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Addressing Poverty Issues in Transport Sector Operations

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Transport is often viewed as having only an indirect role in poverty reduction. This note highlights opportunities for transport to directly help the poor, and suggests practical ways to address poverty issues in transport sector operations.

INTRODUCTION

Broadly based economic growth contributes to poverty reduction in two major ways: generating income-earning opportunities for the poor and increasing government capacity for income redistribution. Transport is a central factor for economic growth: it provides physical access to resources and markets; it expands trade, economies of scale, and specialization; it lowers costs and prices; it widens product choices and enhances opportunities; and it increases international competitiveness. By facilitating economic growth, transport contributes to poverty reduction.

Yet, this is not the only mechanism for transport to help the poor, and it should not be taken as a reason to set aside any poverty considerations in transport sector operations. The scope for transport to play a *direct* proactive role in assisting the poor is substantial. Many opportunities exist where the transport needs of the poor can be best addressed through direct targeting. Most poverty-targeted interventions (e.g. nutrition, health care, and education programs) depend on transport as a crucial *complementary* input for their effective delivery. In the case of growth-oriented transport projects, various poverty issues (including possible adverse impact on the poor) may arise and should be explicitly addressed. The purpose of this note is to highlight opportunities for transport to directly help the poor, and suggest practical ways to improve treatment of poverty issues in transport sector operations.

DIRECT ASSISTANCE TO MEET THE TRANSPORT NEED OF THE POOR

Lack of basic transport service is almost always associated with poverty. In many parts of the developing world, rural villages suffer from isolation during the wet season when their access roads become impassable. For the same reason, children are not able to attend school regularly. In urban areas, the poor often have to commute long distances on foot because their neighborhoods are not served by affordable transport services. Both in rural and urban areas, many poor people endure the daily hardship of carrying heavy loads on backs or heads. Unmet basic transport needs impose substantial burdens on the poor. They also point to valuable opportunities for transport interventions to target the needs of the poor.

Improving Rural Access Roads

The scope for using direct transport interventions to assist the poor is likely to be the *greatest* in poor rural areas. Targeting can be reasonably effective in these areas because the rural poor are a relatively homogenous group. As physical access from villages to markets and social services is an essential component in the quality of life for rural population, the provision of basic, all-season motorable access roads and the improvement of both motorized and non-motorized transport services should be considered as a direct instrument for rural poverty alleviation. Whenever possible, improvement in physical access should be integrated with other rural interventions such as schools, health clinics, and agricultural extension programs. Cross-sector integration is expected to be better implemented under the World Bank's new Comprehensive Development Framework, which places greater emphasis on cross-sectoral development strategies.

Removing Barriers to Affordable Urban Public Transport Services

Direct interventions designed to meet the transport needs of the urban poor are often more difficult to implement and less effective than those targeted to assist the rural poor. Urban population is heterogeneous, and the benefits of targeted interventions may be vulnerable to capture by the non-poor. Many urban poor rely on public transport. For various reasons, however, it is not uncommon that available services are not affordable for the poor and affordable services are not available. Under such a situation, many governments use fare control, fare subsidies and operator subsidies as direct instruments to assist poor users. However, most of these programs have proven financially unsustainable and ineffective. At the controlled fares, service providers often become unable to maintain service standards, and are forced to discontinue services that would otherwise be available to the poor. The bulk of fare subsidies is often captured by non-poor users. Operator subsidies often weaken operators' incentive for cost control, and as a result bulk of operator subsidies translates into inflated transit operating costs. Alternatives to fare control and subsidies should be explored. In many cases, unconventional modes operated by the informal sector (e. g. pedicab and minibus) can provide affordable services to the poor, but their entry to the market is prohibited by regulations on entry and service standards. Reforming urban public transport regulations to reduce barriers to the supply of informal transport services is likely to be a more effective and sustainable way to help the urban poor.

Promoting Efficient Labor-Based Methods in Road Work

A range of production methods, with varying labor-capital combinations, are available for road work covering construction, rehabilitation, paving and maintenance. The relative economic efficiency of these methods depends on the relative prices and productivity of inputs, especially the relative costs of labor and

capital. Although some tasks cannot be done adequately by hand, for many other tasks labor-based methods can be cheaper and more reliable than equipment-intensive methods. More importantly, the use of efficient labor-based methods can generate income-earning opportunities for the poor. According to the findings from comparative studies carried out in Ghana, Lesotho, Madagascar, Rwanda, Zimbabwe, Cambodia, Laos, and Thailand, labor-based methods were in financial terms about 10% - 30% less costly than the more equipment intensive methods. Potential savings can be greater in economic terms, taking into account the shadow prices of labor and foreign exchange. Whenever economically warranted, labor-based methods for road work should be promoted as one important means of supplementing rural employment in developing countries.

Protecting Non-Motorized Transport

Many forms of NMT are heavily used by the poor both in urban and rural areas. However, NMT is often made unsafe and less efficient by growing motorization. Projects that protect NMT (e.g. physical separation of NMT traffic from motor vehicle traffic) usually benefit the poor directly. In rural areas, NMT is a viable mode of transport for productive activities, but acquiring NMT vehicles can be prohibitively expensive for the poorest population. Micro-credit schemes can be one way to enable poor households to purchase NMT vehicles.

Meeting the Transport Needs of Women

In many low-income countries, particularly in Africa, women have a major role in carrying fuel, water, and produce, often by head portage. By reducing their transport burdens, transport interventions can help women expand their income-earning activities, with a long term benefit in gender equity. A key to the success is to identify specific transport needs of women and devise cost-effective interventions. In Ghana, rural women carried produce from farm to market mainly by head-loading. Realizing that the use of intermediate modes of transport could help reduce transport time and wastage, a Bank project (First Transport Rehabilitation Project, 1990), financed a pilot program that successfully introduced bicycles and bicycle trailers to the rural population, and women in particular, as attractive alternatives to head-loading.

TREATMENT OF POVERTY ISSUES IN TRANSPORT SECTOR OPERATIONS

The treatment of poverty issues in the Bank's transport sector operations, though improving, has remained quite limited. Efforts should be increased to account for, and where possible to improve, the poverty reduction impact of transport projects. Areas for further improvements are noted below. In most cases, the actions required are modest and their cost-effectiveness is very high.

Identifying Transport/Poverty Profile

A transport/poverty profile (TPP) includes a set of practical indicators that reflect the income distribution of the population directly affected by a project, and the quality, quantity, and prices of transport infrastructure and services available to them. In urban areas, commuting costs (including time cost and out-of-pocket cost) are endogenous of both job and residential locations. Long commuting is often a result of trade-off for less expensive housing. Therefore, urban TPP should include information on *both* commuting and housing costs. Identifying the TPP is crucial for understanding the transport needs of the poor and for

sharpening project objectives and components. Even a simple accounting of the TPP at the stage of project identification can be very helpful for the treatment of transport-related poverty issues in subsequent stages of the project cycle. Two Bank financed highway projects in China (Second Henan Provincial Highway Project, 1996; and Second Shaanxi Provincial Highway Project, 1996) included a poverty-focused component that aimed to provide all-season road access to poor counties, townships, and villages. A set of poverty profile indicators were used to identify "priority counties" for road improvements. These indicators included average income per capita, number of the "very poor" per thousand population, value of agriculture production, literacy rate, health workers per thousand population, and access to clean drinking water.

Understanding Market Structure

The market structure of transport services, including any associated regulatory regime, is important for assessing the distribution or final incidence of benefits from transport investment projects. In a transport market with a low degree of effective competition or contestability, up to the order of one-half of the benefits of transport infrastructure improvement may be captured by the service providers. In some cases, transport interventions that ostensibly aim to directly help the poor may interfere with the efficient functioning of markets and may even be counter-productive. As mentioned earlier, government regulations, such as entry barriers for the informal sector and imposition of inappropriately high and costly service standards, may seriously remove viable opportunities for the provision and use of affordable services by the poor.

Applying Caution When Using Economic Criteria

Economic criteria such as net present value and economic rate of return are widely used, through cost-benefit analysis, to guide project design and selection. In cost-benefit analysis, project benefits are typically measured by monetary willingness-to-pay (WTP) as revealed through the market system. This approach can conflict with social equity and poverty reduction objectives. For example, project design that aims to maximize net economic benefits tends to favor higher-income groups who express higher WTP, and thus overlook the transport needs of the poor. Commercialization in the transport sector may lead to labor redundancy, increased fares and reduced affordability, which impact most severely on the poor. While at the macro level economic and financial sustainability underpins poverty reduction, at the project level, poverty-focused components (e.g. sidewalks, bicycle facilities, basic rural access) should be considered separately from components designed to maximize net economic benefits, and treated as part of a socially *balanced* transport system. Poverty components should still be concerned with economic efficiency by focusing on the least-cost options to achieve the poverty reduction objective.

Improving Economic Analysis Methods

Conventional cost-benefit analysis for roads is not suitable for evaluating very low volume (say, under 50 AADT) rural roads and the benefits to NMT users (including pedestrians) of improving all-season passability. In these contexts, alternative appraisal methods such as cost-effectiveness analysis should be used to guide project selection and to estimate or highlight the social benefits to the poor (e.g. number of poor population benefited with basic access per dollar of expenditure). Improving the cost-benefit analysis methodologies is also possible. In rural Bangladesh, for example, passenger ricksha and ricksha van

services operate in a highly competitive market, with fare levels reflecting the actual time and energy inputs of the pullers and other costs as affected by different road roughness conditions. A Bank project (Bangladesh: Second Rural Roads and Market Improvement and Maintenance Project, 1996) estimated vehicle operating cost savings for these NMT services based on the actual competitive market fare differentials observed under different road conditions. The example illustrates that short-cut approaches to conventional cost-benefit analysis can be established by carefully observing travel market behavior.

Adopting Participatory Process

In most developing countries, mechanisms for the poor to voice their needs are typically weak at the local level, and the poor have relatively little political power to influence decision making. As a result, decisions on transport investment and policy can easily overlook the transport needs of, and costs imposed on, the poor. Experience demonstrates that broadly based participation by affected groups in decision making can help improve the development impact of projects on the poor. Empowerment of local communities, especially in poor rural areas— through consultation, participation and local ownership— is also crucial for the social and financial sustainability of transport projects. A Bank project in Peru (Rural Roads Rehabilitation and Maintenance Project, 1995), which is targeting poor rural areas, helps empower local communities by giving them the lead role in the selection of road subprojects, and by establishing local "micro enterprises" for road maintenance.

Establishing Poverty Impact Indicators

Impact indicators measure the consequences of the project for the welfare of affected groups, relative to what is expected to happen in the absence of the project. While rigorous empirical methods are desirable for measuring poverty impact, the use of a small set of impact indicators can be effective and adequate in most cases. Where appropriate, poverty impact indicators should be included in the indicators system developed to measure and monitor project performance. The selection of impact indicators will differ among projects. In general, the indicators should provide information relating to travel time and cost for different trip purposes by different modes. For rural access road projects, poverty impact indicators may include population in census-designated villages with all-season motorable access to the main road network, average travel time to market by affordable modes, and days of impassability over a period of one year. Where possible, it is more desirable to assess project *outcomes* on cash crops produced, rural income, labor participation, school attendance, teacher availability, and the usage of health clinics.

RECOMMENDATIONS FOR BANK OPERATIONS

1. Transport sector operations should consider the nature of distribution of project benefits and the opportunities for direct poverty reduction. Where appropriate, components should be included that address the basic transport needs of the poor.
2. The treatment of poverty issues should be made explicit and developed in consultation with client governments. Where possible, poverty groups affected should be explicitly identified, and project impacts on the poor should be assessed and monitored, typically with the use of a small set of outcome indicators.
3. Transport project design should minimize or compensate for any adverse impacts on the poor.

4. In transport project economic evaluation, poverty components should be considered separately from components designed to maximize net economic benefits. Economic appraisal of poverty components should focus on the least-cost achievement of social equity and poverty reduction objectives, but be tailored to the size and importance of the components.

5. Project preparation should make it possible, preferably through explicit local participatory process, for the poor to voice their transport needs and to fully participate in project design, assessment, and decision making, and for local communities to assume project ownership.

TO LEARN MORE

Colin A. Gannon and Zhi Liu (1997). Poverty and Transport. Discussion Papers TWU-30, Transportation, Water and Urban Development Department, World Bank.

World Bank (1996). Sustainable Transport: Priorities for Policy Reform. World Bank Development in Practice Series.

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