



PREVU3D



Historic Bridge Asset Inventory



Case Study

How WSP used reality capture and PrevU3D to deliver a complete asset inventory of a nationally preserved FDOT bridge, from point cloud to Revit model.

Scan to Deliverable: WSP's Full Asset Inventory of a Historic Bridge with Prevu3D

How a multi-platform reality capture workflow gave FDOT something they never had: a complete, contemporary record of a nationally preserved structure.

Client: Florida Department of Transportation (FDOT)

Project: Blue Bridge, Full Asset Inventory & Structural Documentation

Scope: Reality capture, 3D modeling in Revit, Prevu3D visualization

Industry: Infrastructure / Transportation

The Challenge

When FDOT needed a detailed inventory of a historically preserved steel bridge, they had one major problem: no contemporary model, no CAD drawings, and no reliable record of existing conditions. What they had were old hand-drawn plans and a backlog of deferred maintenance decisions, specifically, a program to replace aging rivets with bolts that nobody could accurately track.

The Approach

WSP's Reality Capture team, led by Adam Moutafis, deployed a multi-platform capture strategy combining terrestrial Leica scanners with a RIEGL VZ600i mounted on a boat to capture the full structure, including beneath the bridge deck from the water.

The resulting point cloud data was imported into Prevu3D, where the team could navigate the environment with spatial precision, cutting sections, examining structural details, and orienting themselves in context before making a single modeling decision.

From there, the team moved into Revit for full asset modeling.

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We modeled every single bolt, every single rivet on this entire bridge, probably tens of thousands. It took a long time to get it done right.

Adam Moutafis, Reality Capture Manager, WSP

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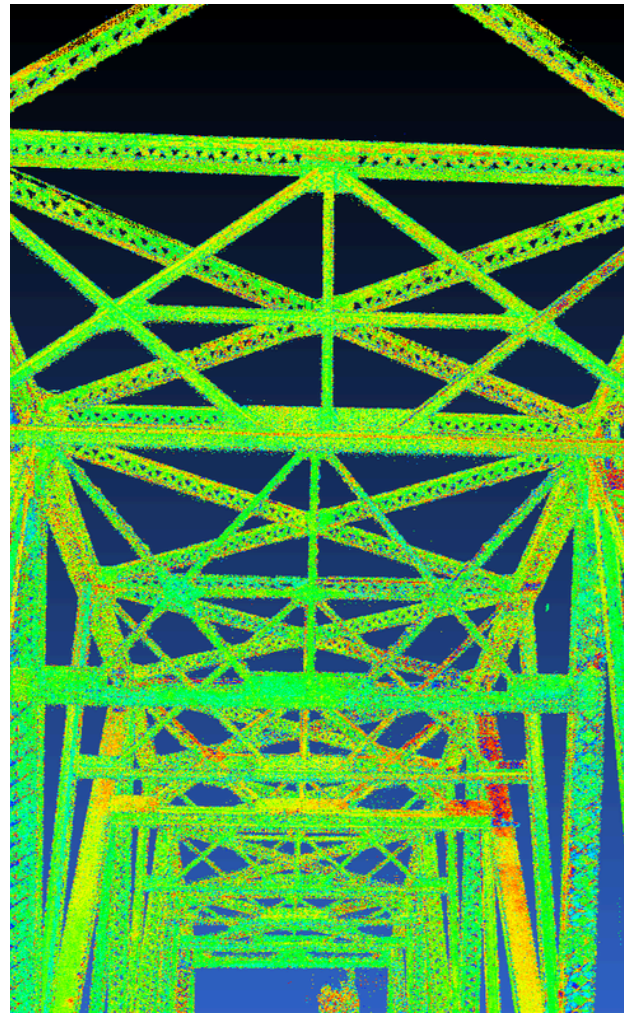
Where Prevu3D Made the Difference

Before Prevu3D entered the workflow, deliverables were typically handed off as heavyweight Leica LGS files, proprietary formats that could run tens to hundreds of gigabytes, require specialized software to open, and provided almost no intuitive visual experience for end users.

The result? Data that sat on a drive and was often never used.

Prevu3D changed the equation. The team was able to load the full bridge model into an accessible, web-based 3D environment, where an FDOT stakeholder could navigate the bridge deck, zoom in on connection details, and immediately understand the structure's spatial reality.

For the WSP production team, the value was equally concrete. Prevu3D made it easy to cut sections and generate the precise elevation views needed for each structural cross-member, dramatically accelerating the extraction workflow in Revit.



Raw intensity-colored point cloud of Blue Bridge: precise data, but inaccessible without the right tools.



From reality capture to Revit model: the same connection, two views. Every bolt documented, every rivet modeled.

The Outcome

FDOT received a complete, contemporary asset inventory of a nationally registered historic bridge, the kind of record that simply didn't exist before. The deliverable gave them a reliable foundation for ongoing maintenance planning and rivet replacement tracking, tied to actual visual documentation of existing conditions.

Internally, the project became a proof point that spread across WSP's bridge inspection and engineering teams. When colleagues saw how intuitively the Prevu3D model could be navigated, and how much clearer it was than anything they'd worked with before, new project opportunities followed.

"When you give it good data, Prevu3D will do a very good job of making it look nice," Adam notes. But the real story here isn't the visuals. It's what those visuals unlock: faster decisions, stronger client confidence, and data that gets maximized.



WSP field crew deploying scan targets across the bridge deck during the multi-platform reality capture survey.

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The value was the ease of being able to cut sections and view these things just as they are. Being able to cut this and view it in a way that we're able to do extraction really cleanly in Revit, it really made our lives very easy.

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Adam Moutafis, Reality Capture Manager, WSP

About Adam Moutafis



Adam Moutafis is Reality Capture Manager for the southern United States at WSP, where he leads large-scale laser scanning and digital reality capture efforts for complex infrastructure and industrial projects. With a background in land surveying and geomatics, Adam specializes in translating high-density point cloud data into practical, decision-ready outputs for engineers, owners, and asset managers.

About Prevu3D

Prevu3D is the operational as-built platform for industrial teams—turning reality capture into a connected 3D environment that engineering, operations, and compliance teams can act on from anywhere. Built around three pillars of Capture, Manage, and Connect, the RealityPlatform™ transforms scan data from any source into a navigable spatial environment that connects directly to the tools teams already use: CAD, BIM, ERP, PLM, and IoT systems via RealityConnect™.

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