Improving accessibility for people with disabilities in urban areas

Améliorer l'accésibilité du milieu urbain aux personnes handicapées

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ABSTRACT: Improving access and mobility of people with disabilities is crucial to alleviating poverty. A three year research programme has commenced in South Africa, India, Malawi, Mozambique and Mexico to assess the access needs of people with various disabilities. This paper describes the status quo in the countries studied, and begins to identify best practices that countries throughout the developing world may wish to pursue. The output of the research will be a set of guidelines for reducing mobility barriers in urban areas of the developing world.

RÉSUMÉ: Améliorer l'accésibilité et mobilité des personnes handicapées est nécéssaire à la réduction de la pauvrété. Pour évaluer les besoins de l'accésibilité des personnes de divers handicaps, un project de trois ans, a été commencé en Afrique du Sud, en Inde, en Malawi, au Mozambique et au Méxique . Cet article decrit le status quo dans ces pays étudiés et commence à identifier les meilleures pratiques que les pays du tiers monde puissent adopter. Les résultats de la recherche serront présentés sous forme de directives pour réduire les obstacles de mobilité dans le milieu urbain de tiers monde.

1 INTRODUCTION

Throughout the developing world disabled people suffer a high incidence of poverty caused and perpetuated by a lack of access to socio-economic opportunities. Attempts to alleviate poverty by improving mobility tend to focus on the majority of travellers, thus ignoring those with special needs such as mobility, sensory and cognitive impairments.

International awareness of the causes and consequences of disability is growing. Donors and governments are increasingly making funds available to target the mobility needs of disabled travellers. Yet no well developed body of knowledge exists to guide the development and implementation of accessibility solutions in developing countries so countries tend to pursue and implement measures that may not be appropriate, or cost effective given the fact that resources are severely constrained.

The UK's Department for International Development is presently funding a research programme in South Africa, India, Malawi, Mozambique and Mexico to assess the access needs of people with various disabilities. The research team has identified problems and practices in the case study countries, as well as best practices being implemented in Europe, Latin America, and Southern Africa. This body of knowledge will then be compiled into guidelines for reducing mobility barriers in urban areas and disseminated widely. Demonstration projects will then be implemented and monitored to evaluate the methodology.

This paper briefly describes the status quo in the sample of countries being studied, and begins to identify best practices that countries throughout the developing world may wish to pursue.

2 BACKGROUND

The United Nations' *Standard Rules on the Equalization of Opportunities for Persons with Disabilities*, adopted in 1994, provide an international framework within which advocates and legislators can address disability issues. Lending institutions such as the Inter-American Development Bank (IDB) and the World Bank are making significant progress towards inclusion of disability issues in their transport policies and projects. This trend is mirrored by donor agencies such as Britain's DFID and Sweden's SIDA (DFID, 2000).

Within the developing world, the provision of services for disabled people is still largely seen as a welfare function of the state and of civil society. The human rights approach to disability, in terms of which every citizen has the right to be included in social and economic opportunities, is slowly gaining acceptance – although much less so than in the developed world. Some developing countries – particularly in Latin America and Asia – have applied this approach to transport, taking some significant first steps towards improving the mobility and access of people with disabilities.

3 THE TARGET POPULATION

Estimates of the number of disabled people vary widely on a country-by-country basis (Table 1). Estimates based on census data seem to be plagued by underreporting. As a guideline, the United Nations estimates that between 6 and 10% of people in developing countries are disabled (Despouy, 1993) – as compared to a figure of "roughly 12%" quoted by ECMT (1999) for Europe.

Table 1: Extent and characteristics of people with disabilities in selected countries

	South Africa	Mozam-bique	India	Latin America
Incidence of disability	Approx. 7% (3.0 million)	Approx. 10%* (1.7 million)	Estimates range 2.5% to 10% (22.5 to 90million) Range = 2% to 13%	6.5% (average of reports from 9 countries)
Most common types of disability	Visual 41% Physical 21% Hearing 15%	Physical Visually impaired	Visual Physical Hearing	Physical 29% Visual 27% Hearing 20%
Major causes of disability	Poverty Liberation struggle Road accidents	Illness War (incl land mines) Accidents	Not covered	Disease/ malnutrition Aging Accidents

Incidences of disability in the developing world is thought to be related to factors such as poor access to health care, poverty, and the effects of armed conflict. For instance, the liberation struggle in South Africa has contributed to a level of disablement among Black people approximately twice that among other groups.

Physical and visual disabilities predominate. It has also been noted that at any one time, far higher numbers of people (20 to 30%) are "mobility impaired" by environmental barriers – including people with temporary health conditions, pregnant women, children, and vendors carrying goods (ECMT, 1999). The target population that would benefit from accessibility improvements is much wider than that shown in Table 1.

4 ASSESSMENT OF NEEDS

Information on the mobility barriers faced by people with disabilities in the case study countries was obtained directly from the users. In each country researchers interviewed 120 to 150 people with various disabilities using the focus group method. Overall, the needs and problems that were identified are similar in each country, and also remarkably similar to the issues raised in developed countries. Earlier work done in South Africa (Stanbury and Hugo, 2000) gives a good indication of the range of typical responses received.

Some issues that are particular to the case study countries, are worth highlighting:

o Small buses or jitneys (minibus-taxis in South Africa, *chapa 100*'s in Mozambique, *micros* in Mexico) in general provide better physical access (excluding wheelchair access) than large buses, because of their smaller size and ubiquitous presence. However, the attitude and driving behavior of drivers, as well as overcrowding, are major barriers to their use by people with disabilities.
o Sidewalks that are unpaved, poorly maintained, or crowded by vendors are common across the cities studied, and limit pedestrian mobility. In India, the road surface prevents some wheelchair users from leaving their home for all but essential trips.
o Geographical features such as sandy roads in Maputo and steep slopes in Blantyre limit the mobility of people, even those with wheelchairs.
o Bus drivers in for instance India do not allow sufficient time for people to board and alight in comfort and safety and transport personnel

in general are lacking in disability awareness and training in assisting people into vehicles.
- o Vehicle and infrastructure design creates barriers for all types of disability.
- o Heavy traffic prohibits people from making journeys by foot.
- o In India, disabled women suffer more and there is a common perception that disability is the result of a curse for sins committed in the past life.
- o The large fleet of Volkswagen "bugs" operating as taxis in Mexico City provide relatively good curb-to-curb mobility to those who can afford them, but exclude even wheelchair users who can transfer to a regular seat due to the absence of a front seat in these vehicles.

5 CURRENT ACCESSIBILITY PRACTICE

The overview of current practices with regard to accessibility and mobility in each country focused on the following issues:

- o Policy and legislation
- o Advocacy and planning
- o Vehicle and infrastructure solutions
- o Training and awareness

Without attempting to cover the depth of information gathered, we will briefly highlight the major findings of each section. A comparative summary of programs initiated in some cities is given in Table 2.

5.1 *Policy and legislation*

All countries reviewed have some laws and regulations in place on accessible infrastructure and/or transport. For instance, the Persons with Disabilities (Equal Opportunities, Protection of Rights and full Participation) Act of 1995 protects the interests of disabled people in India. Under this Act are included topics such as access to non road transport, access to buses and provision of facilities at road crossing points.

In some cases these laws are supported by more detailed regulatory frameworks, such as in Costa Rica and Argentina. The general tendency in regulations is to require access features on new vehicles but not to retrofit older vehicles. However, in many instances, legislation has not yet been followed up with detailed regulatory frameworks, leading to very little implementation on the ground.

Table 2: Access elements in a selection of cities studied

Access elements	Mexico City	Buenos Aires	São Paulo	Rio	Cape Town	Pune, India	Maputo
Some transport regulatns	x	x	x	x	x	x	x
Curb ramp program	x	x	x	x	x	x	
Prioritise seats	x	x	x	x		x	x
Low floor buses		x			Plan-ned		
Lift-equipped buses	x						
Access to small buses/ jitneys	Partial				Partial	Partial	Partial
Rail station/ subway access	x	x	x	x	Partial	Partial	
Door-to-door van services			x		x		

5.2 *Advocacy and planning*

In probably all countries where progress has been made with disability issues, it has been characterized by vigorous advocacy of disability groups themselves. In Latin America in particular, disability NGOs such as Mexico's *Libre Acceso* and Rio de Janeiro's Center for Independent Living fulfill both a watchdog role (actively campaigning for change), and a promotion role. NGOs and government agencies are involved in promulgating informal guidelines for access to buildings, sometimes extending to include transport recommendations. These guidelines appear to be an effective precursor to the adoption of more formal legislation and regulations governing design and vehicle specifications. In some cases, therefore, advocacy and planning of improvement programmes seem to be converging in the same organizations.

Change is also occurring within advocacy organizations. Since the introduction of the Persons with Disabilities Act (1995) in India, for instance, there has been a steady change in attitudes within advocates from a pity-based to a rights-based approach, with access seen as something that should be demanded and not requested.

In some places change appears to be driven more from the top down, with offices for disability affairs being established at the highest government level. Examples include the Office on the Status of Disabled Persons in South Africa's President's Office, the Ministry of Disability Affairs in Malawi (a Cabinet-level Ministry), and Mexico's Office for the Promotion and Social Integration of Persons with Disabilities. These offices appear to be effective at starting to create an awareness of disability issues in Government, but by and large their ability to promulgate integrated policies (including accessible transport) and, more importantly, to source adequate funding for implementation, is still open to question.

5.3 *Vehicle and infrastructure solutions*

A multitude of approaches have been adopted towards the improvement of vehicles and infrastructure. Some large cities in Latin America have taken significant first steps towards addressing access issues, as have some Asian cities such as Tokyo, Seoul and Bangkok. First steps are often taken during the construction of large-scale urban mass transit systems. Best practice in universal design is found in express bus systems in Curitiba and Bogota (Colombia), while subway systems in São Paulo, Buenos Aires, and others each have a dozen or more fully accessible stations.

Mobility solutions in Africa and India are mostly limited to small-scale demonstration projects testing various accessible service options, and ad hoc infrastructure features or mobility aids provided by the private or welfare sectors.

Elements of vehicle and infrastructure solutions that have been tried are discussed under the headings suggested by Stanbury and Hugo (2000):

- General improvements to transport system: Actions to improve the usability of transport systems for current users (including non-disabled people).
- Better interfaces between passenger and system: Actions that make the system more usable for passengers hindered by a lack of information (including passengers with visual, hearing, or mental impairments).
- Major improvements: Improvements required to give access to severely physically disabled persons, including wheelchair users.
- Door-to-door services: Specialised services for passengers who can not use any mode of public transport alone.

5.3.1 *General improvements to transport systems*

Experience in Latin America has shown that large improvements in the accessibility of vehicles can be made that would benefit probably 90% of passengers with disabilities, as well as other users, by including a number of low-cost features on vehicles and stops. For example, many newer vehicles designed to replace the existing *micro* fleet in Mexico City feature wider steps, hand rails for boarding, prioritized seats behind the driver, high contrast colours on steps, and a passenger complaint number painted in large print on the vehicle.

Cities in Mozambique, Malawi and India have policies to reserve seats in vehicles and trains for passengers with disabilities, and to provide fare concessions of up to 100%. However these are often not implemented or enforced.

There seems to be widespread agreement that pedestrian infrastructure needs attention as one of the first steps towards improving overall mobility. Cities like Mexico City, Rio de Janeiro, and Pretoria have installed thousands of curb ramps to sidewalks. This is in line with the World Bank's increasing focus on improving infrastructure for non-motorised transport modes.

5.3.2 *Interface between passenger and system*

Isolated attempts have been made to ensure that information is provided to passengers in an easily understood manner. Examples include tactile guideways and warnings installed in Rio de Janeiro. However, misconceptions and a lack of knowledge on how to facilitate communication with visually and hearing impaired people are still major barriers. Some current practices in Southern Africa are promising as simple communication tools, such as the use of hand signals to indicate the desired destination to taxi drivers.

5.3.3 *Major improvements*

The range or solutions employed in developing countries span from retrofitting old buses with wheelchair lifts located in a side-door, to state-of-the-art low-floor buses with kneeling features and ramps. Vehicle design standards tend to mirror those of North America and Europe.

Success varies: fifty lift-equipped buses operating on six routes in Mexico City appear to be successful, while more than a thousand low-floor buses were deployed in Buenos Aires with mixed success due to apparent flaws in their design and operation. Bad road conditions in South African cities have necessitated the use of high-floor buses retrofitted with lifts (in demonstration projects). With respect to the huge fleets of jitney vehicles, the best opportunities for improving their accessibility to date have been in the form of government-lead

programs to scrap and replace them with custom-designed new vehicles, as is the case in Mexico and South Africa. This option is likely to be outside the capacity of most developing countries. However, in many cases modest retrofits to vehicles and/or infrastructure, coupled with more fundamental changes in operating procedures, could make them accessible even to wheelchair users.

5.3.4 Door-to-door services

Flexibly-routed door-to-door services have been implemented on a large scale in São Paulo (100 vehicles) and in Cape Town (15 vehicles). These services provide high levels of service quality, but at considerable cost (Venter and Mokonyama, 2001).

5.4 Training and awareness

Despite the fact that people with disabilities consistently identify driver attitudes and behaviour as one of the most critical issues to be addressed, this aspect receives scant attention from authorities.

An example of good practice is Mexico City's public information campaign to publicise the integrated system of accessible pedestrian and transport services, and to raise awareness amongst the general public. The Federal District also plans to contract out sensitivity training for *micro* and taxi drivers.

6. CONCLUSIONS: MAJOR ISSUES EMERGING

The major issues emerging from the status quo study included:

- o Advocacy by disability organizations plays a major role putting access issues on the social agenda. Effective advocacy should be strengthened in developing countries.
- o The access needs and issues arising in developing countries appear to be very similar to those in developed countries – implying that transfer of solutions and standards can be appropriate provided it is done with sensitivity to local circumstances.
- o Opportunities for taking first steps towards accessibility are often presented during upgrading or construction of publicly owned mass transit systems. To quote the IDB president, "The challenge is not one of cost; a good urban project does not cost more if it includes universal design concepts. The challenge is changing notions of what our urban environment should look like and whom it should accommodate (IDB, 2001:3)". However traditional mass transit systems are also losing market share in most countries. While incorporating universal

design features on formal systems may contribute towards stemming this tide, it is clear that this will not solve all mobility problems.
- o Finding sustainable solutions to the accessibility problems (and general quality of service problems) of jitneys or small buses is the major challenge. Solutions should address physical issues, as well as the regulatory and financial conditions which currently disincentivise drivers and owners to improve access.
- o A number of low-cost improvements can be made to vehicles, infrastructure, and driver practices to improve the accessibility of transport systems. As first steps, they would benefit the great majority of passengers without severe mobility impairments.

In conclusion, the overview suggests a need for guidance on identifying and implementing practical, sustainable, and affordable accessibility solutions. This project hopes to contribute to this goal.

7. ACKNOWLEDGEMENTS

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