



## The road maintenance backlog: A cause for concern

### Overview

Uganda's classified road network funded by the Uganda Road Fund (URF) is 107,020Km (URF, 2013). These are broken down as 20,552Km for Uganda National Roads Authority (UNRA) and 86,468Km for Districts, Urban and Community Access Roads (DUCAR) under the Local Governments' jurisdiction. These roads are one of the country's main assets, generating millions of dollars in revenue every year through the commercial activities that they make possible.

However, some of the country's road network is in a serious state of disrepair due to poor maintenance – a fact that is devaluing this important resource and limiting revenue generating commerce. For instance, the proportion of the district unpaved roads in fair to good condition was estimated at 61% by Financial Year (FY) 2017/18 against a target of 65%, while that of national roads was at 83% against a target of 70%.

Recent studies in Uganda indicate that the routine and periodic maintenance cost for the entire life of a road is estimated to be between 2% to 3% of the initial capital investment. However, delayed maintenance is most likely to cause this amount to increase. The failure to adequately maintain the road infrastructure creates a backlog.

This policy brief delves into the extent of the backlog in Uganda, and the future consequences if the strategic interventions as proposed in the recommendations are not implemented within the midterm.

### Introduction

In Sub-Saharan Africa, for every kilometer of road rehabilitated, an estimated three kilometers of road fall into disrepair, leading to a net

### Key Issues

1. The current road maintenance financing can only meet about 26% of the needs, leaving a big chunk of the road network unattended to.
2. Over the medium term, the proportion of roads in fair to good condition will decrease, while that in poor condition will increase.
3. The maintenance backlog is estimated at 51,725Km of roads, and this will cost Ug shs 1,084bn.
4. Funding needs should be linked to road usage, through road user charges so as to generate enough resources for maintenance.

deterioration in the total road network (World Bank, 2005). The situation is similar in many other developing country regions. In Uganda for instance, there has been a steady increase in the road sub-sector budget, however road development still takes the biggest share of the budget, at 90%, while road maintenance is now at 7% of the total budget.

The Economic Commission for Latin America recommends that a country should spend between 2.5% and 3.5% of its road network's replacement value each year. Economically this makes good sense, as such spending on road maintenance will provide an economic return of almost three times greater than spending on the development of new roads. Maintenance backlog of the road infrastructure is the amount of unfulfilled demands at a given point of time in explicit reference to predefined standards to be



achieved. It can be expressed in functional (non-monetary) or monetary terms and it refers to single components, sub-assets or to the whole road infrastructure asset of a given road network.

Currently, Uganda is only allocating around 1.2% of the value of its road network to maintenance each year, which would only be enough to properly maintain 41% of the national paved network, and none of Uganda's unpaved network. This imbalance is resulting in unsustainable development of the network, while the backlog maintenance is growing and will definitely result in higher replacement costs of the road asset in future.

### Extent of the Road Maintenance Backlog

Prior to the establishment of URF, road maintenance funding was disbursed directly to the implementing agencies from the Treasury, within the framework of annual budgetary appropriations. It was discovered that this approach did not prioritize road network maintenance needs against the backdrop of competing demands. As a result, between FY1997/98 and FY2007/08, the national road network, due to funding shortfall, had accumulated a maintenance backlog of 3,500Km or 33% of the 11,000Km at that time.

By FY2017/18, again due to inadequate spending on public roads over the years, there was a maintenance backlog of 51,735Km on public roads and estimated to cost Ug shs 1,084bn in nominal terms. At the current URF budget, it would take the agencies an estimated minimum of three years assuming that all the funds were expended on clearing the backlog, hence leaving the rest of the network unattended to.

### Trend of backlog

Two parameters were used to assess the trend of the backlog over the years: the comparison of budget for all road categories vis-à-vis the unfunded backlog; and the ratio of the maintenance budget relative to all roads maintenance requirements.

#### a) Budget vis-à-vis the unmet needs of road maintenance

Table 1 shows the Medium Term Expenditure Framework (MTEF) projections to FY 2019/20, which indicate that the available funding will only meet 25% of the needs, leaving funding of 75% of maintenance needs unmet. In FY 2017/18 the URF was allocated Ug shs 417.394bn under the MTEF, of which net allocation to road maintenance needs was Ug shs 406.776bn, against total requirements estimated at Ug shs 1.76trillion and therefore leaving a shortfall of Ug shs 1.35 trillion (76.8% of total).

**Table 1: Road Maintenance Funding FY2010/11 – FY2019/20**

FY	Ug shs, Bn							
	Needs			Available <sup>1</sup>			Un-met Needs	
	M'tce	Backlog	Total	M'tce	Others <sup>2</sup>	Total	Amount	Percentage
2010/11	632	451.5	1,083.5	273.1	119.5	392.6	690.9	63.80
2011/12	672.8	579.6	1,252.4	273.1	170.9	443.9	808.5	64.60
2012/13	958.5	656.2	1,614.7	273.1	359.3	632.4	982.3	60.80
2013/14	836.4	584.2	1,420.6	345.6	377.5	723.1	697.5	49.10
2014/15	1,083.40	769.5	1,852.9	420.9	410.7	831.6	1021.3	55.10
2015/16	1,273.30	822.4	2,095.6	410.9	441.6	852.5	1243.1	59.30
2016/17	1,732.80	1,235.80	2,968.6	399.4	583.5	982.9	1,985.7	66.90
2017/18	1,756.70	1,243.50	3,000.2	399.4	335.4	734.8	2,265.4	75.50



2018/19	1,807.20	1,258.00	3,065.2	440.4	337.1	777.5	2,287.7	74.60
2019/20	1,867.40	1,280.60	3,148.0	470.5	342.4	812.9	2,335.1	74.18

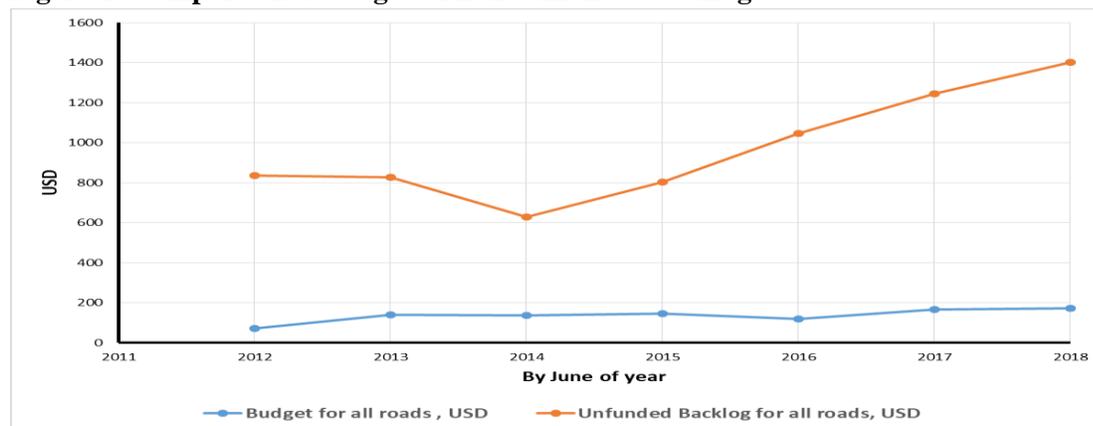
<sup>1</sup>MTEF Projections in National Budget Estimates, FY 2018/19

<sup>2</sup>Include others for rehabilitation such as PRDP, RRP, KIIDP, USMID and others but excluding major upgrading works

Source: Annual Sector Performance Report; Ministry of Works and Transport, 2018

It can be observed that the unmet needs of road maintenance are steadily increasing at a rate faster than the increment in available funding (**Figure 1**). This is partly because the funding is not yet linked to road usage which is represented by traffic loading and traffic volume which are both increasing and causing substantial damage to the road network. Since the funding is inadequate within a particular financial year, the agencies’ scheduled maintenance of the road network is deferred to the proceeding years.

**Figure 1: Comparison of budget with the unfunded backlog**



Source: Annual Sector Performance Report; MoWT, 2018

The implication is that over the medium term, the proportion of roads in fair to good condition will decrease, while that in poor condition will increase. Budget shortfalls will affect periodic maintenance especially on the DUCAR network. Therefore, the financial requirement to bring the network back into the ‘fair to good condition’ bracket will more than triple because a sizable part of the road network will have slipped into the rehabilitation realm.

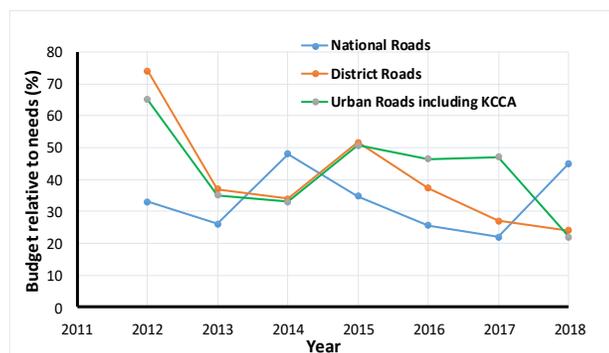
**b) Maintenance Budget relative to requirements**

The maintenance budget relative to the road maintenance requirements expressed as a percentage is another parameter to demonstrate the extent of backlog in a country. It is a ratio of the available maintenance budget to the unconstrained annual maintenance needs of the road network in a maintainable state. Figure 2 shows the trend over the years for the National, District and Urban roads.

Overall, the budget relative to requirements ratio decreased for all the network categories despite the increment in funding associated to each of the road categories (**figure 2 & table 1**). This is evidence that the increase in available financing does not match all road category maintenance needs.



**Figure 2: Budget relative to maintenance needs**



Source: Annual Sector Performance Report; MoWT, 2018

### Future consequences of the backlog

- i) In economic terms, poor roads affect trade and commerce, and rehabilitating these roads in the future is more expensive than a continuous programme of maintenance.
- ii) Reduction in roads asset value: By 2013 insufficient maintenance had already reduced the value of the national road network from USD 6.6bn (Ug shs 17 trillion to USD 5.5bn (Ug shs 14 trillion). This is equivalent to a shed in value of USD 1.1bn (Ug shs 2.8 trillion) and is projected that by 2023, the value of this major asset would fall by a further USD 2.1bn (Ug shs 5.4 trillion).

### Conclusion

The road maintenance backlog is on the rise as a result of inadequate funding as evidenced by the increase in unmet needs of road infrastructure, and therefore a concern for the

agencies in charge. If not attended to, the value of such an important resource to the country will be lost; estimated at Ug shs 5.4 trillion by 2023. There is therefore need for strategic policy adjustments to cause sustainable financing for road maintenance.

### Recommendation

The Ministry of Works and Transport, and the Ministry of Finance, Planning and Economic Development should make careful adjustments to balance between maintenance and construction. The available funding should be increased and sustained at a critical level to force a steady decrease in the total maintenance needs. The funding should be linked to road usage through introduction of road user charges envisaged in the URF Act.

### References

1. World Bank Group (2005), Transport Note No. TRN – 4
2. MoWT (2018), Annual Sector Performance Report.
3. Road Industry Council (2013); Adding Value to the whole Economy: Maintaining Uganda's Roads, Issues sheet 2.
4. URF (2014); 5 – Year Road Maintenance Strategic Plan 2014/15 – 2018/19.
5. MoWT (2003); Assessment of the 10 Year Road Programme based on the Road Sector Development Programme (RSDP) 3.

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