

# Center City Streetcar System

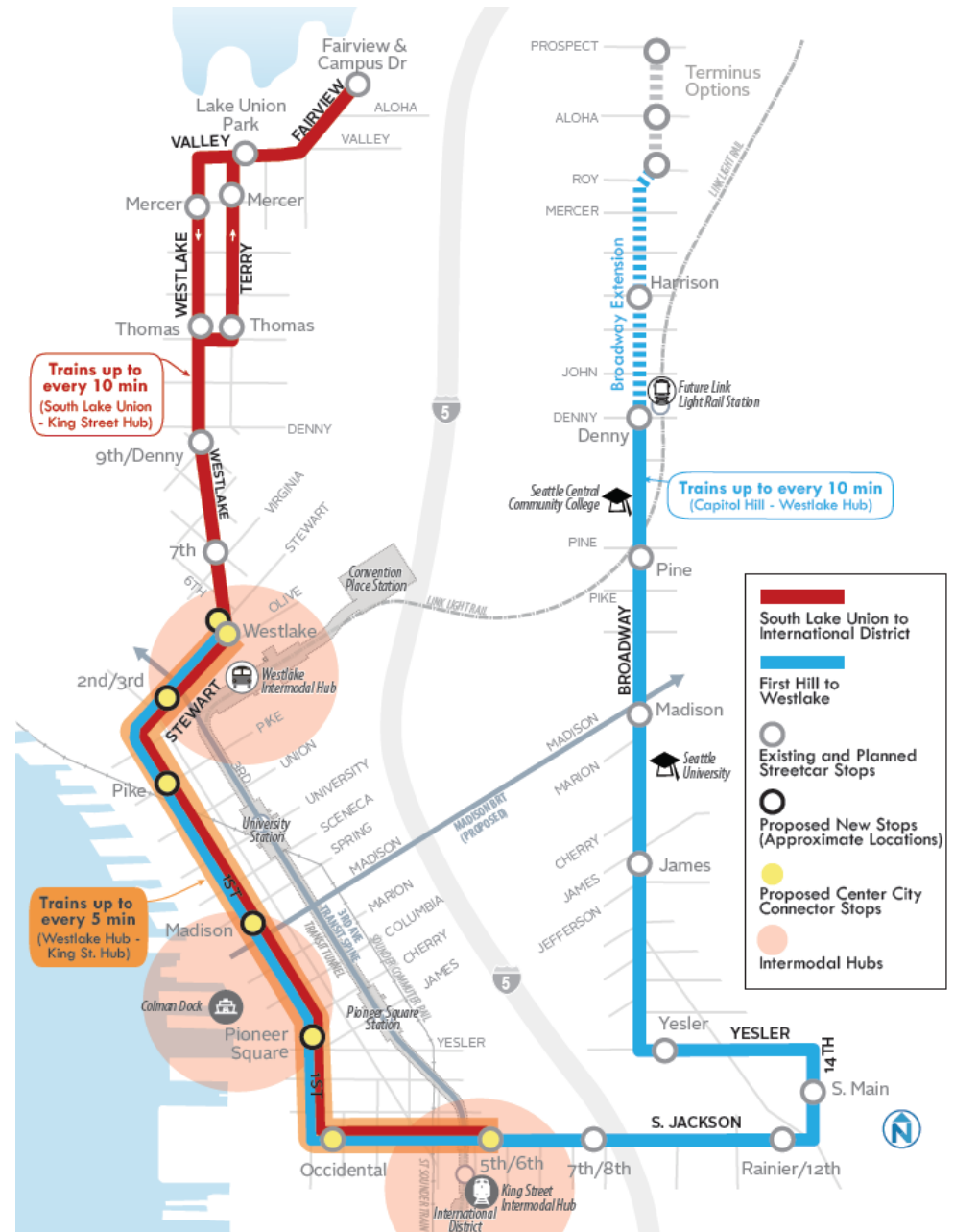
Seattle Design Commission



June 5, 2014

# Overview

- Transit In Seattle-The Role of Streetcars
- Center City Streetcar System, "Streetcar 101" & Precedents
- Broadway & Center City Segments-Purpose & Scope Overview
- Urban Design Issues & Opportunities
- Project Team Introduction



# Transit in Seattle: The Role of Streetcars

- Light Rail as Regional Spine
- Streetcar & BRT in City's High Capacity Corridors
- Buses Continue to Serve Most Transit Corridors





# Transit in Seattle: The Role of Streetcars

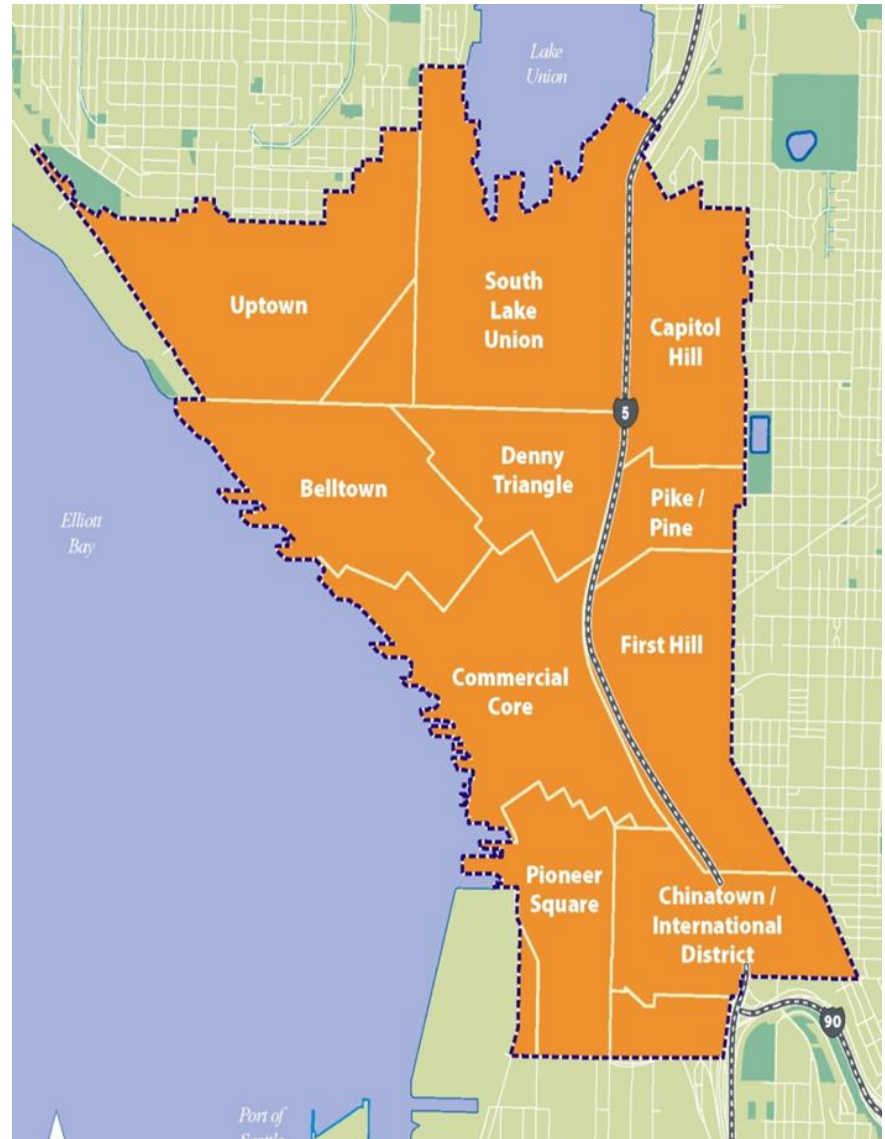
- Ride quality, accessibility, & intangibles attract new riders
- Placemaking & catalyst for development
- Higher capacity for urban circulator service





# Transit in Seattle: The Role of Streetcars

- Last-Mile Connections from Regional Transit to Center City Destinations
- Circulation within Center City



# Streetcar 101 (Infrastructure)

- Embedded Track
- Traction Power System (Typically Overhead Contact System)
- Station Platforms—  
Typically More than a Bus Stop/Less than a Light Rail Station



# Streetcar 101 (Infrastructure)

- Footprint typically limited to minimize cost & impact
- Streetscape—Strategic opportunities/phasing rather than comprehensive corridor reconstruction
- Miscellaneous upgrades as required for ADA, new code requirements, major maintenance





# Streetcar 101 (Transportation Planning)

- May operate in mixed flow or exclusive lanes
- May serve side or center platforms
- Bicycle integration
- May accommodate all modes or reprioritize modal emphasis
- Typical tradeoffs—  
On-street parking v. transit & non-motorized emphasis



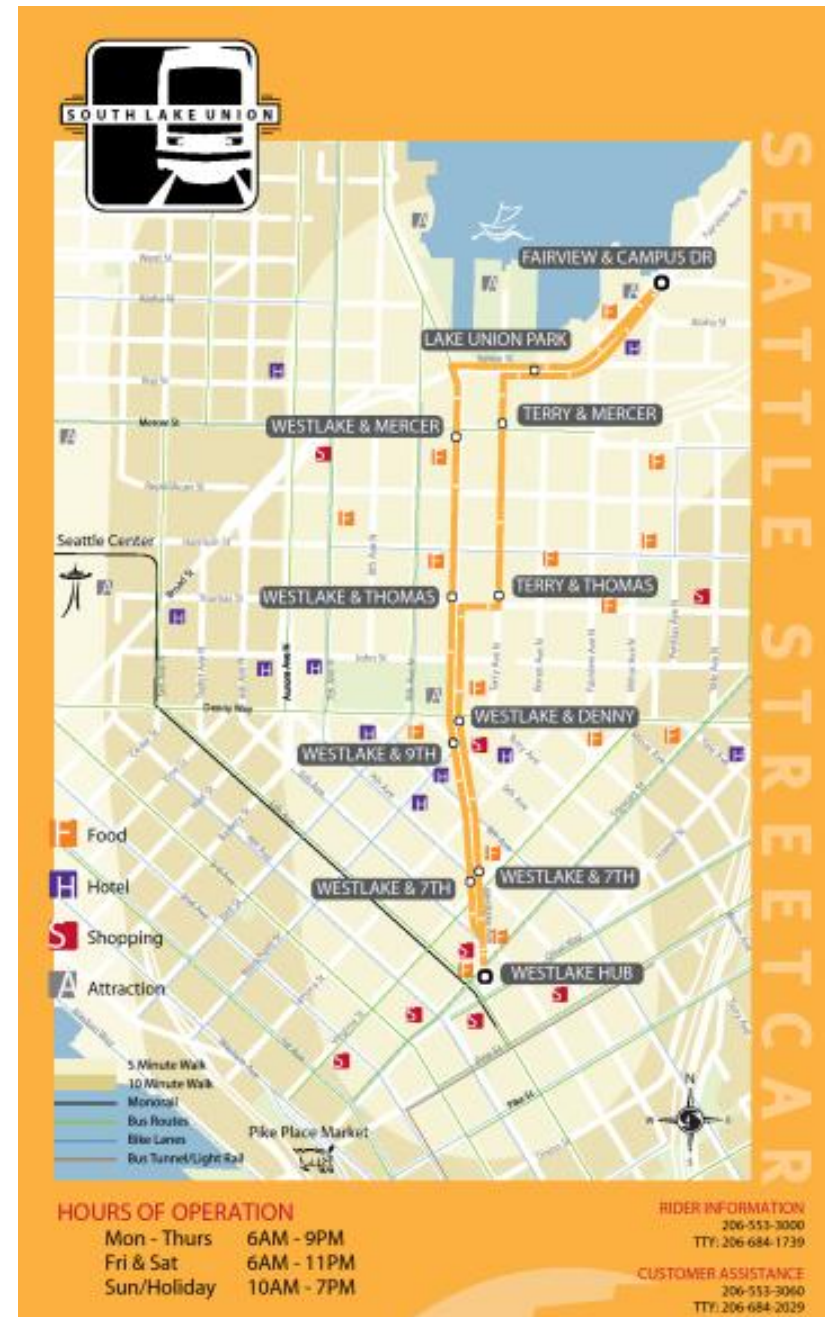
# South Lake Union Streetcar





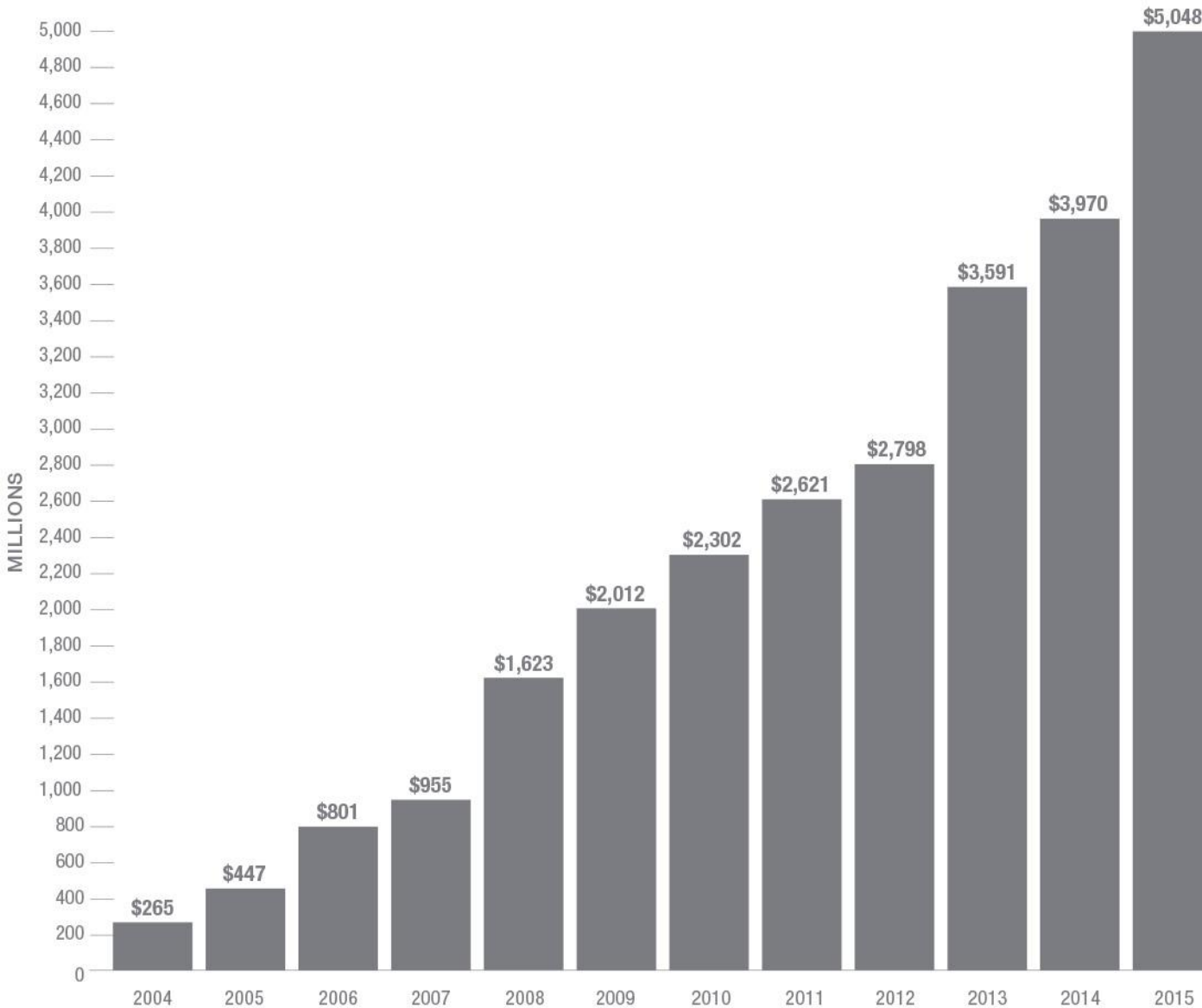
# South Lake Union Streetcar

- Opened in 2007
- 900 Average Weekday Riders in 2008
- 2,600 Average Weekday Riders in 2013
- Post-Project, SDOT Completed McGraw Square Plaza & Developers Completed Terry Avenue Streetscape

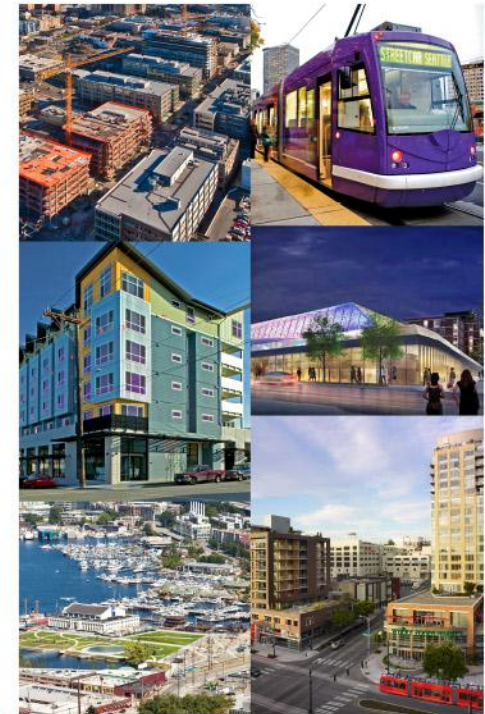




# SOUTH LAKE UNION CUMULATIVE INVESTMENT



**TOTAL INVESTMENT:**  
**\$5 Billion**  
11,300,000 Square Feet  
\$4.4B Development Projects  
\$590M Infrastructure Improv.



# First Hill Streetcar





# First Hill Streetcar

- Sound Transit (ST) 2 project
- Alternative to light rail station – connects Capitol Hill and International District
- ST agreement provides
  - \$132.8 M
  - City design/construction authority, including station locations and complete streets design
  - City right to operate as part of broader system





# First Hill Streetcar

- Stop locations selected to serve and connect diverse neighborhoods



# First Hill Streetcar

- Broadway protected bike lanes





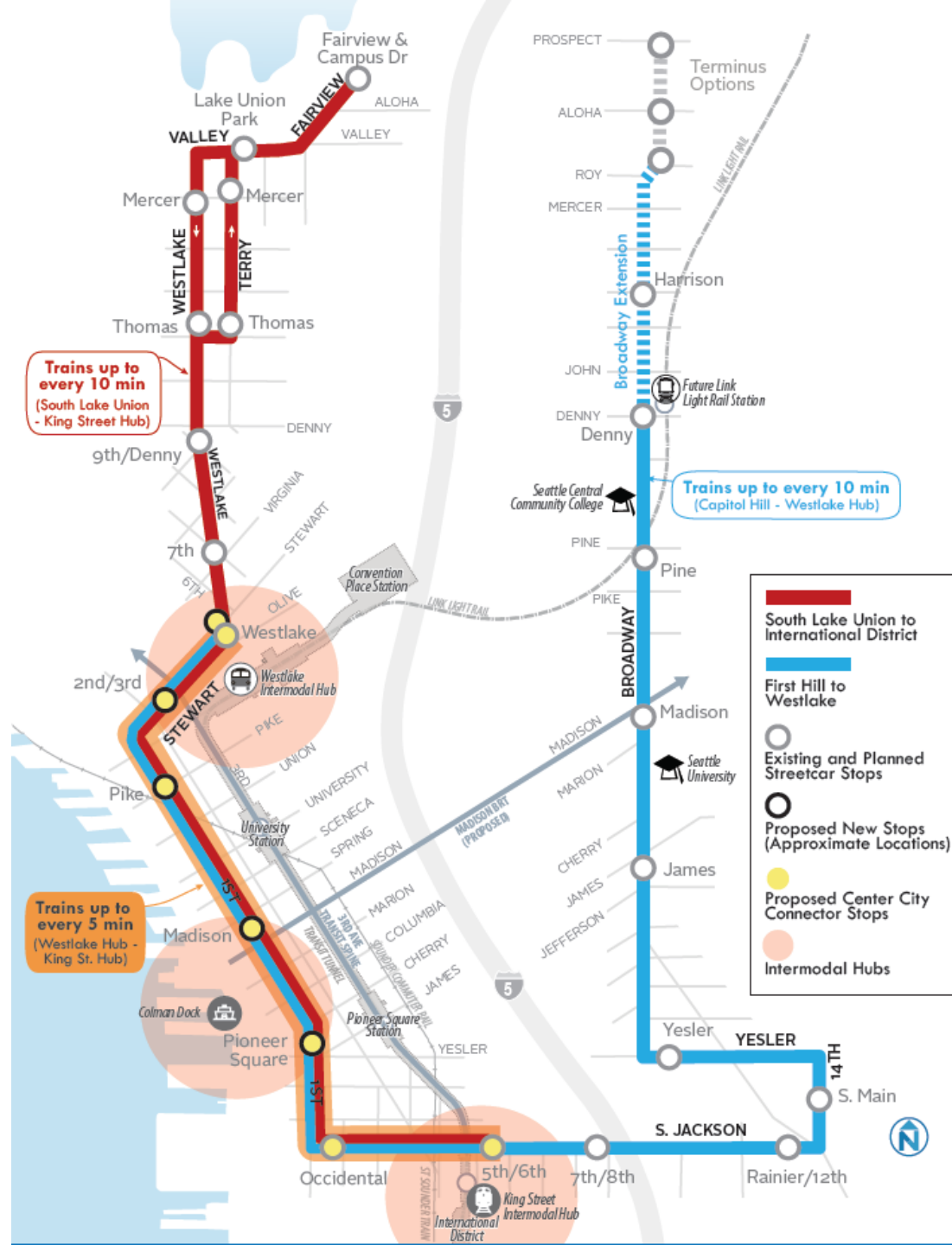
# Center City Connector





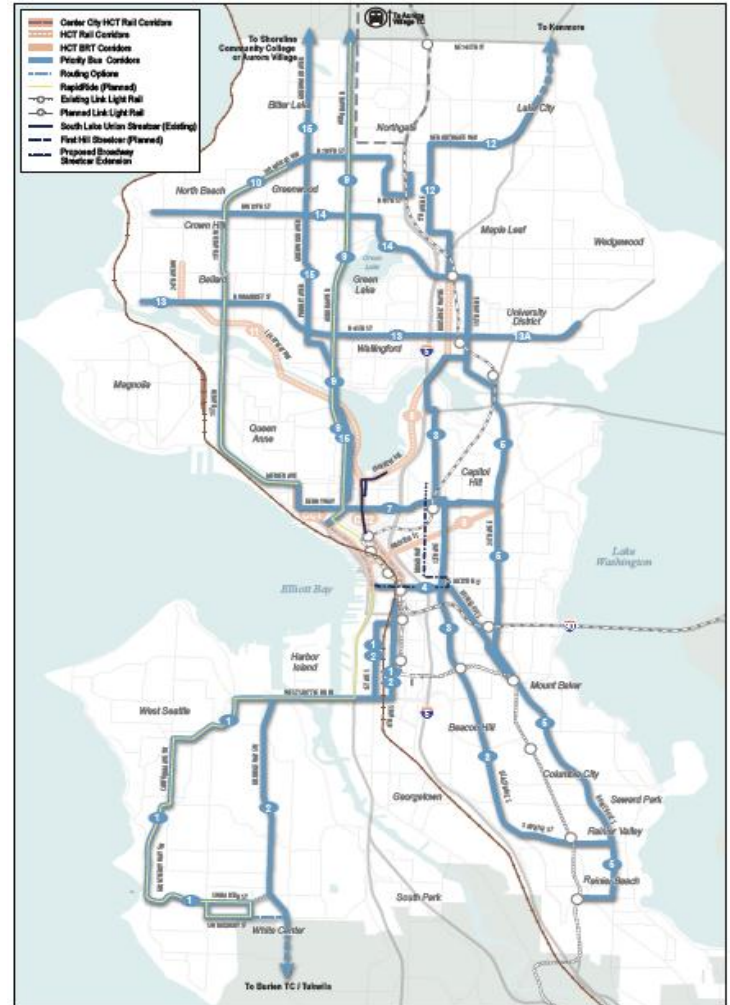
# Center City Connector: Project Purpose & Need

- Connect the South Lake Union and First Hill streetcars
- Improve north-south transit mobility through downtown.



# Center City Connector: Role in Seattle Transit System

- Creates critical transit capacity in constrained Center City
- Center City Streetcar System enables “Transit Grid”
- Supports expanding regional rail system

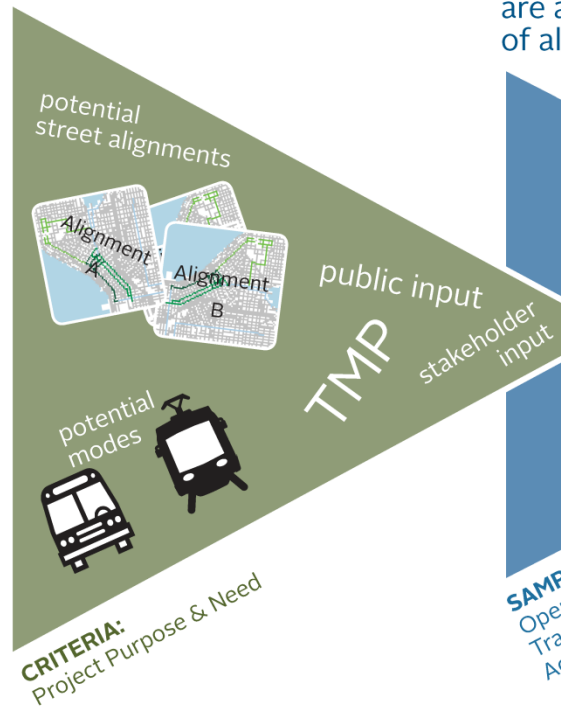


Arterial bus routes help form high frequency transit grid.

# Study Evaluation Process

## INITIAL SCREENING

A broad range of alternatives are screened based on project purpose and need.



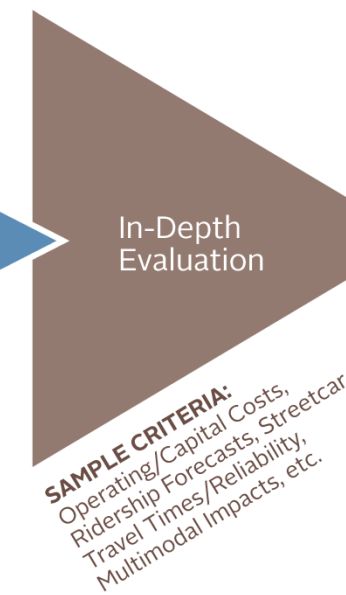
## TIER ONE SCREENING

Qualitative & quantitative measures are applied to a short-list of alternatives.



## TIER TWO EVALUATION

Rigorous evaluation of up to two 'build' & one 'no-build' alternatives.





# Public Engagement

- Stakeholder interviews
- Community meetings
- 3 Open houses
- Web survey
- Media Outreach
- Strong Support for:
  - First Avenue
  - Exclusive Running



# Proposed LPA

## Alignment

- 1<sup>st</sup> Ave Pike to Jackson
- East-West Options:
  - Stewart – Olive
  - Pike/Pine – 4<sup>th</sup>/5<sup>th</sup>/6<sup>th</sup>

## ROW Treatment

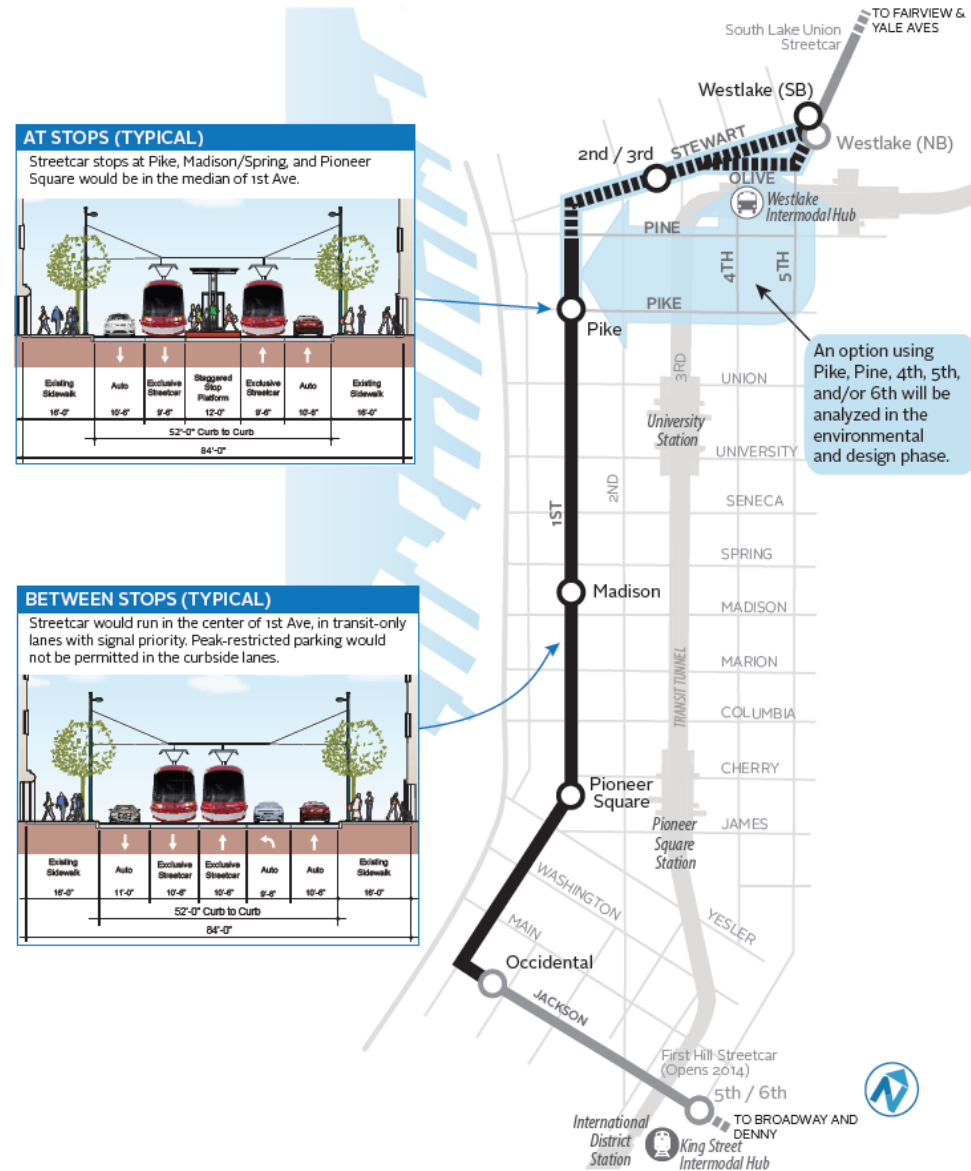
- Exclusive running
- Center running on 1st

## Mode

- Modern streetcar

## Capital Cost (Including Fleet)

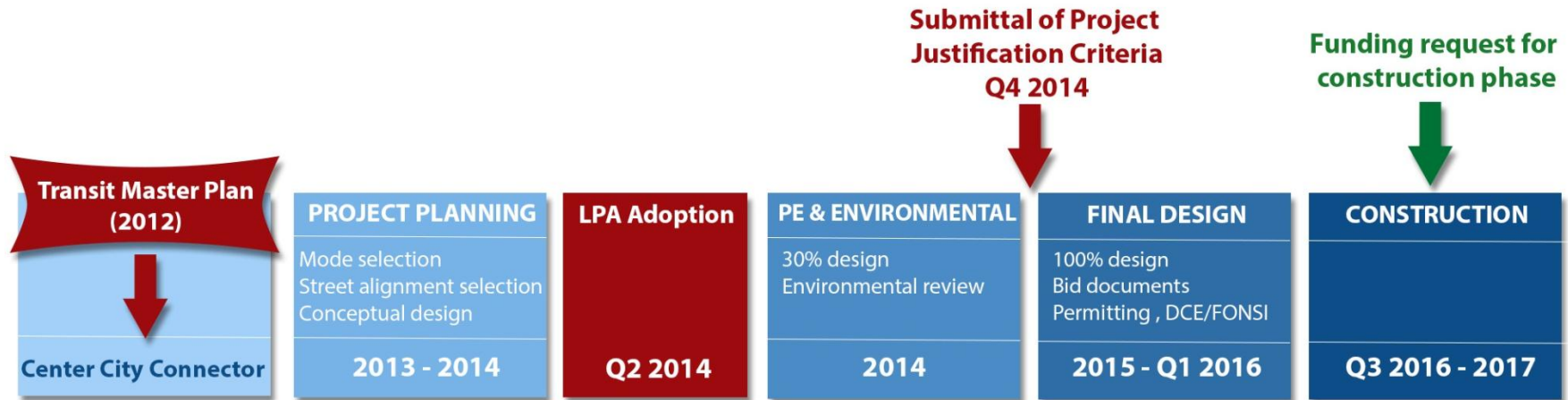
- \$110 M







# Timeline: From Plan to Built Project



# Center City Connector: Urban Design

*...history, character, sensitive zones, context, scale, trees, poles, lighting, ground plane...*

## Urban Design Framework Plan

- Existing Conditions Analysis
- Guiding Principles Definition

Makers Architecture and Urban Design:

Gerald Hansmire

John Owen

Stephanie Wildhaber

# Center City Connector: Urban Design

*...landscape, materials, furnishings...*

## Urban Design Detailing

- Transit Way Delineation
- Station Design

Nelson –Nygaard:  
James McGrath



# Center City Connector: Urban Design

- Scope
  - Transit-way Delineation
  - Stations
  - Streetscape



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# Center City Connector: Urban Design

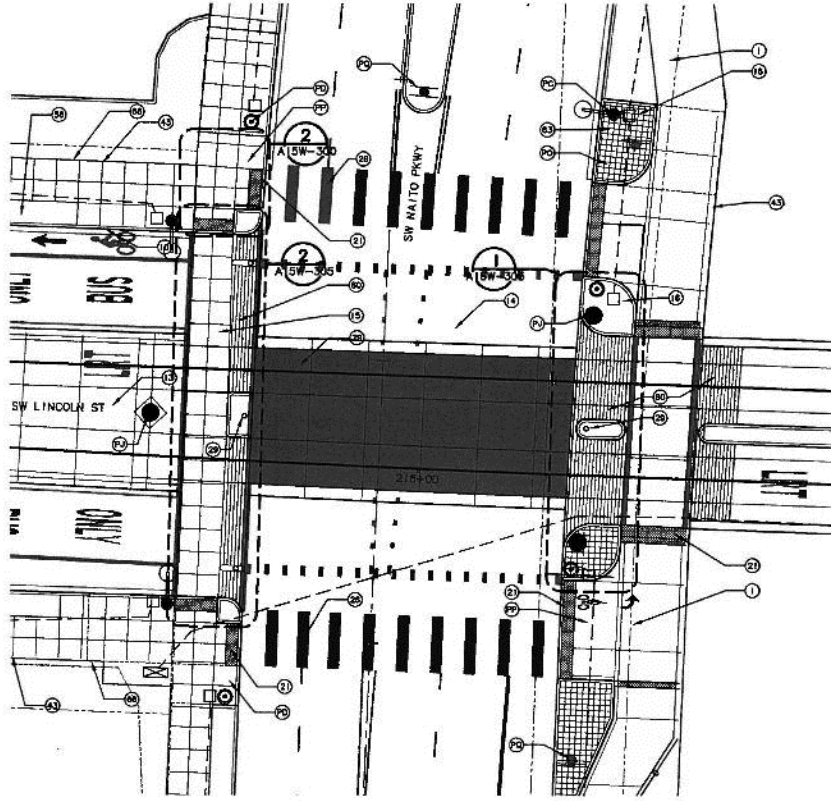
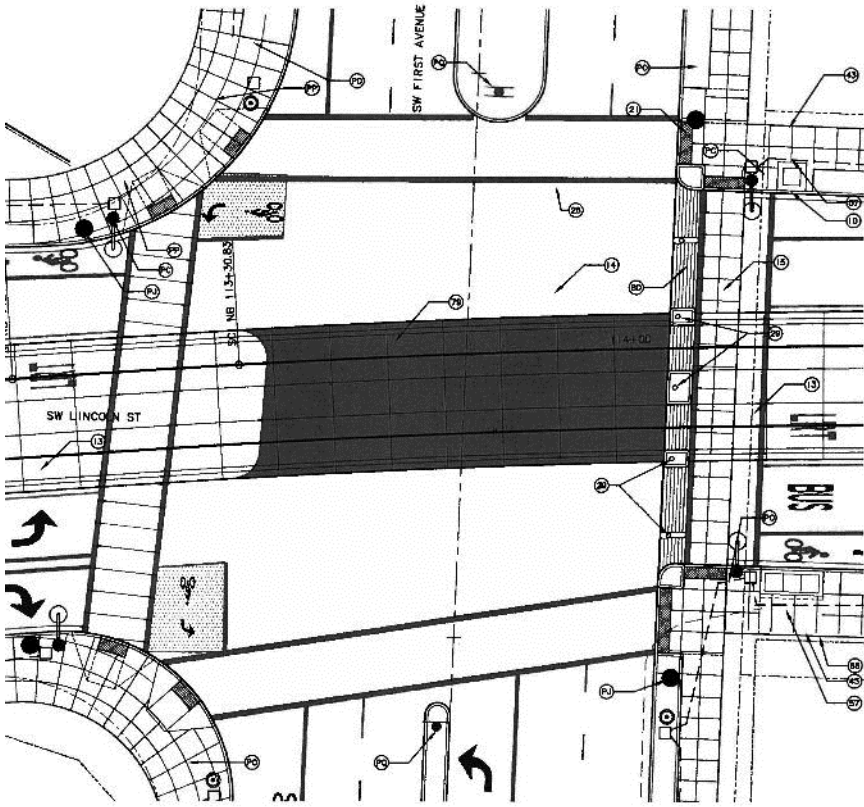
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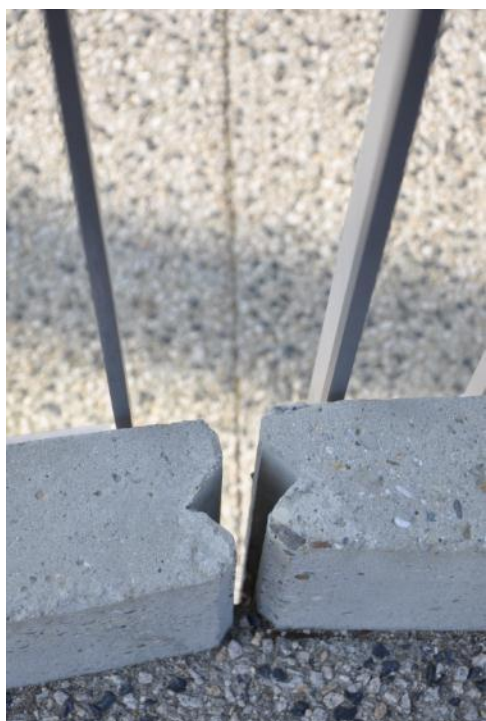


# Center City Connector: Urban Design

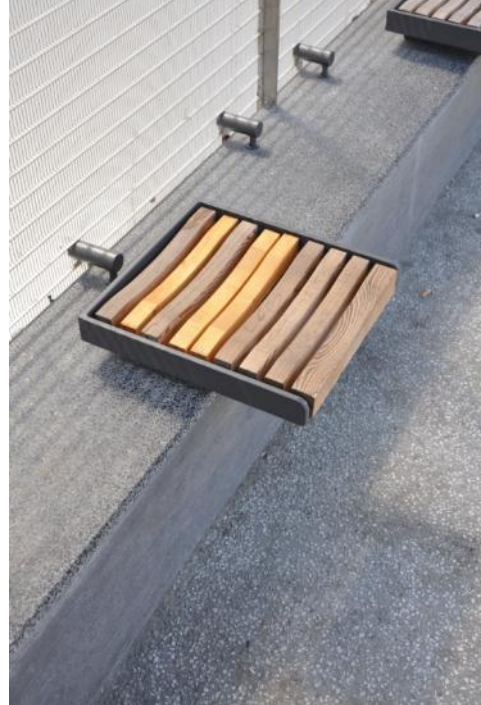
- Transit-way Delineation
- Stations
- Streetscape













# Center City Connector: Urban Design

- Transit-way Delineation
- Stations
- Streetscape





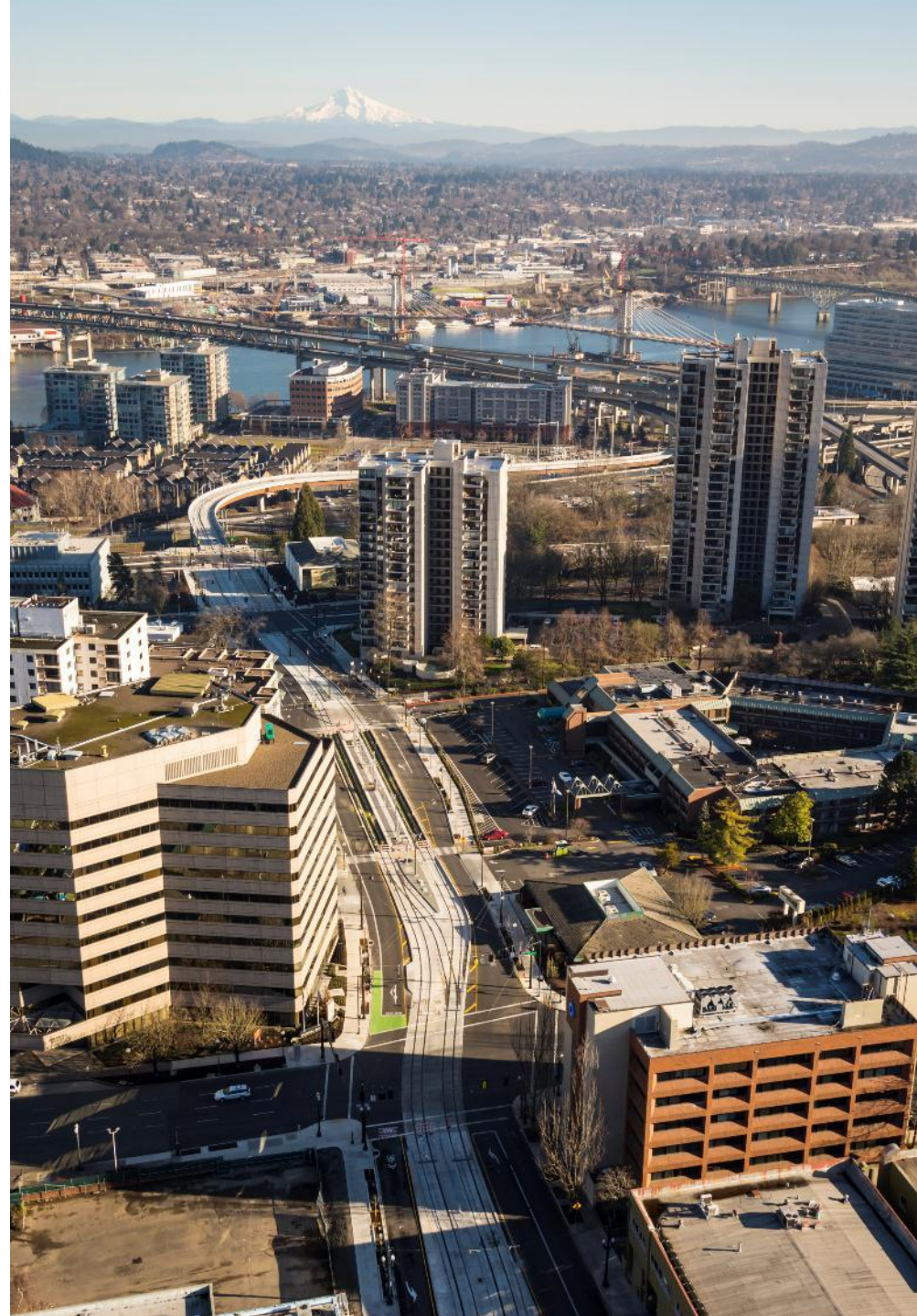
transit



Lyon, France

# CH2 M Hill Team

- James McGrath, AIA, ASLA
  - Lead Urban Designer
- Sara Hoeber, LEED
  - Streetscapes
- Garrett Vandendries, AIA
  - Delineation
- Nelson Camargo, AIA
  - Stations
- Dustin Atchison, PE
  - Stormwater
- Craig Grandstrom, PE
  - Traffic





An aerial photograph of Portland, Oregon, showing a dense urban landscape with numerous skyscrapers and buildings. The city is situated along the Willamette River, which is visible in the middle ground. In the background, there are rolling hills and mountains under a clear sky. A large, semi-transparent circular graphic with a bright yellow border is overlaid on the left side of the image. Inside this circle, the text 'PORTLAND TRANSIT MALL REVITALIZATION' is written in a bold, white, sans-serif font, arranged in three lines.

**PORTLAND  
TRANSIT MALL  
REVITALIZATION**





# PORTLAND MILWAUKIE LIGHT RAIL



James McGrath, AIA, ASLA, LEED



Los Angeles, 15 October 2012

# URBAN PUBLIC REALM DESIGN

RAIL'VOLUTION 2012

In 2010 James McGrath received an Architecture Foundation of Oregon Bailey Fellowship, allowing him to travel across Europe, Australasia, and Latin America to study best practices in complete streets, interview design and policy professionals, and document innovations in high-capacity transit systems, bicycle and pedestrian infrastructure, multimodal surface environments, station area development, low-impact civil engineering and eco-district planning. He brought back inspiration and expertise in street design to accommodate all modes as well as glimpses into public art, informal settlement, urban habitat and housing diversity. Please join as he distills 20,000 images into a selection of succinct precedents for intermodal stations, transit system architecture, balanced streets and intersections, neighborhood master planning and housing typology, all relevant to the Portland metro region.

**CH2MHILL.**



Copenhagen-Malmö-Lyon-Grenoble-Marseille-Toulon-Nîmes-Montpellier-Sydney-Melbourne-Adelaide-Brisbane-Mexico City-Vancouver





**van evera bailey fellowship** – complete streets, settlement pattern and transit infrastructure

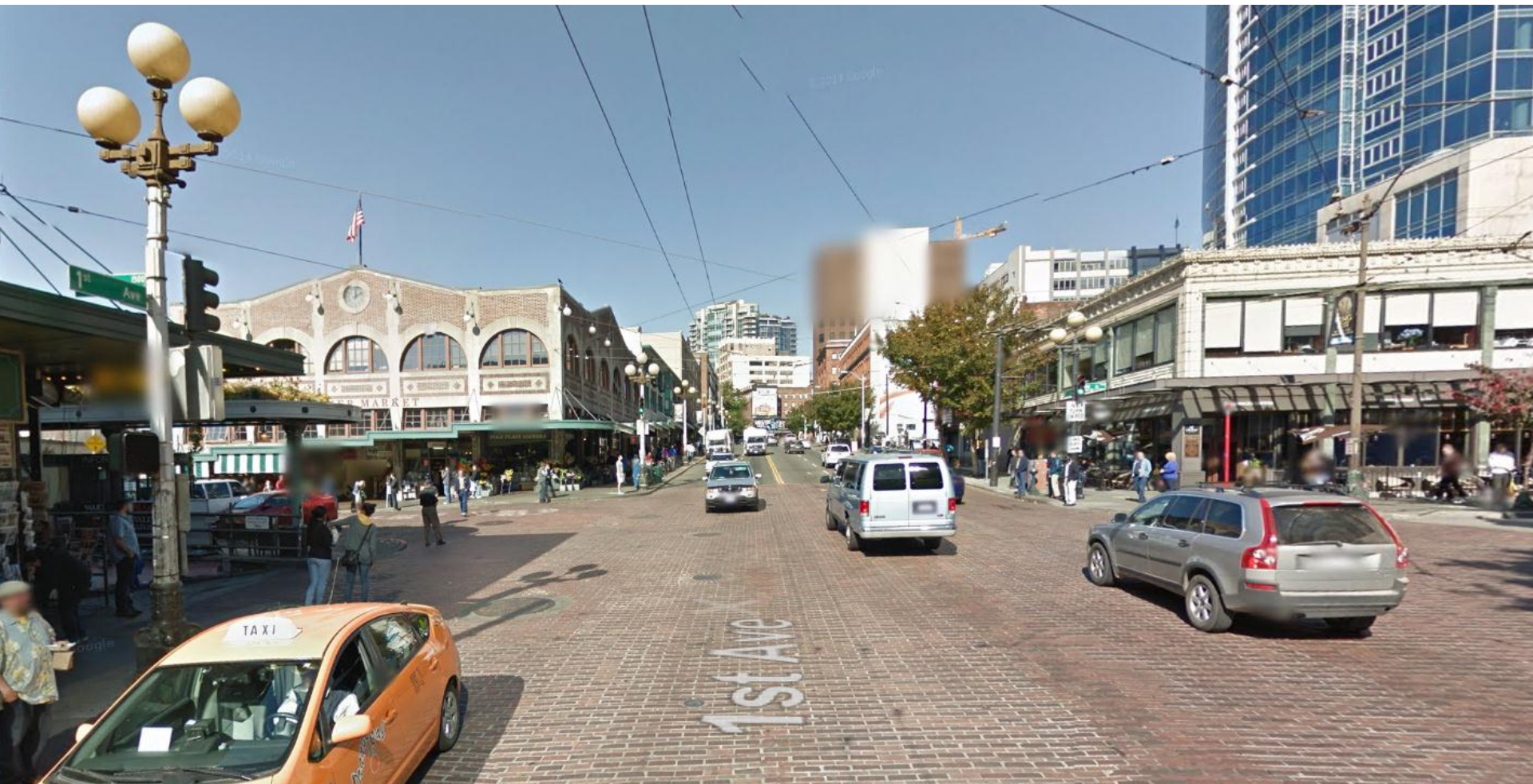
**afo**



THE OREGON  
COMMUNITY  
FOUNDATION

# Urban Design Issues & Opportunities

- Integration with market





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- Integration with market





# Urban Design Issues & Opportunities

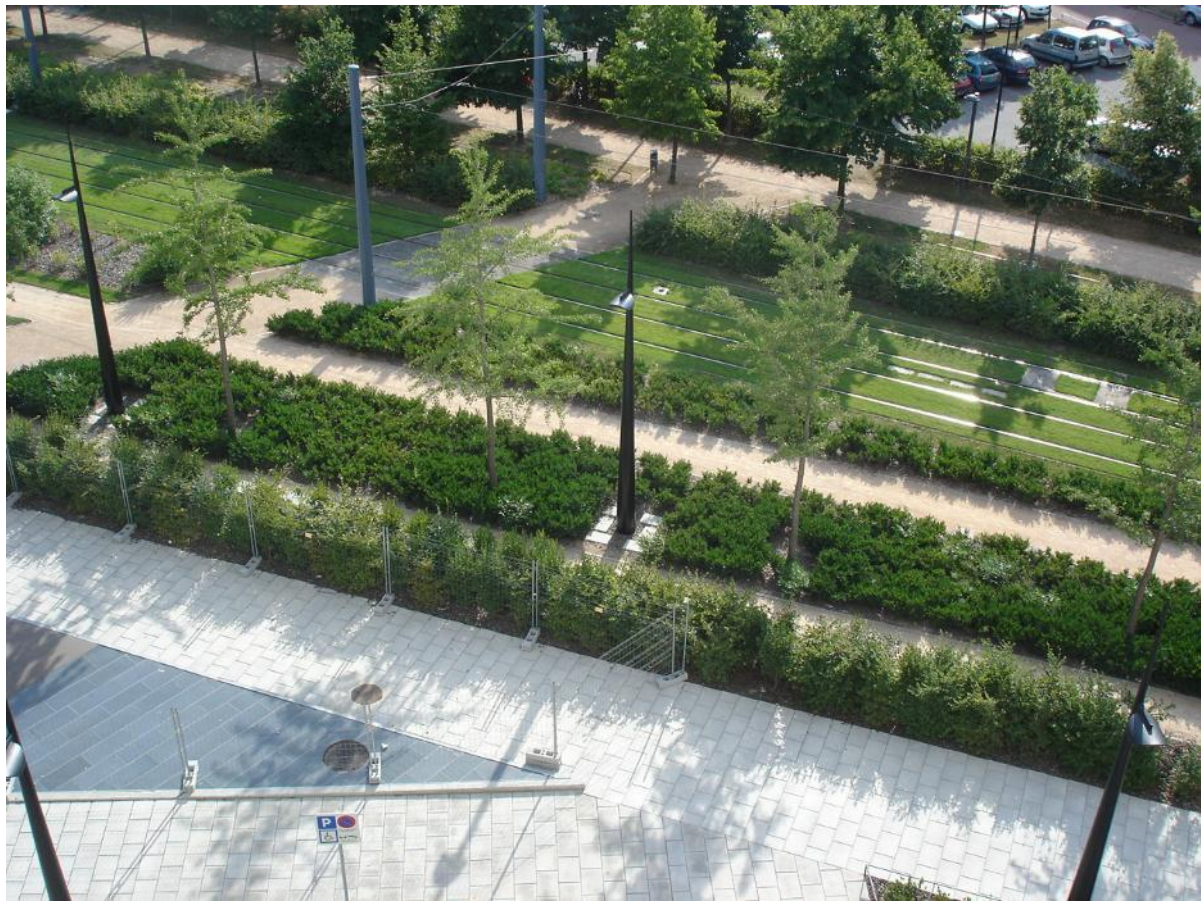
- Relation to open spaces





# Urban Design Issues & Opportunities

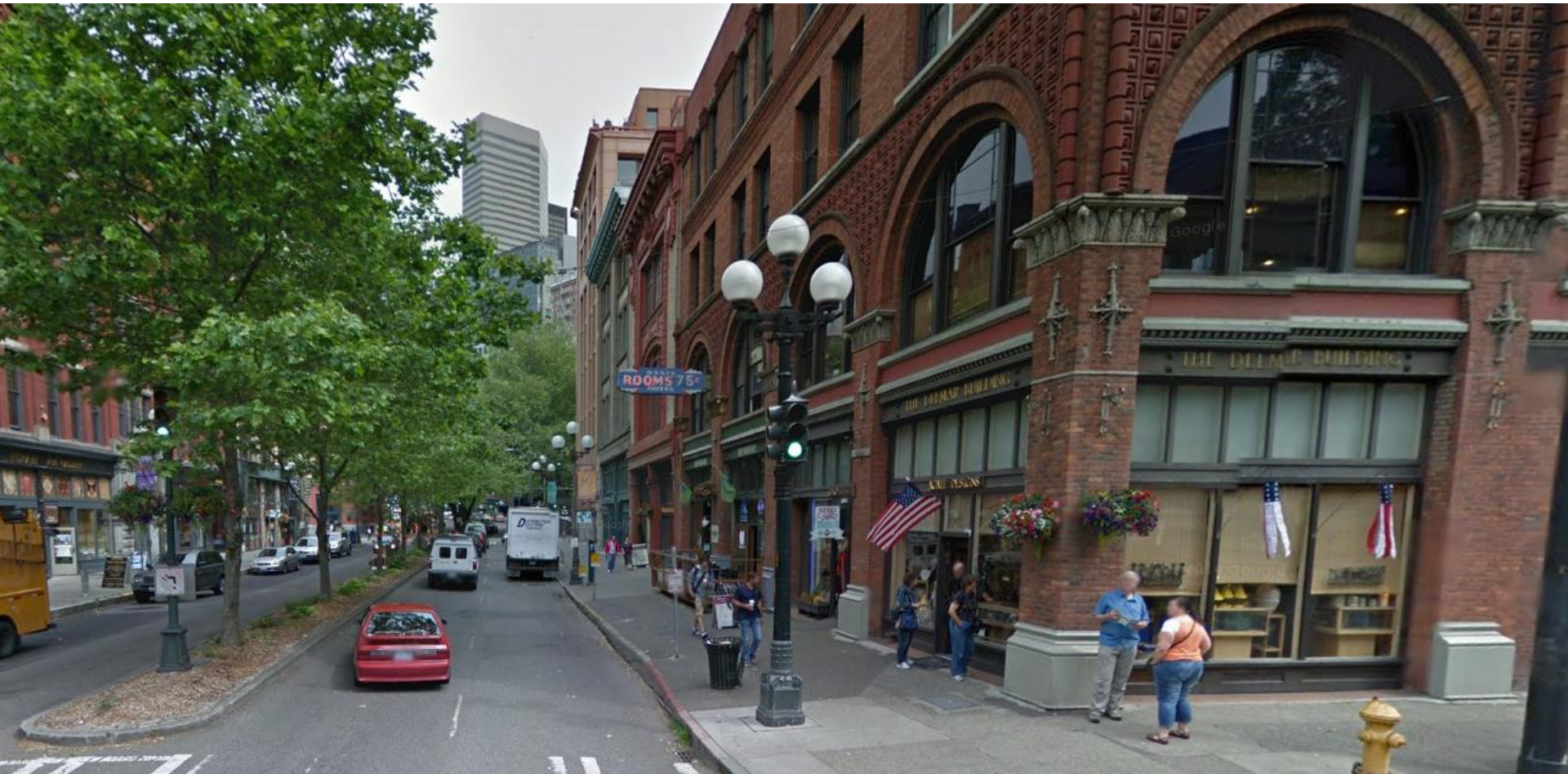
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# Urban Design Issues & Opportunities

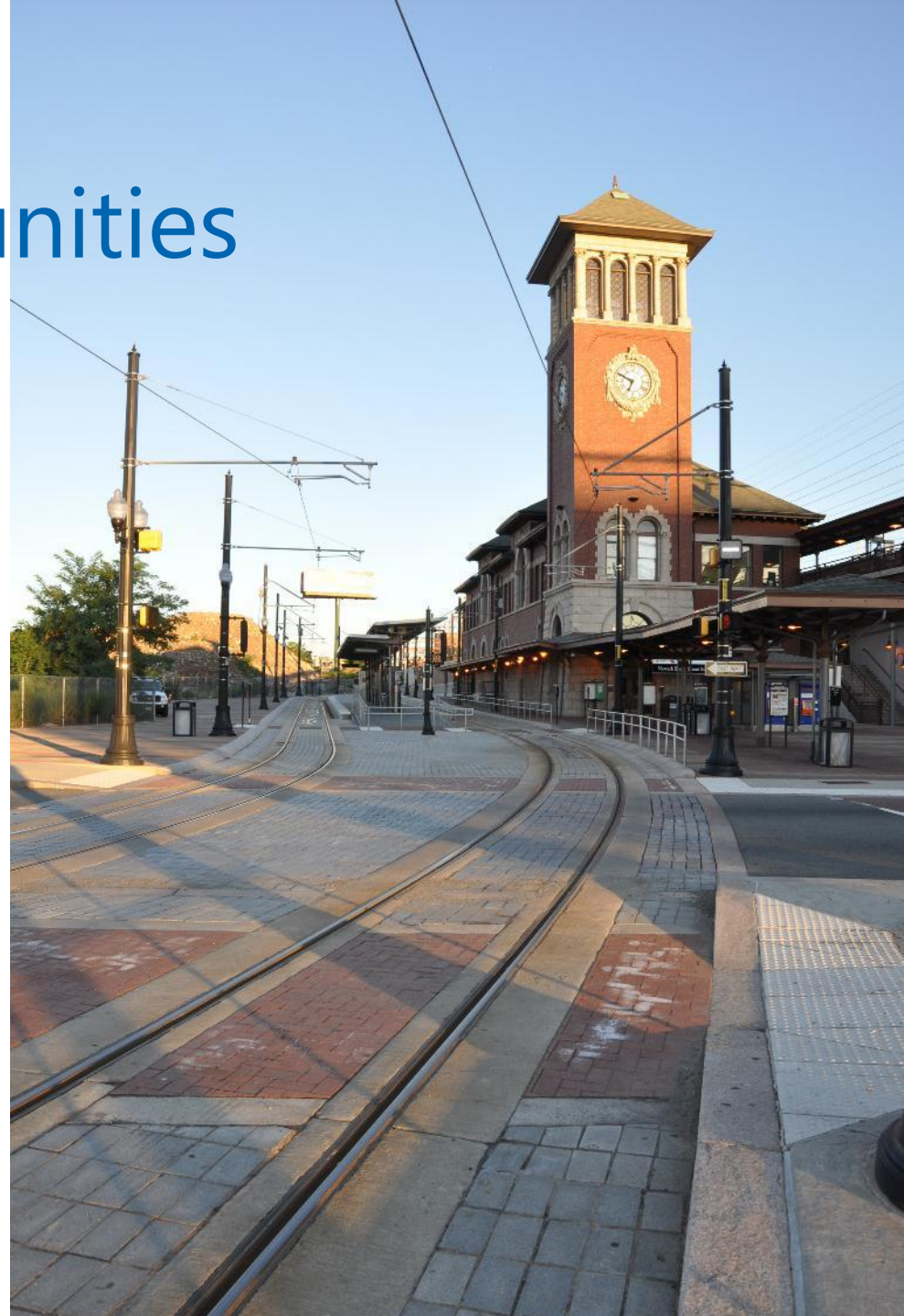
- Response to context





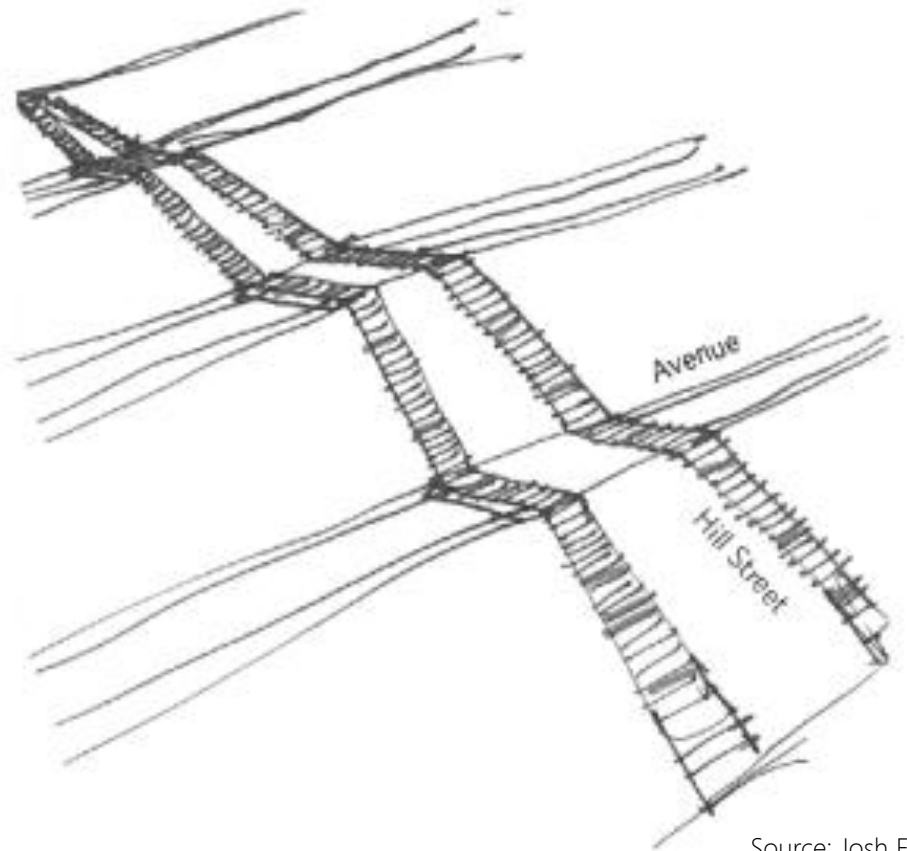
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- Response to context



# Urban Design Issues & Opportunities

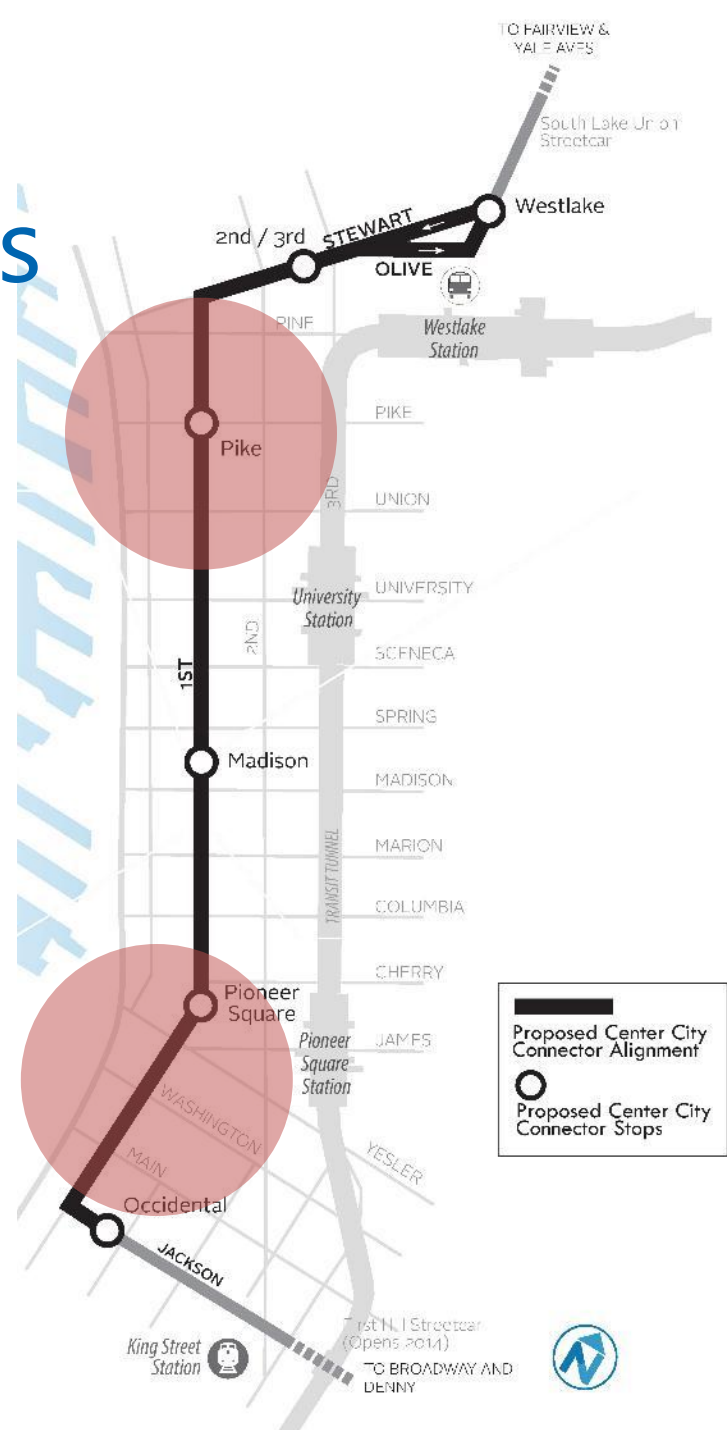
- Primacy of north/south
  - Waterfront
  - CCC
  - Third Ave
  - Transit tunnel
  - 5<sup>th</sup> and 6<sup>th</sup> spine
  - Etc...





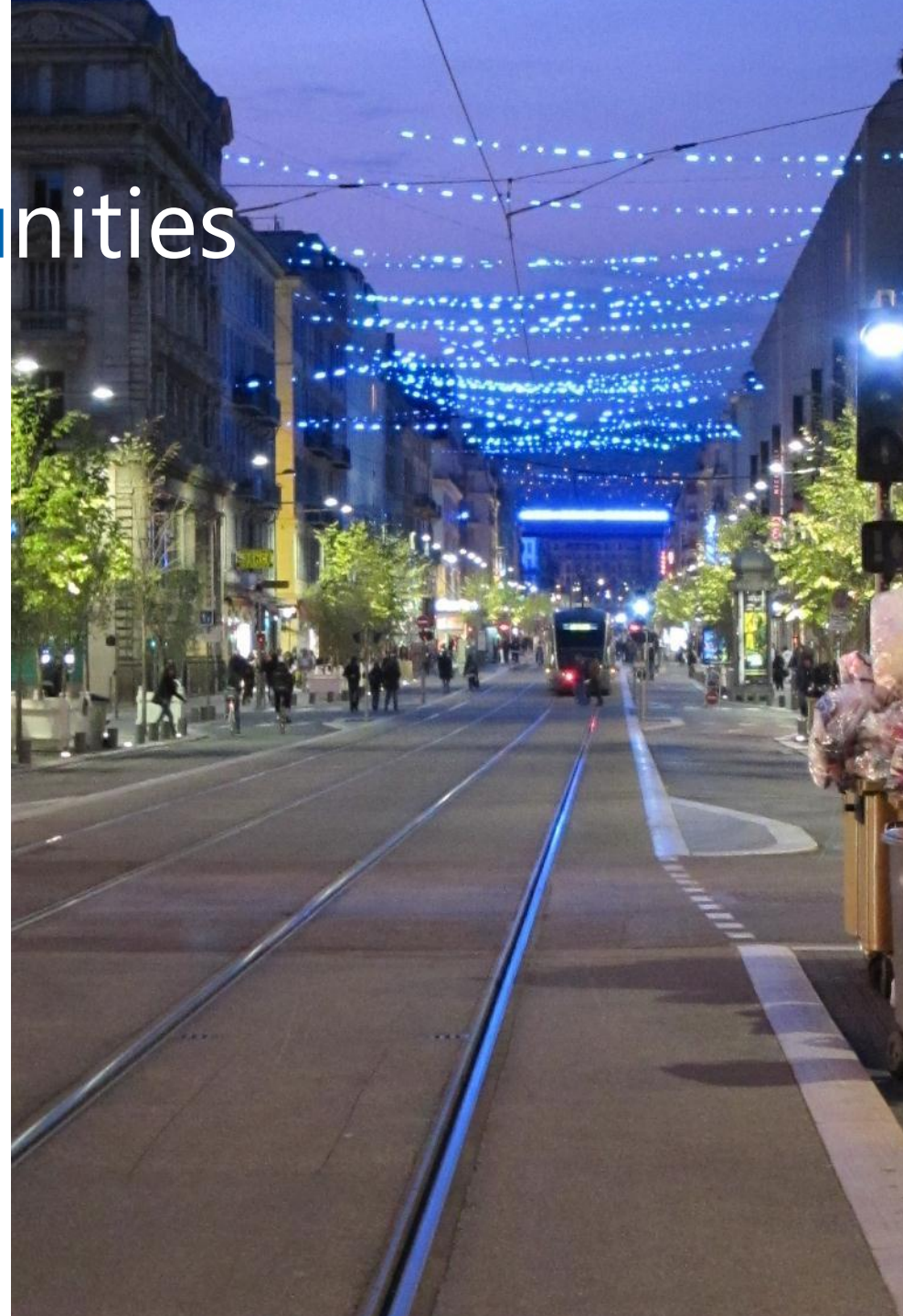
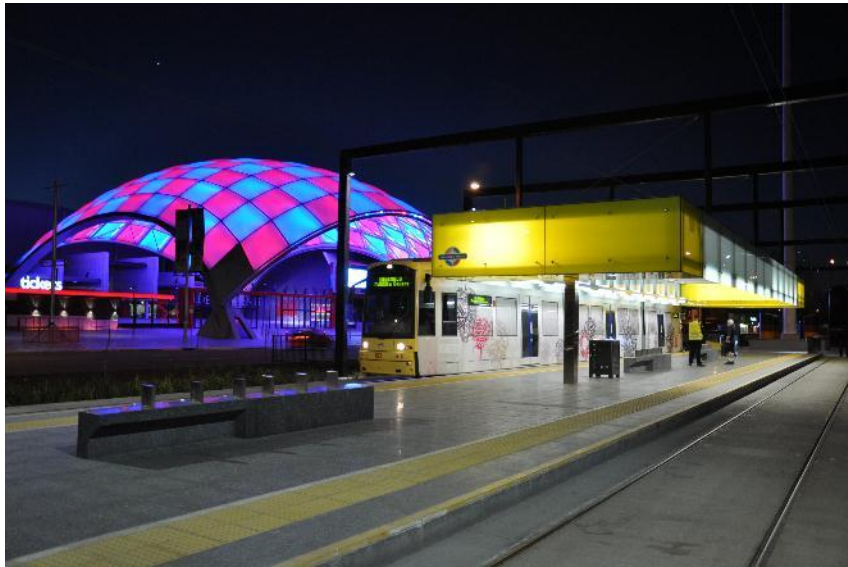
# Urban Design Issues & Opportunities

- Continuity and legibility
  - respecting historic fabric of Pioneer Square
  - integrating with unique character of Pike Place
  - balancing this need for responsiveness with overall system identity and ease of use for all
    - Visitors
    - Drivers
    - Cyclists



# Urban Design Issues & Opportunities

- Delight and light





# Broadway Streetcar



# Broadway Streetcar

- Half-Mile to ¾ Mile Extension of First Hill Streetcar
- Ongoing Evaluation of Terminus Options (Broadway/Roy or 10<sup>th</sup>/Prospect)





# Broadway Streetcar

- Serves Commercial Core of Broadway
- Increases Multimodal Access to Link Station
  - Extends Protected Bike Lanes
  - Frequent, Higher Capacity Transit



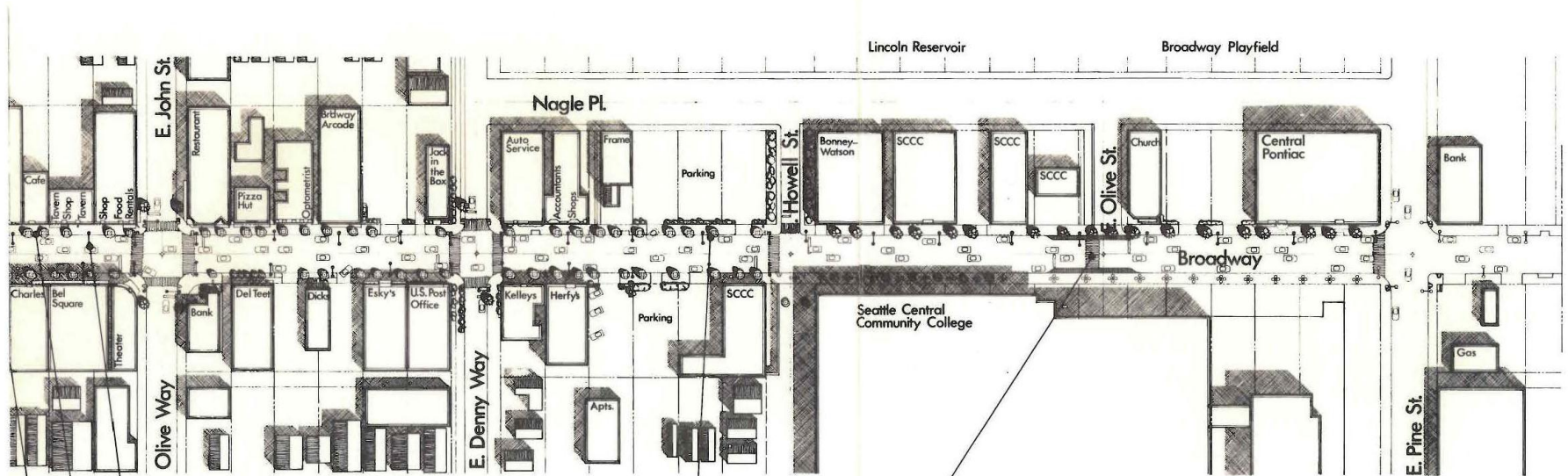
# Broadway Streetcar: Urban Design

- Opportunity for Continuity with First Hill Streetcar (Protected Bike Lanes/Reclaiming the Street)
- Opportunity for Preservation/Enhancement of Existing Broadway District Streetscape Features





# Broadway Streetcar: Urban Design

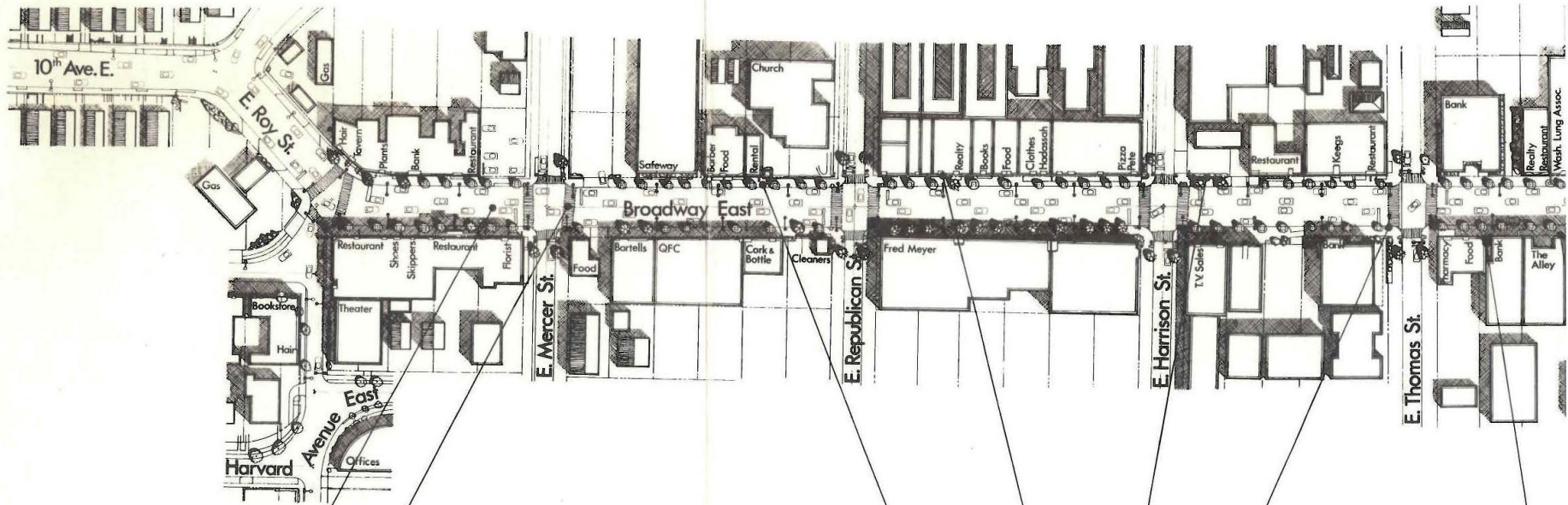


- New Street Lights
- New Sidewalks, Curbs and Gutters
- New Tile Band at Store Fronts
- Existing Street Trees with New Grates
- New "Mega" Crosswalk
- New Street Furniture at Specific Locations

## BROADWAY BUSINESS IMPROVEMENTS

CITY OF SEATTLE / BROADWAY BUSINESS L.I.D.

# Broadway Streetcar: Urban Design



Pedestrian Crosswalks

New Street Surfacing Throughout

Electrical Undergrounding

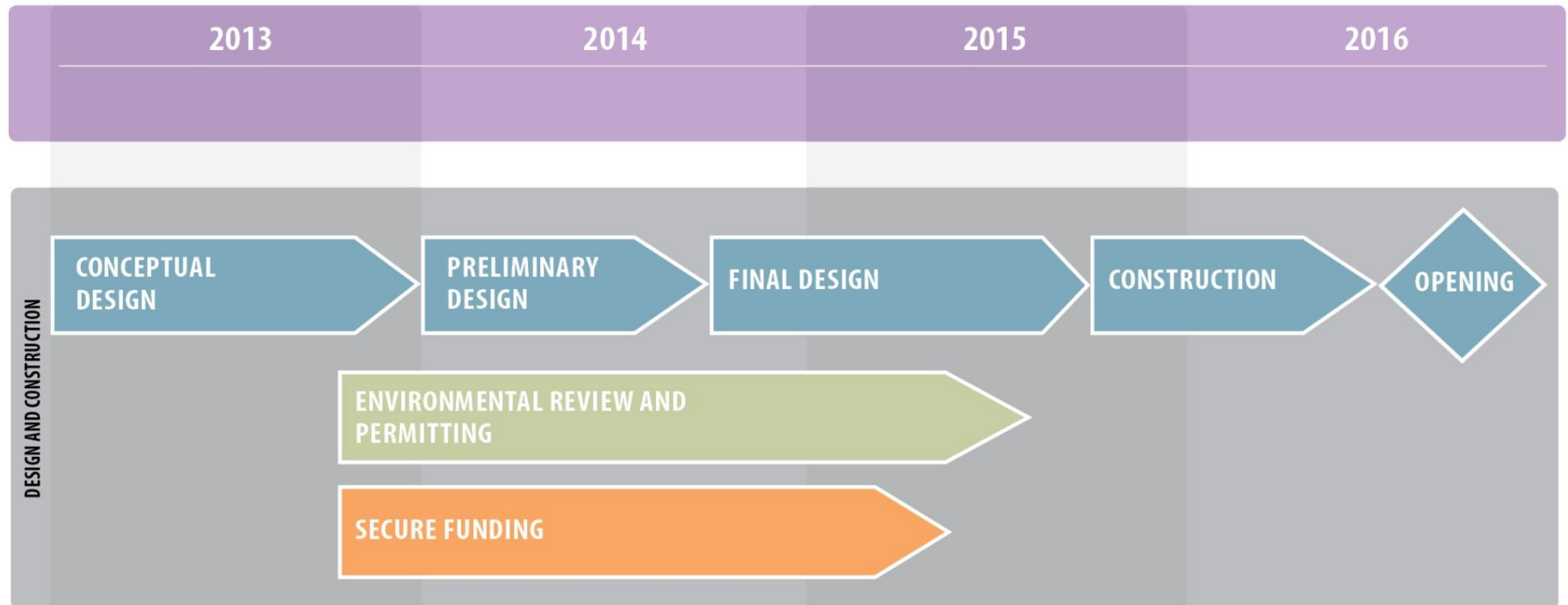
New Pedestrian Lights at Specific Locations

New Planters and Screening

New and Modernized Signals at all Intersections



# Broadway Streetcar: Timeline



# Thanks!

<http://www.seattle.gov/transportation>

