

SSATP Working Paper No. 87 B

Rural transport services in Africa

*Lessons from rapid appraisal surveys in
Burkina Faso, Cameroon, Tanzania and Zambia*

Paul Starkey

in collaboration with

Abdul Awadh, Guy Kemtsop, Henry Musonda and Gnderman Sirpé

Sub-Saharan Africa Transport Policy Program (SSATP)
Africa Region
The World Bank

Chapter 1: Summary

Background to study

Rural transport services for passengers and goods need to be improved to stimulate rural economies and reduce poverty. Appropriate policy action to stimulate change must be based on a good understanding of the existing situation and the various limiting factors.

The Sub-Saharan African Transport Policy Program (SSATP, managed by the World Bank) commissioned a study to develop and test a methodology for the rapid assessment of rural transport systems. The guidelines specified passenger and freight transport for distances of 5–200 km, encompassing much rural transport, but excluding within-village transport, long-distance national transport and international corridors. Under a contract implemented by Practical Action Consulting in 2005, a multidisciplinary team met in Ethiopia to devise the survey methodology. Four national experts and the team leader implemented the methodology in selected regions of Burkina Faso, Cameroon, Tanzania and Zambia. The team reconvened in Kenya to review the methodological lessons and the survey findings.

The methodology developed

The methodology developed has been described in detail in another SSATP publication (Starkey, 2007). Different transport hub and spoke patterns form the basis of all rural transport systems and these patterns must be understood and described. The rapid appraisal survey is stratified by hub system (provincial/regional, district/market and village hubs) and by remoteness. Participative interviews are held with transport regulators, operators, users and support services. Users surveyed must include adequate numbers of women (at least 40%), people in remote areas (15%) and people disadvantaged in various ways (age, disabilities, minorities, ill-health, extreme poverty). As the survey progresses, information from the different interviews and field observations is triangulated so that anomalies can be investigated immediately. Traffic counts are undertaken on selected representative spokes, chosen by hub type and remoteness. Data is collected on passenger and freight tariffs and the operating cost of motor vehicles and intermediate means of transport (IMTs).

Using this methodology, five pilot surveys were undertaken and the full survey reports are available in hardcopy and on the internet. This report summarises important issues emerging from these five surveys, and goes on to discuss the implications. All figures quoted here are order-of-magnitude estimations and/or approximations, based on the 2005 surveys.

Survey results from Boucle du Mouhoun, Burkina Faso

The Boucle du Mouhoun region has 1.4 million people and represents 12% of Burkina Faso by area and population. It is semi-arid and most people engage in small-scale farming. There are 1200 km of recognised roads, many in poor condition. None are paved. The motorised transport fleet is small and old, with total investment cost of USD 1.5 million. It comprises 50 rural taxis (midi-buses and pickups, always overcrowded) and 30 large trucks carrying mixed loads with people on top. Most vehicles operate to and/or from Dédougou, the regional transport hub. There are five smaller hubs. Most villages do not have public transport services as buses and taxis only operate along a small number of main roads. Passenger fares are USD 0.05–0.11 per km, with higher fares on shorter journeys on poor roads. In the north, transport by horse bus is cheaper. Freight costs by large truck are USD 0.15–0.22 per tonne-km. Prices are higher for goods carried

short distances or transported by rural taxi or horse bus. Bicycles, animal drawn carts and small motorcycles are extremely important. There are 220,000 IMTs with a total investment cost of USD 35 million. Many people travel 10–80 km to reach periodic markets, often along ‘invisible’ tracks that are not part of the road network. Most medium distance journeys (10–40 km) are made by IMTs. Women use about 20% of bicycles and donkey carts. Local production of bicycles and motorcycles is unsustainable due to cheap Chinese imports. National policies have little impact on rural transport services. Transport operators must comply with regulations concerning documentation and tax, but tariffs are not regulated. Safety regulations are widely ignored. Motor transport services seem locked in a vicious circle of low investment, low profitability, low transport frequency and low economic demand. IMTs could increase further through de-taxation of imports.

Survey results from Southern Province, Cameroon

The Southern Province represents 10% of Cameroon by area and contains 500,000 people, 3% of the national population. Lying in the humid forest zone, its economy is dominated by agriculture and forestry. It has 4300 km of roads of which 12% are good quality paved national spokes linking regional towns with Yaoundé and Douala. These roads are busy with inter-urban traffic. Other roads have infrequent traffic and half are in poor condition. There are 650 rural taxis (minibuses and cars) that are the main means of medium distance (20–60 km) transport. Passenger fares range from USD 0.02 per km for long distance journeys on good roads to USD 0.09 per km for short journeys on poor roads. Most rural taxis operate to/from the regional town Ebolowa or four other significant transport hubs. Most villages have at least one public transport service a day. New transport franchises operating from private terminals have proved successful on inter-urban routes and are starting to develop on rural routes. There are also 110 trucks and 80 buses in operation. The fleet is old and represents USD 3 million of investment. There are no work animals in the humid zone. There are few bicycles partly due to their high cost. Recent years have seen a rapid growth in cheap motorcycles imported from China. Almost 20,000 motorcycles are used, representing an investment of USD 13 million. Motorcycles provide important, profitable transport services for short-to-medium distances (1–30 km) in urban and rural areas. Motorcycle taxis charge about USD 0.15–0.20 per km. Freight charges vary greatly, from USD 0.09 per tonne-km (long-distance truck, full load) to USD 1.00 per tonne-km (rural taxi, small load, short distance, poor road) and up several dollars per tonne-km for small motorcycle loads on poor roads. Transport operators face many bureaucratic requirements to conform to vehicle regulations and they are frustrated by the many control barriers along the roads. These do not strictly enforce regulations but daily barrier payments (bribes) increase vehicle operating costs. There is little evidence that national transport policies affect transport service provision directly. However, national transport policies on prioritising road rehabilitation are being implemented. The region provides some clear examples of fares and transport frequency on poor roads changing in response to road improvements and to road deterioration.

Survey results from Iringa Region, Tanzania

The Iringa Region has a population of 1.5 million, and represents 6% of Tanzania by area and 5% by population. It is topographically varied, with mountains in the south. The economy is based on smallholder agriculture. The road network is dominated by a bifurcating spine of paved national road, which carries most of the traffic in the region. Other roads are unpaved, and about half the 7000 km are in poor condition. The regional transport service fleet comprises buses (25), minibuses (45), rural taxis (30) and trucks (75). Most operate to/from Iringa or one of five transport hubs along the trunk roads. There are three minor hubs away from the corridors. Buses

and minibuses operate to regulated timetables, but rural taxis do not. Many villages have a once-a-day motorised service, but remote villages have no motorised transport. Fares range from USD 0.02 per km (long distance, good road) to USD 0.06 per km (short distance, poor road). The trucks provide mixed transport notably for periodic markets, charging USD 0.10–0.50 per tonne-km depending on load and distance. The total fleet represents an investment of USD 1.5 million. Bicycles are increasing, with 65,000 in use, primarily by men. Some bicycle taxi services exist, charging about USD 0.04 per km. Pack donkeys and animal drawn carts are locally important. Private motorcycle use is low. USD 6 million have been invested in IMTs. Inadequate motorised transport services away from trunk roads are associated with low profitability, poor roads and low rural incomes. People often walk or cycle long distances to markets and services. A legal, regulatory and institutional framework exists for rural transport services but safety regulations are only weakly enforced in the rural areas. Little is done to stimulate improved transport services or greater use of IMTs.

Survey results from Singida Region, Tanzania

The Singida Region has a population of 1.1 million and represents 4% of Tanzania by population and 5% by area. The main activity is small-scale mixed farming in semi-arid conditions. The road system is dominated by a transport corridor (Dar es Salaam to Burundi) running from southeast to northwest. This is being paved. National roads also link Singida town with regions to the northeast and southwest. There are 3000 km of unpaved roads with half in poor condition. Singida and Manyoni are the dominant transport hubs. Most rural transport services begin or end in one of these towns. There are three smaller hubs including the district town of Kiomboi. Passenger prices range from USD 0.02–0.05 per km. The regional transport fleet is small and old and worth less than USD 1 million. It comprises 30 trucks, 20 buses, 25 rural taxis and 10 minibuses (a small number due to poor roads). There are few private motorcycles. Away from national roads little motorised traffic circulates. Freight transport is not readily available, but hire of a rural taxi cost about USD 0.50 per tonne-km. There are 60,000 bicycles, one per four households. With little affordable motorised transport, walking and cycling are the main means for medium distance (10–40 km) rural transport. Bicycle journeys of 10 km are common and journeys up to 50 km are not unusual. Only 7% of bicycle journeys recorded involved women. Bicycle taxi services have started, and these charge similar prices to rural taxis for passengers and freight. Ox-drawn carts (13,000) are widely used and donkeys are important in some locations. USD 6 million have been invested in IMTs. Many people attend periodic markets, arriving by foot, bicycle, cart or rural taxi. Traders travel in heavily laden buses and trucks. These sometimes travel in circuits of markets, causing an HIV/Aids risk yet to be addressed. There is a regulatory framework controlling roads and transport services. Bus timetables are a popular result of regulation, but traffic safety enforcement is weak. The government aims to stimulate rural transport by improving roads and all stakeholders agree with this. Increasing the numbers of IMTs by de-taxation could also improve rural transport.

Survey results from Luapula Province, Zambia

Luapula Province has 800,000 people and represents 7% of Zambia by area and population. A quarter of Luapula is water, with two large lakes, rivers and swamps. Fishing, small-scale farming and marketing provide most work. Much transport relates to fish trading (which stops for three months each year). Government transport policies primarily concern roads but there is some light regulation and taxation of motorised transport services although fares and timetables are not regulated. The policy of increasing IMTs has not yet been implemented in the province. Parastatal organisations provide limited large-scale ferry services on the big lakes. The road network

comprises a bifurcating spine of 600 km of tar road that connects the province to Lusaka and the Copperbelt. The rest of the network comprises 2300 km of unpaved roads, most in poor condition. Most traffic circulates on the paved spine. Some roads (including one regional spoke) have no regular motorised transport. The regional fleet comprises minibuses (65), rural taxis (65), trucks (50) and buses (15), representing an investment of USD 2 million. Most operate to or from the provincial capital (Mansa) or the fishing ports (Samfya, Nchelenge). There are two minor transport hubs. Fares are mainly in the range USD 0.02–0.07 per km, with the cheaper prices for long-distance travel on good roads. Freight carried by rural taxi varies greatly, from USD 0.50–2.50 per tonne-km, with high prices for short distances on poor roads. Freight carried by truck costs USD 0.30–1.00 per tonne-km along the fish spokes, but is not available elsewhere. Small boats provide essential rural transport around the lakes, islands, rivers and swamps. Passenger fares are around USD 0.10 per km and freight about USD 1.00 per tonne-km for fresh fish. On land, bicycles are the main means of transport. The 80,000 bicycles represent an investment of USD 7 million. Bicycles and spares are expensive and most bicycles lack brakes. People ride bicycles long distances with tens of thousands of journeys each year in excess of 50 km. Bicycle taxis regularly carry people distances over 70 km, due to the lack of motorised transport. Fares are USD 0.03–0.20 per km for passengers, and USD 0.70–4.00 per tonne-km for small loads. Women ride bicycles, but bicycle price and scarcity (one bicycle per three households) limit who can benefit. There are few work animals. There are few motorcycles, but long-distance bicycle taxis suggest a potential niche for motorcycles. People said they need better roads, predictable motorised transport services and cheaper bicycles.

Key issues emerging from the surveys

Many findings were common to all areas surveyed and these included the poverty of rural transport systems, the small size and old age of motorised transport fleets, poor safety standards and the great importance of IMTs. Some findings were specific to certain areas, and these include new transport franchises, water transport, motorcycle services and regulatory corruption. The low level of transport services and the importance of IMTs surprised the survey team. Many people think the roads they use to visit a rural area represent ‘rural transport’. However, such approach roads are not typical of rural areas, as they are busy transport corridors that are part of the national hub and spoke system.

Based on the various survey findings, twenty issues are highlighted, each with a general recommendation relevant to policy formulation. These recommendations can be made specific when adapted to the unique transport situation of a country. These relate to:

- Understanding of rural transport systems (poverty implications, infrastructure needs, hubs, fluctuations, low investment in motorised services, importance of IMTs)
- Regulating rural transport (transport associations, control barriers, routes, timetables, safety and enforcement)
- Promoting rural transport services (transport firms, mixed transport, consolidating demand and participatory planning, reducing prices of IMTs)
- Crosscutting issues in rural transport (education, health services, gender, HIV/Aids and mobile phones).

Conclusions and follow-ups

There is need for informed decision making. The methodology developed and used for these surveys will allow policy makers to quickly and easily obtain a reliable picture of the status of

rural transport and ways of overcoming key constraints. Such results can then be used for evidence-based decision-making.

Intermediate means of transport, particularly bicycles and motorcycles, are extremely important, and offer great growth potential. They are sometimes ‘invisible’ to policy-makers, but rural women and men need them to reduce their isolation and poverty. Fiscal policies should encourage their use so rural people can increase their productivity and quality of life.

Improved infrastructure for motorised and non-motorised transport is vital. Year-round access is particularly important for poor people. Road maintenance work needs to be cost-effective and sustainable, with local stakeholders involved in prioritising for spot improvements.

Improving roads is not sufficient to ensure reliable and predictable services in most rural areas that have low densities of transport demand. Local collaboration and participative planning is required involving all types of transport users, operators and regulators to ensure consolidated transport demand that will allow profitable transport operations. Such collaboration and consolidation should start a virtuous spiral of increasing transport services stimulating increasing demand, greater competition and lower prices.

National and local governments should provide enabling environments, regulating for appropriate standards while encouraging the private sector to provide good services. Policies should stimulate greater, better, safer and more dependable rural transport services. Small initiatives and incentives can have a profound affect on rural transport and the lives of rural women, men and children, reducing poverty, stimulating economic growth and meeting the millennium development goals.

Follow-up suggestions include surveys in other countries (adapted to local circumstances), preparing supporting resources, developing hub-mapping and modelling as a planning tool, testing ways of consolidating transport demand, adapting the methodology for healthcare, and stimulating international debate on policy options for improving rural transport services.

Contents

Acronyms, abbreviations, exchange rates, websites.....	4
Foreword	7
Acknowledgements	8
Chapter 1: Summary.....	9
Chapter 2: Background and introduction.....	14
Aim of study and terms of reference.....	14
Planning and implementing the surveys	14
The methodology developed.....	15
The lessons learned from the surveys	17
Specific follow-up initiatives.....	18
Chapter 3: A rapid assessment of transport services in Boucle du Mouhoun, Burkina Faso	19
Introduction to Boucle du Mouhoun.....	19
Road network, condition and hub and spoke systems.....	20
Transport service hubs, provincial fleet and traffic flows.....	21
Transport policy and regulatory environment.....	24
Costs of passenger and freight transport	26
Key observations and lessons learned.....	28
Conclusions	32
Chapter 4: A rapid assessment of transport services in the Southern Province of Cameroon.....	34
Introduction to the Southern Province	34
Road network, condition and hub and spoke systems.....	35
Transport service hubs, provincial fleet and traffic flows.....	38
Transport policy and regulatory environment.....	40
Costs of passenger and freight transport	44
Some key observations and lessons learned.....	48
Conclusions	50
Chapter 5: A rapid assessment of transport services in the Iringa Region of Tanzania.....	51
Introduction to the Iringa Region.....	51
Road network, condition and hub and spoke systems.....	52
Transport hubs, spokes and corridors	53
Traffic patterns and the provincial fleet.....	54
Transport policy and regulatory environment.....	56
Costs of passenger and freight transport	58
Some key observations and lessons learned.....	61
Conclusions	63
Chapter 6: A rapid assessment of rural transport services in the Singida Region of Tanzania.....	64
Introduction to the Singida Region.....	64
Road network, condition and hub and spoke systems.....	65
Transport hubs, spokes and corridors	66
Traffic patterns and the provincial fleet.....	67
Transport fleet	70
Transport policy and regulatory environment.....	71
Costs of passenger and freight transport	74
Some key observations and lessons learned.....	76
Conclusions	77
Chapter 7: A rapid assessment of transport services in Luapula Province, Zambia	79
Introduction to Luapula Province	79
Road network, condition and hub and spoke systems.....	80
Water transport infrastructure and services.....	81
Transport hubs, spokes and corridors	82
Traffic patterns and the provincial fleet.....	83
Transport policy and regulatory environment.....	85
Costs of passenger and freight transport	87
Some key observations and lessons learned.....	91
Conclusions and some possibilities for improving rural transport.....	95

Chapter 8: Lessons and implications for rural transport	97
Context and caveat.....	97
Understanding rural transport systems.....	97
Intermediate means of transport.....	101
Regulating rural transport.....	103
Promoting rural transport services.....	106
Crosscutting issues in rural transport.....	108
Chapter 9: Conclusions and implications.....	111
Methodology.....	111
Findings.....	111
Implications.....	111
Annex 1: Some specific follow-up suggestions	113
References and bibliography	114