

THE PROBLEM STATEMENT

2.1 IDENTIFICATION OF THE PROBLEM STATEMENT

Problem: Very often rural transport interventions are undertaken without a full understanding of rural communities transport needs and constraints. There is also little appreciation of the problems faced by the various organisations trying to deliver improved rural access.

Solution: Collection of appropriate data from the village to national level can help to identify transport need as well as the constraints faced in achieving this. Once a problem statement has been produced it is possible to design more appropriate interventions.

BACKGROUND

In developing a rural transport problem statement it is important to take a holistic approach which takes into account the traveller and mode of transport, the infrastructure (whether path, track or road), and the institutional and policy environment. All will have an impact on how well user needs are met. To understand the needs and constraints of the different actors a variety of surveys can be undertaken as described in **Table 1**. In the appendices of this toolkit sample questionnaires and checklists are given as examples.

The traveller and transport mode

To begin with it is important to get an understanding of existing travel patterns. Who is travelling (socio-economic characteristics), how often and for what purpose? What modes do travellers use (including walking) for different trips, and what factors influence mode choice (fares, availability, etc.). It is also important to understand the role transport plays in the community and individual's life, and how does (inadequate) transport impact on their livelihoods? What sorts of enhancement to the transport system would the community want and what benefits would the community see in a more developed transport system?

In terms of transport service provision, what services exist (vehicle types and capacities, origins and destinations) and their characteristics (frequency, waiting times, journey times, fare levels, regularity, etc.)? What is the current usage in terms of numbers of people and trip distances? How are transport services organised (institutions, associations, ownership etc.) and how does this impact on the service offered (fare setting, route allocations, frequency, safety, etc)

Infrastructure

Most rural communities complain that poor infrastructure is their biggest constraint but what exists in terms of paths, tracks, roads and bridges and in what condition? Is there seasonal access problems and if so over what proportion of the network? Given current usage levels and vehicle types where is investment going to be most useful and crucially, how much will it cost? Are current investments being prioritised correctly and are standards appropriate to the quantity and type of traffic?

The institutional and policy environment

Given the current state of mobility and accessibility in rural areas an assessment has to be made of the institutional capacity to implement improved rural transport systems. It is also important to understand the over-riding objectives (if any) that these institutions are working to. Assessments are required of planning capabilities and the availability of existing data, sources of funding, the extent to which funds are sufficient and how these funds are allocated. The extent to which inter agency co-ordination is carried out, legal frameworks and their policies on social and environmental safeguards.

REFERENCES

Fouracre, P. (2001). Rural transport surveys techniques. The Rural Transport Knowledge Base. Crowthorne, TRL Ltd. www.transport-links.org/knowledgebase.htm

Table 1: Main categories of survey instrument

Sector	Survey	Purpose/Potential Output	Indicator/ Comments
Rural Transport Infrastructure	Traffic counts	To establish traffic levels hourly, daily and seasonal distributions and composition on the local road network. Hence to identify or confirm traffic congestion.	Measured as an estimate of Average Annual Daily Traffic (AADT). There can be extreme variation in daily counts on low-trafficked roads, as well as seasonal variation..
	Infrastructure condition, inventory, speed and axle load surveys	To establish the state of repair of the local network, and the need for remedial works. An inventory of rural transport infrastructure. To establish speed of traffic and to establish degree of overloading and design characteristics.	Maintenance management systems are increasingly being used to keep track of the state of the road network. For local feeder roads this may be less practical, because of the isolation, difficulty in measurement and hence cost.
	Safety statistics and audits	To establish the location and nature of road safety hazards.	Accident rates and trends.
The traveller and transport mode	Operator/ driver surveys	To establish a variety of data: route structures; operating practices; fare structures or freight charges; vehicles in use and their characteristics; vehicle utilisation and costs; the nature of regulatory and institutional issues; prospects	Contributes to an assessment of passenger/freight service to the local community. The driver and operator may be one and the same in many cases. Where they are different, the driver may give a very different perspective to that of the operator.
	Passenger loading surveys	To determine the productivity of a passenger vehicle, but this survey can also be used to measure vehicle speeds and average passenger journey distance.	Indicators of vehicle productivity, and possible identification of scope for improving output.
	Passenger waiting time surveys	To measure the level of service (frequency of service and waiting times).	A performance indicator of the transport service on offer.
	Passenger interviews	To measure journey distances and times, fares paid, satisfaction, preferences.	Contributes to measurement of the performance of transport service, as perceived by user.
	Shipper interviews	To measure journey distances and times for consignments, tariffs, satisfaction, preferences.	Contributes to measurement of the performance of transport service, as perceived by the user.
	Origin-destination surveys	To identify current travel patterns of a population. Travel movements and variations are identified between pre-defined origins and destinations.	Often carried out at the household level, in association with a household survey. They should capture all trips, but non-motorised trips have often been ignored.
	Stated Preference and Revealed Preference Surveys	To try to establish (in advance) how respondents might respond to proposed transport changes/or to monitor how respondents did respond to a transport change (and hence to use that as an indicator for future potential changes).	Both techniques are well formalised, and proprietary software is available for analysis of responses. A by-product of the analysis is an estimate of time-values.
	Household Surveys	To establish travel patterns and their relationship with household characteristics, as a means for modelling future transport demand.	Household surveys can be extremely expensive.
	Village Leadership Discussion	In all participatory surveys, the aim is to understand the context and the problems as perceived by local people, (i.e. the stakeholders) and also to get them involved in developing solutions	Developing sustainable livelihoods, and understanding cross-sectoral links, requires a participatory approach.
	Participatory Poverty Assessments		
Rapid Rural Appraisal			
Participatory Rural Appraisal			
The institutional and policy environment	Planning surveys	The aim is to understand the institutional, political and socio-economic context within which planning take place. What are the planning time horizons, information and data sources, human resources and relationships to the policy framework	There is often a problem that planning techniques are not consistent between agencies. For example, some are engineering based and some are economic based.
	Funding surveys	What are the sources of funds, to what extent is private finance available, local financing, funds allocation procedures and the budgetary process.	There is an increasing need to find new and innovative funding mechanisms for rural transport provision.
	Institutional surveys	What is the organisation of the institutions governing rural transport, how decentralised is it, how good is inter-agency co-operation.	It is important that control over rural transport is as decentralised as possible.