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

- 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.

**CRITERIA:**
- Project Purpose & Need
- Potential street alignments
- Potential modes

**SAMPLE CRITERIA:**
- Operating/Capital Costs
- Ridership Potential
- Transit Integration
- Bike/Ped Connections
- Access to Jobs
- Affordable Housing

**STM**
public input
stakeholder input

**Alternatives Short List**

**In-Depth Evaluation**

**RECOMMENDED LOCALLY PREFERRED ALTERNATIVE (LPA)**

**SAMPLE CRITERIA:**
- Operating/Capital Costs
- Ridership Forecasts
- Streetcar
- Travel Times
- Reliability
- Multimodal Impacts

**LPA**
Public Engagement

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

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

ROW Treatment
- Exclusive running
- Center running on 1st

Mode
- Modern streetcar

Capital Cost (Including Fleet)
- $110 M
Preferred Operating Scenario

“Hub to Hub”

- 5-minute headway between Westlake and International District Hubs
- Weekday operations from 5 a.m. to 1 a.m.
Timeline: From Plan to Built Project

- **Transit Master Plan (2012)**
- **Center City Connector**

**PROJECT PLANNING**
- Mode selection
- Street alignment selection
- Conceptual design
- **2013 - 2014**

**LPA Adoption**
- **Q2 2014**

**PE & ENVIRONMENTAL**
- 30% design
- Environmental review
- **2014**

**FINAL DESIGN**
- 100% design
- Bid documents
- Permitting, DCE/SONSI
- **2015 - Q1 2016**

**CONSTRUCTION**
- **Q3 2016 - 2017**

**Submittal of Project Justification Criteria**
- Q4 2014

**Funding request for construction phase**
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
Center City Connector: Urban Design

• Scope
  – Transit-way Delineation
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Center City Connector: Urban Design

- **Scope**
  - Transit-way Delineation
  - Stations
  - Streetscape
Center City Connector: Urban Design

- Transit-way Delineation
- Stations
- Streetscape
Center City Connector: Urban Design

- Transit-way Delineation
- Stations
- Streetscape
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
PORTLAND TRANSIT MALL REVITALIZATION
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.

James McGrath, AIA, ASLA, LEED
van evera bailey fellowship – complete streets, settlement pattern and transit infrastructure
Urban Design
Issues & Opportunities

• Integration with market
Urban Design
Issues & Opportunities

• Integration with market
Urban Design
Issues & Opportunities

• Relation to open spaces
Urban Design
Issues & Opportunities

• Relation to open spaces
Urban Design
Issues & Opportunities

• Response to context
Urban Design
Issues & Opportunities

• Response to context
Urban Design
Issues & Opportunities

• Primacy of north/south
  – Waterfront
  – CCC
  – Third Ave
  – Transit tunnel
  – 5th and 6th spine
  – Etc...

Source: Josh Feit
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