Michigan Soybean Farmers Partner with Midland County to Promote Better Rural Bridge Evaluation and Management

Michigan farmers depend upon rural bridges to efficiently deliver their commodities to the local elevator or processing facility. The structural integrity of this infrastructure is essential to farmer profitability. Unfortunately, an increasing number of rural bridges in the state are load limited, requiring vehicles transporting agricultural commodities to detour – often at significant distances. This results in additional costs being inserted in the nation’s food delivery system and diminished profitability for Michigan farmers. While the need to maintain and upgrade rural bridges is on the increase, available resources to address this challenge remain insufficient.

In an effort to promote better evaluation and management of the state’s rural bridges, the Michigan Soybean Promotion Committee and the Soy Transportation Coalition have partnered with the Midland County Road Commission in central Michigan on an innovative project designed to demonstrate the effectiveness of load testing technology when assessing the condition of rural bridges.

“When managing and maintaining our county bridge inventory, motorist safety is the number one priority,” says Terry Palmer, managing director of the Midland County Road Commission. “However, what we have learned is that the sole reliance on visual inspection of bridges can result in a percentage of bridges being unnecessarily load limited or identified for rehabilitation or replacement. This not only results in costly and unwarranted detours, but it prevents our local governments from most efficiently allocating scarce resources to those bridges in greatest need of replacement and repair.”

The partnership – funded by the Midland County Road Commission, the Michigan Soybean Promotion Committee, and the Soy Transportation Coalition – employs the use of load testing sensors attached to the underside of the bridge. After the sensors are installed, test loads are driven over the
various segments of the bridge surface to determine a precise understanding of the capabilities of the bridge.

“The objective of load testing is to remove much of the subjectivity from the traditional visual inspection approach,” says Palmer. “In doing this project, it is our goal to highlight to Michigan counties and municipalities that this technology can be a cost-effective tool when managing and maintaining their bridge inventory.”

The joint project began in the spring of 2017 and has thus far resulted in the testing of three Midland County bridges. Each bridge originally had been load limited due to a perceived concern via the traditional visual inspection approach. However, after evaluating the bridges via load testing sensors, it was determined that each bridge did not require a load limit and could safely accommodate all legal loads for trucks operating in Michigan. Additional rural bridges will be evaluated in the upcoming months.

“Given that our children and grandchildren are using these rural bridges on a daily basis, safety is most important,” says Andy Welden, a soybean farmer from Jonesville, Michigan, and director on the Soy Transportation Coalition. “Promoting this technology helps develop a better understanding of which bridges truly need repairs and which ones can safely handle the trucks that transport the soybeans and grain produced in the state. Michigan soybean farmers are pleased to help partner in this important project.”

“If we have a rural bridge problem in this country, which we do, and if resources to address this problem are scarce, which they are, they we should do all we can to ensure we get the diagnosis correct,” explains Mike Steenhoek, executive director of the Soy Transportation Coalition. “This project is designed to increase clarity of the condition of rural bridges and enhance stewardship of the bridges themselves and scarce taxpayer dollars. It is our hope that other states throughout the country will emulate this innovative approach.”

Questions can be directed to Mike Steenhoek, executive director of the Soy Transportation Coalition, at 515-727-0665 or Terry Palmer, managing director of the Midland County Road Commission, at 989-687-9060.

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*Established in 2007, the Soy Transportation Coalition is comprised of thirteen state soybean boards, the American Soybean Association, and the United Soybean Board. The goal of the organization is to position the soybean industry to benefit from a transportation system that delivers cost effective, reliable, and competitive service.*