

User name: QK4, Inc.

Project name: Going digital survey with Bridging Kentucky

Location: Kentucky, United States

Background:

- Bridging Kentucky is focused on improving the condition of over 1,000 deficient bridges across the state of Kentucky, USA, to enhance and ensure traveler safety and mobility.
- QK4 led land surveying for the project, which involved inspecting, documenting, and rehabilitating bridges.
- The project sought to prevent the closure of numerous bridges across the state, which would impact the lives of residents.

Challenges:

- Older methods would take over a decade and cost over USD 7 million, requiring a new approach to land surveying and engineering.
- Required finding efficiencies for each step; bridges needed to be designed with intelligence.
- 2D drawings could capture field elevation data but were not easily compatible with 3D models.

Solution:

- iTwin Capture, OpenRoads, and ProjectWise enabled a fully digital approach for unifying data, helping teams collaborate.
- Surveyed, modeled, and communicated 3D data for statewide bridges.
- Design engineers use the project's digital twins, setting new standards in bridge surveying, design, and construction.

Outcomes:

- By better connecting people and leveraging data, engineering and construction firms and owner-operators can achieve greater awareness and collaboration to restore aging bridges.
- Delivered with a 90% reduction in time while saving 50%, or USD 3 million, in costs.

Quote: "A picture is worth a thousand words, and a model used is worth a book." – Royce Meredith, PE, KYTC Program Manager, Bridging Kentucky.

Image caption/courtesy 1: QK4 lead land surveying for over 1,000 bridges across Kentucky. *Image courtesy of QK4 Inc.*

Image caption/courtesy 2: Using Bentley's Open applications for bridge surveying reduced the time needed by 90% and costs by 50%. *Image courtesy of QK4 Inc.*

Image caption/courtesy 3: Design engineers now use the 3D models as a guide for rehabilitating and maintaining bridges. *Image courtesy of QK4 Inc.*

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

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