

Inspecting Light Rail Transit Bridges with the latest Technology

Richard Hovde, PE

Bridge Operation Manager

&

Matthew Kumpula, PLS

*Mobile Mapping &
sUAS Operation Manager*

David Evans and Associates, Inc.

Based in Pacific Northwest, Committed to Nation

With Offices in these States: OR, WA, CA, CO, NY, AZ, ID, MS, AL, NM



DAVID EVANS
AND ASSOCIATES INC.

Rail Conference



Key Presentation Take-Aways

- **SAFER OPERATIONS** for Workers/Public
- **BETTER QUALITY** Inspections
- **LEAST IMPACT** to Ridership and Agency



How We Perform Inspection Today



Inspection Technologies That Are New

Safety

Accessibility

Funding

Effective

Readiness



Sound Transit's C755

C755 is segment of Central Link is 4.9 miles long

- Built by PCL Construction in 2005 for \$254M
- Four bridges total 4.2 miles (A, B, C, and D)
 - C755A includes two long spans; one over I-5 and one over the Duwamish River, each 350 feet
 - C755D has challenging geometry of up to **6% grade with 10% super elevated curves**
- Segment sits between two major airports; SeaTac International & Boeing Field
- Current inspection practices require single track operations using High-Rail UBIT during limited weekend revenue hours (5 am – 2 pm or forced shutdown)
 - Reduce impact on Rider Confidence
 - Reduce impact on Operating Revenue




Current Bridge Inspection Procedures for Sound Transit's C755

- Schedule Inspections
- Perform Ground Inspections
- Perform UBIT/Deck Inspections (3 weekends during revenue hours)
- Prepare inspection reports
- Hand enter report into asset management system



Proposed Bridge Inspection Procedures for Sound Transit's C755

- Training
 - Obtain FAA/ATT permission to fly sUAS in restricted airspace
 - **Obtain FTA/APTA approval for TA element numbering system (reporting to NTD)**
 - Schedule inspections
- 

Proposed Bridge Inspection Procedures for Sound Transit's C755

- Perform Ground Inspections
- Perform sUAS Inspections
 - Perform targeted UBIT In-depth Inspections (10 nights non-revenue)
- Prepare Inspection Reports
- Update Asset Database



Innovation That Is Changing the Inspection Approach



Thank You

Rich



rph@deainc.com
360-239-4417



DAVID EVANS
AND ASSOCIATES INC.

Matt



mtku@deainc.com
253-320-1591

