

# **Towards the development of comprehensive guidelines for practitioners in developing countries**

Christo Venter, Mac Mashiri  
University of Pretoria/CSIR, South Africa

Tom Rickert  
Access Exchange International

David Maunder and Joanne Sentinella  
TRL Ltd., United Kingdom

Khaimane de Deus  
Universidade Eduardo Mondlane, Mozambique

Anand Venkatesh  
Central Institute of Road Transport, India

Alister Munthali  
University of Malawi, Malawi

Hendrietta Bogopane  
Makwetla and Associates, South Africa

## **SUMMARY**

The United Kingdom's Department for International Development (DFID) funded a three-year research programme aimed at developing a compendium of guidelines and best practice for improving access and mobility of disabled people in developing countries. The guidelines include aspects of transport policy, advocacy, and planning, as well as the technical aspects of improving infrastructure and operations of public transport. The material was based on a review of good practice and standards/guidelines in use in Europe, Latin America and Asia, supplemented by small-scale demonstration projects in partner countries South Africa, Malawi, Mozambique and India. The purpose of these projects was to demonstrate practical but low cost interventions, and to test potential innovative approaches under local conditions. The paper briefly describes the objectives, methodology and outcome of the research project. It describes the approach proposed in the guidelines towards prioritising accessibility interventions, based on local conditions in developing countries where financial constraints limit resources.

## **INTRODUCTION**

While countries in the developed world have made significant progress in improving the accessibility of transport for people with disabilities, the situation among developing countries is much more diverse. Accommodating the needs of people with disabilities is still largely seen as a welfare function of the state and of non-governmental service organizations. The human rights approach to disability, where every citizen has the right to be included in social and economic opportunities, is slowly gaining acceptance. Some developing countries – particularly in Latin America and Asia – have applied this approach to transport, taking a number of significant steps towards improving the mobility and access of people with disabilities.

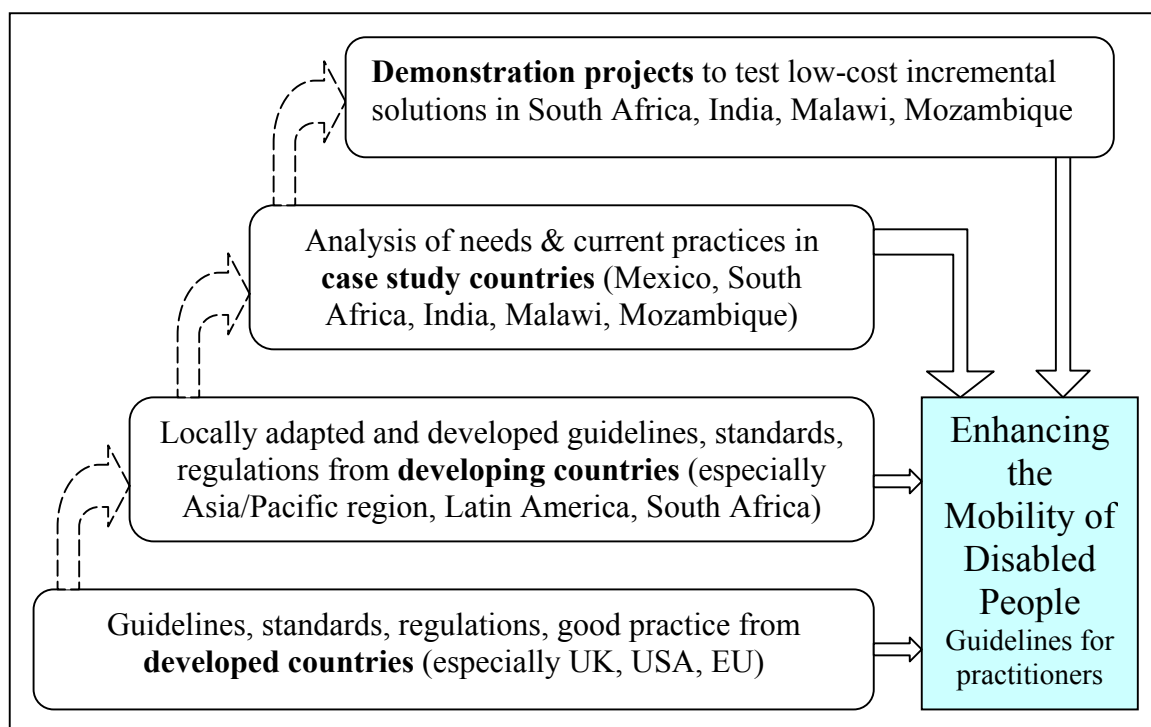
In an attempt to promote the adoption of good accessibility practices in developing countries, the United Kingdom's Department for International Development (DFID) funded a three-year research programme to compile practical guidelines for urban transport practitioners in developing countries. To capitalize on the learning that has taken place across a range of countries, the multinational research team drew on best practices from Africa, Europe, North and South America, and Asia.

The primary output of the project – a compendium of guidelines entitled “Enhancing the Mobility of Disabled People: Guidelines for Practitioners” – has now been completed and is being disseminated by DFID (*Venter et al, 2004*). The Guidelines are unique in their coverage of a range of access-related aspects – from successful advocacy and the development of access legislation to details on the design of footways and the operation of vehicles – and in their focus on the specific needs and issues of developing countries. This paper briefly describes the project and its findings, and gives an overview of the approaches recommended in the Guidelines for improving the mobility of people with disabilities.

## **PROJECT DESCRIPTION**

The project commenced in October 2001 and was undertaken in three phases. The first phase concentrated on assessing the issues around access and the specific mobility needs of people with various disabilities in developing countries. Using South Africa, India, Malawi, Mozambique and Mexico as case study countries, research teams used qualitative methods to identify problems, practices and approaches. Documentation on good access practices being implemented in Europe, Latin America, Asia and Southern Africa were also sourced.

Phase 2, which included the development of locally applicable guidelines, ran in parallel with Phase 3 which included the implementation of low-cost demonstration projects by project partners in Malawi, India, Mozambique and South Africa (Figure 1).



**Figure 1: Outline of source material for the Guidelines**

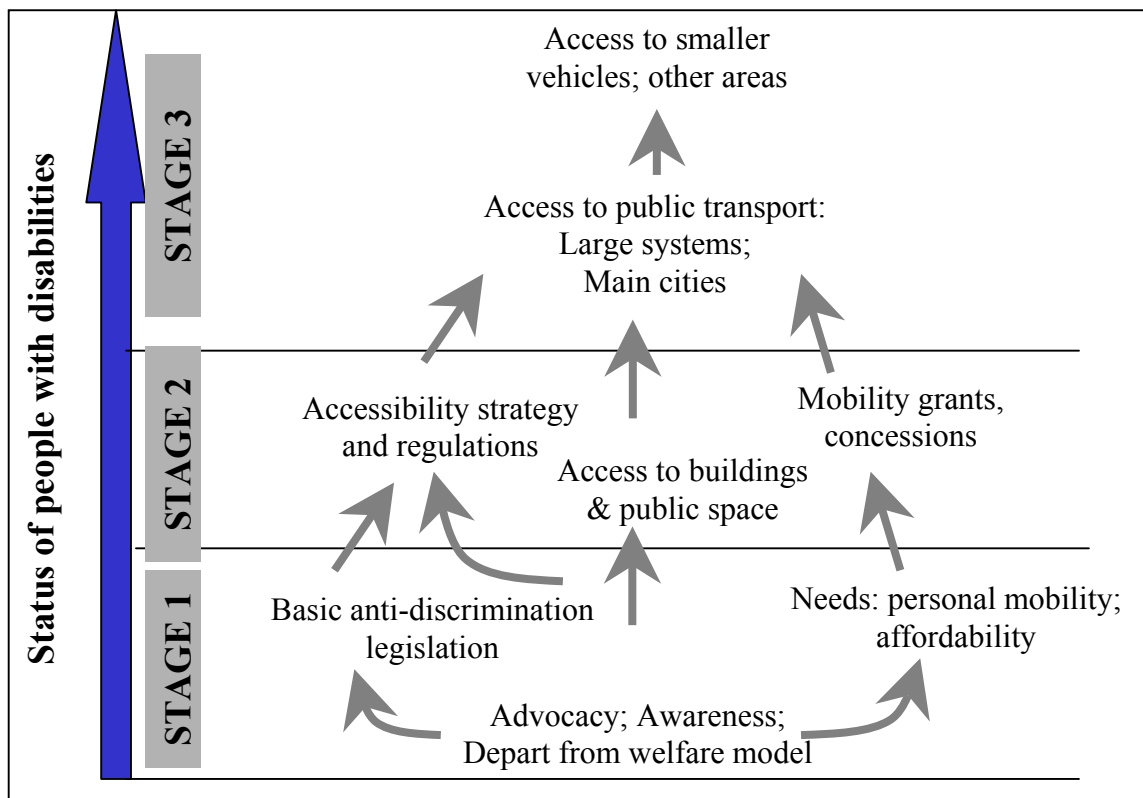
The demonstration projects were intended to develop and test locally applicable interventions while developing local capacity<sup>1</sup>. Each demonstration project was monitored, and the results were fed back into the Guidelines.

Drafts of the guidelines were circulated for peer review, and feedback from workshops held in Malawi, India, Mozambique and South Africa has been included in the final publication. The Guidelines are supplemented with a presentation-type visual aid, which can be used by transport and disability advocates, operators and users as an overview of the major recommendations of the project.

## MAJOR ISSUES IN DEVELOPING COUNTRIES

The research highlighted the mutually reinforcing relationship between poverty, disability and lack of access or mobility that is evident in many developing countries (Savill *et al*, 2003). At a country level, it was observed that the diversity of progress that has been made across developing and transition countries can broadly be described using a three-stage model (see Figure 2) (Venter *et al*, 2003). Most of the world's developing countries are in the first stage, where the major need is still for the breaking down of attitudinal barriers in society, and the promotion of disability advocacy in general. Coupled with this is the need for access to personal mobility devices (such as wheelchairs and long canes), which remains a major mobility constraint for many disabled people with low incomes.

<sup>1</sup> See accompanying papers entitled "Accessibility for all: A case study of Pune City in India" (Venkatesh *et al*), "Entry into high-floor vehicles using wayside platforms" (Venter *et al*), and "Access to small vehicles in developing countries" (Rickert *et al*) in these proceedings.



**Figure 2: General framework of progress in accessibility provision**

Many countries are starting to move towards the second stage of actions, where more detailed regulations and strategies to address particular mobility problems appear. Most strategies are centred around environmental access, concentrating on access to buildings and streets but often stopping short of physical improvements to the transport system.

In the third stage of actions, large-scale improvements to the accessibility of public transport start to be seen, particularly in larger cities. Some countries in Asia and Latin America, for example Brazil and Argentina, are already at this stage of development.

In all these developmental stages government officials, disability advocates, and transport operators grapple with issues of prioritizing strategies within severe budget constraints. The Guidelines are intended to assist in this process by providing a guide to high-impact, low-cost solutions to the access and mobility problems faced by disabled people.

## **OBSERVATIONS ON SOURCE MATERIAL**

The Guidelines drew on a variety of standards, guidelines and regulations developed in Europe, Asia and North and South America. Primary amongst these is the recent publication “Inclusive Mobility: A Guide to Best Practice on Access to Pedestrian and Transport Infrastructure” by the UK Department for Transport (*Oxley, 2002*). It summarises the extensive experience on infrastructure accessibility practice assembled in the UK over the past three decades. Latin America and Asia have been quite active

in the last decade producing norms and standards for accessibility<sup>2</sup>. A review of recent norms revealed at least eight developed in the last seven years (Table 1). The actual experience in implementing these norms is of course less extensive. Guidelines tend to be updated fairly frequently as experience with their application evolves, and can therefore be considered “work in progress”.

The influence of European or North American norms and guidelines on standards used in developing countries is significant, although local variations do exist in some cases. This cross-pollination accounts for a large part of the apparent convergence of standards across developed and developing countries. For instance, the minimum clearance over pedestrian paths seem to cluster around 2000 to 2100mm, and the maximum incline for kerb ramps is commonly accepted as around 1:12. The implication is that, by and large, one can start talking of the emergence of universal basic standards for access, with only minor variations to adapt to local conditions and constraints.

## TOWARDS COMPREHENSIVE ACCESS GUIDELINES

Identifying the global convergence of access standards was key to the development of the Guidelines by the multinational research team. Where standards between developed and developing countries disagreed, the Guidelines generally recommend those which are most consistent with developing country experience, but also noted the alternative standards.

Some specific observations regarding the content of the Guidelines include the following:

- In countries where little progress has been made in promoting accessible transport and mobility, perhaps the most urgent need is for **strengthening effective advocacy** by the disability sector in order to raise public (and political) awareness to the level where action starts. The Guidelines address this need by providing practical guidance on advocacy, cooperation and basic policy development. Advice is included on issues such as consultation with disability groups during policy formulation (*UNESCAP, 1995*), the use of appropriate language, and the effectiveness of cross-disability networks for advocacy (*Rickert, 2003*).
- The worldwide convergence of access standards notwithstanding, the implementation of access solutions must be sensitive to local nuances. It was therefore deemed important to stress not only the technical detail of access interventions, but also to promote a general understanding among practitioners of the **objectives and principles** underlying effective interventions. Objectives for enhanced mobility were usefully grouped into four interlinked points, namely Safety, Accessibility, Reliability, and Affordability spelling the acronym SARA (*Help the Aged, 1998*). These objectives, together with the specific principles applying to each, can be used as a checklist when considering the accessibility of any particular part of the transport system. Figure 3, for instance, shows the principles highlighted for pedestrian footways.

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<sup>2</sup> See accompanying paper entitled “Accessible transport trends in Latin America” (Rickert et al) in these proceedings.

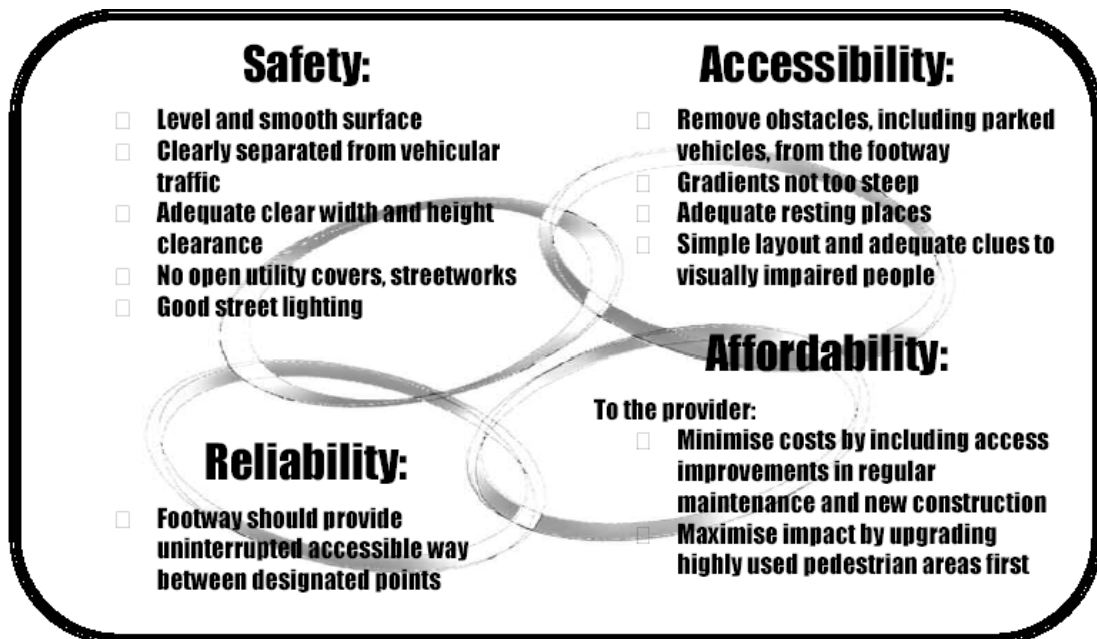


Figure 3: Example of SARA objectives and basic principles for pedestrian footways (from Venter et al, 2004)

- Securing **funding** for transport projects is challenging in all developing countries. The Guidelines emphasise the notion that judicious access improvements can sometimes pay for themselves by attracting new users and boosting revenue, although this effect is often limited by the generally poor state of public transport and the limited ability of passengers to pay for a better service. Affordable solutions (to both provider and user) should start by focusing on low-cost, high-impact interventions in an incremental manner. The demonstration projects undertaken as part of the Guidelines development were meant to test such solutions in the areas of public transport and pedestrian access.
- **Incremental implementation** could consist of two (not necessarily mutually exclusive) strategies: Inclusion of universal mobility requirements in all development and maintenance projects; and the phasing in of universal mobility features in priority areas. In the first case, the development of new facilities or the upgrading of existing facilities (such as rail stations or footways) is the best time to include access features at the lowest cost. In the second case, by choosing priority corridors as defined by users and providers in consultation, the spatial targeting and coordination of services can be maximized at minimal costs.
- **Low-cost, incremental interventions** may not satisfy all user needs but may in many cases be optimal as a starting point. For instance, in the section on bus stops, the Guidelines suggest that:
  - Bus stops that currently have no facilities should at a minimum be levelled and preferably paved, and provided with a kerb delineating the passenger space from the space used by vehicles. This sets the stage for more orderly operation and improved safety. A colour contrasted pole, sited appropriately to identify it as a bus stop, should also be installed.

- Secondary features to be considered on busier bus stops include provision of route information on the pole (if available), a shelter, and seating. Figure 4 shows an example from the low-cost demonstration project in Pune, India.
- Bus stops that currently have shelters should be examined for the same features to ensure that ambulant passengers can at least identify and enter the bus stop area. It can then be considered to remove obstacles such as street furniture or narrow entrances to enable all passengers (including those with wheelchairs) to enter and use at least part of the shelter.



**Figure 4: Low-cost interventions to bus stop include use of tactile paving, high contrast paint, and installation of benches.**

- **Staff with a helpful attitude** and who know how to assist passengers with disabilities can help compensate for access features that are not yet in place, particularly regarding accessible information. The Guidelines include a section on best practices on staff training.
- Improving the **pedestrian and street environment** should be an early priority in all cities given the very important role of walking as a mode in developing countries, especially amongst poor people who frequently cannot afford public transport fares. Aspects needing attention range from correctly designed footways (sidewalks/pavements) and street crossings, to adequate control of street vendors and parking. These aspects need to be addressed in a more coordinated fashion than what is currently the case in most countries. Accessibility advocates need to capitalize on the growing attention being paid to non-motorised transport and “sustainable transport” alternatives all over the world, and to point out that pedestrian-friendly design such as raised crossings and street lights can also enhance other traffic management goals such as improved road safety.
- **Informal modes of transport** (usually operated by individual owner-operators using vans or mini- or midibuses) present specific challenges due to their generally unregulated nature. The Guidelines suggest that the first step towards improving safety and accessibility for all passengers of informal services, including those with disabilities, is to start fostering greater accountability of the industry. This requires coordinated approaches to creating partnerships with government (*Sohail et al, 2003*), formalising routes and services, stabilising operating conditions, stepping up enforcement, and empowering passengers. As with larger capacity buses, the retrofitting of existing vehicles with low-cost features such as handrails, adequate signage and colour contrasting can benefit many passengers and should be pursued if circumstances allow.

More effective ways of improving vehicle standards are for government regulators to require higher standards of *new* vehicles used for public transport services. This can also be undertaken in an incremental manner, beginning with some of the low-cost features described above to assist ambulatory passengers, and incorporating wheelchair access in some segment of the fleet. In some cases (for example in Mexico City and South Africa) governments have become involved in subsidising the replacement of vehicles, and using this opportunity to specify higher access standards. Whether vehicle design is improved incrementally or through large-scale government-sponsored replacement programmes, it is important that the operating practices of drivers be addressed through adequate training, monitoring and route formalisation.

## **CONCLUSIONS**

The convergence of standards for accessible transport across developed and developing countries, supported by the growing body of experience with access solutions developed under the challenging conditions of lower income countries, has allowed the development of a compendium of Guidelines for transport practitioners and advocates in developing countries. The document is not prescriptive but intended to be used as a one-stop resource covering both basic principles and more advanced technical details on issues relevant to transport in developing countries.

The process of developing the Guidelines highlighted the diversity of progress that has been made across the spectrum of the developing world. Among the variety of needs, it becomes clear that inaccessible transport practices are inextricably linked to the generally poor state of public transport vehicles and infrastructure in many countries. This is particularly true for the informal transport sector which is extremely important as a mobility provider but operates with very low resource levels. Against this background, incremental improvements can be made to improve the mobility of disabled travelers and indeed all travellers, especially by focusing on pedestrian facilities. But significant progress ultimately depends on the ability of governments and public transport operators to make a major improvement to the overall quality of the service they provide.

## **ACKNOWLEDGEMENTS**

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**TABLE 1: Norms & guidelines for selected infrastructure and vehicle access features (in millimeters)**

	Status	Wheel-chair footprint Length Width	Min. exterior ped. path width	Min. clearance over ped path	Max. ramp incline (8 meter ramp)	Max. curb ramp incline	Min. door clearance	Min. auto parking space + aisle width	Max. height to 1 <sup>st</sup> vehicle step	Max. ground to veh. floor height	Hand grasp both sides veh. door?	Min. letter height as % of distance	Signage color contrast req'd?	Min. bus stop space Length Width
<b>Ecuador</b>	Norms published by gov't agency		1600	2050	1:10 – 1:12	1:8 – 1:10	900	3500				Yes	Yes	1800 L x 1800 W
<b>Costa Rica</b>	Law published by gov't agency	1300 L 800 W <i>min. space</i>	1200 (1800 for 2 wheelchairs)	2200	10%	8.5%	900	3300	tentatively 300-350 (under review)	No spec.	Yes	Yes	Yes	Under review
<b>Argentina</b>	Law published by gov't agency	1200L 700W	1500	2000	1:16 outdoors 1:12.5 indoors	1:12 (Buenos Aires) 1:10(nat'l)	800	3500		400 (for low-floor buses)	No	No	Yes	No
<b>Mexico</b>	Mexico City gov't guidelines	1220-1370 L 610-660 W	1200 - 1500	2000	1:12	6-10% per length	1000	3800	400	960 (artic)		NA	Yes	NA
<b>Asia-Pacific regional UN agency</b>	guidelines	1200 L 750 W	900 - 1500	2000	1:16	1:12	750-900	3600				Yes	Yes	
<b>Malaysia</b>	guidelines published by an NGO	1200 L 750 W	1500 (2 w'chairs to pass)	2000	1:15 outdoors 1:12 indoors	1:8 – 1:12	900	3600					Yes	1980 L x 2100 W
<b>Australia</b>	national law	1300 L 800 W <i>space</i>	1200 (1800 to pass)	NA	1:12	1:8	800	NA					Yes	
<b>Russia</b>	guidelines issued by city agency		1200	1980	1:12	1:10 – 1:12	810-915	3970						1980 L x 2100 W
<b>Canada</b>	national guidelines	NA	1500	1980-2030	1:12	NA	810	3900			Yes	Yes	Yes	2100 W
<b>UK</b>	national regulations & guidelines	1200 L 700 W	1500	2100-2300	1:20	1:12	900	3600	250	750	Yes	Yes	Yes	3000 L x 2000 W