This is an incremental road user charge which is a specifically identified element of the wholesale fuel price structure. The levy has been progressively increased to MK1.25/liter in October 1998 and to MK1.75/liter in July 1999. The only other source of funding identified for routine maintenance is an extraordinary contribution from EU (MK250 million equivalent) for two years (1999/2000 through 2000/01) to help address the backlog of work.

C. ROAD SECTOR EXPENDITURE ANALYSIS

(i) Sector Goals and Priorities

15. These are summarized in the Government's letter of road sector policy[7]**.** For the period 1999-2004, a program has been put together to "facilitate effective and efficient provision of adequate and affordable road services and acceptable levels of traffic safety in line with the socio-economic needs and economic opportunities of the country". The program has identified four areas of priority intervention in the following order:

> Assuring the full funding of routine maintenance is the highest priority – the core network (7,200 km carrying more than 30 vehicles/day) by 2000/2001 and the full public road network by 2003/2004.
>
> The second priority is to address the backlog of routine and periodic maintenance on the main, secondary and tertiary network, which is critical to reducing transport, costs for the economy as a whole.
>
> The third priority is to improve rural access through investments in infrastructure and transport services.
>
> The fourth priority is financing of high return improvement and upgrading projects where traffic levels permit.

16. The anticipated cost of the program (1999-2004***)*** is US$348 million equivalent (US$342 million for works of various types), of which US$54 million for routine maintenance. The funding for the program is expected to come from the following sources: 13% from the Road Fund; 12% from direct Government funding (largely for counterpart contribution); 68% from donor and other external sources already identified (some confirmed) i.e. EU US$120 million, IDA US$30 million, KfW US$6 million; NDF US$6 million; AfDB (with Taiwan) up to US$50 million, DfID not known and 7% from external sources to be identified.

(ii) Sector Strategy

17. The policy basis for road sector strategy is very solid and has enjoyed support from internal stakeholders and the donor community. This provides an excellent base on which to build further with regard to, for example, drawing up a comprehensive medium term road programme, which encompasses all interventions and is fully prioritised. Evidence of what has been achieved thus far includes: (a) The RMI country program which was strongly supported by the Bank, EU and KfW, not only financially but through attendance at and endorsement of the key outcomes of the RMI studies. Conditionality and sequencing of these donor interventions have been very closely linked (unfortunately not completely harmonized). (b) The RTTP program which is underway from the end of 1999 is to provide the framework for future interventions in rural travel and transport. The two are not fully integrated programmatically speaking yet, although the government's letter of road sector policy attempts to do so. Also ROMARP is a vehicle for supporting the implementation of both RMI and RTTP agendas. Few countries in the region have moved as quickly and decisively in the direction of reform in the road sector as Malawi.

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7 In Government sector policy addressed to the Bank May 10, 1999.

(iii) Sector Performance Indicators

18. The principal indicators of performance are to ensure that the deterioration of the road network has been arrested and that a gradual improvement in quality is being achieved through sustainable maintenance. The Government's goal is that by end of 2003/2004, 50% of roads should be in good condition, 30% in a fair condition and 20% in poor condition. Better road condition is translated into saving to road users in vehicle operating costs, which are the principle measure of benefits to road sector investment.

19. On the basis of the program objectives, minimum performance targets for Road Fund revenues and for the completion of specified works by 2003/04 have been established, i.e.

1999/2000	US$9.5 million
2000/2001	US$12.0 million
2001/2002	US$12.9 million
2002/2003	US$13.8 million
2003/2004	US$15.3 million

900 km of roads periodically maintained (450 km under IDA project)

800 km of roads rehabilitated or upgraded (230 km under IDA project)

20. These representative minimum targets for completion of works and seem insufficient to meet program objectives however – to attain the quality targets about 6000 kilometers of road would need to be periodically maintained and about 1500 kilometers of road would need to be subject to rehabilitation

(iv) Budget and Expenditure Analysis

21. Budget management and allocation of resources to the road sector was, prior to the implementation of road sector reforms at least, not conducive to proper planning of road works and implementation of the same within a given time frame. MOWS typically prepared estimates based on the initial proposals of the Roads Department and these might be "approved" by Ministry of Finance. Then the estimates may be "revised" and finally resources "allocated" to MOWS which might not be at all consistent with the initial proposals. The reforms have lifted at least some of these constraints – particularly concerning the planning and financing of road maintenance – and have given the private sector through the NRA Board a major say in the determination of road expenditure levels and composition..

22. 1998/99 was the last year in which the roads budget was prepared under MOWS. Total overheads were MK47 million of which MK37 million are administration costs of MOWS. MK524 million were estimated as the requirements for routine maintenance of which it appears only MK331 million (US$7.5 million) may have been allocated. The estimate included a lump sum (contingency) provision of MK44 million for "washaways". The budget was to provide for maintenance (routine or minimum) on a total of 13,578 kilometers (about 90% of the public network or effectively all MOWS roads). Average allocation per kilometer is US$550 which is higher than the 1990s average, but well short of requirements working on an average of US$1,000 per kilometer.

23. Estimated spending for 1998/99 can be derived from NRA (unaudited) reports since NRA basically assumed responsibility for the routine maintenance program at the beginning of the year (although MOWS continued to play a major role in the supervision of contracts). This indicates that the 1998/99 budget was still optimistic and that the Bank's own projections (MK308 million total recurrent expenditure) were much closer to the mark . This has to be related to the transitional impact on implementation capacity arising out of the institutional reforms. MK237 million of contracts were let – Urban and Rural for MK65 million plus MK6.5 million washaways and other unplanned; Central for MK47 million plus MK101 million unplanned (including MK16 million washaways). Average cost of maintenance per awarded contracts was – urban 540 kilometers at US$2750/km; central (phase 1) 1,110 kilometers at US$700/km, central (phase 2) 999 kilometers at US$1,005/km, "urgent works" 536 kilometers at US$1,855/km. For 3,185 kilometers this works out as an average of US$1,690 per kilometer, i.e. many fewer kilometers than planned for were worked on and the level of intervention was generally higher than routine maintenance (extensive pothole patching on bituminised main and secondary roads for example) .

Table 8.6: Present and Future Recurrent Expenditure

Source	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04
ROMARP Estimates		Projections				
MK mn	308	420	528	568	611	675
US$ mn	6.8	9.5	12.0	12.9	13.8	15.3
Assumed km	11,500	11,500	12,300	13,300	14,406	15,100
US$ per km	590	820	970	970	970	1010
MOWS/NRA						
Budget						
MK mn	331	565				
US$ mn	7.5	12.5				
Est Actual						
MK	223	332				
US$	5.0	7.3				
Assumed km	13,500	13,500				
US$ per km						
- Budget	555	925				
- Actual	370	540				

Source: ROMARP PAD, MOWS and NRA estimates.
Notes: Constant prices with US$1 = MK44.5
IDA estimate is per roads in good and fair condition whereas MOWS/NRA estimates covers all roads on which some maintenance will be carried out.

24. NRA has prepared a comprehensive forecast for 1999/2000 during which it was anticipated to address many of the prior capacity constraints. The recurrent budget has been set at MK646 million including a provision for administration and overhead of 12.9% (still high in relation to program goals – 10% equivalent of Road Fund revenues rather than of total recurrent expenditure) and a provision of 17.5% for emergencies (relatively high compared to past practice). The provision for the direct costs of routine maintenance is MK565 million (US$12.8 million) which is well above the equivalent of the financing threshold for the year agreed with the Bank – MK451 million of these costs represent the cost of works (value of contracts anticipated to be let). The scale of the program reflects a belief – yet to be borne out – that a substantial step forward is now possible, inter alia, with the availability of extraordinary EU resources. Contracts awarded to end of 1999 amounted to MK332 million.

(Table 8.6) Roads on which maintenance will be carried out with their estimated average per kilometer cost are given below:

Central 9,090 kilometers, MK232 million @ US$580/km

Urban 1,372 kilometers, MK116 million @ US$1920/km

District 1,747 kilometers MK102 million @ US$1330/km

25. This represents interventions on about 80% of the public network, including but not limited to the core network. The level of intervention varies depending on the class of road and the state of the road. While there is some provision for district roads – which was not the case in 1998/99 - this is low in relation to the proportion of roads in the public network, i.e. 14% of the roads to be maintained in 1999/2000 are district but 23% of all roads are district. The average cost of the contracted level of interventions is US$630 per kilometer. The level of contracted work suggests that the NRA is still facing capacity constraints in raising the volume of work to the level required by stakeholders.

26. Some information has been made available about capital expenditure for 1999/2000, by the end of which year transfer of responsibility to NRA should be completed. (Table 8.7). The original budget for this year provides for MK4,667 million or about US$103 million of which 91% was expected to be made available from donor resources. About 75% of this figure represents carry forward of ongoing and already committed works and no major new works are expected to start in the near future, with the emphasis shifting to meeting the periodic maintenance backlog. (Table 8.8). The budget represents a quite comprehensive list of works, but seems to be considerably off the mark with what can likely be achieved during the year. It is always difficult however to come up with robust figures on actuals because a number of the projects are directly managed by the donor concerned and all the technical and financial information may not be to hand in Malawi. The number contained in the 1999/2000 Government Financial Statement of MK1.4 billion (US$31 million) may be closer to the mark of what can be achieved – but would fall someway behind the pace at which development expenditure would have to be committed following on from the sector program expenditure targets, i.e. about US$280 million over the next five years, excluding routine maintenance.

Table 8.7: Present and Future Development Expenditure

Source	1998/99	1999/2000	2000/01	2001/02	2002/03	2003/04
ROMARP Estimates						
MK mn	456	2470	2470	2470	2470	2470
US$ mn	10.3	55.6	55.6	55.6	55.6	55.6
Donor %	91	85	85	85	85	85
Capital/recurrent	2:1	6:1	5:1	4:1	4:1	4:1
MOWS/NRA						
Budget						
MK mn	724	1,400				
US$ mn	16.3	31.8				
Est Actual						
MK						
US$						
Donor %	91	91				
Capital/recurrent	2:1	3:1				

Source: ROMARP PAD, Bank estimates, MOWS and NRA Budget Documents.
IDA figures average out annually anticipated US$278 million capital spending over next five years.

Table 8.8: List of Ongoing and New Development Projects

Type of Works	Donor	Km	Estimate Cost (US$ mn)
Periodic Maintenance			
ONGOING			
Rural Roads/Bridges	KfW/EU	328	13.7
Food Security (1)	EU		2.7
NEW			
Rural Roads/Bridges	KfW		0.6
Bridge Deck Replace	KfW		0.4
Resealing Works	KfW	376	7.9
Food Security (2)	EU		2.8
Resealing Works	IDA	436	11.6
Rehabilitation			
ONGOING			
Chikwawa-Bangula	AfDB	26	1.1
Karonga-Chiweta	EU	109	36.2
NEW (Under Study)			
Zomba-Blantyre	IDA	206	
Jenda-Chikangawa			
Madisi-Kasungu			
Blantyre Urban			
Lilongwe Urban			
Construction			
ONGOING			
Limbe-Muloza	EU		7.5
Msulira-Nkhotakhota	AfDB	40	25.9
Karonga-Chitipa	AfDB/Taiwan	109	37.3
Bangula-Marka	AfDB	80	32.4
Naminga-Mangochi	BADEA/et al.	145	35.2
Mangochi Bridge	Japan		1.1
NEW (Under Study)			
Mua-Monkey Bay	EU	80	
Jenda-Rumphi	BADEA/et al.	220	

Source: NRA Budget Reports

(v) Revenue Analysis

27. Fuel levy was introduced in April 1998 and has been collected by PCC and transmitted on a more or less regular basis to the Road Fund account. The initial level of fuel levy was determined in relation to an assessment of the total (fixed and variable) costs of the damage to the road network caused by different vehicles. The underlying economic rationale is that road users should pay at least for the marginal cost of damage to the road through vehicle use and that the collection of an equivalent fuel levy is the best proxy for such. Fuel levy has since been adjusted upwards on two occasions and is almost certainly at or above marginal cost – bearing in mind that at present there is not network access charge so that the fuel levy has to cover certain fixed costs, including course for NRA administration.

28. Analytical work on the levels which would need to be attained for the fuel levy to meet the requirements of the anticipated maintenance program as well as the impact on fuel price and on affordability of the level of increase has been carried out. It is estimated that fuel levy would have to increase by a factor of about 56% in real terms over the coming five years if, it were to be the only source of funding for road maintenance. This would in turn cause fuel prices to increase by 3% in real terms by 2003/2004 over and above any other effects raising fuel prices. The Road Fund would have to take 10% of the pump price compared to 8% as is now at the higher levels of fuel level. These estimates were based on an average annual increase in fuel consumption of 3% over the next five years (1999 – 2004)**.** If however there were to be no increase in fuel consumption this would result in the need for higher fuel levies in the short term, but probably not in the medium term – lower fuel sales would reflect lower traffic demand.

29. These requirements are not considered unreasonable in the light of experience. Malawi's present fuel levy *is* about US$0.039 cents per litre. This is high in relation to, say Zambia, at US$0.033 per litre although it should be borne in mind that recent analysis has put the requirements in Zambia at the level of US$0.07 to US$0.08 cents per liter to meet all network maintenance requirements. Ghana has recently decided to raise fuel levy to US$0.095 cents per litre (Table 9). Surveys elsewhere suggest that US$0.10 cents per litre may be a rough guide and benchmark for the requirements for full maintenance and "normal" rehabilitation, i.e. including provision for road replacement, full or partial, as the assets come to the end of the life. Malawi's fuel levy would probably have to increase by a factor of three in real terms to meet such requirements.

Table: 8.9 Comparative Fuel Levy in Selected Countries (US$ cents per liter)

Country	**Gasoline**
Angola*	0.01
Namibia *	0.13
Zimbabwe*	0.18
Malawi	0.039
Zambia	0.033
Ghana	0.095
Kenya *	0.02

Indicate 1997 prices

(vi) Intrasectoral Expenditure Prioritisation

30. Consistent and appropriate project selection criteria as well as appropriate design specifications and maintenance standards are fundamental to sound decision making on maintenance and investment priorities. While many of the required tools are in place as is the capability to use them, in general terms technical capacity has fallen in the road sector since a comprehensive maintenance management system (MARMS) was inaugurated in 1987. NRA intends to devote time and resources to rebuilding the planning system.

31. At present, there is a disconnect between decisions on maintenance and development expenditure, on key strategic issues on how to prioritise investments in low volume roads, especially in rural areas; and in general how to allocate across different road types in the network. Development priorities have been ordered using detailed feasibility studies, financed largely by donors in order to determine the economic ranking of different options.

ERR and NPV analysis is employed for the most part using the HDM-III [8] model that the Bank has helped to develop. A normal threshold of 12% is in line with PSIP guidelines and the opportunity cost of capital in Malawi. The absence of a fully functional maintenance management system makes it very difficult to ensure that the maintenance budget is correctly allocated – or even that the maintenance budget is of the right size. In the past allocations for maintenance were driven well below what would be economically rational. This is less the case now, as of 1999/2000 the average allocation per kilometre was closing on US$1,000, about the minimum requirement on the basis of international experience. This ensures that about 80% of the public network is getting resources to cover some minimum maintenance. Full maintenance of bitumen roads would need about US$1500 per kilometre, gravel would be as high as US$3000 per kilometre and earth as low as US$300 per kilometre. A minimum maintenance allocation of US$350 per kilometre would provide for shoulder work and culvert clearance. It is not yet certain that those roads in good and fair condition are consistently being allocated sufficient resources to ensure that their quality does not deteriorate.

32. NRA is committed to working towards introducing new tools to aid in strategic fund allocation decision making but would probably rely on a form of multi-criteria ranking. Such systems have been developed in various countries, including Zambia, and can be used for ranking priorities according to a set (index) of social and economic factors. Such systems tend to work best, however, where two complementary factors are at work, i.e. firstly there is room for local consultation which will allow the capture of local knowledge and preference in the prioritisation process and secondly there is in place a process of ex-post impact assessment which can be used to validate the composition of the index.

33. The above helps establish a basis for determining the allocation of resources among competing district level priorities. But there is also the consideration of ensuring allocation of resources across different classes of road. This should rely on more than a simple indicator such as the total kilometres or the total traffic carried by the class of road. This though does provide a starting point for the development of an appropriate allocation strategy, but would tend to bias resource allocation towards main and secondary and urban roads, i.e. NRA guidelines currently provide for about two thirds of maintenance funding to go to Central Roads (comprising main, secondary and tertiary). Other factors that would need to be introduced would include – the population served by a road or a group of roads, the total number of journeys undertaken including provision for walking and non-motorized transport (NMT), whether the road fell within an economic priority area or not. These factors are more critical when resources are insufficient to cover all needs.

(vii) Inter-sectoral Expenditure Allocation

34. The road sector reform has a significant impact on how the allocation of public funds to the road sector – as opposed to other sectors – should be played out. Road users, or at least their representatives, now have a major say in determining recurrent expenditure in the road sector. As they pay for it through the fuel levy (and subsequently other road user access charges) and also have been delegated the responsibility for annual road programming, expenditure should adjust to what the road user wants – and can afford to pay. The fuel levy should, in principle, adjust to accommodate the size of the program and this should have no impact, in principle, on reducing the allocations of funds to any other sector. Thus a doubling in real terms of road maintenance in the next five years compared to the 1990s average should be readily accepted.

[8] to be upgraded shortly to HDM-IV

35. The current structure or membership of the Board could be modified, if there was any danger that allocations were falling below the level at which the public interest would have it be (reasons of national security etc.). A similar argument applies in case persistent biases are built into the allocation of resources. The minister responsible is still ultimately the authority for public roads in Malawi. These eventualities are thought to be rather unlikely at this point in time. For road users, channelling increased level of resources into road maintenance has strong appeal as they reap private benefits from lower transport costs, i.e. a hypothetical 10% increase in fuel price (from an increase in fuel levy) would increase operating costs of cars by 1.5% and of light commercial vehicles by 2.2%, but as the increment is to be ploughed into maintenance this would reduce vehicle operating costs respectively by 5.4% and 9% (i.e. 3:1 benefit: cost ratio). There is a case for suggesting that this form of investment in road maintenance may be one of the most cost effective ways of reducing transport costs for the economy as a whole – such that there are substantial public benefits from higher road maintenance expenditures.

36. The matter of inter-sectoral allocation of development expenditure is a little different. In 1990 Malawi's investment in the road sector has fallen behind where it has been, and where other countries are, in relation to allocation of the development budget to roads. The program that the Government is proposing for the five years to 2003/04 is much higher then in the recent past but in line with the sector objectives of raising the percentage of good roads to 50% and reducing the poor roads to 20%, a relatively modest target. A substantial proportion of the works and the financing to go with it have already been identified to this end. Given that good roads are now about 10-15% and poor roads about 35-30% of the network it would require an estimated investment of US$120 million in raising fair roads to good and US$180 raising poor roads to fair over the course of the next five years. This is slightly higher than what has been provided for in the sector road program. The road sector reform envisages an increased role for the road users in the management of the road sector. And as road users have to pay for the maintenance of the network, they will clearly want to have, and will have through the NRA Board, a say in the sequencing and approval of any new investments which will increase the size of the maintainable network. Under ROMARP, assumption is that the maintainable network (roads in good or fair condition) will increase by about 6-7% per annum in the five years to 2003/04. This is believed to be sustainable and supportable by the road users but it may come to pass that the road users determine that a less ambitious program should be pursued, bearing in mind not only the financing constraints but the limited technical capacity to plan and implement works.

D. ROAD SECTOR EXPENDITURE ISSUES

(vii) Adequacy of road sector planning and programming

37. NRA has taken over full responsibility for the road sector program but this will continue to be submitted to Government through the PSIP and will presumably still be subject to the same controls. Anticipated benefits of the road sector reform include: having a single, comprehensive road sector program to ensure the application of consistent and appropriate criteria for the prioritisation of works; improved management of the program to ensure funding is made available and the right implementation structures are in place for the realization of efficiency gains. These gains may only be achieved over time through a staged process however.

38. The initial challenge is to ensure that the routine and periodic maintenance program is correctly drawn up. This can be achieved initially within NRA, as the executive agency

structure is not in place yet. The next challenge is to ensure that additional rehabilitation and development works are only taken on consistent with: selection criteria for the prioritisation of new capital works, financial capacity to maintain the roads; technical capacity to manage both the rehabilitation and maintenance works. The evolving institutional structure for the road sector may introduce new actors and – certainly as a consequence of the decentralization policy – a much more significant role in upstream planning for the local authorities then hitherto. A final concern is to ensure proper integration of specific development programs – mostly donor funded – into the aggregate roads program. One prominent case is MASAF through whose resources a substantial amount of maintenance and minor rehabilitation of rural roads (both public and non-public) is being carried out. MASAF road programs are not, as of 1999/2000 integrated into a road sector investment program budget[9].

(viii) Uncertainty about future sector revenue flows

39. Fairly detailed work (SWK-Iberinsa, Bank et al.) has been carried out to estimate the expenditure requirements over the coming five years to meet sector objectives with regard to maintenance. Estimates have also been made of what the medium term "steady state", i.e. financing full maintenance and "normal" rehabilitation, will imply in terms of resource requirements. Whereas the volume of resources for the road sector has increased dramatically from 1995/96 to 1999/2000, this still remains well below the level required to meet objectives. The Bank's suggest that the fuel levy would have to rise to MK2.75/liter to cover the full maintenance requirement, i.e. an increase of 56% in real terms over the current level. This would be somewhat less if other road user charges can be mobilized to reduce dependency on fuel levy. There appears to be ample scope to do this as the current charges – which can be seen as access charges to the road network – are well below their correct economic level. The new policy framework provides for the Minister to vary these charges on advice of the NRA Board – but there is no degree of automaticity in this adjustment, which may be called for when, for instance, there is an upward adjustment in real maintenance costs. Through 2003/04 effectively donor agreements – including the IDA agreement – ensure that certain thresholds will be reached. But these may or may not be adequate to meet evolving expenditure requirements. NRA is however committed to work out detailed proposals for appropriate and timely adjustment of fuel levy, so that proposals can be put into effect beginning 2000/2001.

(ix) Diversify Road User Financing

40. The road sector reform in Malawi can be seen as the start of a process for increasing private sector participation in the planning, programming and execution of road works, both maintenance and capital. The reforms have created a framework under which the private sector, as the key players on the NRA Board, has a pivotal role to play in how far and how fast the "roll out" of private sector participation is achieved. Discussed below are the potential financing and management dimensions that can be explored.

41. The introduction of the fuel levy is a major step forward. It is a direct, usage related charge, which cannot be evaded by the road user (it is true though that non road users are also paying this levy and are not being fully compensated for this). It is still however a proxy (indirect) charge for road usage. The way forward is to determine first – are there other proxy charges to replace or complement fuel levy; and second – what are the prospects of

9 In the case of MASAF a memorandum of understanding has been signed between the parties

introducing direct charges for road usage in the near future, again as a replacement or an alternative.

42. With regard to the first, the road user is subject to a variety of taxes and other charges. Some of these can be identified as road user charges, which could be diverted wholly to road financing. These are almost all of nature of access charges, as they concern the charges that must be paid before a vehicle can use the road or road service, i.e. vehicle service licenses, transit tolls, parking charges. They vary according to the size and nature of the vehicle (equivalent standard axle – ESA - measurement) so can be made to reflect the real cost of the vehicle entering the road system. At current levels, such charges might add about MK45 million to the Road fund resource base. However this seriously underestimates their potential as these charges: have not been adjusted upwards for many years; are significantly less than the economic costs they should reflect; and are much less than the road user would be willing to bear.

43. With regard to the second, in a number of countries the imposition of tolls to cover the direct cost of road use is in place. There are relatively few cases of such in the SADC region however, outside of South Africa where of the national (trunk) network of about 7,000 kilometres, 1,300 km is under tolls with a further 700 km likely to be added in the near future. There are some other cases under study in Zimbabwe and some special cases like the Maputo-Witbank corridor (which benefits Mozambique), which are under implementation. A major constraint on the use of tolls in Malawi is traffic level. It has been estimated that a traffic flow of 1,500 vehicles per day is needed to cover the costs of tolling and at least 3,500 vehicles per day to cover all operations and maintenance costs of a road. Very few roads outside small sections of the urban network in Lilongwe and Blantyre reach such levels. Administrative complexity allied to costs of oversight and audit to ensure funds are collected and properly utilized makes this largely an unattractive option for Malawi. Lack of free alternatives on major trunk routes might be seen as having a regressive incidence on the road user population with a disproportionate burden of the cost falling on the poor, unless certain classes of transport could be exempted.

44. An alternative (not mutually exclusive) approach is to concession roads – or at least a defined part of the operations and maintenance of such roads – to the private sector to manage. The management company could be paid through various means including the effective “shadow toll” reflecting the usage on the road . Here it is assumed that incremental payments government would make to the concessionaire would be more than offset by efficiency gains and higher availability of the road. This is again moving ahead as an alternative quite quickly in many parts of the world (major impact for example in Argentina), but only really South Africa in the SADC region, i.e. about 2,200 km of the national (trunk) network. In Zambia some 200-300 km of roads is now on long term maintenance contract with the intention that this should be extended to all roads in good or fair condition. NRA should give serious consideration to following the same process for central network, either directly to maintenance concessionaires or indirectly to one or more agencies to manage a number of (perhaps smaller) maintenance concessions. There was one, unsolicited bid for interest in concessioning Malawi roads from a Malaysian company. This was however a very unattractive deal for Government which would certainly have involved much higher cost in terms of public resources than the current institutional set up. The agreement was not made effective therefore.

(x) Flow of Funds

45. The NRA has benefited considerably from clear and expeditious procedures for crediting revenues due from the fuel levy proceeds in to the Road Fund account. After some initial delays associated with the liquidity problems suffered by the Petroleum Control Commission (PCC), funds have been credited within 45 days of receipt by PCC. NRA monitors petroleum product import data so is in a position to verify that amounts credited are consistent with product uplift. This helps meet one of the fundamental requirements for the success of the road sector reform program – to have a secure and stable flow of funds for road maintenance. This has resulted in NRA being able to increase the scope of the maintenance program and keep on track with regard to performance targets under ROMARP. Reform of petroleum marketing and distribution may have as a consequence an interruption in the stable and secure flow unless acceptable alternative arrangements are put in place. Funds should continue to be credited to the Road Fund from the petroleum sector with Government providing “a posteriori” checks – obviously through external audit of the Road Fund, but could include others measures too.

(xi) Definition of the core network – eliminate anti-rural bias

46. Sector objectives call for a staged process of ensuring adequate resources are made available for the maintenance of the public road network. That is the so-called “core classified network” will be fully funded first (supposedly by end of 1999/2000) before the full public network is brought under regular maintenance. The definition of the core network includes all roads carrying traffic in excess of 30 vehicles per day (as of end 1996). This definition is not the most appropriate way of distinguishing the core network, which may remain a valid concept if roll out of the whole program is delayed for whatever reason. Traffic levels are but a single dimension of the economic and social significance associated with roads. A large proportion of the rural district roads fall under this traffic threshold which may understate the volume of person-journeys using the infrastructure, i.e. higher usage of public transport, higher number of journeys by foot or by NMT means. The core network redefinition must provide for a more balanced provision across all elements of the network – the allocation of funding for rural district roads per district would need to be based on a combination of population and of a composite social/economic activity index.

(xii) Further progress on NRA’s institutional development

47. NRA is a relatively young organization. The executing agencies are as yet unformed or, in the case of the local authorities, not really geared up to play their anticipated role in the road sector. Much of the documentation – and guidelines and detailed procedures – for ensuring effective planning, programming, monitoring and evaluation of the road program are not yet in place, even though the required procedures and responsibility work has been done. NRA Regulations have been drawn up and inter alia, they provide for a Technical Advisory Committee and a Finance Committee for the Board. Procedures for managing the resources of the Road Fund and allocating its proceeds are in place. More will need to be done to provide guidelines to other agencies, such as the urban authorities and the local district authorities who should in future increasingly take the lead in program preparation and objective setting in their respective parts of the network. The memorandum of understanding concerning the MASAF roads program provides a framework to help integrate road sector planning but also to streamline technical input from the road sector to MASAF. The impact has yet to be assessed however.

(xiii) Further institutional reform to reduce overhead

48. The institutional analysis underlying the detailed program for reform identified high unproductive overhead as a percentage of sector expenditure as a drawback of the former structure. This was somewhat reduced when force account was scaled back, but remained above 20% because of substantial overstaffing in the administrative cadres in MOWS. Under the new structure NRA has reduced overhead to about 12% (actually 12.9% in the 1999/2000 budget). This is felt to be still too high in the light of experience elsewhere and also in relation to the Government's own targets which call for overhead expenditure as a percentage of Road Fund revenues to fall from 10% in 1999/2000 to 5% in 2003/04. This is achievable even with modest real increases in such costs as the growth of Road Fund revenues is expected to be much faster (to match an expected average annual increment of 7.4% in the extent of the maintainable road network). However further institutional reform may be necessary to achieve this improvement – NRA could sizeable reduce its overhead once executing agencies take full responsibility for program implementation. Through their contracts with NRA, these agencies could be encouraged to cut costs and to contract out services to the maximum extent to realize economies. But in 1998/99, NRA recruited 14 professional staff and 19 administrative and support staff – total staff increment would rise to about 120 by end 2000/2001 with a salary budget of MK35 million (compared to MK27 million in 1998/99 for the MOWS).

(xiv) Further legislative reform to clarify roles and responsibilities

49. Some unresolved issues emerged concerning the roles and responsibilities of different road agencies and authorities on the passage of the NRA Act. The subsequent passage of legislation on decentralization also creates some potential issues concerning the respective roles of local authorities and NRA. The Public Roads Act would need to be amended to reflect the changing roles of the Government ministries and clarify who are the road authorities for the different classes of road. Is NRA a road authority or not? Who is the minister responsible for roads (Transport and Public Works?). Who has the power to establish road agencies – the NRA as well as the minister? As and when the road reclassification exercise takes place, this will need to be reflected in a revised Public Roads Act. The NRA Act does not (may not?) clearly distinguish the roles of the NRA and local authorities with regard to the planning, programming and execution of district road works. The local authorities should have ultimate responsibility for their roads and may raise local finance (in addition to Road Fund resources). NRA can determine how much to give based on accepted formulae (local authorities have a seat on the Board of course) but this would not stop local authorities doing more if they so wish and can do. Two questions remain however: firstly, could the NRA determine the order of priority in which local authority projects are funded (better not to, provided projects proposed all meet set criteria); secondly, should the annual roads program which is responsibility of NRA cover all local authority roads and thus be answerable to the minister for how much is allocated to local authorities and for what ends As the minister to whom NRA reports is not the minister responsible for local government, close coordination at ministerial level will be essential.

(xv) Provision for emergency and VIP works

50. The present institutional structure has not definitively resolved the question of responsibility for so-called "emergency and VIP works". Nor is the basis for the provision of funding for such works clearly established. These categories arise – and have always existed implicitly or explicitly in the roads program – because all needs cannot be foreseen accurately

at the beginning of any given year. Emergency works have typically been "washaways" which occur in the aftermath of most rainy seasons (e.g. provision of 8% of total maintenance budget was made for such in 1998/99). The average incidence of such can be determined on the basis of the recent past (plus or minus 10%) as well as the risk of outlier low or high values. That is a provision should be made in the annual roads program to cover this eventuality. While a case has been made for retaining responsibility for such works under the ministry, this is not compelling. These works should be contracted out as with any other works (under the aegis of the NRA) with special provisions as necessary for quick completion. This is implicitly accepted from a reading of the NRA 1999/2000 budget. VIP works are more sensitive in that they are intended to reflect emerging, unplanned priorities which government may view as necessary to complete in any given year. Such works should be subject to both: a ceiling; and special funding apart from that provided by the road users. There are again no compelling reasons why such works could not be contracted out – this indeed might result in better value for money for Government. Maintaining responsibility with MOWS has tended to act as a drag on the restructuring and downsizing of public works capacity and of PVHO.

(xvi) Future role of the Government

51. Institutional and financing reforms which will lead to more efficient, better structured and more appropriately allocated public expenditure for roads are advanced, but not completed. A transition plan has been prepared for the reattribution of all functions from MOWS to NRA and to other agencies of Government. This was expected to be completed by June 2000, but will probably be delayed to at least June 2001. This plan carries with it certain short term financial costs which should be reflected as extraordinary increments to the road sector budget – they do not appear as such in 1999/2000 however. Greater efforts need to be made: to bring these costs down; and to provide extraordinary funding to match these costs during the transition period. These costs include, but are not limited to: completing transfer of operational functions (essentially regional controller of works) to NRA; completing the downsizing of the public works department and providing for redundancy and retraining costs where applicable; completing the restructuring of PVHO which involves the commercialisation of management of the residual plant and equipment (i.e. it should pay its way) and the disposal of redundant assets. The medium term role for Government (MOTPW and to a limited extent DDLGA) is likely to be quite modest and focused on policy and regulatory functions. The costs will essentially be personnel (wages and salaries).

E. RECOMMENDATIONS AND PRIORITIES

52. These follow.

Highest priority is to ensure that routine maintenance expenditure in 2000/01 meets at least the full requirements of the core network and that revenues are raised to meet these, estimated to be not less than US$12 million (MK540 million), i.e. an increase of 62% compared to 1999/2000 expenditure but more or less in line with the recurrent budget for last year.

If petrol and diesel consumption is estimated (conservatively) to remain at 1998/99 levels, this would equate to a fuel levy of M2.20 per litre, an increase of 25% over prevailing levels. The process of determining the policy and procedure for quasi-automatic adjustment of fuel levy should be brought to a conclusion before July 2000.

The process of paying over other road user charges to the Road Fund should be accelerated so that revenue sources are better balanced between access and usage charges. At current levels these charges might realize up to MK45 million which if collected in 2000/01 could reduce the required fuel levy to M2.00 per litre. In the medium term, a substantial opportunity exists to raise the other (access) road user charges. These charges have not been adjusted for some time and fall some way below both their economic level and what the road user would be prepared to pay.

Further progress on meeting maintenance expenditure and financing objectives presupposes that a stable and secure flow of revenue to the Road Fund will be sustained into the future. This has been put in some doubt by petroleum marketing and distribution reforms and by the likely change in the role of PCC. NRA should be given the authority to put in place acceptable alternative arrangements.

The present system for allocating road maintenance expenditure is over simplistic and appears to be biased against the rural road sector. NRA should lead the process of identifying and then adopting more appropriate methodologies for allocation. This would involve at least three separate but related phases – determining the proportion of total expenditure to go to rural district roads (and by extension to all other classes); determining then the allocation of this amount to each district; and finally determining the prioritisation of roads for funding within each district.

The impact of the above is though somewhat offset be the fact that the roads program managed by the NRA does not incorporate all initiatives supporting rural road maintenance and upgrading. It is important that all these initiatives, and in particular MASAF, are included in the roads program in future to both raise the volume of resources going to rural roads and to assure a common and rational allocation process.

The volume of projected development expenditure over the next five years will be sufficient neither to complete the rehabilitation of the network and nor to fully finance upgrading where this is economically justifiable. [Expenditure needs at a minimum however to ensure that the network quality improvement targets can be met, i.e. 50% good and 30% fair roads by 2004

While lower than it was before road sector reform, the proportion of road sector expenditure going into overhead/indirect costs is still over 12%, in excess of performance objective. As a first step, increased emphasis on contracting out services by NRA and, as a second step, further institutional reform should be explored to reduce these costs.

Provision for emergency and so-called VIP works should be included in the roads program and subjected to aggregate or proportional ceiling amounts. These works should be carried out wherever possible by recourse to private sector contractors.

There is a requirement for a review to be carried out to determine the need for further legislative reform in the roads sector to ensure particularly: consistency of the Public Roads Act with the NRA Act regarding the role of government and of sector ministries in particular; consistency of the Decentralization Act with the NRA Act with particular regard to the respective roles of NRA and local district authorities in the management and financing of rural district roads.

The process of restructuring of the residual public works (roads) functions now absorbed into the Ministry of Transport and Public Works has to be accelerated to an early completion to assure efficiency gains from the road sector reform process can be captured. Extraordinary financial resources will need to be made available to complete ministerial downsizing and the commercialisation of PVHO and the training centres.