Metro®

Customer Communications Equipment
White Paper

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1.0 Element Overview and Problem Statement

1.1 Description of Element

Customer communications equipment supports station safety and security, as well as helps to enhance the passenger experience. Going forward, an integrated Metro Call Point (MCP), a consolidation of all current public communications functions, will serve as a two-way customer-facing communication equipment for all Metro rail and BRT stations.

1.2 Problem Statement

Metro requires consistent standards for the design and placement of station public area customer communications equipment devices. Currently, there are three types of communications equipment with a wide range of designs used: Emergency Telephones (E-Tels) for emergency communications, Passenger Telephones (P-Tels) for passenger assistance at TVMs, and Gate Telephones (G-Tels) for passenger assistance at fare gates. The multiple unit types and inconsistencies in placement and design make it difficult for passengers to quickly identify the communications equipment and understand the intended uses. The mix of old and new equipment models cause passenger confusion, and creates a maintenance challenge because it requires multiple sets of spare parts and repair methods. Most units only provide either an information or emergency call button although all calls currently lead back to the same number at the Rail Operations Center (ROC). Additionally, existing units have only one central control panel that is not accessible to passengers who are unable to use their hands. Metro's priorities for communications equipment include:

- Improving safety, security and passenger information at station areas by providing communications equipment at easily identifiable and consistent location.
- Simplifying maintenance, operations and project delivery by creating a uniform standard that can be used systemwide and is consistent with the Systemwide Station Design Standards materials palette and streamlined aesthetic.
- Providing flexibility to accommodate future changes in technology.

- Accommodating users with a range of abilities and ensuring access for all passengers.
- Incorporating an emerging universal "blue light" beacon design concept for easy recognition across transit systems and other public facilities.

There is also a parallel effort within Metro, led by Safety & Security and Maintenance of Way, to replace old equipment and introduce the new MCP design as a pilot project at rail platforms for underground stations.

Figure 1-1 Emergency telephones on the L (Gold) and E (Expo) Lines.

Figure 1-2 Gate telephones on the B (Red) and E (Expo) Lines.

Figure 1-3 Passenger telephones on the E (Expo) Line.

2.0   Design Process and Principles

2.1   Design Process

The Project Design Team for this element was led by Gensler, and included Arup, RAW, and Claris Strategies.

Metro departments across the agency provided input throughout the design process. Beginning in May 2018, Working Group Members accompanied the Project Design Team on site visits of existing Metro stations to observe and document the condition of existing communications equipment. The Project Design Team also conducted a series of interviews with representatives from a wide range of Metro departments, including:

- Arts + Design
- Facilities/Property Maintenance (including separate interviews with FM field staff and management)
- Fire and Life Safety
- ITS
- Maintenance of Way
- Office of Civil Rights
- Operations Liaison and Planning
- Project Engineering
- System Security & Law Enforcement
- Systems Engineering
- TAP

Based on the analysis and the information provided during interviews with Metro staff, the Project Design Team developed initial design concepts, which were based on the Help Point designs currently employed in NY MTA subway stations, and presented to the Metro Project in mid-December 2018.

Using the feedback provided, the Project Design Team refined the initial design concepts into a Draft Concept Design, which was submitted to the members of the Working Group for review in late December 2018. Working Group members provided comments, which were addressed by the Project Design Team in the Revised Concept Design submitted to Metro in January 2019. The design concept was further refined to better fit with the design of other elements and based on comments from the Arts + Design department. The Final Concept Design was completed in April 2019.

The Project Design team then submitted draft, revised and final Design Documentation of Communications Equipment packages in March 2020. For additional information, see "Table 2-1 Timeline of Design Process" on page 4.

Figure 2-1 NYMTA Help Point.

Table 3-1 Timeline of Design Process

May to June 2018	Project Design Team and Metro Working Group Members conducted site visits of existing stations, including: 7th St/Metro Center, Arcadia, Aviation/LAX, Bundy, Cal State LA, Harbor Freeway, Hollywood/Highland, North Hollywood, Pacific Coast Highway, and Wilshire/Vermont.
June to November 2018	Project Design Team conducted interviews with Metro departments, including: Arts + Design, Facilities/Property Maintenance (including separate interviews with FM field staff and management), Fire and Life Safety, ITS, Maintenance of Way, Office of Civil Rights, Operations Liaison and Planning, Project Engineering, System Security & Law Enforcement, Systems Engineering, and TAP.
September to December 2018	Project Design Team developed initial design concepts.
December 2018	Project Design Team initial design concepts to the Metro Project Team.
December 2018	Draft Concept Design Package submitted.
January 2019	Revised Concept Design Package submitted.
April 2019	Final Concept Design Package submitted.
May 2019	Draft Design Documentation Package and White Paper submitted.
August 2019	Revised Design Documentation Package submitted.
March 2020	Final Design Documentation submitted.

3.0   Design Solution

In response to the need for a consistent standard for communications equipment, the project design team developed a design solution for the MCP units.

The MCP unit is intended to replace all existing, customer-facing P-TELs, E-TELs, and G-TELs. In some instances where multiple E-TELs and/or P-TELs are located within adjacent proximity, units will be replaced with a single MCP unit.

All MCP units are designed to be 8' tall, feature a 'blue light' for easy identification, and constructed of stainless steel with a non-polished, satin non-directional finish. A brushed finish was considered, but is not recommended because it creates a visible pattern while a non-directional finish does not. This non-directional finish allows for an easier installation by not needing to carefully align the pattern with adjacent pieces. There are two mounting options: a totem-style unit, which can be freestanding or surface mounted against a wall, and a unit that shall be flush-mounted into a cabinet or furred wall enclosure.

These units will provide both customer information and emergency communication capability within public areas of stations, parking structures and plaza areas. Providing two different buttons allow customers to feel comfortable using the MCPs for either information or emergencies. Calls for information and emergency are routed to the ROC for assistance. In the future, emergency calls will be routed to Metro's new ESOC facility. All MCP units will have cameras so operators will be able to see and assist customers requesting assistance, especially those entering and exiting the station through the fare gates. MCPs at fare gates will also consist of a "GO" light feature that will light up green to indicate when a fare gate has been remotely unlocked for customers. For additional information, see "Table 3-1 Key Design Features" on page 7.
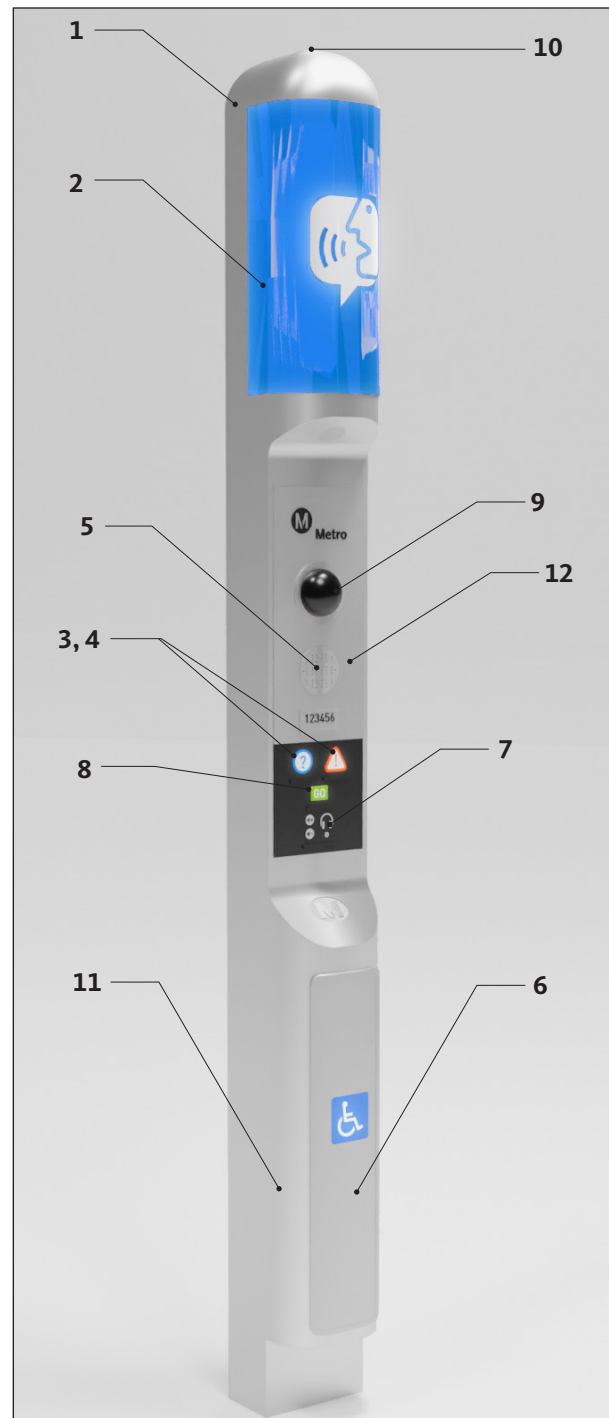

Figure 3-1 Metro Call Point unit; refer to Table 3.1 for details.

Figure 3-2 Rendering of highly visible Metro Call Point in station environment.
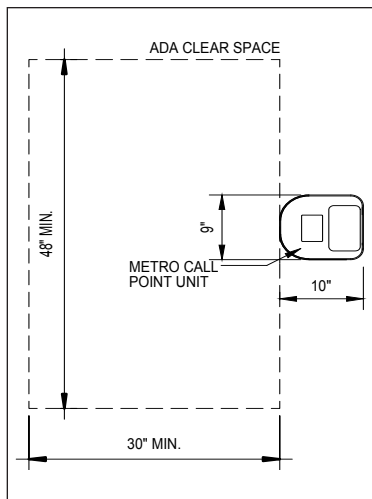
Figure 3-3 Floor mounted/freestanding MCP.

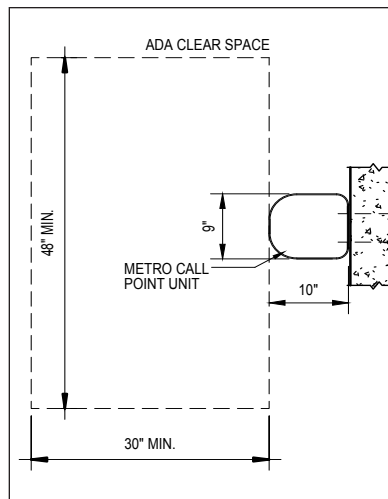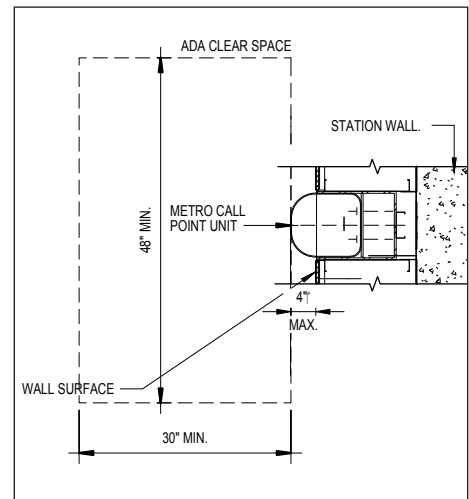**Figure 3-4** Wall mounted MCP.

Figure 3-5 Flush mounted MCP.

Table 3-1 Key Design Features

Design Feature	Rationale
1. All material and fasteners for MCP units are to be 316 grade stainless steel with non-polished, satin non-directional finish.	Stainless steel provides a clean and modern aesthetic, consistent with Metro's Systemwide Station Design standards, and is a highly durable material requiring less maintenance than other metal surface finishes: • No painting or sealing of the material is required and a non-directional finish withstands dirt, fingerprints and minor scratches. • 316-grade stainless steel was selected to provide better corrosion resistance than standard 304-grade stainless steel due to the addition of molybdenum to the steel. All components of each element should be of the same stainless steel material to resist galvanic action between dissimilar materials.
2. MCP units feature a large 20" tall high-visibility blue light, consisting of a white LED light with transparent cover panel, white translucent diffuser film behind a blue translucent vinyl film and cut-out icons installed on the interior side of the cover panel.	This design element, which is based on an emerging universal design for emergency telephones in transit systems and other public facilities, provides visibility for the unit, allowing passengers to easily identify it from a distance.
3. MCP units feature two call buttons, one for Information and one for Emergency, placed no higher than 48" above the ground.	Separate buttons provide customers the option depending upon their specific need, and allows for future flexibility in call routing without the need for installing additional hardware. This includes potential future operation in which calls for information are routed to the ROC and calls for emergency assistance are routed to Metro's newly established Emergency Security Operations Center (ESOC). In the interim, the two buttons will indicate to customers that the MCPs can be used both for emergencies and information. Each button should be stainless steel with a tactile indicator to ensure accessibility for all customers. The placement height provides accessibility based on ADA requirements.
4. Call buttons feature a white LED backlight, which will remain illuminated when not activated and flash when activated.	This provides increased visibility for the call buttons and serves to indicate when a call has been placed. The rate of flash is designed to ensure the unit does not trigger seizures.

Design Feature	Rationale
5. MCP units feature integrated intercom speaker and microphone. Volume level is to be adjusted by staff depending on noise levels at each station area. Volume control buttons are to be on the face of the unit so passengers can adjust based on hearing level.	This allows for two-way communication. The integrated design allows for hands-free operation by passengers and reduces the potential for damage compared to a corded phone handset.
6. MCP units feature a forward-facing 6" x 26" kick-plate with an illuminated ISA symbol placed at a minimum of 6" above the ground.	This allow for hands-free operation for passengers with mobility impairments. Placement requirement 6" above ground ensures equipment is not damaged from power washing of stations. Kick-plate equipment should be off the shelf, and not custom.
7. MCP units feature a standard mono audio jack internal to unit.	This allows for the use of a personal headset, enabling the unit to be utilized by passengers who may have difficulty hearing over the ambient station noise. Internal jack without externally-accessible volume control is preferred for ease of maintenance.
8. Space provided for "GO" light.	This allows for the installation of a light to indicate to passengers when the fare gate is unlocked. The "GO" light is to be installed on units located adjacent to fare gates only.
9. Camera provided on front side of unit.	This allows for operators from the ROC to be able to see the fare gate and assist customers entering and exiting the station when needed.
10. MCP units feature a rounded top.	This acts as bird deterrent, discourages clutter placement and protects the unit from damage.
11. MCP units feature a curved front.	This allows for greater visibility of the blue light beacon at all areas of the station.
12. Faceplate panel.	Shall be removable (i.e. with hinge and lock) so unit can be accessible from the front to easily maintain systems and equipment.

Note: This table provides a summary of key features only and is not an exhaustive list of all design features. Project design documentation provides complete details and requirements, and is available upon request.

Table 3-2 Placement Guidelines

Placement Guideline	Rationale

1. MCPs shall be placed in all Metro Rail and Metro BRT stations, in the following areas:
 	
  • Plaza
  • Station Entry/Ticketing (adjacent to TVMs, except as provided below)
  • Adjacent to fare gate arrays, on both paid and unpaid sides.
  • Concourse/Mezzanine
  • Platform
  • Adjacent to Fire/Life Safety and Emergency Management equipment (as required by code/MRDC when replacing a manual fire full station).
  • Parking Lots and Structures
	These general placement requirements are intended to provide maximum coverage with the fewest number of units. Additionally, the placement requirements provide that:
	
	  • Distance between MCPs should not exceed 200 feet on the same station level.
	  • MCPs are placed so that they are easily seen by passengers, staff, and first responders upon entering the station.
	  • MCPs are placed to allow clear space for passenger flow and meet ADA clearance requirements, as applicable.
	  • MCPs also serve as manual fire pull stations in station public areas so placement must meet distance requirements per FLS standards.

2. Gate MCPs equipped with a camera and "GO" light shall be provided on both the paid and unpaid sides of all fare gate arrays at gated stations and be placed within 10 feet of the wheelchair access gate. At stations without fare gates, a single MCP shall be placed within 10 feet of the TAP card readers that demarcate the paid/unpaid areas of the station, on the unpaid side only, to provide emergency functions, and in such a manner that the user position does not obstruct passenger flow.	This provides support for passengers who require assistance entering or exiting the station.

Placement Guideline	Rationale
3. A MCP unit shall be placed adjacent to the TVMs at each station entrance, unless another MCP is located within 10 feet.	This provides support for passengers who require assistance purchasing tickets, while allowing for fewer units in smaller stations.
4. For underground and aerial station platforms, a minimum of two MCPs shall be provided. The distance between MCPs shall be approximately one third the total length of the platform, provided that it not exceed 200 feet and that no point on the platform is more than 200 feet from a MCP.	This provides for maximum coverage with the fewest number of units. Note that current ETELs replace manual fire pull station locations in public areas. MCPs will serve this same function.
5. For at-grade stations platforms, a MCP shall be placed approximately halfway between either end of the platform and in the immediate vicinity of the primary platform canopy, but no more than 200 feet from the Gate MCP at the gate or the MCP at the TAP card readers.	This provides for maximum coverage with the fewest number of units.
6. Consists of two mounting options: totem-style and flush-mount.	The totem-style unit can be freestanding or surface mounted against a wall, and the flush-mounted unit can be flush-mounted into a cabinet or furred wall enclosure. Where possible, units should be integrated into a wall surface to not protrude into passenger circulation areas. Units shall have an opening in the front to accommodate flush-mounting.

Note: This table provides a summary of key features only and is not an exhaustive list of all design features. Project design documentation provides complete details and requirements, and is available upon request.

Contact Us

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