

# **ACCESSIBLE TRANSPORT TRENDS IN LATIN AMERICA**

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## **SUMMARY**

Advocacy at local, national, and international levels has resulted in significant progress in Latin America in the creation of regulatory frameworks and the implementation of a spectrum of accessible transport modes in the largest cities in the region. Initial steps toward access to transport and related infrastructure are now on the agenda in most of the major cities in Central and South America. Some Latin American innovations have become models of best practice now being replicated in other regions. However, the accessible design and operation of smaller vehicles has tended to be ignored, as has the implementation of access in smaller cities and rural areas. This paper reviews data on transit disabled populations and discusses the growth of advocacy for accessible transport over the past decade. The influence of international standards and the growth of regulatory frameworks is discussed. The status of implementation of accessible transport in the region's largest cities is presented

## **INTRODUCTION**

A dozen years ago, with the exception of Curitiba in Brazil, there was a lack of progress in Latin America toward the implementation of accessible transport usable by frail seniors and passengers with disabilities. In recent years, major cities in Latin America have begun to initiate accessible transport and have pioneered best practices, including the creation of accessible bus rapid transit concepts in Curitiba, Brazil, and the implementation of universal design concepts in accessible pedestrian infrastructure in Rio de Janeiro. Over the past ten years the lead author, who works in Spanish, has participated in conferences and workshops in eight Latin American countries and gathered data on accessible transport provision in the five largest cities in the region.

## **PERSONS WITH DISABILITY AND ADVOCACY IN THE REGION**

Around 6-7% of Latin America's five hundred million people have mobility, sensory or cognitive disabilities, averaging data from surveys in nine Latin American countries over the past ten years (Dudzik, 2001). The "transit disabled" population may be far larger when one looks at issues of design and safe operation as they impact on the growing numbers of seniors and women in Latin America, especially given the increase in urban population for the region from 65% in 1980 to 76% in 2000. In addition, accidents caused by inaccessible design and unsafe operation of buses and other transport vehicles cause additional disabilities which, along with the inability to access work sites, further adds to the social implications of inaccessibility. While the many access projects initiated in Latin America provide helpful guidance and hope for the future, the majority of transit disabled persons remain unable to access and use public transport services.

**REGIONAL ADVOCACY:** Advocacy in the region has been highly impacted by its larger international and regional context. United Nations documents and the work of international disability NGOs have been important. The Inter-American Institute on Disability (IID) plays an important role, publishing information on resources in Spanish, Portuguese, and English. NGOs such as Rehabilitation International and Access Exchange International (AEI) have held conferences or workshops in many Latin American venues, as has Spain's Real Patronato. In recent years the Inter-American Development Bank (IDB) has published Portuguese and Spanish materials on accessible transport and the World Bank has begun to address issues of access to transport and pedestrian infrastructure in its reports and recent transport related projects. International conferences, ranging from the TRANSED series to regional seminars and workshops in Chile, Colombia, Cuba and Uruguay, have also played a role.

Advocates in Costa Rica and elsewhere have begun to cite the *Inter-American Convention on the Elimination of All Forms of Discrimination Against Persons with Disabilities* (Technical, 1999) as a tool in their advocacy. This unique document has legal authority and has now been signed by fourteen nations, including all the larger nations of Latin America.

The role of publications in Latin America has been especially significant in recent years. Guides to access to the built environment, often including introductory material on public transport, have appeared in Uruguay, Brazil, Argentina, Mexico, and other countries. In some cases publications have focused exclusively on access to public transport (Brazil). A series of bi-lingual (Spanish and English) guides to create accessible national parks and recreation areas has been published in Costa Rica. Dissemination of the growing body of Spanish and Portuguese material is enhanced by announcements of new materials as they appear, by IID, AEI, and other NGOs.

**NATIONAL AND MUNICIPAL ADVOCACY:** Advocacy at national and municipal levels has been especially helpful. Agencies such as Fundación Rumbos in Buenos Aires, Rio's Center for Independent Living, Mexico City's Libre Acceso, Peru's APRODDIS, Chile's ANDDI, Nicaragua's CEPRI, or Colombia's GLARP have played important roles in initiating access to local transport systems and/or infrastructure. Cross-disability NGOs have published guides to public facilities in Lima, Rio de Janeiro, Mexico City, and elsewhere.

Significant studies are now being carried out by professionals in master's degree programs in São Paulo and in Rio de Janeiro, while students in other Latin American nations are beginning to include universal design in their architectural studies.

Finally, conferences and workshops at national, state, and municipal levels have been sponsored by a broad range of government and NGO agencies. For example, AEI has led or participated in workshops on access to public transit in several Mexican cities as well as in Rio de Janeiro, São Paulo, Buenos Aires, Lima, Montevideo, Santiago, and cities in Costa Rica and El Salvador.

In addition to the cross-disability NGOs whose advocacy has been most visible, the presence of single-disability agencies in all major cities has also been a significant factor in creating successful advocacy.

## LEGAL AND NORMATIVE FRAMEWORKS

International standards have also had a major impact on Latin America as they are picked up and promulgated by NGOs and gradually become incorporated into the legal frameworks of countries such as Argentina, Brazil, Cuba, Ecuador, Colombia, Costa Rica, and El Salvador. It is clear that major Latin American cities are moving toward stronger legislative and regulatory frameworks.

The quickening pace of growth in Latin America's normative and legislative framework is seen in the most recent developments, including the following events during the past four years:

- Peru: APRODDIS (an NGO) published *Eradicating Architectural Barriers in Peru: An introduction to accessible site design* (APRODDIS, 2000), in collaboration with government, professional, and international agencies.
- Ecuador: *Norms of the Ecuadorian Standards Institute concerning Access to the Environment* was published (Instituto Ecuatoriano, 2000).
- Mexico: Mexico City's government issued a *Technical Manual on Accessibility* (Secretaría de Desarrollo, 2000), one of several publications in Mexico.
- Argentina: Accessible building design was mandated in Buenos Aires' Law 962, passed in 2003.
- Colombia: The national Transport Ministry issued rules for access to buses, trains, ships, airlines and other forms of public transport, also in 2003.
- El Salvador: National *Technical Accessibility Standards* were published, covering access to streets and sidewalks, buildings, public transportation, and communications (Consejo, 2003).

In general, the emerging guidelines and standards in Latin America are tending toward a consensus. Some variations are noted, but minimum guidelines appear to be reasonable. For example, the minimum overhead clearance for pedestrian ways varies between 2000 and 2200 mm in Peru, Ecuador, Costa Rica, Argentina, El Salvador, and Mexico City and the minimum width of an accessible auto parking space and adjacent aisle varies from 3300 mm to 3970 mm in these six locales, with three of them specifying 3500 mm. The same group of locales generally specify color contrast in signage on transport vehicles. However, only Mexico City has specified a maximum allowable height to the first step of a public transit vehicle (400 mm) and only Costa Rica specifies that hand grasps must be installed on both sides of vehicle entrances. The development of technical guidelines for the universal design of buses and rail cars clearly lags behind the development of similar guidelines for pedestrian infrastructure. However, specific construction projects – such as new subway construction – tend to conform to prevailing current practice such as found in

Europe or North America. Brazil is moving toward urban rail and subway standards which also conform with current practice in countries which already have decades of experience in the field.

The process of establishing regional norms is centered in the Uruguayan Institute of Technical Norms, working with the Pan-American Commission for Technical Norms (COPANT) on accessibility standards and assisted by Spain's Real Patronato, a government agency in the disability field. Meanwhile, individual countries are moving ahead with their guidelines and standards based on the global resources now available to them via the Internet and other sources. A British-sponsored project will assist this process with the issuance of guidelines based on demonstration projects and research in Europe, the Americas, Asia, and Africa. (Venter, 2004)

Latin America is well situated to carry out research and demonstration projects to especially investigate less expensive approaches toward accessible transport. That such projects have not been funded to date not only slows development in Latin America but also in other developing regions which have significantly less experience in inclusive transport design.

## IMPLEMENTATION

The largest cities in Latin America are Mexico City, São Paulo, Rio de Janeiro, Buenos Aires, and Lima. The first four of these cities are among the twelve largest cities in the world. The table below summarizes the initiation of access features in major Latin American cities, plus Costa Rica, and is followed with more detailed comments by transport mode:

Access elements and transport modes	Mexico City	Buenos Aires	São Paulo	Rio de Janeiro	Curi-tiba	Lima, Peru	Costa Rica
Some transport regulations	x	x	x	x	x	x	x
Curb ramp program	x	x	x	x	x	x	x
Prioritized seats	x	x	x	x	x	x	x
Low floor buses		x					
Lift-equipped buses	x		x		x		
High-floor platforms with bridges* or w/o bridges(*)			x (*)		x*	Planned	
Access to small buses	Partial						
Rail station access	NA	x	x	x	NA	NA	NA
Subway access with stair lifts**	x	x		x	NA	NA	NA
Subway access with elevators**		x	x		NA	NA	NA
Ramped taxis							Man-dated
Service routes***							
Door-to-door van services <sup>o</sup>			x		x		

\*\* Santiago, Chile's, metro also has access via lifts and elevators to several stations.

\*\*\* Initiated in Puebla, Mexico, and Medellín, Colombia

° Curitiba has a small fleet of lift-equipped vans. With 265 vehicles, São Paulo has the largest municipal door-to-door fleet of any city outside of North America, Europe, and Japan

**PEDESTRIAN INFRASTRUCTURE:** Both Buenos Aires and Mexico City have at least 10,000 curb ramps in place. Rio de Janeiro's Center for Independent Living has worked with the Brazilian Institute of Architects and several government agencies to provide a well publicized example of the universal design of pedestrian infrastructure in fourteen districts, including the construction of curb ramps the width of the entire pedestrian crossing with tactile warnings to assist visually impaired pedestrians, as well as other access features. A second major demonstration project is underway in the Bellavista neighborhood of Lima, Peru, assisted by funding from Japan. The Inter-American Development Bank is providing financing to include access features in 80 new and reconditioned bus terminals in the state of São Paulo in Brazil.

**ACCESS TO URBAN RAIL MODES:** Access by wheelchair users and passengers with reduced vision is being incorporated into new subway and rail station construction in several cities, including 11 new stations each in Buenos Aires and in Rio de Janeiro as well as new stations in São Paulo to supplement the 35 stations already accessible in that city. Seventy existing commuter rail stations in São Paulo state in Brazil are being retrofitted with access features to conform with similar features in newly constructed stations. Five key stations in the Mexico City Metro have been retrofitted with access features.

**ACCESS TO STANDARD AND ARTICULATED BUSES:** The singular contribution of Latin America to the field of accessible transport is clearly the spectrum of innovations found in the Bus Rapid Transit (BRT) concepts pioneered in Curitiba, Brazil. While Curitiba is especially known for its use of high-level platforms to permit all passengers (including wheelchair users) to board buses at floor level, a spectrum of other good design and operating practices is also critical to the creation of safe, accessible, reliable, and economical BRT service. BRT concepts have also been implemented in Quito, Ecuador's, trolley line, which, similar to Curitiba, uses bridge plates affixed to the vehicle doors to span the gap between vehicle and passenger platform. Bridge plates are not used in Bogotá, Colombia's high-profile Transmilenio express bus system, nor are they planned for BRT lines under construction in São Paulo, Brazil. While proper channeling of buses can narrow gaps without the use of bridge plates, research is needed to determine the degree to which BRT applications without bridges provide access to wheelchair users, even though they will presumably be of help to a broad spectrum of semi-ambulatory passengers. BRT lines are scheduled for construction in San Salvador, El Salvador, and in Lima, Peru. BRT systems are proposed or being planned for Guatemala City; Panama City; Guayaquil and Cuenca, Ecuador; Fortaleza, Brazil; Medellín and Barranquilla, Colombia; and Santiago, Chile.

Other approaches including varying degrees of access for wheelchair users and others with disabilities have also been initiated. More than a thousand low-floor buses have been deployed in Buenos Aires, although the current economic crisis has been one of several factors which may have limited the utility of this approach. Fifty lift-equipped buses are deployed on key routes in Mexico City, representing a "second generation" of deployment based on lessons learned from the earlier deployment of 24 vehicles.

**SMALL BUSES AND VANS:** With the partial exception of Mexico City, initiatives to provide access to small buses and vans in fixed route service have not been observed or

reported in Latin America. Nor has consistent advocacy for the accessible design and operation of such vehicles been reported, especially as compared with the significant – and often successful – advocacy for access to major rail and subway systems as well as some bus systems in several countries. This seems paradoxical, since in many urban areas fixed route modes using minibuses and vans may actually carry a higher percentage of passengers than do modes utilizing larger full-sized buses. It appears that the lack of regulation of smaller vehicles, especially as compared to larger buses, is a major factor in the perception on all sides that the promotion and implementation of inclusive design and operation for smaller fixed route vehicles is more difficult to achieve.

**SERVICE ROUTES:** Two service routes have been initiated in Puebla, Mexico. A service route initiated some years ago in Medellín, Colombia, is reported as no longer in operation.

**DOOR TO DOOR MODES:** Two large-scale programs need to be carefully monitored with a view toward replication elsewhere. São Paulo, Brazil, recently expanded its door-to-door municipal fleet to 265 vehicles, by far the largest deployment in the developing world. National legislation in Costa Rica mandates that 10% of its taxi fleet be accessible to wheelchair users.

## **CONCLUSIONS**

- Although accessible transportation is in its infancy in Latin America, the spread of “first steps” in the largest cities in the region has been remarkable during the past ten years.
- International, regional, and municipal-level advocacy -- ranging from UN resolutions to development bank initiatives to NGO activities -- has played an important role in the development of accessible transportation in Latin America.
- Local NGOs have been effective in promoting access to infrastructure and transport through the distribution of guides to accessible facilities, guides to access audits of public buildings, and publication of accessibility standards.
- The trend in past years has been to start with access to pedestrian infrastructure and move on to access to transport modes. There is evidence that this is changing as disability NGOs, transport officials, public works officials and others increasingly work together to plan access in an incremental yet integrated manner. This has especially made sense because of the intimate relation between, e.g., accessible vehicles and accessible stops. Integrated planning efforts are noted in Mexico, Brazil, Peru, Ecuador, Argentina, and elsewhere.
- Norms and legal frameworks for pedestrian infrastructure are uniformly more developed than they are for transport vehicles in Latin America. As additional models of accessible transport systems are implemented, this situation is likely to dramatically improve.
- There has been a tendency to focus on high-profile large-vehicle bus and rail systems for the initiation of accessibility improvements, while ignoring the large fleets of small buses, vans, and taxis which tend to dominate much of the public transport picture in many parts of Latin America.

- Low-cost features, such as the use of color contrast on key surfaces and on destination signs, are only beginning to be introduced in Latin America.
- Bus access via wayside structures may ultimately prove more viable in some Latin American cities than the use of low-floor buses which predominates in Europe or of lift-equipped buses which currently predominates in the USA.

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