# Accessible Transportation Around the World



The Newsletter of Access Exchange International June 2014



For many disabled passengers in less-wealthy countries
Poverty is the biggest barrier to mobility and
reducing the cost of a trip is the biggest challenge

New and less-expensive technologies are opening the door to fresh thinking about the use of small vehicles that cost less to





buy and maintain and that use less fuel. Usually we think of India's millions of motorized autorickshaws when we

think about "three wheelers." But motorcycle-powered "mototaxis" in Chimalhuacán, Mexico (see photo at left\*), and in Peru (at right, by Ana Bravo), illustrate the growth of small vehicles as transport modes in Latin America as well. And they point out our need to rethink paratransit services in much of the world.

The diagram above illustrates this vision. It assumes that phone technology, improved driver training, and minor design changes can be brought to bear to make commercial fleets of small vehicles – or at least significant portions of these fleets – usable by most, but not all, persons with disabilities. It also assumes that commercial operators can afford to include passengers with disabilities in their customer base. In making these assumptions, we are breaking with traditional thinking that assumes that door-to-door paratransit services in developing countries must follow a medical or social service model which, too often, is unable to go beyond the important work of bringing clients to these services. We call upon stakeholders to test our assumptions and we acknowledge the many obstacles that **(to page 2)** 



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**How much does cost matter? A lot!** We have researched fares charged by "three-wheelers" and other small vehicles in Mexico, Peru, Tanzania, and India and found that they charge an average of 40-50% less than taxis because they are cheaper to buy and maintain and because they use less fuel. This is a <a href="https://www.huge.com/huge

For example, a disproportionate percentage of the 10% of Mexicans who live in extreme poverty are disabled. Their average income in urban areas is under US\$85 per month, of which more than half is spent on food in order to survive. Surveys show that less than US\$8.33 of what is left goes to pay for public transportation. If a disabled person cannot get to a bus stop, this amount will buy 13 one-way 1 km trips per month using a moto-taxi. The same sum spent on taxis will buy only 8 one-way trips.

° Data extrapolated from www.wilsoncenter.org/sites/default/files/Poverty\_Statistics\_Mexico\_2013.pdf.

<sup>\*</sup> The girl in the photo (top left) is able to transfer with the help of the driver or an assistant, making moto-taxis an option for disabled kids who otherwise could not go to school due to lack of other affordable transport options.









From left, moto-taxis in Ecuador, Peru (note folded wheelchair), Mexico, and Colombia

# Making the case for small vehicles (continued from page 1)

must be addressed to scale up the use of small vehicles to expand door-to-door transportation.

# Why are smaller vehicles on AEI's radar?

The main obstacles to travel for disabled persons living in poverty have been that (1) they cannot navigate the many obstacles to the nearest bus stop without getting a ride, yet (2) they cannot afford a door-to-door vehicle, and (3) they cannot call a vehicle to where they live. Smaller paratransit vehicles are more affordable (see page 1) and they help overcome the problem of missing sidewalks. And lower-cost cell phone and Smartphone technology is now making it far less expensive to contact a call center or a driver to come to where people live. This is an important piece of the puzzle. Thus the time has come to consider expansion of paratransit services that includes more emphasis on smaller vehicles.

# Defining small vehicles and the extent of their use

Known by many different names in different parts of the world, our focus is on 3-wheeled motorized autorickshaws and similar vehicles in <u>Asia</u>, and their Spanish equivalent, often called "moto-taxis" in <u>Latin America</u>. Moto-taxis also include the tractor-trailer combination of a motorcycle that pulls a passenger cabin coupled to the motorcycle, shown on page 1. ("Moto-taxis" in Africa sometimes refer to a passenger riding behind the driver *on* a motorcycle and this is *not* part of our discussion.)

Data on the use of auto-rickshaws and moto-taxis varies in quality. About two-thirds of global sales appear to be in the Asia-Pacific region and growth in *production* is estimated at 12% a year, with some reports implying that India produces some 500,000 auto-rickshaws a year and Pakistan around 40,000, with China also being a major producer. In *absolute* numbers, reports from India point to 80,000 auto-rickshaws operating as public transportation in New Delhi, a quarter million in Mumbai, and more than 100,000 in Ahmedabad. About one-fifth of personal daily trips in India appear to use auto-rickshaws. Other reports state a total of 335,000 moto-taxis operate in Peru and 7,000 in Colombia. Some of these data may come as a surprise to North Americans who are only now beginning to see the appearance of "three wheelers."

# What is their environmental footprint?

This was a concern until the introduction of compressed natural gas as a fuel, combined with less-polluting 4-stroke engines to replace older 2-stroke engines. These small vehicles take less space than cars, use less fuel, yet carry the same numbers of passengers.

# Why do trips cost less on small vehicles?

It is less expensive to start a transportation service with small vehicles and the cost per trip can thus be lower to attract more riders. When testing auto-rickshaws in New Delhi, we noted a dealer price of approx. US\$3,000. Ana Bravo reports that locally-produced moto-taxis in Peru sell for the equivalent of US\$2,000, while we were informed that the cost of a motorcycle-trailer (photo on page 1) is around \$1,600. Four-wheeled ramp-equipped vans in Mexico sell for around US\$17,000 (FAW brand from China) to US\$26,000 (Peugeot imported from France).

## How do small vehicles compare to taxis and vans?



Regular taxis can travel on high-speed roads where smaller vehicles would be less safe, while smaller moto-taxis can enter alleys and narrow roads that taxis cannot enter (a major factor in Peru). Many regular taxi and van models can be fitted with ramps and serve wheelchair users who cannot transfer to a taxi seat, while smaller vehicles can only serve those wheelchair

users who can transfer and fold their wheelchairs during travel. A mixed paratransit fleet that incorporates vehicles of various sizes is often best. Photo above: A lift-equipped wheelchair-accessible van, equipped with wheelchair securements and operated by Sr. Miguel Angel Ortiz, President of the Fundación TED in Mexico City

# Are disabled persons already using smaller vehicles?

Absolutely! But we want to work with others to investigate *increasing* their use, because right now paratransit services in less-wealthy countries are often non-existent. Lives are being stunted. Lack of transportation is eliminating the opportunity to go to school, get a job, or receive health care. The photos on

these pages point to a beginning, but no one should think that even 10% of the need is already being met.

# Can smaller vehicles replace regular taxis or vans?

No. We feel all modes are needed, including cab companies such as KickStart (photo at right). We were pleased to learn that Mexico City transport authorities are considering a long-overdue fleet of ramped taxis.

# Who is collaborating with AEI on this initiative?

We have been helped by colleagues in many countries and we have benefitted from riding small vehicles and interviewing their drivers in India, Mexico, and Peru.

• In April, our Executive Director, **Tom Rickert**, joined colleagues for a week in <u>Mexico</u>, visiting van and mototaxi providers and presenting the potential of small vehicles to the Mexico City transit agency (SETRAVI), the Mexico City social services agency (DIF), and the national department of transportation (SCT). All arrangements were coordinated by accessibility experts in Mexico City, led by **Andrés Balcázar**, an architect who is an employee of



GAATES: The Global Alliance for Accessible Technology and Environments, and by Janett Jiménez, also an architect specializing in accessibility and country representative of GAATES for Mexico.

Photo, from left: Janett Jiménez, Diana Quintanar Solares of SETRAVI, Tom Rickert, and Andrés Balcázar.

- Meanwhile, we have been assisted in <u>Peru</u> by site visits, analysis, and photos provided by **Ana Bravo**, on the staff of the IFRTD: the International Forum for Rural Transport and Development.
- In <u>India</u>, testing of access features on auto-rickshaws was coordinated with AEI by **Svayam** (New Delhi) in 2011. And staff of EMBARQ, led by **Akshay Mani**, have carried out important analyses of auto-rickshaw use. He writes us that EMBARQ "will make sure we consider seat belts in auto-rickshaws as a key aspect within the larger context of reforms targeting vehicle design. As part of (our work), we are proactively looking out for innovative businesses, which are trying to address this issue."

# Kickstart, a new woman-owned paratransit service, begins operations in Bangalore



Go to www.kickstartcabs.com to view a video of what this startup cab company is offering to seniors and persons with disabilities. We salute KickStart and hope many other cities will follow, in India and beyond.

• Thanks also to **Marco Colindres** in Guatemala for analysis and comments, and to **Paulo Sbalzer** with Q-Straint in Brazil for sending us helpful photos.

#### What are the main obstacles?

The differing degrees of "informality" associated with enterprises using "three wheelers" and other smaller vehicles can discourage many stakeholders. Drivers of these vehicles tend to be poorly paid and often poorly motivated to assist passengers with disabilities. Municipal governments could consider reaching out to public, private, and social service transport sectors by encouraging specialized paratransit mobility management practices, such as offering disability awareness training to drivers.

## How do you plan to follow up this initiative?

This initiative is a work in progress. (1) We encourage stakeholders to send suggestions and comments to us at tom@globalride-sf.org. (2) We plan to provide an update on this initiative at an international conference on paratransit services, to be held October 29-31, 2014, in Monterey, California. For information, contact Jennifer Weeks at the USA's Transportation Research Board at JLWeeks@nas.edu. (3) International readers may contact AEI for information on English- or Spanishlanguage study tours of paratransit systems in the San Francisco Bay Area, or to discuss our participation in national- or regional-level paratransit workshops.

## Wheelchair-accessible taxis in Vitória, Brazil; Medellín, Colombia; Lima, Peru; and Villahermosa, Mexico











# Inclusive BRTs move ahead in South Africa and Tanzania

<u>Cape Town's</u> MyCiti bus rapid transit system has implemented six additional accessible feeder lines to complement its accessible stations on its main corridors (photo above from their website). The system features level boarding and tactile guideways at the main stations, with lift-equipped feeder buses. The system also includes induction loops at ticket kiosks for the hearing impaired, and boarding bridges on buses serving residential and central city routes.

Not to be outdone, <u>Johannesburg's</u> Rea Vaya BRT system launched its second BRT corridor this past October, with platform level boarding serving an 18 km route connecting Soweto with the Johannesburg Metro Centre. This corridor features the use of bridge plates to cover the gap between the station platform and the bus, eliminating a problem which has affected the accessibility of many BRT systems. We favor the use of such bridge plates – first used in Curitiba, Brazil's pioneering system – to increase safety for all passengers who no longer have to "mind the gap."

Hopes are high for the nearly completed DART bus rapid transit system in <u>Dar es Salaam</u>, Tanzania. Plans are moving ahead for a BRT system in <u>Nairobi</u>, Kenya, although the status of accessibility features remains unclear. The current status is all too clear in <u>Lagos</u>, Nigeria: it simply isn't accessible for many seniors and persons with disabilities (see photos below taken by AEI Board member Ike Nnaji).





# Latin America continues its march toward accessible BRT

Yes, there is room for improvement, but Access Exchange International wishes to again point to Bus Rapid Transit in Latin America as a world leader. For example, we are informed by staff of the Interamerican Development Bank that design studies for the planned BRT system in <u>LaPaz</u>, <u>Bolivia</u> will follow accessibility guidelines used throughout the region.

Meanwhile, Mexico has joined Colombia and Brazil as a leading nation in terms of the spread of BRT to multiple cities. In January, <u>Monterrey</u> became the sixth city in Mexico with BRT, opening up a 30 km system with 39 stations that feature level boarding.

And Mexico City is rapidly adding BRT corridors to criss-cross the city, with five lines now in operation and 29 new lines proposed. In April, AEI Executive Director Tom Rickert and his colleague Andrés Balcázar checked out Mexico City's recently opened Line 4, a low-floor BRT that connects the airport with the downtown historic center (photo below by AEI).



Planners worked hard to reduce the platform-to-bus gap, and a ramp is available to assist wheelchair users. As with many cities, the big problem for disabled persons is to navigate the sidewalks and street crossings to get to the accessible BRT stations. "Last mile connectivity" between the transit line and the trip destination is thus a major concern: see our article on pages 1-3 for one initiative to address this issue.

One positive force in Latin America is SIBRT (BRT Yes!), the Latin American Association of Integrated Transit Systems, with associated members from eighteen cities in seven countries. Photos from a recent SIBRT newsletter are shown below. Google SIBRT for news on their major conference in Lima, Peru, to be held August 5-8.









# 15th Annual Roundtable "a first" in many respects

The World Bank introduced a new publication, GAATES premiered a pioneering international survey (see article below), and three Mexican colleagues provided a unique in-depth view of accessibility issues in one of the world's largest cities, all at our largest-ever International Roundtable on Accessible Transport held in January in Washington DC and co-sponsored by AEI and the International Centre for Accessible Transportation (ICAT) of Montreal, Canada. Other presentations focused on transport matters in Jakarta, Hyderabad, and Dubai; on "complete streets" that are accessible to all; an initiative in Europe to further the adaptation of cars for use by drivers with disabilities, and a report on progress in learning how to identify data concerning paratransit vehicles.



Lilian Salazar, Janett Jiménez, and Andrés Balcázar focussed on access issues to Mexico City's transit modes. Julie Babinard of the World Bank intro-

duced the Bank's newly published guide, "Improving Accessibility to Transport for People with Limited Mobility." Contact tom@globalride-sf.org to receive all the presentations via Hightail in order to download these files. (Photo by T. Rickert of Salazar and Jiménez with Russell Thatcher, at AEI breakfast held in January in Washington.)

# A pioneering survey on accessible transportation presented by GAATES

Led by Ann Frye of the UK, the Transport Committee of GAATES (Global Alliance on Accessible Technologies & Environments) has completed a survey of local transport needs for persons with disabilities. 257 persons from 39 countries responded. Inaccessible pubic transport vehicles were found to be the biggest problem affecting mobility (47% of

respondents), along with poor attitudes of drivers and other staff as well as a lack of sidewalks, bad roads, and a lack of available public transport in general. The groups most affected by these problems were wheelchair users, people who are blind or with low vision, people with walking difficulty, and those with a cognitive impairment or learning disabilities. Respondents were largely from urban or suburban areas, and the public transport modes found in their area included buses (82%), taxis (79%), trains (50%), and paratransit vehicles.

What needs to change? Respondents focused on improving attitudes of transit staff, better regulatory frameworks with monitoring and enforcement mechanisms, making sidewalks and crossings more accessible, and better access to buses and other modes of public transportation. The full report is available at www.gaates.org/documents/Transport\_Survey\_Report\_Jan\_2014.pdf.

Please send address changes, news, and photos from your country to

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Board of Directors: Top: Marc Soto, President; Lucy Crain, Treasurer; Richard Weiner; Peter Straus; Susan Worts; and Tom Rickert, Executive Director. Bottom: Cheryl Damico, Vice President; Aparna Kota; and Bruce Oka, Secretary. Not shown: Ike Nnaji.

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Every \$1 donated to AEI is matched by \$1.66 in donated staff time and services to our work.

Elizabeth Zimmerman

# News and Notes from Around the World

### LATIN AMERICA

• <u>Colombia</u>: Medellín continues to move ahead with improved transport access, reports Pablo Ochoa



(photo left), including a campaign to recruit transit drivers to provide courteous service, including this sign to stop for wheelchair users.



• <u>Argentina</u>: Buenos Aires received an award for sustainable transport at January's TRB conference in Washington, DC, presented by the Institute for Transportation & Development Policy (ITDP).... AEI congratulates our colleague, Eduardo Joly, for completing more than two decades of effective advocacy as head of the Fundación Rumbos in Buenos Aires



• <u>Dominican Republic</u>: Steve Yaffe reports little above-ground transportation access during his travels in this nation, but does note level boarding to the Santo Domingo subway (photo).

Advocates seek ramp-equipped buses. 200 bus drivers are reported to have been trained in courteous service for disabled passengers.

#### **EUROPE**

- <u>European Community</u>: Go to www.tracy-project.eu to look at the results of a multinational study of transportation and aging, funded by the EC.
- <u>Austria</u>: AEI was one of many collaborators in "Zero Project 2014," a major effort carried out to foster good practices in the elimination of barriers to disabled persons. Fifty carefully selected practices were presented at their conference held in February at the U.N. Center in Vienna. The conference was an initiative of the Essl Foundation, along with the World Future Council and The European Foundation Centre. Go to www.zeroproject.org for more information.

• Bulgaria: Maya Baneva Nikolova of Sofia is offering

everyone a free online opportunity for marking wheelchair accessible public places on an interactive map. Sofia is not an easy place to navigate (see her photo). She wrote us, "Since becoming the mother of



an amazing boy almost two years ago, I have realized how hard it is to try to walk around Sofia with a pushchair. . . I couldn't help imagining how much harder it must be for disabled people whose wheelchairs are the only way to get around." Go to chairity.mnknowledge.com.

- Portugal: The 14th International Conference on Mobility and Transport for Elderly and Disabled Persons will be held in Lisbon, Portugal, July 28-31, 2015. The event is under the auspices of the Instituto Superior Técnico (IST), a school of Engineering, Science and Technology of the Universidade de Prof. Rosário Macário of the IST is the conference Chair, and Prof. Anabela Simões, our longtime colleague, serves as Vice Chair. The conference language is English. Interested readers should note that abstracts for papers are due September 15, 2014. The previous TRANSED was a highly successful event held in New Delhi, India, in 2012, and work is proceeding to select a host agency for TRANSED 2018. The TRANSED series is co-sponsored by the USA's Transportation Research Board. Registration and all other conference information is available at the website at http://transed2015.com.
- <u>Russia</u>: Christopher Hart reports that the Moscow Metro now has 15 accessible stations and elevators are planned for all new stations. Cities with older subway systems such as New York and Moscow have faced special challenges as they deal with retrofitting key stations with accessibility features.
- <u>Ukraine</u>: Elena Fudorova in Kherson, just north of the Crimea, reports that she needs resources to promote inclusive education for blind children and other persons with disabilities. To learn more, go to "Life without Barriers" at www.lwb.com.ua. AEI has forwarded information on transport resources.
- <u>United Kingdom</u>: A case study of the long-term provision of paratransit services is available from HcL in Scotland, celebrating thirty years of work in the Edinburgh region. More information is available at www.scottishaccessibletransport.org.uk. (to Page 8)

# **News and Notes**

(continued from page 7)

## **NORTH AMERICA**

• <u>Canada</u>: "Destinations for All," a major conference on accessible tourism for persons with disabilities, is



planned for October 19-22 in Montreal, Canada. The conference is sponsored by Kéroul and will be opened by Daniela Bas, Director of the United

Nations' Division of Social Policy and Development (above at center, shown with André Leclerc and Isabelle Ducharme, respectively Kéroul's CEO and Board chairperson). Go to <a href="https://www.destinationsforall2014.com">www.destinationsforall2014.com</a> for information. In many countries, a push for access to tourist facilities has also highlighted the need for greater mobility for disabled persons living in poverty. . . . Can 3- or 4-wheeled scooters get on buses? Daniel Blais reports that this and other complex issues will be discussed at a conference in Calgary planned for November. Canadian law requires greater crashworthiness of vehicles capable of going 30 mph (50 kph) or more. Many smaller vehicles, such as India's auto-rickshaws, are designed not to exceed that speed.

• <u>USA</u>: Advocates in the United States keep plugging away, urging conservatives in the U.S. Senate to ratify the United Nations Convention on the Rights of Persons with Disabilities. The USA is one of the few nations in the western hemisphere which has yet to do so. . . . Easter Seals Project ACTION (ESPA) in Washington DC has studied effective removal of snow blocking access to pathways and transit stops, a major issue in wintry northern climes. Project ACTION is also one of the world's best sources of information on travel training to help disabled persons learn to navigate accessible bus and rail services. Go to www.projectaction.org. . . . The USA's universally accessible MV-1 vehicle is now rolling off assembly



lines in Mishawaka, Indiana. Information is available at www.mv-1.us. . . . Google "NACTO Urban Street Design Guide" for this excellent publication. . . Access Exchange International recently

welcomed Nilika Mehrotra, a Professor at the Nehru

University in New Delhi and a researcher on issues impacting persons with disabilities in India (photo at left below in the AEI office).

# Accessible Transport in Tehran, Iran

a report from Aliasghar Assadi

Mr. Assadi is a blind teacher in Tehran with extensive contacts with the disability community. He became known to us through our friend in Tokyo, Walter Spillum. He may be reached at aliasghar.asadi@gmail.com. This report is abridged for space reasons. Our main impression is that Tehran is moving forward while facing the challenges of many cities in less-wealthy countries.

Mr. Assadi notes that,
"According to the law, the
Mayor is the main factor in
paving the way toward
accessibility in cities,
including sidewalks and
buses. In the case of
subways and airports,
other agencies are responsible."



<u>Sidewalks</u>: He reports a number of positive changes, including some "tactile guideways on sidewalks to show the path to the blind so that they can find their ways" as well as the initial installation "of accessible traffic lights to help the visually impaired folks at intersections. . . . Fortunately, the mayor's office is rapidly covering the ditches in streets and drainpipes are being put underground. This is very good for more accessible sidewalks and streets."

<u>Buses</u>: Regular buses are not reported as accessible, but "the newly adopted Bus Rapid Transit systems are much better when it comes to accessibility. . . . Some pedestrian bridges may be equipped with escalators but still we have many stops without them that makes them inaccessible for people with mobility impairments."

<u>Subways</u>: "Almost all of the stations are equipped with escalators and lifts to directly guide the blind folks to the subways and on board." In addition, "discounted tickets (are) used by people with disabilities and elderly people and that makes it cost effective for them to use this public transport system."

There are many challenges: Mr. Assadi notes that "the process of maintenance and making legislation (is needed) so that accessibility is regarded as a duty for the government to do for the citizens, not a volunteer work." He recommends "exchanging ideas with developed countries for a better understanding of accessibility ideas and concepts" as well as "a vast campaign to increase public awareness about accessibility." He states "The government must plan paratransit systems for people with disabilities in Iran." He adds that authorities need to avoid mistakes by learning directly from the disability community.