

POLICY TOOLKIT FOR INCREASED RURAL MOBILITY

AN OVERVIEW

INTRODUCTION

Until comparatively recently most developing country governments and aid donors believed that building comparatively high standard rural access/feeder roads was the most effective way of addressing rural transport problems. While it is true that better road access may well be critical to improving rural transport, there is now increasing recognition that a much wider perspective should be adopted (see for example "Roads are not enough" by Dawson and Barwell, 1993). In nearly all cases the most effective solution to the rural transport problem will involve a combination of policies and measures which can be designed to address the wide range of constraints that are commonly experienced in rural areas of developing countries.

Rural transport covers a range of transport modes and their associated infrastructure at the village, district and regional level. Within the context of rural transport it is also appropriate to consider alternative "non-transport" solutions which can include both planning the location of important facilities and services, and the role of telecommunications. These solutions may be more cost effective and may have an important impact on rural transport demand.

Figure 1: Typical means of rural transport



RURAL TRANSPORT CONSTRAINTS

In recent years a wide range of rural transport constraints have been identified. The following list provides a summary of the more important issues and constraints.

Accessibility and Mobility:

- The substantial human effort involved in the daily collection of water and firewood
- The particular burden on women in meeting household transport needs
- The difficulty in meeting the farming transport demand including peak times at harvest etc
- Inadequate access (particularly for women) to Intermediate Means of Transport (IMTs) including bicycles and other human transport aids, animal transport, simple motorised methods
- Community isolation from the road network involving long and difficult walks sometimes carrying heavy loads of agricultural produce to market or taking a sick person to hospital
- Poor access to economic facilities such as markets and grinding mills, and to social facilities such as clinics, hospitals, schools, telephones and government offices

Infrastructure Provision:

- Roads and tracks that substantially hinder or prevent vehicle movement (either seasonally or throughout the year) through factors such as deep rutting, soft soils, slippery surfaces, poor water crossings etc
- Inadequate basic road infrastructure including an absence of culverts, bridges or poor road surfaces
- Poor provision and inadequate funding of road maintenance
- Poor planning and provision of road infrastructure including the mal-distribution of resources - often involving the construction of limited network roads to excessively high standards, while substantial parts of the rural population remain many kilometres from basic access

Rural Transport Provision:

- Infrequent (or non-existent), unsafe and high priced local transport services, often arising from the operation of local monopolistic transport unions and cartels
- High vehicle maintenance costs and poor operating practises of motorised vehicles in many (particularly African) developing countries
- High tariffs for transit of small loads
- A lack of complementary investment and facilities to assist with the storage and marketing of agricultural produce
- A lack of investment in water transport including provision of boats, jetties, river and canal widening and maintenance

ASSESSING PRIORITIES

A comprehensive approach is clearly required to develop an appropriate rural transport strategy. Although many studies have been carried out relating to issues identified above, further data is still likely to be required to develop a strategy for each country or region.

A number of approaches may be required in order to identify priorities. Local priorities and perspectives may be obtained from the local population by various participatory rural appraisal techniques (PRA) involving surveys, workshops participatory mapping exercises etc (see **Figure 2**). Consultation with opinion leaders, chiefs, the district administration, transporters and market traders will obviously be important, however the vested interests of those involved should not be ignored. Existing district and regional development plans may be useful tools in identifying transport constraints. In fact there may be an opportunity to include the findings of the work on transport strategy into these development plans.

Figure 2: Participatory Consultation with Women's Group



Decentralisation of decision making is now an important recognised process in many countries. However it should be recognised that for most developing countries local government has been relatively weak. Little resources have been available to attract and maintain professional manpower. Office accommodation, access to vehicles, computers and resources to collect information about the local area are usually very inadequate.

"Livelihoods Analysis" is a useful approach to adopt in order to identify the ways in which any particular measure will benefit the local community (see Carney, 1998). A rural Livelihoods Analysis provides a framework for understanding how any proposed changes will affect the rural population's livelihood in the longer term. It focuses directly on how the local community uses and develops its social, human, financial, natural and physical asset structure. It is evident from the list presented above that transport and communications interact with many aspects and dimensions of a person's or a community's livelihood. Clearly very substantial benefits could be obtained if the labour requirements involved in collecting water, firewood or taking crops to market could be reduced. Similarly if rural transport services can be improved and the transport costs of taking produce to the market of larger urban commercial centre can be reduced, this too could provide substantial benefits. Likewise, mortality rates may be reduced and life expectancy improved if travel time from a remote location to health clinics and hospitals (for emergency treatment), could be reduced.

Where possible, a quantitative analysis of costs and benefits should be undertaken when considering priorities. An analysis of different levels of productivity, manpower utilisation, and costs and tariffs can be very helpful. Comparative analyses of costs and conditions in different countries can provide useful insights on possible benefits and what is practical. Road investment planning models (such as HDM or RTIM) can provide useful insights into the likely vehicle operating cost savings of road improvements. Models can also provide a useful structure for comparing different types of intermediate transport provision (see Crossley 1986 and Ellis and Hine 1995).

To give an indication of the importance of a quantitative assessment it has been calculated that, where the alternative is headloading, to bring road access 5 km closer to a community gives benefits that are over a hundred times greater than upgrading the same length of motorable track up to a full gravel standard road (Hine, Riverson and Kwakye, 1981). In other words, for the same level of demand ensuring basic vehicle access is far more important than improving existing vehicle access.

THE ORGANISATIONAL STRUCTURE OF RURAL TRANSPORT

In taking a comprehensive view of rural transport it is useful to identify the key actors involved. These are as follows:

- Rural households
- Village communities
- District and Regional and National Government
- Road and Highway Authorities
- Road construction and maintenance contractors
- Commercial transport operators and transport unions
- Commercial garages and mechanics
- Small scale market wholesalers and retailers
- Agricultural extension services
- Health and education services
- Large scale farms, agricultural marketing and processing organisations
- The police
- Non governmental organisations (NGOs)

The ability of government to influence and control these actors is, of course variable. Rural roads cannot be supplied by the market and hence governments have traditionally taken a direct role in determining road investment and maintenance activity. There are no automatic feedback mechanisms between costs and benefits in the provision of roads, hence governments must be involved. In contrast, governments have been less involved with the actions of households and commercial transporters, and market wholesalers and retailers. Households can assess directly the costs and benefits of their transport activities at the very local level. The market is the key mechanism that governs commercial vehicle transport operators. Governments may still need to be involved in these other areas particularly when there are important externalities (e.g. road safety and health), economies of scale, new technologies (e.g. use of new forms of IMT), or when the market does not work effectively because of monopolistic practices. Through a variety of policies governments can have a wide variety of influence over all the actors identified.

EXAMPLES OF APPROPRIATE POLICIES

Location of Amenities

As part of their normal life rural households undertake a great deal of short distance transport in the local area collecting water and firewood, visiting farms, visiting friends, carrying produce, taking food to be ground. Walking, headloading, (see **Figure 3**) back packing, and using pack animals and animal carts are the usual means of transport for these short distance movements. The provision of village wells has done a lot to reduce the burden of water collection. Some governments have encouraged and helped to provide nearby woodlots to reduce the burden of collecting firewood.

Figure 3: Husband and wife headloading



Accessibility Planning

The International Labour Organisation (ILO) advocates local level planning in its Integrated Rural Accessibility Planning (IRAP) programme which helps define the access needs of rural households in relation to their basic social and economic service needs. It is a tool that facilitates the development of comprehensive information on the location, condition and use of rural infrastructure and services, priorities, investments and identifies access interventions. IRAP further emphasises the building of local capacity and the use of local resources in the implementation and maintenance of locally initiated projects, including the adoption of appropriate technologies and use of labour intensive methodologies.

In general individuals are very capable of assessing the costs and benefits of different forms of transport, particularly when there are few externalities. Hence it may be argued that there is little need for government intervention in this area. However difficulties may arise if people are completely unfamiliar with the transport form or they may have particular difficulties in raising the necessary finance. Now steps are being taken, particularly in Africa, to encourage the adoption of IMTs to help further reduce the burden of short distance load carrying. Demonstration models, the training of mechanics and small-scale manufacturers and the provision of loan finance are examples of ways of helping to introduce IMTs.

Village communities can assist rural transport through the use of voluntary local labour to construct and maintain paths, tracks and simple bridges and culverts. Communities can be encouraged to take an active role in requesting assistance from governments, donors and NGOs to help provide the larger scale finance and resources that may be required to tackle the larger scale jobs such as the materials for a bridge or culvert. District and Regional Governments have a wide variety of roles in co-ordinating the location and provision of both roads and a wide variety of social services. Obviously the closer schools and clinics are to the rural population, the less is the travel need. The control and provision of markets is also usually under the control of District Government.

Decentralisation and Community Consultation

Decentralisation and the increasing degree of local consultation should also have an effect on the shape and nature of the road network. There is every reason to believe that increasing pressure will be brought to bear to provide basic road access to those communities that are not formally connected to the road network. Such access may be supplied by a policy of spot improvements for a given sum of money. Rather than the full scale upgrading of whole lengths of roads being carried out, selective improvements would instead be undertaken along sections that are most likely to prevent vehicle movement, such as at a water crossing, a low lying area or a slippery hill section.

Road Funds

In order to address the problem of low road maintenance budgets a number of countries have introduced "Roads Boards" that are directly funded from a levy on fuel. The Roads Boards then distribute maintenance funding directly to the roads agencies. Maintenance funds thus become less dependent upon the national budget.

Labour Based Technology

Rural road work provides an ideal opportunity to use labour intensive, or labour based techniques (see **Figure 4**). Many argue that the quality of work undertaken is comparable to work undertaken by machine. In fact a range of technology can be applied to road construction using a variety of combinations of both machines and labour. Tractor based technology is a popular “half-way house” solution that has proved suitable for a number of countries. The appropriate choice of technology will obviously depend upon prevailing labour wage rates.

Labour based and labour intensive construction can provide the additional benefits of providing rural communities with an extra source of cash income. It may also help develop labour skills that could be employed elsewhere and it can provide local communities with a sense of ownership of the road. Hence they may be more encouraged to help maintain the work in the long run. In order to introduce labour based and labour intensive construction or maintenance specific training programmes will usually be required. Training is often organised for engineers, foremen, clerks, labourers and labour contractors. Road maintenance can be undertaken by labour using the lengthman system. Here a labourer is made responsible for the routine maintenance of a given length of road.

Figure 4: Labour Based Road Rehabilitation



Rural Transport Service Provision

One of the most difficult areas for governments to have an impact is in improving rural transport services. There is much evidence that many countries suffer from high cost, infrequent and inadequate services. Four-fold differences in tariff rates have been found between Africa and Asia. Because of the small markets and low density of demand in Africa new vehicle prices are kept artificially high. Through a system of control and queuing and truck and bus parks monopolistic transport unions and informal cartels keep many high cost and inefficient vehicles in business that, in other circumstances would be put out of business. Utilisation rates are low as a result and with the lack of competition poor maintenance and driving practises result which often imply very high vehicle maintenance costs. There is evidence of vehicles queuing for weeks at a time at urban centres while in rural areas people may have to wait for days for transport (Rizet and Hine, 1993).

Possible measures to tackle this problem may include government assistance for bulk purchase of cheaper new vehicles and parts, the training of drivers and mechanics in efficient practices. There are no simple and easy solutions to the controls of transport unions and cartels. Efforts may be made to reduce their control of truck and bus parks and to enforce low tariffs and fares, but there is no guarantee that this would work in the long term. Another solution might be the introduction of a “Public-Private Partnership” arrangement whereby the government agrees to provide low cost vehicles and training, and to buy out surplus capacity in return for regular low cost transport services.

Transport Marketing

Farmers are often at a disadvantage in selling their crops to middlemen, wholesalers and retailers. In many countries food marketing is organised by groups of wholesalers and retailers who operate in a monopolistic fashion. Farmers are often assigned to sell to particular travelling wholesalers. The

wholesalers control their buying prices, thus preventing competition, and the associated long term credit arrangements can make it difficult for farmers to trade with other wholesalers.

One solution to the problem of monopolistic marketing practices is for farmers to sell their own produce at central markets cutting out all intermediaries. However this can be made expensive, because of the time and extra transport journeys involved, and by the pattern of transport charges which can be very high for small loads. Wholesalers gain an advantage through economies of scale; they can negotiate much cheaper rates for their amalgamated loads. Farmers will also encounter difficulties if they try to sell their goods directly at the markets and truck and bus parks when they enter town. District administrations and town authorities ought to be made aware of the problems that farmers face when trying to sell their own produce. Controls can be placed upon the transport tariffs of small loads and likewise provision can be made at convenient locations for farmers to sell their own produce at central markets.

THE MECHANISM OF POLICY FORMULATION

Policy provides a framework that enables the following different things to be considered together, as conceptualised in **Figure 5** (Banjo and Robinson, 1999):

- The traveller and mode of transport
- The infrastructure on which the travel takes place
- The physical, social and political context or environment in which the travel takes place

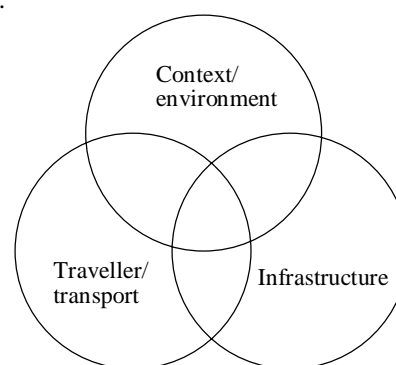


Figure 5: Conceptualisation of Policy Relationships

It is clear that rural transport policy can cover a wide range of institutions and ministries. Although the Ministry of Transport may take a co-ordinating role, the Ministries of Local Government, Agriculture, Economic Planning, Health, Education and other Ministries all play an important role. Similarly separate Highways Agencies and other private institutions also have a part to play.

Rural transport policy should reflect the overall goals of the country. Several countries have expressed these goals in the form of a "Vision Statement", an example is "Vision 2020" that has been prepared for Ghana. Individual Ministries and Agencies may prepare their own Mission Statements that outline in broad terms their overall goals that are consistent with general national goals.

The policy framework for individual institutions should comprise the following:

- A Mission Statement
- Objectives
- Standards

While the Mission Statement reflects the institution's goals (e.g. The Highway Authority "will provide a minimum level of service that is safe for all highway users"), Objectives are far more precise in identifying the result of a defined policy. An example of an objective might be "to reduce the number of road deaths by one quarter over the next five years". Objectives should cover all aspects of the institution's activity, they should be specific, relevant, measurable and achievable. Objectives may be specified in short, medium or long term time scales. While Mission Statements may be addressed to senior policy makers, Objectives are addressed to Professionals.

KEY REFERENCES

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