



Methodology for the rapid assessment of rural transport services






ITC – Intermediate Technology Consultants
working with WSP International and members of the International Forum for Rural Transport and Development

Background

- The study has been undertaken for the Sub Saharan African Transport Policy Program (SSATP), administered by the World Bank
- The study was contracted to ITC (Intermediate Technology Consultants) working with WSP and members of the IFRTD (International Forum for Rural Transport and Development)
- The methodology and results of the study are likely to be published and disseminated by SSATP
- **Presentation and photographs by Paul Starkey**
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The international team

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- **Paul Murray**
Mapping Specialist, ORH Ltd, UK



Thank you and apologies

- Thank you to the international team, the World Bank team, and the many people here today and in the countries surveyed who supported the team with advice, ideas and information
- Apologies that it will not be possible to share everything in the time available. Apologies – you will work hard!
- Suggest and recommend that everyone here goes and tries out the methodology – you will enjoy it (I did) and learn a huge amount!
- This presentation will comprise
 - The methodology
 - Some survey findings
 - Some implications (policies and/or actions)

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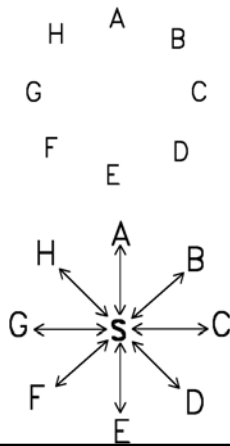
Objectives

- **Develop (and test) a methodology for the rapid assessment of the provision of rural transport services in developing countries.**
 - **Passengers and freight transport services**
 - **Medium range distance (from 5 to 200 km)**
 - **Institutional and regulatory arrangements**
 - **Economic, financial, technical and socio-cultural constraints and how to overcome them**
- **Methodology tested in Burkina Faso, Cameroon, Tanzania and Zambia**

Main transport types

- **Pedestrians**
- **Intermediate means of transport**
 - **Cycles**
 - **Motorcycles**
 - **Animal drawn carts**
 - **Pack and riding animals (donkeys, horses)**
- **Rural taxis** Mini bus, pick ups, cars, 4x4s
- **Trucks** less than 3 tonnes, more than 3 tonnes
- **Buses** (more than 20 seats)
- **Other** (Government, NGO, Religious, Private etc)
- **Water transport** – large, medium, small
- **Rail** (if applicable)

Hub and spoke model

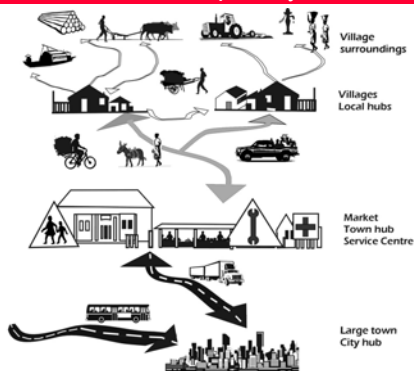


Rural transport hubs

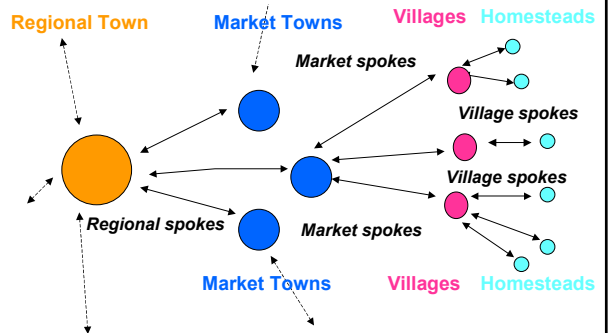
- Transport systems tend to operate from hubs of different size and scale
- **City hub** (with university, hospital, industrial area) with national/international connections and national spokes leading to:
- **Regional town hub** (with college, hospital, commercial area trading centre) with regional spokes to:
- **Market town hub** (with secondary school, large health centre, large market) with market spokes leading to:
- **Village hub** (with primary school, small health centre, small market) – with village spokes to outlying villages, homesteads and fields

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A rural transport system



Provincial hub systems



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What about transport corridors?

- A transport corridor is simply the an important spoke of a national or international hub and spoke system (eg, an intercity route from an international port or major city hub)
- Although most traffic on major transport corridors is intercity, the towns and villages along the corridor are privileged by the passing transport, increasing their market access, decreasing transport costs and accelerating economic development
- All along the transport corridor, lower level transport hubs develop at towns, villages, truck stops and junctions
- Transport corridor effects exist in hub and spoke systems at national, regional and market levels
- Transport corridor analysis is entirely compatible with hub and spoke models

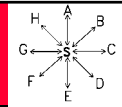


Tanzania



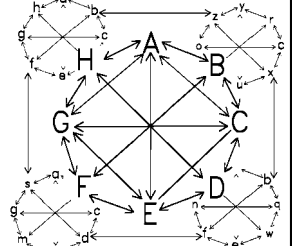
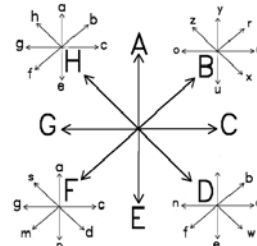
Tanzania

Hub and spoke model:
hierarchies and networks



Simple hierarchy of hubs

Hub hierarchy
with network links



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Transport hubs and spokes or networks?

- Hub and spoke model is useful but illustrative
- Transport networks never follow 'perfect' hierarchies
- Villages connect to other villages
- Some villages connect to provincial towns directly (not passing through small towns)
- Transport corridors exist with villages on main roads
- Transport 'watersheds' do exist, with some towns and villages 'looking both ways'
- It is necessary to appreciate the whole network, but understand the hub and spoke patterns within it

'Invisible' spokes

- Some spokes may not be immediately obvious, even though they are important
- Footpaths, cart tracks, cycle tracks
- Small bridges unsuitable for cars etc
- Waterways
- Links to other networks
- Informal cross-border trade
- 'Invisible spokes' may be village level, market level and even regional level
- Also 'invisible' hubs: temporary markets, road/water interchanges, cross-border towns

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Tanzania

Madagascar



Zambia



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Selection criteria for study area

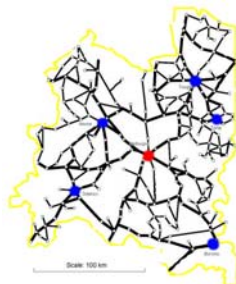
- Area about 1/10th to 1/20th of the country
 - Combination of natural 'transport catchment' and political region
 - Spectrum of different settlements
 - Spectrum of different types of transport
 - Good availability of secondary data
 - Reasonably accessible for survey teams
- Avoiding** (if appropriate)
- Major transport corridors or other 'distortions'
 - Strong cross-border influences
 - Capital city and highly atypical areas (ecology, politics)
- Diversity**
- Repeat methodology in 'representative' zones

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Example of selected regional hub system



Types and sources of information

- **Policy, legal framework and regulation**
interviews and documents
- **Operators and transport costs**
interviews, triangulated with different stakeholders
- **Opinions of wide range of users**
Interviews, triangulated with stakeholders of many difference categories, balanced for gender and stratified for remoteness
- **Actual traffic profiles**
Traffic counts on busy days and non-busy days (eg, market days and non-market days) stratified by hub type and remoteness
- **Actual transport situations**
Observations of people and technologies on all hub and spoke systems and degrees of remoteness, triangulated with all other sources of information

Time frame, team and costs

- **Eight week's work in three months**
One week preparation, 2 x 2 weeks surveys, 3 weeks reporting
- **Small, close-knit team or one expert**
Working closely to triangulate views of different stakeholders
- **Experts do all interviews (not enumerators)**
Person who does village interviews should also interview ministers and officials
- **Enumerators help with traffic counts**
- **Surveying remote villages is essential but expensive (transport and time)**
Remote villages may require a day in a 4x4, remote accommodation and several hours walking. There will be a tendency to survey accessible regions and villages

Examples of interviews: national level

- National ministries
- Poverty reduction strategy
- Aid agencies / donors
- Statistics and mapping offices
- Financial organisations
- NGOs
- Importers of transport types (including motorcycles and bicycles)
- Relevant institutions, eg universities

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Examples of interviews: regional level

- Regional Authority
- Police
- Transport Associations
- Financial organisation
- NGO / programmes
- Regional repairer of motorised transport
- Passengers on a bus (regional spoke)

Examples of interviews: market/district level

- District Authority (3)
- Health Managers (3)
- Education - Head teachers (3)
- Passengers in a rural taxi (market spoke) (5)
- Operator of main mode of transport, eg rural taxi (3)
- Operator of main mode of transport, eg truck / bus (3)
- Market town repairer of motorised transport (1)
- Seller of bicycles (market town) (1)

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Interviews: village level

- Village Authority (3)
- Farmers (5)
- Traders (5)
- Employees (travelling to work over 5 km) (5)
- Financial services users (5)
- Students (5)
- Health users (5)
- Household managers (housewives) (5)
- Transport for socio-cultural reasons (5)
- Excluded people - old, handicapped, marginalised (5)
- Operator of transport, eg bicycle or cart (3)
- Repairer of bicycles (1)
- Manufacturer/repairer of carts (1)

Interview methodology

- About 100 open-ended interviews
Up to five per user/operator category
balanced for gender and stratified by hub and remoteness
- Questions on
 - Transport trends (what recent changes)
 - Transport needs
 - Transport costs
 - Transport challenges problems
 - Possible improvements and solutions
 - Suggested additional sources of information

Some cross-cutting issues

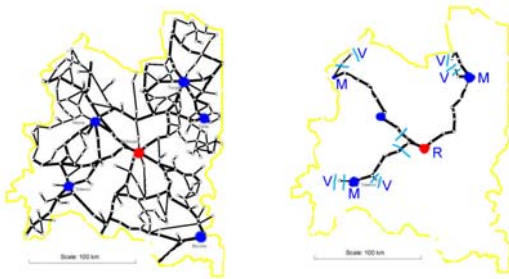
- **Poverty focus, including vulnerable groups**
- **Transport for livelihoods**
- **Transport for health care**
- **Transport for education**
- **Gender aware**
- **Safety issues**
- **Issues of regulation and cartels**
- **HIV/Aids aware**

Traffic counts

- **Regional** spokes (between regional town and market town), two locations on market and non market days
- **Market** spokes (between market towns and villages) three locations on market and non market days
- **Village** spokes (between main villages and outlying settlements) five locations on market and non market days
- Stratified for poor access

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Traffic counts sites in Burkina Faso



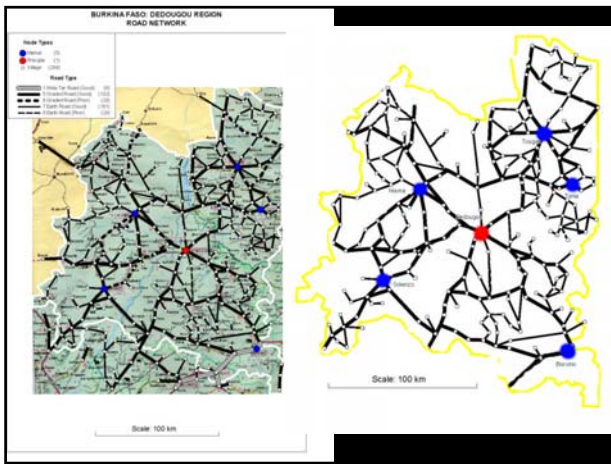
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Some survey observations from Boucle de Mouhoun, Burkina Faso





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Regional transport fleet, Mouhoun BF

Transport type	Numbers ¹ (approx)	Value (approx USD 000s)
Trucks	30	1,100
Buses	30	450
Rural taxis (incl minibuses)	20	1,300
Motorcycles	10,000	8,200
Bicycles	200,000	24,000
Animal-drawn carts	10,000	2,500

¹ Estimates of motor vehicles providing transport services within the region (buses, trucks and rural taxis) and medium distance mobility

Motor transport in rural Burkina Faso is extremely low. 90% of the national fleet operate in and around two cities. Only about 100 motor vehicles serve 1.4 million people. Trucks assist with rural transport of both freight and passengers



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Unlike other countries, little evidence of taxi services based on bicycles or motorcycles but 4-wheel horse buses are run as commercial transport services



Rural markets are extremely important, stimulating huge surges of motorised and non-motorised transport



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Rural markets stimulating huge surges of IMT transport: this market spoke had 750 carts on the market day and 40 on other days



Cycle ways are extremely important, The mental access maps of rural people are not the same as the planners' road maps



Bicycles and motorcycles have been expensive, with local factories protected by high customs tariffs. However Chinese imports have made local production/assembly unprofitable. Prices could fall further if taxes were removed.

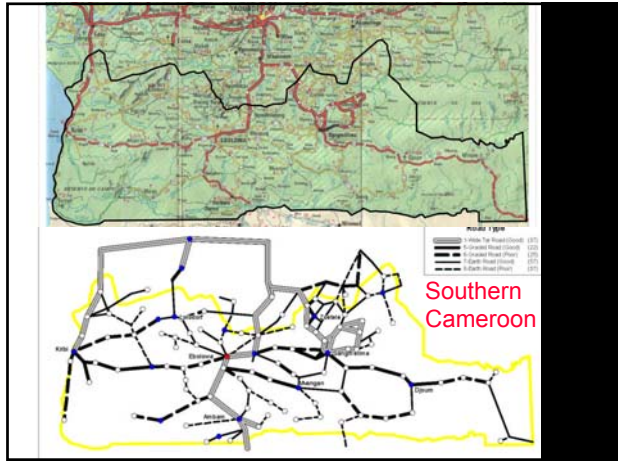


While most IMTs are owned and used by men, many women use IMTs, including bicycles and carts



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Some survey observations from Southern Cameroon



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Regional transport fleet		
Transport type	Numbers ¹ (approx)	Value (approx USD 000s)
Trucks	110	1,100
Buses	75	450
Rural taxis (incl minibuses)	650	1,300
Motorcycles	20,000	14,000
Bicycles	2,000	300

¹ Estimates of motor vehicles providing transport services within the region (buses, trucks and rural taxis) and medium distance mobility



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Settlement pattern mean all villages on some form of road and so everyone very close to some form of bus stop (very high rating for one transport indicator) although services are poor



Cameroon

New transport businesses (private franchises) with separate terminals having positive effect on transport



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High numbers of transport barriers where bribes are considered normal, means that on some routes the bribe cost is similar to fuel cost, significantly increasing transport costs by 30%



Cameroon



Cameroon

Bicycles are very expensive (up to \$200) and difficult to obtain, but villagers say they need them

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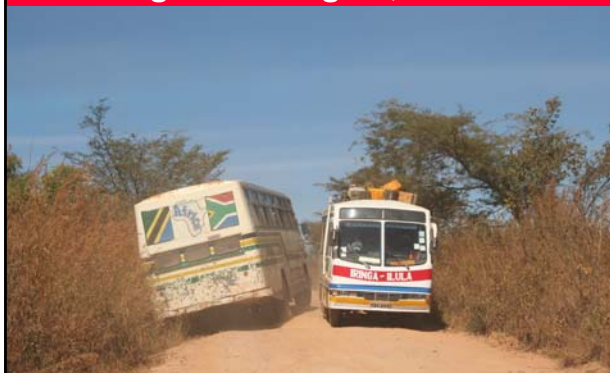
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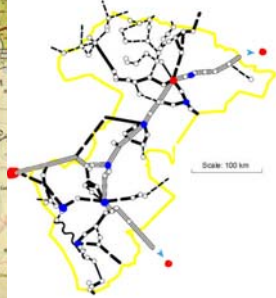
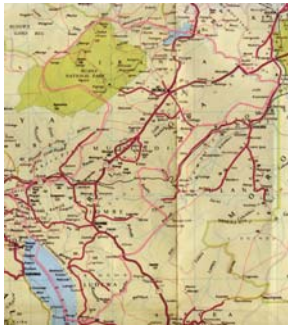
Road infrastructure: Cameroon example

- A gravel feeder road was graded, and provided an alternative route to a regional road.
- Regional transport started using the feeder road due to better condition
- For villages on improved road
 - Transport frequency increased
 - Transport costs decreased
 - Production, marketing, education and health care increased with new transport patterns
- For villages on poor road
 - Transport frequency decreased (but some continued)
 - Too soon to determine economic and social implications

Some survey observations from Iringa and Singida, Tanzania



Iringa, Tanzania



Infrastructure

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Motor transport



IMTs

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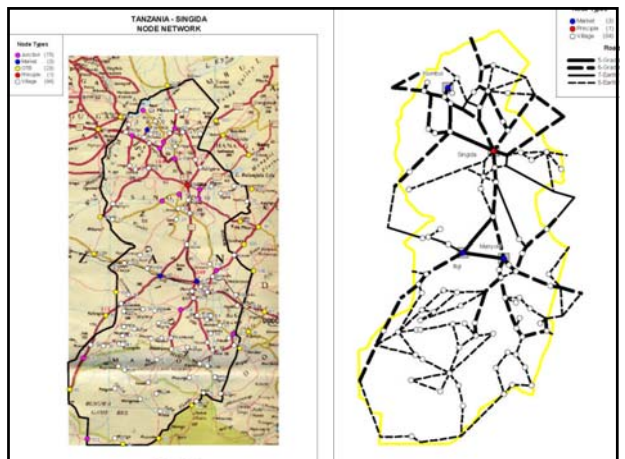
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Regional transport fleet, Iringa, TZ

Transport type	Numbers ¹ (approx)	Value (approx USD 000s)
Trucks	75	900
Buses	26	200
Rural taxis (incl minibuses)	80	250
Motorcycles	250	200
Bicycles	65,000	3,300
Animal-drawn carts	8000	1,600

¹ Estimates of motor vehicles providing transport services within the region (buses, trucks and rural taxis) and medium distance mobility





Infrastructure



Motor transport

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IMTs



Headloading

Transport for blind

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**Animal power small and localised but increasing
Very few motorcycles
Rural bicycle taxi services increasing**



Rural people have invested much money in expensive bicycles. Many more people want to buy bicycles but they are not affordable. Rural people would benefit from cheaper bicycles



There is a system of weekly and monthly rural markets, served by urban-based traders. Sometimes they take day-trips to the markets

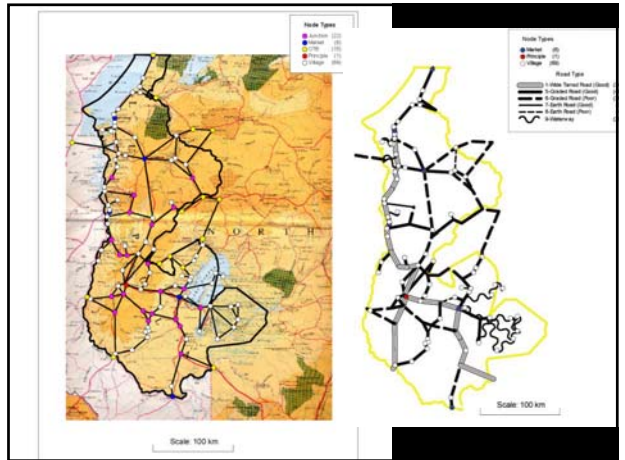


Some of the rural markets are organised in circuits, so traders stay in a different village after each market. This represents a clear HIV/Aids risk that does not seem to be specifically addressed



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Some survey observations from Luapula, Zambia



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IMTs



IMTs

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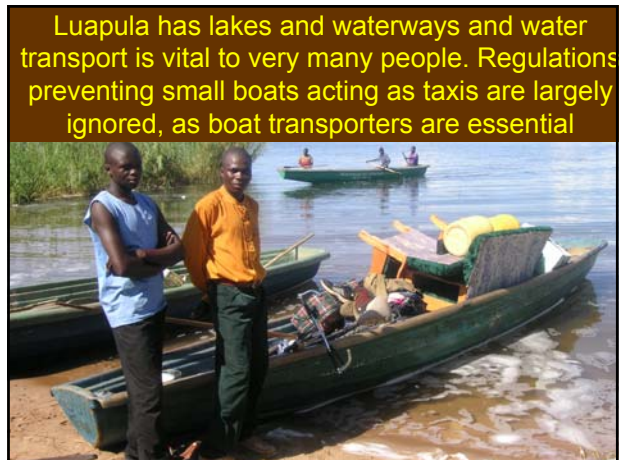
Health care worker visits rural villages by bicycle
Bicycles for health care access

Regional transport fleet, Luapula, ZM		
Transport type	Numbers ¹ (approx)	Value (approx USD 000s)
Trucks	46	600
Buses	12	150
Rural taxis (incl minibuses)	120	900
Motorcycles	20	50
Bicycles	90,000	8,000
Animal-drawn carts	0	0

¹ Estimates of motor vehicles providing transport services within the region (buses, trucks and rural taxis) and medium distance mobility



Roads and electricity are causing spontaneous resettlement close to roads, with villages merging to form strip settlement with safety implications, particularly with uncut grass



Luapula has lakes and waterways and water transport is vital to very many people. Regulations preventing small boats acting as taxis are largely ignored, as boat transporters are essential

Transport provision is linked to fish marketing. 'Fish' spokes have much more transport than 'agricultural' spokes.

Transport decreases and the economy contracts during the two month closed period for fishing



Light trucks carry fish, and also passengers. Fish trucks are more predictable



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Rural taxis are considered expensive and unpredictable. They do not operate on timetables and passengers wait several hours for a full load



Some regional roads have no motorised transport services. Unless a government vehicle passes, the only option is to cycle 70 km to the national road



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Many people regularly cycle long distances. Teachers may cycle 70-200 km to collect salaries. These traders regularly pass through DRC to the Copperbelt (c. 200 km)



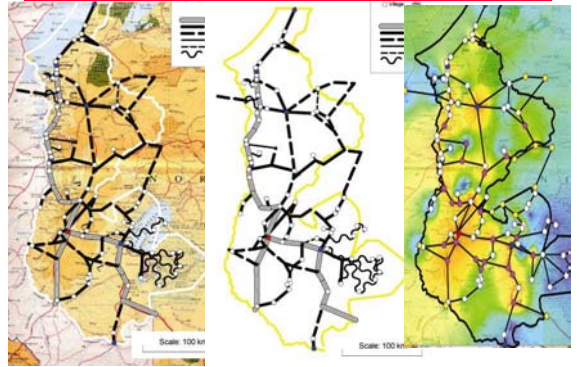
Bicycle taxis operate for distances of up to 120 km



Bicycles are expensive. Brakes are expensive.
Most bicycles have no brakes at all



Modelling hub systems



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Modelling hubs

- Prepare model with nodes and vectors
- Ascribe properties to nodes
eg, type of settlement, population, health characteristics, social and economic factors
- Ascribe properties to vectors
Eg, type of road, average road speed, passability, wiggle factor
- Use model to predict effects of different service interventions, changes to infrastructure, licenses for rural transport operators, etc
Eg, Emergency services can model different locations of ambulance and fire stations. Possible also to predict health effects of different health transport options.
- Identify disadvantaged and underprivileged areas
- Predict likely growth areas

Identifying nodes (settlements and junctions)

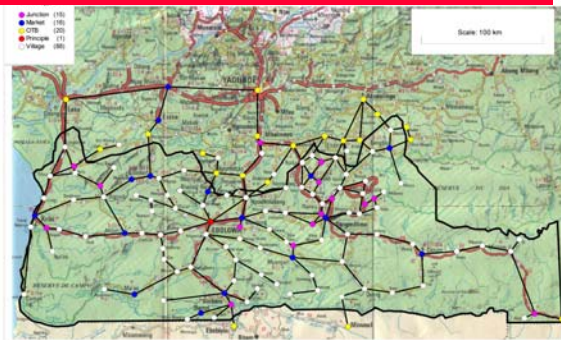


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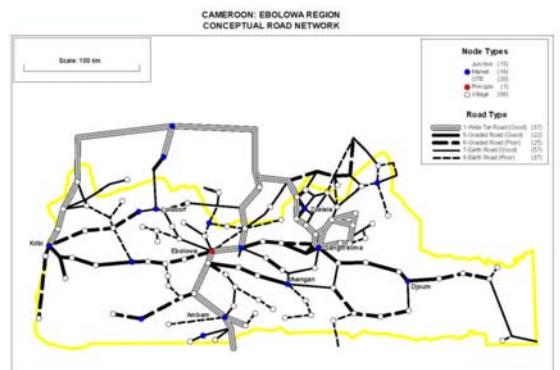
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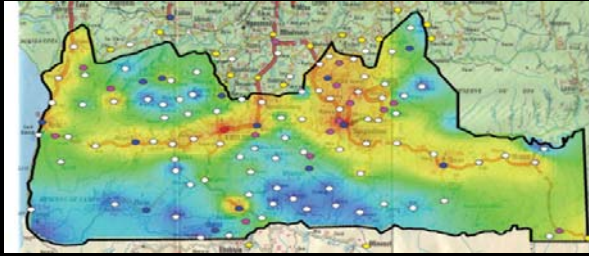
Adding vectors (roads)



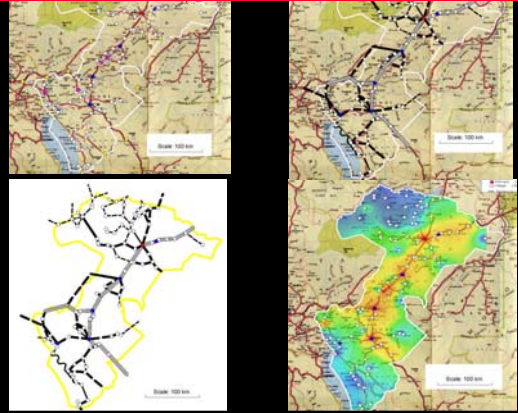
Model of area (nodes plus vectors with properties)



Generated model (accessibility)

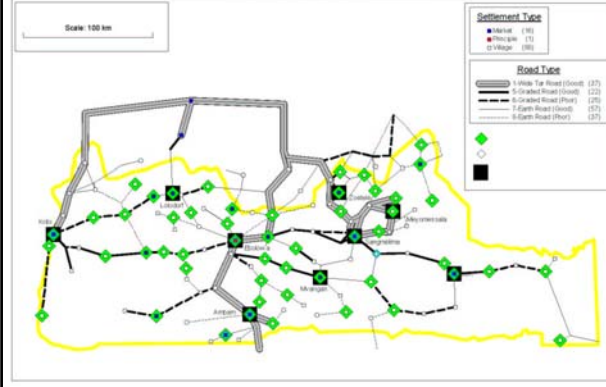


Iringa, Tanzania



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Health services initial model



Transport hubs

- The concept of transport hubs and spokes assists understanding rural transport and optimising transport services
- Hub hierarchy, with four recognisable levels with characteristics
 - > National hub (inter-urban routes & transport corridors not rural transport)
 - > Regional hub, daily motorised transport on main spokes
 - > Market hub (village to market), irregular motor transport, IMTs important
 - > Village hub (homestead to village): walking and carrying
- Using mapping software and GIS technology vector maps can be created
- These allow properties to be ascribed to the nodes (villages, towns) and vectors (roads and tracks) to create computer models
- Need to consider invisible hubs and spokes and user perspectives
- **Recommendation: Use hub concept to help understand and model rural transport services and different interventions**

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Poverty, economic growth and transport



Poverty, economic growth and transport

- Rural transport essential for several millennium development goals (MDGs), including health and education
- Need for transport to participate in national economy
 - > Women and men complained of lack of opportunities
 - > People say it is pointless to produce (grow, harvest, make) if no market access
 - > When transport available, rural people become more productive
 - > Productive rural people buy goods and services and pay taxes
- Transport services must be dependable and affordable
- Intermediate means of transport (IMTs) can be important first step and increasing IMTs can contribute to achieving the millennium development goals (MDGs)
- **Recommendation: Consider improvement in rural transport as prerequisite for achieving MDGs**

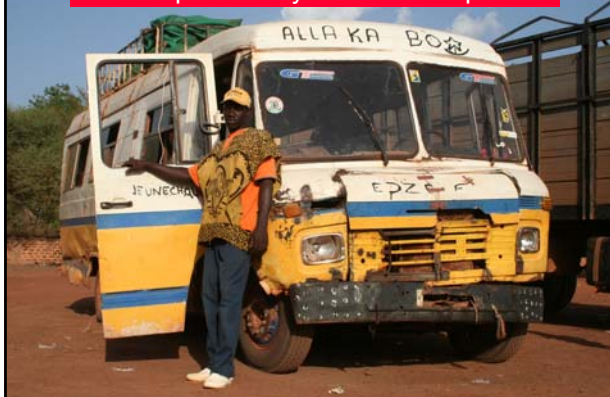
Very low levels of motorised transport

- Motorised transport extremely low on rural roads
 - Eg, Burkina 90% of national fleet operate in/around two cities
- Rural transport often overestimated by considering national, interurban transport

Region	Population	Total regional motor transport fleet ¹
Mouhoun, Burkina Faso	1,400,000	80
Southern, Cameroon	500,000	830
Iringa, Tanzania	1,500,000	180
Luapula Zambia	800,000	180

¹ Estimate of motor vehicles providing transport services: buses, trucks and rural taxis

Low profitability of rural transport



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Low profitability of rural transport

- Motor fleet general very old, often 20-30 years
- Cars, minibuses, buses and trucks often 10+ years old when brought to rural areas
- Vehicles in good condition often reserved for inter-urban transport and good roads
- Capital costs often met from non-transport sources (retail store, pensions, relatives abroad)
- Owner-drivers often cannot replace vehicles
- Rare to find private fleets providing rural transport
- Difficult to obtain accurate figures of running costs (informal sector practices)
- Transport operators feel over-taxed
- Recommendation: Consider what financial incentives can be offered to stimulate investment in rural transport**

Importance of road infrastructure

- All stakeholders considered road quality a limiting factor to rural transport.
- Poor roads lead to
 - long journey times
 - unreliable services
 - higher operating costs
 - higher fares
 - poor access to health, education and other services
 - lower participation in regional and national economy
- Transport operators seldom feel part of process of determining priorities for road rehabilitation
- Recommendation: involve transporters and rural stakeholders in processes of road maintenance and rehabilitation**

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Importance of Intermediate Means of Transport

- More rural people depend on IMTs than motorised transport
- Overall investment in IMTs is greater than large-scale motorised transport

Region	Size of transport fleet Vehicle numbers		Investment in transport fleet USD 000s	
	IMTs	Motorised ¹	IMTs	Motorised ¹
Mouhoun, BF	220,000	80	34,500	1,500
Southern, CM	21,000	850	14,300	5,000
Iringa, TZ	73,000	180	5,000	1,400
Luapula Zambia	80,000	180	8,000	1,700

¹ Large motor transport: buses, trucks and rural taxis

Bicycles are tools for production and livelihoods

- Bicycles are productive and extremely important for livelihoods
- Bicycles often ignored and scorned by authorities
- Bicycles increasing quite rapidly in numbers, uses and importance
 - Medium-distance (20 km) journeys bicycles common
 - Long-distance (80+ km) journeys bicycles not unusual
 - Bicycle taxi services increasing
 - Very long-distance (100+ km) bicycle taxi services exist
- Rural people wish to buy bicycles but expensive
 - Rural bicycles may cost USD 100-200 (Price from China/India c \$25)
 - Often import duties and VAT totalling \$50
 - Vicious circle, high price and low market demand
- Suggest:** overall tax take would rise if bicycles de-taxed, with virtuous circle of more bicycles, creating more economic activity
- Recommend: de-taxation of bicycles and other IMTs**

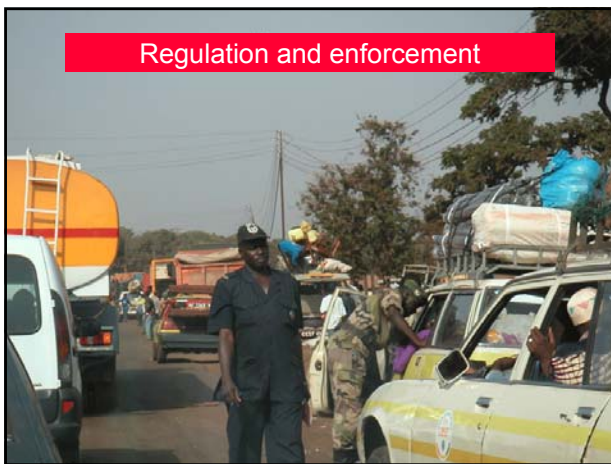


Motorcycles

Increase in rural motorcycles

- Prices of motorcycles are falling due to Chinese imports
 - From c. \$2000 for Japanese to c. \$600 for Chinese
- Major urban use for personal transport and taxis
- Increasing affordable for rural transport
- Cameroon example
 - 'Rich' person buys motorcycle for \$600
 - Hires to young operator for \$4-6 per day
 - Recovers capital in three-to-six months
 - Replaces every six months, selling for half price (\$300)
 - Young operator profits by making 8+ journeys at one dollar
 - Rural people have available transport service
- **Predict:** great increase in rural motorcycles as transport services
- **Recommend:** encourage growth in rural motorcycles

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Regulation and enforcement

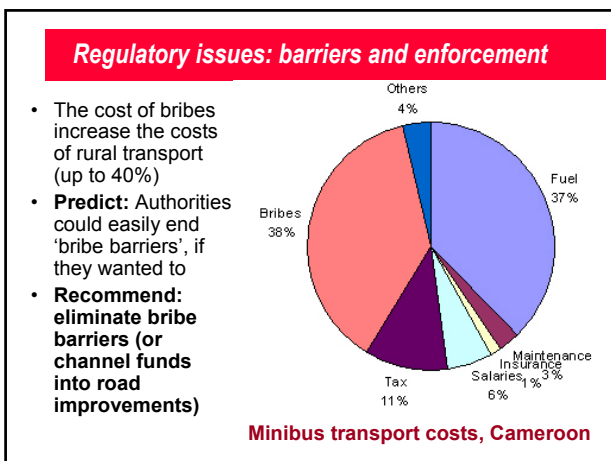
Regulatory issues: barriers and enforcement

- In all countries surveyed, there are control points for mandatory or random questioning
- These may be operated by traffic police, para-militaries, customs, or 'road safety' officials
- Some countries (eg, Cameroon) have multiple barriers, services acting separately
- Barriers are most common on lucrative routes and peak times (market days)
- In most countries, controlling officers accept bribes to allow rapid transit (not apparent in Zambia)
- Standard amounts are often paid routinely, like road tolls (but unlike tolls, bribes do not support road maintenance)
- The barriers generally fail to enforce safety regulations (eg, overloading, inadequate lights)

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Regulatory issues: barriers and enforcement

- The cost of bribes increase the costs of rural transport (up to 40%)
- **Predict:** Authorities could easily end 'bribe barriers', if they wanted to
- **Recommend:** eliminate bribe barriers (or channel funds into road improvements)

Minibus transport costs, Cameroon



Transport associations

Ethiopia

Transport associations

- In many countries there are associations of transport operators (eg, rural taxis, trucks, buses, bicycle taxis)
 - Sometimes considered exclusive, anti-competitive cartels
- Their main role is to control loading and queuing at terminals
- They may agree prices and route allocation between members and/or with authorities and may discuss safety issues
- Some have member support functions (credit, sickness assistance)
- The associations contacted were quite weak and only operated at major hubs
- Survey team saw little evidence of possible negative impact of these transport associations: competition is not eliminated
- Survey team saw one example of positive collaboration with authorities in regulating transport routes
- **Recommendation: transport associations can assist with self-regulation of transport services and close collaboration with regulatory authorities and user-groups should be beneficial**



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Transport firms and franchises

- In Cameroon, Burkina Faso and Tanzania new transport businesses have been established (mainly for inter-urban transport)
- These may operate from private transport terminals with enhanced security and waiting facilities and regular travel timetables
- Agents may be paid to encourage business and consolidate loads
- Competition between transport firms improves standards
- Dividing low demand into two or more separate terminals could increase average 'queuing time for full load' but (surprisingly) this does not seem to be a problem
(growth in transport market? active role of transport consolidators?)
- In Cameroon, some rural transport firms are franchises, with independent vehicle operators taking the name and colours of the franchise, for a percentage of their takings
- **Recommendation: Transport firms and franchises are having a positive impact on transport quality and predictability and should be encouraged**

Timetables and routes



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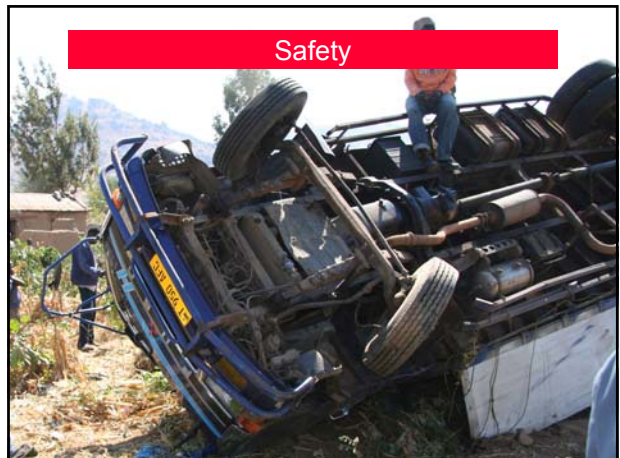
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Regulatory issues: routes and timetables

- All stakeholders prefer dependable and predictable transport
- Waiting for full loads makes travelling unpredictable and reduces demand
- Practice of waiting for full loads can be exacerbated by
 - Mistrust (owner knows driver's income if full load)
 - Low liquidity (operator must profit on every journey, not 'on average')
 - Low transport demand along the road (vicious circle as unpredictable services reduce demand)
- In Tanzania, route regulation for buses includes timetable conditions (this is beneficial for all and should be encouraged)
- In Ethiopia, transport associations work with regulators to assign a rota of routes, so operators have to alternate profitable, high-demand routes with lower demand routes (beneficial for all).
- **Recommendation: Regulate for predictable transport and licenses that combine high-demand and low demand routes**

Safety



Safety

- Safety regulations exist but generally not enforced in rural areas
- Common problems include overloaded freight vehicles (which also damage roads) overcrowded passenger vehicles, mixed freight and passengers, inadequate lights/reflectors, inadequate brakes (particularly bicycles) long grass, inadequate bridges and barriers
- Driver errors often most important (overloading, speeding, drugs/alcohol, inadequate attention)
- Some poor safety related to poverty (few transport options, little money to invest in safe vehicles and practices)
- Greater enforcement of safety regulations could increase prices and diminish rural transport availability
- Where there is little rural transport, freight vehicles can have important role in carrying passengers. Realistic safety regulations allowing some passenger/freight combinations may be appropriate.
- **Recommendation: consider poverty implications before greater enforcement of existing safety regulations**

Participatory transport service planning

- All stakeholders (authorities, operators, users) agree need to improve services
 - Agree infrastructure important (but this long-term issue)
 - Agree what users need is predictable, dependable and affordable service
 - Needs people (authorities, operators, users) to talk about ways of increasing service predictability (timetables) at affordable cost
 - > Agree minimum service requirements (eg, daily, weekly)
 - > Agree potential load, if assured service
 - > Agree reasonable transport prices for this load
 - > Agree mechanisms for assuring acceptable income for transporters eg
 - o agreed minimum seat purchase by community
 - o agreed freight/document transport
 - o agreed routing arrangement – alternating high /low demand routes)
- Recommendation: Test participatory planning of minimum transport services and regulate as necessary**

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Transport for education

- Bicycles can greatly benefit pupils, potentially increasing school attendance by boys and girls and meeting the millennium development goal of universal primary education
- Transport problems reduce attendance at secondary schools, particularly for poorer children who cannot afford boarding arrangements or bicycles
- Rural school bus services are rare or inexistent
- Inadequate transport gives schools problems in recruiting teachers
- Inadequate transport gives teachers problems travelling to school and obtaining salaries (eg, some cycle 80 km)
- **Suggest:** Potential for schools to work together with local suppliers to expand bicycle use with safety training, secure parking and hire-purchase options
- **Recommendation: Support higher bicycle use by pupils**



Transport and health care

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Transport for health services

- In rural areas, emergency ambulance services are rare or inexistent
- People travel for health care in whatever transport is available including buses, rural taxis, private cars, bicycles, animal-drawn carts and local stretchers
- Lack of suitable transport increases medical problems and mortality
- Clinics seldom have suitable transport for hospital referrals and referred patients may travel by public transport
- **Recommendation: Medical services, local communities and transporters (all types) should work together to plan and meet health transport needs, using a wide range of transport types**

Mobile phones



Importance of mobile phones

- Mobile telephones are increasingly important as coverage increases
- Most transport operators use phones to obtain road and traffic information and to report problems and delays
- Transport consolidators use phones link transporters and loads
- The combination of mobile phones and bus-based couriers services is improving the speed of obtaining spare parts, so reducing down times

Importance of freight transport

- Rural freight transport is very important but regional fleets are generally quite small and seldom organised
- Some commodity buyers and retail outlets own trucks to support their trading businesses
- Some truck owners run small transport businesses, responding opportunistically to hire options
- Few rural transporters own many trucks (indicating low profitability)
- Some truck operators ply regular routes, carrying freight and people
- Some passengers prefer trucks as
 - Trucks do not wait hours for passengers
 - Trucks allow passengers to carry larger loads (including bicycles)
 - Trucks often get through in poor conditions
- **Recommendation: Despite understandable safety concerns, the role of trucks to benefit poor rural people through mixed transport should not be ignored**

Paul Starkey (ITC study for SSATP): Methodology for the rapid assessment of rural transport services

Transport services fluctuate greatly

- Periodic markets (eg, weekly, monthly) stimulate extra transport
- Weekly, monthly or annual holidays and festivals stimulate extra transport (eg, weekend effect in Cameroon)
- Harvest times stimulate extra transport (eg, cocoa, coffee, grains)
- Closed seasons reduce transport (eg, fish ban months in Zambia)
- Poor road conditions reduce transport (eg, rainy season)

Transport and HIV/Aids



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HIV/Aids and transport

- Increasing rural transport services and mobility could favour the spread of HIV/Aids
- Regular and predictable transport reduces risk of being stranded overnight
- Situations of high risk (truck stops, transport terminals) should be challenges for awareness campaigns
- The system of traders going from market to market with overnight stops in the villages (eg, Tanzania) represents an HIV/Aids risk that needs to be addressed
- **Recommendation: consider the implications of market systems as well as transport services in spread of HIV/Aids and modify awareness campaigns appropriately**

Gender and transport



Gender and transport

- Women need **predictable** transport services (avoid risk of being stranded)
- Most transport owners and operators of transport services and intermediate means of transport are men
- As ownership of transport devices (cars, IMTs) increase, women increasingly become users and beneficiaries (critical mass, easier access, improved services)
- Bicycles can empower poor rural women through increased mobility and act as 'levers of access' to economic, social and political opportunities
- **Recommendation: improving rural transport services should be treated as important gender-related issue that can empower rural women**

Roles of private sector and governments

- Rural transport services all run and maintained by private sector
- Minimal actual government regulation on the regional, market and village systems of transport hubs and spokes
- Investment in motorised rural transport is low, with few economic incentives
- Investment in intermediate means of transport surprisingly high despite high prices (partly due to tax)
- Where transport services (motorised or IMTs) take off, virtuous circle develops with improved transport services stimulating demand and economic activities
- **Recommendation: Governments should consider financial incentives (linked to regulation) to stimulate rural transport services**

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Conclusions and recommendations

- Methodology worked, based on hub model and participative discussions with wide range of key stakeholders
 - The hub mapping system could be developed as a planning tool
 - Similar surveys could be undertaken in other regions and countries
- Existing rural transport fleets are very small and old
- Poor transport restricts access of rural women, men and children to markets, healthcare, education and economic opportunities
- Rural transport is not very profitable, with vicious circle of low demand, irregular transport and low economic participation
Demand should be consolidated and predictable minimum services assured through combination of participative planning (users, operators, regulators), economic incentives and sensitive regulation
- Intermediate means of transport (IMTs) are extremely important and should be promoted and de-taxed

