



## Board Report

File #: 2017-0605, File Type: Policy

Agenda Number: 20.

### PLANNING AND PROGRAMMING COMMITTEE JANUARY 17, 2018

**SUBJECT: SYSTEMWIDE STATION DESIGN STANDARDS**

**ACTION: ADOPT SYSTEMWIDE STATION DESIGN STANDARDS POLICY**

#### **RECOMMENDATION**

ADOPT the Metro Systemwide Station Design Standards Policy.

#### **ISSUE**

As Metro expands its transit system, a state-of-the-art systemwide design approach is needed to ensure that existing and future station facilities are safe, smart, clean and green. Adoption of the Systemwide Station Design Policy (Attachment A) will ensure all future Metro Rail and Bus Rapid Transit (BRT) stations follow a consistent, streamlined systemwide design, with integrated public art and sustainable landscaping as variable elements. This policy would take precedence over prior Metro policies regarding architectural design for Metro Rail and BRT station public areas.

#### **DISCUSSION**

##### Background

As the Metro system has expanded over the years, unique station architecture and design features have led to increased long term maintenance challenges with higher costs for the agency. As a result of these unique designs, ordering or stocking of special replacement materials or fabrication of custom features is costly and time intensive. This has also resulted in alterations that are not compatible with original design aesthetics of a particular station or line, and over time has led to the deterioration or loss of these unique designs and features, making some station public areas unsightly. In some cases, station public areas can become unsafe and universal access and efficient transit operations can be adversely affected.

In 2012, following a thorough review and evaluation of other leading state-of-the-art transit systems and international best practices for transit station design, and with an interdepartmental team, Metro developed the Systemwide Station Design using a modular system, or “kit-of-parts”. This kit-of-parts helps to ensure that stations are streamlined and adaptable for varying site conditions, allowing stations to be more cost-effective to design, construct, and maintain.

### The Systemwide Station Design Kit-of-Parts

Consisting of high quality, high performance architectural materials and elements, the kit-of-parts can be configured to respond to varying station site conditions, as well as the functional and capacity needs of individual stations. These standardized materials and elements generally consist of low-iron fritted glass panels, stainless steel railings and cladding, architectural grade concrete, and a limited number of factory finished surfaces.

Importantly, while the Systemwide Station Design allows Metro to create a consistent, recognizable architecture, it also provides dedicated areas for elements of variability at each station. Metro's award winning station art program, as well as sustainable landscaping tailored to the county's various microclimates, are elements of variability developed in consultation with and responsive to the surrounding community.

### Benefits of the Systemwide Station Design

Metro stations designed in compliance with the Systemwide Station Design Standards will be safer, smarter, cleaner and greener: safer for all riders and operators; intelligently laid out so that stations are easier to access and navigate; simpler and more cost-effective to clean and maintain; and more sustainable in terms of architectural materials, energy usage, and landscaping.

The benefits and advantages of the Systemwide Station Design include:

- Station entrances and public areas that are uncluttered, resulting in safer, more comfortable, and more open spaces;
- Station layouts coordinated with Metro Rail Operations and System Security to ensure visibility through and across stations for transit operators and security personnel;
- Intuitive station layouts to ensure station environments are easier for transit riders to recognize and navigate;
- Locations of station amenities and operational equipment that better accommodate the full range of passengers with various functional limitations as well as those who are highly functional;
- Streamlined integration of lighting, seating, operational equipment, wayfinding, customer information;
- Integration and prominent display of public art;
- A concise palette of durable, high quality materials integrated into station area designs that will be simpler to maintain and are more likely to remain attractive over time;
- Glass canopies and enclosures designed with green sustainable practices in mind to increase natural light access for station interiors and exterior station platforms;
- A modular "kit-of-parts", which will more easily adapt to various site constraints, facilitating the incorporation of new or changing elements and features required by federal, state or local statutes, transit design best practices, and Metro standards; and
- Improved maintainability

### Consistency vs. Flexibility

Lessons learned over nearly 30 years of rail design and construction underscore the need for a more consistent and ultimately sustainable approach to station design, construction and maintenance.

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That said, consistency does not translate into rigidity. The highly adaptable kit-of-parts, including station entrance plaza design, entrance structure orientation, as well as equipment and amenity configurations, allow for easier integration of adjacent development and first/last mile connections with the station site. As mentioned previously, the modules that make up the Systemwide Station Design kit-of-parts are flexible to accommodate visual connections to the identity and character of the surrounding communities, who are increasingly engaged in the design process. The kit-of-parts creates a framework with which Metro can engage stakeholders to ensure both the quality and safety of station design while being responsive to specific urban design goals and community character, in particular with the variable components of public art and landscaping.

Upon adoption of the policy, all future Metro station design contracts will require that station designs be consistent with the most current Systemwide Station Design Standards. Any accessory station building types not currently included in the Systemwide Station Design Standards are encouraged to use the Metro kit-of-parts materials wherever practicable, and follow similar architectural language as outlined in the current design standards. While not currently required, doing so will help ensure consistency in Metro station branding, improve durability of these facilities, and reduce design, construction and maintenance costs.

The policy also provides that local jurisdictions and other third parties may request, subject to Board approval, design modifications or enhancements to Metro's station design standards for individual stations, contingent on the requestor providing full funding. The policy stipulates that such design modifications and enhancements shall be subject to the provisions of Metro's Supplemental Modifications to Transit Projects Policy, and that third party funding shall cover all related additional design and construction costs, as well as additional operation and maintenance costs for these modifications or enhancements, as required by the Board.

#### Current Status of Implementation

The Systemwide Station Design Standards were vetted through internal coordination with Metro departments, and implementation of the Systemwide Station Design is well underway. Currently, Metro has 18 stations in either the design or construction phase that are largely compliant with the Systemwide Station Design Standards. The implementation process outlined in the Systemwide Station Design Policy will allow for continual improvement of these standards, through updates to the Metro Rail Design Criteria (MRDC), as appropriate.

#### Integration with Metro's Transit-Oriented Communities (TOC) Program

The adoption of the Systemwide Station Design Policy is part of a host of new and existing policies, programs and processes that together will make up Metro's TOC Program. Over the next six months, staff will work through the Measure M Policy Advisory Council (PAC) to develop a TOC Policy and more clearly define Metro's overall TOC Program. Among other objectives, the TOC Policy will provide direction on eligibility of Metro spending on both TOC activities as well as Local Return funds. The TOC Program will be part of the Long Range Transportation Plan (LRTP) process and will provide clarity on the policies, programs and processes that drive Metro's TOC work. Both of these documents will be brought to the Board for consideration and then adoption, in late winter 2017 and summer 2018. The Board can expect to see other portions of the TOC Program rollout prior to spring 2018, including actions to implement various components of the First/Last Mile Program. Going forward, all Board reports and recommendations that relate to the TOC Program will include

reference to such.

### **DETERMINATION OF SAFETY IMPACT**

An adopted Systemwide Station Design Standards Policy will help ensure that future Metro stations are safer for transit riders and employees. Stations following these standards will have uncluttered public areas with clear site lines making them safer, more accessible, spacious, and comfortable.

### **FINANCIAL IMPACT**

Adoption of the Systemwide Station Design Policy itself has no direct financial impact, as the Systemwide Station Design Standards are already part of the MRDC, Metro Bus Rapid Transit Design Criteria (MBRTDC) and related Architectural Standard/Directive Drawings, and new Metro stations under construction are already complying with most provisions of these standards.

Through implementation of this policy, Metro can expect economies of scale and reduced costs for station maintenance and replacement needs. Currently, unique architectural design and features in station public areas have led to ongoing maintenance challenges and costs. As a result, ordering or stocking of special replacement materials and fabrication of custom features is costly and time intensive. The Systemwide Station Design uses a modular kit-of-parts that is streamlined and adaptable, allowing stations to be more cost-effective to design, construct, and maintain.

### **ALTERNATIVES CONSIDERED**

The Board could elect to not adopt the new policy, and rely on the current Metro design standards to guide station design. This is not recommended because although Metro design requirements already include the Systemwide Station Design Standards, Metro often receives requests for customized station architectural styles. Adoption of the policy reinforces Metro's commitment to a consistent, integrated systemwide design approach and the creation of a safer, smarter, cleaner and greener transit system.

### **NEXT STEPS**

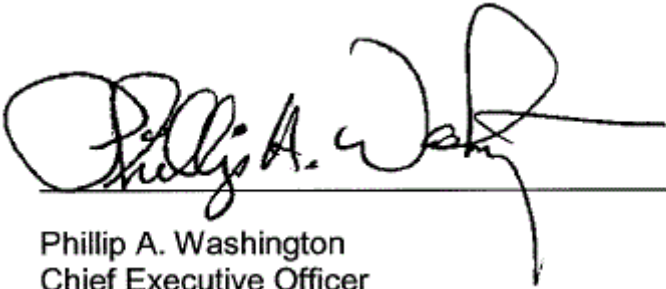
With Board approval, the policy will help ensure that all future Metro Rail and BRT stations, as well as renovations of existing stations where appropriate, are consistent with the Systemwide Station Design Standards as contained in the MRDC, MBRTDC and related Architectural Standard/Directive Drawings.

### **ATTACHMENTS**

Attachment A - Metro Systemwide Station Design Standards Policy

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## **METRO SYSTEMWIDE STATION DESIGN STANDARDS POLICY**

### **POLICY STATEMENT**

In order to continue building and maintaining a state-of-the-art transit system, the Los Angeles County Metropolitan Transportation Authority (Metro) has determined that all future Metro Rail and Bus Rapid Transit (BRT) station designs shall follow a consistent, integrated systemwide design approach, with integrated public art and sustainable landscaping as variable elements. This policy takes precedence over prior Metro policies regarding architectural design for Metro Rail and BRT station public areas.

Station designs shall be in compliance with Metro's Systemwide Station Design Standards, as set forth in the Metro Rail Design Criteria (MRDC), Metro BRT Design Criteria (MBRTDC) and related Architectural Standard/Directive Drawings, which may be amended from time to time. Accordingly, Metro will no longer develop unique architectural styles for future stations, unless specifically directed otherwise by the Metro Board of Directors.

### **PURPOSE**

Metro stations designed in substantial compliance with the Systemwide Station Design Standards will be safer, smarter, cleaner, and greener. The Systemwide Station design uses a modular "kit-of-parts" that is streamlined and adaptable, allowing stations to be more cost-effective to design, construct, operate, and maintain. Stations following these standards will have uncluttered public areas, making them safer, more accessible, spacious, and comfortable. Consistent architecture, signage, and intuitive wayfinding will make it easier for riders to recognize and navigate stations. The highly adaptable "kit-of-parts" allows for easier integration with adjacent development and first/last mile connections to the station site. Metro's award-winning public art program, as well as sustainable landscaping, will serve as elements of variability developed in consultation with, and responsive to the surrounding community.

### **APPLICATION**

This policy applies to all BRT, Light Rail, and Heavy Rail stations, and shall be adhered to by all Metro employees, consultants, contractors and vendors.

### **1.0 BACKGROUND**

Metro's objective is to provide for the continuous improvement of an efficient and effective transportation system for Los Angeles County. Achieving this mission requires designing, constructing and operating a dependable, safe, convenient, comfortable and state-of-the-art intermodal transportation system. Accordingly, station architecture and site design must be consistent with this mission.

As the Metro system has expanded over the years, unique architectural design and features in station public areas have led to a lack of visual unity and in many cases, have contributed to long term maintenance challenges with higher costs. As a result, ordering or stocking of special replacement materials, or fabrication of custom features is costly and time intensive, and can result in alterations that are not compatible with the original design aesthetic for a given transit line or individual station. Over time, the challenging maintenance issues lead to deterioration or loss of these unique designs and features. This can result in station conditions that are unsightly, and in some cases can become unsafe,

making stations difficult to access and navigate and sometimes creating obstacles to safe and efficient transit operations.

Changing federal, state and local government requirements (such as the Americans with Disabilities Act (ADA), transportation funding rules, and building codes), as well as those of Metro, have resulted in many existing Metro stations that do not meet current standards. Alterations to conform these stations to current standards can result in significant impacts to station functionality, as well as adversely impacting unique architectural finishes and features in station public areas.

In 2012, following a thorough review and evaluation of other leading state-of-the-art transit systems and international best practices for transit station design, Metro developed the Systemwide Station Design using a modular system, or “kit-of-parts”. This kit-of-parts consists of high quality, high performance architectural materials and elements that can be configured to respond to varying station site conditions, as well as the functional and capacity needs of individual stations. These standardized materials and elements generally consist of low-iron fritted glass panels, stainless steel railings and cladding, architectural grade concrete finishes, and a limited number of factory finished surfaces.

The Systemwide Station Design also provides for integrated public art and sustainable landscaping, as elements of variability developed in consultation with, and responsive to the surrounding community.

Metro’s Systemwide Station Design layouts provide for open plaza, concourse and platform designs, with streamlined integration of lighting, operational equipment, wayfinding, and customer information, as well as prominent display of integrated public art. Benefits and advantages of the Systemwide Station Design include, but are not limited to the following:

- Station entrances and public areas that are safer, more comfortable, and will feel more open and spacious;
- Intuitive station layouts to ensure station environments are easier for transit riders to recognize and navigate;
- Location of station amenities and operational equipment that better accommodate the full range of passengers with various functional limitations as well as those who are highly functional;
- Station layouts coordinated with Metro Operations, Safety, and Security Departments to ensure visibility through and across stations;
- A concise palette of durable, high quality materials integrated into station area designs that will be simpler to maintain and are more likely to remain attractive over time;
- Glass canopies and enclosures designed with green sustainable practices in mind to increase natural light access for station interiors and exterior station platforms;
- A modular “kit-of-parts” which will more easily adapt to various site constraints facilitating the incorporation of new or changing elements and features required by federal, state or local statutes, transit design best practices and Metro standards;
- A highly adaptable “kit-of-parts” allows for easier integration with adjacent development and first/last mile connections to the station site; and
- Improved maintainability.

The Systemwide Station Design Standards were vetted through internal coordination with Metro departments and implementation of the Systemwide Station Design began with the Regional Connector,

Crenshaw/LAX Line, and Purple Line Extension projects, which are largely compliant with the Systemwide Station Design Standards. The implementation process will allow for continual improvement of these standards, through updates to the MRDC and MBRTDC, as appropriate.

## **2.0 PROCEDURES**

### **2.1. Contracts for New Metro Stations**

Effective as of the date of this policy, all future Metro station design contracts shall require that station designs be consistent with the Systemwide Station Design Standards as contained in the most current MRDC, MBRTDC, and related Architectural Standard/Directive Drawings at the contract award date.

Deviations from certain provisions of this standard, such as station site layouts or equipment types, may be allowed to address unique site constraints, new technology, or specific station needs, but only after a thorough review process and with concurrence among affected Metro departments.

Station designs shall remain consistent with the most current Systemwide Station Design Standards throughout the preliminary design phases, including Preliminary Engineering, BAFO, and contract award. Any station vertical building types not covered specifically within the MRDC, MBRTDC and related Architectural Standard/Directive Drawings are encouraged to use the Metro Kit-of-Parts materials, and follow similar architectural language as outlined in the current design standards, however, these facilities are not required to follow the Systemwide Station Design.

Notwithstanding the preceding provisions of this section 2.1, the Board may at its discretion provide specific direction to Metro staff that certain new stations, such as major regional transfer hubs, have a unique architectural style or language, instead of strictly following the Systemwide Station Design Standards.

Local jurisdictions and other third parties may request, subject to Board approval, design modifications or enhancements to Metro's station design standards for individual stations, contingent on the requestor providing full funding. Such design modifications and enhancements shall be subject to the provisions of Metro's Supplemental Modifications to Transit Projects Policy. Third party funding shall cover all related additional design and construction costs, as well as additional operation and maintenance costs in perpetuity for these modifications or enhancements, as required by the Board.

### **2.2 Station Retrofit Contracts**

Design contracts for retrofit projects that update, enhance or otherwise impact the public areas of existing stations shall require that designs comply wherever feasible with the MRDC, MBRTDC and related Architectural Standard/Directive Drawings. All attempts will be made to ensure that new materials incorporated into the design shall meet current standards, and be consistent with the Metro Kit-of-Parts family of standardized systemwide materials and finishes. As the public areas of existing stations within the Metro system vary greatly, a systematic design approach shall be taken during the design and construction process of each retrofit project. Strict application of the Systemwide Station Design Standards materials and/or layout may not be appropriate in all cases, as a number of existing stations and rail lines have a unique or specific architectural design language. When replacement of existing materials, finishes, or features, or introduction of new equipment is required, ad-hoc alterations in station public areas shall be avoided. Instead, through coordination with Capital Project Engineering,



Countywide Planning and Development, and Operations, impacts of such alterations on station public areas shall be considered holistically, and integrated into the station environment in a streamlined and aesthetically appropriate manner. In particular, and wherever feasible, addition of equipment within or visible from station public areas shall be integrated into station walls or other enclosures that match the Metro Kit-of-Parts architectural finishes (or that are appropriate for the finishes and features of existing stations with unique architecture) to ensure that alterations are in keeping with the streamlined approach of the Systemwide Station Design Standards. Art & Design shall be included in the review process to ensure impacts to pre-existing artworks are avoided or minimized.

### **2.3. Updates to MRDC and Standard/Directive Drawings**

The Systemwide Station Design Standards provide a consistent basis for Metro transit station architectural design, and shall be kept up to date with current building, accessibility, fire and life safety codes and other statutory requirements as they change. Additional updates may be appropriate as innovative new practices are developed and implemented at stations, to improve the usability and functionality of stations. Any revisions or amendments to the MRDC, MBRTDC and related Architectural Standard/Directive drawings as they relate to the Systemwide Station Design Standards or affect station public areas must go through the Systemwide Baseline Change Notice (SBCN) process. Once adopted, new or revised standards shall be circulated as appropriate to design and engineering teams for all ongoing new station and existing station retrofit projects.

## **3.0 DEFINITION OF TERMS<sup>1</sup>**

**Architectural Directive Drawings** – Set of technical drawing sheets defining and illustrating the specific design details of Metro stations, including light and heavy rail stations. Standard technical detailed drawings must be followed. Actual station design elements contained in these drawings may vary depending on specific site requirements.

**Architectural Standard Drawings** – Set of technical drawing sheets defining Metro’s standard design details of Metro stations, including light and heavy rail stations. Standard technical detailed drawings must be followed.

**Contract Change Notice (CN)** – Official document issued by Metro to a contractor that authorizes a change or addition to contract requirements, in regard to a specific design as outlined in the MRDC, and/or Architectural Standard/Directive Drawings. Changes are issued to ensure contracts meet up-to-date requirements.

**Elements of Variability** – Defined areas and features within Metro transit stations and station sites that provide unique designs within specified parameters. In the case of the Systemwide Station Design Standards, the elements of variability are primarily public art and landscaping.

**Metro Kit-of-Parts** – Collection of integrated modular elements, features, materials and finishes provided in the Systemwide Station Design Standards, which can be configured in a variety of ways to respond to station type, unique site conditions, expected customer volumes, and other variables.

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<sup>1</sup> Definitions in this section are for the purpose of providing clarity for this policy document, do not supersede definitions in the Metro Rail Design Criteria and Metro Bus Rapid Transit Design Criteria, and do not set new requirements as part of this policy.

**Metro Bus Rapid Transit Design Criteria (MBRTDC)** – Metro’s formal written design standards for bus rapid transit (BRT) stations, which provide a consistent basis for the design of Metro BRT projects.

**Metro Rail Design Criteria (MRDC)** – Metro’s formal written design standards for transit stations, which provide a consistent basis for the design of Metro Rail Transit Projects, including both Heavy Rail Transit (HRT) and Light Rail Transit (LRT).

**Systemwide Station Design** – Metro’s established architectural design concept and material palette for rail and BRT transit stations.

**Systemwide Station Design Standards** – Metro’s established criteria, layouts, materials, features and details contained in the MRDC and Architectural Standard/Directive Drawings that specify how Metro stations are to be designed or retrofitted in keeping with the Systemwide Station Design. These standards must also be refined from time to time to respond to statutory requirements, industry best practices, and the needs of the Metro system.

**Systemwide Baseline Change Notice (SBCN)** – Revisions made to the MRDC and/or Architectural Standard/Directive Drawings to ensure Metro’s design requirements meet current state and federal requirements, and integrate innovative technology. SBCNs require justification and approval signatures from necessary Metro departments before adoption.

#### **4.0 RESPONSIBILITIES RELATED TO IMPLEMENTATION OF SYSTEMWIDE STATION DESIGN STANDARDS**

**Systemwide Design, Countywide Planning and Development** reviews station design submittals to ensure compliance where applicable with Systemwide Station Design Standards as contained in the most up-to-date versions of the MRDC, MBRTDC and related Architectural Standard/Directive Drawings, and assists in coordinating design comments from other Countywide Planning and Development departments. Initiates and coordinates updates and revisions to the Systemwide Station Design Standards with Engineering, Operations, Safety, and Security.

**Engineering** coordinates regularly with internal Metro staff to make updates as required to the Systemwide Station Design Standards as contained in the MRDC, MBRTDC and related Architectural Standard/Directive Drawings. Circulates draft revisions to ensure updates are approved by all required Metro departments, and adopted by project contract teams.

**Transit Project Delivery** ensures station construction projects are designed and constructed in conformance with the Systemwide Station Design Standards as contained in the MRDC, MBRTDC and related Architectural Standard/Directive Drawings, while maintaining cost effectiveness and an on-time delivery. Coordinates with internal Metro departments to circulate station design submittals for review and comment, to ensure projects meet Metro’s requirements.

**Operations** ensures new station designs and modifications to existing stations meet operational and maintenance requirements. With respect to this role, Operations reviews and provides input on proposed updates to the Systemwide Station Design Standards.

**Art & Design** manages integration of site specific station artworks, and rotating exhibitions that engage communities, create a sense of place, and improve the transit customer experience. The department also advises on a range of design elements and establishes integrated environmental graphic design standards to assist customer navigation and wayfinding. Art & Design reviews and provides input on proposed updates to the Systemwide Station Design Standards and to proposed retrofits to the system.

**Safety & Security** provides station design teams with critical safety requirements, security information, best practices, and regulatory guidance information to maintain a safe environment within station public areas. Reviews and provides input on proposed updates to the Systemwide Station Design Standards, and coordinates any issues with the Systemwide Design team, Engineering, and Operations.

**Office of Civil Rights** ensures federal, state and local accessibility requirements for station public areas are being met, and additional accommodations are established within the Metro system to accommodate the full spectrum of passengers with various functional limitations, including mobility, visual, cognitive or similar impairments and limited language proficiency. Reviews and provides input on proposed updates to the Systemwide Station Design Standards, and coordinates any issues with the Systemwide Design team, Engineering, and Operations.

**Office of Extraordinary Innovation** coordinates with Metro departments to develop innovative methods, and new technology to increase the usability and maintainability of stations, including the implementation and updating of the Systemwide Station Design Standards.

## **5.0 PROCEDURE HISTORY**

- 1992 Board adopts Rail Station Design Policies
- 2001 Board adopts Bus Rapid Transit Design Standards
- 2005 Baseline Metro Rail Design Criteria (MRDC) updated for light rail implementation, further refining design standards to incorporate maintenance, operations and regulatory requirements
- 2010 Baseline MRDC updated for systemwide implementation, further refining design standards to incorporate maintenance, operations and regulatory requirements
- 2012 Systemwide Station Design Standards are developed and incorporated into updated MRDC and Architectural Standard/Directive Drawings to unify systemwide identity, integrate new fare equipment, regulatory requirements and updated systemwide signage standards, and to improve maintainability.

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# Metro Systemwide Station Design Standards Policy



**Metro**

Planning and Programming Committee

January 17, 2018

# Design Standards Development

- Systemwide Station Design “kit-of-parts” developed in 2012
- Project goals:
  - improve legibility and maintainability
  - raise the bar on station design
- Design Standards developed with Metro inter-departmental coordination
- 18 new stations under construction or design apply kit-of-parts design elements and materials

# Design Principles for New Stations

## Safe

Open lines of sight for passengers and customers

## Smart

Contemporary design that is easy to identify, access and navigate

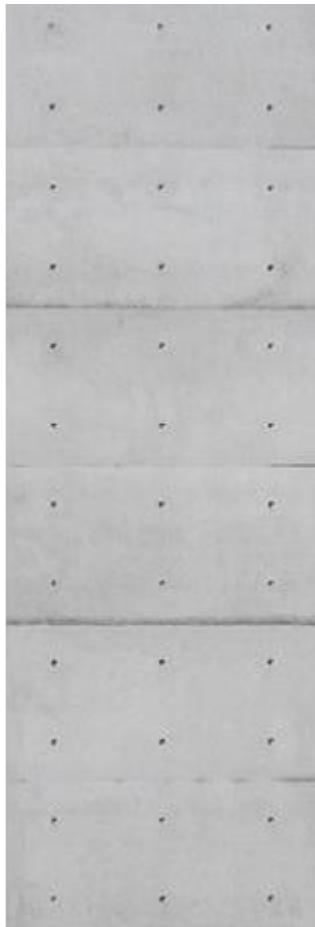
## Clean

High Performance Materials

## Green

Sustainable building materials and landscaping

# Materials



*CONCRETE*

*STAINLESS STEEL*

*GLASS*



# Portal Entrance - Systemwide Station Design





# Wilshire/Western Prototype Canopy



# Crenshaw/LAX



Downtown Inglewood Station

# Purple Line Extension





# Regional Connector



1<sup>st</sup>/Central Station

# Design Variances from Kit-of-Parts

- Local jurisdictions and other third parties may request design modifications or enhancements for individual stations.
- Requests for design modifications and enhancements are subject to Board Approval and Metro's Supplemental Modifications and Betterments Policy.
- Requestors shall cover related additional design, construction, operation and maintenance costs, as required by Board.



Thank you.



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