



Metro®

ISDS PROJECT

INTEGRATED STATION DESIGN SOLUTIONS



Electronic Information and Advertising Placement White Paper

December 2022

Gensler

ARUP



STUDIO-MLA

Claris Strategy





Electronic Information and Advertising Placement

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1.0 Element Overview and Problem Statement

1.1 Description of Element

Electronic Information and Advertising Placement includes the standardization and integration of advertising and electronic delivery systems providing vital passenger information in and around Metro stations.

CIP Family of Typologies

Metro's Customer Information Panel (CIP) family of typologies defines the display types within the Metro system (Map Cases, Digital Displays, and Visual Message Signs). Figure 1-7 on page 4 describes each typology in more detail.

1.2 Problem Statement

Customer Information Electronic Displays

Over time, Metro has introduced new display technologies while some older displays have never been fully decommissioned from the system. The lack of design consistency is pronounced as are the tangible issues presented by certain types of displays and their placement. Most problems with existing electronic displays are matters of integration: components have been designed and installed at stations individually rather than through a holistic approach.

Numerous problems arise from the failure to physically integrate displays with station architecture. Free-standing displays and those mounted directly on structures (as opposed to flush displays) constrain pedestrian flow and contribute to the already cluttered station environment. Dust, debris and trash accumulate around the base of protruding equipment, adding to the workload of cleaning station public areas. The same flat surfaces also attract birds. The conduit raceways providing power and data to many displays are exposed, creating safety hazards, opportunities for vandalism, and unsightly conditions. Exposed cooling units on newer displays present similar problems. Large, protruding Digital Walls are an example of an existing display type that characterizes these problems; Metro stations will benefit from their redesign and better integration into the customer environment.

The lack of design consistency is another issue of integration relevant to all electronic information display types. This impacts the visual appeal of stations as well as their ease of use (customers may not always know where to seek particular information). A lack of design standards and modularity translates to costly and inefficient maintenance and replacement. Such standards do not exist for existing display types or for future technology that Metro may use.



Figure 1-1 Poorly integrated electronic information displays, which create eyesores and potentially present cleaning, maintenance, vandalism and safety issues (7th Street/Metro Center Station).



Figure 1-2 Existing Digital Wall with a bulky appearance, visibly outdated technology, and poor integration into the station environment (Hollywood/Highland Station).



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Visual Message Signs (VMS) present specific issues related to standardization. VMS are digital (LCD or LED) screens that display next train arrival information, emergency information, and/or station and service updates (see Figure 1-3). Many types of LCD and LED screen brands, sizes, and components are used for these signs and more types are likely to be deployed in the future. Additionally, these signs are mounted in various ways, with different frames and mounting hardware. The result is that VMS are inconsistent in aesthetics, placement, and their physical integration at stations and across the Metro system.



Figure 1-3 Existing VMS displays: LCD (left) and LED (right).

Advertising

To provide a positive customer experience, the need for advertising revenue must be balanced with the need for a legible, uncluttered and pleasant station environment. While Metro advertises on digital screens where space, power, and data connections are available, current advertising in the Metro system is primarily comprised of static displays applied to walls with adhesives (Figure 1-4). These are easily vandalized, present a shabby appearance, and fall short of the streamlined, modern aesthetic for which the agency strives. Adhesive floor decals are another problematic advertising format used in some Metro stations. Figure 1-5 shows their appearance and how these decals can permanently damage the underlying materials.

Advertisements covering distinctive architectural elements detract from the architectural language and of Metro stations. Placement of existing advertising also contributes to a cluttered station environment, creating wayfinding challenges. As seen in Figure 1-6, advertising can be visually overpowering. Additionally, static advertisements placed too close to artwork and signage can distract from or obscure these important station features.

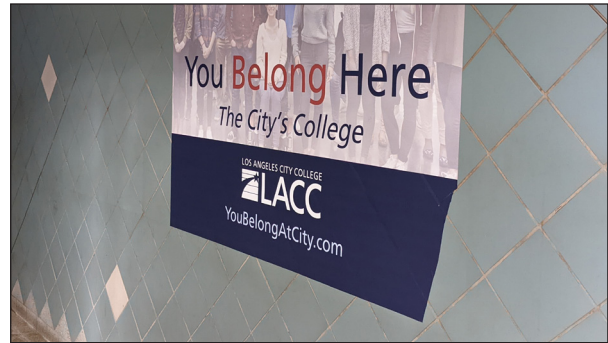


Figure 1-4 Easily damaged static advertisement (Hollywood/Highland Station).



Figure 1-5 Poor quality adhesive floor decal (left; 7th Street/Metro Center Station) and damage left behind, known as "ghosting" (right; Union Station).



Figure 1-6 Example of an overpowering marketing campaign in a station concourse (7th Street/Metro Center Station).



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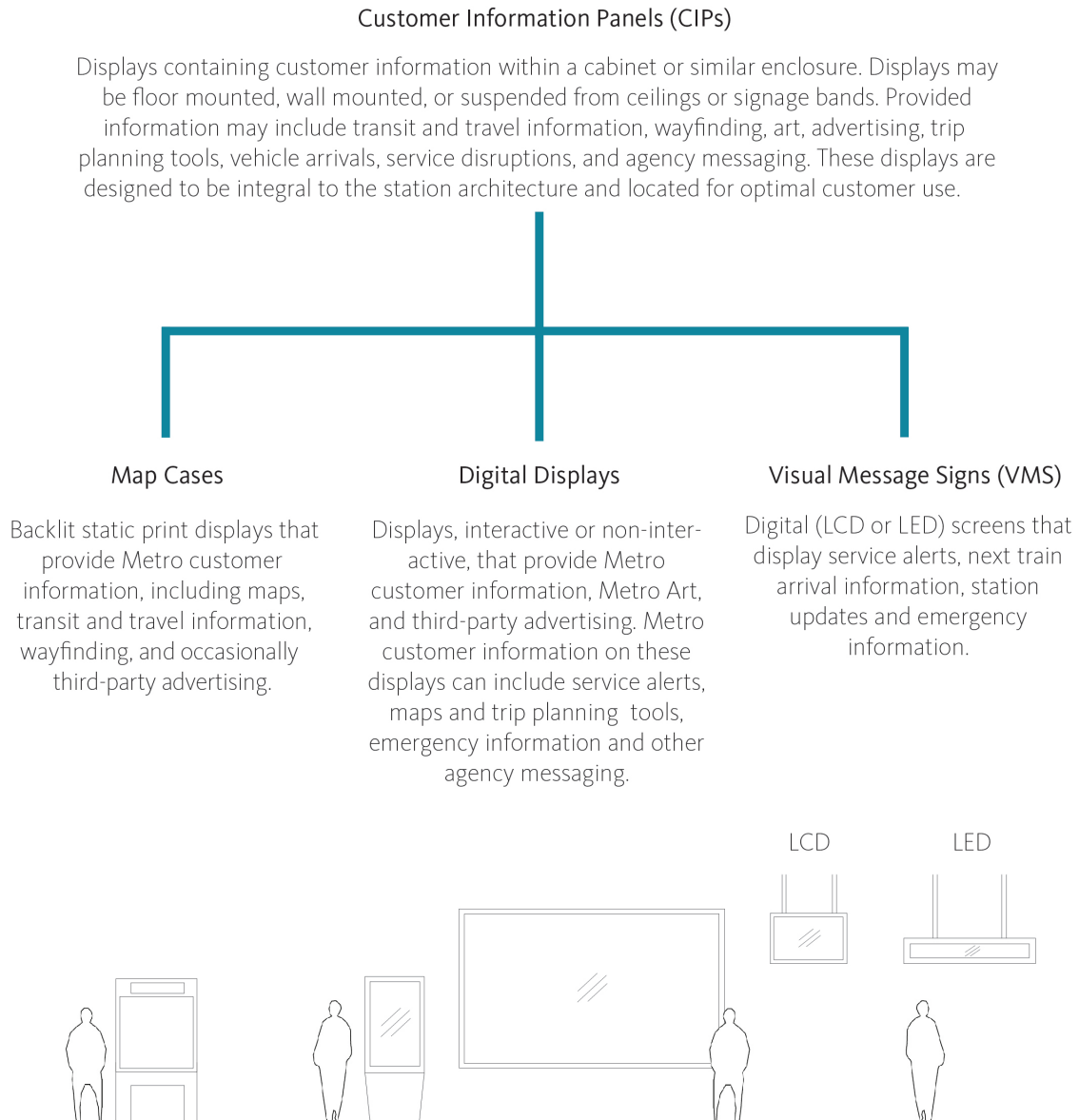


Figure 1-7 Metro's Electronic Information Technologies / CIP Family of Technologies

Note: TPIS (Transit Passenger Information System) consists of Visual Message Signs (pictured) and the public address system (not pictured).



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2.0 Design Process and Principles

2.1 Design Process

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

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 station electronic information and advertising placement. The Project Design Team also conducted a series of interviews with representatives from a wide range of Metro departments, including:

- Arts + Design
- Marketing
- Environmental Compliance and Sustainability
- Facilities Maintenance (including separate interviews with FM field staff and management)
- Fire and Life Safety
- Office of Civil Rights
- Operations Liaison and Planning
- Project Engineering
- System Security & Law Enforcement

Based on the analysis and the information provided during interviews with Metro staff, the Project Design Team developed initial design concepts into a Draft Concept Design, which was submitted for review. Using the feedback provided from the review, the Project Design Team refined the initial design concepts into a revised Draft Concept Design in May 2019. A Final Concept Design was submitted to Metro in June 2019.

The Project Design Team submitted a Draft Design Documentation package in December 2019, and the revised Final Design Documentation was completed in April 2020. For additional information, see “Table 2-1: Timeline of Design Process” on page 7.

2.2 Design Principles

The key goals for this element are to ensure the design of advertising and information displays aligns with the broader integration goals of this project, and to utilize industry best practices for design and placement of advertising infrastructure to enhance customer experience while optimizing revenues.

The following principles and resources support these goals:

1) Ensure Cohesive Design and Implementation

In order to streamline stations, Metro should coordinate the programming of advertising and electronic customer information, as well as the technology supporting these elements. Advertising and customer information should be considered alongside one another and seamlessly integrated into the overall architectural design of stations.

This integrated design approach allows for equipment to be incorporated into frames, enclosures, walls and/or other structures. It prevents equipment from being placed in stations as an afterthought by departments working independently, avoiding impacts to pedestrian flow and visual clashes. Cohesive design and implementation ensures that the display materiality and form match other station elements, and also allows Metro to convey information and advertising on the same devices.

2) Utilize Existing Typology Standards

The design of information displays should draw from and fit into Metro’s Customer Information Panel (CIP) family of typologies, as indicated in Figure 1-7. Standards for the materiality, design, placement, and installation of each typology will support efforts to deliver information and advertising as part of an integrated station design approach.

Map Cases

Map Cases are backlit displays containing static printed material. They are sized and positioned for individuals directly in front of them, with some Map Cases including the station name in a larger format and visible from further away. Map Cases typically provide customer information such as maps and changes to the Metro system.



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Digital Displays

Digital Displays are LCD screens that convey advertising and other Metro information (such as arrival times, system and station area maps, service alerts, public service announcements and emergency messages). Art is also sometimes featured in digital displays. This typology includes displays of two different scales, a standard Digital Kiosk and a Digital Wall, both of which convey multiple kinds of content concurrently. Digital Kiosks are sized and positioned optimally for use or engagement by an individual passenger, with a screen spanning the eyeline of a standing or sitting person. Digital Walls are large-format, wide displays visible across a larger space such as a station concourse.

Visual Message Signs

Visual Message Signs (VMS) are digital (LCD or LED) screens positioned for visibility across larger areas such as platforms and concourses, displaying next train arrival information, station updates and emergency information.

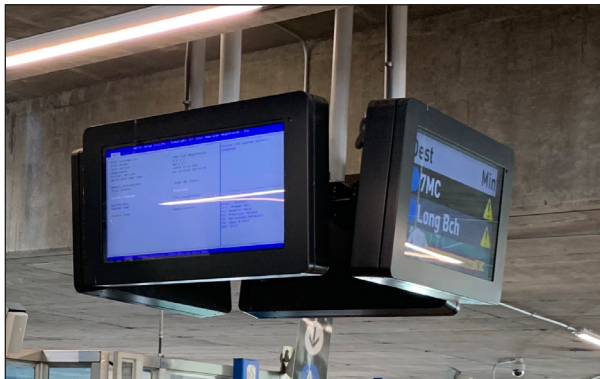


Figure 2-1 New 4-sided VMS display (Willowbrook/Rosa Parks Station). As variations of the VMS typology are introduced, it is important to maintain standards for their materiality, placement, and integration.

3) Consolidate Ads and Information Using Digital Formats

The integration of advertising and customer information in the same displays would de-clutter stations and improve the experience of both advertising and information for customers. The use of digital formats is a design principle that supports this goal, as seen in examples from New York's MTA (Figure 2-2).

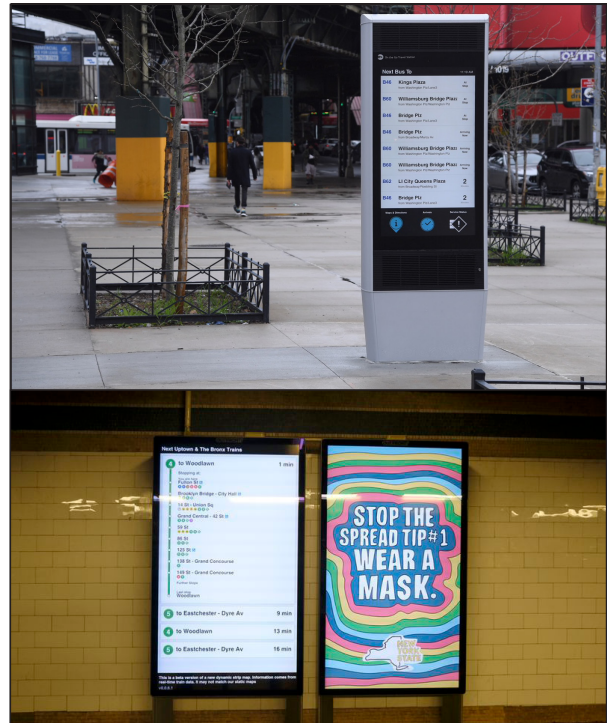


Figure 2-2 Best practice example from New York MTA Subway: Adaptable display typologies featuring advertising, customer information and interactivity. Information is presented with consistency and a focus on usability.



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Table 2-1 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, Environmental Compliance and Sustainability, Facilities Maintenance (including separate interviews with FM field staff and management), Fire and Life Safety, Marketing, Office of Civil Rights, Operations Liaison and Planning, Project Engineering, and System Security & Law Enforcement.
Spring 2019	Project Design Team developed initial design concepts.
Spring 2019	Project Design Team presented initial design concepts to Metro.
May 2019	Draft Concept Design Package submitted.
June 2019	Revised Concept Design Package submitted.
December 2019	Draft Design Documentation Package submitted.
March 2020	Revised Design Documentation Package submitted.
April 2020	Final Design Documentation Package submitted.



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3.0 Design Solution

The design solution aims to streamline and de-clutter stations by establishing an integrated approach to the delivery of electronic information and advertising.

Information and advertising elements should be developed as part of an integrated design process. These elements should also be coordinated with other station furnishings, features, and elements to meet the goals of consistent architectural language, maintainability, safety, and enhanced customer experience.

Streamlined and Integrated Customer Information Panels

The cohesive design and implementation of this element relies on standards for the design, placement, and installation of CIP typologies:

Map Cases

Map Cases are currently used throughout the Metro system as the primary display type for customer information. An integrated design solution for information and advertising will involve a mix of Map Cases and digital alternatives, with the long-term goal of maximizing the use of digital displays.

Digital Displays

Digital Kiosks may be free-standing or flush mounted. Flush mounted is preferred but the decision will be made in the station design process based on architecture and other considerations impacting feasibility. Free-standing kiosks shall be integrated into the overall Metro architectural standards by utilizing a form (rounded edges and top to discourage birds from perching or roosting) and materiality (brushed stainless steel) similar to the other items in the ISDS family of elements. Digital Walls shall be flush mounted into the surrounding wall panel system to fit within the standard wall panel grid system, where feasible at new stations.

Any required ventilation panels for a Digital Wall or flush mounted Digital Kiosk shall match the adjacent wall material. All supporting conduit and cooling mechanisms for both typologies shall be fully integrated into the display design with no exposed parts.

Digital Displays should be placed with consideration of architecture and accessibility, with the following placement guidelines applying to both typologies (the dimensions described are shown in Figure 3-10):

- Coordination for additional vertical joint locations in the wall panel system may be required when flush mounted Digital Displays do not align with two standard vertical joints in wall panel system (i.e. less than 60" wide)
- Bottom of all display types to be aligned with wall panel system standard horizontal joint at 36" above finished floor
- Maximum height of interactive controls to be 48" above finished floor



Figure 3-1 ISDS design for Digital Kiosk. Rounded corners and tops in brushed stainless steel coordinate with the ISDS family of elements.



Figure 3-2 Rendering: Interactive Digital Wall.



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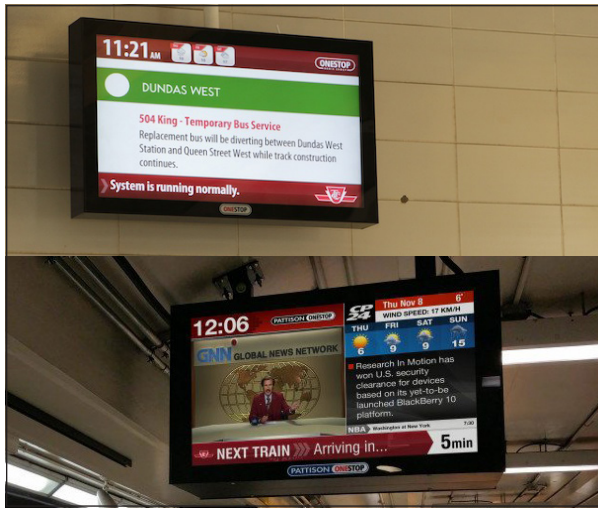


Figure 3-3 Example of streamlined VMS with consistent design, Toronto Transit Commission (TTC).

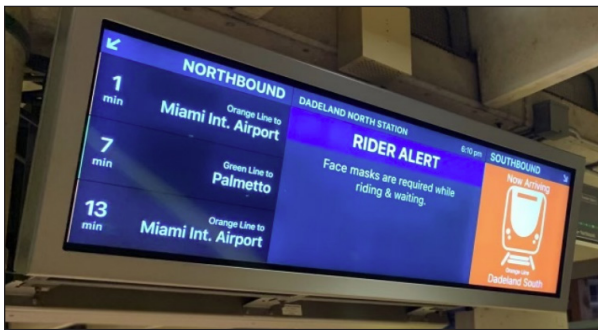


Figure 3-4 VMS with integrated hardware, Miami-Dade Transit (MDT).

Visual Message Signs

Visual Message Screens (VMS) may be LED or LCD. Their technical specifications may vary to allow for flexibility to respond to varied station design configurations, changing technology, and cost effectiveness of available products over time. With different types of screens, streamlining Metro's VMS and making them visually compatible with station architecture relies on their standardization and deliberate placement. Best practices from Toronto Transit Commission and Miami-Dade Transit are pictured in Figures 3-3 and 3-4.

The consistency of particular VMS components will align current stations with ISDS goals and ensure that varying technology used in future refurbishments and expansions of the Metro system is well-integrated.

- VMS should be enclosed in stainless steel frames and supporting hardware. Material for attachment may vary to match adjacent architectural surface. This will create material consistency with other ISDS elements.
- Cooling and support equipment and conduit for VMS should be concealed from view, contained within framing enclosure.
- In underground station areas with a concourse directly above the platform, VMS at the platform level should be mounted from the ceiling. In underground station areas with an open platform (high ceiling) configuration, VMS should be mounted to track edge lighting fixtures if needed in this part of the platform. See Figures 3-8 and 3-9.
- In at-grade and aerial stations, VMS should be mounted on a structural arm attached to a canopy support column. See Figure 3-9.

To ensure a streamlined and legible station environment, all displays featuring customer information and/or advertising must be a minimum of 90 inches from artwork and wayfinding elements.

Other Typologies

Metro may need to design and/or install other display typologies in order to adapt to specific needs and circumstances. To further the goals of cohesive, usable, and maintainable stations, these displays should align with the design principles of the CIP family and ISDS.

Arrays of backlit, wall-mounted or flush mounted displays are an example of a typology that may suit Metro stations if the design principles described in this paper are applied (see Figure 3-5). With the placement considerations and materiality of CIP typologies, these arrays could accommodate static advertising during the transition to integrated digital formats.



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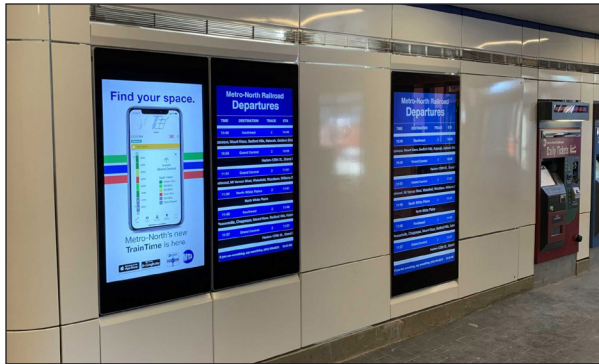


Figure 3-5 Electronic displays in an array configuration (White Plains Station, New York MTA).

Digital Advertising

Advertising on the Metro system should migrate from static to digital formats. All advertising shall be contained within displays selected from Metro's standard set of CIP typologies, integrated into station architecture. Advertising is best suited to Digital Displays, Map Cases, or arrays of backlit cabinets with stainless steel frames. With the planned migration to digital formats, Digital Displays should be Metro's priority display typology to accommodate advertisements. Decal wall and floor ads should be discontinued in Metro station public areas.

To be thoughtfully integrated with other uses of electronic displays, advertising shall be part of a streamlined approach to information delivery. Station- and location-specific circumstances at specific stations and locations should inform Metro's efforts to balance advertising, maps and trip planning tools, arrival information, service alerts, other customer information, and urgent messaging.

Non-interactive Digital Displays may feature advertising or the real-time customer information described above. Interactive Digital Displays may feature advertising or real-time information when they are not in use by customers, however, interactivity should be available at all times on these displays and supercede other functions including advertising. Even electronic displays primarily used for advertising should provide customer information such as arrival times; it is important to this integrated strategy that Metro prioritizes customer experience and the usability of stations.

Exclusive use of electronic displays for advertising will allow Metro to generate revenue through advertising and eliminate the use of unsightly static decal ads adhered directly to walls and other structures. Digital, variable display typologies also allow Metro to advertise events, programs, and opportunities specific to the agency. This approach will contribute to clean, visually appealing station public areas, leaving signage, architectural features, and artwork unobstructed. Advertising and customer information will be better balanced and presented in state-of-the-art formats.

Examples of electronic displays featuring advertising are shown in Figures 3-6 and 3-7, from Beijing and Metro's Downtown Long Beach Station, respectively.



Figure 3-6 Digital advertising displays flush mounted in station wall panel system (Beijing, China).

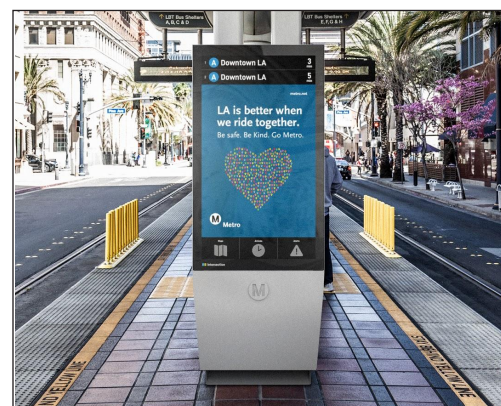


Figure 3-7 Digital Kiosk deployed by Metro, with advertising and customer information functions (Downtown Long Beach Station).



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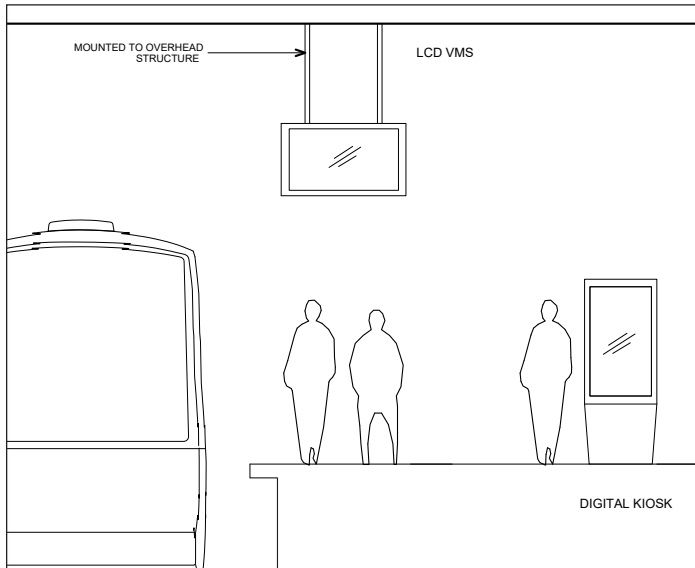


Figure 3-8 Drawing showing installations of VMS (LCD) and Digital Kiosk in an underground station setting. In station configurations with ceiling/concourse overhead, VMS to be mounted directly under concourse.

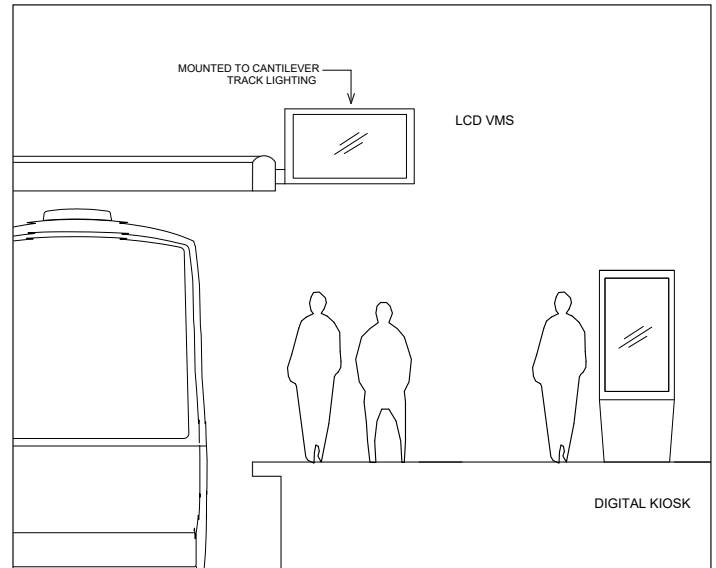


Figure 3-9 Drawing showing alternate installation of VMS (LCD) in an underground station setting. In spaces without overhead structural element available for mounting (open platform areas), display may be mounted on track edge lighting fixture.

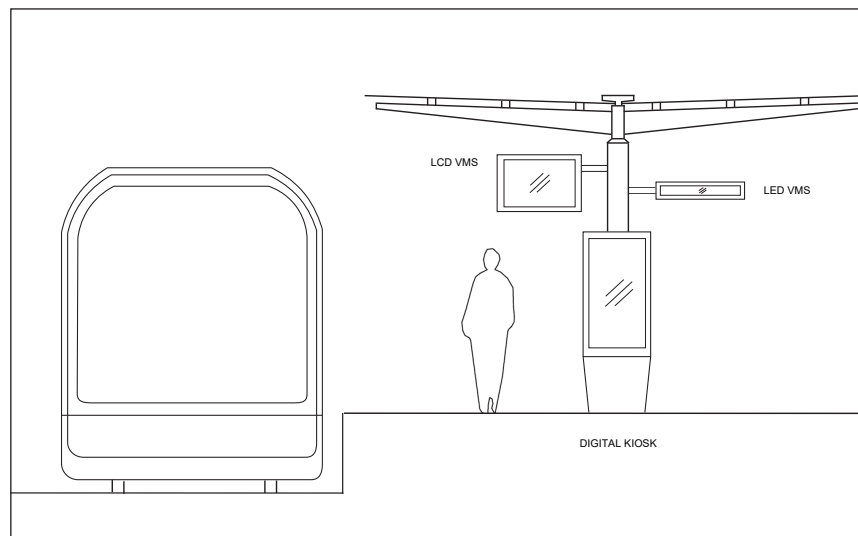


Figure 3-10 Drawing showing installations of VMS and Digital Kiosk in an at-grade or aerial station setting. VMS to be mounted to canopy support column.



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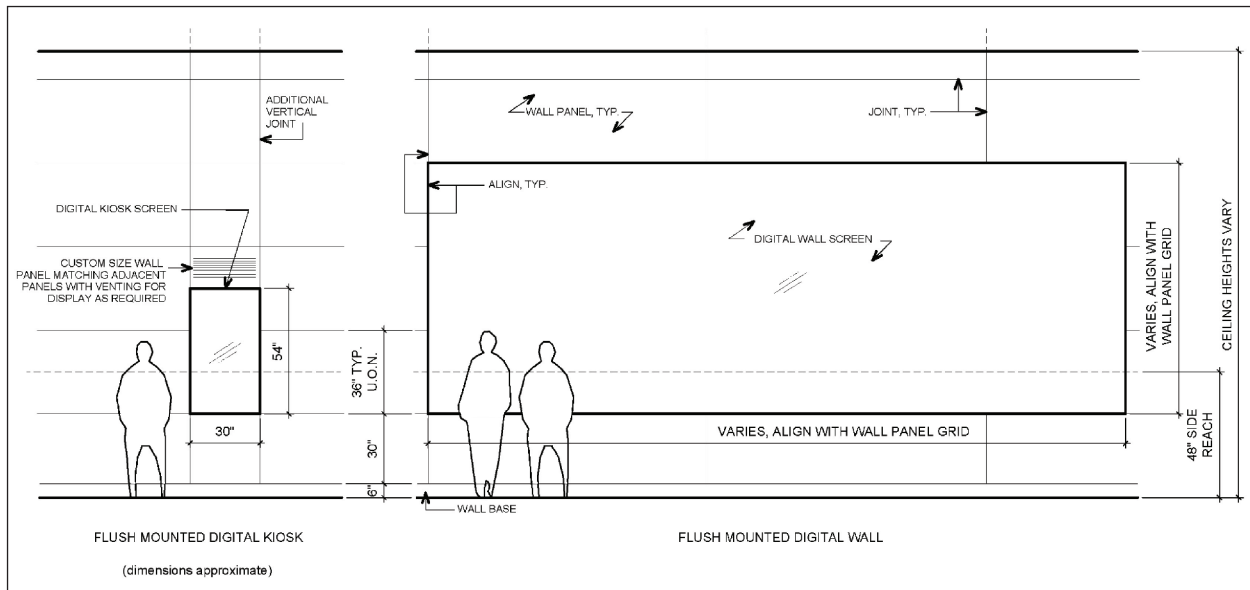


Figure 3-11 Drawing showing ideal installations of Digital Displays (flush mounted Digital Kiosk and flush mounted Digital Wall) in an underground station setting.



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Table 3-1 Key Design Features for Digital Kiosk

Design Feature	Rationale
1. Brushed stainless steel finish	Stainless steel material for frame/structure consistent with the ISDS family of elements creates an integrated and cohesive aesthetic.
2. Rounded top (free standing/floor mounted units)	A rounded top not only prevents collection of dirt, trash and bird roosting, but also matches the form of ISDS family of elements.
3. Installed flush with the surrounding wall panel system	A flush mounted display hides conduits or additional infrastructure, providing a simple and clean appearance within stations. Having no protrusions prevents dirt accumulation, bird congregation, injuries and equipment damage.
4. Ventilation panels and custom sized panels matching adjacent wall material	Matching materials helps to achieve an integrated, cohesive, and visually appealing design in public station areas. Additionally, matching materials helps to hide the irregularity of custom sized wall panels needed due to addition of vertical joints.

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 Key Design Features for Digital Wall

Design Feature	Rationale
1. Installed flush with the surrounding wall panel system	A flush mounted display hides conduits or additional infrastructure, providing a simple and clean appearance within stations. Having no protrusions minimizes dirt accumulation and bird congregation, and reduces injuries and equipment damage.
2. Ventilation panels and custom sized panels matching adjacent wall material	Matching materials helps to achieve an integrated, cohesive, and visually appealing design in public station areas. Additionally, matching materials helps to hide the irregularity of custom sized wall panels needed due to addition of vertical joints.

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.



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Table 3-3 Key Design Features for Visual Message Signs

Design Feature	Rationale
1. Mounted to overhead structure or column arm	Mounting VMS to existing station architecture in a seamless manner will provide a streamlined appearance and eliminate the need to install additional exposed mount supports.
2. Stainless steel attachment and screen frame	Stainless steel supporting hardware provide durability as well as consistency with Metro standard palette.
3. Cooling unit integrated into framed enclosure cabinet	Cooling unit integrated into framed enclosure cabinet (instead of attached to exterior) provides a simple and clean appearance, and prevents dirt accumulation

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.

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Brad Owen, Construction Management	Marshall Epler, Rail MOW Engineering
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Carlos Martinez, Facilities Maintenance Contracts	Mayen Alcantara, Arts + Design
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Claire Reyes, Rail Communications	Paul Whang, Facilities Engineering-Operations
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Dulce Cristobal, Systems Engineering	Shaunt Avanesian, Facilities Maintenance Contracts
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Erica Lee, TAP	Thomas Eng, Safety
Fred Feng, Systems Engineering	Timothy Lindholm, Facilities Engineering-Operations
	Zipporah Yamamoto, Arts + Design