In 2010, as part of its Asset Management (AM) program, the Vancouver Fraser Port Authority (VFPA) began pro-actively managing the life cycles of its assets. Currently, VFPA’s most significant achievement resulting from this process was the development of a 50-year asset preservation program for the Neptune sheet pile bulkhead wall “the wall”, which was originally constructed in 1967 and needs to be preserved for the foreseeable future. A summary of the activities undertaken is as follows:

- **Location Referencing:** A three dimensional GIS of the wall was developed in order to reference all past and future condition inspection and survey information.
- **Condition Inspections:** Marine structural engineers, corrosion engineers and dive crews performed a complete inspection of the exposed portion of the wall.
- **Corrosion and loss of support rate models were developed using mechanistic empirical predictive models.**
- **Predictive models are used in structural models to derive current and future reliability projections using a simulation developed for the United States Army Corps of Engineers.**
- **A risk profile is developed based on the financial consequences of loss of reliability.**
- **Several alternative combinations of preservation treatments (strategies) and associated costs, improvements to reliability/reduced risk were developed.**
- **Life Cycle Cost Analysis determined the present value costs and benefits of the various strategies.** The selected strategy immediately saves $3M versus the previous planned maintenance program; a savings of over 15% of the asset value, while ensuring the probability of unsatisfactory asset performance.

This process has now been adapted for networks of bridges and other structural assets.