

BROADWAY SUBWAY PROJECT

VANCOUVER, BRITISH COLUMBIA, CANADA

SERVICES

Durability Design
Service Life Modeling
Construction Phase Consulting

PROJECT SIZE

\$2,954,000,000

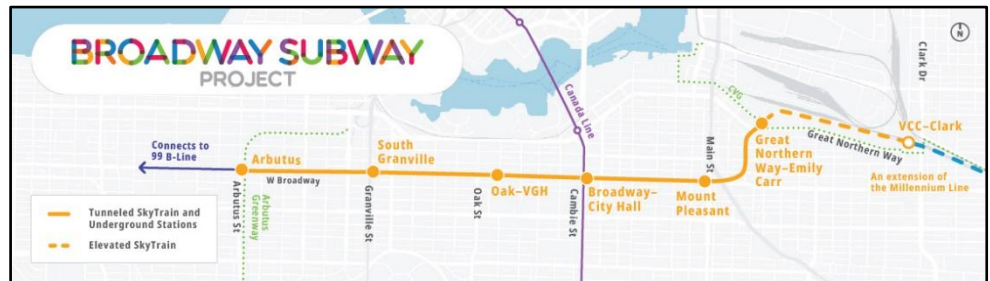
KEY PERSONNEL

Kyle Stanish, President/Managing Principal
Ali Inceefe, Project Engineer

REFERENCE

Tomás Jiménez, PEng
Non-systems Design lead
Broadway Subway Project Corporation

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The Broadway Subway Project is a 5.7 km extension of the Millennium Line in Vancouver, BC, and includes the design and construction of a 700 m elevated guideway, 5 km of underground guideway, and 6 underground stations. TCG was contracted by the Broadway Subway Project Corporation to provide durability design services to meet the 100-year service life design requirement for the concrete structures.

The durability study included service life modeling of concrete elements with a probabilistic approach. Exposure conditions for the analysis were determined by a sister structure testing program and associated data processing performed by TCG. The analysis results were summarized to provide key alternatives to the design-build team. The durability study also included strategies for design detailing, materials selection and prequalification testing, construction quality, inspection, QA/QC of materials and construction, operations and maintenance, and repair to ensure the 100-year service life is met.

TCG also acted as the durability expert reviewer for material acceptance, field design changes, non-compliances, and any concrete durability-related issues during construction.