



Underbridge inspection unit being employed by Ohio Department of Transportation on the Jeremiah Morrow Bridge, Ohio's tallest bridge, in Warren County.

EQUIPMENT

The Benefits of an UBI

Bridge inspectors make the most out of in-demand underbridge inspection units

May 30, 2025 5 min read

By Jessica Porter, Contributing Author

The United States is home to more than 623,000 bridges and nearly 5 billion motor vehicles cross those structures every day, according to the American Society of Civil Engineers. All bridges must be inspected regularly to ensure safety, a hot topic since Pittsburgh's Fern Hollow Bridge collapsed in 2022, the same day President Joe Biden was scheduled to visit the city to speak about infrastructure.

"Every bridge in the federal road system has to be inspected at least every two years, depending on the condition of the bridge. Some are inspected monthly," said Todd Hicks, regional sales manager for McClain & Co., Inc., an underbridge access equipment supplier.

One of the most effective methods is using an underbridge inspection unit (UBI). Though a number of manufacturers produce these units, they're often referred to as a SNOOPER™, a name trademarked by original manufacturer Paxton-Mitchell Co., LLC.

"While similar access sometimes could be obtained using ladders, bucket trucks or manlifts, none of these access tools are as quick and easy to use as the underbridge inspection unit," said Ohio Department of Transportation (ODOT) Bridge Inspector Jared Backs.

UBIs are specialized trucks with a boom that reaches over and under a bridge to allow access beneath the structure. They're particularly useful on bridges with a high vertical distance over water or canyons.

"Underbridge inspection units are great when it comes to certain bridge types like large steel girder bridges over massive canyons where drones or rope access do not work," said Craig Jenkins, bridge inspection team lead and structural inspection engineer with Stantec, an engineering, architecture, and environmental consulting firm. "Multiple people can be in the bucket and

multiple operators can function at once to allow you to inspect a bridge very efficiently.”

High Demand, Low Availability

UBIs and qualified operators are almost always in high demand. UBIs don’t sit on lots waiting for a buyer—they’re made to order and built to spec. Costing between \$600,000 to close to \$2 million for one unit, few companies have made the investment.

“The size of these machines runs the gamut,” Hicks said. McClain is one of the few companies that rent UBIs. The company owns around 40 machines of various sizes and rents them with an operator to DOTs and engineering companies around the country.

The longest boom available on a UBI is 75 feet, and many modern bridges are wider, with some being up to 135 feet across, according to Hicks. Though platform boom attachments can increase the reach, they often don’t meet full width requirements, which means inspectors need to use two machines or a longer rental period to conduct inspections.

The combination of limited available machines, the frequency of bridge inspections required, and the measurements of modern bridges makes coordinating inspections with UBIs an art. Scheduling inspections using UBIs requires careful coordination of machine, operator and inspector availability, traffic control to manage lane closures, and municipal regulations—not to mention a decent weather window.

Scheduling UBIs efficiently is a skill Jenkins has acquired while working with UBIs for nearly 10 years. He works closely with DOTs to inspect bridges of all sizes across the country. Some DOTs rent UBIs and others, like ODOT, own their equipment. ODOT owns two UBIs and conducts 400 to 450 bridge inspections each year with those units.

When working with DOTs that use a third-party equipment rental company, Jenkins manages scheduling the transportation of the truck as well as optimizing the schedule to make the most of the rental fees.

"If you use a third party, it depends on where the truck is located and transportation of the truck. Sometimes they need to be driven across the country," Jenkins said. "Travel time and daily rental fees make them very hard to acquire."

Jenkins has learned to coordinate this process by renting equipment as far in advance as possible. He aims to establish relationships with rental companies, clients and consultants to make the most of each rental period. With rental fees ranging from \$3,500 to \$7,000 per day, according to Hicks, optimizing the rental schedule makes a meaningful impact on the bottom line.

Efficiency Through Technology

Like nearly all corners of construction equipment, technology and innovation have improved UBI's safety and efficiency. Historically, UBIs include a bucket attached to a boom. Inspectors now often use features like cage attachments to access more dangerous areas or platform attachments that extend further than the boom can reach.

"The platform is great because you can reach more of the structure in the same amount of time as a bucket," Jenkins said. "You increase the efficiency of the inspection and reduce labor costs."

Sensors better monitor the weight on the platform, opening the possibility for more inspectors to safely work from the platform at one time. Cameras allow the driver in the truck on the bridge to see what's happening during the inspection, improving safety for the inspectors under the bridge. In the past, the controller was hard-wired in the machine and the operator needed to remain in one spot. Now, controllers are remote, so operators can move

around the truck while operating the boom.

With few UBIs available to conduct inspections on every U.S. bridge, inspectors must make the most efficient use of existing machines as possible, leveraging all available technology—an effort that takes experience, strong attention to detail and careful coordination. **RB**

Jessica Porter is a freelance writer and editor who specializes in construction. For more information, visit www.JessicaLynnePorter.com.

Source URL: <https://www.roadsbridges.com/equipment/article/55288018/the-benefits-of-a-ubi>