

# Influence of rural roads on rural mobility and transport

For a long time, road infrastructure has been the major bottleneck in Ethiopia on doing business especially in rural areas due mainly to the mountainous topography in many parts of the country.

Recognizing the challenges the sector pose for the economy as a whole, recently the government of Ethiopia has shown greater commitment for road sector development by formulating the Comprehensive Road Sector Development Program (RSDP) in 1997. Since then, the RSDP has been implemented in four separate phases, and as part of the fourth RSDP, a Universal Rural Roads Access Program (URRAP) envisaged to connect rural kebeles by standard rural roads has been set out and implemented.

Better roads, however, are not sufficient but necessary conditions to benefit the poor. The ability of the poor to make significant economic use of a road depends on their asset base, the entitlements to resources and opportunities that they can command, and location from road.

## Rural mobility and transport

A transport system responsive to needs is recognized as a major prerequisite for the social and economic development of rural areas. The form and content of rural mobility and transport depend on both public and private investment to provide transport modal choice. Public money may help to subsidize rural bus and /or trucking services.

Alternatively these may be entirely dependent on private capital investment of local entrepreneurs in which case the population density and purchasing power of the area will have had to reach a certain level for such bus services to appear. But in the absence of these two, the transport modal choice is limited and the rural people adhere to walking. In Tigray, the rural transport system are, in general, in a very poor state that accessibility in rural areas is very low and fluctuates with the seasons.

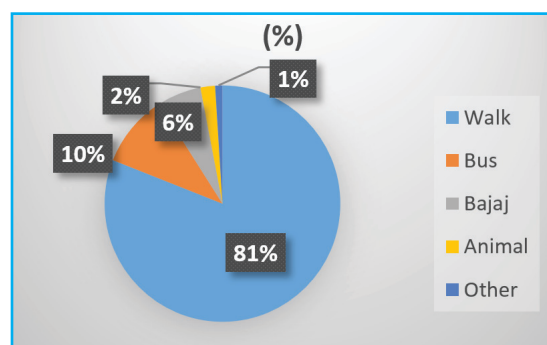


Fig. 1. Trip by mode of transport

The figure above shows trips by mode of transportation. It reveals an overwhelmingly rural ‘walking world’ with walking constituting well over 80% of all trips. Following walking, the next mode of transport is bus.

An important recent development is the use of a three wheel drive locally called ‘bajaj’ as an affordable mode of transport. Buses and cars could be expensive or too big to serve remote rural communities. Bajaj’s are filling the gap. They started to serve as an affordable means of transport for people and goods from villages to the main road.



Fig. 2. Bajaj transporting people from the tabia center of Wereabaye to the main road

### Trip purpose

Trips in rural areas are often made for economic activities, social services, social activities and community association, the dominant form being for social services mainly travel for education and health, followed by economic activities.

Travel for education overwhelmingly dominates travel for social services, which reflects national educational policy and occupational expectations. Over the past one and half decade, the Ethiopian government has placed great emphasis on primary school

education and is aiming at providing primary school in rural areas.

Moreover, local people in rural Ethiopia appreciate the importance of rural roads to have access to ambulance service for emergency purpose. In some cases, a sick person needs be transported by motor vehicle or carried long distances on a stretcher by people walking. Therefore, access to health services through an ambulance is a priority in rural areas.

Economic activities is the second most important purpose of travel. Market travel, agricultural travel and travel for employment are the three major economic travels respectively in terms of travel distance per capita in km.

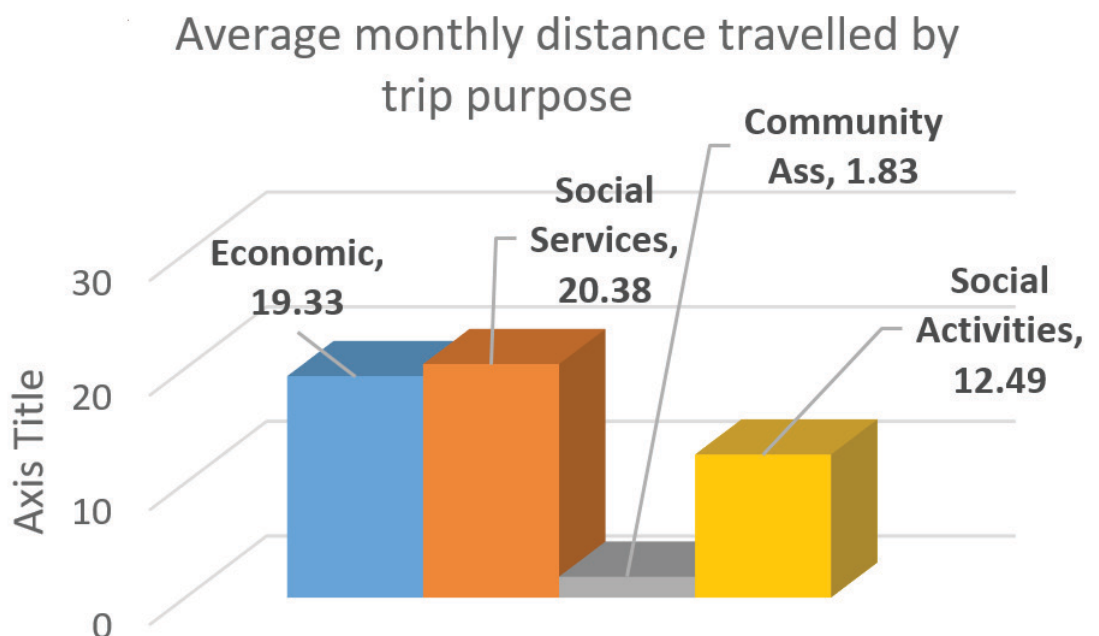


Fig. 4. Average monthly distance travelled by trip purpose

## Market access and distance to road

Infrastructure investments especially rural road development enhances access to market for agricultural inputs such as fertilizers and improved seeds and enables the farmers to sell their produce to nearby markets through a reduction in transportation fare and time.

In developing countries like Ethiopia, transport cost constitutes more than half of the marketing costs. In a survey conducted to analyse effects of rural roads on marketing of agricultural products, more than three fourth of respondents revealed an increase in marketing of agricultural products after road construction. About a third of these respondents further indicated that the rise in sales is attributable fully to road construction.

Construction of rural roads also influence access to agricultural inputs. Significant differences have been observed on use of fertilizer by farmers located close to the road compared to farmers located far from the road. Households located close to the road (up to 300 meters on both sides of the rural road) apply on average more than two and half times more fertilizer per timad than households located more than 1.5 km from the road.

Such a difference may not be fully attributable to distance from road. Other factors contribute to differences in fertilizer application by farmers. In a counterfactual of fertilizer application in absence of the road, about a quarter of the farmers said they would not have purchased fertilizers if roads were not constructed. In a similar way, about a third said they would have purchased less than they had purchased.

## Commercial activities and distance to road

Although agriculture is the dominant means for supporting the livelihood of rural communities, with expansion of infrastructure and rural towns, it is expected that non-farm activities especially small business activities play a role in diversifying income sources and supporting the lives of rural households.

Trade is the most common type of commercial activity in the rural areas. Trading of live animals, grain and other agricultural products constitutes close to 36% of the commercial activities in the rural areas, followed by small shops which constitute close to a third of the business activities. The third dominant form of business activity is selling local drinks. The remaining commercial activities – selling food, tea and coffee; and hair dressing constitute only 8% and 4% of the business activities respectively.

The existence of these business activities are closely related to existence of the road. In fact, majority of the business activities (77%) were either newly opened or reopened after construction of the road. Furthermore, most of the newly opened or reopened business activities are concentrated in areas close to the road. The number of newly opened and reopened businesses in the areas closer to road is almost three times that of the newly opened and reopened businesses in the areas far from the road.

## Summary and policy implications

The expansion of rural roads is benefiting the rural communities directly and indirectly. Roads enhance mobility, expand non-farm activities and increase access to agricultural output and input markets. But what is abundantly clear is that when roads enhance mobility they do so in association with wheeled or motorized transport easing people's movements and making them faster and capable of achieving longer distance. This can have influence on the socio economic development when the time saved and distances bridged provide either greater economic opportunities or better access to social services or useful social contacts.

Motorized transport is correlated with wealth indicating that road improvement alone may not enhance the mobility of the rural poor. The poor require better access to wheeled or motorized transport to utilize a road. Hence, there is a need for developing appropriate Intermediate Means of Transport (IMT), adapted to the needs of the rural population. The rural travel is usually done with goods. The IMT, therefore, should be dual purposed to carry both goods and passengers.

The following are recommended for expansion of IMTs:

1) Availability and supply: the potential demand for IMT's is extensive, but due to failure of a market mechanism, this frequently does not translate into an effective supply.

Improving supply normally stimulates demand and leads to more rapid adoption. This includes identifying and working on appropriate transport means.

2) Limiting factors: in many cases the limiting factors are linked to a low purchasing power particularly users. An appropriate credit system, income-generating schemes or possibly subsidies may be used as incentives to IMT suppliers. Funding may encourage people to invest in IMTs as potential income earners and a well-designed and implemented credit scheme may allow users to successfully maintain IMTs, making it a sustainable program.

3) Gender sensitive approaches: IMT promotion must include a gender-sensitive approach, taking into account the needs, priorities and impacts of women and other vulnerable groups.

4) Regulatory framework: appropriate regulatory framework based on a thorough review of transport policies and planning mechanisms may serve as another incentive for IMT promotion. In order to develop a local IMT market, governments not only need to show more commitment but also a closer cooperation is required between government and stakeholders from central, private and civil society.



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