Metro First/Last Mile Training Workshop
Collaboration in Diverse Settings
April 10, 2018 – Part B
PHASE 2A: Review Pathway Toolbox Improvements and Case Studies
First/Last Mile Pathway Toolbox

- **CROSSINGS AND CONNECTIONS**: Pedestrians, Cyclists, Disabled
- **SIGNAGE AND WAYFINDING**: Convenience, Legibility
- **SAFETY AND COMFORT**: Personal/Traffic Safety, Lighting, Traffic Calming, Sidewalk Paving
- **PLUG-IN COMPONENTS**: Bike Share/Station, Car Share, Van Pool, Kiss n’ Ride
- **ACCESSIBILITY**: Elderly, Disabled Access
- **AESTHETICS**: Attractiveness, Comfort, Visual Interest
- **ALLOCATION OF STREET SPACE AND PARKING**: Cyclist/Sidewalk/Vehicle
Crossings and Connections

High Visibility Crosswalks – does your city use these?
Crossings and Connections

Mid-Block Crossings and Pedestrian Safety Islands

Have these added to pedestrian safety in your cities?
Crossings and Connections

Pedestrian Scramble Crosswalks – evidence of success in your city?
Crossings and Connections

Corner Curb Extensions

Are curb extensions successful in both residential and commercial districts?
Signage and Wayfinding

Directional Signage
Metro Rail Signage and Maps
Safety & Comfort

Enhanced Bus Waiting Areas
Safety & Comfort

Seating, Landscaping & Shade
Safety & Comfort

Pedestrian-scale Lighting
Safety & Comfort

Street Furniture - Seating & Outdoor Dining
Safety & Comfort

Traffic Calming - Raised Mid-Block Crossing
Safety & Comfort

Traffic Calming

Speed Table

Market St, Inglewood

Metro
Safety & Comfort

Sidewalk Paving & Surface Enhancements
Allocation of Streetspace

Landscaped Parkways and Medians
Bicycle Improvements

Buffered Bike Lanes with Door Zone Buffer

18” Min. / 3’ Preferred

5’ Min. / Preferred

Door Zone Buffer
Buffered Bike Lanes
Bicycle Improvements

Protected Bicycle Lane/ Cycle Track with bollards and median separation
Bicycle Improvements: Protected Lanes

Protected Bike Lanes/
Cycle Tracks

Class IV Bikeway
Slow Lane and Bike Lanes

Fast Bicycle Lanes and Slow Rolling Lane for a variety of users
Bicycle Improvements

Pedestrian/Cyclist Esplanades
Bicycle Improvements: Signalization

Intersection Bicycle Signalization
Bicycle Improvements: Roundabouts

Traffic Circles slow auto traffic to provide safer streets for walking and cycling
Bicycle Improvements: Limited Access

Limiting auto access to provide traffic calmed bicycle and walking routes.

Yucca Street, Los Angeles
Class III Enhanced – Bicycle Boulevard w/ Physical Traffic Calming
Bicycle Improvements: Bike Racks

Bicycle Parking
- Convenient
- Secure
- Allow U lock through tires and frame
Secure Bicycle Parking

Bicycle Lockers at Downtown Azusa Station
Secure Bicycle Parking

Bike Center in Downtown Santa Monica: 400 bikes in 27 car spaces, lockers, showers, bike repair and bike rental
Bicycle Improvements: Repair

Bicycle Repair Stations
Bicycle Improvements: Bike Share

Bike Share

[Image of a woman holding a bike]

[Image of a row of bikes]
Neighborhood Electric Vehicles

Corporate Campuses

Local Trips

Local Trips: Businesses
NACTO Design Guidelines

Resource Guide for future reference
CASE STUDIES
METRO PATHWAY IMPROVEMENTS
North Hollywood,
Wilshire Boulevard,
Downtown Santa Monica
North Hollywood Existing Conditions
North Hollywood Metro Pathway
Draft Concept Illustration
Wilshire Blvd Existing Condition
Wilshire Blvd Metro Pathway
Draft Concept Illustration
Downtown Santa Monica to Pier
Metro Pathway Precedent
Downtown Santa Monica to Pier Metro Pathway Precedent
Bike Share and Bike Lanes

Best Practices: Santa Monica

• Active Transportation Connections
• Signage
• Parking Management
Best Practices for First/Last Mile

Portland: Low Floor Light Rail, Curbside Boarding
Best Practices for First/Last Mile

Seattle: Merging Protected Bike Lanes at Intersections, Signage
Best Practices for First/Last Mile

Oakland: Bicycle Access to Amtrak and Bay Bridge
Best Practices for First/Last Mile

Long Beach: Integrated Light Rail, Open Space
Workshop Agenda

PHASE 2B: CHARRETTE
Map and List Pathway Improvements
Review Access Barriers (RED) and Strengths (GREEN)

**PHASE 2B: CHARRETTE - ACCESS BARRIERS & STRENGTHS MAP**

**PLANNING CHARRETTE INSTRUCTIONS**

**Review Access Barriers & Strengths (10 mins)**

Review your Walk Audit Observations and Walk Audit Maps, and discuss them with your Team:

**a. Barriers:** Make sure each Barrier you identified during your Walk Audit is numbered in Red at the appropriate location on the Access Barriers Map: e.g., B-12

**b.** Apply Red Barrier markings from Walk Audit to the Location, Street or Area affected by the barrier.

**c.** Describe the Barrier on Walk Audit Observation notes same Barrier Number

**d. Strengths:** Number in Green on the map based on your Walk Audit: S-2

**e.** Add Green “Strength” markings (spot, linear condition or area condition) to map the targeted area

**f.** Add to map Blue Numbers for “Observations” from Walk Audit O-2.

**g.** Describe the observation in blue near location “O-2 Bicyclist on sidewalk”

**h.** Discuss with your group patterns of strengths, observations or barriers along streets or throughout areas and show the corridor or area affected.
Review Barriers and Strengths

GREEN: Access Strength

RED: Access Barrier
Recommended Improvements Icons

RECOMMENDED IMPROVEMENT ICONS
Use these green icons for recommended streetscape, pedestrian, bicycle and station area improvements to annotate your recommended Improvements Map. If an icon isn’t available which reflects your proposed improvement, use a green dot with a Recommendation Number keyed to the Recommended Improvements List and describe the proposal in the list and on a post it on the map.

- Sidewalk Widening or Addition
- Enhanced Pedestrian Crossings
- Curb Extensions at Intersections
- Traffic Calming
- Freeway Underpass and Overpass Enhancements
- New Connection Across Barrier
- Metallion Signage
- Street Furniture
- Landscaping and Shade

Legend
- Metro
- Bus Stop
- Education
- Government
- Other Destination
- Religious Institution
- 1/4 Mile Buffer
- 1/2 Mile Buffer

PATHWAY NETWORK AND RECOMMENDED IMPROVEMENTS MAP
SANTA MONICA - 26th St/ BERGAMOT EXPO LINE STATION AREA First/ Last Mile Training Workshop - Westside Cities - September 13, 2017
### Map + List Pathway Improvements

<table>
<thead>
<tr>
<th>WORKSHOP SUMMARY</th>
<th>WALK AUDIT AND CHARRETTE</th>
<th>CASE STUDY LOCATION: Downtown Azusa Station</th>
<th>PARTICIPANTS: LEADER: Manny</th>
<th>TEAM NO. 8</th>
<th>TEAM</th>
<th>BARRIER #</th>
<th>BARRIER TYPE</th>
<th>RECOMM</th>
<th>RECOMMENDED IMPROVEMENT</th>
<th>LOCATION</th>
<th>USER GRP</th>
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<tbody>
<tr>
<td>8B-1</td>
<td></td>
<td>San Gabriel, high speeds</td>
<td></td>
<td></td>
<td></td>
<td>8B-1</td>
<td>Add speed bumps</td>
<td>San Gabriel Ave b/w Foothill Blvd and 6th Ave</td>
<td>Disabled</td>
<td></td>
<td></td>
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<tr>
<td>8B-2</td>
<td></td>
<td>Cups in trees</td>
<td></td>
<td></td>
<td></td>
<td>8B-2</td>
<td>Schedule street maintenance, tree trimming with trash cleanup</td>
<td>San Gabriel Avenue b/w Foothill Blvd and 6th Avenue</td>
<td>Transit users</td>
<td></td>
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<tr>
<td>8B-3</td>
<td></td>
<td>Jaywalking at Mantra Coffee</td>
<td></td>
<td></td>
<td></td>
<td>8B-3</td>
<td>Implement crosswalk</td>
<td>San Gabriel Avenue b/w Foothill Blvd and 6th Avenue</td>
<td>Peds</td>
<td></td>
<td></td>
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<tr>
<td>8B-4</td>
<td></td>
<td>Out of order speed camera/notice</td>
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<td></td>
<td>8B-4</td>
<td>Update streetscape with uninstallation of speed camera, take down notice</td>
<td>San Gabriel Avenue and 6th Avenue</td>
<td>Peds</td>
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<td>8B-5</td>
<td></td>
<td>Failure to yield left turn from auto</td>
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<td>8B-5</td>
<td>Review traffic signals and ped crossing buttons</td>
<td>San Gabriel Avenue and 6th Avenue</td>
<td>Peds</td>
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<tr>
<td>8B-6</td>
<td></td>
<td>Lack of crosswalk</td>
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<td></td>
<td>8B-6</td>
<td>Implement crosswalk</td>
<td>Azusa Avenue and 6th Avenue</td>
<td>Peds</td>
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<td>8B-7</td>
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<td>Struggling trees</td>
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<td>8B-7</td>
<td>Install smart irrigation</td>
<td>Azusa Avenue and 6th Avenue</td>
<td>Peds</td>
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<td>8B-8</td>
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<td>Lip at ped crossing</td>
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<td></td>
<td>8B-8</td>
<td>Review crossing</td>
<td>6th Street b/w San Gabriel Avenue and Azusa Avenue</td>
<td>Disabled</td>
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<td>Crosswalk visibility</td>
<td></td>
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<td>8B-9</td>
<td>Restripe crossing and add ground reflective lighting with flashing</td>
<td>San Gabriel Avenue b/w Foothill Blvd and 6th Avenue</td>
<td>Peds</td>
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<td>8B-10</td>
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<td>Ambiguous street markings</td>
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<td>8B-10</td>
<td>Add N/S bicycle connection on La Brea (arterial) and Market(slower)</td>
<td>San Gabriel Avenue b/w Foothill Blvd and 6th Avenue</td>
<td>Cyclists</td>
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<td>85-1</td>
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<td>Foothill and San Gabriel bus shelter and ADA access</td>
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<td>85-1</td>
<td></td>
<td>San Gabriel Avenue b/w Foothill Blvd and 6th Avenue</td>
<td>Peds</td>
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<td>85-2</td>
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<td>Unique micro-mixed use proposals and existing Mantra Coffee</td>
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<td>85-2</td>
<td></td>
<td>not mapped</td>
<td>Residents</td>
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</table>

*Map and details of Azusa Station area with various markers indicating locations of improvements.*
Map Pathways and Consider Users (5 mins)

Note the major destinations shown on the map and observed during Walk Audit. How will people get to and from the Metro Station to these destinations?

a. Map these Pathways in blue marker for pedestrians and yellow marker for cyclists. Note if crosswalks, bicycle lanes and other key facilities are provided. If not, show where they should be added and list as Recommended Improvements.

b. What specific needs do school students, the elderly, the disabled, cyclists, skateboarders, employees, shoppers and residents have? Continue the Recommendation numbering system for Pathway/User related Recommendations. Use Green “Recommendation” Icons to describe them.

c. Add notes on the Map and the list of Recommended Improvements keyed to the Map to explain your ideas for Pathway or User related Recommended Improvements.

d. Make sure the Barrier and the associated Recommended Improvement is clearly described and mapped for use in explaining your Group’s work.

e. Select a Reporter from your team to present two important recommended improvements. Describe the barriers, pathways and users they address.
Map Pathways and Consider Users

Use Green Improvements
Icons
Blue: Pedestrian Improvement
Yellow: Bicycle Improvement

Consider Pathway and Potential Users
Planning Charrette

CHARRETTE REPORTERS
Describe 1 Access Barrier, Affected Users and 2 Proposed Improvements
Inglewood: Calm High Speed Boulevards
Van Nuys: Add Bike Lanes and Median LRT
Planning Charrette

Van Nuys: Add Bike Lanes and Median LRT
Planning Charrette

Santa Monica: Improve Pedestrian+Bike Network

Metro
Proposal to reconfigure Interchange to slow traffic and reduce wasted land area.
Lynwood: Improve Station Conditions
A 2012 Luskin Center report examines the noise levels at all 16 highway-centered transit stations in the Los Angeles area. This landmark study found that the Green Line stations suffer the most from noise, while the Gold Line stations are generally the quietest. The report recommends how transit agencies could reduce noise exposure for their riders.
Planning Charrette

Azusa: Reduce High Speed Roads+ Add Bikeways
Palmdale High Speed Rail:

• Reduce barrier effect of High Speed Rail
• Infill TOD near station
• Improve bicycle and pedestrian network + safety
• Reduce speeds
Palmdale High Speed Rail:

- Reduce barrier effect of High Speed Rail
- Infill TOD near station
- Improve bicycle and pedestrian network + safety: Complete streets
- Reduce vehicle speeds
First/Last Mile Planning: Phase 1

Today’s Workshop
Morning: PHASE 1

ANALYZE ACCESS BARRIERS + STRENGTHS

• GIS MAP + DATA ANALYSIS
• WALK AUDIT

Phase 1: Analyze Access Barriers and Strengths

PHASE 1A: DATA ANALYSIS + MAPPING
• GIS Mapping Tools
• ATSP Station Analysis of Walkshed and Bikeshed
• Transportation Injury Mapping System (TIMS)

PHASE 1B: WALK AUDIT TO OBSERVE CONDITIONS
• Station Area Checklists
• Transit, Bicycle and Pedestrian Facilities
• Micro-scale, Ground Truthing
• Note Strengths as well as Access Barriers
First/Last Mile Planning: Phase 2

Today’s Workshop:
AFTERNOON: PHASE 2

DEVELOP PATHWAY IMPROVEMENT PLAN
Review Toolbox of Improvements

CHARRETTE
• Map Access Barriers, Strengths
• Map Pathways and Recommend Improvements

Phase 2: Map Pathway Network and Recommend Improvements

PHASE 2A: REVIEW PATHWAY TOOLBOX AND CASE STUDIES
• Transit, Bicycle and Pedestrian Access Improvements
• Case Studies of First/Last Mile Improvements

PHASE 2B: MAP PATHWAY NETWORK AND IMPROVEMENTS
• Map Access Barriers+Strengths
• Map Pathway Network
• Recommend First/Last Mile Improvements
First/Last Mile Planning: Phase 3

3A: COMMUNITY ENGAGEMENT

PHASE 3A: COMMUNITY ENGAGEMENT IN REFINE PATHWAY

- Pedestrian, Cyclist, Transit User, Driver Concerns
- Show Safety Data to Support Improvements
- Include Features for Wide Range of Stakeholders

3B: TECHNICAL REVIEW

PHASE 3B: TECHNICAL INPUT TO CUSTOMIZE IMPROVEMENTS

- Review Nearby Best Practice Improvements
- Identify Unique Conditions and Local Concerns
- Adapt Proposed Improvements to Local Concerns
- Develop Before/After Performance Measures
First/Last Mile Planning: Phase 4

Phase 4: Developing Costs, Phasing and Funding Options

4A: Phasing and Priority Setting

- Integrate Improvements with New Development Projects
- Combine Bicycle Lanes, Crosswalks and Roadway Striping
- Prioritize Projects with Supportive Property Owners
- Set Performance Measures: Safety, Mode Shift, Tax Revenue

4B: Costs and Funding Options

- Metro Technical Assistance with Estimating Unit Costs
- Metro First/Last Mile Planning & Implementation Funds
- Metro Call for Projects, Prop C, Measures R & M
- Cal EPA Cap +Trade including AHSC
- Caltrans Active Transportation & CalTrans Regional Surface Transportation Program
Comprehensive Transit Area Planning

10 Elements of Transit-Supportive Places

1. Compact Design
2. Complete Neighborhoods
3. Street & Network Connectivity
4. Site Layout, Parking Layout & Building Design
5. Affordable Housing
6. Commercial Stabilization, Business Retention & Expansion
7. Transit Prioritization, Accessibility & Area Design
8. Parking Management
9. Transportation Demand Management
10. Pedestrian & Bicycle Circulation
FIRST/LAST MILE PLANNING

What was most useful?
Chance to learn what other communities are doing
Discussion with diverse perspectives and expertise
Walk Audit and Planning Charrette

What do you need to proceed with FLM Planning?
Techniques to address resident/business opposition
Funding, political support and technical assistance