

User name: Exo Inc.

Project name: Ohio Falls river crossing towers

Location: Louisville, Kentucky, United States

Background:

- Located on the Ohio River, the Ohio Falls Hydro Station includes two towers built in the 1920s supporting a transmission line crossing the river.
- Rather than building a new crossing in another location, the utility company sought to reuse current towers.
- To determine their structural integrity, the utility company engaged Exo to inspect them.

Challenges:

- Faced constrained site access and a lack of available existing drawings.
- Needed an integrated modeling solution to model existing structures and analyze reusability.

Solution:

- Exo used iTwin Capture to process 250 gigabytes of drone-captured photos into a reality mesh model.
- Based on a digital twin, they evaluated structural loads to identify the appropriate remediation solution to ensure structural stability and determine an estimated life extension for the towers.

Outcomes:

- The open digital twin helped the team collaborate and bring together data in a geospatial context and at scale, improving infrastructure delivery and performance.
- Saved a potential 10 years of permitting delays and approximately 80 million dollars building a new tower crossing.

Quote: "Use of the PLS-CADD, PLS-TOWER with the iTwin Capture modeler will have saved the utility approximately 80 million dollars on this project and project delays of up to 10 years to obtain permits." – *Michael D. Miller, Civil and Structural Engineer, Exo Inc.*

Image caption/courtesy 1: Located on the Ohio River, the Ohio Falls Hydro Station includes two towers built in the 1920s supporting a transmission line crossing the river. *Image courtesy of Exo Inc.*

Image caption/courtesy 2: Exo used iTwin Capture to process 250 gigabytes of drone-captured photos into a reality mesh model. *Image courtesy of Exo Inc.*

Image caption/courtesy 3: The virtual assessment saved the utility company a potential 10 years of permitting delays and approximately 80 million dollars building a new tower crossing. *Image courtesy of Exo Inc.*

For more information, please contact Bentley PR at PR@news.bentley.com.