

User name: JMT

Project name: Digital experience for I-95 Rappahannock River crossing construction project

Location: Fredericksburg, Virginia, United States

Background:

- The development of six miles of new southbound lanes and four bridges was needed to alleviate congestion along I-95 across the Rappahannock River in Virginia, USA.
- The roadway is one of the busiest in the United States.
- JMT was contracted to design and construct the project.

Challenges:

- Had to maintain continued traffic during construction.
- Project was subject to strict environmental regulations.
- Previous attempts to renovate the roadway failed.

Solution:

- Bentley Open applications were used to model the existing roadway, proposed designs, and construction plans.
- Simulation features assessed traffic management and identified and resolved issues early to save time and resources.
- Animations through Bentley LumenRT enhanced stakeholder and public understanding and engagement.

Outcomes:

- Bentley technology helped the team and stakeholders collaborate and bring together data in a geospatial context and at scale, improving infrastructure delivery and performance.
- The 3D models and simulations shortened construction time and minimized future repairs.

Quote: "By using Bentley products from start to finish, the project team created more than just paper documents, but a whole digital journey that would have been virtually unthinkable without Bentley's open design platforms." – *Garth Donahue, PE, Design Center of Excellence Director, JMT.*

Image caption/courtesy 1: JMT selected Bentley Open applications to model the existing roadway, propose designs, and create construction plans. *Image courtesy of JMT.*

Image caption/courtesy 2: Advanced modeling and simulation features allowed JMT to effectively assess traffic management and the sustainability of the new roadway designs. *Image courtesy of JMT.*

Image caption/courtesy 3: The digital twin solution resolved issues early on to save time and resources, as well as minimize community and environmental impact. *Image courtesy of JMT.*

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

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