Seattle Department of Transportation

2018 TRB Asset Management Conference

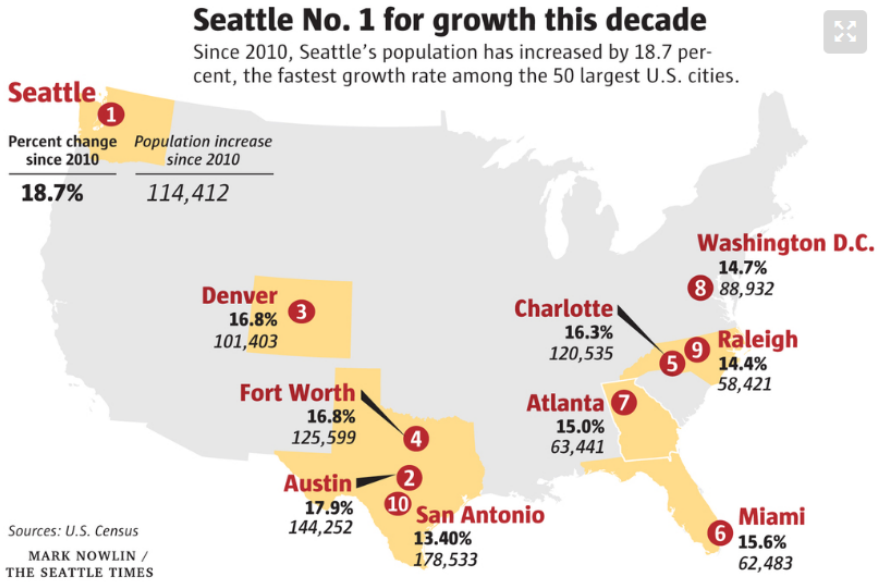
July 15th, 2018

Asset Management 101 Workshop

Terry Martin, P.E., Asset & Performance Management Program Manager

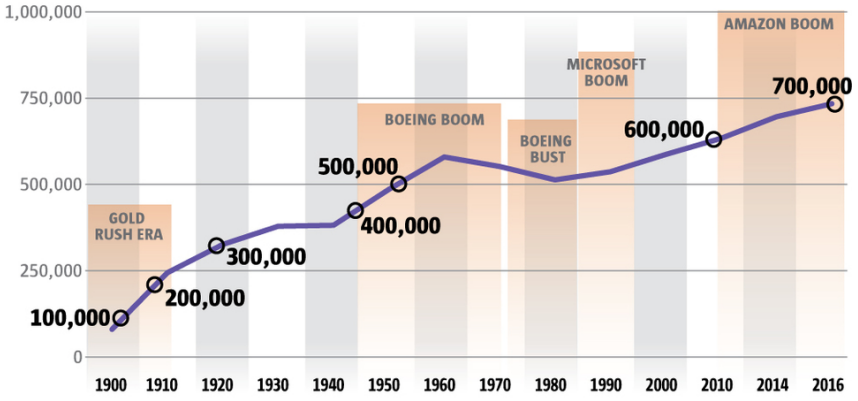
City of Seattle

Seattle - America's Fastest Growing City This Decade



Seattle population milestones

Last year, Seattle passed the 700,000 mark for the first time. New census data estimate the city's 2016 population at 704,352.



Source: U.S. Census Bureau

THE SEATTLE TIMES

SDOT

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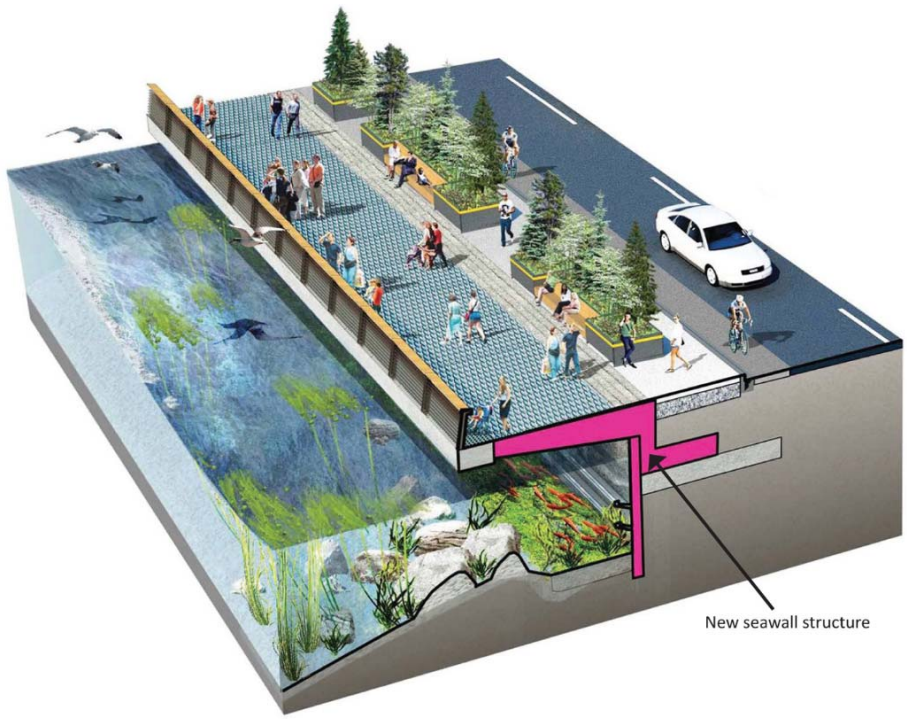
An Overview of SDOT

- Tier 1 Transit Agency (Streetcar)
- ~ 950 Employees
- $560M+ Annual Budget
- Recently Approved “Levy to Move Seattle” was Largest in City’s History
- New $500M+ Waterfront
- Total Asset Valuation = $20.0B
- Almost 500,000 assets in database



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An Overview of SDOT's Assets

- 1,547 lane miles of arterial streets
- 2,407 miles of non-arterial streets
- 2,323 miles of sidewalk
- 29,073 curb ramps
- 117 bridges
- 581 retaining walls (including sea walls)
- 1,071 traffic signal assemblies
- 181,000 sign assemblies

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Asset & Performance Management at SDOT

Background and History

- Program began in 2006 with bare bones Asset Management database
- Initially focused on the basics…building an asset inventory
- Largely dormant in 2012-13 due to recession and retirement of existing program manager
- New program manager hired in October 2013

Current Drivers

- FTA and FHWA MAP-21 requirements
- Recent passage of $1B levy requires improved asset on-boarding
- Curb ramp consent decree
- Mayoral and Department performance initiatives
- Organizational “stat” program
- Building on early wins while we have momentum

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Notable SDOT Asset & Performance Management Products/Programs:

Asset Management

- Asset Status & Condition Report (Updated Every 3 Years)
- Asset Management Plans
- Curb Ramp Mapping (Constructed and Future Planned)
- Long-Term Asset Replacement Cost Forecasting
- Investment Gap Analysis
- Benefit/Cost Modeling
- Risk Modeling

Performance Management

- Performance Dashboards
- Biennial "Moving the Needle" Performance Reporting
- Biennial Customer Satisfaction Surveys
- Data Science Efforts

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Asset Status and Condition Report

SDOT ASSET MANAGEMENT
Status and Condition Report

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2015

- SDOT Asset Management Framework
- Asset inventory
- Asset replacement value
- Asset hierarchy
- Asset condition & data quality
- Long-term asset-based operational cost needs
- Performance measures

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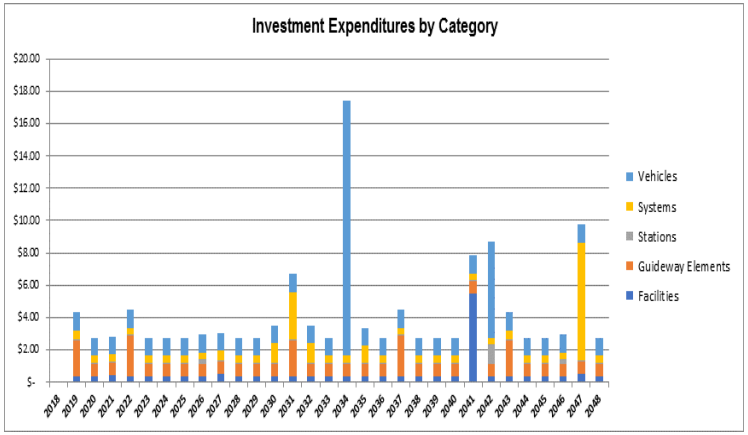
Transit Asset Management Plan

SDOT TRANSIT ASSET MANAGEMENT PLAN



2018

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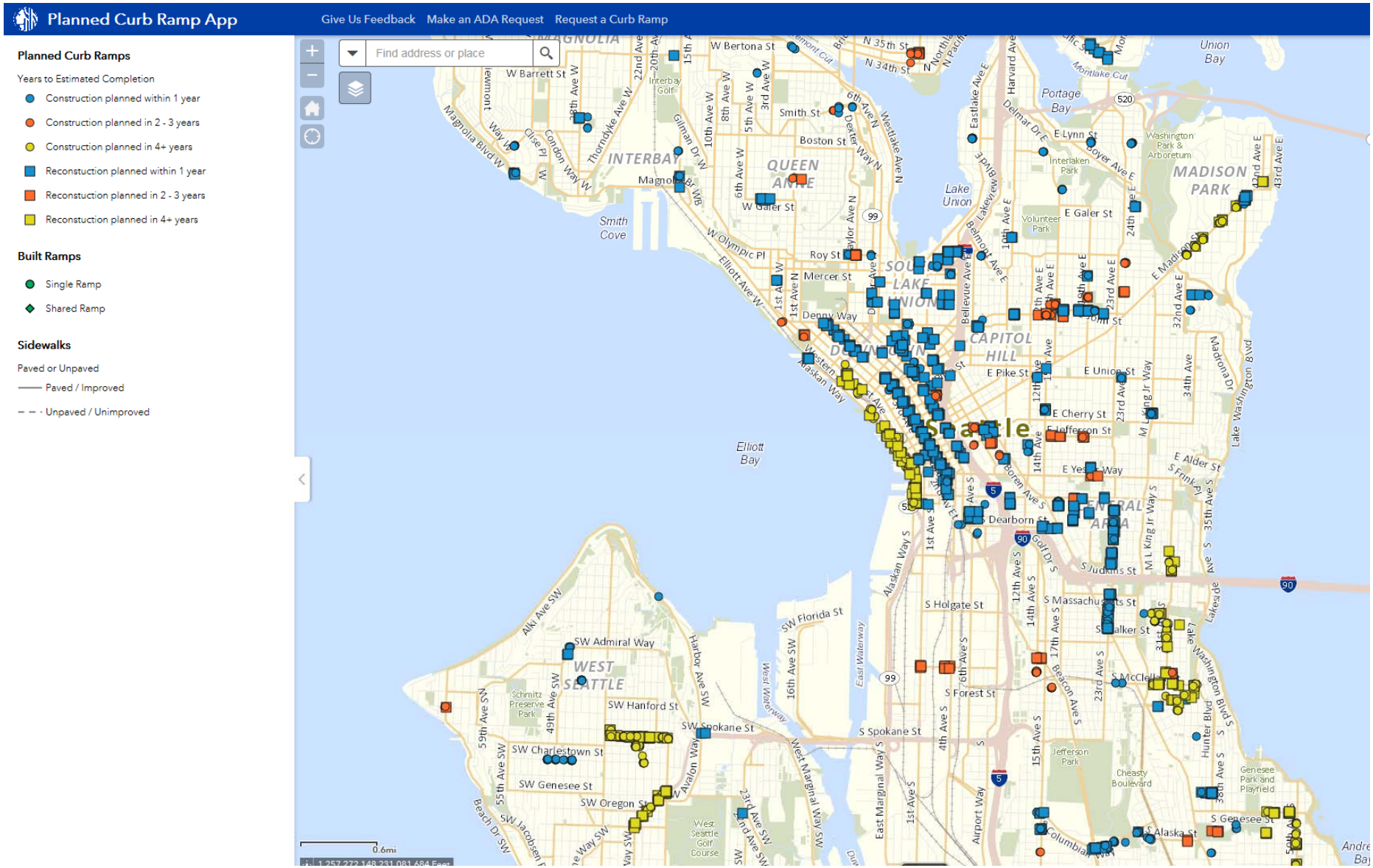
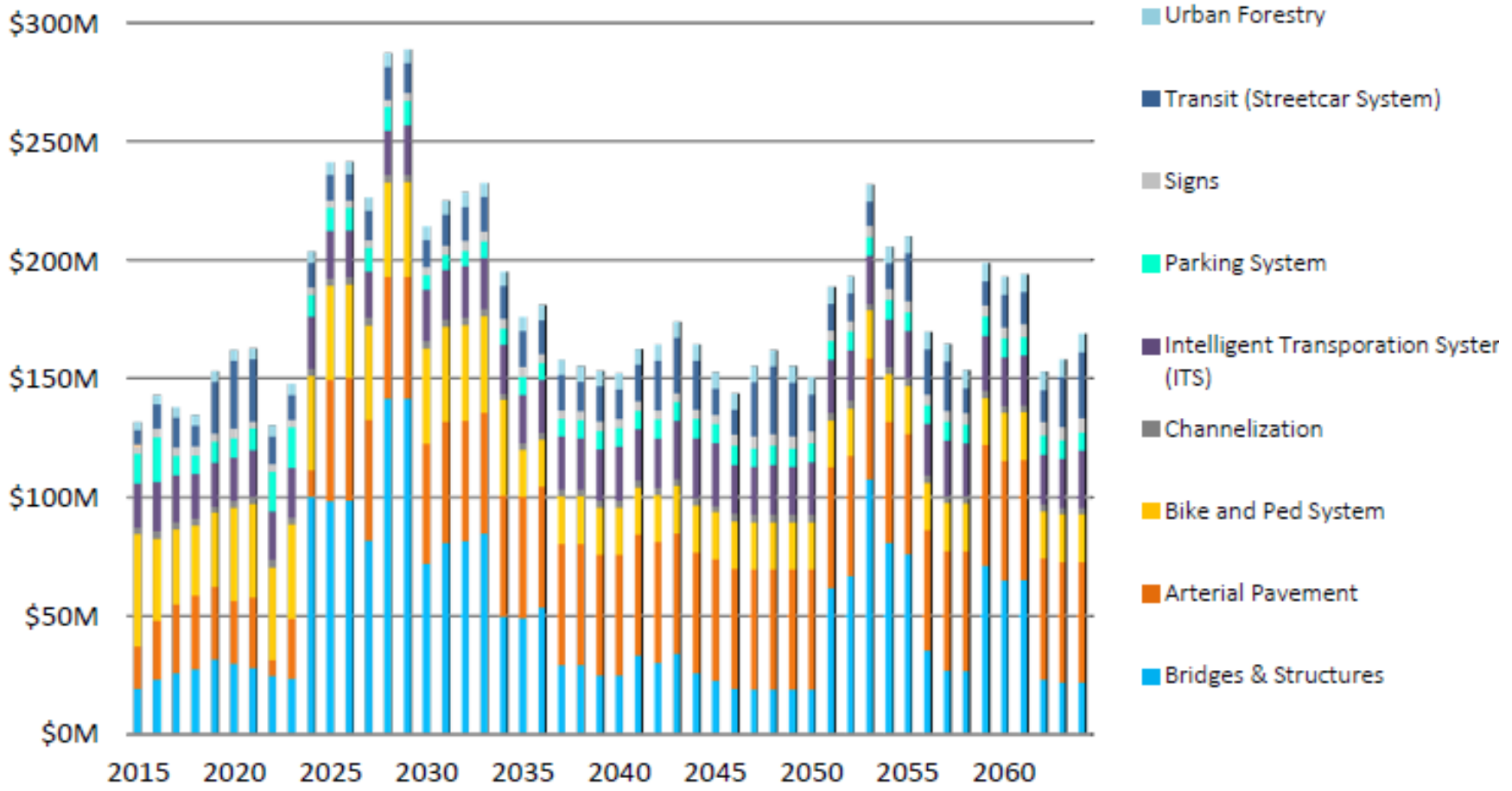
Curb Ramp Mapping



Long-Term Asset Replacement Cost Forecasting



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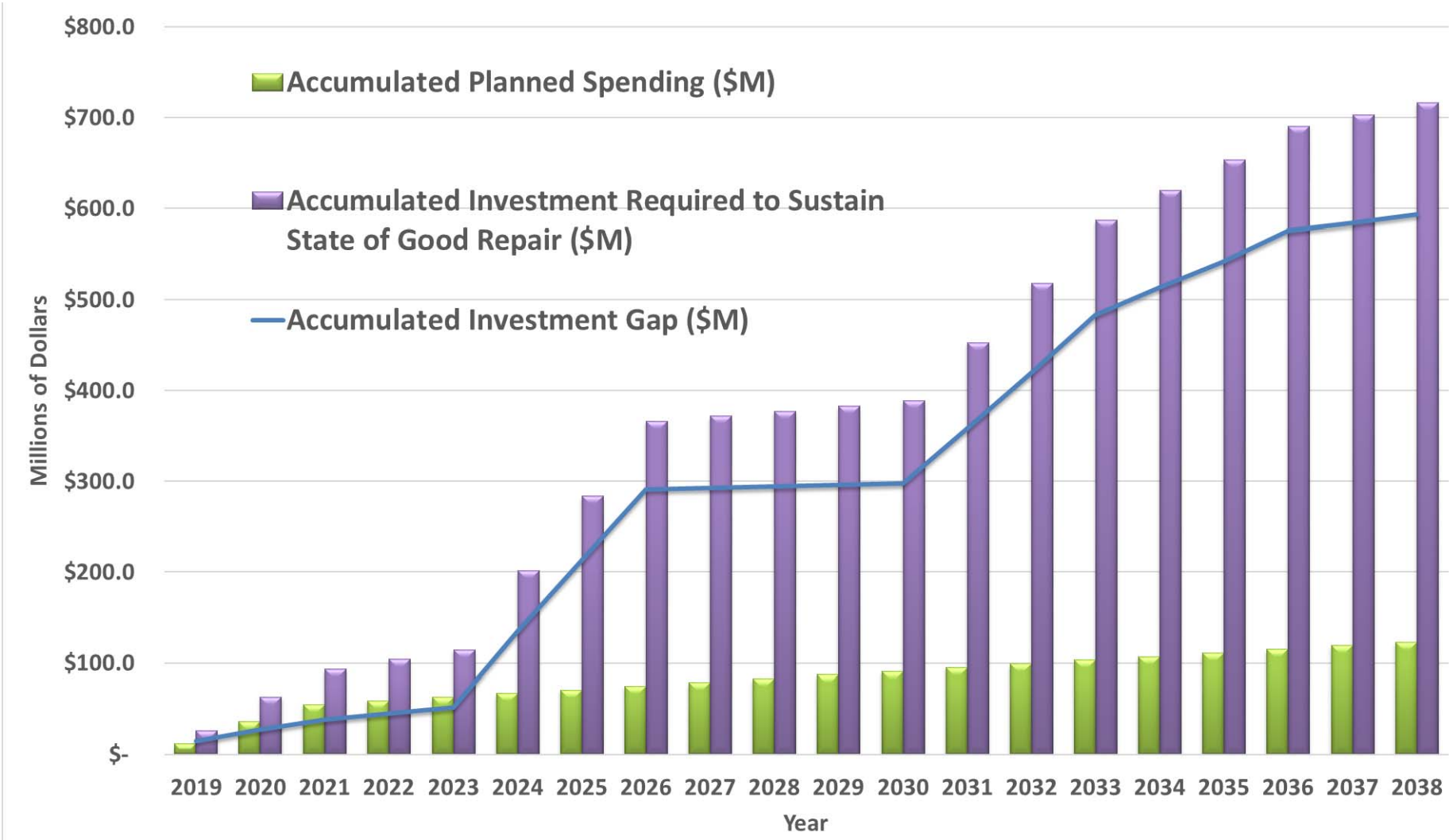
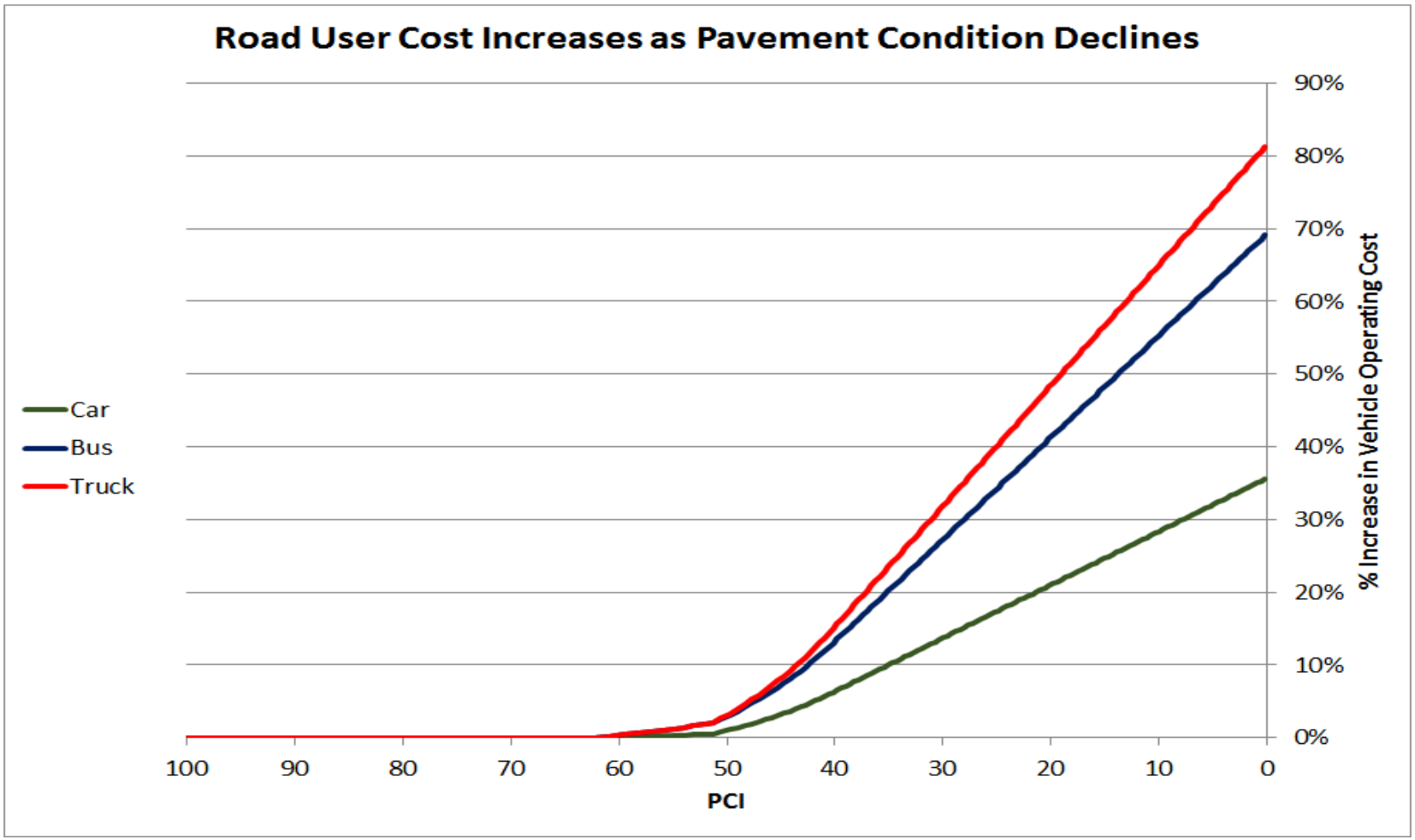
20-Year Investment Gap Analysis for Bridges



Arterial Pavement Benefit/Cost Model (optimizes pavement investment for a given budget)



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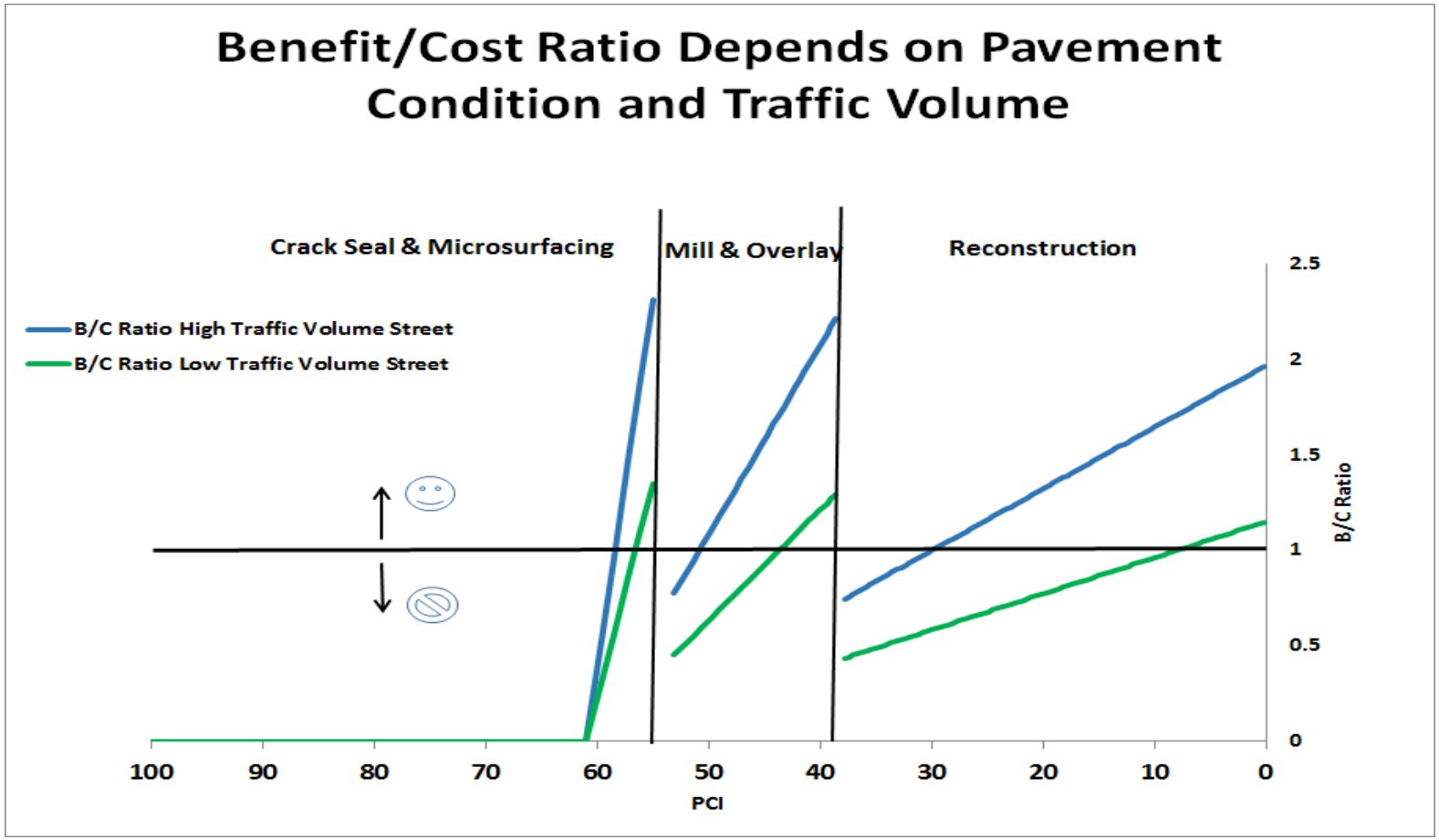
Arterial Pavement Benefit/Cost Model (Continued)



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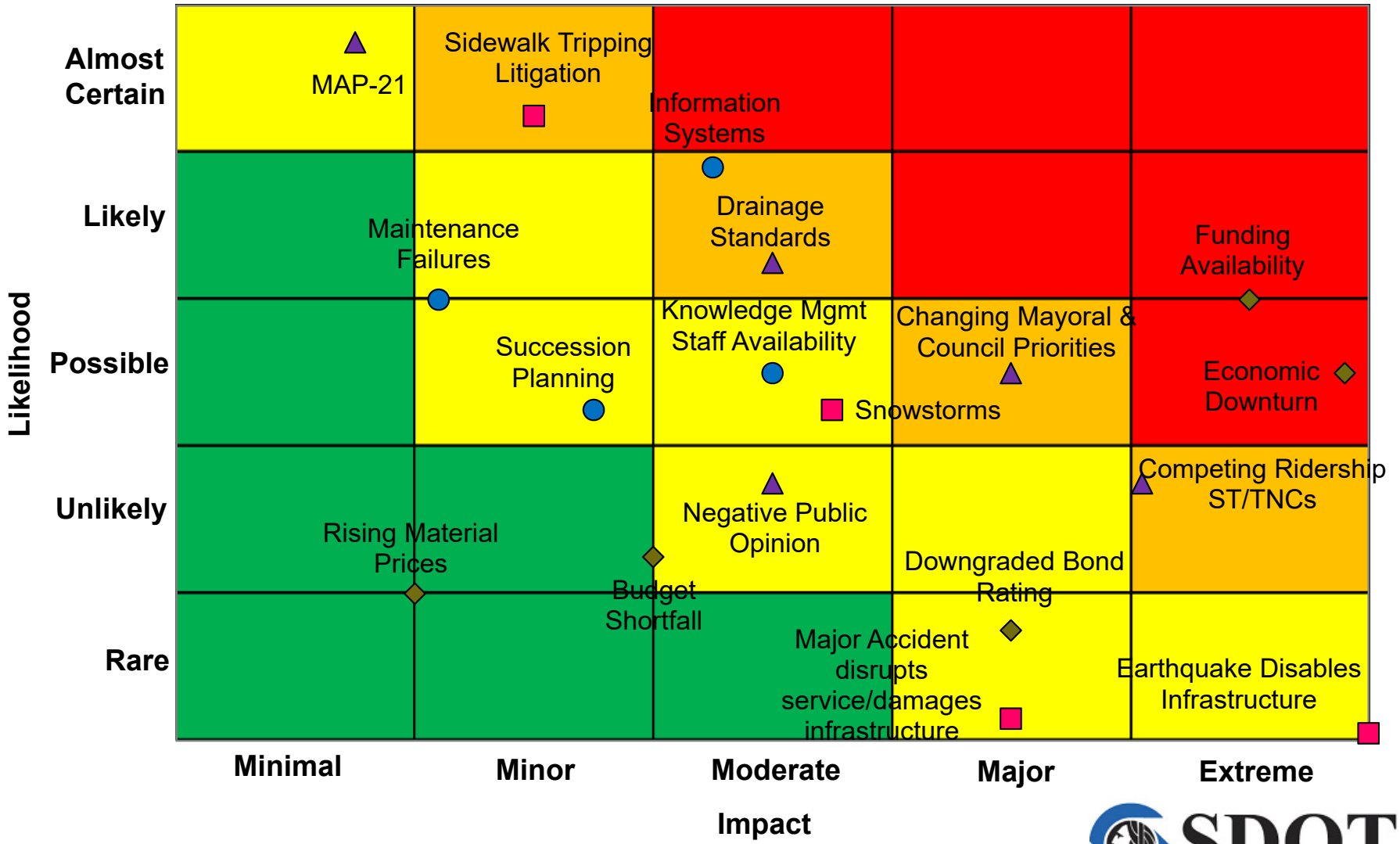
Risk Modeling

Seattle Department of Transportation Example Enterprise Risk Profile



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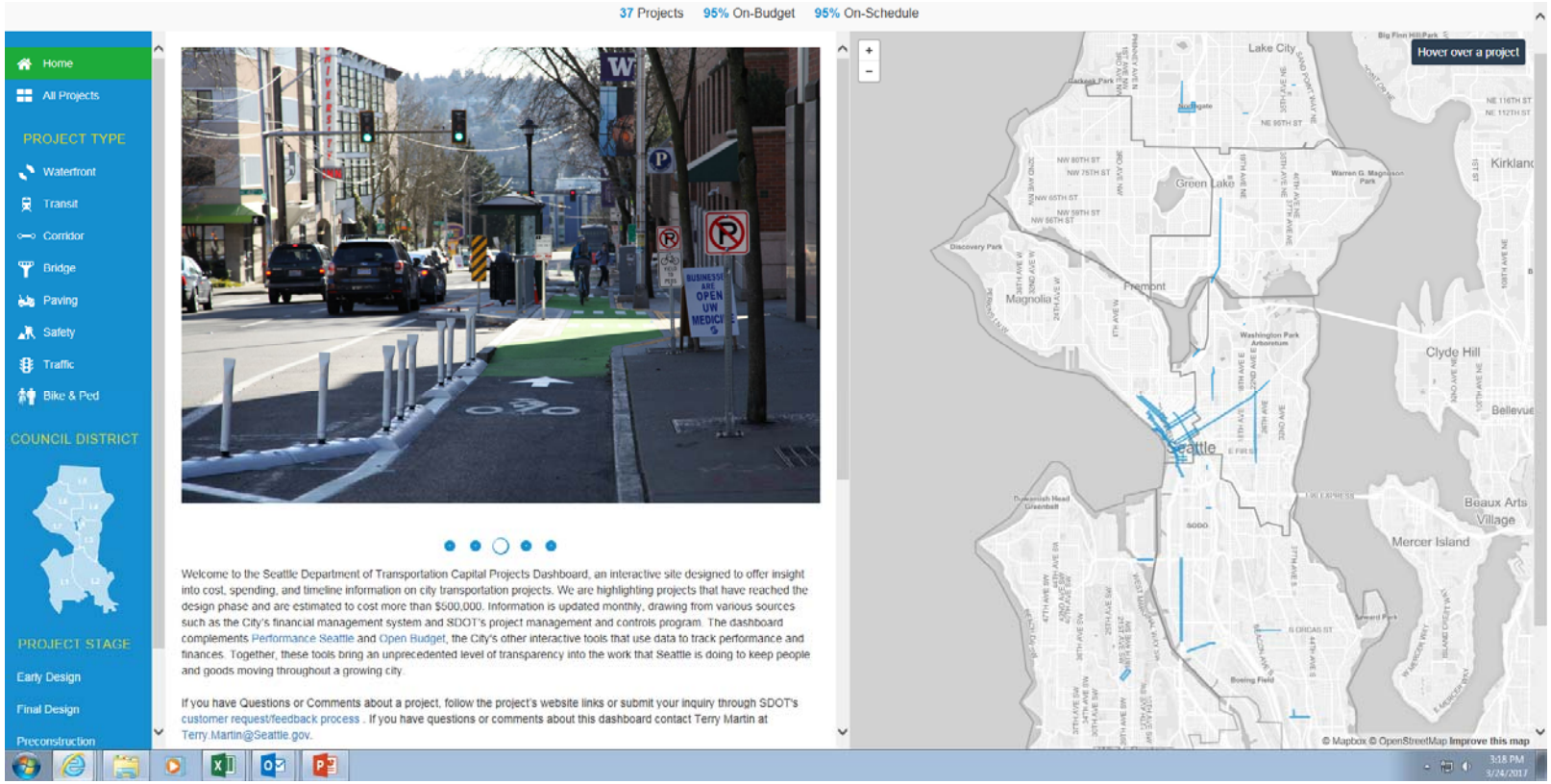
Performance Dashboards
Capital Projects Dashboard

[Capital Projects Dashboard]



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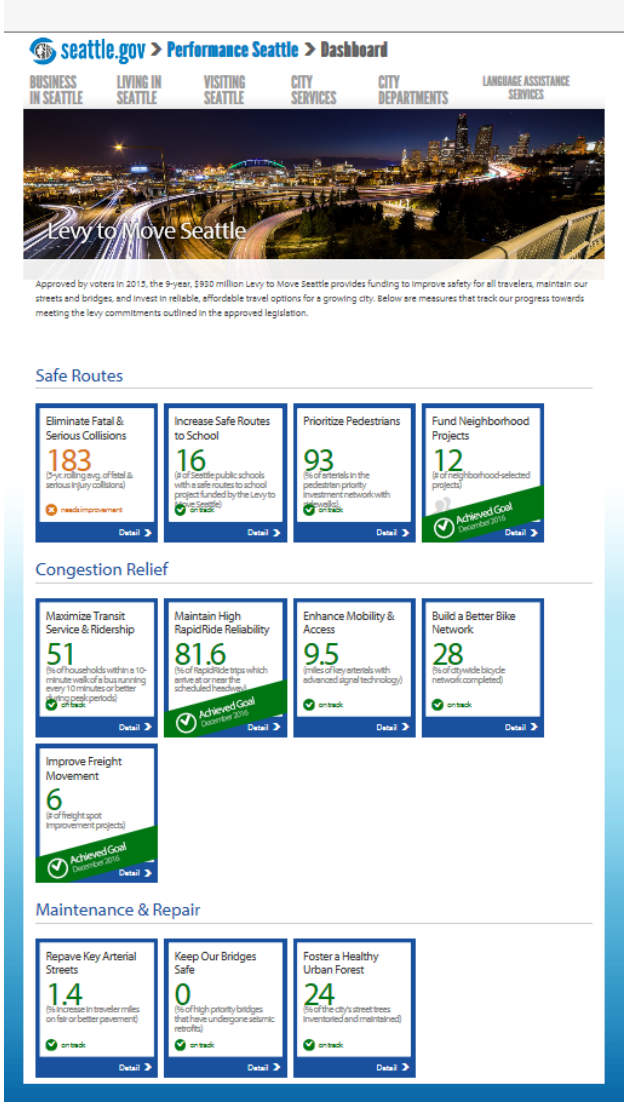
Performance Dashboards
Move Seattle Levy Dashboard



[Move Seattle Levy]

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Moving the Needle Performance Report

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OUR MISSION & VISION

Serves as a compass in determining the work we do

GOALS

Are designed to organize the system and tell a unified story

A SAFE CITY

AN INTERCONNECTED CITY

A VIBRANT CITY

AN AFFORDABLE CITY

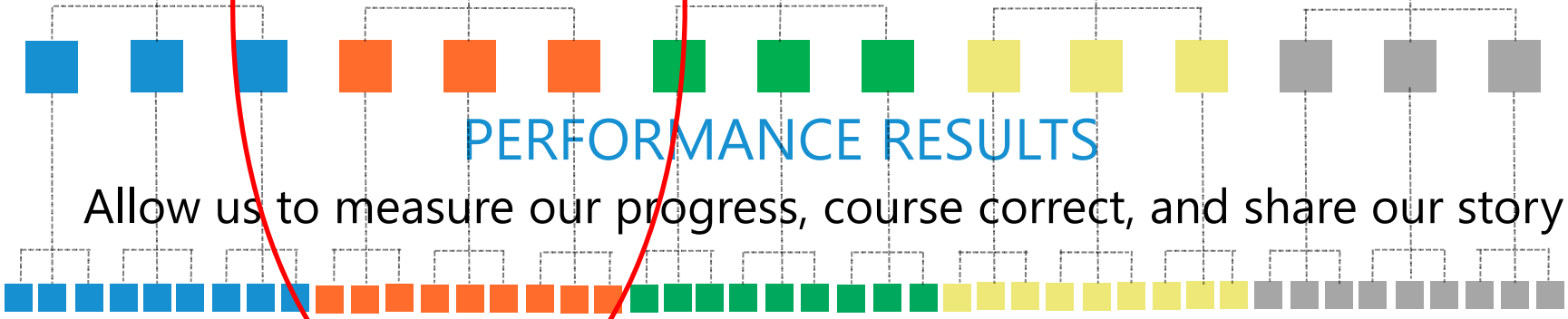
AN INNOVATIVE CITY

OUTCOMES

Rooted in **organizational excellence** (where we make progress)

PERFORMANCE RESULTS

Allow us to measure our progress, course correct, and share our story



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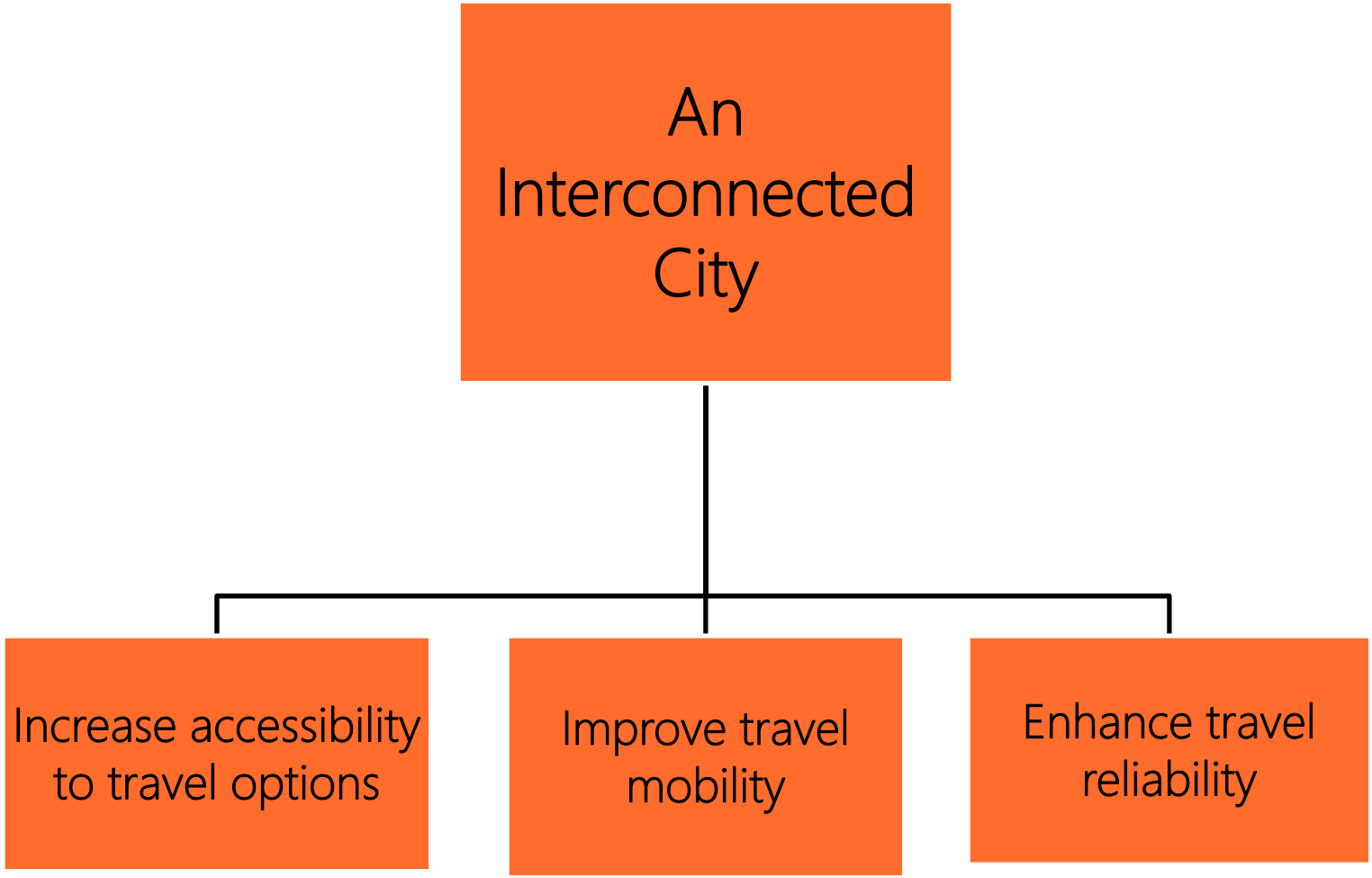

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INCREASE ACCESSIBILITY TO TRAVEL OPTIONS

AN INTERCONNECTED CITY

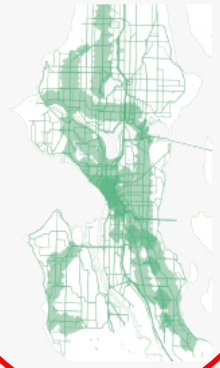
53% of households are within a 10-minute walk of frequent bus service during peak periods by 2020

ACHIEVED

64%

OF HOUSEHOLDS WILL BE WITHIN A 10-MINUTE WALK BY

END OF 2017



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Design and construct 800 new curb ramps in 2016

ACHIEVED

894

NEW CURB RAMPS CONSTRUCTED

IN 2016

Construct 20 transit spot improvements in 2016

ACHIEVED

26

TRANSIT SPOT IMPROVEMENTS CONSTRUCTED

IN 2016

BUS PRIORITY SIGNAL

CURB RAMPS AND THE IMPORTANCE OF ACCESSIBILITY

"Curb ramps are essential to the independence and mobility of all pedestrians within their neighborhood and to the greater City. Without curb ramps, a person using a wheeled mobility device is unable to move from the sidewalk to the crosswalk and back onto the opposing sidewalk, in essence to cross the street. Curb ramps make it possible to access public transportation stops, walk your children to school, go to the corner coffee shop, get to your job and visit your neighbors. Curb ramps provide the critical connection within an accessible route to allow everyone to participate in their community."

— Karen Braitmayer ,
Seattle architect and U.S.
Access Board member

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IMPROVE TRAVEL MOBILITY

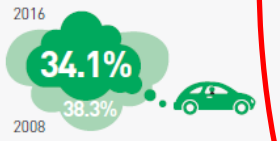
AN INTERCONNECTED CITY

Reduce citywide drive-alone rate at *CTR-affected companies to 32.4% by 2018

ON-TRACK

DRIVE ALONE RATE
has decreased by

11%
(4 percentage points)



FROM 2010 TO 2016

Downtown Seattle added 45,000 jobs

During this time, approximately 95% of the gain in net commute trips was absorbed by non-drive alone modes

* The CTR program applies to companies with 100+ employees traveling to work between 6-9 am

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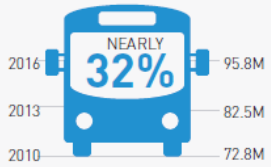
Increase transit ridership

ACHIEVED

TRANSIT RIDERSHIP HAS GROWN BY



SINCE 2010

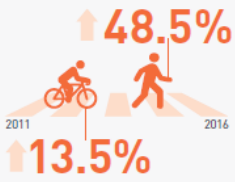
Seattle passengers used the bus, Link light rail, and Seattle streetcar for

95.8M
TRIPS
IN 2016

Increase walking and biking

ACHIEVED

WALKING AND BIKING HAS INCREASED BY



SINCE 2011

The number of people who walk and bike to get around continues to grow

TRANSIT RIDERSHIP IN SEATTLE SETS RECORD, GROWTH LEADS NATION

"Public transit in the Seattle region grew by leaps and bounds in 2016. In fact, the 4.1% growth was the most growth among major metro regions in the U.S. last year. The boost comes in large part thanks to added bus service and the opening of two major light rail extensions that saw major gains in ridership that far surpassed even optimistic expectations. A recent survey by Commute Seattle found that 70 percent of downtown commuters used transit to get there."

— Seattle Post-Intelligencer
February 27, 2017

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ENHANCE TRAVEL RELIABILITY

AN INTERCONNECTED CITY

Increase % of in-Seattle bus routes arriving on time

ON TRACK

91%

OF METRO-IDENTIFIED NEEDS ADDRESSED

to improve schedule reliability

80% or more of RapidRide trips arrive at or near scheduled headway

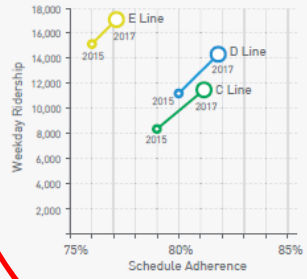
ACHIEVED

81.2%

OF RAPIDRIDE TRIPS

arrive at or near scheduled headway

SEATTLE RAPIDRIDE PERFORMANCE



Optimize traffic signal corridor timing on 5 corridors in 2016

ACHIEVED

5

CORRIDORS OPTIMIZED

INCREASING TRANSIT RELIABILITY BY ADDING MORE SERVICE

"The additional bus service provided by Seattle Prop 1 has made it much easier to travel from my home in West Seattle to Downtown. After the initial launch of the RapidRide C, my two-seat trip could take as much as an hour due to the spacing of the RapidRide. After the increased service, the buses became more frequent and the wait time from my connecting routes decreased significantly. My travel time during off peak hours can be a low as 35 minutes and 30 minutes during peak hours. This allows me to do more volunteer work and get to other events much faster."

— Marci Carpenter, Chair, Seattle Transit Advisory Board

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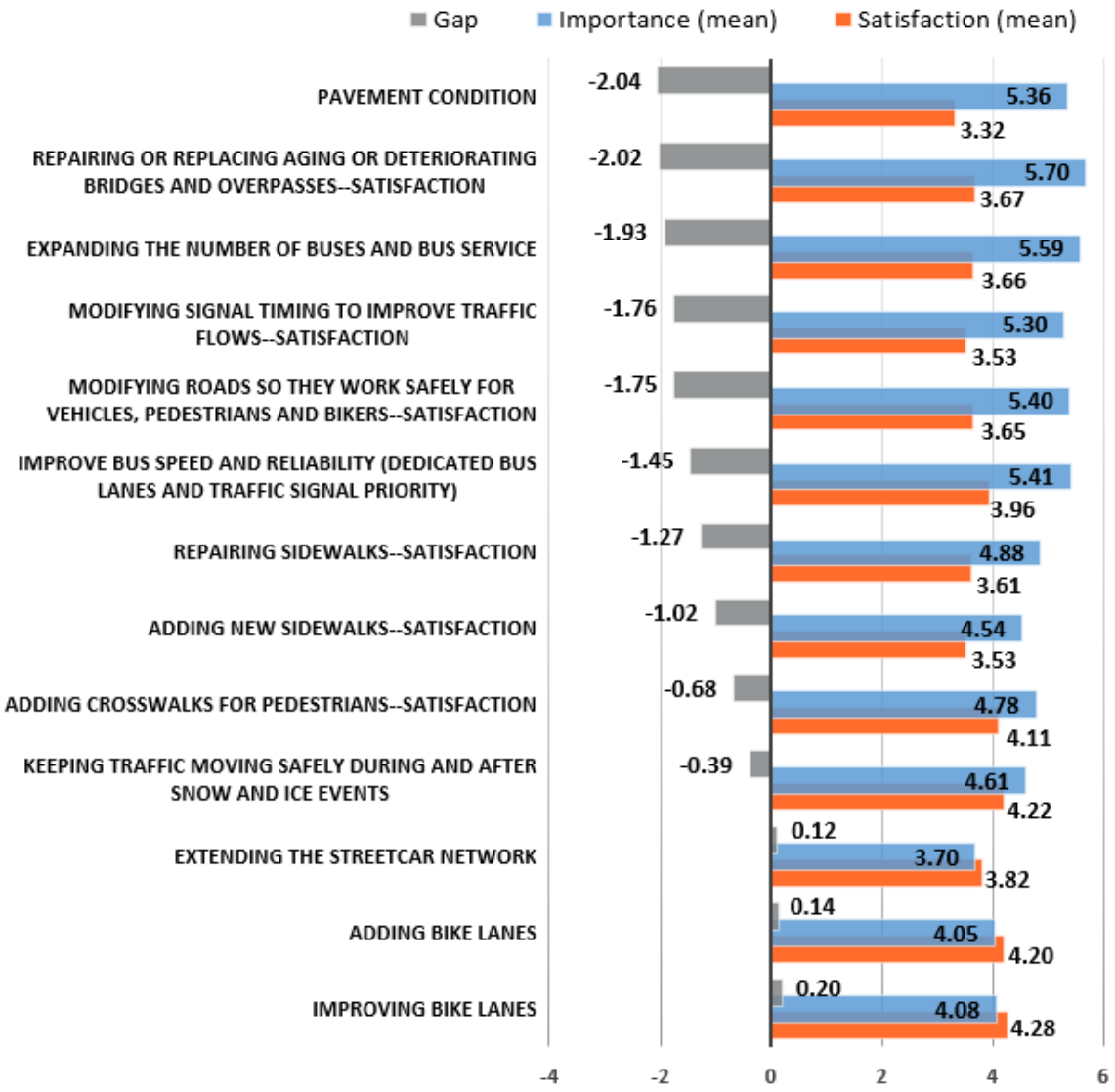
Service Gaps (Importance vs. Satisfaction)

Respondents are asked to rate importance vs. satisfaction (scale of 1 to 7, with 7 being extremely satisfied/important) of services provided by SDOT.



Biennial Customer Satisfaction Surveys

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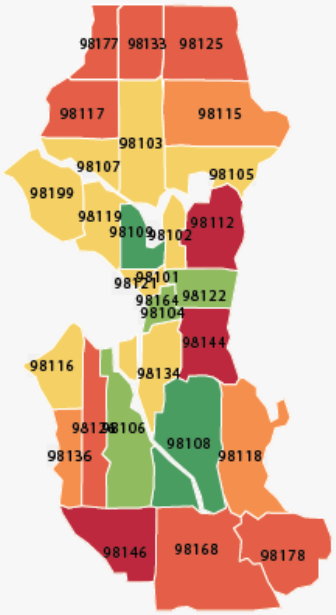
Biennial Customer Satisfaction Surveys (Continued)

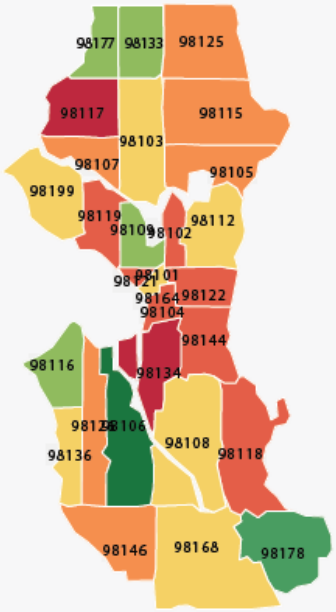
PERCEIVED SERVICE GAPS

Survey respondents were asked to rate importance vs. satisfaction for SDOT services on a scale of 1 to 7. Where satisfaction ratings are lower than importance ratings, there is a Perception Gap, indicating that needs are not being met. Source: 2016 SDOT Customer Satisfaction Survey.

SIDEWALK REPAIR



BICYCLE AND PEDESTRIAN SAFETY



The colors shown above reflect the size of a particular service gap (importance minus satisfaction) in each zip code. A high service gap is shown in red and a low service gap is shown in green. For instance survey respondents in zip code 98117 gave bicycle and pedestrian safety an "importance" score of 5.6 out of 7 but a "satisfaction" score of only 3.3 out of 7. The resulting service gap of -2.3 indicates that SDOT should place more emphasis on bicycle and pedestrian safety in this zip code.

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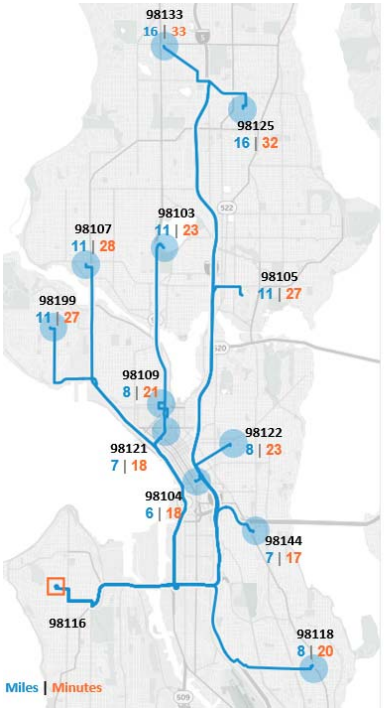
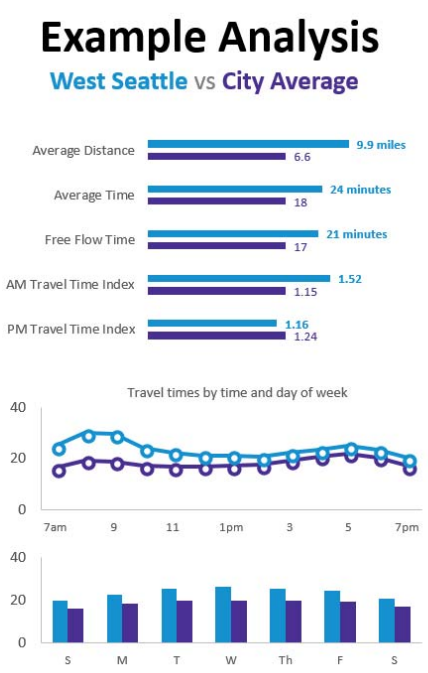
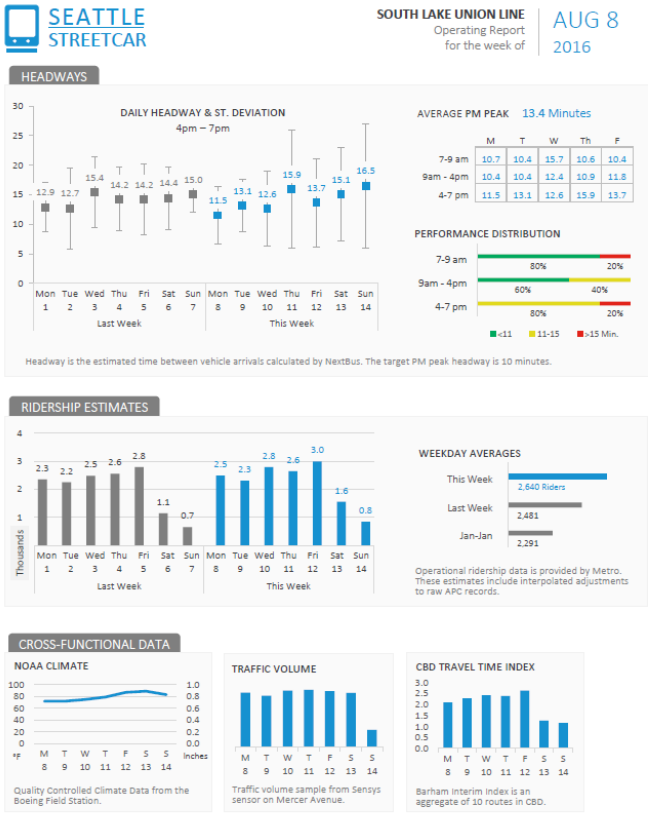
Data Science Efforts







- Using Google for travel reliability analysis

- Streetcar system operations dashboard

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Presentation Resource Library

- Asset Status & Condition Report:
  http://www.seattle.gov/Documents/Departments/SDOT/About/SDOT2015SCReportFinal12-7-2015.pdf

- Capital Projects Dashboard:
  https://capitalprojects.seattle.gov

- Move Seattle Dashboard:
  https://performanceseattle.demo.socrata.com/stat/goals/kppq-md9g

- Moving the Needle Performance Report:
  http://www.seattle.gov/Documents/Departments/SDOT/About/DocumentLibrary/Reports/SDOTMovetheNeedle2017.pdf

Visit our SDOT Asset & Performance Management website for more information:
seattle.gov/transportation/assetmanagement.htm

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Questions?

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www.seattle.gov/transportation/assetmanagement/

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