

PROJECT TYPE: Facility Condition Assessments & Structural Assessment

CLIENT NAME: City of Portland, Maine

PROJECT DATES: May 2024 - January 2025



PROJECT OVERVIEW

The City of Portland was working to envision the future of the 1915 James A. Banks, Sr. Portland Exposition Building. While not designated a Historic Structure, there is a lot of inherent cultural value from the building's past. After 110 years of service, the Expo is now the oldest operating municipal arena in the United States.

In 2024, the City of Portland was considering investing substantial funds in the Exposition Centre for modernization of HVAC systems, which would include cooling the arena and potentially adding insulation to the envelope. City staff also felt it prudent to review the structure to confirm that these investments are worthwhile.

Roth IAMS was retained to complete a comprehensive Facility Condition Assessment (FCA), supported by a phase II structural assessment, analysis, and engineering report, to provide the City with a clear defensible understanding of asset condition and renewal priorities.

Using STAAD Structural Analysis Software, and SLAM Capital Asset Management software, the Roth IAMS team captured consistent, element-level condition data in the field, forming the foundation for informed planning and budgeting decisions.

PROJECT SCOPE

The project scope included:

- Facility Condition Assessment of the selected municipal asset
- Phase II Structural assessment, Structural Analysis, and supporting report
- Element-level condition ratings based on observed conditions
- Prioritization of renewal needs
- Class D budget cost estimates to address identified deficiencies
- Data capture and organization within the SLAM CAM platform

All assessments were completed using standardized Roth IAMS methodologies to ensure accuracy, consistency, and defensibility of results.

KEY CHALLENGES & CONSTRAINTS

CLIENT IMPACT AND SUCCESS

- The project was delivered on time and on budget, providing the City of Portland with a reliable dataset to support near- and long-term capital planning and decision making.
- By combining FCA data with a focused structural assessment, the City gained enhanced visibility into both building system performance and structural risks—allowing for more confident renewal prioritization and public consultation.

Challenge: A holistic building condition assessment was required to determine the future capital renewal investment needs for the facility to continue operating in the same manner to meet modern safety and accessibility standards, to support modern HVAC upgrades, increased energy efficient roofing insulation make-up, increase snow loading code changes, and changes in use and occupancy loading of the exposition arena and fan viewing areas.

Solution: Structural analysis included site measurements and computer modelling of the original building's main curved roof truss members and cast-in-place concrete floor structures. Invasive and Non-Invasive testing was also undertaken, which included concrete coring, scanning with GPR, and concrete sample lab testing.

Roth IAMS deployed a multidisciplinary team and leveraged mobile data collection through SLAM to efficiently capture and analyze field data. This integrated approach enabled timely delivery of both FCA and structural assessment outputs without compromising data quality.

CONCLUSION

Results of the structural analysis indicated that the Exposition Building will require significant investment in repairs to continue operating in the same manner to meet future upgrade requirements. As a summary from the Facility Condition Assessment, the Opinion of Probable Costs (OPC) estimated that the work may cost more than \$30 million. The City of Portland is currently looking to the competitive process to determine the potential scope and cost. They will also engage the Portland Maine community regarding the future of the Expo. They plan to discuss next steps, including whether to renovate, Adaptively Re-Use the existing structure, or replace the Expo completely.

The City of Portland engagement demonstrates how targeted Facility Condition Assessments, paired with specialized engineering evaluations, can quickly deliver actionable insight. By partnering with Roth IAMS, the City now has a defensible, data-driven foundation to guide capital renewal decisions and manage asset risk with confidence.

