



Readiness Review
of the
Green Line Extension Project
Phase I: System Integration Testing



FINAL REPORT: MAY 26, 2026

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EXECUTIVE SUMMARY

Talson Solutions, LLC (Talson), an independent capital programs advisory firm, was engaged by the Metropolitan Council's (Met Council) Evaluation and Audit Department to perform a readiness review of System Integration Testing (SIT) for the METRO Green Line Extension Project (GLE Project), previously known as the Southwest Light Rail Transit. Civil construction is being delivered by a joint venture between Lunda Construction (Lunda) and C.S. McCrossan, with Lunda serving as the lead civil works contractor. The systems contractor is Aldridge-Parsons Joint Venture (APJV). The \$2.86 billion GLE Project budget is funded by federal, state and local sources. Met Council received an initial Full Funding Grant Agreement of \$929 million for the GLE Project in September 2020.

The objective of the review was to assess whether the GLE Project's governance, planning, resourcing, controls, and documentation were sufficient to support effective SIT. Specifically, the review considered whether:

- SIT activities were governed by defined procedures and schedules.
- Testing activities were traceable to applicable test procedures or requirements.
- Completed tests were supported by adequate documentation and evidence.
- Open or pending tests were identifiable and appropriately tracked.
- Schedule and cost risks relevant to SIT were being monitored.
- Emerging operational readiness risks were identifiable for Pre-Revenue Operations.

The review also assessed whether SIT exit criteria, closeout documentation, unresolved issues, waivers, and risk acceptance processes were adequately defined and controlled to support transition to the next phase of pre-revenue operations.

Talson found that the GLE Project had established adequate foundational controls to support SIT in a controlled and organized manner and defined testing procedures, documented test activity tracking, and evidence of completed testing for the sample reviewed.

Overall, Talson concluded that SIT readiness controls were reasonable, aligned with industry standards and compliant with established procedures and governance document for the GLE Project's current phase. Talson also confirmed that the SIT being performed in three phases, was on schedule for completion by December 2026 and full conveyance to rail activation activities with eventual revenue operations planned for 2027.

Talson did not identify matters requiring a formal audit observation, but did discuss two notable results to GLE Project representatives and Met Council regarding testing and coordinating rail activation activities.

PROJECT BACKGROUND

The GLE Project will deliver approximately 14.5 miles of new light rail transit infrastructure, including 16 stations, two light rail tunnels, 29 bridges, six pedestrian tunnels, and related retaining wall, freight rail, and trail reconstruction improvements. The corridor extends through Hennepin County and will connect downtown Minneapolis with St. Louis Park, Hopkins, Minnetonka, and Eden Prairie.

In September 2019, Aldridge/Parson Joint Venture (APJV) was awarded a \$194 million systems contract for the GLE Project. Subsequent civil construction delays deferred systems integration work by approximately 35 months. In December 2025, the GLE Project entered its planned, year-long SIT phase, a key transition point from construction toward pre-revenue testing and operational readiness.

As of early December 2025, the GLE Project was substantially advanced, with civil construction 95% complete, and systems construction 85%¹. All 16 stations were under construction or nearing completion, and major track installation and tunnel work were substantially complete. SIT was underway and expected to continue through 2026, along with safety certification and pre-revenue readiness activities. Revenue service is anticipated in 2027.

The SIT for the GLE Project is organized into three sequential phases², as shown below, to progressively validate system functionality across the corridor.

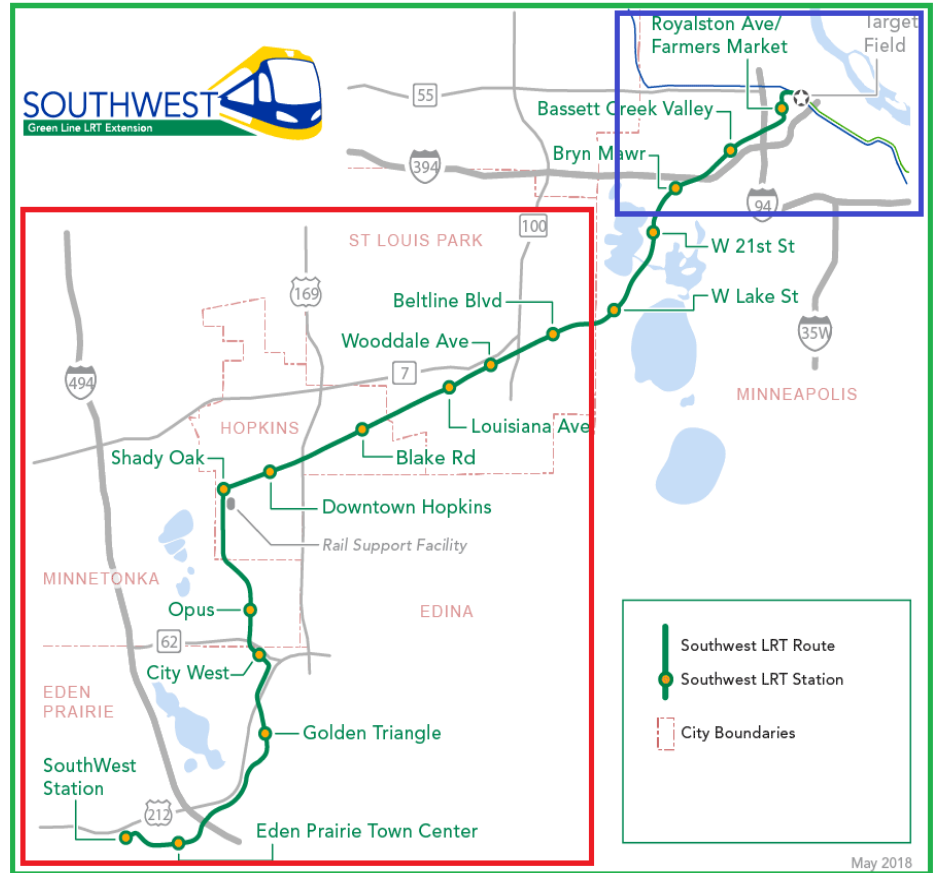
¹ Metropolitan Council's Meeting Minutes of the Southwest Corridor Management Committee, December 3, 2025

² Metro Green Line Extension FTA/PMOC Review Meeting Power Point Presentation, December 16, 2025

Phase 1 SIT (July 2025 – July 2026; red box) covers testing from South-West Station to Beltline Interlocking, spanning the majority of the alignment through Eden Prairie, Minnetonka, Hopkins, and St. Louis Park.

Phase 2 SIT (July 2026 – September 2026; blue box) focuses on the urban segment between Bryn Mawr and the Target Field Interchange, where integration with existing systems occurs.

Phase 3 SIT (September 2026 – December 2026; green box) expands testing across the full corridor, validating end-to-end system performance from Southwest Station to Target Field.



REVIEW APPROACH

Talson conducted the review in alignment with the Institute of Internal Auditors’ Global Internal Audit Standards (“Standards”). These Standards provide guidance that engagements be planned and performed using a systematic, disciplined, and risk-based approach designed to obtain sufficient and appropriate information to support the engagement’s results. Consistent with the Standards, Talson developed and executed a detailed workplan aligned with the review objectives.

The review assessed whether established controls were adequate to support SIT. The review included SIT governance, oversight, issue escalation, planning, schedule alignment, staffing, logistics, requirements-to-test traceability, test coverage, procedure quality, execution controls, evidence standards, data integrity, reporting, interface coordination, and system-of-record practices, exit criteria, closeout documentation, unresolved issues, waivers, and risk acceptance processes supporting transition to pre-revenue operations.

Talson maintained independence and objectivity throughout the engagement. In accordance with the Standards, independence means the review team was free from conflicts of interest or undue influence that could impair its ability to perform the engagement objectively and without bias.

Based on the procedures performed, Talson believes the evidence obtained provides a reasonable basis for the results presented in this report.

WORK PERFORMED

Metro Transit's GLE staff was accessible, cooperative, and responsive throughout the review. Talson commenced its review of documentation in January 2026. Fieldwork was performed at Met Council's offices in February 2026 and included document review and interviews with GLE Project representatives.

Following the fieldwork, Talson conducted supplemental discussions and reviewed additional documentation provided by the Project team through April 2026.

Specific procedures performed included, but were not limited to, review of the following:

Project Governance and Management

1. Project Management Oversight Report
2. Project Office Organizational Chart
3. Project Management and Quality Assurance Plans

Rail Activation and Operations Readiness

4. Rail Activation Plan
5. Training Log

System Integration Testing

6. Supervisory Control and Data Acquisition (SCADA) Contract
7. Systems and Tunnels Facilities Contract
8. APJV Systems and Tunnels Integration Test Plan
9. Testing Schedule
10. Consolidated Test Matrix and Tracking Sheet

Safety and Security Certification

11. Safety and Security Certification Plan
12. Safety and Security Management Plan
13. Preliminary Hazard Analysis
14. Safety Certification Sheet

Other Documents

15. Integrated Master Program Schedule
16. Milestone Punchlist
17. Civil Remain Work Items
18. Contractor Submittal Log

A complete list of documents reviewed and interviews conducted is listed in [Appendix A](#).

REVIEW RESULTS

Talson found that the GLE Project had established an adequate governance and control framework to support SIT in a controlled, organized, and generally well-documented manner. No matters were identified that required a formal audit observation.

Although no formal observations were noted, the following results were discussed with the Metro Transit's GLE Project staff.

No. 1: Preliminary Rail Activation Activities

The GLE Project had begun certain preliminary rail activation activities while SIT Phases 2 and 3 remained in progress. Although this matter did not rise to the level of a formal observation, discussions during the review identified both benefits and risks associated with initiating rail activation activities before completion of all SIT phases.

Early rail activation may provide operational benefits by allowing operators and maintenance personnel to gain advance familiarity with light rail vehicles, operating conditions, system interfaces, and emerging lessons learned before pre-revenue operations. However, commencing activation activities before full SIT completion may also create risks related to system ownership between contractor, SIT team and Rail Operations, warranty responsibility, asset acceptance, defect attribution, and coordination between the Project team, contractors, vendors, and operations personnel.

Accordingly, continued coordination and documentation of roles, responsibilities, asset status, warranty implications, and unresolved testing or defect items will be important as the GLE Project transitions from SIT to broader activation and pre-revenue activities.

No. 2: Testing Procedures / Results

A selective, stratified sample of 26 field testing activities and related procedures/results, representing approximately 15% of the 170 activities provided, was reviewed to assess whether testing documentation was available in Trimble Unity Construct and supported by established evidence standards. The review considered applicable documentation requirements, data capture methods, photo or video support where applicable, required signoffs, and witness documentation.

Of the 26 sampled activities, 22 activities were ready for full compliance testing and were 100% completed. The remaining four sampled activities shown below did not have completed test results available at the time of review. Three activities were not completed because the related testing was scheduled for Phase 3 of SIT in Fall 2026:

- System-Wide Reliability Testing (CDRL: 014600.005.XXX)
- System-Wide EMI Final Survey Report (CDRL: 344284.078.001)
- Tunnel Ventilation Interface Test (CDRL: 230812.001.004)
- The fourth activity, Signal Grounds Test (CDRL: 344276.096.XXX), was in progress and had not been completed at the time of review

The available records generally demonstrated that test activities were documented, retained in the system of record, and supported by evidence sufficient to verify completion for the sample reviewed.

Based on the sample reviewed, Talson did not identify a documentation exception requiring a formal observation. Talson anticipates verifying the completed results for the pending and ongoing test activities during a future audit phase.

End of Report

Appendix A
Documents Reviewed & Interviews Conducted

Documents Received:

1. Project Management Oversight Report No. 170, December 2025
2. Aldridge-Parsons Joint Venture (APJV) Work Permit Request Forms, Undated
3. Milestone punchlist, Undated
4. Green Line Extension Civil Remaining Work Items, Undated
5. Green Line Extension Project Office Chart (Support Operations Officer), December 2025
6. Project Management Plan, September 2023
7. Quality Assurance Plan, September 2023
8. Rail Activation Plan, September 2023
9. Systems Integration
 - Supervisory Control and Data Acquisition (SCADA) Contract, June 4, 2019
 - Systems and Tunnel Facilities (STF) Contract, February 13, 2023
 - APJV STF Test Plan, May 13, 2025
 - Testing Schedule, February 4, 2026
10. Safety and Security
 - Certification Plan Final Revision 2, September 2023
 - Management Plan, September 2023
11. Contract Data Requirements List – Training Log, February 5, 2026
12. Contractor Submittal Log Procedures, Undated
13. Preliminary Hazard Analysis Matrix, Undated
14. Draft Operating Hazard Analysis Form, January 29, 2026
15. Systems and SCADA Issues Tracking Sheet, Undated
16. Safety Certifications Sheet, February, 5 2026
17. Southwest Light Rail Transit Contract No. 17P085 Contract Data Requirements List 203479-50 External Interface Specification, September 2020
18. Basis of Schedule Report Rev 18.0, December 2023
19. Integrated Master Program Schedule 19.0, September 5, 2024
20. Metropolitan Council’s Meeting Minutes of the Southwest Corridor Management Committee, December 3, 2025
21. Metro Green Line Extension FTA/PMOC Review Meeting Power Point Presentation, December 16, 2025

Interviews Conducted (Metro Transit):

1. Brad Odegard, Assistant Director, Construction, GLE
2. Nic Dial, Deputy Project Director, GLE
3. Erick Schauer, Manager, Construction, GLE
4. Mark Benedict, Director, Light Rail Operations
5. Michael Guse, Project Manager, Light Rail Operations
6. Jim Alexander, Project Director, GLE
7. Kelly McKeon, Agreement Manager, GLE