

# Building *Transit*, Building *Opportunity*



## Improving the Pedestrian Realm in Station Areas

Celeste Gillman, Washington State  
Department of Transportation

# Results WSDOT

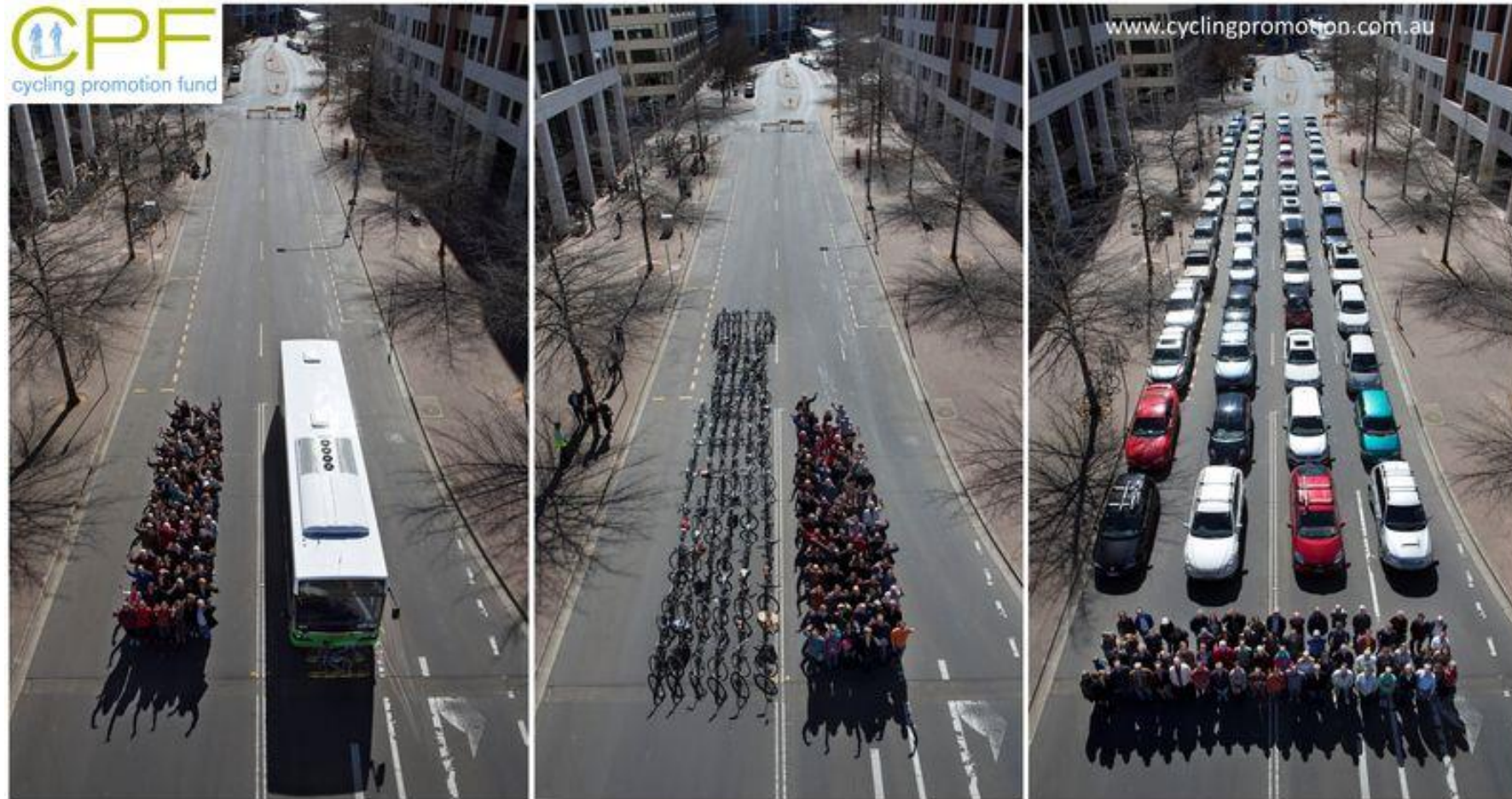
## WSDOT's Vision

- The Washington State Department of Transportation's vision is to be the best in providing a sustainable and integrated multimodal transportation system.

## WSDOT's Mission

- The Washington State Department of Transportation provides and supports safe, reliable and cost effective transportation options to improve livable communities and economic vitality for people and businesses.

# SPATIAL EFFICIENCY





# TRAFFIC WORLD AND SOCIAL WORLD

TRAFFIC WORLD

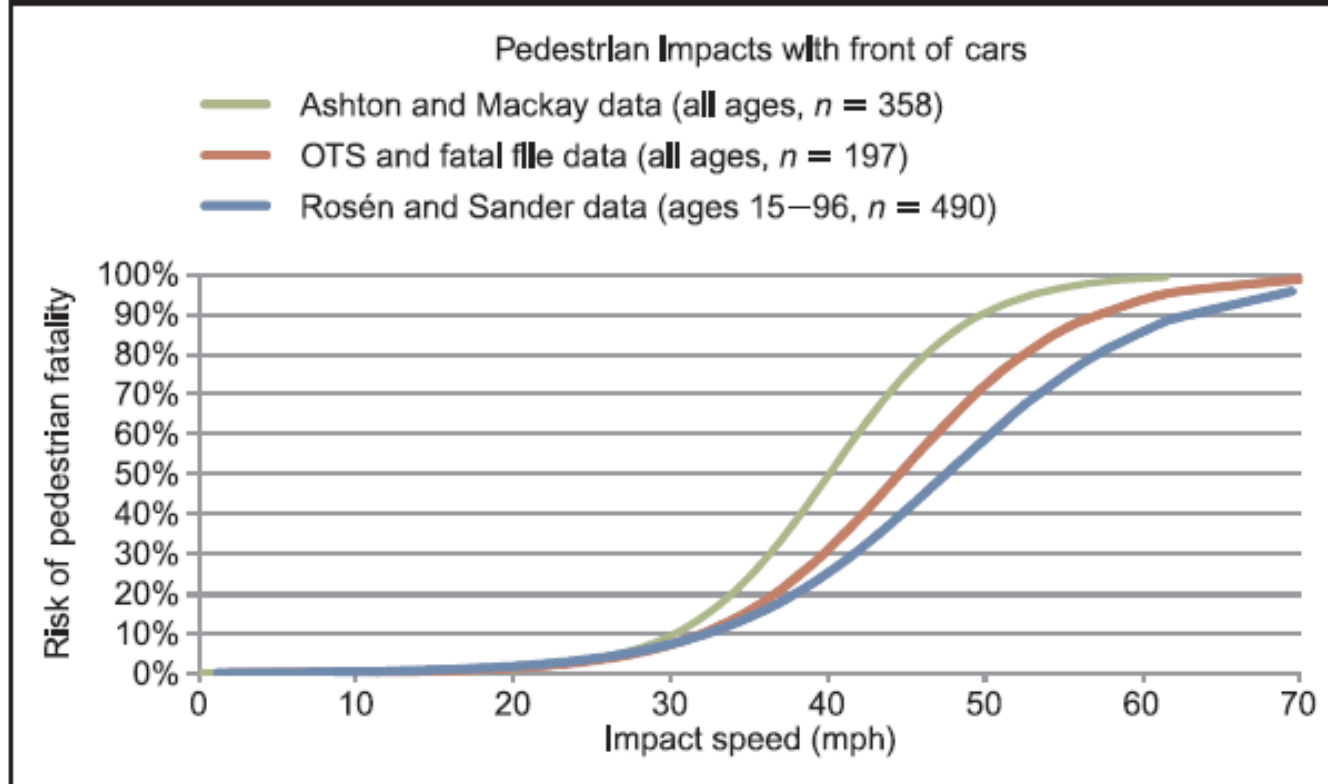


SOCIAL WORLD



# VISION ZERO

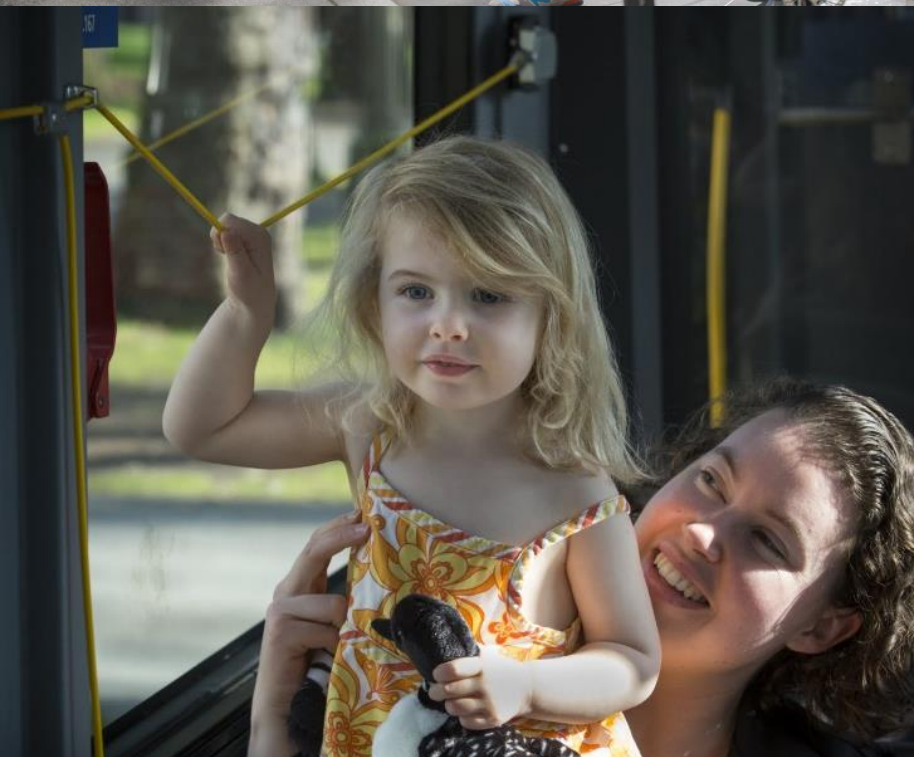
**Figure 4.1: Risk of pedestrian fatality calculated using logistic regression from the Ashton and Mackay, OTS and police fatal file, and Rosen and Sander datasets**



# DESIGN WITH HUMAN NATURE, NOT AGAINST IT









Hayley Bonsteel, City of Kent





**Federal Way Link Extension**  
**Kent / Des Moines Station Area Concept**





# Lynnwood Transit Center Multimodal Accessibility Plan



# Interagency Advisory Group



CONSULTANT TEAM

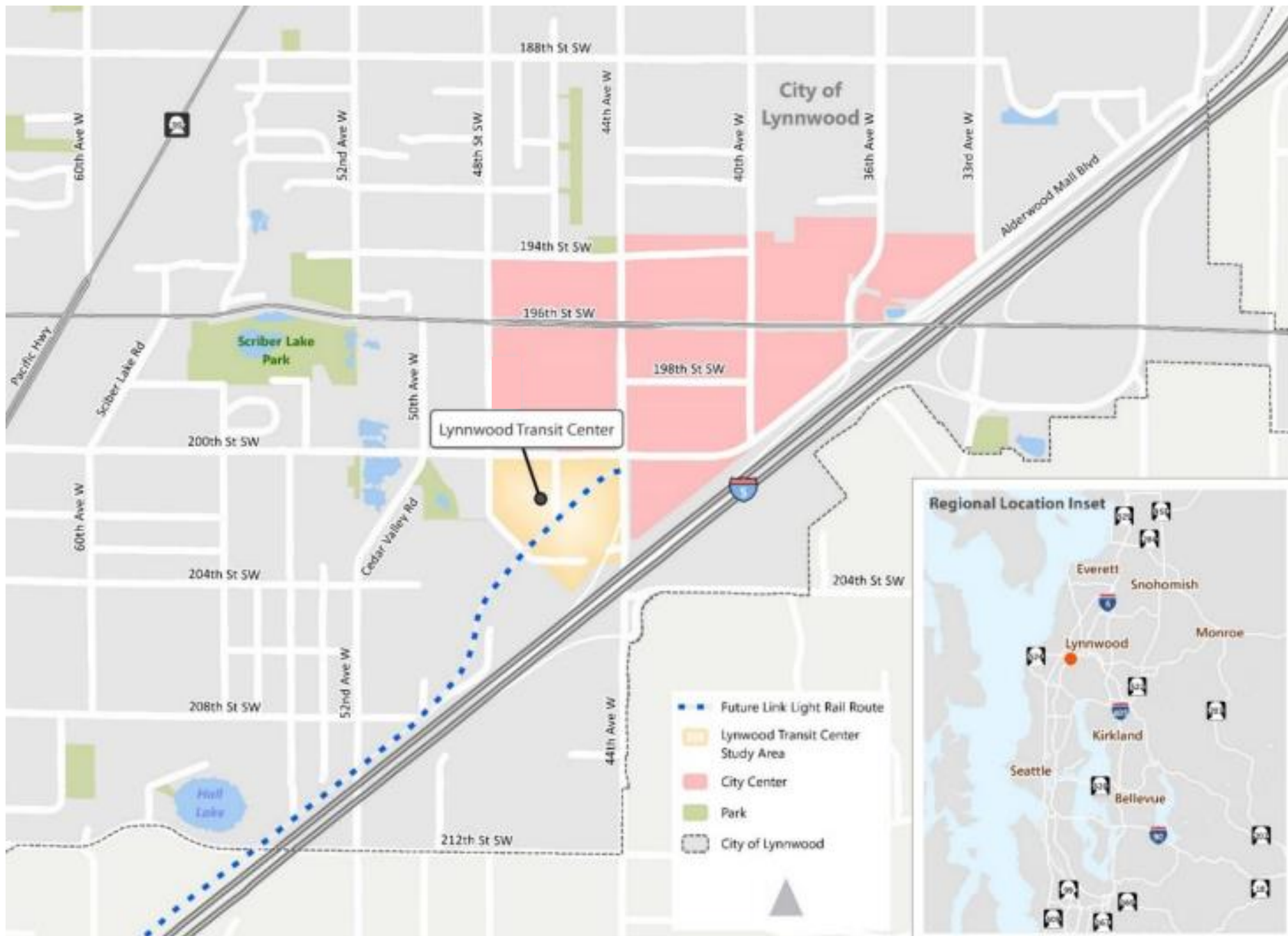


# Priorities



- Improve auto, bus, pedestrian and bicycle access by identifying multimodal improvement connections to the Lynnwood City Center, Transit Center and the Interurban Regional Trail;
- Reduce growing travel demand on I-5;
- Reduce transportation-related greenhouse gas emissions;
- Support the City Center Plan to facilitate a dense and walkable urban center;
- Leverage WSDOT assets to further transit-oriented development;
- Identify barriers to safe efficient multimodal travel, with consideration for people with special needs and economically disadvantaged populations; and,
- Enhance the community and environment while improving the resiliency of critical transportation facilities.

# Study Area





# Lynnwood Transit Center

- Served by Community Transit and Sound Transit
- 4,800 daily boardings in 2014
- 17,900 daily boardings projected by 2035 with Link light rail
- 1,370 surface parking stalls
- 52% of users arrive from < 2.5 miles
- 500 busses per day with 40+% of all CT routes entering the LTC





# LYNNWOOD CITY CENTER STATION

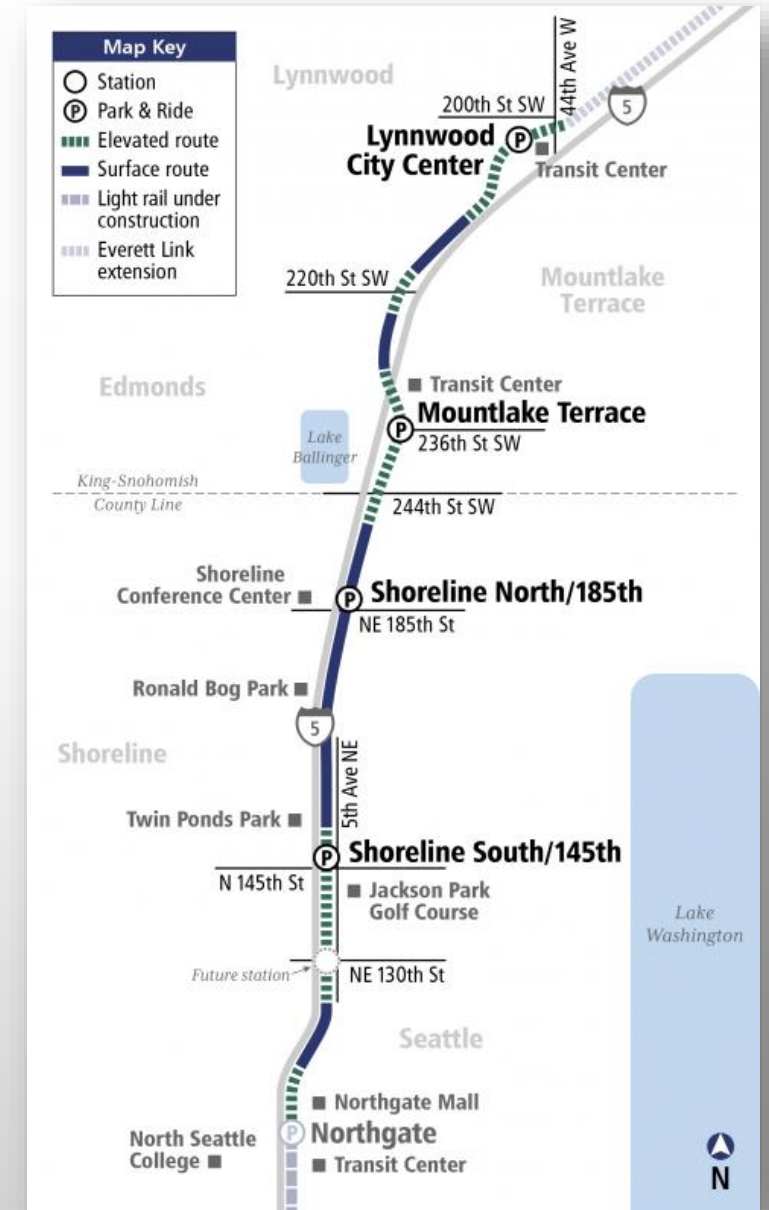
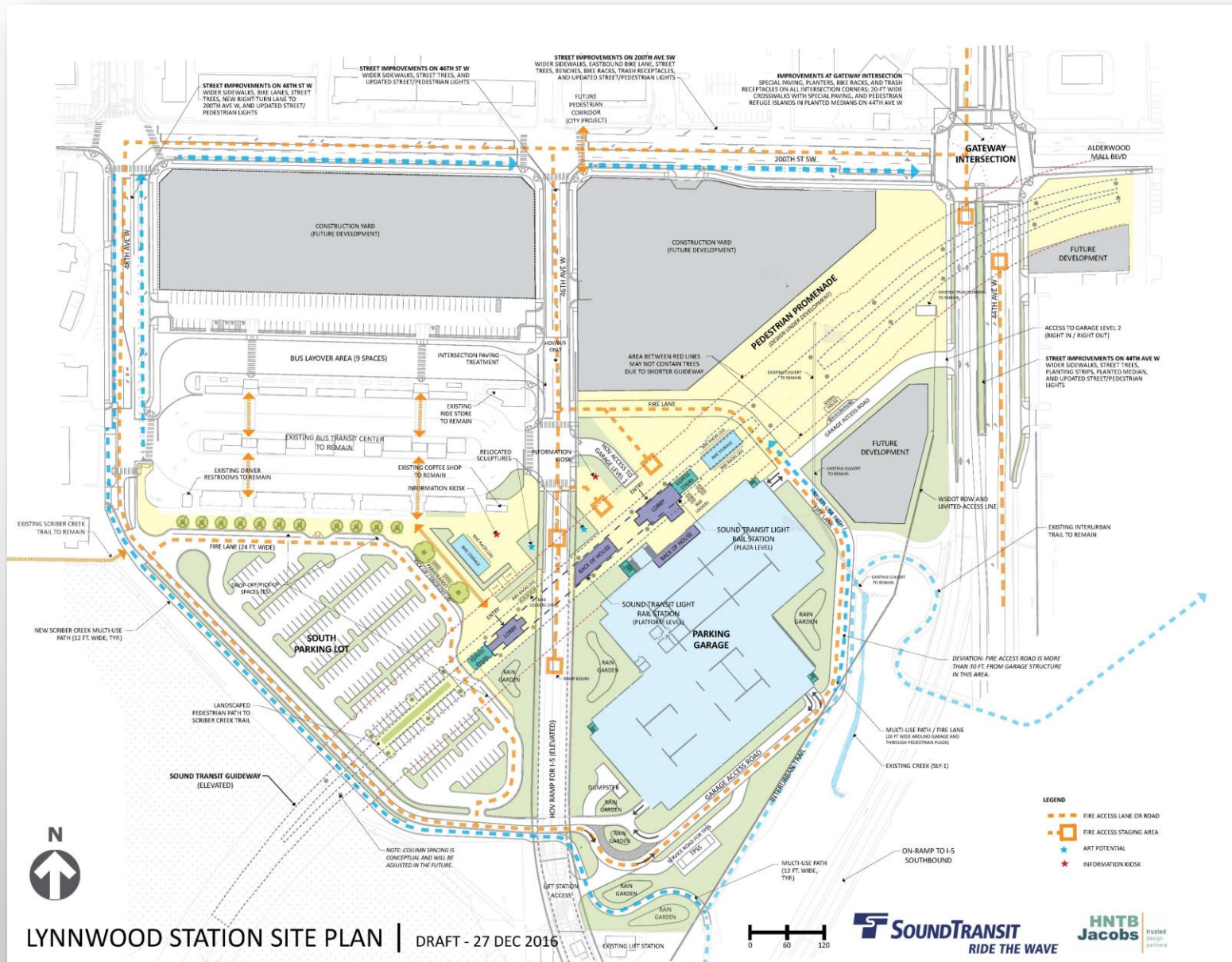
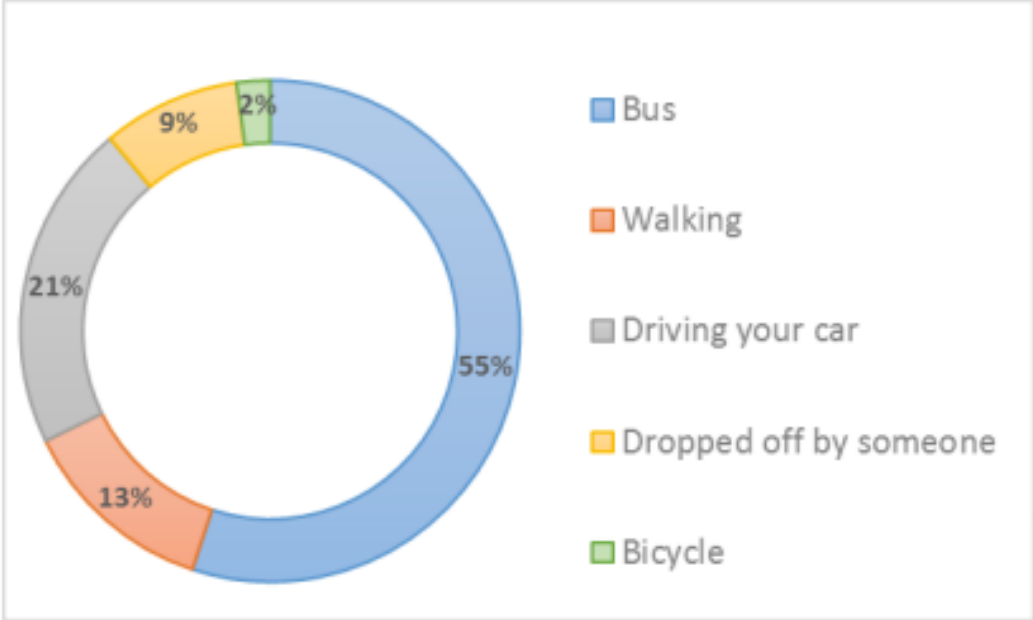


Figure 7. Mode of Access to the Lynnwood Transit Center



Survey also found Drop off by DART (Dial-A-Ride-Transit) or TAP (Transportation Assistance Program) = (<1%); Carpool = (0%).  
Source: Community Transit Survey, 2006.

Figure 6. Existing Transit Service, 2016



Source: Community Transit.



# Public Input

- Improved pedestrian environment at 44<sup>th</sup> Ave W and I-5 underpass
- Upgrades to the Scriber Creek and Interurban Trails
- More direct walkways, mid-block crossings
- Wider sidewalks along key roadways
- Improved bicycle facilities
- Better connections to the Transit Center



## Access Objectives

This section outlines the Lynnwood Transit Center access objectives by mode. These objectives were developed through coordination with the IAG and community stakeholders, and they assisted in defining the performance metrics to analyze proposed access improvement projects.

### Transit

The over-arching transit access objective is to increase ridership at the Lynnwood Transit Center. Supporting objectives related to feeder transit services to the Lynnwood Transit Center include:

1. Maintain or improve travel times, route directness, and increase transit (bus/shuttle) service frequency.
2. Minimize impacts of traffic congestion and drop-offs/pick-ups on transit.
3. Provide convenient and safe connections between local and regional transit.

### Pedestrian

In anticipation of the increased pedestrian demands at the Lynnwood Transit Center, the pedestrian objectives include:

1. Provide safe, efficient connections within a 15-minute walk shed of the Lynnwood Transit Center.
2. Provide safe crossing opportunities, particularly of arterials surrounding the site (200th St, 48th Ave W, 46th Ave W, and 44th Ave W).
3. Enhance safety and comfort for pedestrians to encourage non-auto access.

### Bicycle

Based on the anticipated increase of bicycle access associated with a shift to non-motorized access modes, the bicycle access objectives include:

1. Provide safe and efficient connections between the Lynnwood Transit Center and adjacent streets within a 3-mile catchment area.
2. Provide safe and well-lit bicycle crossings of arterial streets.
3. Connect local bicycle facilities to the regional bicycle system.

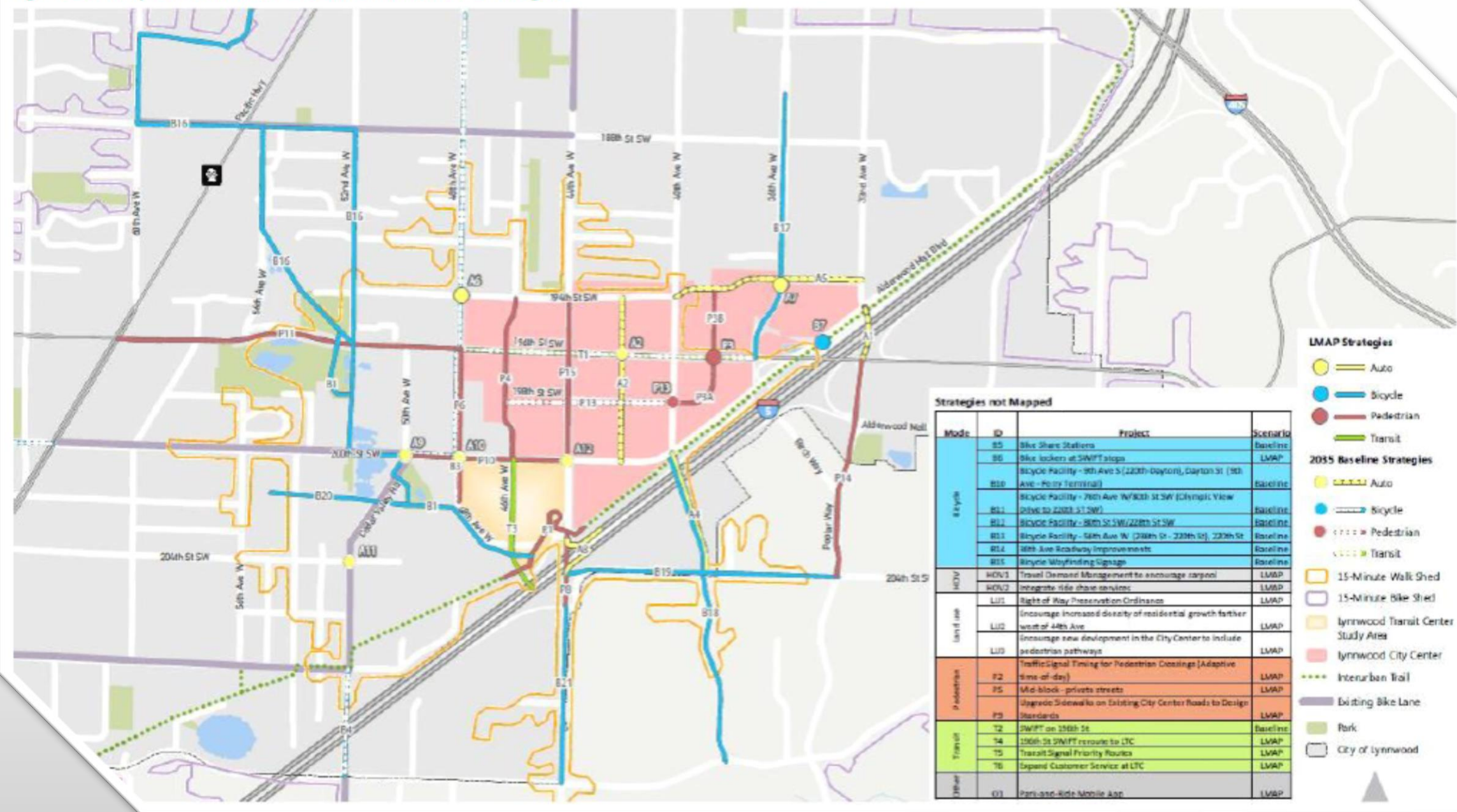
### Auto

Based on existing conditions and anticipated automobile access needs to the at the Lynnwood Transit Center, the objectives for auto access include:

1. Provide convenient access to the parking facility.
2. Provide safe separation from non-motorized users.
3. Manage parking to reduce peak vehicular demands.



Figure 14. Map of Combined Baseline and LMAP Strategies



# Baseline Performance Measures

## Station-Area Measures:

Capture factors that determine ridership and will help stakeholders understand how different alternatives support the goal of increasing ridership

## Regional Measures:

Assess how ridership changes affect travel along I-5 connecting Lynnwood to Seattle

**Table 4. Baseline Performance Measures**

Category	Measure Definition
Station Area Measures	
<b>Ridership</b>	Average weekday Link boardings at Lynnwood Transit Center
<b>Land use</b>	Number of jobs and housing units located within a half-mile (network distance) of the station
<b>Bicycle access</b>	Average level of traffic stress on key bicycle routes within 3 miles (a 15-minute ride) of the station
<b>Pedestrian access</b>	Average intersection density within a 15-minute walk of the station
<b>Pedestrian access</b>	Percent of blocks within a 15-minute walk of the station that have adequate pedestrian facilities <sup>2</sup>
<b>Transit access</b>	Number of people, jobs, and college students located within a 15-minute bus ride from the station
<b>Auto access</b>	Number of intersections within a mile of the station exceeding city LOS standard during PM peak period
<b>Auto access</b>	Number of transit riders arriving by vehicle per station area parking stall
Regional Measures	
<b>Mode Split</b>	Vehicle trips and miles reduced due to transit
<b>GHG and pollution</b>	Greenhouse gas and pollutant emissions reduced due to strategies

<sup>2</sup> "Adequate" refers to streets with 12' sidewalks on both sides of streets that match Streetscape Design Standards (where applicable).

# Contextual Measures

Address community needs but are either not quantifiable or are not directly related to ridership.

Were qualitatively evaluated to help understand tradeoffs that may exist between future scenarios.

**Table 5. Contextual Measures**

Performance Measure Category	Contextual Need or Issue
<b>Safety</b>	<ul style="list-style-type: none"><li>• High-conflict locations for bikes/pedestrians/transit near station</li><li>• Safety along Scriber Creek and Interurban trails</li></ul>
<b>Environmental Justice</b>	<ul style="list-style-type: none"><li>• Existing affordable housing development near station</li><li>• Viability of existing businesses serving local population</li></ul>
<b>Social / Community</b>	<ul style="list-style-type: none"><li>• Downtown encourages urban living (mix of uses, compact development)</li></ul>
<b>Urban Design</b>	<ul style="list-style-type: none"><li>• Surrounding streets are uncomfortable and uninteresting for walking</li></ul>
<b>Economic development</b>	<ul style="list-style-type: none"><li>• Support for market-rate development</li></ul>
<b>Environmental</b>	<ul style="list-style-type: none"><li>• Impacts to wetlands</li><li>• Flood risk due to limited stormwater manag (Scriber Creek focus)<sup>5</sup></li></ul>
<b>Implementation</b>	<ul style="list-style-type: none"><li>• Ability to leverage WSDOT and other resources</li></ul>
<b>Public Health</b>	<ul style="list-style-type: none"><li>• Opportunities for active transportation to encourage personal fitness</li></ul>



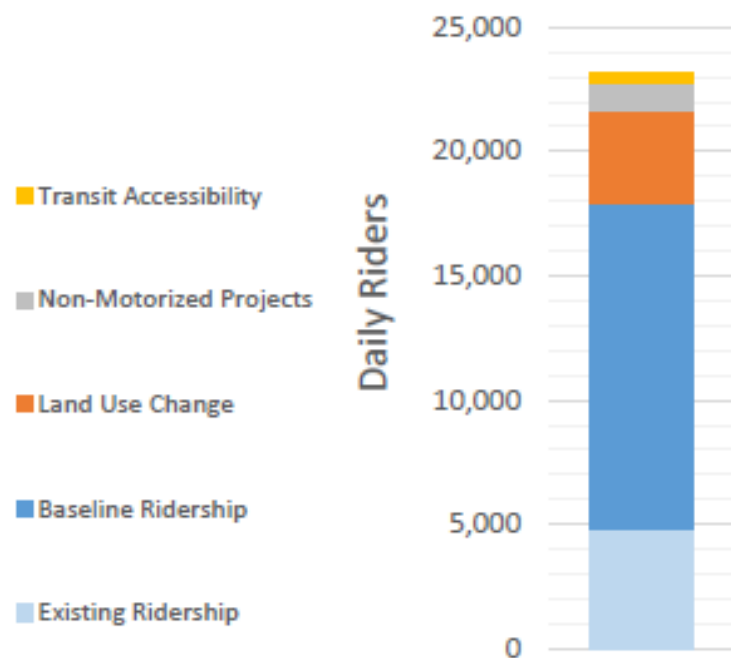


## Ridership

Existing: 4,800

2035 Baseline: 17,900

2035 LMAP: 22,600 - 23,700

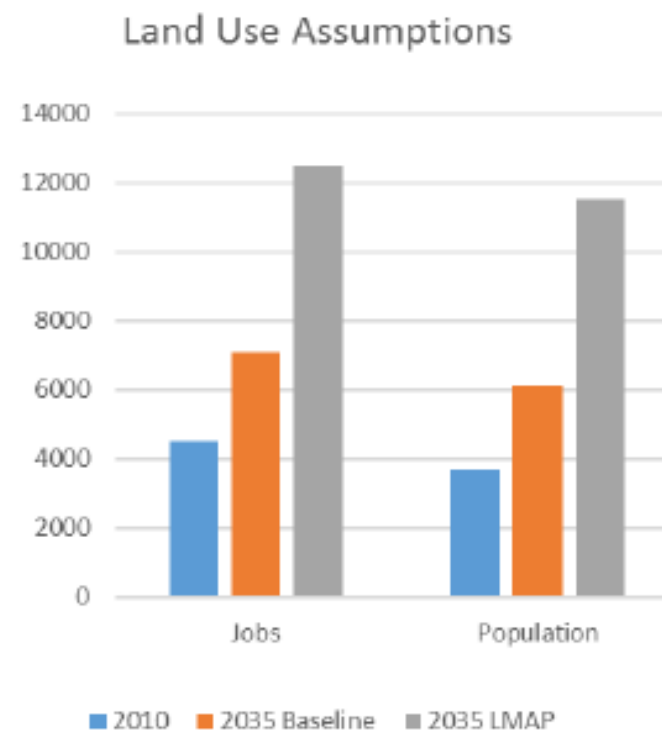


## Land Use

Existing: 4,500 & 3,700

2035 Baseline: 7,100 & 6,100

2035 LMAP: 12,500 & 11,500



# Walkshed

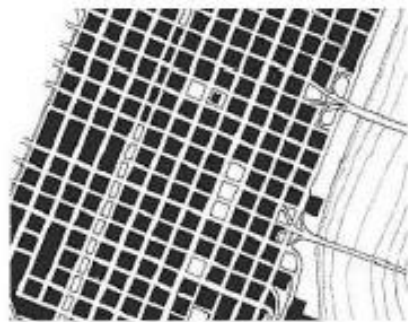
Existing: 90 & 107

2035 Baseline: 96 & 121

2035 LMAP: 100 & 132



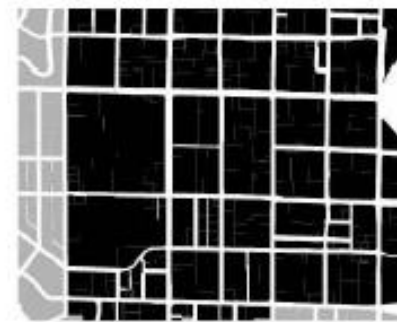
15-minute walk shed and City Center intersection density, respectively.



**Portland, OR**  
Ave. Block Length = 220' x 220'



**Seattle, WA**  
Ave. Block Length = 230' x 350'  
(with alleys)



**Bellevue, WA**  
Ave. Block Length = 600' x 600'



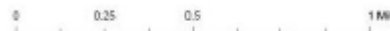
**Lynnwood, WA - Existing (2016)**  
Ave. Block Length = 1,200' x 1,200'



**Lynnwood, WA - EIS 2035**



**Lynnwood, WA - EIS 2035 & LMAP**  
Est. Block Length = 600' x 600'



Existing: 0% and 15%

2035 Baseline: 40% & 17%

2035 LMAP: 100% & 40%



15-minute walk shed with adequate pedestrian facilities per Streetscape Type 2 and Prominent Intersections, City Center and non-City Center arterials, respectively.



On scale of 1 (low) to 4 (high) stress ride.

\*does not include fully separated Interurban Trail.

Existing: 1.9 & 2.6\*

2035 Baseline: 1.8 & 2.2\*

2035 LMAP: 1.6 & 1.9\*





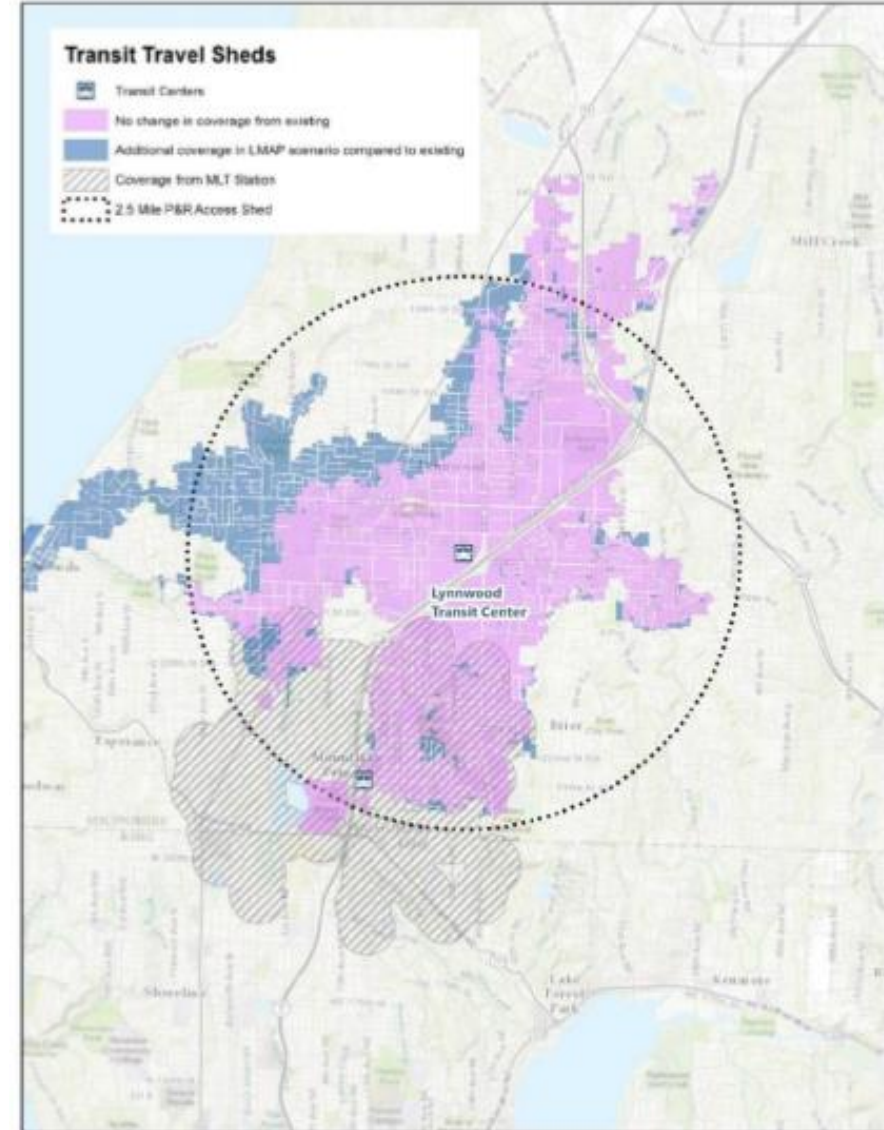
# Auto

Mode split measures resulting in weekday vehicle trips reduced and weekday VMT reduce, respectively.

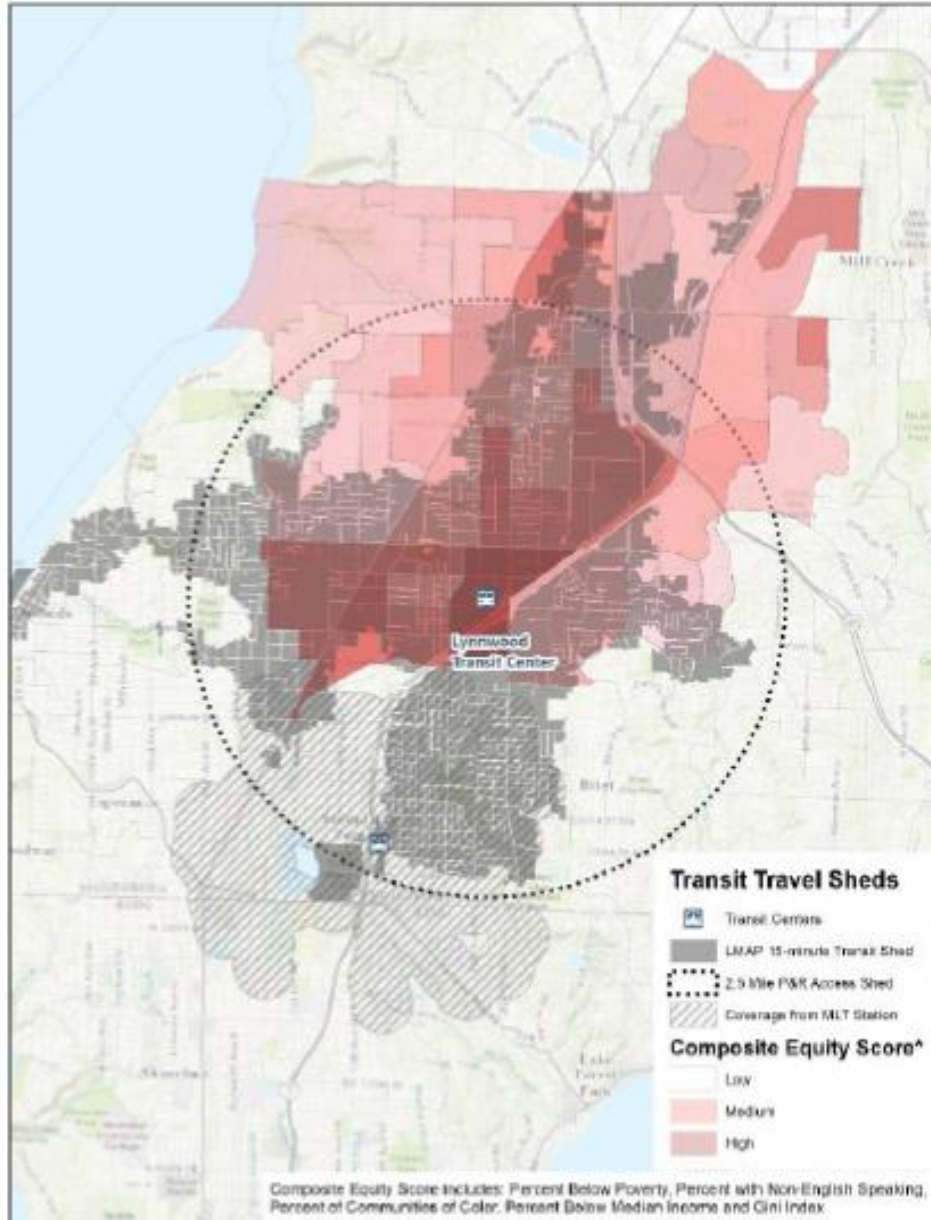
Existing: 2,110 & 18,290

2035 Baseline: 7,875 & 68,205

2035 LMAP: 9.9k-10.4k & 86.1k-90.4k



# Equity



2035 LMAP transit shed overlaid with heat equity maps indicating low, medium or high:

- Below poverty
- Non-English speaking
- Communities of color
- Below median income
- Gini index



# Contextual Measures



## Evaluation Results

Graphs represent specific measures from each category.

### Safety



### Environmental Justice



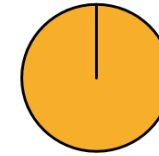
### Social/Community



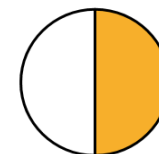
### Urban Design



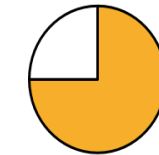
### Economic Development



### Environmental



### Implementation



### Public Health



# Implementation Packaging

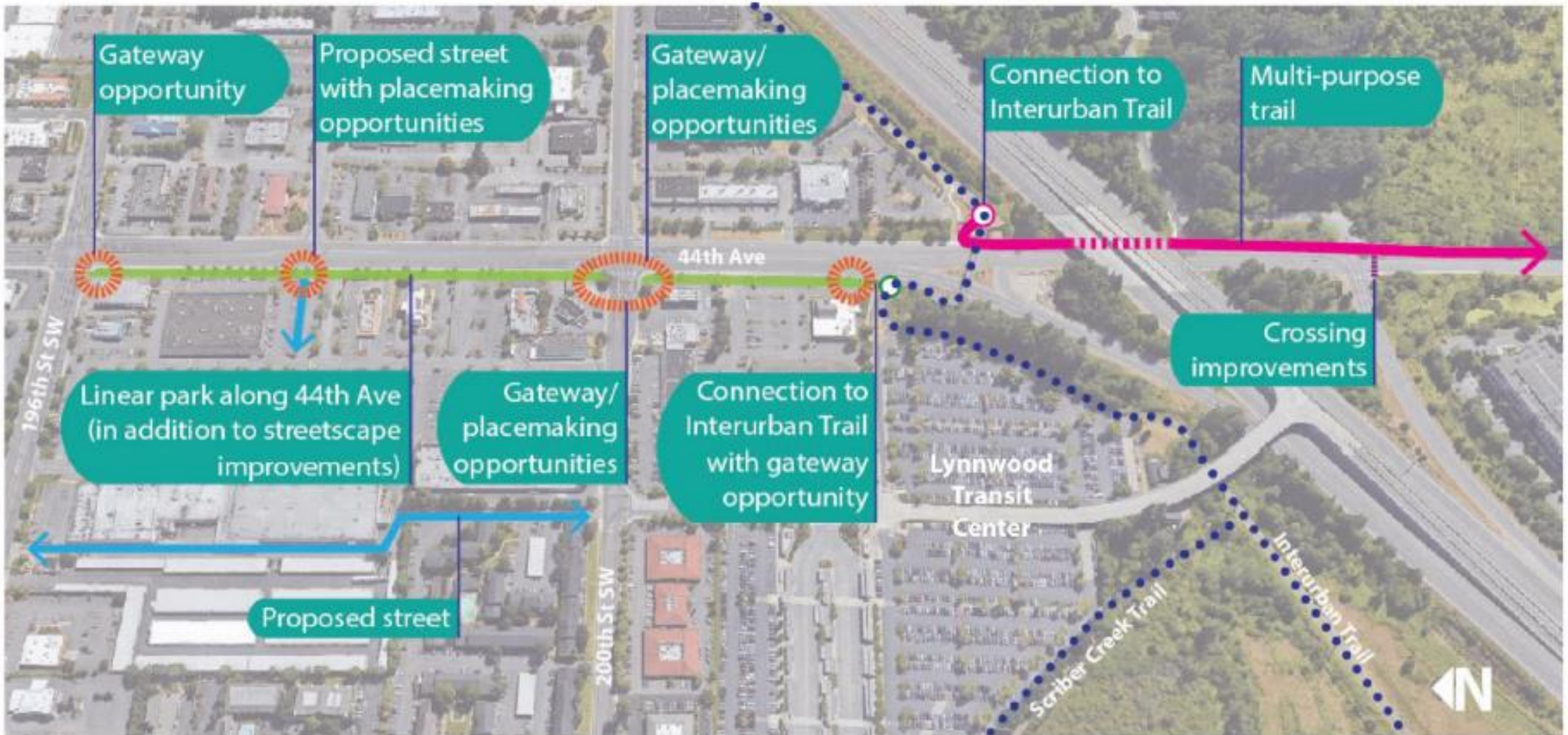
Package	Rationale	Project #	Project Description	Rating
Direct Non-motorized Access Improvements	Close proximity to station area; early win opportunity	P1	Interurban Trail Improvements near Station	✓✓✓
		B1	Scriber Creek Trail Improvement (Transit Center to Wilcox Park)	✓✓✓
		P8	44th Ave/I-5 Underpass	✓✓
		P10	200th St Widen Sidewalks (50th Ave W - 44th Ave W)	✓✓✓
Southeast Bicycle and Auto Access Improvements	Provides bike network and new connections	A1	Poplar Way Extension Bridge (Poplar Way – 33rd Ave W)	✓✓✓
		A4	40th Ave W Crossing of I-5	✓✓
		B19	204th St Facility (44th Ave - Poplar Way)	✓
		B18	Larch Way / 204th St SW	✓
Northwest Bike Access Package	Completes key bike network connections	B6	Bike lockers at SWIFT stops	✓✓✓
		B16	Center to Sound Trail (Wilcox Park to SR 99)	✓✓✓
		B20	At-grade crossing on Cedar Valley Rd/201st Pl & 201st Pl Greenway	✓
		B17	36th Ave W (196th St SW – 184th Pl SW)	✓
Transit Package	Completes transit connections to station area with good traveler information	T1	196th St Widening (I-5 – 48th Ave)	✓✓
		T2	SWIFT on 196th St	✓✓
		T4	196th St SWIFT reroute to LTC	✓✓
		T5	Transit Signal Priority Routes	✓✓
		T6	Expand Customer Service at LTC	✓
Land Use/Policy Package	Logical grouping of land use policies supporting City Center	LU3	Encourage new development in the City Center to include pedestrian pathways	✓✓✓
		LU1	Right of Way Preservation Ordinance	✓✓
		LU2	Encourage increased density of residential growth farther west of 44th Ave	✓✓



# Implementation Rating

Category	Criteria	Higher ✓✓✓	Medium✓✓	Lower✓
<b>Economic Development (Weight=1)</b>	Supports City Center Land Use Vision	Within City Center or transit station	Adjacent to City Center or transit station	Outside
<b>Accessibility (Weight=3)</b>	Improves access to LTC and improves ridership	Measurable change	Some change	Minimal change
	Serves multiple modes	3+ modes	2 modes	1 mode
	Connectedness	Completes missing links	Improves an existing facility	No change
<b>Ease of Implementation (Weight=2)</b>	Cost	Lower Cost (<\$5 million)	Low – High Cost (\$5-10 million)	Higher Cost (>\$10 million)
	Project Readiness	Ready to go. Identified time line and/or has funding committed	Some or all design complete	Minimal or some initial planning completed
	Level of Complexity	Simple design	Design needed but straight forward project	Complex design, may need multiple entities involved

# Visualizing Strategies on 44<sup>th</sup> Avenue West



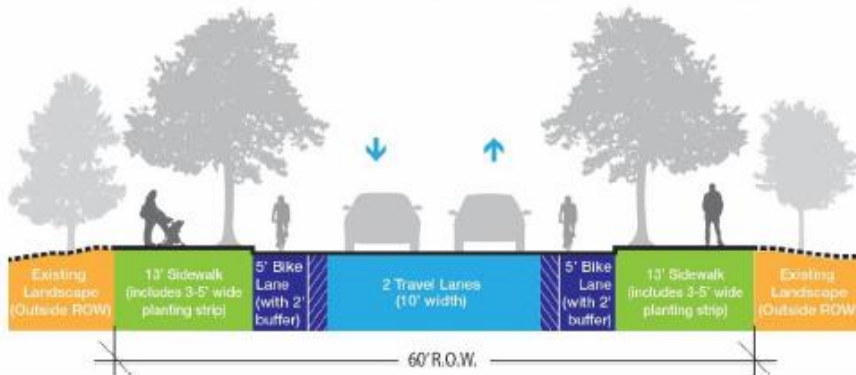
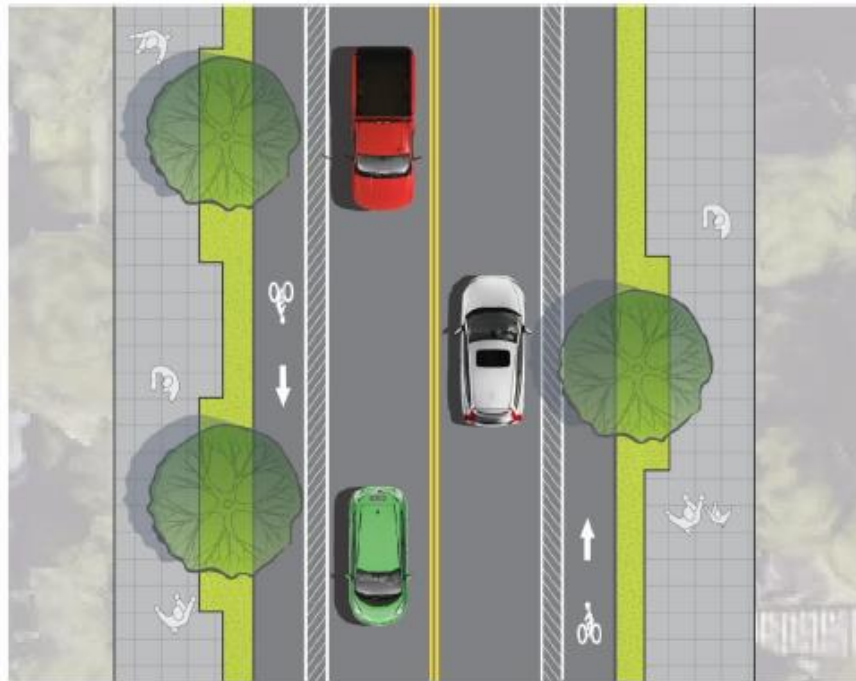


# Visualizing Strategies at the 44<sup>th</sup> Avenue West and I-5 Underpass





# Visualizing Strategies on 48<sup>th</sup> Avenue West





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City Center Program Manager  
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[dakers@lynnwoodwa.gov](mailto:dakers@lynnwoodwa.gov)





# Connections in Place:

## Mobility Hubs in Seattle



+



+



+



+



+



+



Improving the Pedestrian Realm in Station Areas  
Kyle Rowe  
October 11, 2017



**Seattle**  
Department of  
Transportation



# Today's agenda

- New Mobility Playbook
- Mobility Hub Program
- Case study: Westlake Mobility Hub

# What is new mobility?

- Emerging technologies
- Smartphone- or app-enabled
- Shared mobility services
- On-demand and door-to-door service
- Need-based/pay-as-you-go
- Access to information
- Built on data infrastructure
- Electric vehicles



# SDOT's role within new mobility

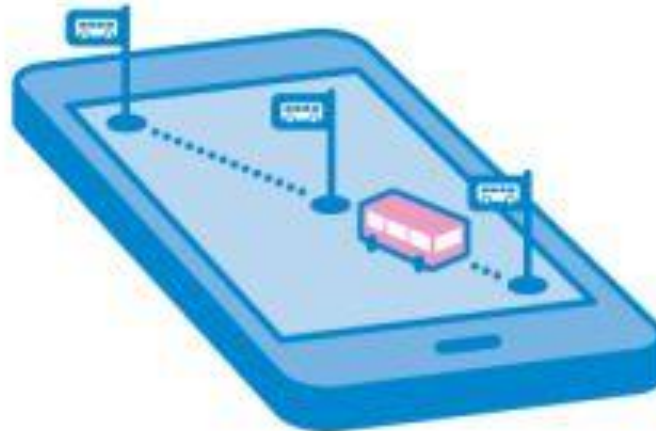
As industry and consumer preferences shift...

- Industry growth and disruptions
- More sharing and choice
- Rapid socialization
- Low barrier to entry



SDOT responds and anticipates...

- Anticipatory governance
- Nimble and effective regulations
- Innovation-friendly environment
- Risk management





Seattle Department of Transportation

# NEW MOBILITY PLAYBOOK



**Version 1.0**

June 2017

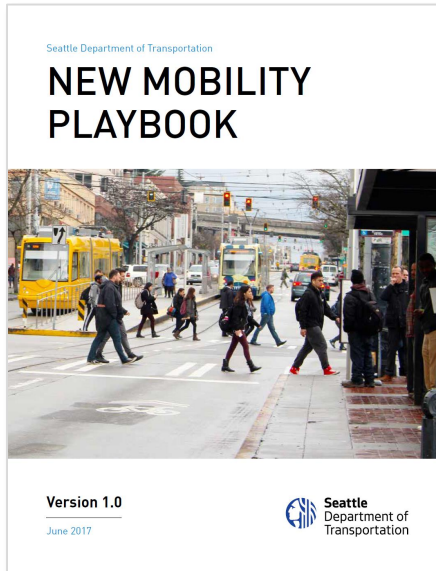


IF WE LEAVE IT TO CHANCE...



IF WE SHAPE IT...

# Respond and anticipate to new mobility



## Our five plays are to:

### PLAY 1:

Ensure new mobility delivers a fair and just transportation system for all

### PLAY 2:

Enable safer, more active, and people-first uses of the public right of way

### PLAY 3:

Reorganize and retool SDOT to manage innovation and data

### PLAY 4:

Build new information and data infrastructure so new services can "plug-and-play"

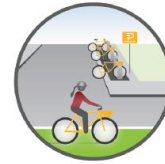
### PLAY 5:

Anticipate, adapt to, and leverage innovative and disruptive transportation technologies

# Mobility Hubs



**A** Direct connections between services



**B** Bike share stations



**C** Wayfinding and trip planning



**D** Safe/accessible walk and bike routes



**E** Full feature bike stations with parking



**F** Dedicated car share parking



**G** Shuttle/microtransit loading zones



**H** For-hire curbside loading zones



**I** Dedicated EV charging stations



**J** Short-term bike parking



Hamburg Hochbahn



# Mobility Hubs

1. Access to...
2. Connections between...
3. Better information about...
4. Creating great places amongst...

ASSISTANCE FROM  
TECHNOLOGY

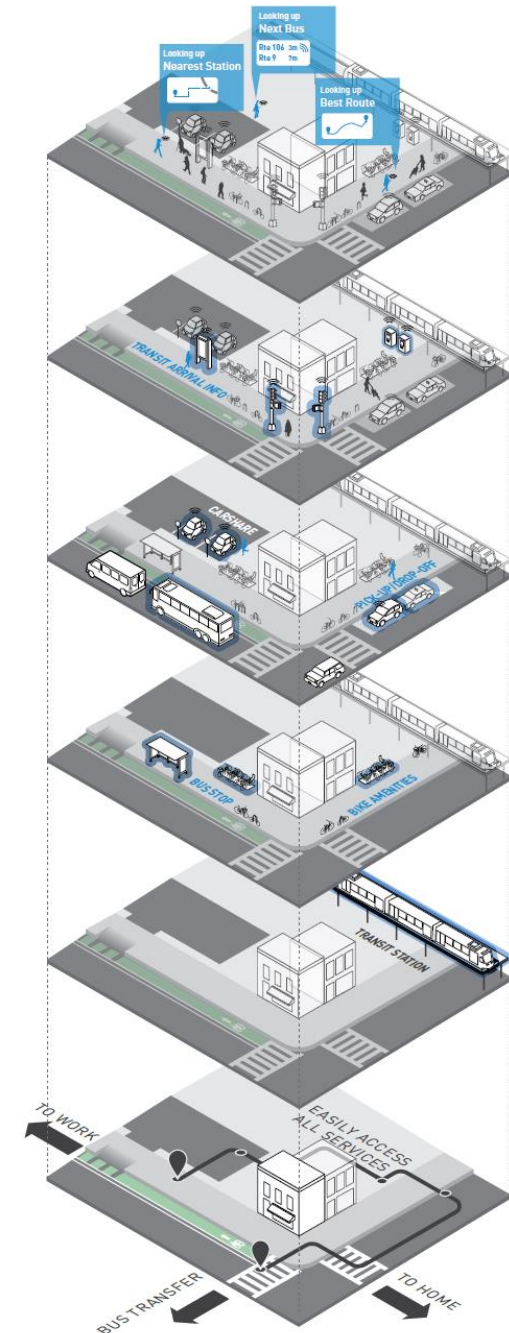
REAL-TIME  
NAVIGATION

MOBILITY  
SERVICES

INFRASTRUCTURE  
SUPPORTING  
MOBILITY

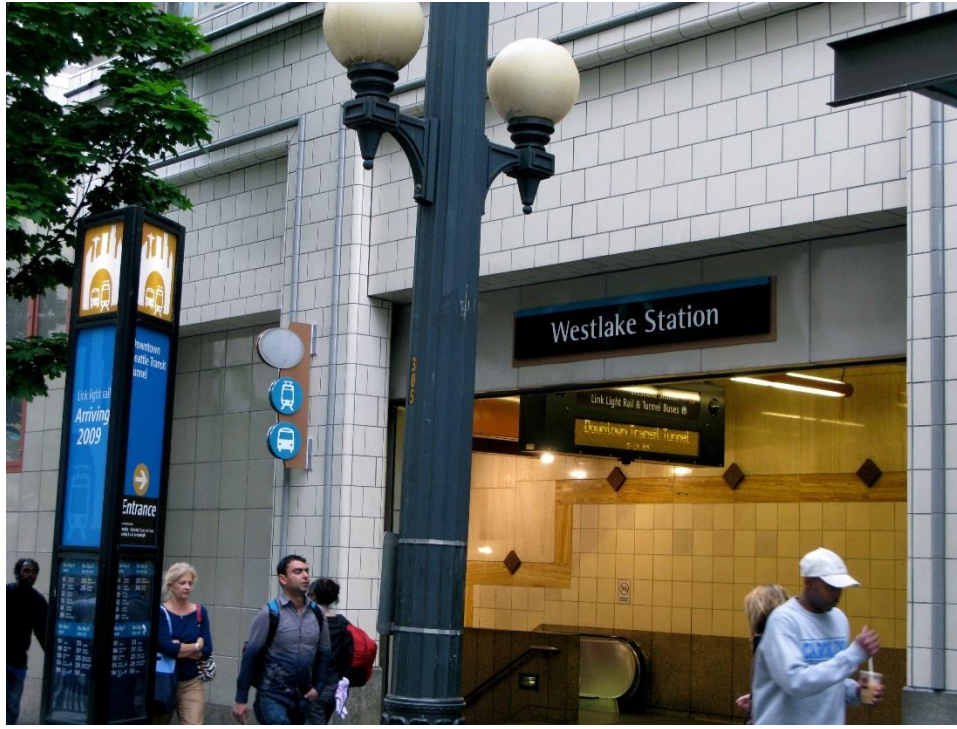
TRANSIT  
STATION

CONNECTIONS



## Westlake Shared Mobility Hub Demonstration

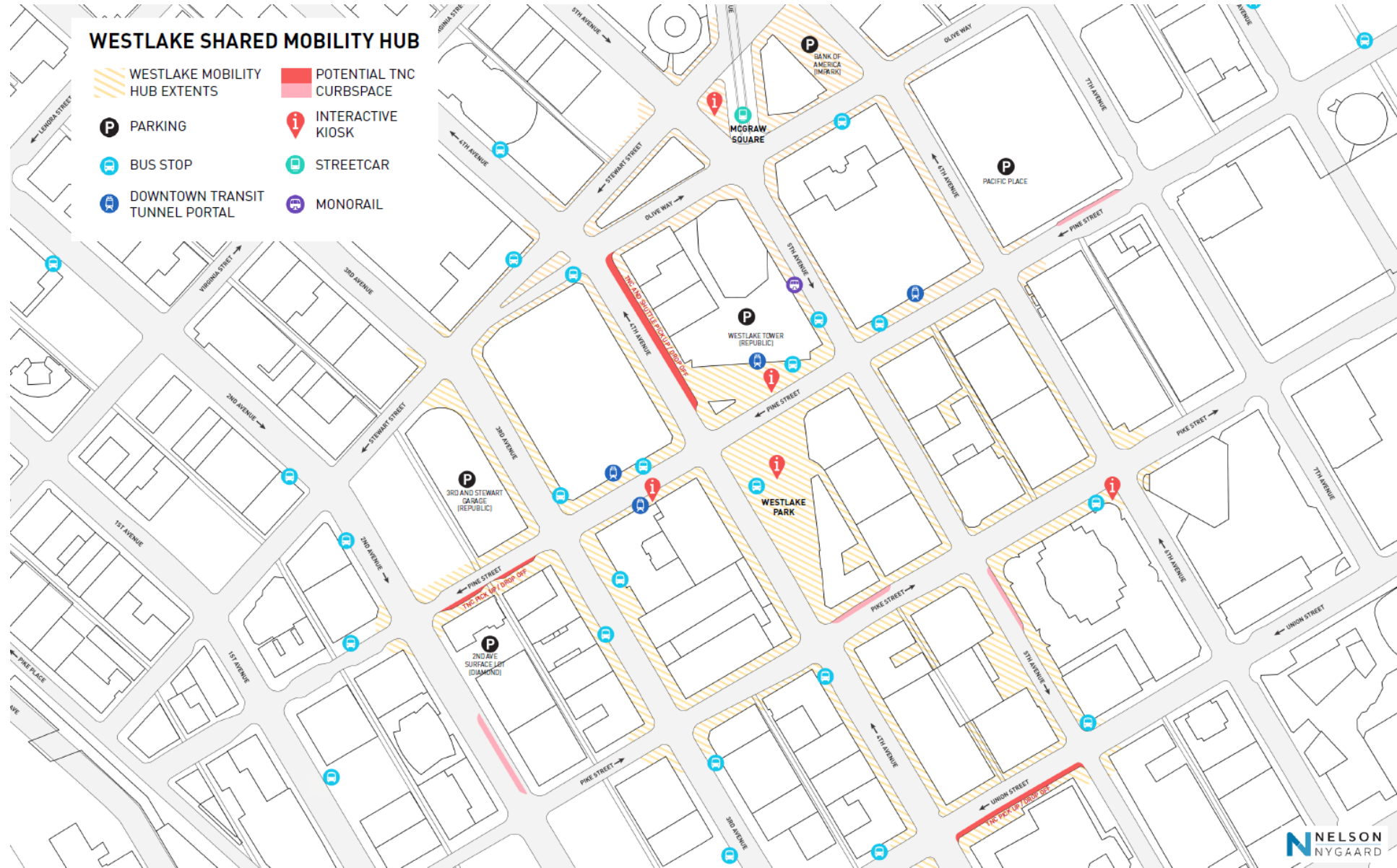
# Westlake Hub today





# Westlake Shared Mobility Hub Demonstration

## Westlake Hub today





# Accommodate new demands





# Adjust bad behavior





# Provide better information





Westlake Shared Mobility Hub Demonstration

# Harvest a great place





# Thank you

Kyle Rowe

kyle.rowe@seattle.gov | (206) 482-1358



**Questions?**