

Seattle's Transportation Asset Management Program

TRB Peer Review Session

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Seattle: A Snapshot



- One of fastest growing cities in US
- Economy is based on high-tech, education, seaport, industry, culture
- Geography is hilly, with fresh- and saltwater bodies limiting land area
- Geology features glacial till and saturated soils plus earthquake hazard

Our mission, vision, and core values

Mission: deliver a high-quality transportation system for Seattle

Vision: connected people, places, and products

Committed to **5 core values** to create a city that is:

- Safe
- Interconnected
- Affordable
- Vibrant
- Innovative

For **all**

SDOT Asset Management Background

- 1970s: started Structures AM program
- 1980s: started Pavement AM program
- 2007: Department-wide Program, funded by Bridging the Gap Levy with two employees
 - Delivered first Status & Condition Report
- 2011 – 2013 Program hiatus
- 2013: Hired new AM Manager to rebuild program
- 2016: Now titled the Asset & Performance Management Program with 7 employees

SDOT Asset Management Background (cont.)

- Primary Focus of AM Program Implementation:
 - 2007 Asset Status & Condition Report
 - Developing a Central Database for Asset & Work Management
- Preliminary Work on AM Practice Areas:
 - Levels of Service
 - Risk
 - Organizational Competency
 - Performance Measures

SDOT Status & Condition Report

- Published December 2015:
seattle.gov/transportation/inventory.htm
- Provides technical information on 47 assets within 11 recognized asset classes
- Useful reference for decision-making and the general public
- Informs future year budgets / capital project development
- Gap analysis to increase AM competency
- Revised the third edition to support MAP-21 requirements

Expanded Report

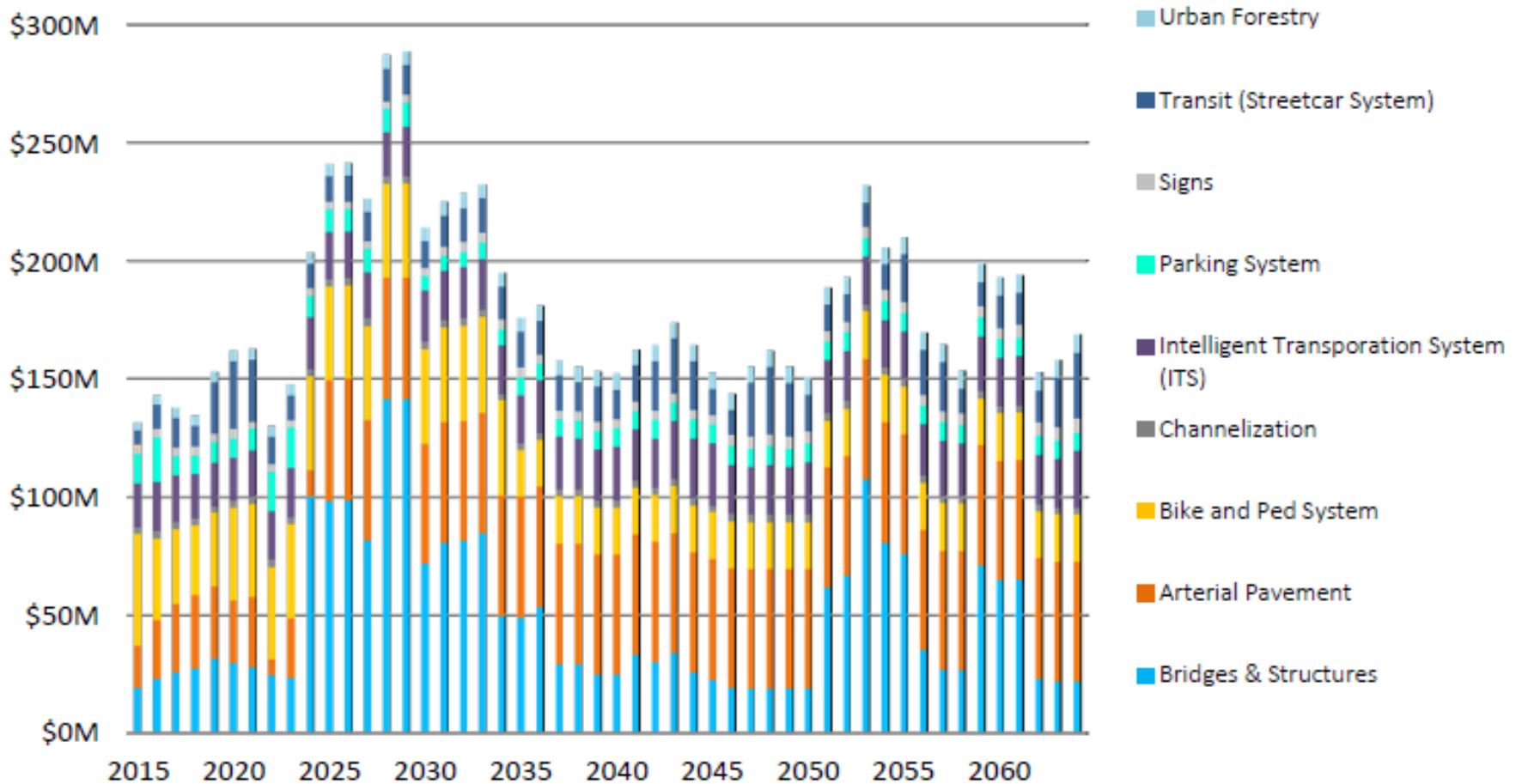
- Long-term operational cost forecasting
- Measures and trends that link to performance.seattle.gov/
- Estimated asset data confidence, replaced asset condition TBD with Unknown
- Better unit cost data, e.g., sidewalks by sq. ft., component
- Revised asset classes to better align with internal AM practices
- Bookmarked PDF, easily navigable with icons for each chapter in the footer



Table II: SDOT TRANSPORTATION INFRASTRUCTURE ASSETS= \$20 BILLION

Asset Class/Asset	Inventory Status	Replacement Value (\$M)	Data Confidence	Condition			Unk.
				● Good	● Fair	● Poor	
BIKE & PEDESTRIAN SYSTEM		\$5,449					
Bicycle Racks	3,301	\$2.2	High	97.8%	1.2%	0.5%	0.5%
Kiosk	150 (e)	\$1.1	Low				100%
Marked Crosswalks	5,357	\$5.4	Medium-High	53.4%	16.7%	29.6%	<1%
Sidewalks	33,373 block faces	\$5,280	Medium	23.9%	5.6%	1.0%	69.6%
Stairways	509	\$63.6	Medium-High	61%	28%	11%	
Street Furnishings	Unknown	Unknown	Low				100%
Trails	40.2 lane miles	\$96.3	Medium-Low				100%
BRIDGES & STRUCTURES		\$5,237					
Air Raid Siren Tower	1	\$5	High	100%			N/A
Areaway Street Walls	236	\$218.0	Low	11%	58%	12%	19%
Bridges	117	\$4,112.0	High	31%	52%	17%	0%
Bridge Hydrant Vaults	13	\$65	High	100%			
Elevator	1	\$1.5	High	100%			
Retaining Walls	582	\$903.1	Medium	42%	36%	19%	3%
Tunnel	1	\$74	High	100%			
CHANNELIZATION		\$4.9					
Pavement Markings		\$4.9	Medium				100%
INTELLIGENT TRANSPORTATION SYSTEM		\$377.5					
Beacons	391	\$5.9	Medium	32.5%	6.6%	1.0%	59.8%
Bluetooth Readers	Service	\$0.0					
Cameras	257	\$2.6	Medium	52.5%			47.5%
Communications Network	150 miles (e)	\$75.0	Low				100%
Counters	13	\$3	Medium-High				
Dynamic Message Signs	51	\$9.7	Medium-High	100%			
Network Hubs	14	\$9	Medium-High				100%
Radar Speed Signs	43	\$4.3	Medium	53.5%			46.5%
Transportation Operations Center	1	\$1.0	High	100%			
Traffic Signal Assemblies	1,071	\$281.1	Medium-High	12%	51%	35%	2%
PARKING PAYMENT DEVICES		\$20					
Pay Stations	2,022	\$20	High	100%			
PAVEMENT SYSTEM		\$8,562					
Arterial	1,547 lane miles	\$4,678	High	46.5%	17.8%	35.7%	
Non-arterial	2,407 lane miles	\$3,884	Medium	59.9%	11.5%	13.6%	15.0%
REAL PROPERTY		\$80.5					
Buildings & Yards	15	\$80.5	Medium-High	40%	40%	20%	
Parcels	57	N/A	Medium-High				N/A
Shoreline Street Ends (ROW)	143 (e)	N/A	Medium-Low				N/A
SIGNS		\$66.8					
Sign Assemblies	181,431	\$66.8	Medium	39.5%	<.01%	<.01%	60.5%
TRAFFIC SAFETY STRUCTURES & DEVICES		\$30.9					
Chicanes	22	\$66	Low				100%
Crash Cushions	40	\$78	Medium	82.1%	7.7%	5.1%	5.1%
Guardrails	75,000 LF, 772 units	\$7.5	Medium-Low	50.9%	44.6%	0.3%	4.3%
Median Islands	500 (e)	Unknown	Low				100%
Speed Cushions	25 (e)	\$31	Low				100%
Speed Dots	3	\$0.2	Low				100%
Speed Humps	100 (e)	\$50	Low				100%
Traffic Circles	1,056	\$21.1	Medium High	94.7%	3.8%	0.2%	1.3%
TRANSIT		\$106.2					
Historic Transit Shelters	2	\$22	High	100%			
Real Time Transit Information Signs	13	\$2.3	Medium-High	100%			
Streetcar System	2 Lines	\$103.0	High	100%			
Transit Loading Platforms	6 (e)	\$70	Low				100%
URBAN FOREST		\$107.2					
Irrigation	131	Unknown	Low				100%
Landscaped Areas	5,371k SF, 218 units	\$37.5	Medium	15.4%	6.3%	0.9%	77.4%
Trees	41,000 (e)	\$69.7	Medium	75%	17%	5%	3%

Chart II: 2015-2064 (50-Year) Operational Cost Forecast for SDOT
(2015 Dollars)



The First Dashboard - "Performance Seattle"

- Early development in 2014 from within the Seattle DOT Asset Management group
- Many one on one meetings with subject matter experts to select the "right" measures

At first it looked like this...

SDOT Performance Dashboard						
Policy goal/Performance Measure	Previous Reporting Period	Current Reporting Period	Goal	Goal Met	Trend	Desired Trend
A Safe City						
Annual number of traffic fatalities by all modes of travel (Annual measure: Calendar years 2011 & 2012 5-year Rolling Trend)	18.0	21.0	5% reduction every 3 years?	⦿		⬇
Annual number of lost work days due to injury per 100 SDOT employees (Annual measure: Calendar years 2012 & 2013)	168.5	124.5	5% reduction every 2 years?	✔		⬇
A Vibrant City						
Pedestrian volumes (avg. quarterly aggregate of evening peak hour counts at 50 locations) (Annual measure: 2012 & 2013)	31,813	32,617	5% increase per biennium?	✔		⬆
Bicycle volumes (avg. quarterly aggregate of evening peak hour counts at 50 locations) (Annual measure: 2012 & 2013)	4,394	6,336	5% increase per biennium?	✔		⬆
Percentage of planned annual Bridging-the-Gap programmatic goals met or exceeded (Annual measure: 2012 & 2013) (5-year Rolling Trend)	99.1%	98.6%	90.0%	✔		⬆
An Affordable City						
Percentage of arterial pavement in fair or better condition (PCI > 55) (Measured triennially: 2010 & 2013)	74%		80% by 2007?		Waiting for results of 2013 pavement condition assessment data	⬆
Percentage of arterial pavement in very poor or failed condition (PCI < 40) (Measured triennially: 2010 & 2013)	12.7%		2.0% by 2007?		Waiting for results of 2013 pavement condition assessment data	⬇
Number of claims filed annually due to potholes (Annual measure: 2011 & 2012) (5-Year Rolling Trend)	211.6	250.4	200?	⦿	Waiting for results of 2013 pavement condition assessment data	⬇
Percentage of weight-restricted bridges (Annual measure: 2011 & 2012)	6.8%	6.8%	5.0%	✘		⬇
An Interconnected City						
Citywide bus ridership (avg. weekly boardings) (Annual measure: 2012 & 2013)	303,000	307,000	3% annual increase?	⦿		⬆
Number of streetcar riders per service hour (Annual measure: 2012 & 2013)	64	64	65			⬆
Percentage of contracts issued to WMBE firms for consulting services (Annual measure: 2012 & 2013)	17.2%	15.3%	10.0%	✔		⬆
A City That Fosters and Delivers Innovation						
Citizen satisfaction with transportation services (Annual measure (1): 2014 & 2015)	N/A	???	TBD		Placeholder	⬆

...but it evolved into this

seattle.gov My.Seattle.Gov

BUSINESS IN SEATTLE | LIVING IN SEATTLE | VISITING SEATTLE | CITY SERVICES | CITY DEPARTMENTS | LANGUAGE ASSISTANCE SERVICES

WELCOME TO PERFORMANCE SEATTLE
This site uses current data to monitor progress against the goals set for the future of the City of Seattle.
Questions? Suggestions? Email performance@seattle.gov

Public Safety Arrive quickly to fire scenes 79% within 4 minutes	Utilities & Environment Increase enrollment in the Utility Discount Program 21,190 enrolled
Transportation Track in-city bus ridership 328,000 weekday boardings	Housing, Human Services & Education Increase low-income housing 11,793 units citywide
Community & Economic Development Inspect emergency code complaints promptly 100% within 1 day	Operations & Innovation Answer 206-684-CITY customer calls quickly 95.6% within 1 minute


Capital Projects Dashboard –Home Page

Home
All Projects

PROJECT TYPE


- Waterfront
- Transit
- Corridor
- Bridge
- Paving
- Safety
- Traffic
- Bike & Ped

COUNCIL DISTRICT



STAGE

- Early Design
- Final Design
- Preconstruction
- Construction
- Closeout



39 Projects | 95% On Budget | 100% On schedule

Welcome to the Seattle Department of Transportation Capital Projects Dashboard, an interactive site designed to offer insight into cost, spending, and timeline information on city transportation projects. We are highlighting projects that have reached the design phase and are estimated to cost more than \$500,000. Information is updated monthly, drawing from various sources such as the City's financial management system and SDOT's project management and controls program. The dashboard complements [Performance Seattle](#) and [Open Budget](#), the City's other interactive tools that use data to track performance and finances. Together, these tools bring an unprecedented level of transparency into the work that Seattle is doing to keep people and goods moving throughout a growing city.

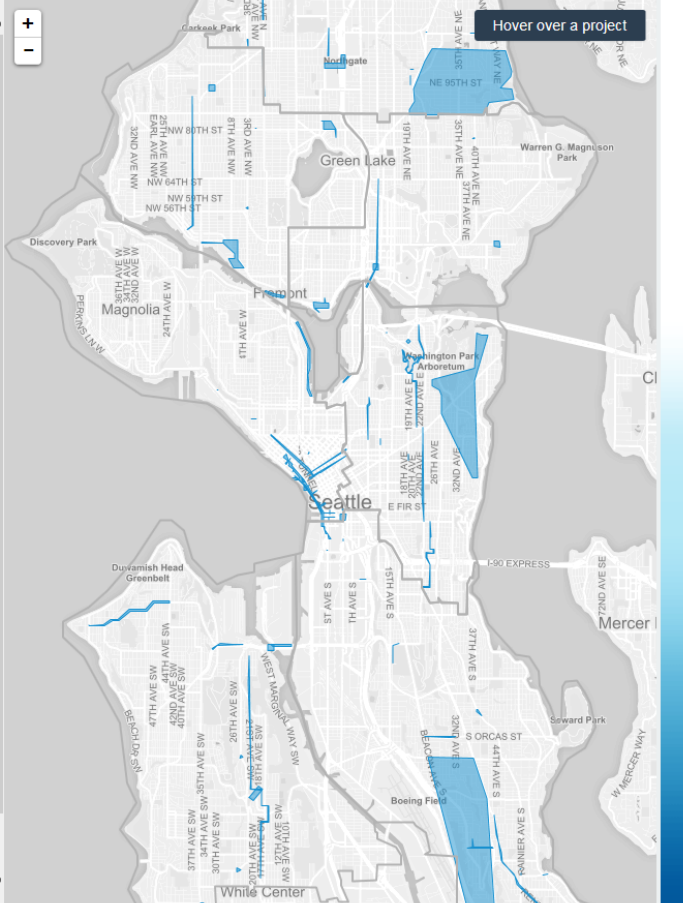
If you have Questions or Comments about a project, follow the project's website links or submit your inquiry through SDOT's [customer request/feedback process](#). If you have questions or comments about this dashboard contact Terry Martin at Terry.Martin@Seattle.gov.

Project Performance Goals 🟢 🟡 🟠

Project construction performance measures depict the cost and schedule status compared to the goals established when the project entered the construction phase. The Schedule Status is "yellow" when a project is three months behind schedule and "red" when more than 9 months behind. The Cost Status is "yellow" when 10% over budget and "red" when more than 25%. During design phases, most cost estimates are shown as ranges because the project scope may not be fully defined. During design, the Schedule Status is tied to the anticipated design completion date. The "Construction End" date reflects the anticipated substantial completion of the project, at which time the project is suitable and available for public use. After substantial completion, there may be minor work and landscaping establishment activities before the project is closed out.

Dashboard Updates

We've added some new functionality to the Capital Projects Dashboard based on user feedback. The



Hover over a project

Landing Page – can filter by project type, council district location, or project stage

SDOT's Cookbook

- Key organizational ingredient for a successful TAM
 - Leadership, leadership, leadership...
 - Take advantage of quick wins in AM practice areas based on the organization's strengths
 - Test the waters, not making headway, readjusted as needed
 - Delivered usable products, attractive and palatable to a variety of audiences
 - We started small with a few dedicated staff and built trusting relationships with departmental AM champions
 - AM staff team dynamic is critical

Program Long-Range Plan

- Publish system-wide asset map for public use
- Publish Streetcar Asset Management Plan (AMP)
- Supporting State AMPs for Bridges / Pavement
- Improve asset onboarding practices and data collection
- Developing comprehensive performance management and corporate analytics support
- Implement comparative risk models and risk management
- Publish the next iteration of the S&C Report, as SDOT's overall Asset Management Plan

Questions?

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[http://www.seattle.gov/transportation/
assetmanagement.htm](http://www.seattle.gov/transportation/assetmanagement.htm)

www.seattle.gov/transportation

