

Mobility. Environment. Community. Economy. Technology

I-710 Corridor Project EIR/EIS

metro.net

Aesthetics and Sustainable Concepts
Presented to the
Community Design and Local Economy
Subject Working Group
July 8, 2010

Purpose of the I-710 Corridor Project EIR/EIS

- Provide detailed information on benefits, costs, and impacts of each proposed alternative
- Promote informed decision-making on transportation system investment
 - POTENTIAL BENEFITS: Reduced traffic congestion, reduced travel times, increased traffic safety, improved air quality, improved water quality, job growth
 - POTENTIAL IMPACTS: Noise, visual, water quality, acquisition of private property, construction
 - POTENTIAL COSTS: Design, right-of-way, construction, operations and maintenance



Purpose & Need

- Improve air quality and public health
- Improve traffic safety
- Reduce traffic congestion
- Address design deficiencies
- Address projected growth in the corridor



I-710 EIR/EIS Project Alternatives

Alternative 1 (No Build)

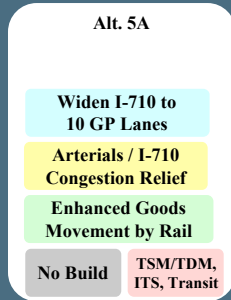


- ⇒ Required under CEQA and NEPA
- ⇒ Represents the Future (2035) Baseline Condition
- ⇒ Consists of Planned and Committed Projects, such as:
 - Clean Trucks Program
 - Expanded Pier Pass
 - Empty Container Management
 - I-710 Pavement Rehabilitation Project
 - Added Lanes to I-5 between the Orange County Line and I-605
 - Traffic Signal Coordination Projects on Key Arterials throughout the I-710 Corridor Study Area



I-710 EIR/EIS Project Alternatives

Alternative 5A (Widen to 10 General Purpose Lanes, No Freight Corridor)



⇒ Includes Alternative 1 (Future No Build), Enhanced Goods Movement by Railroad, TSM/TDM, Transit, ITS, Arterial Street Improvements and Interim I-710 Congestion Relief Projects.

⇒ Less impact than Alternative 6 and provides measurable benefits.

⇒ Provides a basis for comparison of the benefits, cost and impacts of the freight corridor in Alternative 6.



I-710 EIR/EIS Project Alternatives

Alternative 5A (Widen to 10 General Purpose Lanes, No Freight Corridor)



I-710 EIR/EIS Project Alternatives

Alternative 6A (Widen to 10 General Purpose Lanes, Plus 4 Freight Movement Lanes [Conventional Trucks])

Alt. 6A
**Freight Corridor
4 Lanes**
Widen I-710 to
10 GP Lanes
Arterials / I-710
Congestion Relief
Enhanced Goods
Movement by Rail
No Build TSM/TDM,
ITS, Transit

⇒ Includes Alternative 1 and Alternative 5A.

⇒ Consistent with the Major Corridor Study
Locally Preferred Strategy.

⇒ Assumes conventional diesel powered
trucks will use the freight corridor.



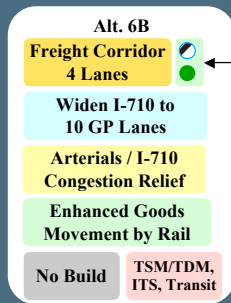
I-710 EIR/EIS Project Alternatives

Alternative 6A (Widen to 10 General Purpose Lanes, Plus 4 Freight Movement Lanes [Conventional Trucks])



I-710 EIR/EIS Project Alternatives

Alternative 6B (Widen to 10 General Purpose Lanes, Plus 4 Freight Movement Lanes [Zero Emission Trucks])



- ⇒ Includes Alternative 1 and Alternative 5A.
- ⇒ Assumes zero emission trucks will use the freight corridor. Zero emission trucks may be externally or internally powered.
- ⇒ The freight corridor follows highway design alignment and loading standards. **Zero Emission Trucks**
- ⇒ The freight corridor has been designed to allow for possible future conversion to a fixed guideway, zero emission system. **Electric Fixed Guideway**

⇒ Consistent with the Major Corridor Study Locally Preferred Strategy.



I-710 EIR/EIS Project Alternatives

Alternative 6B (Widen to 10 General Purpose Lanes, Plus 4 Freight Movement Lanes [Zero Emission Trucks])



Environmental Studies

- Comparative analysis of project alternatives
- Assess impacts to human, physical, and natural environment



Visual Impact Assessment

Purpose:

- provide a comparative evaluation of the visual impacts of each alternative on sensitive viewer groups within the I-710 Corridor communities

Methodology

- Define existing project setting/viewshed
- Determine potential key views
- Analyze existing visual resources and viewer response
- Evaluate key views using Caltrans/FHWA visual assessment criteria
- Prepare mitigation/enhancement measures



COMMUNITY ENHANCEMENT CONCEPTS



Overarching Enhancement Goals

- **Community Beautification & Identity**

Highlight unique community identities within a unified overall corridor theme

- **Connectivity**

Strengthen physical connections, access and mobility within and between communities

- **Sustainability**

Implement new technologies and best practices to ensure maximum respect for the environment and natural resources

- **Respectful & Appropriate Infrastructure Design**

Design in scale with the size and speed of a freeway corridor; reduce massing of structures; visually integrate built elements with surroundings



Topics Covered Previously

- **Initial Alternative Themes**

- Conventional Treatments with LA River Theme
- Eco / High Technology Concept
- Contemporary Art Concepts

- **Design Principles**

- Overall Theme
- Sustainability
- Sound Walls and Privacy Walls
- Greening/Landscaping
- Artistic Treatments
- Connectivity with Communities
- Freight Corridor
- Bridges



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Aesthetics & Sustainability

Aesthetics - An appreciation of beauty

Sustainability - Meets society's present needs without compromising the ability of future generations to meet their needs

For a freeway this could mean:

- Low water usage landscaping
- Storm water from roadways into vegetated bio-swales for filtration and recharge of ground water
- Pedestrian and bicycle connections across the freeway
- LED Lighting powered by alternative energy
- Construction materials from local sources
- Art made from recycled material sourced from the neighborhood



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Topics of Today's Workshop

- Overall Concepts
 - Generate / Re-Generate
 - Landscape
- Community Arterial Tool Box
 - Pedestrian and Bicycle Circulation
 - Landscape
 - Community Branding
 - Pedestrian Lighting & Energy Generation / Railings
- Freeway Enhancements
 - Sound Walls and Screen Walls
 - Bridges
 - Landscape
 - Lighting and Energy Generation
- Freight Corridor (Alt. 6A/B only)
 - Sound walls
 - Screen walls
 - Landscape
 - Lighting and Energy Generation



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Overall Theme



- **Weaving Transportation / LA River / Energy Corridors into the Communities**
- **Opportunity for a Sustainable Corridor**
 - Transportation
 - Energy Generation
 - Water quality improvements
 - River restoration
 - Connections
- **Overall Design**
 - Unified freeway corridor
 - Unique branding for individual communities



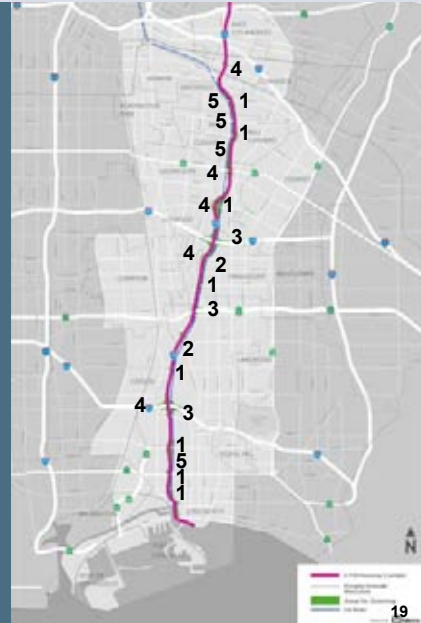
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Opportunities for Greening / Landscaping

- Drought tolerant and native landscaping
- Plants that change color with the seasons

-  I-710 Freeway Corridor
-  Freight/Amtrak/Metrolink
-  Areas for Greening
-  LA River



Source:  Metro



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Opportunities for Greening

Single Point Urban Interchange

-  Landscape
-  Potential Water Infiltration / Retention Areas



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Opportunities for Greening

Partial Cloverleaf Interchange

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-  Landscape
 -  Potential Water Infiltration / Retention Areas
-  **Metra**



Opportunities for Greening

Freeway to Freeway Interchanges


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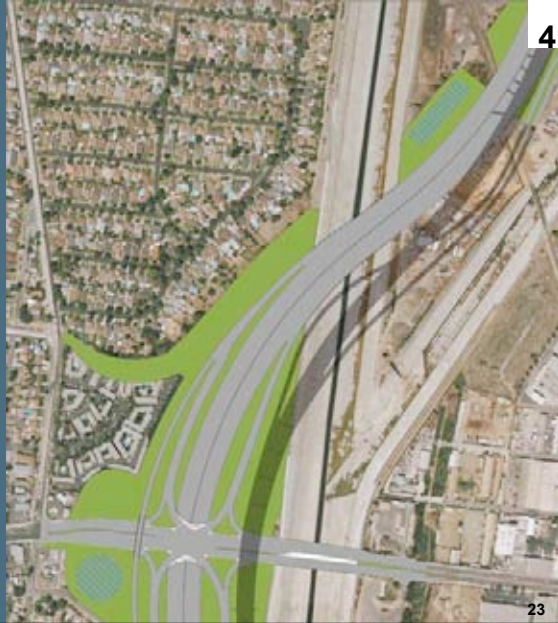
-  Landscape
 -  Potential Water Infiltration / Retention Areas
-  **Metra**



Opportunities for Greening

Vacated Ramps & Excess R.O.W.

-  Landscape
 -  Potential Water Infiltration / Retention Areas
-  **Metra**



Opportunities for Greening

Los Angeles River

- Plant palette consistent with LA River guidelines
- Water feature
- Pathway/Recreation under the freight corridor?

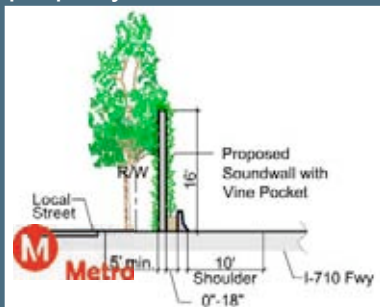
-  Landscape
 -  Potential Water Infiltration / Retention Areas
-  **Metra**



Opportunities for Greening

Community side of sound wall

- Leave five feet minimum for trees at end of local cul-de-sacs, if feasible
- Use vines when space is limited
- Consider easements on private property for trees



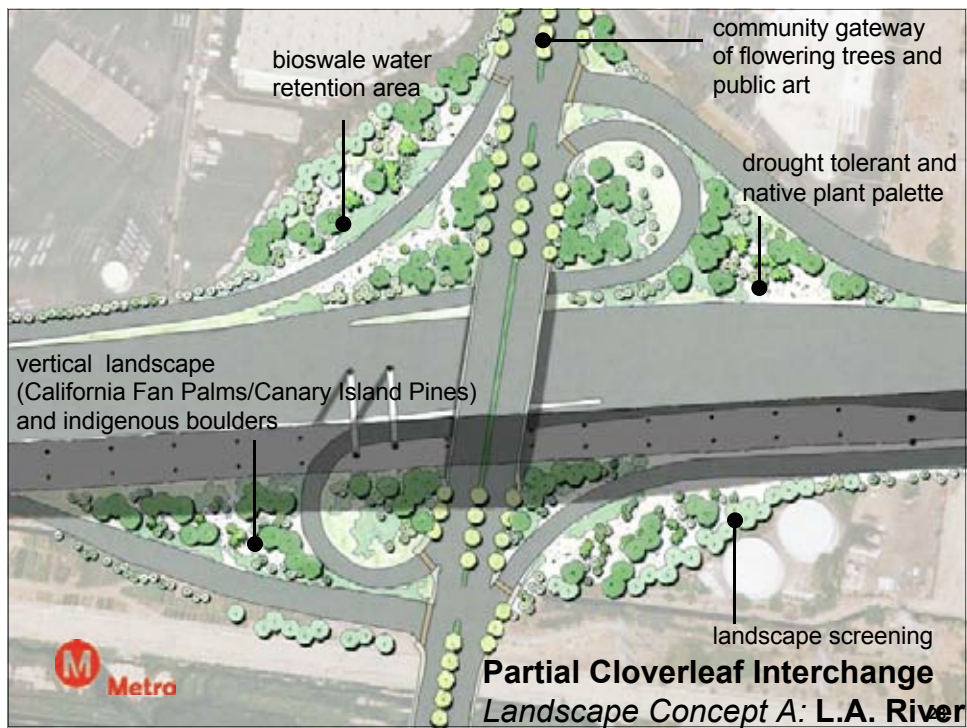
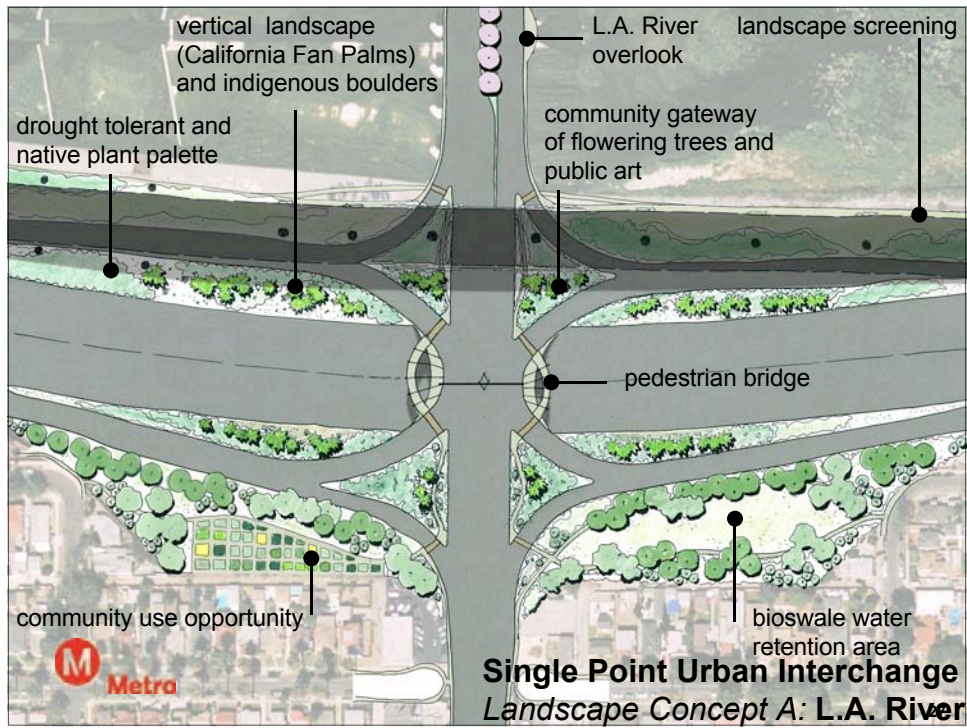
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Landscape Concept A: LA River

- **Plant palette** - Use of drought tolerant native plants visually integrating the banks of the Los Angeles River onto the freeway embankments.
- **Tree Planting** - California Fan Palms or Canary Island Pines create a vertical landscape element.
- **Retention Areas** - Native vegetation areas dedicated to the collection and filtration of run-off.
- **Pedestrian Bridge** - Sculptural pedestrian / bicycle bridges running with planter areas.
- **Excess ROW** - Open space not used for water retention creates an opportunity for community uses (i.e. garden, neighborhood gathering area).
- **Gateways & Public Art** - Flowering street trees, parkway buffers along arterials and art opportunities.



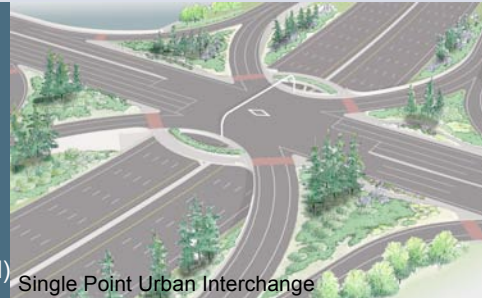
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Landscape Concept A: LA River

PRELIMINARY PRIMARY PLANT PALETTE:

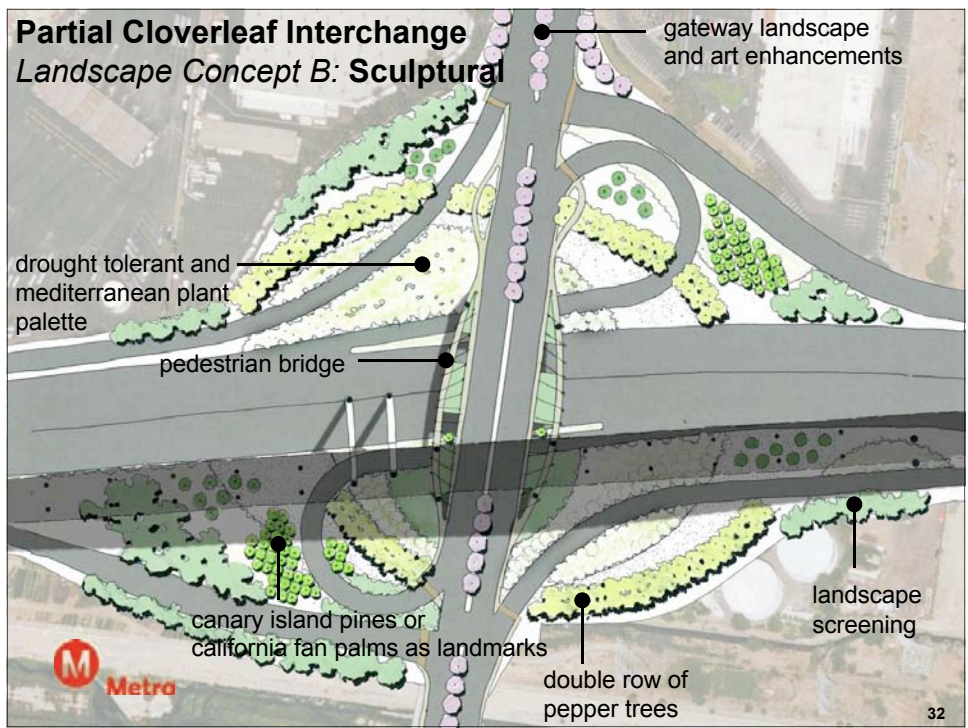
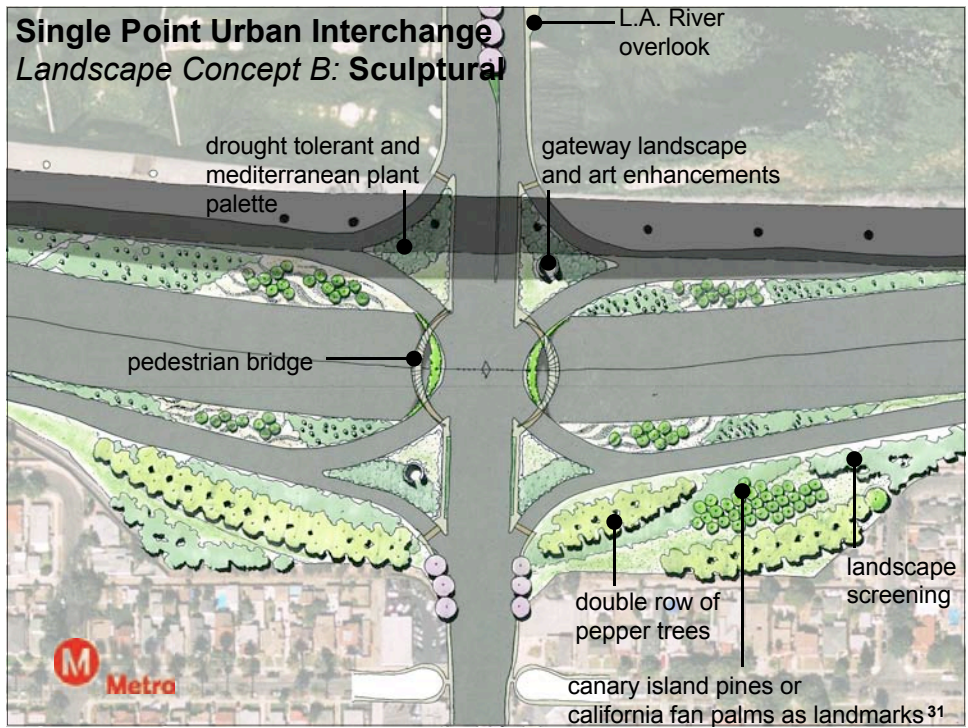
- California Sycamore
- Native Oaks
- California Fan Palm
- Canary Island Pine
- Incense Cedar
- Flannel Bush (where little maintenance needed)
- Toyon
- Lemonade Berry
- Coffee Berry
- San Diego Marsh Elder
- California Lilac
- Coyote Brush
- White Alder
- Other native or L.A. River compatible plantings



Landscape Concept B: Sculptural

- **Plant palette** - Drought tolerant Mediterranean plants with California adapted plants.
- **Tree Planting** - Mass grouping of trees in a grid or curvilinear pattern creating a landmark.
- **Pedestrian Bridge** - Pedestrian / bicycle bridges parallel to vehicular bridge with planter areas used as traffic buffers.
- **Landscape Screening** - Dense planting as landscape buffer from freeway to adjacent users.
- **Gateways & Transportation Art** - Flowering street trees and parkway buffers along arterials with art opportunities.





Landscape Concept B: Sculptural

PRELIMINARY PRIMARY PLANT PALETTE:

- California Sycamore
- California Pepper Tree
- California Fan Palm
- Canary Island Pine
- Chinese Flame Tree
- Blue Palo Verde
- Italian Buckthorn
- Rosemary
- Acacia
- Lantana
- Coyote Brush
- Blue Oat Grass
- Other climbing vegetation







COMMUNITY ARTERIAL ENHANCEMENT TOOLBOX

- Sidewalks
- Bicycle Paths
- Railings and Guard Rails
- Street Trees and Other Landscaping
- Public Art
- Gateways for Community Identity
- Pedestrian Lighting and Energy Generation



Community Arterials

Current and Potential Pedestrian Connections












-  I-710 Freeway Corridor
-  Freight/Amtrak/Metrolink
-  LA River
-  Pedestrian Bridge Connection
-  Pedestrian Underpass Connection
-  Potential Pedestrian Connection

Source:  Metro



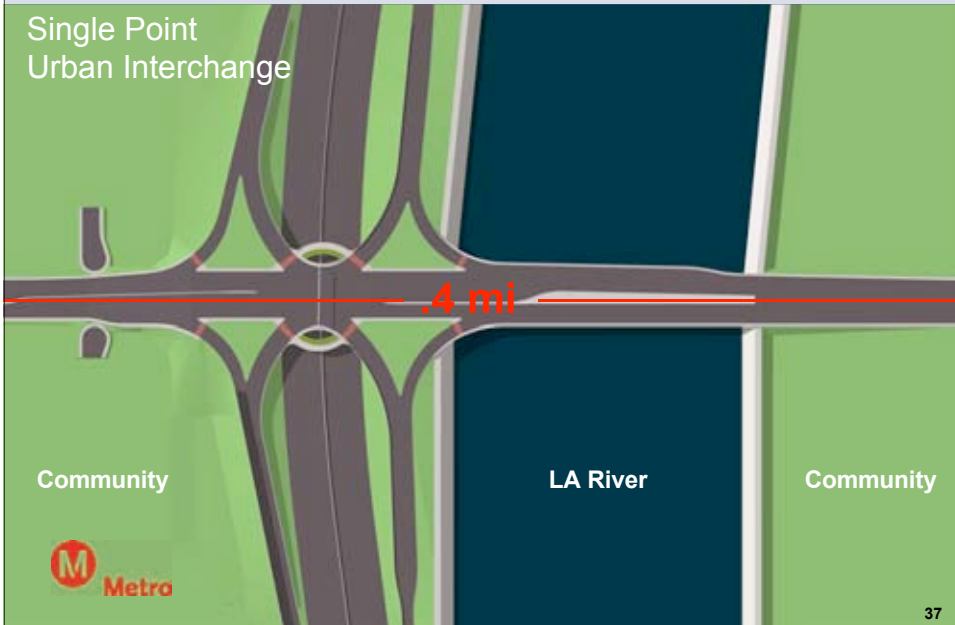
Community Arterials

Current and Proposed Bicycle Connections

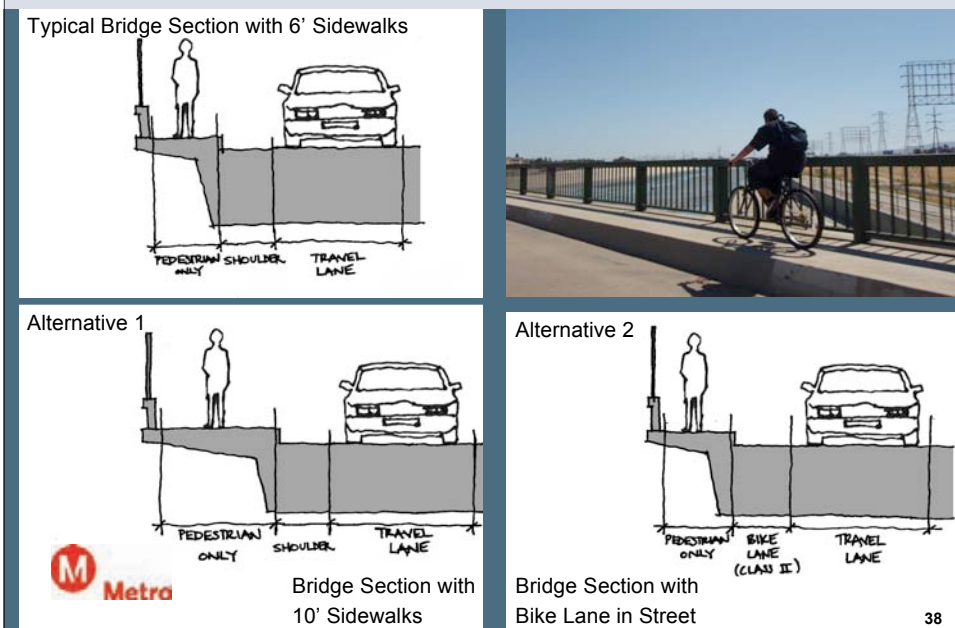
-  I-710 Freeway Corridor
-  Freight/Amtrak/Metrolink
-  LA River
-  Class I Bicycle Path
-  Class 2 Bicycle Path
-  Proposed Class I Bicycle Path
-  Proposed Class 2 Bicycle Path
-  Potential Class 1 Bicycle Path (Maintenance Path)
-  Bicycle Path Access Point
-  Potential Bicycle Path Access Point
-  Potential Location for Bicycle Crossings at Bridge



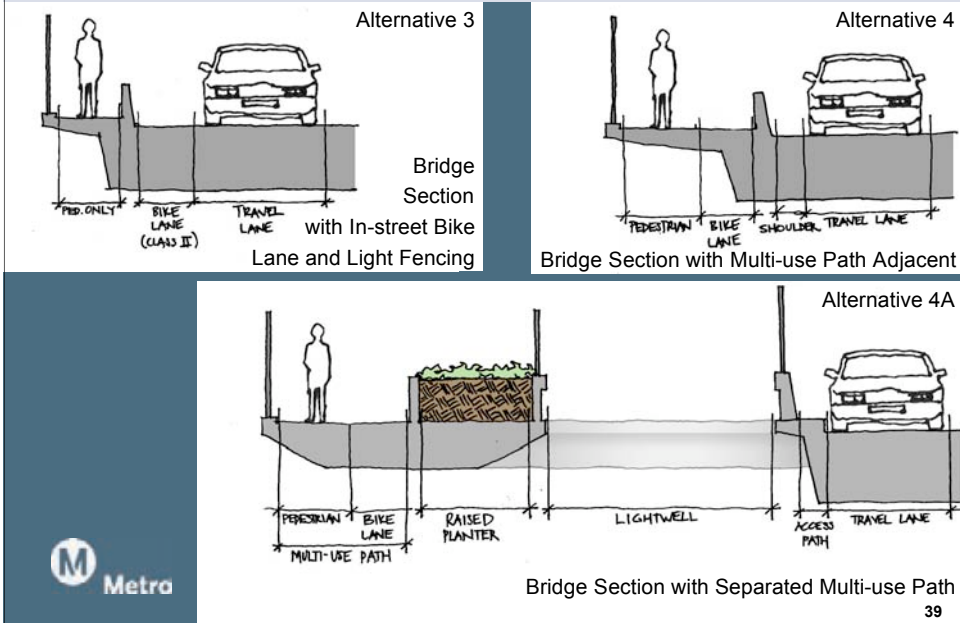
Community Arterials: Crossing the Freeway



Alternatives for Ped./Bike Crossing of Bridges



Alternatives for Ped./Bike Crossing of Bridges



Community Arterials: Pedestrian Crossing



Community Arterials: Landscape



Community Arterials: Distinctive Street Trees



Community Arterials: Public Art / Gateway



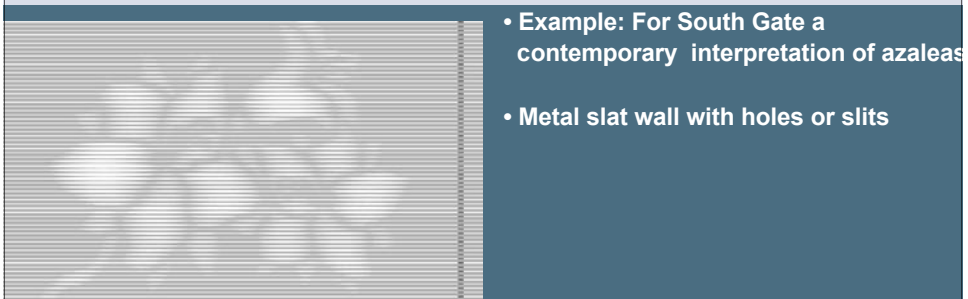
Community Arterials: Community Branding



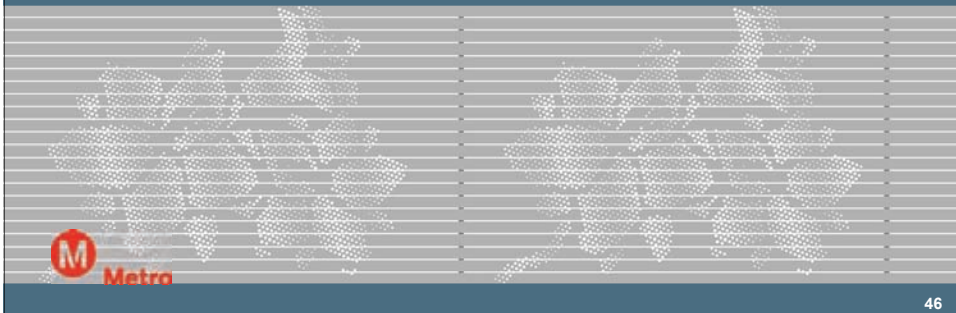
Community Arterials: Community Branding



Community Arterials: Community Branding / Screen Wall



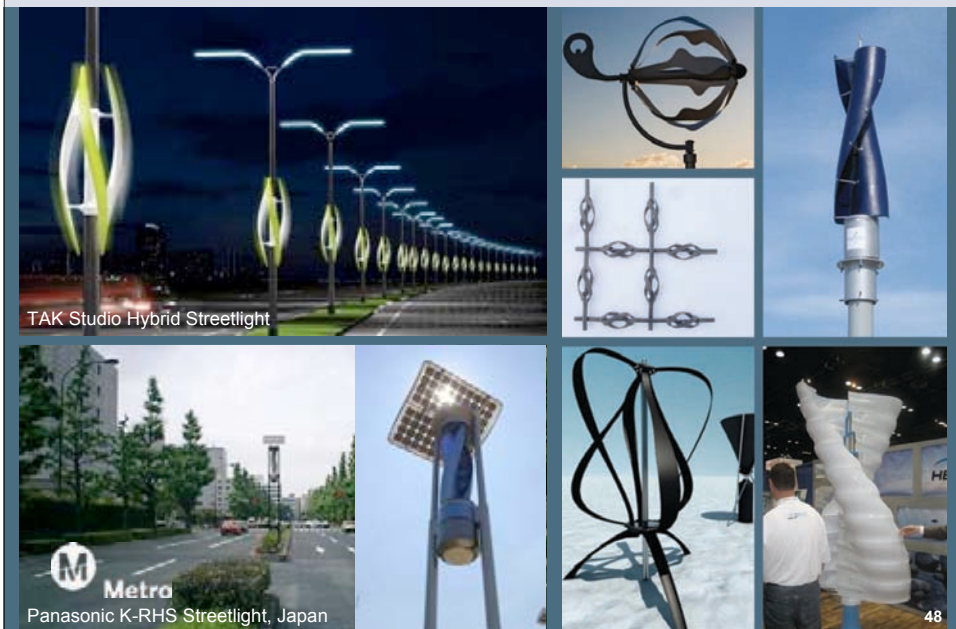
- Example: For South Gate a contemporary interpretation of azaleas
- Metal slat wall with holes or slits



Community Arterials: Public Art and Screen Walls



Community Arterials: Lighting / Energy Generation



Community Arterials: Lighting / Energy Generation



Community Arterials: Lighting / Energy Generation



Community Arterials: Railings / Energy Generation

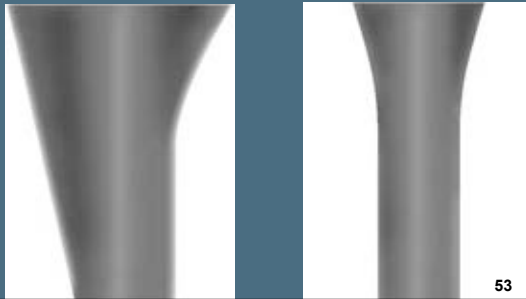


Community Arterials: Partial Cloverleaf Interchange



FREEWAY ENHANCEMENTS

- Sound Walls with Vines
- Screen Walls
- Bridges / Lighting / Energy
- Aesthetic Treatment of Bents or Columns



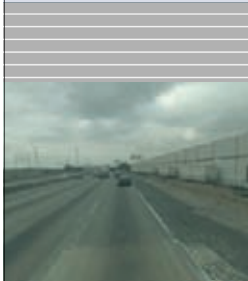
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Freeway: Sound Walls with Vines



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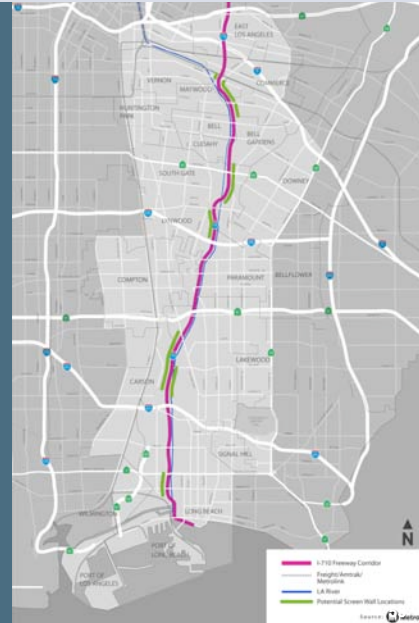
Freeway: Screen Walls



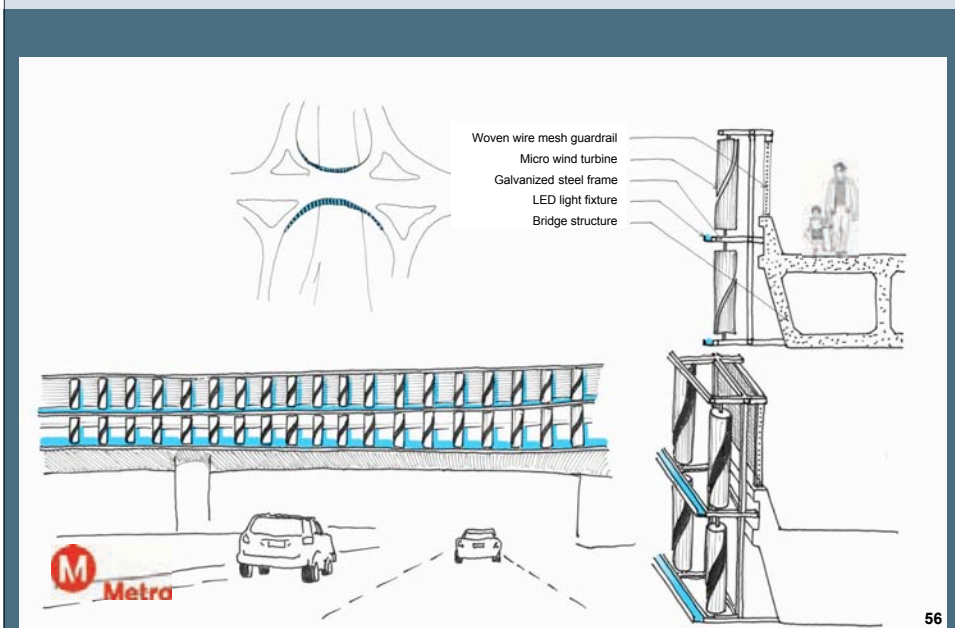
- Metal slat wall with holes or slits to block industrial or unsightly properties adjacent to the freeway

-  I-710 Freeway Corridor
-  Freight/Amtrak/MetroLink
-  LA River
-  Potential Screen Wall Locations

Source:  Metro

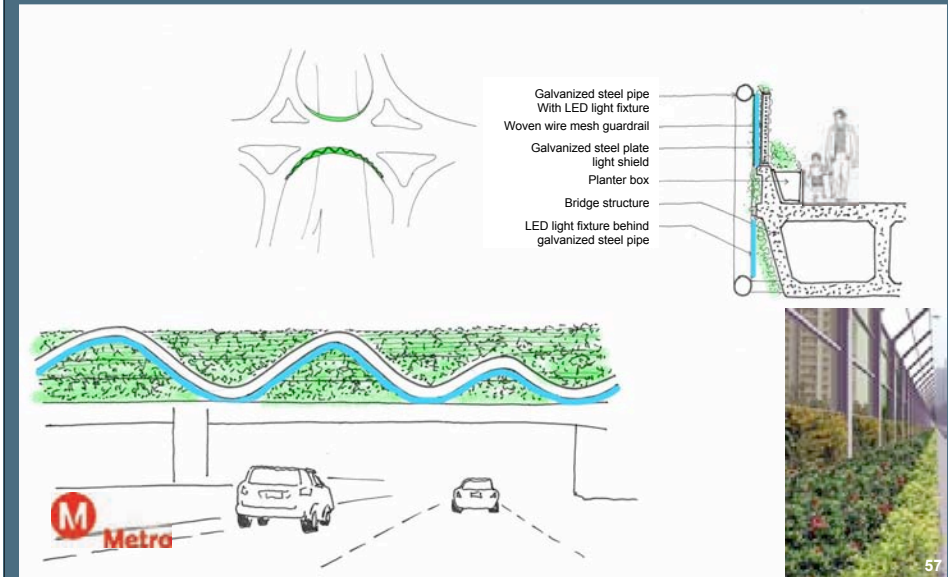


Freeway: Bridges - High Technology / Renewable Energy

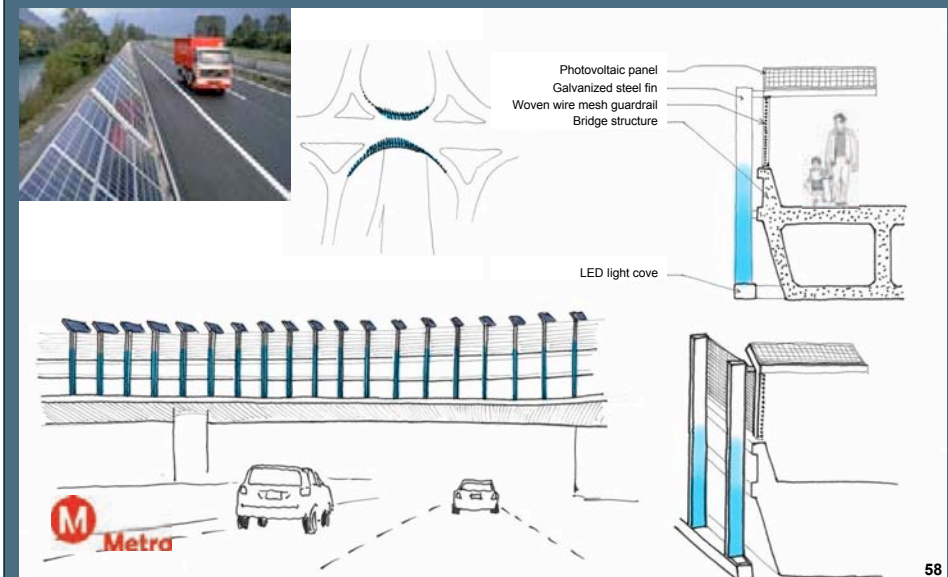


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Freeway: Bridges - Greening



Freeway: Bridges - High Technology/Renewable Energy



Freeway: Lighting and Energy Generation

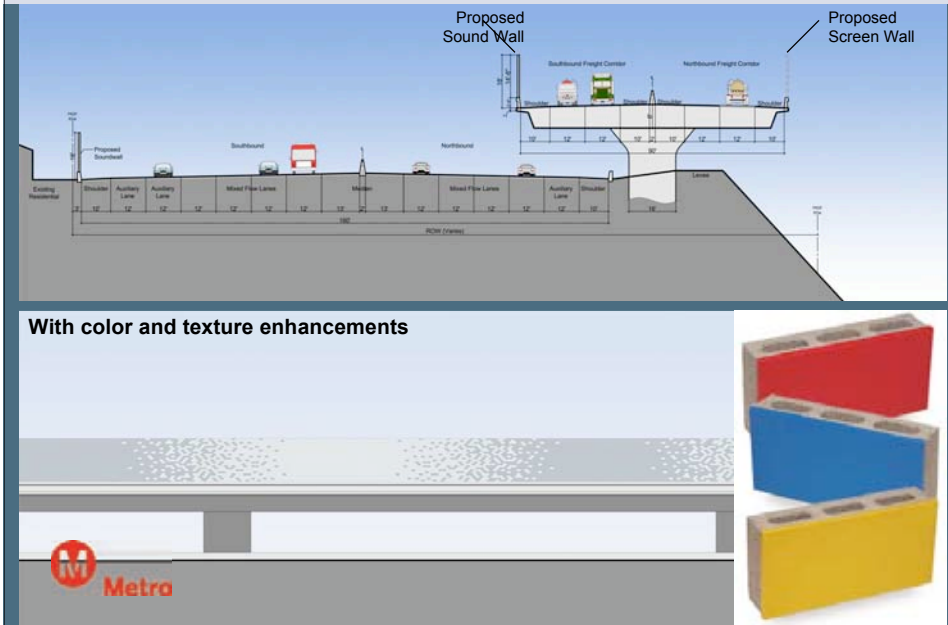


FREIGHT CORRIDOR ENHANCEMENTS

- Sound Walls with Vines
- Screen Walls
- Landscape
- Lighting / Energy
- Community Branding at Arterial



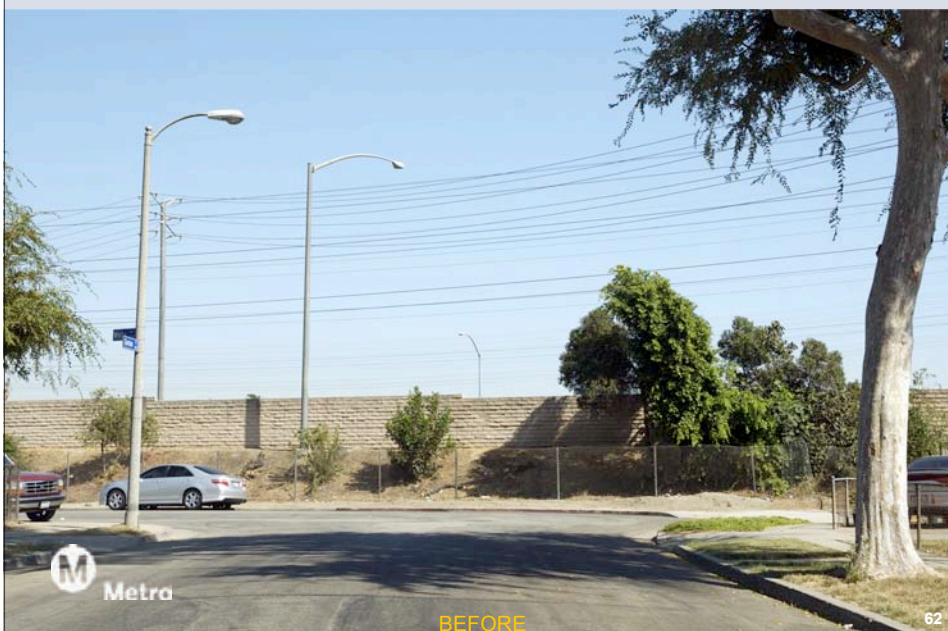
Freight Corridor: Conventional Masonry Wall Alternative



With color and texture enhancements



Freight Corridor: Conventional Masonry Wall Alternative



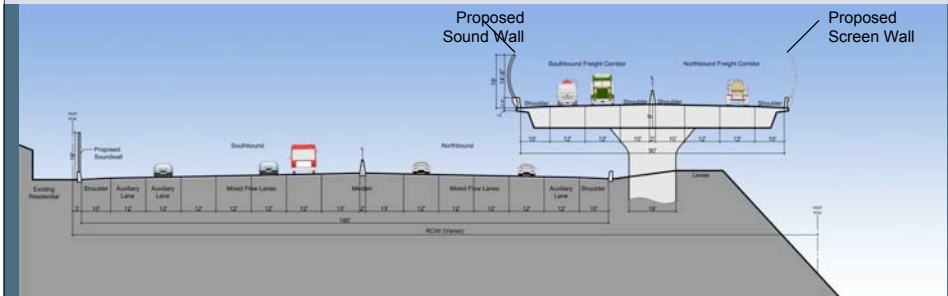
Freight Corridor: Conventional Masonry Wall Alternative



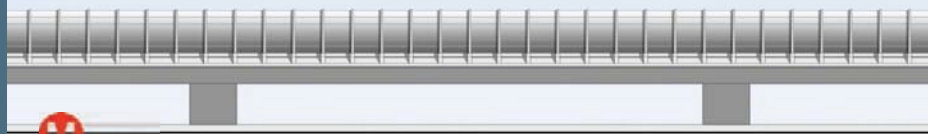
Freight Corridor: Conventional Masonry Wall Alternative



Freight Corridor: Curved Wall High-Tech Alternative

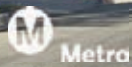
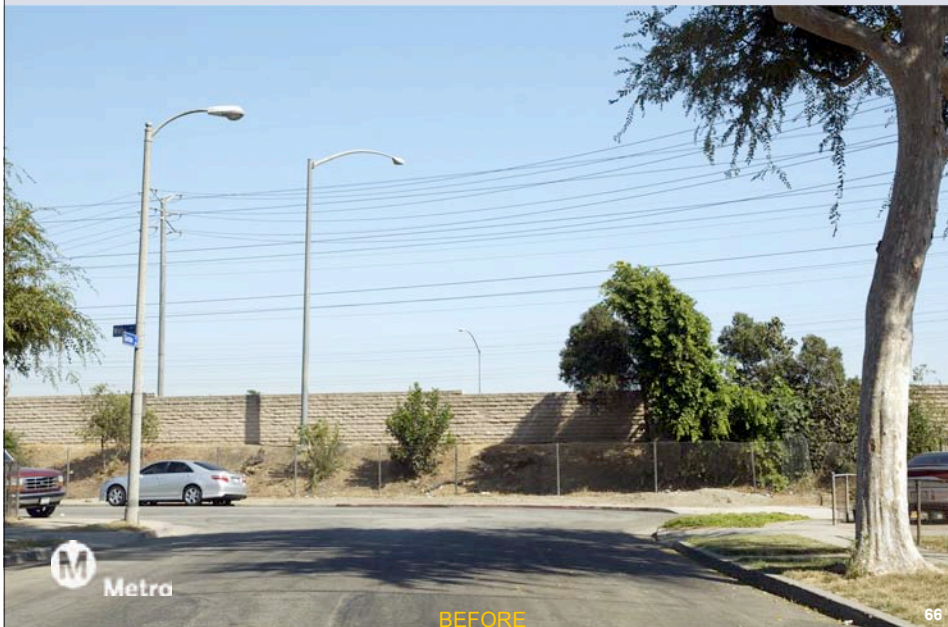


Metal or precast concrete panels



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Freight Corridor: Curved Wall High-Tech Alternative



BEFORE

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Freight Corridor: Curved Wall High-Tech Alternative

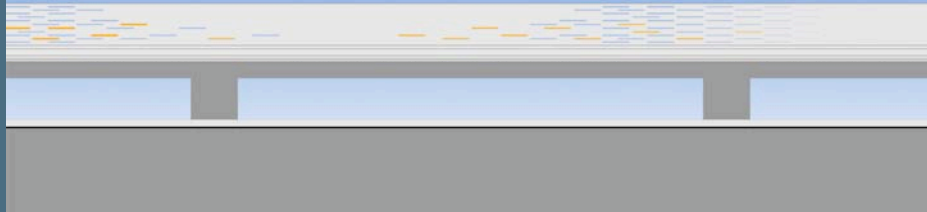


Freight Corridor: Curved Wall High-Tech Alternative

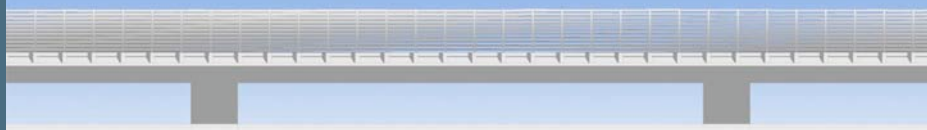


Freight Corridor: Screen Walls

Conventional Profile Screen Wall - Perforated sheet metal with colored acrylic inserts

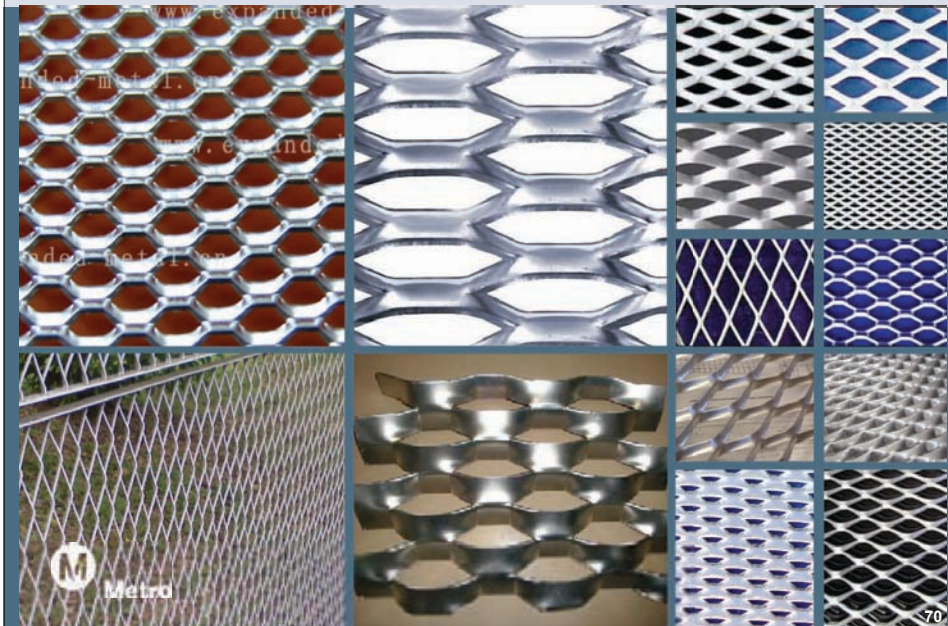


Curved Profile Screen Wall - Louvered sheet metal



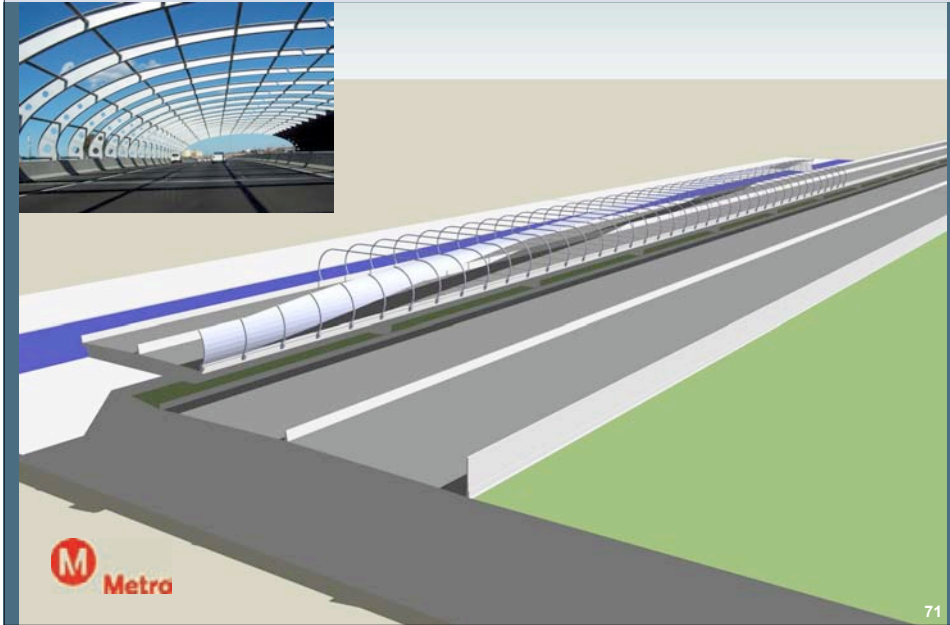
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Freight Corridor: Screen Walls

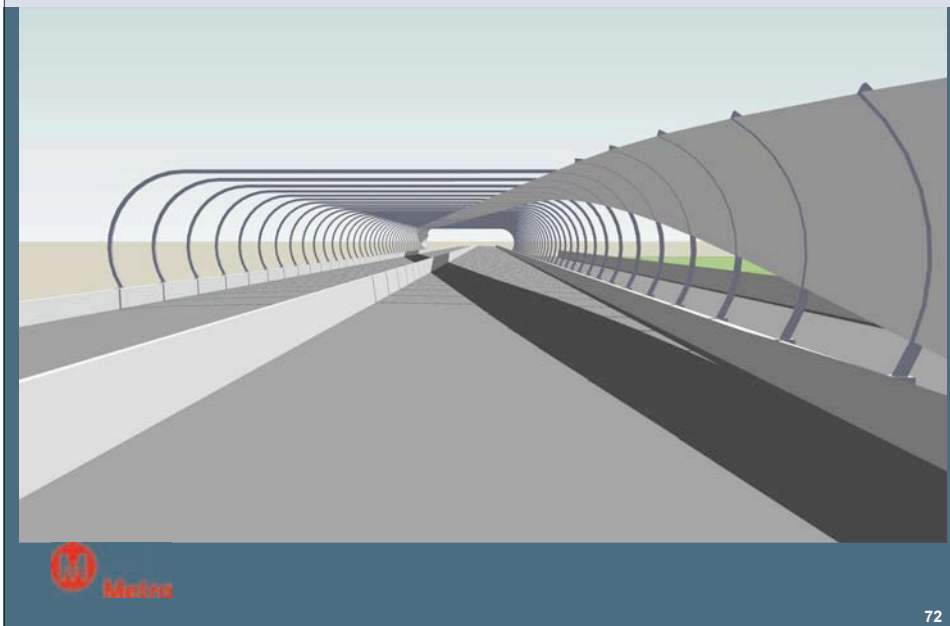


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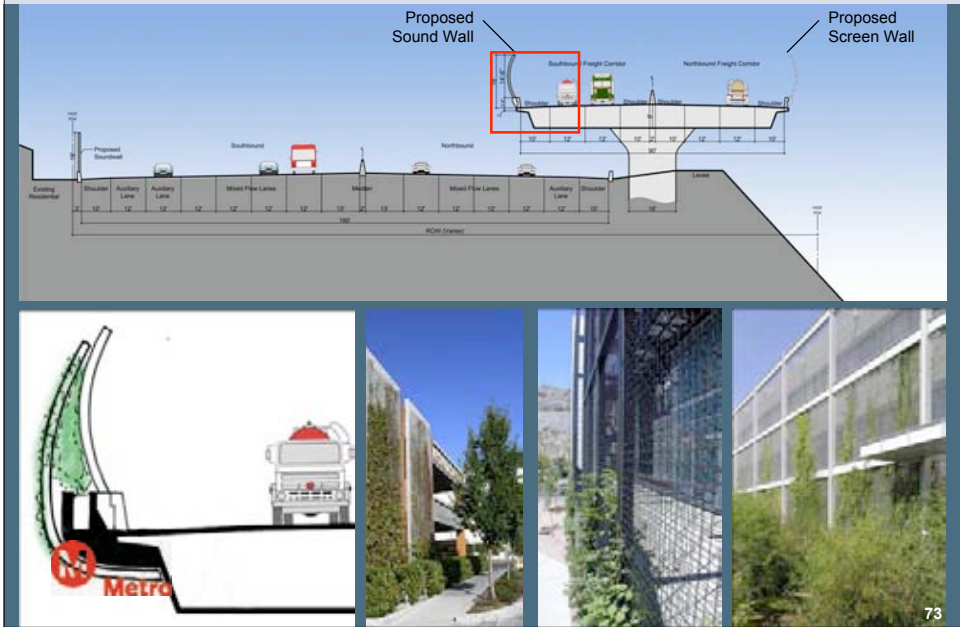
Freight Corridor: Switchover Gateway (solar opportunity)



Freight Corridor: Switchover Gateway (solar opportunity)



Freight Corridor: Landscape



Freight Corridor: Landscape

East elevation with green screen



West elevation with green screen



Freight Corridor: Lighting and Energy Generation



Next Steps

- CAC Meeting - July 15
- Project Committee Meeting - July 29
- Community Design Working Group - Urban Design Concepts - TBD