Seattle's Sidewalk Assessment and Repair Prioritization

"Is the Sky Really Falling?" Communicating TAM Results - TRB Asset Management Conference

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Project Overview

- Staffed with project manager, project engineer, intern coordinator, 14 interns

- Sidewalk asset data update/validation of existing attributes (material, width, planting strip, etc.)

- System-wide list of vertical differences, obstructions, minimum widths, vegetation issues, and other elements

- Establish condition criteria and update individual asset condition ratings

- Collection tools, IT system improvements, and data uploads

- Provide externally facing, user-friendly, and dynamic maps

- Project report and recommendations

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Sidewalk Assessment Timeline

Jan - Mar 2017
- Project planning
- Design
- Tool testing

Sept 2017
- End of data collection

Jan - Feb 2018
- Draft executive summary

Q2 - Q4 2018
- Pilot repair prioritization
- Publish final report
- Implement Inspection Tool
- Publish external web maps

May 2017
- Start of data collection

Oct - Jan 2018
- Post-process data
- Update asset condition data

March - April 2018
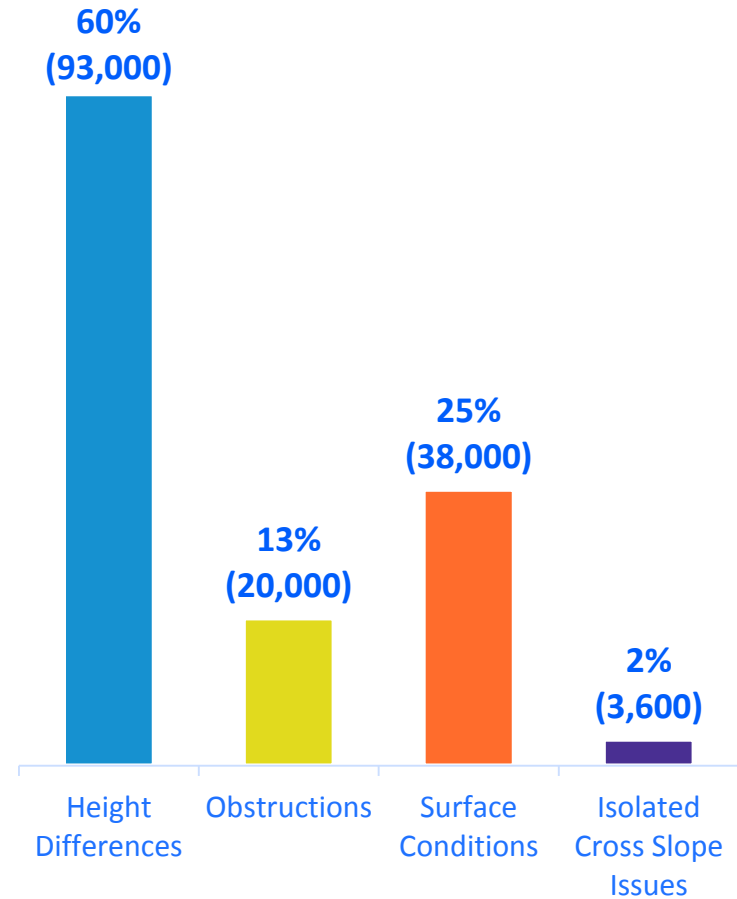- Executive Summary
- Council Briefing
- Options Analysis

June 2019
- Update Transportation Status & Condition Report
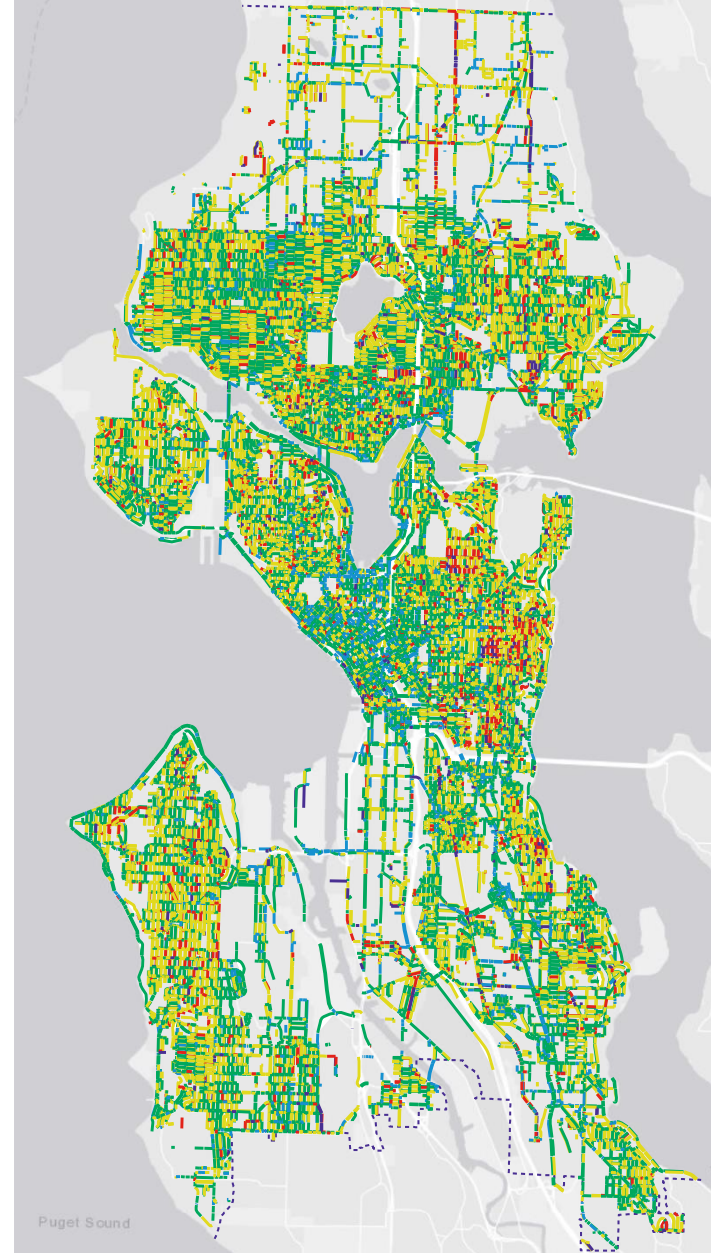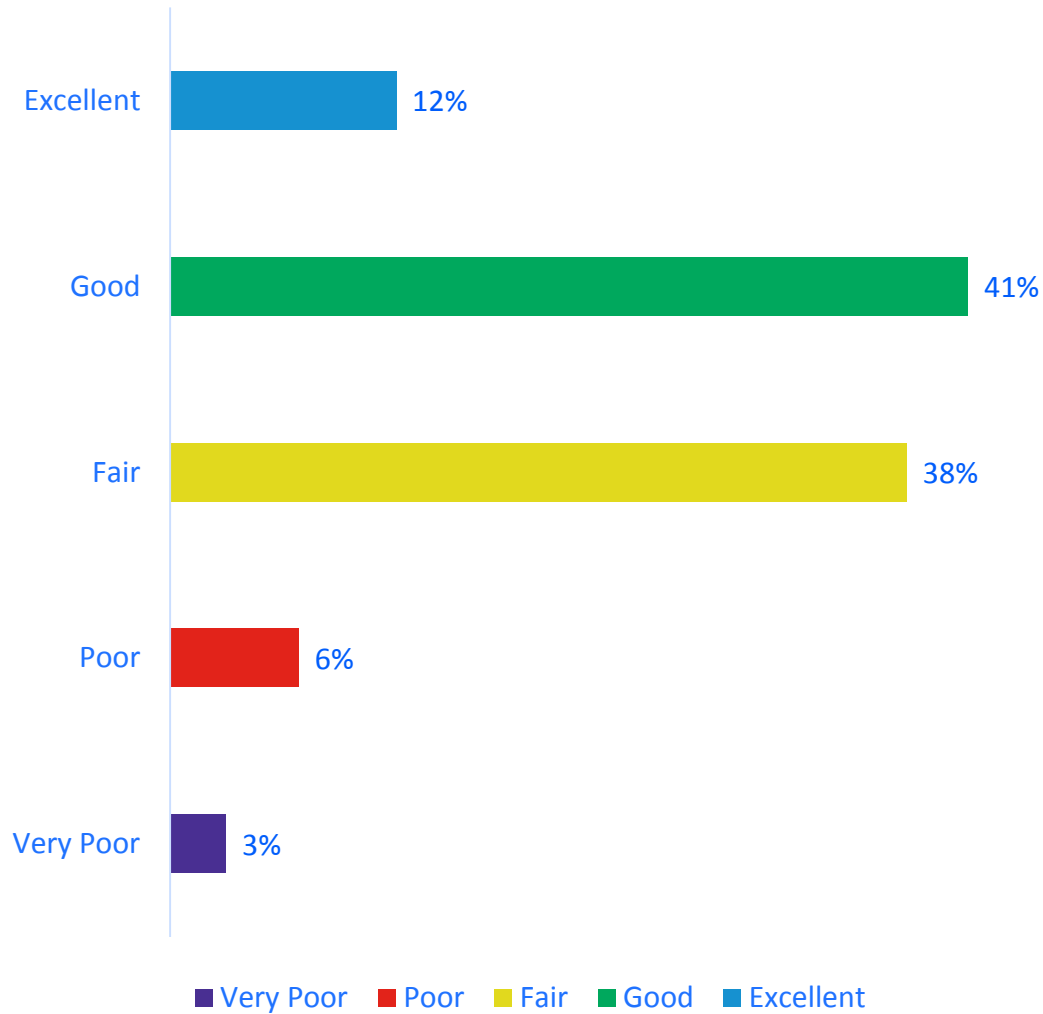- Implement funded programs supported by Options Analysis

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Collection Findings

- Over 34,000 blocks of sidewalk inspected

- Over 155,000 observations collected

- Equivalent to 2,323 miles

60% (93,000) — Height Differences
13% (20,000) — Obstructions
25% (38,000) — Surface Conditions
2% (3,600) — Isolated Cross Slope Issues

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Condition Results

Condition	Percentage
Excellent	12%
Good	41%
Fair	38%
Poor	6%
Very Poor	3%

■ Very Poor ■ Poor ■ Fair ■ Good ■ Excellent

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Condition Definitions

🔵	Excellent	Score = 100	No observable issues along the pedestrian clear zone, compliant width of ≥ 48 inches, and compliant primary cross slope of ≤ 2%
🟢	Good	85 ≤ Score < 100	Minor issues along the pedestrian clear zone: sidewalk extends the full length of the block with no discontinuities; may have minor uplifts and ≤ 5% of the sidewalk requires slab replacement; may have a width < 48 inches to ≥ 36 inches and/or primary cross slope ≤ 4% and > 2%
🟡	Fair	45 ≤ Score < 85	Issues are of medium severity; discontinuities exist that may impact mobility; ≤ 25% and > 5% of the sidewalk may need replacement; may have a width between < 36 and ≥ 24 inches and/or a primary cross slope ≤ 6% and > 4%
🔴	Poor	5 ≤ Score < 45	Issues are severe; discontinuities exist that may impact mobility; ≤ 75% and > 25% of the sidewalk may need replacement; may have a width < 24 and ≥ 12 inches and/or a primary cross slope ≤ 8% and > 6%
🟣	Very Poor	Score < 5	Widespread severe issues; discontinuities exist that impact mobility; 100% to 76% of the sidewalk needs replacement; may have a width < 12 inches and/or a primary cross slope > 8%

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Communicating Results

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Is the sky really falling

- We have better data. What now?
- How do we tell our story to different audiences:
  - Citizens
  - Mayor and City Council
  - Stakeholders / partners
  - Engineers / crews / planners

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Communications

- Media / Blogs
- Presentations to Seattle Pedestrian Advisory Board, pedestrian forums, key community members and advocates
- Sidewalk Assessment Project website
- Observation data
- Conditions and sidewalk asset data
- Tree inventory, with ownership assigned

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Project Report and Recommendations

- Prioritization methodology for permanent sidewalk repairs
- Implement risk mitigation program by proactively shimming and beveling uplifts and inspecting
- A 3-to-5 year capital plan with project opportunities and funding, with the goal of improving sidewalk conditions
- Implement a cost share and/or point of sale programs to provide shared funding strategies with property owners
- Increased vegetation and damage enforcement efforts

All recommendations require additional resources or a reprioritization of existing resources

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Proactive Efficiencies

Repair Measures	2017	Shim Blitz (3 weeks)
Total Shims	1,063	2,760
Average Shims/Day	8	184
What drives where repairs occur	Customer request	Data driven

What we hear: "When I started, I thought our sidewalk repair needs were overwhelming. Now, using the data, I feel like I can make a difference."

Crews: Feel more invested in the outcome of a grid managed system that makes sense.

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Repair & Mitigation Prioritization
Goal: Allocate Limited Budget to Provide Best Value for Community

- Safety Risk Score
  - Lift, Settlement, Cracks, Gaps...

- Mobility Impairment Score
  - Obstruction, Minimum Passable Width & Height, Cross-slope...

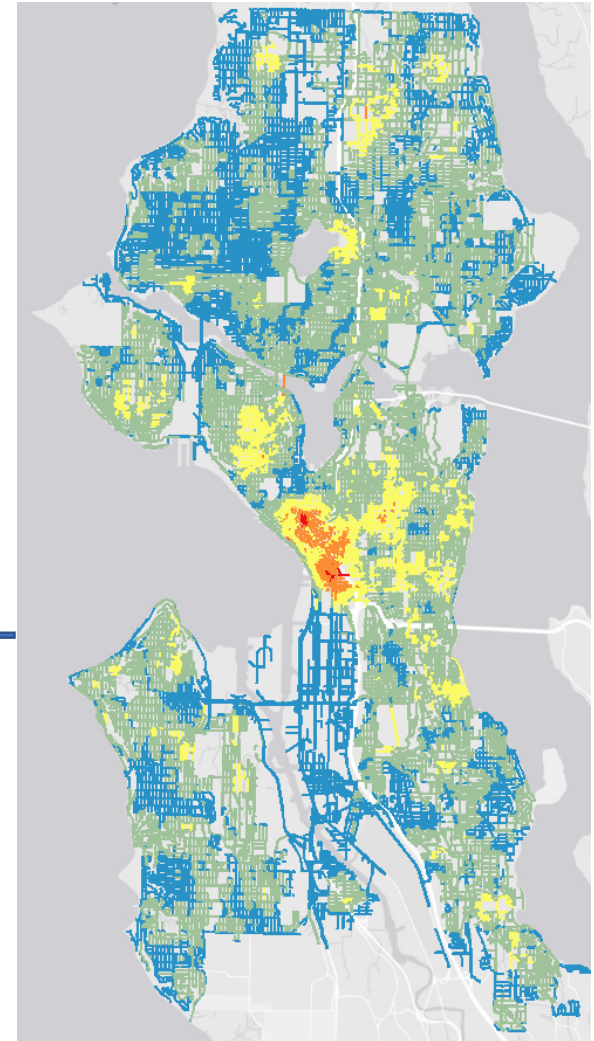City of Seattle

Scoring Criteria

Cost Score

- Maintenance, Repair, Replacement…

Usage Score

- Government Facilities, Transit Stops, Schools, Senior/Disabled Housing, Hospitals, Employment centers, Goods and Services

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Sidewalk Funding – Performance Measures

Policy goal/Performance Measure	2017 Planned	Q4 2017 Results	2018 Planned	Annual Target Goal
Levy to Move Seattle				
Prioritize Pedestrians: # of blocks of new sidewalk	50	44	44.75	🟢
Prioritize Pedestrians: # of blocks of existing sidewalk repaired	5	6.54	16	🟢
Sidewalks - # of uplifts mitigated with beveling or shimming (**2018** *proposed Performance Measure*)	NA	1,063	TBD	

~~Engineering Reviews w/in 5 days – no actions taken,~~

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Sidewalk Repair – Communicating Next Steps

- Continue pursuing partnering repair opportunities with internal and external agencies

- Improve property owner notification process and encourage voluntary repairs

- SDOT recognizes there are competing policies for tree preservation and sidewalk repair

- Evaluate alternative repair materials and approaches for maintenance including tree root mitigation techniques

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Questions? Thank you!

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http://www.seattle.gov/transportation/about-sdot/asset-management

http://www.seattle.gov/transportation/projects-and-programs/programs/maintenance-and-paving/sidewalk-repair-program

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