Nebraska Engineering is paving the way when it comes to maintaining smarter and safer infrastructure.

Thanks to partnerships with Union Pacific and NEBCO, as well as the University of Nebraska Omaha College of Information Science & Technology, the College of Engineering is exploring how Big Data technologies and techniques can monitor and help maintain infrastructure that will enhance national transportation safety.

Currently, more than 60,000 bridges nationwide are declared as deteriorating or decaying. Nebraska Engineering, along with a private-public consortium, is researching ways to modernize transportation, including the installation of sensors and technology to monitor everything from weather and road conditions to traffic and applied loads.

Ultimately, college researchers, bridge engineering administrators, designers and researchers, and individuals involved in Big Data generation, collection and decision-making, are seeking to create a campus institute dedicated to ensuring the safety of our nation’s bridges and infrastructure.

This process has begun following a successful workshop in 2015 in Omaha (BRIDGE-ing Big Data) featuring university faculty and industry professionals from across the nation. Topics discussed at the workshop included successes to date and future challenges and opportunities, integrating big data into bridge/management/infrastructure, and the role of modeling, analytics and sensors/data collection.

“This is an era of increased demand on roads and bridges, but resources to build and maintain them are shrinking, along with funding. So we have to come up with something different in order to best utilize our best technologies and data to address aging infrastructure challenges.”

Daniel Linzell, Ph.D.
Voelte-Keegan Professor and chair of the UNL Department of Civil Engineering