

Recommended Practice for a Fixed Route Stop Announcement and Route Identification Program

Approved Month Date, Year

APTA Fixed Route Stop Announcement and Route Identification Working Group

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APTA Universal Accessibility Policy and Planning Committee

Abstract: This Recommended Practice establishes minimum criteria for a fixed route stop announcement and route identification program to be implemented by transit agencies for fixed route passenger bus and rail systems, including bus rapid transit.

Keywords: ADA, stop announcement, route identification, fixed route, accessibility, vision disability, cognitive disability, automated, annunciator, universal access

Introduction

(This introduction is not a part of APTA UAP-RP-002-08, *Recommended Practice for a Fixed Route Stop Announcement and Route Identification Program*.)

This introduction provides background on the rationale used to develop this Recommended Practice. This information is meant to aid in the understanding and the application of this Recommended Practice.

The Universal Accessibility Standards Policy and Planning committee began initial discussions at an October 2006 meeting in San Jose to identify three key issues affecting universal accessibility in public transportation. It was determined that fixed route stop announcements were a key issue having implications on universal accessibility. The committee agreed to create a working group to develop Recommended Practices that would benefit both transit agencies and the public.

This Recommended Practice describes the elements that should be included in a fixed route stop announcement and route identification program. It applies to fixed route bus and rail systems, including bus rapid transit (BRT).

A working group formed by the APTA Universal Accessibility Standards Policy and Planning Committee (UAPPC) developed this Recommended Practice in accordance with the UAPPC's standard operating procedures. The working group consisted of a broad representation of stakeholders, including transit agencies and the disability community working together.

This Recommended Practice is intended to provide guidance to transit agencies. Its applicability to a particular transit agency depends on variations in ridership, equipment, level of need and the current announcement plan in place.

A fixed route stop announcement and route identification program contains many variables that create challenges to maintaining a consistent program. Among them:

- Equipment
- Customer needs
- Training programs
- Monitoring programs
- Funding

Each agency should adopt a stop announcement and route identification program that is designed, funded, implemented and monitored in such a way to achieve full compliance with the obligation to make audible and informative stop announcements and to provide for effective route identification, as required by the transportation provisions enacted as part of the Americans with Disabilities Act (ADA). The program should be an integral part of providing safe, reliable and accessible services to all passengers, and should be fully supported by agency policy boards and executive management. The agency's chief executive officer and designated senior officials should be accountable for ensuring that the stop announcement and route identification program is fully implemented.

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The American Public Transportation Association greatly appreciates the contributions of the following members of the Fixed Route Stop Announcement and Route Identification Working Group, who provided the primary effort in the drafting of *Recommended Practice for a Fixed Route Stop Announcement and Route Identification Program*.

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1. Overview

Each agency should adopt formal policies that guide the implementation of a stop announcement program that is designed, funded, implemented and monitored in a way to achieve full compliance with the ADA requirement to make audible and informative stop announcements and to provide for effective route identification. The program should be an integral part of providing safe, reliable and accessible services to all passengers, and should be fully supported by agency policy boards and executive management. The chief executive officer and designated senior officials should be accountable for ensuring that the stop announcement and route identification program is fully implemented.

The guiding principles that a transit agency should use to develop and implement a stop announcement and route identification program include the following goals:

- To encourage the use of fixed route transportation by making it as accessible and user-friendly as possible.
- To develop the program in consultation with people who have vision, hearing and/or cognitive disabilities, as well as other transit customers, disability advocates and community organizations.
- To ensure consistency between information provided by manual and automated announcements, when both are employed by the transit agency's stop announcement and route identification program.
- To emphasize to all transit personnel and local union representatives the importance of fully supporting this effort.

1.1 Scope

The purpose of this Recommended Practice is to provide guidance for developing, implementing and maintaining a stop announcement and route identification program that is responsive to the needs of all transit agency customers. This Recommended Practice includes elements that will result in effective, consistent and reliable information being provided to ensure adequate location and directional orientation to all passengers who may need it.

1.2 Purpose

The purpose of this Recommended Practice is to ensure that passenger information is provided in the form of fixed route stop announcements and route identification methods as required by the Americans with Disabilities Act of 1990.

U.S. Department of Transportation regulatory requirements for fixed route stop announcements and route identification are set forth in 49 CFR §37.167:

(b) On fixed route systems, the entity shall announce stops as follows:

- (1) The entity shall announce at least transfer points with other fixed routes, other major intersections and destination points, and intervals along a route sufficient to permit individuals with visual disabilities to be oriented to their location.*
- (2) The entity shall announce any stop on request of an individual with a disability.*

(c) Where vehicles or other conveyances for more than one route serve the same stop, the entity shall provide a means by which an individual with a visual impairment or other disability can identify the proper vehicle to enter or be identified to the vehicle operator as a person seeking to ride on a particular route.

With the goal of universal access in mind, transit agencies should consider going beyond the minimum requirements. In cooperation with local residents and community groups, each transit agency should develop written policies identifying what elements they are adopting above the ADA minimum to be the locally accepted stop announcement and route identification program.

The development of the agency's stop announcement and route identification program should include an extensive public involvement process. The implementation and operation of the program also should include extensive public outreach and awareness elements, as well as a travel training program that includes instruction on how the stop announcement and route identification program functions.

This Recommended Practice takes effect on mo/day/yr.

2. References

Americans with Disabilities Act of 1990, 42 U.S.C. §§ 12101 et seq.
ADA Implementing Regulations, 49 CFR Parts 27, 37, 38 (Title II, III, Department of Transportation)

3. Definitions, abbreviations and acronyms

3.1 Definitions

3.1.1 accessibility: The extent to which facilities and services are barrier-free and usable by people with disabilities. (See "universal access.")

3.1.2 announcement: Audible and/or visual communication of a vehicle route or pre-determined location.

3.1.3 annunciation: The recorded or live announcement of key information to keep passengers informed and oriented (e.g., stops, transfer locations, station or stop updates, and other pertinent information).

3.1.4 automated stop announcement system: Pre-recorded stop announcements and exterior route identification system. Sometimes called "annunciators."

3.1.5 automatic vehicle location (AVL): Devices that track transit vehicle location in real time. Transportation providers can use the location information provided by AVL to continually update passengers on vehicle locations. AVLs can be linked to electronic signs to provide accurate arrival time estimates. This information, which is stored, can be used to review route and schedule performance, allowing for further optimization.

3.1.6 destination points: Route termini, where the route may be ending at a location other than a transfer point or major intersection, or facilities identified on system maps as major

destinations. Examples are major shopping centers, colleges, medical centers, city halls or other government centers, and major parks. This is a matter for local decision making, keeping in mind that there may be different opinions as to what constitutes a “major destination” or landmark.

3.1.7 fixed route services: Services provided on a repetitive, fixed schedule along a specific route, with vehicles stopping to pick up and deliver passengers to specific locations.

3.1.8 global positioning system (GPS): Receivers located on board vehicles to collect signals from U.S. government-operated GPS satellites, which they use to calculate the current latitude and longitude of the vehicle.

3.1.9 intervals: The distance or time elapsed between stop announcements. See “orientation announcements.”

3.1.10 Manual announcement: A voice announcement made by an operator, whether or not it is amplified, using a PA system.

3.1.11 Major intersections: Stops at cross streets considered to be arterial or “through” streets that appear graphically to be major travel arteries on the transit agency’s system map or in local roadmaps. Local planning or highway maintenance departments may have diagrams that describe roadway hierarchy, including such terms as principal arterials (major thoroughfares or highways), arterials and minor arterials (major collectors).

3.1.12 Operator control unit: A display and keypad used by operators to enter a route identifier to activate the on-board automated stop announcement system. The display shows the operator the route name and next stop information.

3.1.13 Orientation announcements: Announcements made at intervals along a route sufficient to permit passengers to be oriented to their location. Examples include stops after routes turn from one street to another and at a time or distance appropriate for the characteristics or geography of the route segment between announcements.

3.1.14 Route identification: A means by which passengers can identify the proper vehicle or route where vehicles or other conveyances for more than one route serve the same stop.

3.1.15 Transfer points: Stops where two or more routes intersect, the first stop after two or more routes that share a common route segment converge, or the last stop before they diverge.

3.1.16 Universal access: The extent to which facilities and services are barrier-free and usable by all customers who wish to use them. Also called “universal accessibility.”

3.1.17 Wayside announcement: An announcement made at a static location such as a station, platform, transit center or shelters, in contrast to an announcements made from a vehicle.

3.1.18 Variable message sign (VMS) or dynamic messaging system (DMS): Electronic signage used to provide traveler information via visual display.

3.2 Abbreviations and acronyms

ADA	Americans with Disabilities Act (1990)
APTA	American Public Transportation Association
AVL	automatic vehicle location
BRT	bus rapid transit
CFR	Code of Federal Regulations
DMS	dynamic messaging system
DOT	U.S. Department of Transportation
FTA	Federal Transit Administration
GPS	global positioning system
IT	information technology
LCD	liquid crystal display
LED	light-emitting diode
OCU	operator control unit
PA	public address (system)
PDA	personal digital assistant
VMS	variable message sign
UAPPC	APTA Universal Accessibility Policy and Planning Committee
U.S.C.	U.S. Code

4. Program elements

Each agency should determine the best course of action for implementing this Recommended Practice. A transit agency's stop announcement and route identification program should include, at a minimum, the following elements:

1. **Program development:** Adopt formal agency policies, procedure and information to guide the development and implementation of the program.
2. **Training:** Create a training program for all agency personnel regarding the requirements of the stop announcement and route identification program.
3. **Monitoring:** Develop a monitoring program to assess compliance with the requirements of the program and to identify operators who may need retraining and/or corrective action.
4. **Incentives and discipline:** Establish incentive and disciplinary programs to be incorporated into existing agencywide practices.
5. **Equipment maintenance:** Institute maintenance protocols to ensure that system equipment operates properly and repairs are made promptly.

4.1 Program development

Transit agencies should adopt formal agency policies and procedures to guide the development and implementation of the stop announcement and route identification program. The program should include parameters for what information to include in stop and route identification announcements. Exact program parameters will depend on the method(s) used by transit agencies, whether automated or manual. If manual announcements are made, a good quality public address system that allows for clear, audible announcements to be made throughout the vehicle is critical to the success of the program.

Procedures should provide for an opportunity for, and consideration of, public participation and community input in the development of stop announcement and route identification program elements. Additionally, it is recommended that a long-term plan for maintaining and upgrading stop announcement equipment, including a plan for transitioning to use of automated stop announcement and route identification technology, be developed.

4.1.1 Stop announcements

- Select stop locations to announce, including:
 - transfer points where passengers would be expected to alight for other routes;
 - major intersections, including arterial streets, major thoroughfares as shown on maps and commercial centers;
 - destination points, including ends of lines, major shopping centers, hospitals, city halls or other facilities used or generally recognized by the riding public; and
 - other stops for orientation, such as after turns or at intervals of a predetermined distance or time.
- Determine how destinations, landmarks, and other information is to be announced (e.g., “Main at Third” or “Main at Third/City Hall”). Create stop call lists, and keep them current.
- Ensure that manual and automated stop lists are coordinated.
- Establish operating/rulebook procedures for performing manual announcements, such as:
 - lead time/distance for making announcements;
 - following stop lists;
 - audibility/using PA; and
 - making manual announcements when automated system fails.
- Establish policies/procedures for optional descriptive information, such as:
 - transferring route numbers;
 - non-required landmarks, etc.; and
 - avoidance of unrelated information (e.g., “Welcome aboard,” or “Have a nice day”).
- Incorporate stop lists and announcement text into databases used by automated systems.
- Develop and coordinate technical parameters for automated announcements (e.g., interface needs for stop information with GPS, lead time or distance for triggering announcements, etc.).
- Develop audible and consistent “reading” style for automated announcements (e.g., male/female voice, community preferences, local pronunciation and lead-ins such as “next stop”).

4.1.2 Route Identification

- Establish policies and procedures for performing route identification announcements, including:
 - how to identify where announcements are required;
 - how announcements are to be made; and
 - making additional announcements when dwelling, or at large transit centers that may have individual stop signs.
- If used, determine policies and procedures for optional route identification assistive devices or technologies (wayside announcements, flash cards, etc.).

4.1.3 Overall program parameters

- Provide for upgrading of stop announcement and route identification efforts over time (moving from manual to automated systems, improving public address equipment and signage, etc.).
- Develop and implement policy statements, marketing and promotional campaigns for education of passengers and employees.

4.2 Training

DOT regulation 49 CFR §37.173 requires staff to be trained to proficiency relevant to job function, which should include training with respect to the required stop announcement and route identification efforts. While it is important to understand why it is necessary to make stop and route identification announcements, the training focus also should also reflect how this is accomplished.

The transit agency is responsible for ensuring that its employees and contracted service providers are provided with the knowledge and skills necessary to successfully and effectively perform the tasks outlined in this Recommended Practice. Community residents with disabilities should be included in the development and delivery of the agency's training program.

It is recommended that all staff, including senior management and local union leadership, attend training to include an explanation of required ADA service elements, including stop announcements and route identification.

4.2.1 Agencywide training

Agencies should incorporate stop announcement and route identification program information into their formal training programs.

In addition, all designated staff required to be familiar with the program should attend ADA training on a regular basis as set by the transit agency. This training should include and emphasize the following:

- A description of the ADA requirements relevant to the program and the implications of noncompliance.
- A clear explanation of policies and procedures.
- An understanding as to why stop announcements and route identification are important.
- An explanation of the benefits from the stop announcements and route identification for:
 - people with disabilities, especially those with visual or cognitive disabilities, and their families;
 - older adults;
 - visitors; and
 - anyone who uses the fixed route service.
- An explanation of how providing effective and consistent compliance maintains good customer service.
- Time for employees to give feedback.

4.2.2 Fixed route vehicle operator

Operators should be trained on all the above, plus the following:

- An understanding that making stop announcements and providing route identification is an essential job function.
- Details of when, how and where stop announcements and route identifications are to be made.
- The importance of making announcements that are clear and audible throughout the vehicle. This should be ensured through:
 - testing stop announcement and route identification equipment as part of pre-trip inspections;
 - promptly reporting in-service equipment failure;
 - using equipment appropriately; and
 - making voice announcements when the PA or automated system is not working.
- Use of a current manual stop list consistent with any automated list of stop announcements.
- Parameters of a monitoring program.
- Incentive programs and disciplinary actions for noncompliance.

Employees should sign an acknowledgment of receipt of training and agree to follow the established stop announcement and route identification program protocols.

4.2.3 Operator supervisor training

Supervisory training should include all of the above, in addition to instruction on how to monitor the day-to-day operation of the program and operator performance.

4.2.4 Refresher training

Refresher training should be conducted agencywide on a regularly scheduled basis and in cases of employee noncompliance with the program.

4.3 Monitoring

Compliance monitoring should incorporate both systemwide and individual performance measures. Systemwide monitoring reflects a snapshot of overall performance (i.e., how the system as a whole performs during a given time interval. Comparison also may be made over time to track trends. Individual performance refers to whether individual vehicle operators or individual equipment components such as the PA system or automated announcement system are performing as required. Thus, a formal monitoring program should include initial and follow-up monitoring of the following elements:

- Documentation of overall compliance for statistical reports (e.g., systemwide, by division or by route).
- Identification and resolution of problem areas related to personnel or equipment.
- Maintenance of stop announcement and route identification lists (keeping stop lists current and consistent).

Each of these monitoring elements requires different data collection efforts and may include monitoring by different departments. For example, statistical reports documenting overall trends and system compliance efforts may be collected and compiled by the Operations Department. Identification and resolution of problem areas related to vehicle operators may be recorded and addressed by the Safety or Training departments. And identification and resolution of problem areas related to equipment may be managed by the Maintenance Department. The maintenance of announcement lists may involve a cooperative effort among planning, operations and maintenance. In all cases, the outcomes of these monitoring efforts should be overseen on an ongoing basis through a central person (e.g., the ADA compliance officer or the director of operations).

4.3.1 Monitoring program overview

Each transit agency should develop written policies and procedures for an ongoing program to monitor operators' adherence to both stop announcement and route identification requirements established by the ADA regulations, as well as any specific local requirements. The monitoring program should be developed in cooperation with the local union(s) and incorporated into the rulebook(s) and/or other documents as applicable. It is imperative that operators, monitors and supervisors use the same list of required on-board stop announcements and external route identification lists.

At a minimum, the monitoring program should include the following:

- A clear definition of the goals of the monitoring program.
- A description of the frequency, sample size, type and method of selecting observations.
- A description of how the monitoring will be done.
- Specific criteria for monitoring the performance of operators with respect to internal stop announcements and external route identification.
- Specific criteria for monitoring the performance of equipment with respect to equipment failure and equipment maintenance (including public address systems, voice annunciation systems and signage).
- A method for accurately identifying operators and vehicles.
- A process for updating and maintaining accurate records.
- A direct connection between monitoring and corrective action (including retraining, counseling and disciplining employees).
- A direction connection between equipment failure and corrective action.
- A requirement and procedure for follow-up monitoring once corrective action has been taken.

4.3.2 Monitoring program elements

Typically, on-board monitoring is used to document stop announcements. For external route identification, either on-board observations or external observations (i.e., at a stop or transfer location) may be used. Although there may be differences in how on-board stop announcements and external route identifications are monitored, a monitoring program should be developed to incorporate the following decision elements:

- Observation frequency:
 - Time period for reporting

- Number of observations
- Ensure coverage of all routes and operators on a periodic basis
- Sample size and distribution:
 - Number of route segments
 - Number of operators
 - Statistically significant sample or snapshot pulse
 - Systemwide average vs. comparison of averages by division, if applicable
- Types of observations:
 - Random (whether by system or division)
 - Targeted (e.g., known problem areas or proportional to size of division)
 - Retraining (e.g., after refresher training)
 - For cause (e.g., based on customer complaints or failed observations)
- Methods of monitoring:
 - On-board cameras and voice recorders
 - Automated system usage reports
 - Undercover monitors (e.g., private detective agency, “secret rider programs,” consumers)
 - Transit agency observation (e.g., supervisory ride checks, management/administrative staff ride reports)
- Observation considerations:
 - For on-board stop announcements, number of stops observed (e.g., at least four to five stops with required announcements, with consideration to geography, route characteristics, length of route)
 - For external route identification, whether (and what type of) route identification was provided at stops serving more than one route, with multiple checks on same route segment (e.g., on-board monitor, monitor at transfer points to observe route identification efforts at that location)
- Factors to include:
 - Clarity
 - Sound level
 - Visibility (for signage)
 - Conformance with required information to be announced
 - Responsiveness to passenger requests for stop/route identification
 - Operator familiarity with equipment use
 - Working condition of equipment (e.g., PA, annunciators, signage, speakers)
- Reporting:
 - Standard operating procedures for monitoring and documentation
 - Analysis of trends to trigger possible corrective actions

4.4 Incentives and discipline

Management has a responsibility to promptly alert operators and other personnel directly or indirectly involved with the program when there has been a failure to comply with the agency’s fixed route stop announcement and route identification program. Likewise, management has a responsibility to provide recognition to employees who have consistently fulfilled these obligations.

Incentives and constant communication between management and agency personnel who are directly or indirectly involved with the fixed route stop announcement and route identification program should be the norm over discipline. It is recommended that disciplinary actions and incentive programs specific to this program be incorporated into existing agency wide practices and viewed as a normal part of the jobs of associated personnel. Investigation, discipline and grievance protocols should be applied consistently and equitably, maintaining privacy and civility among passengers and associated personnel. The importance of compliance should be considered on par with maintaining passenger and driver safety and, where appropriate, retraining or additional monitoring should be provided or proper disciplinary action be taken.

4.4.1 Incentives

Agencies are encouraged to develop incentives that promote consistent compliance and that reward operators and associated personnel for exemplary job performance. Where incentive recognition programs exist (e.g., “employee of the month”), it is recommended that agencies include compliance with fixed route stop announcements and route identification criteria in the selection process.

If recognition programs do not exist, it is recommended that incentives be developed and implemented for all employee groups directly or indirectly involved. Examples for operators include interdivisional competitions for pins or badges; lunches; public recognition; and financial rewards.

4.4.2 Discipline

If an employee does not comply with the stop announcement and route identification program requirements, then the agency’s disciplinary process should be used. Disciplinary measures should be on par with those for other safety violations. Willful disregard for company policies — such as tampering with equipment or deliberately calling out the wrong information — should be elevated to the highest level of discipline.

4.5 Equipment maintenance

Vehicle operators depend on having equipment that is in good condition and in proper working order so that they may make audible and clear announcements, whether using a public address or automated system. Maintaining and promptly repairing this communications equipment is an important element of any successful announcement program. Specifically, DOT ADA regulation 49 CFR § 37.161 requires that:

(a) Public and private entities providing transportation services shall maintain in operative condition those features of facilities and vehicles that are required to make the vehicles and facilities readily accessible to and usable by individuals with disabilities. These features include, but are not limited to, lifts and other means of access to vehicles, securement devices, elevators, signage and systems to facilitate communications with persons with impaired vision or hearing.

(b) Accessibility features shall be repaired promptly if they are damaged or out of order. When an accessibility feature is out of order, the entity shall take reasonable steps to accommodate individuals with disabilities who would otherwise use the feature.

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Because of the need to ensure that the system is supporting accessibility-related efforts, tracking and resolving communications equipment failures is critical. If equipment malfunctions, then vehicle operators are still required to make voice announcements. Because unamplified voice announcements may be difficult — if not impossible — to hear or understand, it is imperative that the communications equipment be well maintained and repaired promptly.

Maintenance issues related to stop and route announcement equipment can range from degraded performance due to normal wear to unforeseen issues such as blown fuses or even vehicle operators' disabling components necessary to the system's operation. To ensure that the equipment is kept in good working order, the agency's fleet maintenance program should include PA and/or automated announcement components, including the following:

- Pre-trip inspections that include communications elements (e.g., microphones, speakers, interior and exterior signage, and other automated equipment) related to stop and route identification announcements
- Procedures for handling in-service equipment failures
- Procedures for solving simple problems that occur during pull-out and in-service (e.g., replacing a blown fuse)
- Incorporation of communications-related items into repair order forms and Parts Department inventories
- Performance of preventive maintenance scheduled at regular intervals (e.g., as part of routine manufacturer preventive maintenance schedules)
- Inclusion of one or more “expert” mechanics trained to repair electronics and communications equipment
- Procedures for updating stop lists and automated messages promptly, in coordination with other appropriate department personnel
- Implementation of standard operating procedures for monitoring system and personnel performance with respect to equipment maintenance
- Procedures for reporting, when discovered, the intentional disabling of equipment to appropriate supervisory personnel

As with other vehicle components, an adequate spare parts inventory is essential, particularly for microphones, loudspeakers, switches, fuses and other parts needed to keep a communications system in good working order. Larger systems should designate and train “expert” mechanics to handle communications components, rather than relying on outside maintenance contractors. Smaller transit agencies should consider establishing a maintenance contract with the communications equipment provider for routine inspections of the equipment (at least annually) and for ongoing technical assistance when questions arise.

When automated announcements are used, it is important to establish an interface between the Maintenance or Information Technology department and the department assigned to maintain the announcement database. The timeliness of updates is important for maintaining proper announcement information. The Maintenance or IT department should designate an employee who is properly trained to work with the corresponding department to ensure that any needed work is completed. A running list of changes should be documented, especially when scheduling changes occur or when software or hardware updates are made.

Finally, the transit agency should develop standard operating procedures to monitor and report equipment performance, as well as the performance of maintenance personnel. This effort will help to identify problem areas — whether equipment-related or personnel-related — and will result in improved system reliability and performance.

5. Technology

This section is provided to describe current and emerging technologies for fixed route stop announcement and route identification systems for bus, rail and BRT.

5.1 Automated stop announcement systems

An automated stop announcement system provides audio announcements to passengers who are on board vehicles and waiting curbside or on platforms. The announcements are pre-recorded in a human voice or through text-to-speech technology.

An internal sign that displays coordinating text for the next stop and other audio announcements can be added to the automated next stop announcement system. The sign should be an LED-type sign with a minimum of 16 characters per line with bright yellow LEDs. Sign should be no larger than 27 in. × 2¹/₈ in. × 4¹/₈ in. (single line) or 6¹/₈ in. (double line). LED signs are the most common type of signs used on board vehicles; however, LCD signs and monitors also can be used to display the text.

The operator enters a route identifier into an operator control unit on the vehicle, which displays the route name and next stop information. The OCU has a display and keypad that are specifically adapted for transit operations and installed in the operator's area within arm's reach.

A semiautomatic stop announcement system requires that an operator activate the announcements by pressing a button as the vehicle approaches a stop.

An automatic stop announcement system requires installation of a global positioning system on the vehicle. The GPS receiver automatically determines adherence to the route and triggers the announcement of the next stop as it is approached by utilizing signals received from GPS satellites. This system requires no additional intervention from the operator beyond entering a route identifier.

External announcements are played to passengers waiting curbside or at platforms announcing route name and number, destination and transfer point information. The message plays in a loop mode as long as the door is open, in order for individuals to be able to identify the correct vehicle. The external announcement is triggered by the door-open signal.

5.2 Other passenger information technology available

5.2.1 Shelter and transit center signs

In order to meet passenger needs off the vehicles, many transit agencies provide vehicle arrival/departure information at stops, terminals and other transfer points.

This technology requires the installation of a cellular or radio communications modem on vehicles. As a vehicle approaches the stop, the waiting passengers are notified through a sign display, often referred to as a “variable message sign,” when the next vehicle will arrive at or depart from the stop. At terminals and other locations where multiple vehicles enter, the same technology can direct passengers to the appropriate bay for their vehicle.

5.2.2 Passenger information system via Web

The same transit vehicle arrival and departure information that shows on signs can also be displayed on the Web. Through a transit agency’s Web site, passengers can access vehicle location, arrival and departure information, and see where transit vehicles are located on a map. Passengers also can elect to be notified on their computers, cell phones or PDA devices when the desired vehicle is a designated distance from a stop.

5.3 Emerging passenger information technology

While readily available in rail applications, technology to provide audio announcements at bus stops, shelters and stations/terminals is currently in development and testing. The equipment will provide audible announcements of bus arrivals and departures (the same information being displayed on variable message signs).