Safety Certification Audit Report
August 21, 2023

Projects: **Downtown Redmond Link Extension**

Audit Type: **Safety and Security Audit Profile 2000**

PREPARED BY (TALSON):

Norman Jones – Auditor   Date: *July 20, 2023*
Robert Farrow – Auditor   *July 24, 2023*

APPROVED BY (TALSON):

Kenneth Brzozowski – Project Manager   Date: *July 31 , 2023*

APPROVED FOR ISSUE (SOUND TRANSIT):

Patrick Johnson – ST Director, Audit Division   Date: *July 31, 2023*

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I. EXECUTIVE SUMMARY

Commencing in June 2023 and extending through July 2023, Talson Solutions, LLC (Talson) performed a desktop Safety and Security Certification Audit (SSCA) of Sound Transit's Downtown Redmond Link Extension project. The audit was performed on behalf of the Sound Transit's Audit Division and focused on the following areas:

Audit Profile 2000 – Design Conformance Verification

- ➢ Assess that safety and security design criteria have been incorporated into the design to support the mitigation of a Certifiable Item / Hazard
- ➢ Evaluate that key SSIMS fields are appropriately referenced and that the correct documentation is uploaded into the form
- ➢ Key documents to be reviewed include Drawings, Specifications and Calculations

Talson found that activities being performed by Sound Transit generally align with the safety and security certification processes and plans with noted exceptions. The sum impact of the audit testing resulted in **no (0) findings** and **one (1) observation** relating to the accuracy and availability of uploaded documentation and references within the Safety and Security Information Management System (SSIMS) Project Dashboard.

II. SCOPE AND METHODOLOGY

The audit was conducted to ensure that system hazards are effectively identified from preliminary engineering to revenue service, inclusive of Certifiable Item traceability and mitigation efforts. A Closeout Briefing was facilitated on July 17, 2023, with project team members, Sound Transit management, and Washington State Department of Transportation's (WSDOT) Rail Safety Oversight Program Administrators (SSO). Continued discussions relating to the preliminary observation, and potential corrective actions followed the Closeout Briefing.

Notable documentation referenced during the audit included:
- ➢ Agency Safety and Security Certification Plan (SSCP), dated August 2018
- ➢ Agency Safety and Security Management Plan (SSMP), dated February 2017
- ➢ Preliminary Hazard Analysis (PHA), dated July 7, 2020
- ➢ SSIMS Project Dashboard
- ➢ Notable documentation referenced throughout the audit include drawings, designs, specifications, and calculations

Talson's audit activities included the following for the performance of the audit:
- ➢ Reviewed certifiable items within SSIMS
- ➢ Prepared Audit Profile 2000 SSCA Checklist for each project, inclusive of 15% stratified sampling of certifiable items
- ➢ Assessed relevant documentation including SSCP, SSMP, and PHA
- ➢ Identified verification methods within the SSCA Checklists along with audit results

- ➢ Conducted a Closeout Briefing
- ➢ Produced audit report draft and final reporting

Safety and Security certifiable items within Sound Transit's SSIMS database were selected for conformance testing specific to the following Certifiable Elements: Guideway; Communications; Stations; Traction Electrification Systems; Parking Garage; Fire Life Safety; Signaling; Safety & Security Plans, Procedures & Training; and Traffic Control.

The Audit Profile Description includes the following areas of audit focus and testing:

Audit Profile 2000 – Design Conformance Verification
To verify that system safety design criteria have been provided for guidance to the design team to support the definition of systems, sub-systems and components, the development of performance requirements, and the final specification of the engineered system. Conformance and design documentation must be uploaded into SSIMs and properly referenced.

Talson selected 15% (147) of the 983 combined closed Safety and Security Certifiable Items that were populated in SSIMS during the June 2023 timeframe for Safety and Security Audit Profile 2000. Verification testing was done through assessing data within the SSIMS dashboard utilizing the following ratings as part of the audit process and are noted within the Audit Checklist:

- **Acceptable:** No deviation from the implemented SSCP or SSMP standards.
- **Conditionally Acceptable:** Minor deviation of the implemented SSCP /SSMP standard and unlikely to result in a nonconforming product or service.
- **Unacceptable:** A significant breakdown or partial breakdown in processes that resulted in a nonconforming product or service. Corrective action must be documented formally and include a root cause analysis.

Ratings below "Acceptable" may or may not equate to the assignment of an audit finding, based on the judgment of the auditor. If an audit finding is assigned, justification for the finding will be listed in Section III of the audit report.

Safety Audit Profile 2000 Verification Testing Results:
A sampling of design conformance testing Certifiable Items within SSIMs resulted in:
- ➢ *Acceptable* testing for 67 out of 124 (54%)
- ➢ *Conditionally Acceptable* testing for 57 out of 124 (46%)

Safety Audit Profile 2000 Summary of Preliminary Audit Findings						
Total CIs	IDs Sampled	Acceptable	Unacceptable	Conditionally Acceptable	Not Applicable	Comments
829	124	67	0	57	0	Doc Reference / Upload

Security Audit Profile 2000 Verification Testing Results:

A sampling of construction conformance testing Certifiable Items within SSIMs resulted in:

➢ *Acceptable* testing for 19 out of 23 (83%)
➢ *Conditionally Acceptable* testing for 4 out of 23 (17%)

Security Audit Profile 2000 Summary of Preliminary Audit Findings						
Total CIs	IDs Sampled	Acceptable	Unacceptable	Conditionally Acceptable	Not Applicable	Comments
154	23	19	0	4	0	Doc Reference / Upload

III.   FINDINGS

The audit resulted in no findings.

IV.   OBSERVATIONS

The audit resulted in the following observation:

Observation No. 1

Certifiable item forms within SSIMs had missing references to uploaded documents and listed files that were not uploaded or located. These have been marked as *Conditional Acceptable* within the audit checklist and shared with Sound Transit staff.

- **Safety Audit Profile 2000**: 57 out of 124 samples (46%) had missing or incomplete documentation
- **Security Audit Profile 2000**: 4 out of 23 samples (17%) had missing or incomplete documentation

The below example is a SSIMS screen shot depicting the missing drawing reference:

Design Conformance

Means of Design Verification-
EP-13 Diagnostic Review and drawings for pedestrian crossing demonstrate line of sight. Drawings or product sheets for audible warning device at South Redmon Station Pedestrian Crossing Drawings of locations of audible warning device for South Redmon Station Pedestrian Crossing.

Drawing Reference(s)-
Pedestrian Crossing Flashers are to be installed per EP-

There are no required drawings referenced in this field.

V.   CONCLUSIONS / REQUIREMENTS

Talson found that the overall certification activities align to the Agency's SSCP with minor exceptions for suggested enhancements and additions to document references within SSIMS. Comments regarding the noted observations should be provided within thirty (30) days after the issuance of the Final Audit Report.

VI.   AUDIT RESPONSE FORM (ARF)

This audit report identified no findings and one (1) observation that requires a response from the appropriate Sound Transit staff.

Observations can be addressed separately, but a management corrective action should be submitted within 30 days of the final distribution of this report and corresponding ARFs. Verification of conforming corrective action and root cause explanation will be reviewed by Talson upon submission of the ARFs by Sound Transit.

Below are the definitions of both a Finding and an Observation, along with the acceptable response requirements.

Definitions:

A. **Findings** indicate areas where Sound Transit or another entity is non-compliant with its own established policy, plan, procedure and/or regulation and which must be corrected and documented in writing on a corrective action plan. Action plans should also include a specific, measurable amount of time it will take to correct the issue and reduce risk.

B. **Observations** do not mean the issue is deficient; however, the auditor has determined that the issue poses the potential risks of becoming a finding in the future if recommended changes are not put in place to prevent occurrence.

VII. DISTRIBUTION:

Safety and Security Audit Dates:	June 2023 – July 2023
Organization:	Sound Transit *(Auditee)*
Responsible Party:	Branden Porter, Director, Transportation Safety & Security *(Auditee)*
Talson Auditor(s):	Ken Brzozowski, Norman Jones, and Robert Farrow *(Auditors)*

Report To:
- Branden Porter, Director, Transportation Safety & Security

Distribution List:
- Mary Cummings, DCEO & Chief Administrative Officer
- David Wright, Chief Safety Officer, Safety Department
- Ron Lewis, Executive Director, DECM
- Eric Beckman, Executive Director, PSO
- Eza Agoes, Deputy Executive Project Director, DRLE
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- Joseph Gildner, Deputy Executive Director, DECM
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- Erin Brumbaugh, Deputy Director, Transportation Safety & Security
- Jodi Mitchell, ST Deputy Director – Safety Business Processes, Transportation Safety & Security
- Matt Mitchell, ST Manager, Transportation Safety & Security
- Heather Wright, Deputy Director, Audit Division
- Michael Flood, ST Senior Auditor, Audit Division
- Molly Hughes, WSDOT State Safety Oversight Program Administrator
- Andrew Royer, WSDOT State Safety Oversight Program Administrator

Attachments:
- Safety AP 2000 Checklist
- Security AP 2000 Checklist
- SSCA Audit Response Form (ARF)