

CHAPTER 5

STATION FIXTURES AND FURNISHINGS



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I. DESIGN INTENT

I.A PURPOSE

Station fixtures and furnishings are features that help to ensure a consistent level of comfort, convenience, and performance at every station. These features should be designed and selected to achieve the following:

1. Provide TRI-RAIL customers with convenient services which meet or exceed their expectations.
2. Provide TRI-RAIL customers with a clean and safe station environment.
3. Be of a consistent (though not rigidly uniform) appearance to enhance TRI-RAIL's corporate identity.

Fixtures and furnishings should be located and dispersed to provide a fairly uniform level of convenience throughout the station, while being responsive to specific localized usage conditions.

II. APPLICATION

II.A GENERAL

While it is TRI-RAIL's desire to provide a consistent level of passenger amenities at stations, several factors need to be considered when designing such provisions.

II.A.1 Station Usage

Passenger demands at certain stations may differ significantly from those at other stations. These various demands result in the need to provide additional passenger amenities. Factors which may result in such additional amenities include, but are not limited to:

- i. **Ridership:** Even if limited to selected trains, high passenger counts tend to increase demands on all station facilities.
- ii. **Intermodal Transfer:** Stations which form part of an intermodal connection with other forms of public transit, may be subject to significant passenger influx upon arrival of a connecting service. In addition, should either TRI-RAIL or a connecting service provider experience delays, passenger dwell time in the stations can be significantly increased.
- iii. **Amtrak:** Amtrak's Florida intercity trains are subject to frequent protracted delays. As a result, people often have to wait several hours at the station, either for boarding or for picking-up a passenger.

II.A.2 Service Providers

Many station amenities, such as telephone service, or newspaper and refreshment vending, are provided by 3rd party vendors under contract with SFRTA.

Where utilities or other accommodations are furnished for these vendors, their input will be necessary.

III. PLATFORM FIXTURES AND FURNISHINGS

III.A PUBLIC TELEPHONES

Provisions may be made for public telephones at each platform. Telephones may be provided and maintained by a vendor. Enclosures and necessary utilities, including power and conduit for telephone lines, will be furnished by TRI-RAIL, and will be built into the station.

III.B SEATING

Seating which allows passengers to wait comfortably, but does not encourage loitering, should be provided at various locations within the stations. Seating design and location shall facilitate visibility to surrounding areas behind, as well as underneath the seat; visibility shall discourage their use as a means of concealment.

III.B.1 Design

Seating shall preferably be free-standing benches, nominally 8'-0" in length.

Benches shall be self-draining, so that no water is collected or retained after rain events, and shall be placed under the platform canopy.

III.B.2 Materials

Durable, vandal-resistant materials and finishes shall be used. Metals shall receive a polyester powder coat finish. Material and finish selection shall be appropriate for passenger comfort, for benches that may receive direct sunlight.

III.B.3 Location and Mounting

Seating on platforms shall be located in a manner which does not obstruct passenger circulation.

A minimum of 12 benches should be provided per platform. Additional benches may be placed at other locations throughout the station site, if site conditions warrant.

Benches shall be permanently attached to the platform or walkway using tamper-resistant fasteners.

Table 5.1 Seating Design Summary

Preferred Type	Benches
Nominal Length	8'-0"
Material	Metal
Finish	Permanently attached, vandal-resistant
Minimum per platform	12
Minimum per station	Case-by-case basis

Please refer to **Appendix C** for details of appropriate benches.

III.C TRASH RECEPTACLES

Trash receptacles shall be provided in sufficient quantity, with signs prohibiting littering, to effectively encourage and promote station cleanliness.

III.C.1 Design

Trash receptacles shall be open-top, stave, outer barrel design, with a removable reinforced plastic inner barrel. Receptacles shall have a nominal diameter of 28", and minimum height of 40".

III.C.2 Materials

Receptacles shall be heavy-gauge steel or ductile iron, with a polyester powder coat finish on all surfaces.

III.C.3 Location and Mounting

Trash receptacles shall be located in a manner which does not impede passenger circulation.

A minimum of 8 trash receptacles should be provided per platform; 6 of them uniformly distributed along the length of the platform; one at each vending area; and one at each sidewalk approach.

Additional trash receptacles should be placed at other locations throughout the stations as site conditions warrant.

Trash receptacles shall be permanently attached to the platform or walkway, either by casting directly into concrete, or using tamper-resistant fasteners.



FIGURE 5.2 TYPICAL TRASH RECEPTACLE

TABLE 5.2 TRASH RECEPTACLE DESIGN SUMMARY

Preferred Type	Open-top, barrel
Min. Measurements	Ø28", 40" height
Material	Steel / Ductile Iron
Finish	Permanently attached, polyester powder coat
Minimum per platform	8
Minimum per station	Case-by-case basis



FIGURE 5.3 TYPICAL BENCH

Please refer to **Appendix C** for details of appropriate trash receptacles.

III.D OTHER

One (1) bulletin board and one (1) pamphlet rack shall be provided at each platform.

For additional details and information about Station Fixtures and Furnishings, please refer to **Appendix C**.

IV. INFORMATION SYSTEMS

Information systems are essential to the safe and efficient operation of the railway. They enable passengers to find their way around TRI-RAIL stations, and allow station staff to communicate with passengers. This section describes several leading sources of information for the passenger, including:

- a. Signs and graphics
- b. Public Address System
- c. Passenger Information System

IV.A SIGNS AND GRAPHICS

The main objective of signs and graphics is to allow passengers to navigate the station safely, without the need of directions from station staff, and do so safely.

When integrating signs and graphics into the design of a station, the following considerations should apply.

IV.A.1 Sign Size

Signs shall be limited to a range of standard sizes identified in the MUTCD and Chapter 8 of these station design guidelines.

IV.A.2 Location

Placement of signs shall be as consistent from station to station as possible.

IV.A.3 Station Architecture

The architectural treatment and aspects of the station site shall be considered to integrate the placement of signs, such as lighting and finish modules.

IV.A.4 Design Development

Final location, size, type and number of signs shall be subject to input from SFRTA's Planning, Operations, Marketing, and Engineering Departments.

Refer to Chapter 8 of these Guidelines and Appendix F for applicable signage and information system standards.

IV.B PUBLIC ADDRESS SYSTEM

A Public Address (PA) system shall be provided at each station, to allow operations personnel to inform passengers of both normal and emergency situations. Information regarding train movements and station conditions will be broadcast over this PA system.

IV.B.1 Location

The PA system shall cover the entire station platform area, and should be able to reach external areas, such as parking lots, in case of an emergency. Speakers should generally be located where maximum height can be achieved. Appropriate spacing shall be provided to ensure good reception, and to prevent unnecessary reverberations from rendering messages unintelligible.

Where conditions permit, speakers shall be installed above ceilings or canopies. All sides must be concealed, except for the face where sound is projected. Conduits and other appurtenances must also be concealed.

IV.B.2 Minimum Features

The following minimum features shall be provided:

- i. Exterior speakers
- ii. Variable amplification, ambient noise compensated
- iii. Configured to hear voice messages on all areas of the platform, stairs, elevators, crossover bridge and other public areas in the Station.

Automatic announcements shall be able to be provided. An automatic announcement shall also be made when a TRI-RAIL train is approximately 3-minutes (programmable by TRI-RAIL) prior to arrival.

Manual audible announcements shall be possible at all Stations. Such announcements shall override remote announcements. Manual station announcements shall be possible from the Tri-Rail Ticket Agent's office and, where applicable, the Amtrak station office.

IV.B.3 Variable Message Signs

- i. Variable Message Signs (VMS) shall be provided which automatically provide rapidly updated TRI-RAIL arrival information to passengers for TRI-RAIL platforms only.
- ii. The VMS shall provide the ability to define and display special messages and messages that are displayed at pre-determined times of the day or unscheduled messages generated from the Tri-Rail Call Center. The signs shall provide the ability to display messages on a repeating "loop" at regular time intervals. VMSs shall be able to display at least 27,000 different characters.
- iii. The sign head shall meet or exceed ADA requirements, including font size and height and visibility, and shall be a minimum 16 rows x 96 columns with at least 2 lines of text. VMSs shall be capable of holding, rotating, sparkling and scrolling message functions. The VMSs shall be vandal-resistant, outdoor NEMA style, tamper-resistant with polycarbonate hard coated lens. VMSs shall comply with FCC Class A emissions and UL 1950.
- iv. The train arrival message shall be triggered from information obtained from the Tri-Rail Call Center. VMSs shall display day and time, which shall continue function upon loss of utility power for at least 30 days.
- v. The VMS shall have a self diagnostic routine to test memory and functionality on a regular basis and provide a visual indication if any fault is

diagnosed. VMSs shall have modular fault indicators for easy field troubleshooting and to enable an average field repair/changeout time of 30 minutes. Maintenance shall be no more frequent than bi-weekly.

- vi. The VMS shall have an extended life of greater than 15 years and LEDs shall have an average life of at least 100,000 hours.

IV.B.4 Voice Annunciators

A Voice Annunciator (VA) System providing audible TRI-RAIL arrival information in conjunction with the VMS shall be provided at all stations on TRI-RAIL platforms only. The system shall provide automatic audio announcements of TRI-RAIL arrivals including track location and direction as well as estimated time of arrival. The VA system shall be ambient-noise compensated.

- i. The VA system shall provide the ability to define and play special announcements and announcements that play at pre-determined times of the day. The system shall provide the ability to play announcements on a repeating "loop" at regular time intervals.
- ii. The VA system shall meet or exceed ADA requirements.
- iii. The train arrival announcements shall be triggered from information obtained from the Tri-Rail Call Center.
- iv. Updating the VA programmed announcement database shall be easily achieved.
- v. The VA system shall include a public address capability that will allow for the broadcast of unscheduled announcements from the Tri-Rail Call Center.

IV.C PASSENGER INFORMATION SYSTEM

A Passenger Information (PIS) System shall be provided for variable message signs and/or video displays. This system shall be mounted in public areas of the station, in high-visibility locations.

The main function of these systems is to give passengers information on station operating conditions, public service, security, weather reports, and possible private paid advertising. Certain PI system announcements will require close coordination with PA system announcements.

IV.C.1 PIS Hardware

PIS systems hardware in stations, central operating systems, and interconnecting network, will be provided and maintained by a 3rd party vendor under contract to SFRTA. Necessary utilities, such as power and conduit for fiber optic lines, will be furnished by TRI-RAIL and built into the station.

The PIS shall provide general announcements, alerts, prerecorded announcements, automatic train arrival information, and real-time announcements to passengers at each Station platform.

The PIS shall be controlled from the Tri-Rail Call Center. Call Center personnel shall be able to select prerecorded announcements, including evacuation warnings and service announcements. In addition, Call Center personnel shall be able to make unscheduled real-time audible and visual announcements. Prerecorded and unscheduled announcement selection shall be possible on a per-Station or systemwide basis.

IV.C.2 PIS at Tri-Rail Call Center

The PIS at the Call Center shall also provide the following functions:

- i. Downloading, review, modification, and incorporation of Tri-Rail timetable, including train IDs.
- ii. Overview of entire SFRC, showing: train locations; train IDs; train direction; and Station locations. The overview shall be approximately to scale linearly. The overview shall be displayed on all PIS screens.
- iii. Detailed train displays, selectable by train ID, showing: approximately 4-mile section of the alignment, including all main line tracks, TRI-RAIL yards, stations, and grade crossings; train location (including milepost to 2 decimal places); and train speed and direction. In addition, the system shall provide Expected Time of Arrival (ETA) and predicted lateness of the train for remaining stations.
- iv. Train summary page, providing a list of all trains currently in service, milepost, speed, next station, ETA, and predicted lateness.
- v. Station displays, allowing individual or all stations to be selected. The displays shall provide information on current messages being displayed and shall enable prerecorded or unscheduled announcements to be selected and transmitted.
- vi. Trains shall be color-coded by lateness (on-time, late, or very late). TRI-RAIL shall be able to program the parameters for these designations.

V. ADVERTISING

Advertising provides a valuable source of revenue and shall be considered an integral part of the design of TRI-RAIL stations.

V.A GENERAL CRITERIA

General considerations for the placement of advertisements include the following criteria:

V.A.1 Location

Locations of advertising shall neither conflict with, nor cause distraction to the legibility of railway signs, messages, or PI systems.

V.A.2 Size

A standard range of modular sizes for advertisements shall be used, either individually or grouped together to form larger images.

V.A.3 Installation

Adequate depth shall be provided between structure and face of finish, to allow back-lighted advertising boxes to be mounted flush with the face of wall finishes.

V.A.4 Design Module

Advertising panels shall be coordinated with the station design module and other features to ensure that a clean, well-organized image is presented. Design modules and features may include columns, wall openings, fittings, and equipment.

V.A.5 Exterior Conditions

Locations shall be identified for exterior advertising, using the standard sizes as well as special billboards.

V.A.6 Coordination

Locations of advertisements shall be coordinated with ongoing design work at other TRI-RAIL facilities.

VI. SECURITY

Security is of the upmost importance at TRI-RAIL stations. All stations and ancillary structures shall have a security system that includes active and passive measures. In cases when time and/or budget does not allow for a security system to be installed prior to opening a facility to the public, adequate infrastructure shall be installed for future security and monitoring systems.

VI.A PASSIVE SECURITY

Provide the following passive security measures:

VI.A.1 Glassed Backed Elevator Tower

Glassed backed elevators and open stair towers to allow clear visibility from the inside out and from the outside in.

VI.A.2 Openness

- i. Maximize openness around the perimeter of the parking deck to accommodate increased natural light.
- ii. Minimize interior solid structural walls or corners which might be perceived as unsecure areas.

VI.A.3 Lighting

Incorporate a facility lighting system that is well distributed, has a high color rendition index and high color temperature.

VI.B ACTIVE SECURITY

Provide the following active security measures:

VI.B.1 Parking Lots / Structures

- i. A minimum of two (2) CCTV cameras will be provided per level. Spare conduit shall be provided between the camera locations and the camera control / security room.

- ii. Final placement of cameras will be evaluated and directed by SFRTA.

VI.B.2 Platforms

Cameras will be strategically located to monitor the following locations:

- i. One (1) camera on north end of each platform looking south
- ii. One (1) camera on south end of each platform looking north
- iii. One (1) camera at the west elevator tower looking at the west parking lot
- iv. One (1) camera at the east elevator tower looking at the east parking
- v. One (1) camera at the west platform looking directly into the elevator lobby of the east platform
- vi. One (1) camera at the east platform looking directly into the elevator lobby of the west platform
- vii. One (1) camera looking at each parking lot entrance.
- viii. These locations may vary between stations.
- ix. For details on security systems in TRI-RAIL's parking structures refer to Chapter 9, Section VIII.E Security.



FIGURE 5.1

GLASS BACK ELEVATOR TOWER

VII. GREEN DESIGN

The following LEED prerequisites and credits apply to this Chapter. These criteria shall be implemented on each project as applicable, and as far as the budget allows. Criteria to meet each prerequisite and credit shall be in accordance to the latest version of LEED New Construction and Major Renovations.

VII.A SUSTAINABLE SITES (SS)

VII.A.1 SS Credit 4.2: Alternative Transportation – Bicycle Storage and Changing Rooms

The intent of this credit is to reduce pollution by automobiles, by promoting the use of bicycles, and providing change rooms.

VII.A.2 SS Credit 6.1: Stormwater Design – Quality Control

The intent of this credit is to reduce impervious cover, and increase infiltration.

VII.A.3 SS Credit 6.2: Stormwater Design – Quality Control

The intent of this credit is to reduce pollution of stormwater runoff by implementing best management practices (BMPs).

VII.A.4 SS Credit 7.1: Heat Island Effect – Nonroof

The intent of this credit is to reduce the heat island effect by using larger shade trees and hardscape materials that have low reflectivity index.

VII.A.5 SS Credit 7.2: Heat Island Effect – Roof

The intent of this credit is to reduce the heat island effect by using roofing materials that have low reflectivity index.

VII.B WATER EFFICIENCY (WE)

VII.B.1 WE Prerequisite 1: Water Use Reduction

The intent of this prerequisite is to reduce water demand of the facilities by 20% when compared to a baseline, not including irrigation.

VII.B.2 WE Credit 2: Innovative Wastewater Technologies

The intent of this credit is to reduce wastewater generation by reducing potable water demand of the facilities 50%, or treat 50% of the wastewater on site.

VII.B.3 WE Credit 3: Water Use Reduction

The intent of this credit is to reduce water demand of the facilities beyond the 20% required in WE Prerequisite 1.

VII.C ENERGY & ATMOSPHERE (EA)

VII.C.1 EA Credit 1: Optimize Energy Performance

The intent of this credit is to increase energy efficiency performance.

VII.C.2 EA Credit 2: On-site Renewable Energy

The intent of this credit is to encourage use of renewable sources of energy for consumption of the stations and ancillary structures.

VII.C.3 EA Credit 4: Enhanced Refrigerant Management

The intent of this credit is to support early compliance of not using refrigerants.

VII.C.4 EA Credit 5: Measurement and Verification

The intent of this credit is to encourage ongoing accountability of the structure's energy consumption.

VII.C.5 EA Credit 6: Green Power

The intent of this credit is to encourage the development and use a grid-source, renewable energy technology to provide a minimum of 35% of the station and ancillary structures' energy demand for a minimum of 2 years.

VII.D MATERIALS & RESOURCES (MR)

VII.D.1 MR Credit 4: Recycled Content

The intent of this credit is to incorporate the requirement to use recycled materials, or the recycled material content in the design and specifications.

VII.D.2 MR Credit 5: Regional Materials

The intent of this credit is to encourage and increase the use of local materials by reducing impacts due to transportation.

VII.D.3 MR Credit 6: Rapidly Renewable Materials

The intent of this credit is to encourage the use of rapidly renewable materials, such as bamboo, cotton, linoleum, and cork.

END OF CHAPTER