Transportation Strategies for Sub-Saharan Africa for the 1990s

Remarks by
Jean H. Doyen

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Infrastructure Division
Technical Department, Africa Region
The World Bank
Mr. Chairman, Ladies and Gentlemen, Colleagues:

I am very honored to address you today as a representative from the World Bank and to participate in your conference on the role of transport in development. Speaking on behalf of the Bank and particularly on behalf of my colleagues from the Africa Region, I would like to thank our host the Finnish National Road Administration, especially its Director-in-Chief Mr. Jarkko Saisto for organizing this seminar. We very much appreciate our collaboration with FinnRoads and with FinnIDA in the field of transportation, particularly in the Sub-Saharan Africa Transport Policy Program (SSATP). Today I will devote my talk to Sub-Saharan Africa which is the region in which I am working and the one I am most familiar with. I will do my best to tackle your questions concerning the challenges facing the Bank in other parts of the world.

High costs, unreliability, and poor quality of transport services are stifling efforts to put African countries back on a growth path. The lagging performance of the transport sector hampers the development of domestic and regional markets and has become an impediment to the participation of the continent in world trade especially for land-locked countries. Lack of transport services in rural as well as urban areas reduces productivity, limits income-earning opportunities, and restricts access to social services especially for women. The large financial losses of parastatals put a severe strain on public finances. Restrictive regulations contribute to high costs and are a barrier to improvements and innovations as well as to the emergence of regional and sub-regional approaches.

A number of factors make transport in Sub-Saharan Africa a precarious and costly undertaking: difficult terrain, low density of demand, and scarcity of human and financial resources. It is clear however that the policies adopted to deal with these challenges have been largely inappropriate. Their reform stands at the center of Africa's transport agenda. Reforms are needed to rehabilitate existing networks, build up maintenance capacity, increase parastatal efficiency and cost recovery, step-up resource mobilization, involve local communities, strengthen the role of the private sector, and build institutional capacity.

The purpose of my talk today will be two-fold: first I will briefly present the key challenges facing African transport planners and policy makers over the current decade; second I will provide order of magnitude estimates of the financial resources needed to support programs of policy and institutional reform, capacity rehabilitation and modernization, and review key issues pertaining to domestic resource mobilization. Accordingly my presentation is structured as follows. We will start with a brief overview of the overall macroeconomic framework within which transport strategies will have to be
formulated and implemented over the next decade. Next we will examine broad indications on the resulting demands for transport services and facilities, focusing on long term trends. We will then review some of the common elements of transport strategies in the 1990s, and then turn to a discussion of the key sub-sectoral issues. Finally I will look at the financial requirements facing the transport sector and some of the key issues related to overall domestic resource mobilization.

**Macroeconomic Context**

During the 1980's Sub-Saharan Africa grew poorer. The dire economic situation has spurred many governments to undertake far-reaching structural adjustment programs. Countries persisting with these reforms are showing clear signs of improvements in economic performance. The 20 countries engaged in the Special Program of Assistance for Sub-Saharan Africa (SPA) have shown average GDP growth of 4% p.a. over the period 1988-90 with noticeable improvements in gross domestic investments which however are still at a low relative level. Despite encouraging results the resumption of growth has been slower than anticipated due to structural constraints that can only be addressed over the longer term.

In addition to constraints on the domestic front, planners and policy makers will also have to contend with a rapidly changing international environment. Three trends stand out:

- capital will remain scarce; the prospects for increases in aid flows are limited and access to capital markets will remain constrained;
- competitiveness in international trade will increasingly require capacity for low-cost transmission of information, flexible production methods and short response times; and
- bio-technologies and material sciences will continue to displace traditional tropical commodities and dampen long-term trends for their price.

Given the unfavorable domestic and international environment, Africa must undertake far-reaching reforms in order to achieve sustainable growth with equity. The current period of economic and political transition provides long sought-after opportunities to introduce structural reforms and to develop a long-term perspective within which development strategies can be formulated and implemented. The Bank's own attempts at providing such a long-term perspective has culminated in what is known as the Long-Term Perspective Study (Sub-Saharan Africa: From Crisis to Sustainable Growth). The LTPS helped to build a broad consensus on needed policy reforms, and on the essential elements of second-generation development strategies. There are two central themes: first that the achievement of sustainable growth with equity depends less on directions from the top than
on the mobilization of skills, energies and resources from below; and second that economic integration and regional approaches are essential to overcome the limits of small domestic markets and to strengthen competitiveness.

In an effort to assess what would reasonably be achieved over the next twenty years or so, the LTPS has also developed quantified objectives based on realistic scenarios. The key targets are:

- doubling the growth rate of agriculture from 2% to 4% per annum, thereby raising incomes and improving food security;
- doubling domestic savings, from 11% to 20% of GDP;
- increasing public investment from 15% to 25% of GDP and increasing the returns to investment to 20%;
- doubling investment in human resources, especially in women, from the present 4-5% to 8-10% of GDP;
- working towards a target of reducing fertility by half by 2020, in order to facilitate efforts to raise incomes and improve standards of living; and
- taking measures to stop environmental degradation.

Achievement of these targets will require a long-term commitment from the international community to provide the quantity and quality of external finance needed, going well beyond the present projected flows of assistance and debt relief. Gross flows in the 1990s should increase to $28 billion per annum, including $19 billion of net inflows and $9 billion in debt reduction.

The LTPS points out the critical role of infrastructure in creating the enabling environment needed to support the above development strategies. I will now examine some of the demands that will be made on the transport sector, and the role transport must play in facilitating growth.

**Transport Demand**

Increased production and the needs of a rapidly growing and urbanizing population will place considerable demands on the transport sector. Annual growth rates are not dramatic but when compounded over the thirty years covered by the LTPS, the overall magnitudes of increase are striking:

- African population is projected to increase from 500 to 1,100 million people;
- Urban food demand is projected to increase by a factor of 5.5;
Total annual output in agriculture by a factor of 3.2;
Total industrial output by a factor of 5.5;
Total exports by a factor of 4.3.

The increase in African population, if accompanied by the modest rise in per capita income projected by the LTPS, would result in an annual rate of personal travel increase of about 7% to 8%. This growth would increase passenger transport demand by a factor of 10 by 2020. Similarly, expansion of production will generate additional demands on the freight transport sector. Rapid urban population growth will lead to a major shift from on-farm consumption to marketed production. The resulting rate of increase in transport will therefore be substantially higher than the 4% forecast for agricultural production. Most of this demand is going to be met by road transport which accounts for more than 80% of total inter-city movements.

In the short-term, the most important demands on the transport sector will be to provide services at the right time and in the right place, thus ensuring that structural adjustment does indeed lead to resumption of growth. There are unfortunately numerous examples of the negative impact of inadequate transport. In Zambia, it is estimated that at least one third of the bumper maize crop triggered by the realignment of producer prices introduced in 1987 was lost due to storage and transport problems. Similar experiences can be found in many other countries, for example groundnuts in Western Sudan and cotton in Tanzania. Without a dependable road system and efficient transport, there can be no supply response to support renewed growth and no improvement in incomes.

**Common Elements of Transport Strategies**

The over-arching objectives of transport strategies in Africa are to: (i) support adjustment and growth through policy reform and emphasis on high return investments; and (ii) reduce poverty by creating income opportunities and improved access to public services with particular emphasis on the needs of women. These objectives guide the definition and implementation of sectoral policy reform. Although each sub-sector faces its own specific set of issues, several common themes recur. These are:

- priority of rehabilitation over capacity expansion;
- improving maintenance capability;
- restructuring parastatals;
- decentralizing government and strengthening community participation;
- improving local resource mobilization;
reforming the regulatory framework to encourage competition; and

increasing reliance on the private sector through the opening of markets and privatization.

Next we will review the strategies for each sub-sector. The ECA which is our partner in the SSATP has organized Sectoral Working Groups under the framework of the Second UN Transport and Communication Decade in Africa (UNTACDA II). The strategies prepared by these Sectoral Working Groups have gone a long way in establishing common grounds to meet the Africa Transport challenges. The elements of these strategies which would be supported by Bank programs are briefly mentioned hereafter with particular emphasis on roads.

**Roads**

The main problem facing the Sub-Saharan African road sector is the backlog of deferred maintenance and rehabilitation which ranges from 10 to 30% of GDP. Tackling this backlog and building up maintenance capabilities is the most compelling objective for Africa's transport planners and policy-makers over the next ten years. The returns to such projects can be considerable; recent programs in Ghana, Senegal and Tanzania would add between 1 to 3 percent to GDP annually (Table 1). The policy dimensions of the problem are increasingly recognized. Governments are becoming aware of the punishing trade-off between neglect of maintenance and resulting increases in transport costs where $1 "saved" leads to $3 wasted. They are also ready to deal with the central issue of the ineffectiveness and inefficiency of road administrations through institutional reform and contracting of maintenance tasks.

<table>
<thead>
<tr>
<th>Project Title</th>
<th>Road Component (US$ million)</th>
<th>Economic Rate of Return</th>
<th>Annualized Benefits as Proportion of GDP</th>
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<tr>
<td>Ghana TRP II</td>
<td>107.3</td>
<td>45%</td>
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<td>Senegal Transport Sector</td>
<td>446.0</td>
<td>12%-36%</td>
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The SSATP "Road Maintenance Initiative" has served as a vehicle for developing awareness at the highest level of government on policy issues and for facilitating the process of policy reform at the level of individual countries. Policy improvements in three main areas are critical. These are:

- **planning, financing, and budgeting**, reforms should involve network-based planning and programming, improved collection and disbursement of funds, and the introduction of performance budgeting;
- **operational efficiency**, involving reducing force account work, increasing use of labor-based methods, and reducing publicly-owned equipment fleets; and
- **institutional reform and human resource development**, involving institutional reform and improving staff motivation and utilization.

Implementation of these reforms will require firm and sustained government commitment. Progress is slow but the movement for the reform of road policies is gaining momentum (Table 2).

The crisis of maintenance extends to **rural transport** which is also grossly underdeveloped. About half the rural roads in Sub-Saharan Africa need rehabilitation. World Bank experience in this field indicates that appropriate design standards using labor-based methods and minimum equipment are increasingly becoming accepted for roads with low traffic flows.1/ Employment is generated, building and management skills are developed, and sustainability is enhanced through community participation. Rural communities will have to assume an increased responsibility for maintenance. They are presently ill-equipped or organized for this task, and will have to be strengthened with distinct institutional and funding arrangements. Again World Bank experience shows that rural accessibility and mobility can also be improved through the manufacture of simple, low-cost motorized and non-motorized vehicles using local resources. For example, recent experience in Ghana suggests that intermediate means of transport can effectively bridge the gap between human and conventional motorized transport at a low cost.2/

The **road transport industry** in Africa accounts for more than 80% of total freight and passenger movement. The industry is essentially private and has shown remarkable resilience and dynamism. Its operating costs however are high and capacity utilization is low. Efficiency gains which hold the potential for significant macro-economic impact (10% gain equivalent to about US$2 billion in annual savings), should be sought through reduced regulations and greater availability of spare parts. The emergence of domestic operators

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under the most adverse circumstances suggests that there is no rationale whatsoever for para-
statal trucking which is nevertheless found in a number of countries. In many cases an es-
sential step towards more reliable road transport will be the reform of fuel pricing
regulations and the dismantling of parastatal fuel procurement and distribution systems.

Table 2: Road Rehabilitation and Maintenance
Summary Assessment of Policy Implementation Performance

<table>
<thead>
<tr>
<th>Overall Assessment of Road Policy and Program</th>
<th>Satisfactory Progress</th>
<th>Some Progress but Lagging on Key Policy Aspects</th>
<th>Limited Progress; Policies Lagging</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Backlog manageable; balanced program of maintenance and strengthening/upgrading underway</td>
<td>Mauritius - Seychelles - Botswana - (Namibia)</td>
<td>Cote d'Ivoire - Zimbabwe2/</td>
<td>(4) (2) (6)</td>
</tr>
<tr>
<td>B. Comprehensive network-wide maintenance and rehabilitation program underway</td>
<td>Burundi - Ghana - Burkina - Senegal - Malawi - Tanzania</td>
<td>Benin - CAR - Guinea - Togo - Rwanda - Comores - Guinea Bissau - Chad - Niger</td>
<td>(6) (9) (2) (17)</td>
</tr>
<tr>
<td>D. Partial rehabilitation and maintenance improvement underway</td>
<td>Gabon - Ethiopia - Zaire</td>
<td>Somalia - Sudan - Angola - Zambia</td>
<td>(3) (4) (7)</td>
</tr>
<tr>
<td>E. Road rehabilitation and maintenance requirements not being addressed</td>
<td>(Mauritania) - (Sierra Leone) - Lesotho - (Swaziland)</td>
<td>Liberia - (Equatorial Guinea)</td>
<td>(4) (2) (6)</td>
</tr>
<tr>
<td>TOTAL</td>
<td>(10)</td>
<td>(23)</td>
<td>(9)</td>
</tr>
</tbody>
</table>

1/ Country between parenthesis indicated that Bank is not active in the Road sector.
2/ No information available on Sao Tome and Cape Verde.
3/ Country underlined tentatively selected to participate in RMI Phase II.
Railways

The performance of most African railways declined sharply over the last ten years due to competition from roads, prolonged economic downturn, government interference, and indifferent managerial performance. At present most railways make only a marginal contribution to the supply of transport services while remaining a heavy burden on public finance. In several countries railway restructuring is at the center of broad-based parastatal reform programs. The restructuring of African railways into commercially viable and competitive transport enterprises will require continued commitment over the next decade. This is the only way to ensure their future and to allow them to play their role in long-haul transit movements. This is particularly true in the case of the Southern system which stands to benefit from the technological and competitive pull of Spoornet, the railway system of the RSA. Restructuring programs are necessary to effect cost reductions (including most importantly payroll), increased managerial autonomy, improved maintenance and increased attention to marketing and transit efficiency. This will require continued policy commitment over the next decade.

Urban Transport

The urban transport problem varies from city to city but is often politically sensitive, especially in large capital cities. Urban growth has fueled expansion of low-density settlements necessitating widespread use of cars and buses rather than more efficient and less polluting urban transport modes. In most cities, the urgent need is for better traffic planning and management capability. In many countries the dominant issue is the rehabilitation of urban roads, a task rendered particularly difficult by the weak institutional capability for this and other urban infrastructure development. Planning and management of the existing transport infrastructure and service capacity should be the first priority. This will often require the restructuring of parastatal bus companies in combination with regulatory reform to encourage greater participation by private entrepreneurs. Much greater attention needs to be given to road safety; 80% of road accidents occur in urban areas.

Civil Aviation

Structural reform of African air transport is a high priority as the present system of small, poorly coordinated national airlines is inherently inefficient. The recent ministerial conference at Yamoussoukro fully recognized the problem and the need for solutions within a regional framework. The Conference thus provides a framework for the gradual integration of air transport companies and services, through joint services and leasing. Structural reform should be accompanied by measures to improve airline management and marketing, reduce costs, increase efficiency and profitability, and reduce foreign exchange commitments. While the capacity of their civil aviation infrastructure is generally adequate, African countries will face mounting requirements to ensure that it
continues to meet international standards of serviceability, safety and security. Rehabilitation of runways and terminals and modernization of air navigation aids have priority.

African carriers are facing serious problems on the all-important liaisons to Europe, as a consequence of regulatory changes, particularly concerning the introduction of more restrictive aircraft noise limits and the integration of the EEC market. The extraterritorial application of EEC competition rules would force the liberalizing of traffic rights and phasing out of existing traffic coordination arrangements. The current strategy of seeking temporary exemption from noise abatement regulations is an insufficient response to the situation.

Ports and Shipping

The monopoly status and access to foreign exchange of African ports have facilitated their financial viability. In most parts, however, cost efficiency and the quality of services could be significantly improved. Rehabilitation will be necessary in some ports; in most cases what is needed is a combination of institutional reform and capacity upgrading to meet emerging standards for distribution logistics. Private sector involvement should be broadened with special focus on multi-modal facilities and services.

Little additional general cargo capacity is required but investment in multi-modal capacity, in modernization of linkages with overland transport, and in equipping ports for environmental protection measures, will be essential. Protection of the marine environment will be an important objective of port and maritime policies: regional cooperation will be necessary for the implementation of the MARPOL convention; ports will have to be equipped with waste reception facilities.

In the coming decade African ports will have to adjust to the emergence of regional container hub and feeder services. The primary decision concerning regional centers will be made by shipping lines. Port and maritime strategies should concentrate on foreign trade efficiency rather than seeking a central transfer role through capacity upgrading.

Shipping regulations often hamper efficient operations of ocean shipping services and are seen as an obstacle to technological upgrading. The time has come to review the economic impact of cargo reservation regulations introduced under the Code of Conduct of Conferences. Recent legal actions against members of the Conference serving West and Central Africa point out that these regulations are considered incompatible with the EEC free competition rules. A recent review of Angola's transport sector illustrates the high costs of such regulations; the premium paid by shippers for services rendered by national flag carriers is about US$90 per ton amounting to an annual implicit subsidy of about US$26 million. In countries where domestic shipping is important, either along lengthy coastlines (e.g. Mozambique) or important inland waterways (e.g. the Zaire River), the persistent weakness of parastatal operations and the emergence of private operators underlines the case for opening up competition.
Trade and Transport Facilitation

Regional integration requires efficient overland transit and trade support services. Transit in Africa is generally very costly (20% - 50% higher than in Asia), unreliable, and subject to arbitrary decision by governments. This has a major impact on trade performance. For example, in Côte d'Ivoire the preparation of the recent competitiveness program has revealed pervasive deficiencies in trade infrastructure: there is a costly cargo reservation system; custom formalities are cumbersome; freight forwarding and custom brokering and transit are expensive and riddled with restrictive practices; compulsory domestic insurance provides insufficient coverage thus requiring international re-insurance at higher overall costs; international trade documents are unduly complicated and are not in line with international norms. The nature of these deficiencies suggest that logistical arrangements can be improved without much investment. The main impediments are regulatory. The pay-off stands to be substantial.

Transport Planning and Regulatory Framework

Transport planning in Sub-Saharan Africa is generally weak. Sector monitoring and planning is still very much focussed on physical capacities with insufficient attention to services, financial performance, policy parameters and demand analysis. The institutional structure for transport planning and policy development will have to provide a higher measure of coordination among the public agencies involved and to develop mechanisms through which interested groups (road users, shippers, carriers) have the opportunity to inform and be informed, thus strengthening responsiveness and accountability. The regulatory framework is often both highly complex and largely ineffective, and in many instances counterproductive. Regulations on the transport operators should be simplified and gradually reduced to the minimum required to guarantee safety.

The foregoing discussion provides an insight into the main policy issues facing the various transport sub-sectors. The need for policy reform is compelling and the objectives for transport can be captured in two words: efficiency (and thus lower cost) and sustainability. The next question though is the financing of such reforms. This is a major issue, and on the whole African countries cannot meet the requirements attached to desirable policies without an appropriate resource mobilization program.
Overall Requirements and Domestic Resource Mobilization

Total financial requirements for transport in Africa between 1990 and 2000 come in excess of US$44 billion, of which about 26% for urban transport, 11% for rural transport and 63% for national transport systems.

Overall Transport Requirements
Sub-Saharan Africa, 1990-2000 (US$ bn)

Although these estimates are indicative, they give an idea of the severity of the resource constraint in the various sectors. While the annual level of expenditure per capita is modest (approx. US$ 7) it is well above current levels. They imply in fact almost a doubling of expenditure for national transport, mostly due to road rehabilitation. The increases called for rural transport represent about three times current spending. The most daunting problem arises for urban infrastructure where current levels of spending although poorly known are believed to be only a third or less of the projected requirements. A long-term commitment from governments and donors will be needed if such levels of resources are to be mobilized.

It is clear that one of the central points of efforts to operationalize the LTPS will be to assess how increased resource can be mobilized for the provision of infrastructure services. The focus should be on domestic resources because in order to ensure sustainability the pace of the efforts in each sector should be set by the level of local contribution. It is clear also that the quantum jump in the pace of infrastructure investment will not be possible with the present heavy reliance on central governments. A shift of paradigm is required to decentralize responsibilities to the local levels and to open up the provision of infrastructure facilities and services to private operators. The question of how to mobilize resources has a different setting for rural and urban areas, and for the national transport systems.

With regard to rural infrastructure, local resource mobilization should be stepped up so that local contribution, labor and funds covers at least maintenance and operations as well as an up-front commitment to a share of the initial investment. Nevertheless it is clear that a large share of the resources will have to be provided from the
center to overcome the current rehabilitation backlog and to pursue the much needed expansion of coverage. The most promising approaches would involve matching funds systems applicable to a menu of activities with central funding applied to specific inputs manageable without excessive overheads.

In urban areas, the basic policy should be to rely much more on local resources rather than on general revenues and to open up the provision of services to the private sector. The capacity for local tax assessment and collection is very weak. The rapid growth of urban areas and the attendant conversion of land and the building of structures is taking place largely outside of the formal regulatory framework for valuation and registry. The situation calls for innovative approaches involving: simplified cadastre and registry, and the organization of land markets. The increased self-sufficiency of cities and towns will ultimately depend on genuine decentralization and on the building up of municipal capabilities.

The financing of national transport systems would also be a major challenge. One needs to consider roads separately from other modes for which the entity providing the services is also responsible for the infrastructure. For the latter category, the first step will be to undertake restructuring and policy reform to set these enterprises on a viable financial footing. Eventually it would also be essential to seek access to private sources of financing, both domestic and external, i.e. through privatization, leasing, BOTs and issuance of bonds.

In the case of roads, two issues need to be addressed; the taxation of users and the funding mechanism for road expenditure. The level of taxation varies considerably across countries especially on the crucial aspect of taxation and pricing of petroleum products. There is no case at all for under-taxing, or worse, subsidizing fuels. Countries which have done so end up with inferior services and run down networks. The problem of ensuring that adequate allocations for maintenance are properly budgeted and that funds are effectively made available when needed has been dealt with through a variety of means, including loan covenant, road funds, and special accounts. More recently, the "commercialization" of roads has been considered. This means the autonomous road entity would be funded from a set share of revenues from road user charges.

Conclusion

In conclusion, the context within which African transportation strategies will be formulated and implemented in the 1990s will be one of many constraints but also unique opportunities.

The quickening pace of economic and political changes offers the opportunity to implement structural reform to shift the management and delivery of services to the private sector.
In a situation of increased accountability and openness to competition, the continued pressure on public finance and the scarcity of funds will bring better utilization and maintenance of assets, concentration on high return investments.

The renewed political commitment to regional integration and the lessening of parastatal controls will facilitate regional approaches to obtain the benefits from larger markets and regional cooperation.

As we have seen resource constraints will bear heavily on what can be achieved. Although the prospect of increases in aid flow are limited, it is clear that these flows will be directed where they are most likely to be used most effectively; that is towards countries with sound macro-economic policies who are engaged in sectoral programs addressing the issues mentioned above. Recent experience indicates that countries that have shown willingness to take the right measures have indeed found substantial support.

A large number of countries are addressing the need of their transport sectors through comprehensive programs dealing with rehabilitation, build up of maintenance capability and policy, and institutional reform. Tanzania’s Integrated Road Project launched in 1990 with a total cost of $870 million and is supported by 13 donors illustrates this approach. Similar programs are underway in Burkina Faso, Senegal, Ghana, and Uganda. Donors are recognizing the high degree of coordination needed both at the operational and the policy level. The SSATP provides a framework to the latter.

As reforms are undertaken new issues will emerge and will require research and comparative analysis concerning, for example, labor redundancy, privatization schemes, and regional integration.

An important objective for policy makers and donors will be to build up capabilities for transport research and policy development at the regional and country levels in Africa.

<table>
<thead>
<tr>
<th>Transport Sub-Sector</th>
<th>Total Public Sector</th>
<th>Infrastructure</th>
<th>Institution Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roads (Primary network)</td>
<td>$15.0</td>
<td>$14.2</td>
<td>$0.8</td>
</tr>
<tr>
<td>Railways</td>
<td>$ 4.0</td>
<td>$ 3.4</td>
<td>$0.6</td>
</tr>
<tr>
<td>Ports/Shipping</td>
<td>$ 2.0</td>
<td>$ 1.7</td>
<td>$0.3</td>
</tr>
<tr>
<td>Airports/Aviation</td>
<td>$ 7.2</td>
<td>$ 6.1</td>
<td>$1.1</td>
</tr>
<tr>
<td>Transit Facilitation</td>
<td>$ 1.0</td>
<td></td>
<td>$1.0</td>
</tr>
<tr>
<td>Rural Roads</td>
<td>$ 5.2</td>
<td>$ 4.9</td>
<td>$0.3</td>
</tr>
<tr>
<td>Urban Transport</td>
<td>$11.8</td>
<td>$11.1</td>
<td>$0.7</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$46.2</strong></td>
<td><strong>$41.4</strong></td>
<td><strong>$4.8</strong></td>
</tr>
</tbody>
</table>

1/ Includes public sector rolling stock  
2/ Aircraft may be leased from the private stock  
3/ Does not include investment in public transport fleet

Source: World Bank
BIBLIOGRAPHY

Recent SSATP Publications


SSA TRANSPORT

• Services are costly and of poor quality and reliability
  - low density of demand
  - high investment costs
  - inefficient operations

LAGGING CAPABILITY

• Weak institutional structure
• Low level of education & technical skills
• Scarcity of financial resources

INAPPROPRIATE POLICIES

• Reliance on public sector
• Poor choice of investments
• Low cost recovery and weak domestic resource mobilization
MACRO FRAMEWORK

LTPS

- Bottom up development strategies
  - enabling framework
  - capacity building

- Political economic changes \(\rightarrow\) opportunities for reform

- Transition from adjustment to sustained growth

- Regional integration essential to overcome limits of small domestic markets & strengthen competitiveness

SSA Countries

- Deepening of structural reforms

- Double agricultural growth rate from 2% to 4%

- Slow down demographic growth

- Double investment in human resources 4-5% to 8-10% of GDP

- Inter-regional integration

- Increase investment from 15 to 25 of GDP, improve the quality of investment to average return of 20%

Donors

- Long-term commitment to program and policies

- Adequate financial support, increase 4% (real terms) (gross flows in the 90s US$28-30 b)

1% of GDP GROWTH PER CAPITA
TRANSPORT DEMAND

2020

- SSA population 500 to 1.100 million
- Urban food demand x 5.5
- Agricultural output x 3.2
- Industrial output x 5.5
- Export x 4.3

> Passenger transport x 10 7 to 8% p.a.
> Freight transport 6 to 8% p.a.

TRANSPORT POLICIES

Support resumption of growth through policy reform and high return investments

Reduce poverty by creating income opportunities and improving access to services especially for poor and for women

Common Themes

- Priority to rehabilitation over capacity expansion
- Improving maintenance capability
- Restructuring parastatals
- Decentralizing government and strengthening community participation
- Improving local resource mobilization
- Reforming the regulatory framework to encourage competition
- Increasing reliance on the private sector through the opening of markets and privatization
ROADS

- Major road deterioration crisis

<table>
<thead>
<tr>
<th></th>
<th>Paved</th>
<th>Unpaved</th>
</tr>
</thead>
<tbody>
<tr>
<td>good</td>
<td>45%</td>
<td>&gt; 80%</td>
</tr>
<tr>
<td></td>
<td>26%</td>
<td>&gt; 40%</td>
</tr>
<tr>
<td>fair</td>
<td>31%</td>
<td>34%</td>
</tr>
<tr>
<td>bad</td>
<td>24%</td>
<td>40%</td>
</tr>
</tbody>
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$3.2 b maint.  
$19.1 b rehab.  
$24.4 b (60% +)

- Opportunity for domestic construction industry

- High economic impact

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Road Policy Reform

A. Planning, financing, and budgeting
   - network-based planning and programming,
   - improved collection and disbursement of funds, and
   - performance budgeting.

B. Operational Issues
   - reducing force account and increasing use of local contractors,
   - increasing use of labor-based methods, and
   - reducing publicly-owned equipment fleets.

C. Institutional Reform and Human Resource Development
   - institutional reform, and
   - improving staff motivation and utilization
### Road Rehabilitation and Maintenance

**Summary Assessment of Policy Implementation Performance**

<table>
<thead>
<tr>
<th>Overall Assessment of Road Policy and Program</th>
<th>Satisfactory Progress</th>
<th>Some Progress but Lagging on Key Policy Aspects</th>
<th>Limited Progress; Policies Lagging</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Backlog manageable; balanced program of maintenance and strengthening/upgrading underway</td>
<td>Mauritius - Seychelles - Botswana - Namibia</td>
<td>Cote d'Ivoire - Zimbabwe</td>
<td></td>
</tr>
<tr>
<td>B. Comprehensive network-wide maintenance and rehabilitation program underway</td>
<td>Burundi - Ghana - Burkina - Senegal - Malawi - Tanzania</td>
<td>Benin - CAR - Guinea - Togo - Rwanda - Comores - Guinea Bissau - Chad - Niger</td>
<td>Madagascar - Gambia</td>
</tr>
<tr>
<td>C. Comprehensive rehabilitation and maintenance program under preparation</td>
<td>Kenya - Uganda - Nigeria - Mali - Mozambique</td>
<td>Cameroon</td>
<td></td>
</tr>
<tr>
<td>D. Partial rehabilitation and maintenance improvement underway</td>
<td>Gabon - Ethiopia - Zaire</td>
<td>Somalia - Sudan - Angola - Zambia</td>
<td></td>
</tr>
<tr>
<td>E. Road rehabilitation and maintenance requirements not being addressed</td>
<td>Mauritania - Sierra Leone - Lesotho - Swaziland</td>
<td>Liberia - Equatorial Guinea</td>
<td></td>
</tr>
</tbody>
</table>

| TOTAL | (10) | (23) | (9) |

1/ Country between parenthesis indicated that Bank is not active in the Road sector.
2/ No information available on Sao Tome and Cape Verde.
3/ Country underlined tentatively selected to participate in RMI Phase II.
SECTORAL STRATEGIES

- Railways
  - restructuring ----> competitive transport enterprise
  - regional transit

- Urban Transport
  - deregulation
  - upgrading & traffic management
  - non-motorized transport & road safety

- Air Transport
  - deregulation
  - structural reorganization on subregional basis

- Ports and Shipping
  - upgrading of services ------- > intermodal
  - improve efficiency -------- > private services
  - review of cargo reservation systems and shipping regulations
  - freight facilitation
THE CHALLENGE AHEAD

Overall Infrastructure Requirements
Sub-Saharan Africa 1990-2000 (US$B)

<table>
<thead>
<tr>
<th>Transport Sub-Sector</th>
<th>Total Public Sector</th>
<th>Infrastructure</th>
<th>Institution Building</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roads (Primary network)</td>
<td>$15.0</td>
<td>$14.2</td>
<td>$0.8</td>
</tr>
<tr>
<td>Railways 1/</td>
<td>$4.0</td>
<td>$3.4</td>
<td>$0.6</td>
</tr>
<tr>
<td>Ports/Shipping</td>
<td>$2.0</td>
<td>$1.7</td>
<td>$0.3</td>
</tr>
<tr>
<td>Airports/Aviation 2/</td>
<td>$7.2</td>
<td>$6.1</td>
<td>$1.1</td>
</tr>
<tr>
<td>Transit Facilitation</td>
<td>$1.0</td>
<td>$1.0</td>
<td>$1.0</td>
</tr>
<tr>
<td>Rural Roads</td>
<td>$5.2</td>
<td>$4.9</td>
<td>$0.3</td>
</tr>
<tr>
<td>Urban Transport 3/</td>
<td>$11.8</td>
<td>$11.1</td>
<td>$0.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$46.2</td>
<td>$41.4</td>
<td>$4.8</td>
</tr>
</tbody>
</table>

1/ Includes public sector rolling stock
2/ Aircraft may be leased from the private stock
3/ Does not include investment in public transport fleet

Source: World Bank