

**PORTLAND
STREETCAR**

SERVICE PLAN
NORTH/SOUTH LINE (6 STREETCARS);
A/B LOOPS (4 STREETCARS EACH)

3 SPARE STREETCARS; 56 OPERATORS
AND 10 MECHANICS

WEEKDAY RIDERSHIP ~ 15,800/DAY

Growing the Streetcar Community

Operating: Portland, Tacoma, Seattle, Washington, DC, Dallas, Cincinnati, Kansas City, Atlanta, Tucson, Charlotte, Salt Lake City

Coming Soon: Oklahoma City, Detroit, Milwaukee, Sacramento, and others

Cincinnati: September 2016



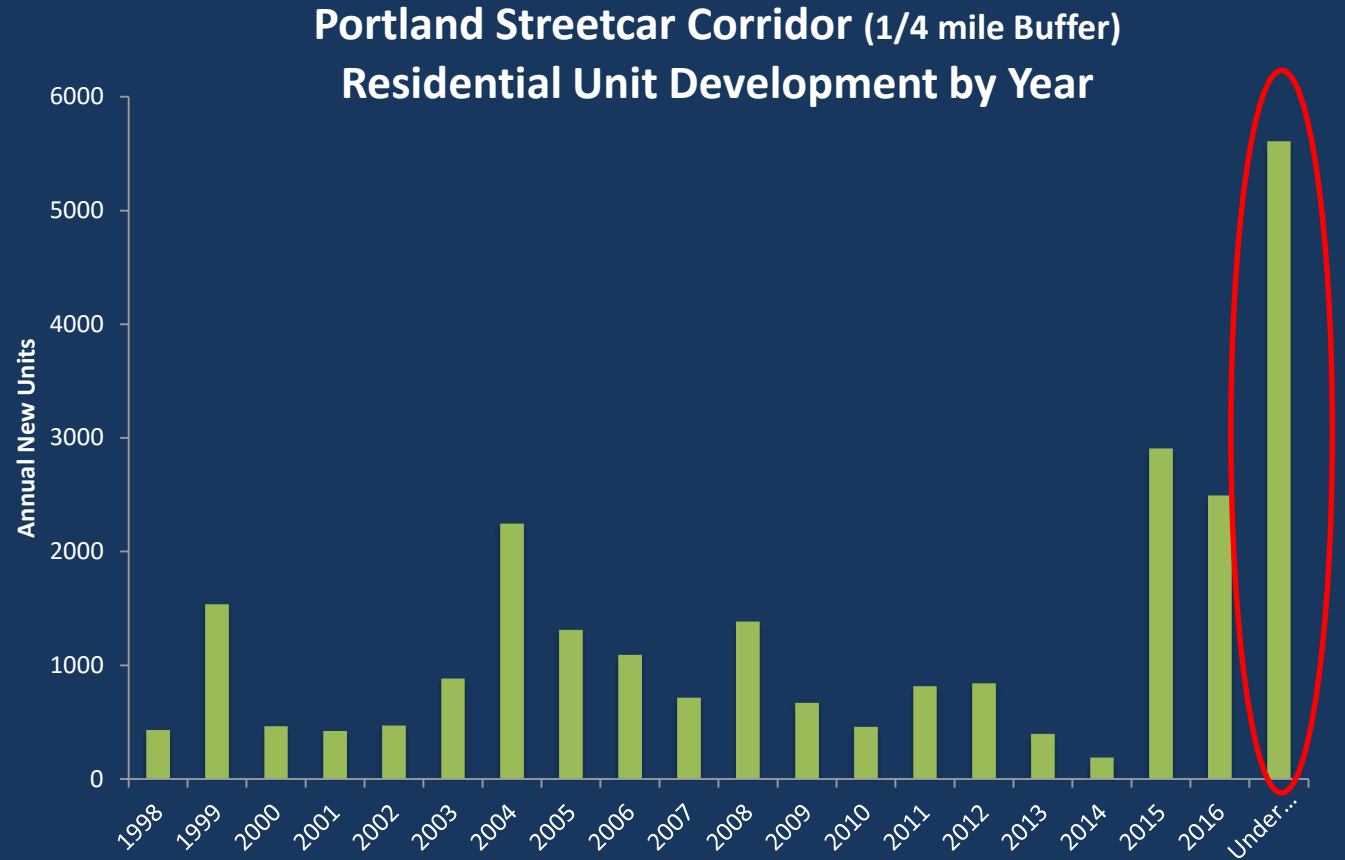
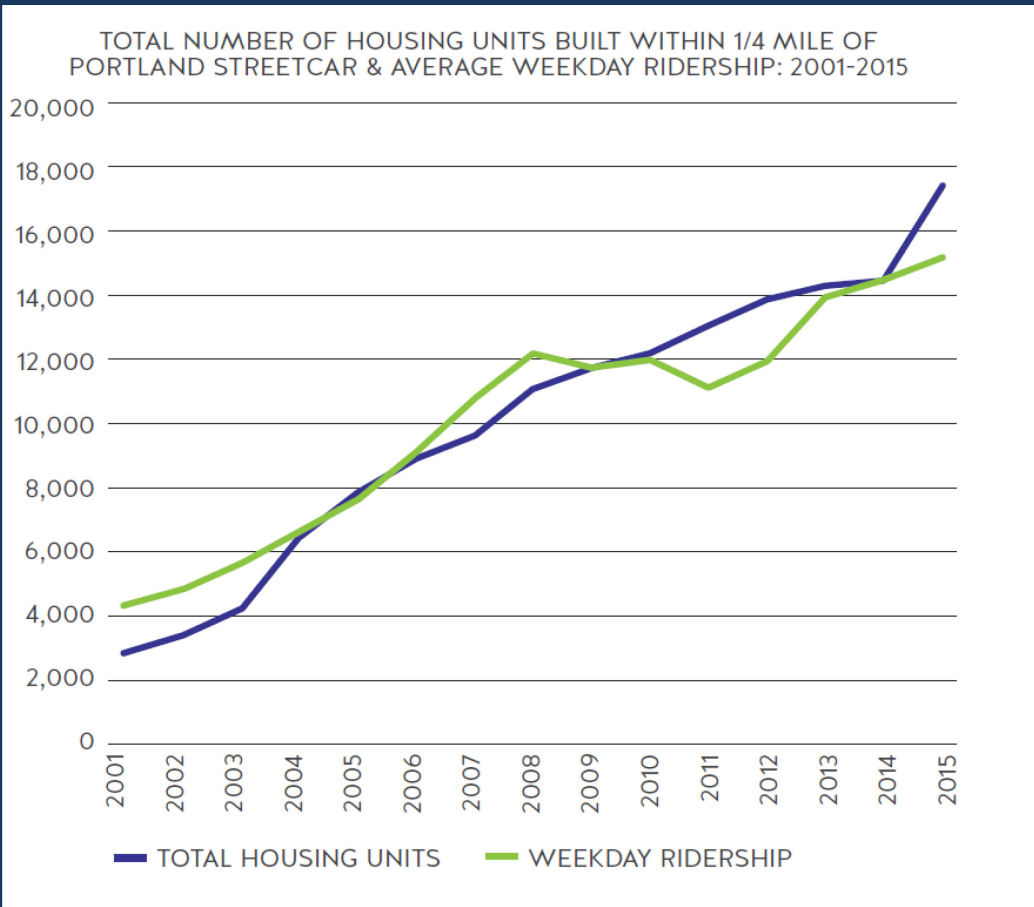
Kansas City: April 2016



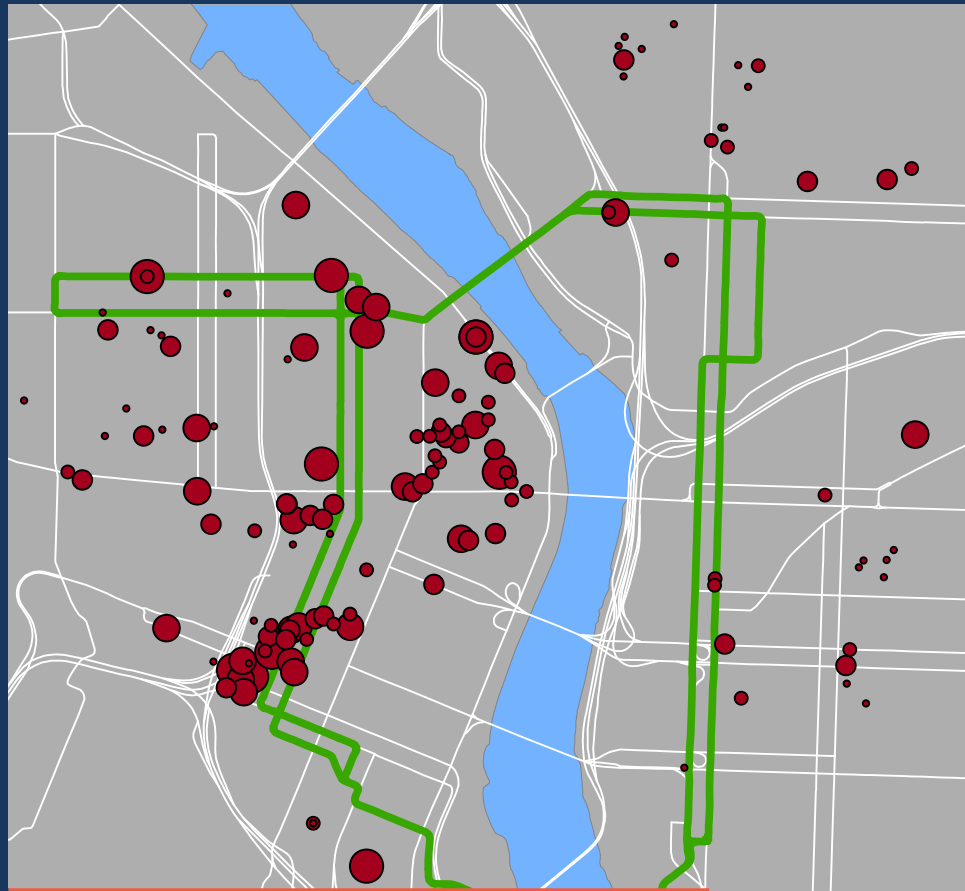
Maturing System



Generating Ridership: Housing Units within ¼ mile of Streetcar, and Avg. Weekday Ridership on Streetcar



Affordable Housing Units within ½ mile of Portland Streetcar



Connecting the Entire Community

66%



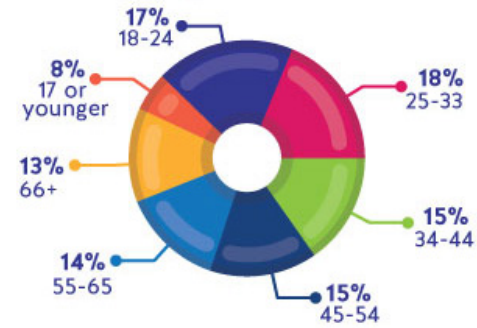
of streetcar trips begin at home



Demographics of Portland Streetcar Users

A system that serves everyone

Ridership Age:



LESS THAN 5%

of riders are tourists

38%

of streetcar riders come from households without a car



25% of streetcar riders earn less than \$20,000 per year

23% of streetcar riders do not have a driver's license



Planning for the Future

Short-Term Investments



- 3 -5 Additional Streetcars
 - Additional Maintenance Facility required after 5 additional cars
- Cameras Installed on All Streetcars
- Automatic Passenger Counters on All Streetcars
- Responsive to Changes Occurring on and Around our System
 - Zidell and SW Bond
 - South Portal/Moody
 - I-5 Rose Quarter

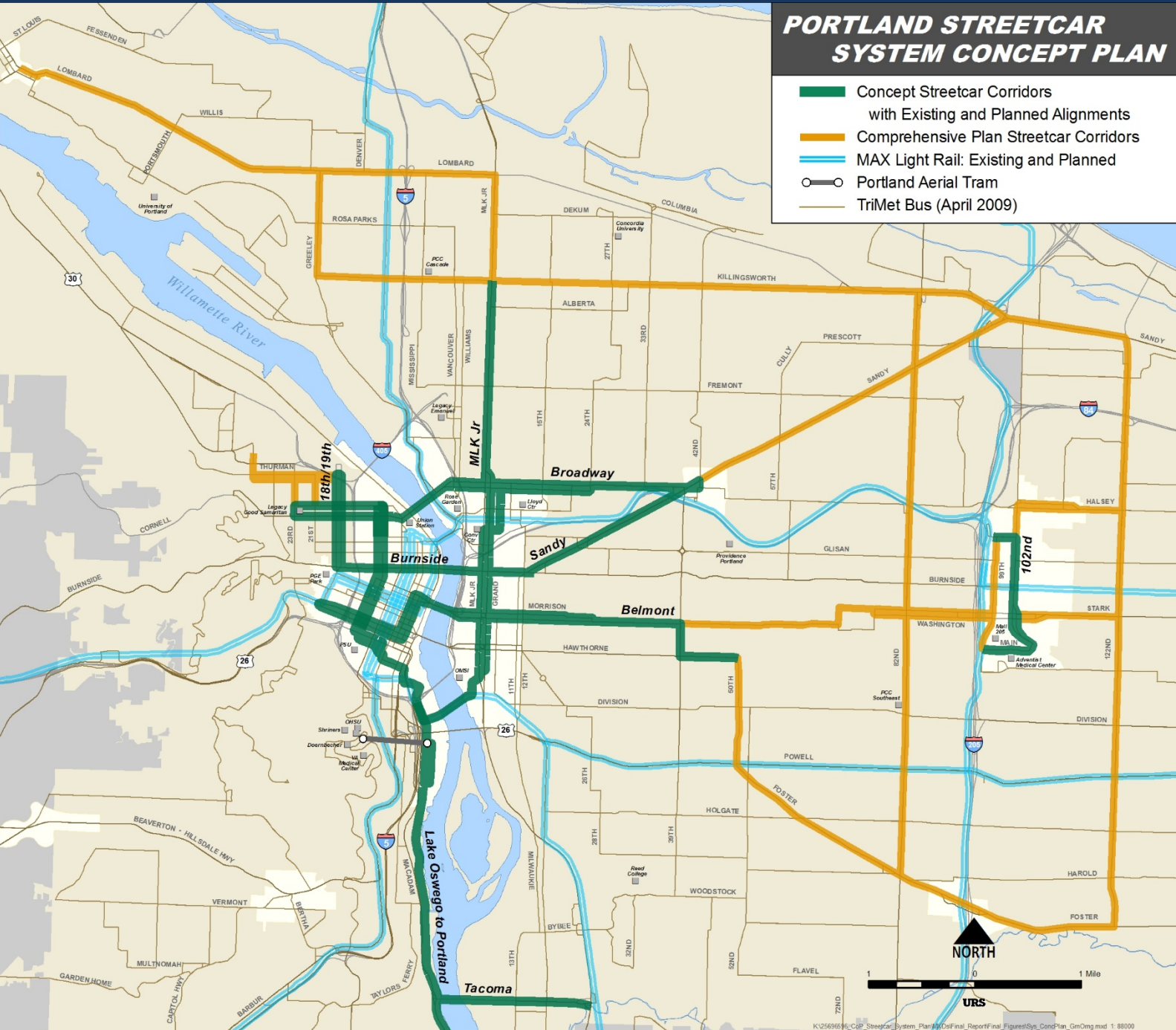
Long-Term Investments



- Inclusion of Planned Extensions in Metro's RTP
- Growing the Maintenance and Operations Facility to Better Meet Demands.
- Improved Service and Schedules to Meet Growing Demand

PORTLAND STREETCAR SYSTEM CONCEPT PLAN

- █ Concept Streetcar Corridors with Existing and Planned Alignments
- █ Comprehensive Plan Streetcar Corridors
- █ MAX Light Rail: Existing and Planned
-  Portland Aerial Tram
-  TriMet Bus (April 2009)



Portland Streetcar: Planning Context

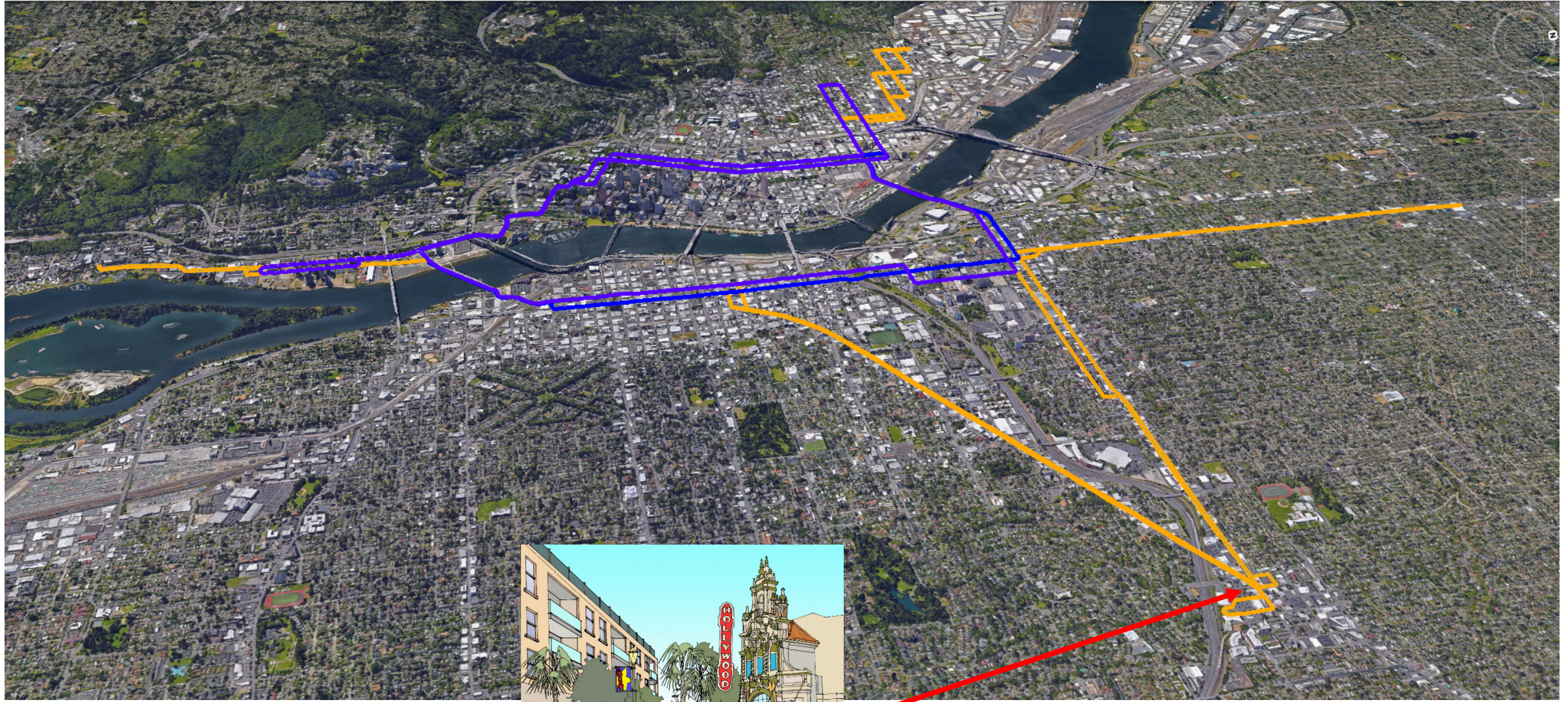
2014 RTP Project List

- Streetcar Alternatives Planning
- Tilikum/OMSI Connection (Complete)
- NW 18th/19th to Montgomery Park
- NE MLK Jr. BLVD to Killingsworth
- Streetcar Extension to Hollywood
- John's Landing to Willamette Park
- Burnside/Couch to NE 14th to NW 23rd

2035 Comprehensive Plan Project List (Streetcar and Related)

- Hollywood Streetcar Extension Alternatives Analysis (Sandy vs Broadway)
- MLK Jr Blvd (Broadway to Killingsworth)
- Montgomery Park Streetcar
- John's Landing Streetcar Alternatives analysis
- Moody Ave Extension (SW Bancroft to SW Hamilton)
- SW Bond Ave (Gibbs to River Pkwy)
- I-5 Rose Quarter Project
- TriMet – MLK Jr Transit Improvements
- Hollywood Town Center Improvements
- NE Broadway Safety and Streetscape Improvements
















System Expansion: Priority Routes from City's TSP and Comp Plan

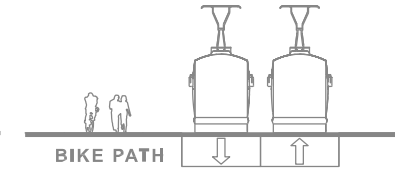
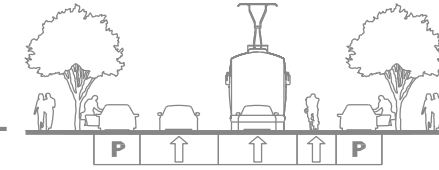


Evaluation Criteria and Methodology

Goal	Ref. #	Criteria	Methodology/Measurement
Build and operate an efficient and cost effective system	CE.1	Estimated capital cost	Community Streetcar Coalition (and comparable project) per-mile estimates calibrated for complexity of infrastructure. Note: Costs are in 2018 dollars
	CE.2	Estimated operating cost (per ride)	Cost per ride is determined by dividing the estimated annual operating cost by annualized estimated ridership. The estimated cost per ride is compared to cost per ride for TriMet frequent service bus routes
	CE.3	Leverages existing system investments	Interlines with currently operating streetcar lines to achieve shorter headways and add capacity to existing system
Increases mobility for transit system users	M.1	Estimated transit ridership	Extracted person and transit trips for existing and horizon year (2040) using Metro's Travel Demand Model.
	M.2	Connects to other transportation facilities	Connects to transit centers, MAX, streetcar lines, bus lines and the tram
	M.3	Potential transit benefit on future congested corridors	Forecasted congestion in proposed corridors in 2040 (as expressed by mid-day and PM volume to capacity ratios)
Streetcar system equitably distributes benefits and burdens	E.1	Provides new connections to essential destinations for populations of concern identified in TriMet's Equity Index	Composite score of the ten metrics that comprise TriMet's Equity Index
	E.2	Displacement risk	Level of vulnerability to displacement for corridor residents
Supports targeted growth in designated corridors	TG.1	Consistent with City of Portland Comprehensive Plan designations	Land use reflects transit-supportive densities of commercial, residential and employment uses
	TG.2	Serves anticipated housing growth in streetcar corridors	Allocated development closely matches comprehensive plan allowable density
	TG.3	Connects to key destinations	Connects to high densities of jobs and services and/or Metro's Essential Destinations (parks, food, civic buildings, and retail locations)
Project feasibility	F.1	Corridor redevelopment potential	Real market value per acre
	F.2	Potential for tax increment financing	Potential for tax increment financing (nominal dollars in millions)
	F.3	Value capture within the corridor	Value capture: tax increment financing as a percent of construction cost
	F.4	Value capture to fund construction	Value capture potential: LID as a percent of construction cost
	F.5	Potential for FTA Small Starts funding	Meets existing ridership threshold for FTA Warrants consideration

Summary of Findings: Streetcar Corridor Analysis

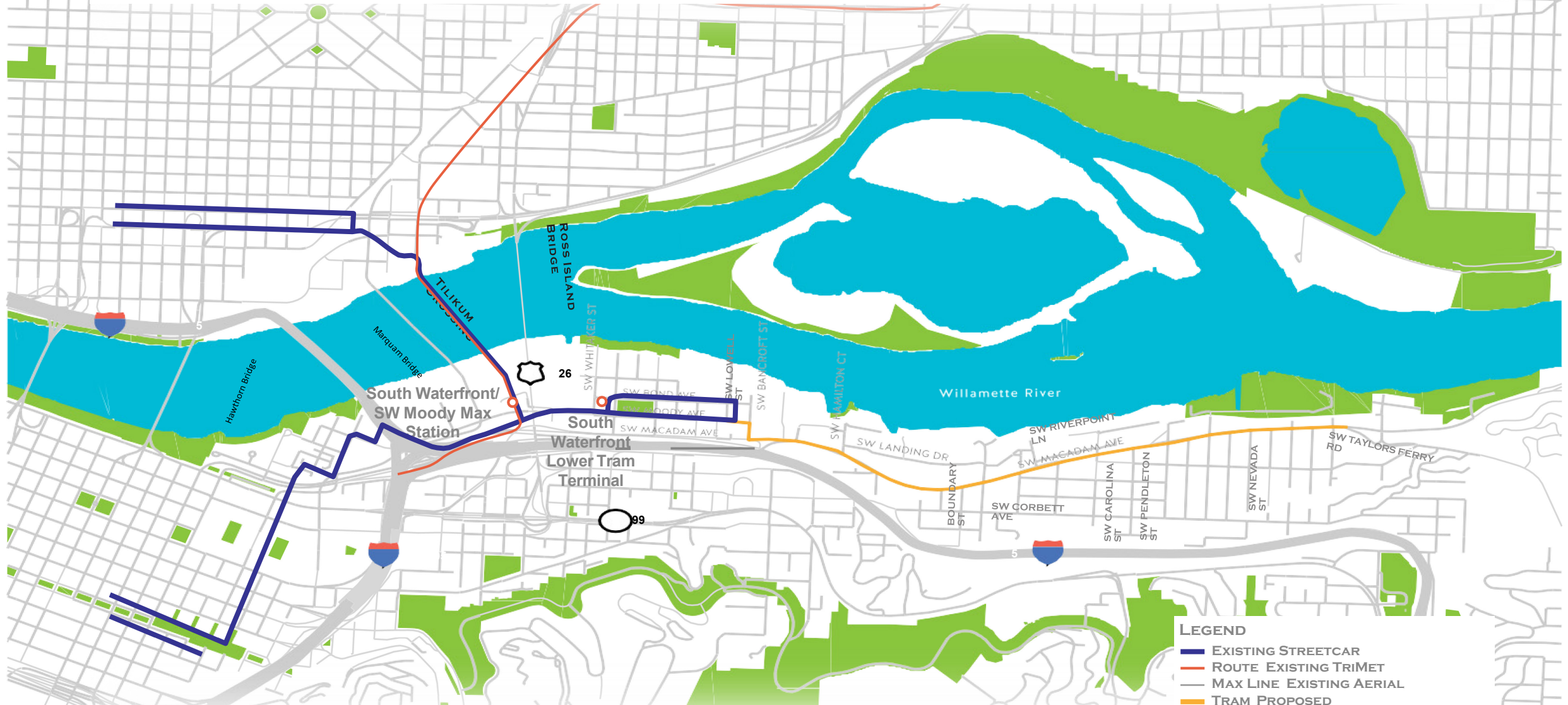
Alignment	Capital Cost (Excludes Vehicles)	New Streetcars + Spares (\$4.5m/each)	Annual Operating Cost	Estimated Transit Trips in 2040	TriMet Equity Index Score (0-30)	LID % of Capital	FTA Consistency
John's Landing to Boundary	\$32,539,015	2+1 (\$14m)	\$2m		10		
Macadam to Nevada	\$90,000,000	2+1 (\$14m)	\$3m		10		
Broadway to Montgomery Park	\$119,688,000	8+2 (\$45m)	\$7.4m		18		
Sandy: Burnside/Couch to Tilikum to Pearl	\$84,423,485	9+2 (\$49.5m)	\$4-8m depending on terminus		14		
MLK: Killingsworth to Riverplace via Tilikum	\$67,140,341	7+2(\$40.5m)	\$6-7m		16		



LEGEND

- █ EXISTING STREETCAR
- █ ROUTE EXISTING TRIMET
- █ MAX LINE EXISTING AERIAL
- █ TRAM PROPOSED
- - - STREETCAR ALIGNMENT
- - - PROPOSED STREETCAR ALIGNMENT OPTIONS





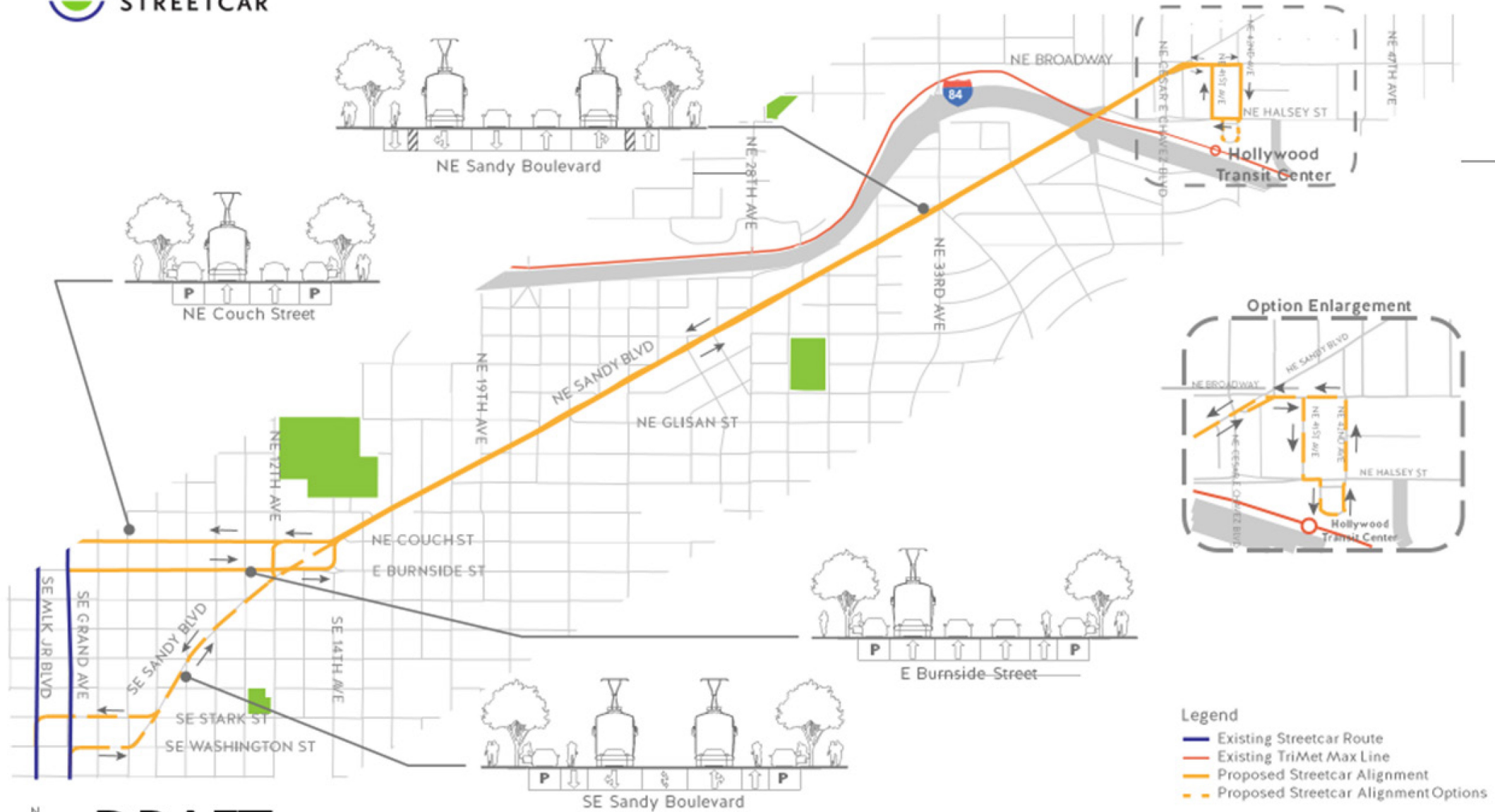
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Expansion Study

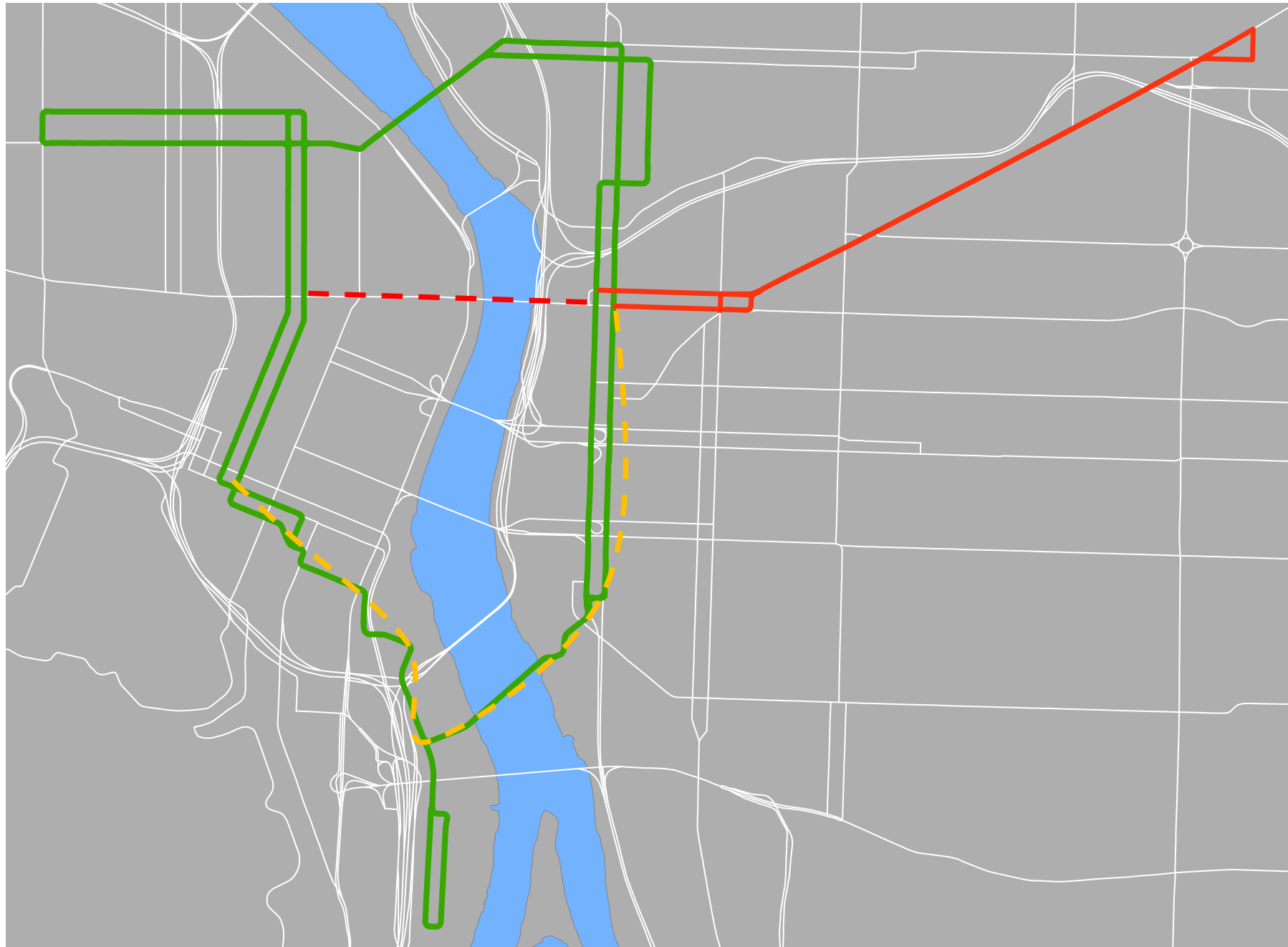


SANDY: HOLLYWOOD TO TILIKUM CROSSING SANDY SEGMENT



Legend

- Existing Streetcar Route
- Existing TriMet Max Line
- Proposed Streetcar Alignment
- - - Proposed Streetcar Alignment Options



NE Sandy Routing Options

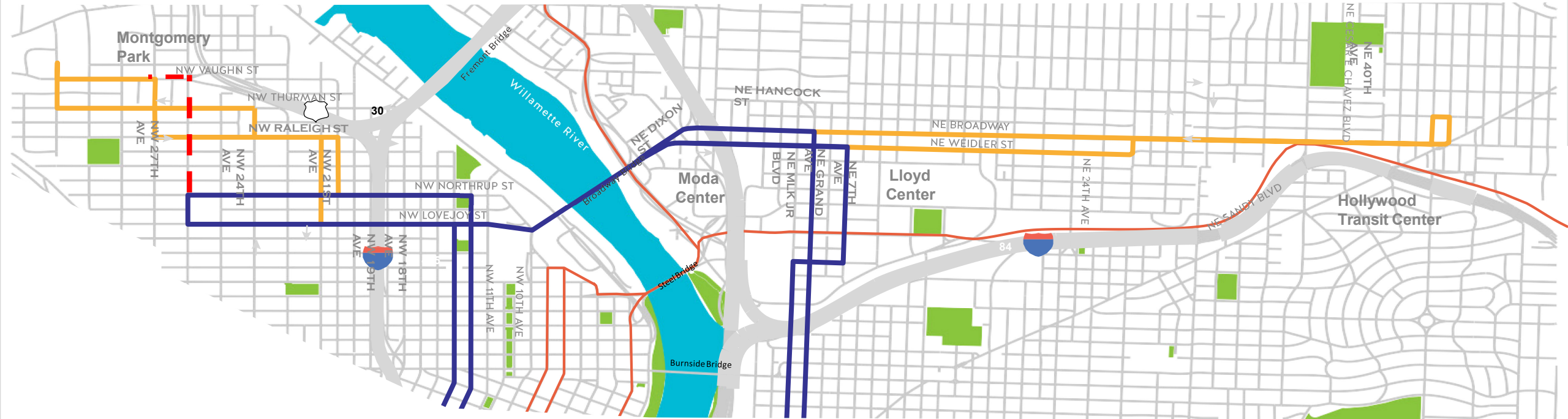
Burnside Bridge vs
Tilikum Crossing

Considerations:

- Ridership
- Travel Time
- Operating Costs
- Fleet Size
- Bus Overlap

Expansion Study

BROADWAY: HOLLYWOOD TO MONTGOMERY PARK

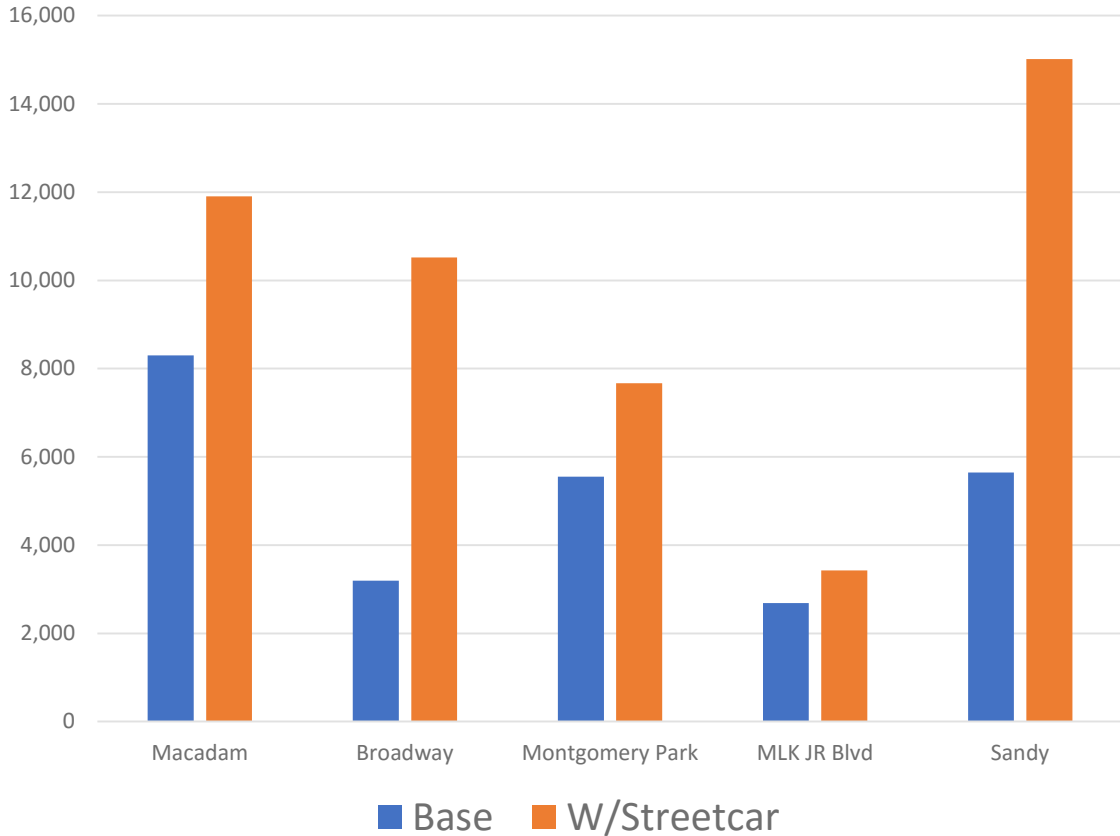


- LEGEND**
- EXISTING STREETCAR
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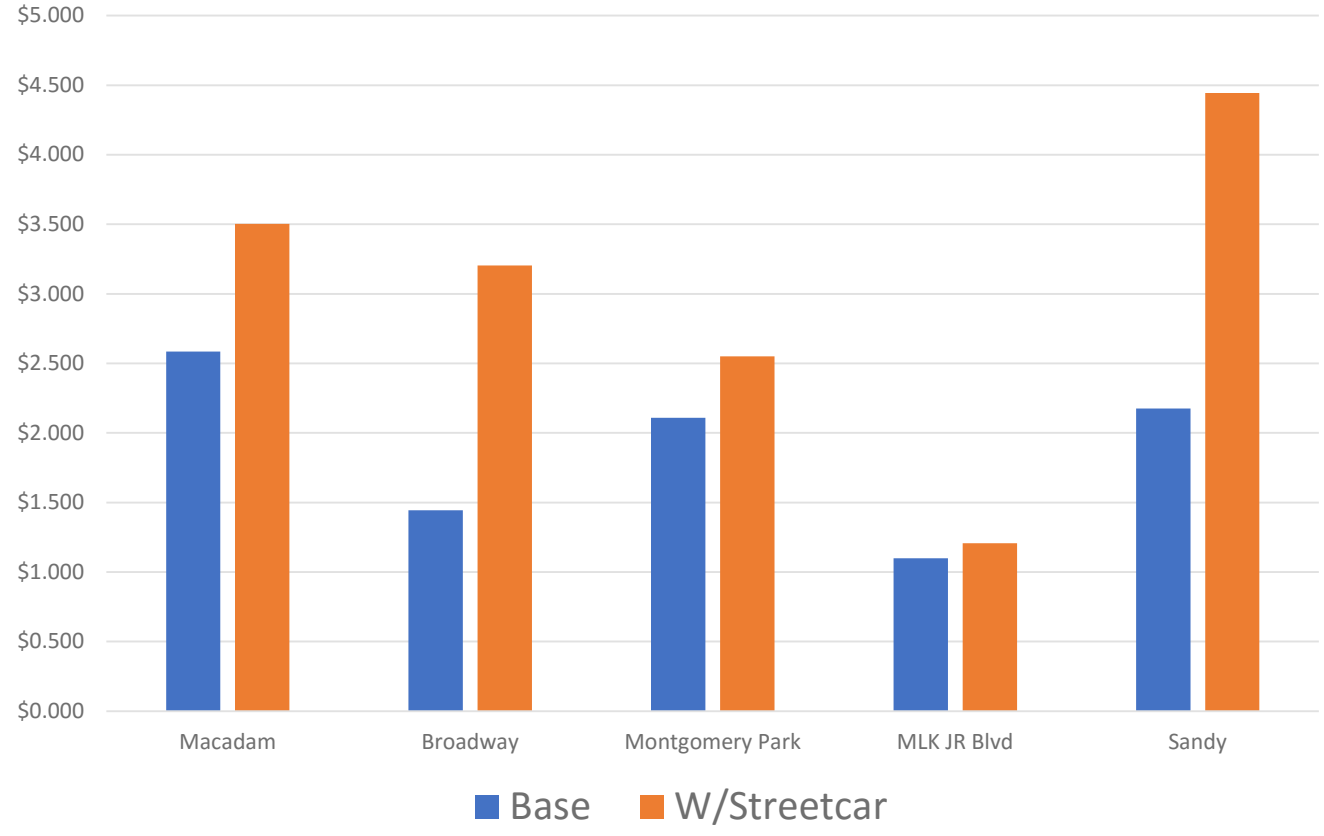
	Housing Units: 2035			Real Market Value (Billion \$): 2035	
Alignment	Base	W/Streetcar		Base	W/Streetcar
Macadam	8,297	11,904		\$2.586	\$3.503
Broadway	3,192	10,521		\$1.445	\$3.205
Montgomery Park	5,548	7,672		\$2.108	\$2.550
MLK JR Blvd	2,690	3,428		\$1.098	\$1.208
Sandy	5,644	15,012		\$2.175	\$4.443

Source: Johnson Economics

Housing Units: 2035



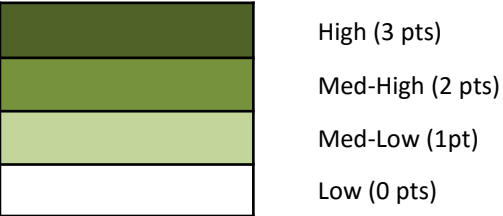
RMV 2035: (\$B)



TriMet Equity Index: Potential Streetcar Alignments

	Composite Score (30 pts possible)	Pop. of Color	Low-Income Pop.	LEP Pop.	Senior Pop.	Youth Pop.	Pop w/ Disab.	HHs w/ Poor Veh. Access	Low/ Med Wage Jobs	Afford. Housing	Services
Hollywood/ Montgomery EAST	18			High (3 pts)	Med-Low (1pt)	High (3 pts)	High (3 pts)	Med-Low (1pt)	High (3 pts)	High (3 pts)	High (3 pts)
Hollywood/ Montgomery WEST	18	Med-Low (1pt)	High (3 pts)	High (3 pts)	High (3 pts)		High (3 pts)	High (3 pts)	Med-Low (1pt)	High (3 pts)	Med-Low (1pt)
North MLK	16	High (3 pts)	High (3 pts)	High (3 pts)		High (3 pts)	High (3 pts)	High (3 pts)			
Sandy Blvd	14		Med-Low (1pt)	High (3 pts)		High (3 pts)	High (3 pts)	High (3 pts)	High (3 pts)	Med-Low (1pt)	High (3 pts)
John's Landing	10	High (3 pts)		High (3 pts)	High (3 pts)	Med-Low (1pt)	Med-Low (1pt)				

Relative Score



Public Support and Next Steps

- **Letters of support: Broadway to Montgomery Park**

- Hollywood Boosters
- Hollywood Neighborhood Assoc.
- Broadway/Weidler Alliance (all neighborhoods along NE Broadway)
- Northwest District Association (NWDA)
- Pearl Neighborhood Assoc.
- Bill Naito Co (Montgomery Park)
- Streetcar Citizen Advisory Committee

- **Next Steps**

- PSI Recommendation to City of Portland:
 - Immediately procure more streetcars to support existing service.
 - Include Broadway/Montgomery Park alignment in Financially Constrained RTP
- Recommend other alignments be included as non-financially constrained
- City led efforts: NW Portland and NE Broadway Circulation and Access Plans
- Examination of ridership potential, bus service, and land use/housing opportunities.



PORTLAND
STREETCAR



Thank You

Dan Bower
PSI Executive Director