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Accessible Community Transportation In Our Nation

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Accessibility Design Guide for Bus Rapid Transit Systems

Executive Summary

Easter Seals Project ACTION ACCESSIBLE COMMUNITY TRANSPORTATION IN OUR NATION

Easter Seals DISABILITY SERVICES

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Easter Seals Project ACTION ACCESSIBLE COMMUNITY TRANSPORTATION IN OUR NATION

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Project Team and Advisory Committee

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Members of the Project Advisory Committee

- David Evans, Palm Beach County Chapter, National Federation of the Blind; member South Florida Regional Transportation Authority (Tri-Rail) ADA Advisory Committee
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- Terry Parker, accessible services manager, Lane Transit District (LTD) (Eugene, Ore.) and Easter Seals Project ACTION National Steering Committee Liaison

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BRT & Accessibility: Getting it Right from the Start

Executive Summary

Introduction

This paper highlights the results of a study funded prepared by TranSystems for Easter Seals Project ACTION (ESPA) to develop an *Accessibility Design Guide for Bus Rapid Transit Systems*. The report describes accessible design elements that apply to BRT systems both from the regulatory perspective of the Americans with Disabilities Act of 1990 (ADA) as well as the concept of *universal design*, which means including barrier-free design elements that will enhance system accessibility for all persons, including individuals with disabilities.

The intent of the project was not to give detailed engineering information, but to provide guidance and possible solutions for incorporating accessible design elements necessary to meet or exceed ADA accessibility requirements. The *Design Guide* identifies accessibility issues common to BRT systems, documents effective ways of addressing those issues, and provides examples of how these issues are currently being addressed through six case studies. A companion *ADA Compliance Checklists for Bus Rapid Transit Facilities Design and Construction* is included as a self-assessment tool.

The information presented in the *Design Guide* and *Checklists* also may be used to supplement the FTA's *Characteristics of Bus Rapid Transit Decision-Making* report (CBRT), which provides guidance to transit agencies on the development and implementation of BRT systems. An updated CBRT is expected to be published in 2009.

This paper also highlights solutions identified as part of the ESPA project that will help transit agencies to plan and implement accessible BRT services, especially related to vehicle design, station platform and stop design, the platform-to-vehicle interface, and public involvement in the BRT planning and implementation process.

The APTA conference presentation will focus on the experience of the BRT systems operated by two transit agencies—the Regional Transportation Commission of Southern Nevada (RTC) in Las Vegas, Nevada and Lane Transit District (LTD) in Eugene, Oregon—that made accessibility a priority right from the start and were especially proactive in ensuring that vehicles and stations/stops were made accessible for all customers, including people with disabilities, older adults, bicyclists, and the general public.

ADA and BRT SYSTEMS

The ADA was enacted to ensure that people with disabilities have equal opportunities and access to public spaces and services as persons who do not have disabilities. Although ADA requirements are well documented for conventional fixed route bus and rail systems, because BRT is a hybrid service with characteristics of both bus and rail it may be less obvious how the ADA requirements apply.

This ambiguity has prompted activities at the Federal level that include proposed changes to the ADA Accessibility Guidelines known as

ADAAG. The U.S. Access Board is tasked with developing guidelines for accessible buildings, facilities, and vehicles. In 2006, U.S. Department of Transportation (USDOT) adopted the updated ADAAG as its current *ADA Standards for Transportation Facilities*. USDOT also adopted the *ADA Accessibility Standards for Transportation Vehicles*, as amended through 1998.

Revised Draft ADAAG

On November 19, 2008, the U.S. Access Board released a revised draft of proposed updates for the ADA Accessibility Guidelines for Buses and Vans, with public comments due by January 20, 2009. Of particular interest to BRT systems is the inclusion of specific requirements for *level boarding buses*, vehicles which did not exist in 1991 when the original guidelines were published and are now being used in many BRT systems. The 2008 draft guidelines define a *level boarding bus system* as:

> *A system on which buses operate where some or all of the designated boarding and alighting areas have station platforms, and the design of the station platforms and the vehicles are coordinated to provide level boarding.*

As noted, the *ADAAG for Buildings and Facilities* were revised in 2004 and adopted by USDOT in 2006. The current ADAAG primarily standards apply to key and new rail facilities (i.e., stations), with only limited applicability to bus stops. However, in addition to the proposed definition of level boarding bus systems noted above, the revised draft ADAAG proposes to change the definition of *fixed guideway stations* (i.e., rail) to a broader definition of *stations* (i.e., level boarding bus systems and rail) as follows:

- **Current Wording:**
  F218.2 New and Altered Fixed Guideway Stations. New and altered stations in rapid rail, light rail, commuter rail, intercity rail, and high speed rail, and other fixed guideway systems shall comply with 810.5 through 810.10.
- **Proposed Wording:**
  F218.2 New and Altered Stations. New and altered stations for level boarding bus systems and fixed guideway systems, including, but not limited to, rapid rail, light rail, commuter rail, intercity rail, and high speed rail, shall comply with 810.5 through 810.10.

And proposes to change the reference from *rail* platforms to *station* platforms as follows:

- **Current Wording:**
  810.5 **Rail** Platforms. Rail platforms shall comply with 810.5.
- **Proposed Wording:**
  810.5 **Station** Platforms. Station platforms in level boarding bus systems and fixed guideway systems, shall comply with 810.5.

If adopted, these changes would require level boarding bus systems such as BRT to comply with applicable ADAAG standards that formerly applied only to rail platforms and vehicles. For example, 810.5.1 would require that station platforms not exceed a slope of 1:48 (2.1%) in all directions.

ADAAG Requirements Relevant to BRT

For reference, the report contains a set of checklists that include ADAAG requirements for design elements that are commonly found in a BRT system application, whether or not they are currently required for ADA compliance (see Table 1).

Table 1.
Common ADAAG Requirements

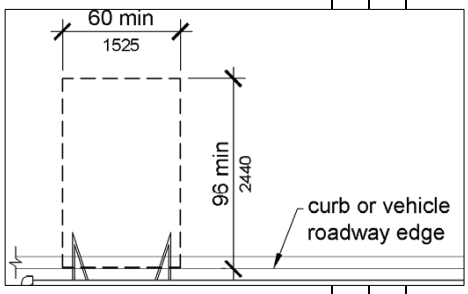
Parking
Accessible Routes
Passenger Drop-Off
Curb Ramps
Entrances
Doors and Gates
Ramps
Elevators
Escalators
Ticketing and Automatic Fare Vending
Platforms
Mini-High Platforms
Public Address Systems and Clocks
Telephones
Signage
Maneuvering/Reach Range
Handrails and Grab Bars
Bus Stops
Detectable Warning
Controls and Operating Mechanisms

The self-assessment checklists may be used to determine whether a level boarding platform/station is compliant with ADAAG requirements and also may be used to assess the adjacent environment, such as accessible routes, parking, passenger pick-up/drop-off locations, curb ramps, ramps, and so on. The checklists also may be used to assess whether ticket vending machines, telephones, signage, detectable warnings, and other elements of the platform area are compliant. At a minimum, transit agencies should be assessing their BRT stops/stations for compliance with the bus stops checklist. A copy of the bus stops checklist is included in Table 2.

Note that until there is a regulatory change, USDOT considers BRT systems to be *bus* and not *rail* and, therefore, they are only required to comply with ADAAG regulations that apply to bus systems. In any case, it should be remembered that the ADAAG requirements represent minimum standards and agencies are encouraged to exceed the minimum requirements to make their systems more user-friendly and accessible for all passengers.

Table 2.
Sample ADAAG Checklist for Bus Stops

FACILITY:_____ **DATE:_____** **NTP*:_____** *Notice to proceed with construction date			
18.1 Bus Stop Technical Specifications	**Y**	**N**	**Observations**
18.1.1 Surface of Boarding and Alighting Area Does the boarding and alighting area have a firm, stable surface? *(810.2.1)*	☐	☐	

<u>18.1.2 Dimensions of Boarding and Alighting Area</u> Does the bus stop boarding and alighting area provide a clear length of 96 inches minimum, measured perpendicular to the curb or vehicle roadway edge, and a clear width of 60 inches minimum, measured parallel to the vehicle roadway? *(810.2.2)*  	☐	☐	
<u>18.1.3 Connection of Boarding and Alighting Area to Adjoining Elements</u> Is the bus stop boarding and alighting area connected to streets, sidewalks, or pedestrian paths by an accessible route? Use Checklist 2 – Accessible Route. *(810.2.3)*	☐	☐	

<u>18.1.4 Slope of Bus Stop Boarding or Alighting Area</u> Is the slope of the bus stop boarding and alighting area parallel to the roadway the same as the slope of the roadway, to the maximum extent practicable? *(810.2.4)* Perpendicular to the roadway, is the slope of the bus stop boarding and alighting area no steeper than 1:48 (2%)? *(810.2.4)*	☐ ☐	☐ ☐	

ELEMENTS OF ACCESSIBLE DESIGN

As part of the ESPA study, the research team conducted six case study visits to determine what accessibility features were being employed—both those that were required by ADAAG, as well as design elements that make sense to include from a universal design perspective. The study sites included:

- Regional Transportation Commission (RTC) of Southern Nevada in Las Vegas, Nevada
- Lane Transit District (LTD) in Eugene, Oregon
- Greater Cleveland Regional Transportation Authority (GCRTA) in Cleveland, Ohio
- Miami-Dade Transit (MDT) in Miami, Florida
- Port Authority of Allegheny County (PAAC) in Pittsburgh, Pennsylvania
- Massachusetts Bay Transportation Authority (MBTA) in Boston, Massachusetts

These six transit agencies highlighted below all have been pioneers in the development of accessible BRT systems, each with its own strengths and weaknesses.

RTC of Southern Nevada MAX/ACE

The RTC is focused on providing *rapid transit* service through its MAX BRT service. The transit agency has worked closely with a European vehicle manufacturer to develop a vehicle that suits the needs of its BRT service including a rear-facing securement area, a rear-entry area for bicycle storage separate from the wheelchair securement area. Most passenger boarding areas are rail-like stations with accessibility amenities including detectable warnings, level boarding, off-vehicle ticket vending machines, and platform markings that direct passengers to the doorways.

The Las Vegas BRT system was scheduled to utilize optical guidance for precision docking beginning in 2003; however, the system was turned off because the city's road maintenance staff could not keep the pavement markings clean and well-defined in the city's extremely hot, dry, and sunny desert climate. Moreover, the transit agency's management found that the vehicles' drivers could be trained to manually steer the vehicle into the stations with sufficient precision.

RTC also has focused on developing a brand identity for its BRT system that does not include the word *bus*, but emphasizes the *rapid transit* aspect of service. The second BRT line—ACE—is under construction and will include the second generation of specially designed BRT vehicles as well separated running ways. Fares for the BRT routes are the same as conventional fixed route transit, which has encouraged the use of BRT.

RTC station with optical guidance street markings

LTD Emerald Express (EmX)

LTD has a long history of providing accessible services to all customers. LTD's Accessible Transportation Committee (ATC) was formed to ensure that this tradition would continue in an official capacity. All of LTD's services are designed with assistance from the Committee. The ATC is made up of paratransit and fixed route riders and of individuals from social service agencies.

Members of the ATC participated extensively during the development, design, and implementation of EmX. LTD also went out into the community to generate input from users who were not members of the ATC. In addition, a separate work group for persons with

vision disabilities was established to address specific issues related to using transit with a sight impairment. A committee member reported that the biggest challenge to a person with a vision impairment is finding your way within a transit station. With help from the working group, LTD generated tactile maps of the EmX stations. As previously discussed, they also worked with the city to get audible signals placed along the EmX route.

LTD EmX stop at transfer center

ATC members and others with different styles and sizes of mobility devices participated in several demonstrations, trying out different seating configurations and securement positions, and maneuvering through the vehicle using a full-scale, three-dimensional, plywood mock-up with ADA securement locations. From these experiments, planners and participants were able to uncover unanticipated barriers, such as maneuverability through the vehicle. Different door locations and a variety of configurations for securement areas were tested. The result was a more accessible vehicle design.

GCRTA HealthLine (Euclid Avenue Corridor)

All HealthLine BRT stations are designed to provide passenger-friendly waiting environments, to be integrated into the community, and to be easily accessible, with fast loading platforms. Tactile pavers will define station locations and station platform edges and Audible Pedestrian Signal Detectors, which provide tactile and audible pedestrian signals at crosswalks.

GCRTA partnered with Lane Transit District in Eugene to purchase 21 specially designed rapid transit vehicles from New Flyer Industries. The articulated, low-floor, 62-foot vehicles, known locally as Euclid Corridor Vehicles, operate via a low-sulfur diesel motor that powers smaller electrical engines mounted near the vehicle wheels. Each vehicle is equipped with three right side doors, two left side doors, and interior bicycle racks. In addition, vehicles are uniquely stylized, with an aerodynamic, rounded front nose and wheel skirts to give the buses a more *rail-like* appearance.

GCRTA BRT vehicle with left-side boarding

Miami-Dade Transit Busway

Miami-Dade Transit's Office of Civil Rights actively pursued public participation in the planning and design of the Busway infrastructure and BRT service. Public right-of-way access was a key concern of the participating groups including the Miami-Dade County Commission on Disability Issues and several organized local disability groups. Attention to pedestrian crossing signals, BRT station design, service schedules, and transfer to other routes were issues of concern which were coordinated with the design and planning groups. Input from the disability advisors were also applied to the vehicle procurement process.

MDT busway stations

Station boarding and alighting areas (platforms) are constructed parallel to the Busway travel lanes with a slip lane for bus loading/offloading operations at the six-inch high concrete platform. Kneeling buses with flip-out ramps are used for accessible boarding and present ADA compliant slopes for boarding and alighting.

At the time of the case study, MDT had a procurement process underway to purchase 60-foot, 56-passenger capacity low-floor articulated diesel / electric hybrid buses for the BRT service.

PAAC South Busway

The Port Authority's commitment to involving individuals and groups representing people with disabilities is applied in all aspects of providing public transportation. Although information was not available concerning the specific input from the disability community during the planning of the three busways, PAAC has made improvements to the BRT infrastructure that provides an accessible system.

The Martin Luther King, Jr. East Busway, West Busway, and the light rail "T" are accessible. These transit facilities have wheelchair ramps and curb ramps for easy and convenient access, guide rails, and key station information available in raised lettering and Braille. In addition, the T has high-platform stations, allowing direct access to light rail vehicles, although low-level stops along the T and South Busway, as well as the Duquesne Incline are not yet accessible.

The Committee for Accessible Transportation has been in existence since 1991. It is composed of people with disabilities, agencies that serve them, and members of their families. CAT advises PAAC and ACCESS Transportation Systems, Inc. (paratransit service) on how to make public transportation accessible to riders with different types of disabilities. It meets quarterly and is governed by a 15-member steering committee, which is elected by its membership every two years.

Stations on the original South Busway were extremely basic; later, the busway features improved stations, but these are still modest in dimensions, design, and materials. All stations rely

on at-grade pedestrian crossings. South Busway stations are treated more as enhanced bus stops (some even feature *bus stop* signs) than as the *rapid transit* stations. Stations are not barrier-separated, and fares are paid onboard vehicles.

PAAC Negley Avenue station

All vehicle types in the Port Authority's bus fleet may be operated in busway service, using the busways to provide travel time benefits to an existing bus system. Articulated coaches provide most of the spine service on the East Busway route.

MBTA Silver Line

A decade after initiating plans to develop a BRT system in the congested downtown Boston service area, the MBTA's Silver line exemplifies an urban BRT system that was adapted to meet challenging local operating conditions. The system includes rights of ways that operate along urban streets as well as in an exclusive underground tunnel system. Bus stops serving the BRT system are located along the above-ground portions of the system, while underground rail-like stations are placed throughout the tunnel system.

MBTA Silver Line Tunnel Station

For the Silver Line Airport route, the MBTA has located BRT stops at the far end of each of the five terminals, making it easy for customers to find the stops, even if they are not familiar with the system. Fare payment may be made on-board, although passengers are encouraged to purchase tickets or fare cards.

The South Station BRT station is located in a multi-modal transit center, which includes subway, bus, commuter rail, and intercity bus connections. Although this system includes elevators, signage and other amenities common to rail stations, one item that was not initially included was detectable warnings. With patrons sometimes wandering into the underground busway, the MBTA plans to add detectable warnings to the edge of the curb to clarify the edge for all customers.

The MBTA also experienced challenges with the automated voice annunciator system not being able to receive a signal in the underground tunnel system. As a result, the stop announcements were out of sync. That issue has been corrected.

ELEMENTS OF SUCCESS

The ADA regulations and the ADAAG describe minimum accessibility requirements for meeting programmatic, architectural, structural, and/or operational conditions intended to allow most people with disabilities to use facilities and services. Compliance with these regulations and guidelines, however, does not fully describe the level of accessibility provided. Higher levels of accessibility can be achieved with the implementation of certain design treatments and BRT elements. In some cases, transit systems are now adopting the notion of *universal design*, which embraces the concept of a *barrier-free* environment to provide a more accessible and usable system for all passengers including people with disabilities, older adults, children, people with luggage or baby strollers, as well as the general public.

BRT affords a great opportunity to get it right from the start. By investing in the long-range planning that is required to implement a successful BRT service, transit agencies can create more sustainable, useable, and accessible transit systems. Based on the literature review and case studies, in order to achieve this goal, transit agencies should, where possible, incorporate the following elements into their BRT system.

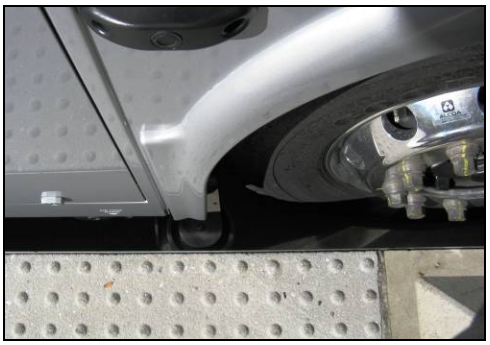
Level Boarding and Precision Docking

Being able to board and alight quickly and safely is a key factor to BRT's overall success if it is to be competitive with other transportation options. Thus, it is incumbent upon transit agencies to design platforms and vehicles to minimize boarding times and to ensure quick and safe wheelchair securement.

One of the most important components to facilitating accessibility of BRT systems is level boarding, which is a system that aligns boarding platforms at the same level as the floor of the bus. Level boarding eliminates the need to navigate steps, which can be difficult for anyone with a mobility limitation, packages, baby strollers or luggage.

Quick entry and exit decreases dwell times for all passengers. Where designed, buses can then be automated to dock precisely at bus stops—*precision docking*—thus providing easy access and enhancing passenger safety. Precision docking eliminates the need for wheelchair lifts or similar costly devices. The technologies included in level boarding and precision docking for BRT include intelligent transportation systems (ITS) technologies, satellite-based technologies, onboard bridge plates, and even simple driver training techniques, among others.

Precision-docking or consistent alignment practices helps to ensure a minimal gap for level-boarding and alighting, acting as rails do for rail transit. The end result would be greater accessibility and boarding speed for individuals with disabilities without negating the other benefits accrued by the BRT system as a whole. In fact, the BRT system would be even more efficient for all passengers, due to its shorter dwell times.


GCRTA precision docking guide wheel

Guided vehicles, used in conjunction with stations having platforms at the same height as the vehicle floor, can be expected to have boarding and alighting times similar to those on heavy rail or on some LRT systems, or approximately one second per person less than the passenger service times for conventional buses. Besides reducing average passenger service times, this step-less and gapless boarding and alighting can significantly reduce the time it takes for customers with disabilities or customers with children in strollers to board and alight from BRT vehicles. This precision docking, combined with wide aisles, can significantly reduce passenger service times for these customers, thus improving schedule reliability.

Station Location

Station placement in relation to street intersections, pedestrian crossing locations and timing, and overall pedestrian facilities surrounding stations are key accessibility issues for BRT. Walkways and pathways for passengers with and without disabilities should be the same, thereby eliminating the distinction between the two customer groups.

LTD EmX busway

Since the ADAAG requirement already says that the accessible path should coincide with the general public path to the maximum extent feasible, that requirement would also apply to BRT. BRT stations placed in the center median will have different pedestrian access issues from stations placed to the bus-traditional right side of traffic lanes, particularly with regard to street crossings. By using a center median, passengers have to cross traffic to reach the boarding area, which may create a safety as well as potential accessibility issue.

Passenger Information—Signage and Displays

As with conventional bus and rail services, the accessibility of the information provided to passengers affects access to the BRT system. Traveler information (such as vehicle arrival time, next-stop information, and way-finding directions to guide passengers in and around the station) needs to be accessible to everyone, including passengers with vision and hearing disabilities.

RTC real-time arrival message sign

Emerging technologies including Talking Signs® and web-based information can also be used to improve passenger information. Information should be provided in visual, tactile, and audible formats. This information needs to be easy to access throughout the station and vehicle. For example, as is the case on EmX vehicles, LED displays on a vehicle should be visible to both forward and rear-facing passengers. Audible announcements need to be understandable and at a volume that does not interfere with other audible cues.

Public Involvement

Designing accessible BRT transit environments requires creativity and attention to detail. Involvement of organized disability groups, advisory panels, or focus group testing during the design and implementation phases of BRT has proven to be an invaluable aide to transit agencies. The ability to focus on BRT characteristics unique to communities or system users during the design phase of the project allows early solutions and reduces potential for expensive fixes during the construction phases of the project. Accessibility considerations for BRT systems must be viewed in a holistic setting, beginning with initial system design and continuing throughout system implementation and operation.

Not only access at the BRT stop/station and onto BRT vehicles, but access to the BRT system as a whole should be considered. Accessible pathways connecting various points of approach to the BRT facilities are critical in providing an accessible system. By taking into consideration user safety, comfort, and accessibility right from the start, transit agencies can move forward more quickly and avoid the pitfalls and expensive cost of retrofitting.

An important part of understanding and identifying accessibility issues during the design and construction of BRT systems is through the use of public participation, particularly consumers who have disabilities and older adults, as well as the general public who may use BRT when handling luggage, strollers, and other packages. As mentioned above, the use of transit advisory committees and special task forces provides a direct avenue to informed participants with real-world experiences. Actively involving consumers and potential riders helps to educate the local community about BRT and what it can offer. Meaningful input from these consumers results in better and more accessible system design, increased public awareness and acceptance, and serves to educate the public about the potential benefits of BRT.

Public involvement can also be useful in generating political support. During the initial stages of LTD's EmX BRT planning process, in an effort to address concerns regarding safety and accessibility, LTD wanted to have audible signals installed throughout the EmX route. City traffic engineers protested, saying that audible signals were not currently used within the city of

Eugene. Through continued discussions amongst LTD Accessible Services staff, LTD planners, and other stakeholders the City re-evaluated the request. Audible signals were installed along the corridor and more signals have since been installed at other intersections throughout the City in what is now standard practice.

Many of the transit agencies interviewed for this project stated that using their advisory groups had been very beneficial, particularly when they were involved in testing vehicle and station/stop design elements. Using station and vehicle mockups, consumers in Eugene were able to help identify maneuverability issues within the vehicles, and assist LTD in developing a vehicle design appropriate for their BRT initiative, resulting in a more accessible vehicle.


LTD bike rack

Participants also influenced LTD's decision to separate bicycles from mobility device securement areas; input from persons with disabilities indicated that they did not want to compete with bikes for use of securement areas. Additionally, a special working group within the advisory group played a significant role in generating tactile maps designed to help those customers with vision impairment navigate EmX transit stations. Partnering with users of the BRT system and other stakeholders will contribute to success in the implementation of the service and provide support and willingness to help problem solve solutions to unforeseen issues that invariably arise at start-up of the system.

Branding and Public Image

A unique branding convention makes BRT service easily distinguishable from conventional bus service and can attract customers that would otherwise choose not to utilize public transit. Transit agencies should try to create an image that customers will associate with speed, ease of use, high quality and high frequency service, and attractive vehicles and stations.

Brand recognition is important in generating familiarity with BRT service, both from an ease of use standpoint, and because persons familiar and comfortable with the service are more likely to continue use of the service. From the beginning of the planning process, LTD recognized the importance of developing the EmX service as a brand.

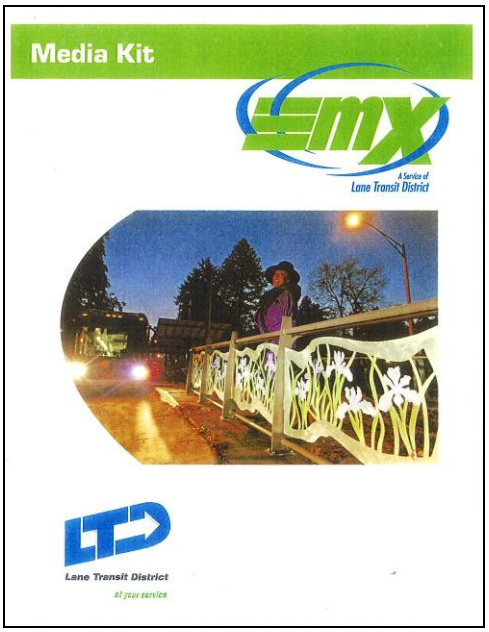
Logos and branding elements can serve a purpose beyond cosmetics. The EmX logo was designed with a straight line, so that when the logo is placed on the floor of the BRT vehicle, it can also act as a guideline for persons with mobility devices.


LTD's EmX floor logo

Similarly, in Las Vegas the RTC has specifically branded its BRT service—currently called “MAX”—and will be re-branding the system to be called “ACE” once the second line of BRT is completed. The vehicles have been designed to appear and function as LRT vehicles (including custom wheel covers) and the BRT shelters resemble LRT stations, with a design that is distinctly different from the regular bus stop shelters. Additionally, to underscore the difference between ACE and conventional fixed route service, the RTC has dropped the word *bus* and instead refers to MAX and ACE simply as *rapid transit*.

RTC MAX rapid transit vehicle

This trend was consistently obvious at the other five transit systems we looked at during our case studies. In all cases, the BRT service was clearly distinguishable from the local bus service or other modes of transit offered by the agencies. Indeed, creating an *image* was one of the primary goals of the BRT service. LTD planners attribute an increase in overall system ridership to the fact that customers identify BRT service as something entirely different and more appealing than conventional bus service.



LTD Media Kit

GETTING IT RIGHT FROM THE START

In summary, the following can be used as key indicators for accessibility in a BRT system:

- Compliance with current ADA and ADAAG accessibility requirements for bus stops and voluntary use of ADAAG rail station elements that improve accessibility to the system.
- Qualitative ratings of ease of system use by people with disabilities, older adults, children, adults with strollers, and adults with luggage.
- BRT ridership trends (e.g., rates of use) by people with disabilities and older adults.
- Access to transfer points from BRT to local bus or rail service to provide a system-wide accessibility approach.

If the Access Board adopts new guidelines for level boarding bus systems and vehicles, and USDOT adopts those guidelines into standards, then many of the recommended practices cited here that are based on the current ADAAG requirements for rail systems will apply to BRT. It will be important for transit agencies to remain aware of any changes in ADA regulations that will affect their systems and to act proactively to achieve maximum accessibility, regardless of Federal requirements.

Considering elements related to accessibility early on in the design phase of BRT will benefit both users and operators of transit service, for both the short and long run. Ensuring that vehicles, stations, and the system are barrier-free and accessible to all users will greatly contribute to overall system quality and success. And, involving individuals with disabilities and other stakeholders in the design, construction, and operations decisions for BRT service will enable an ownership value that will help to ensure success of the system.