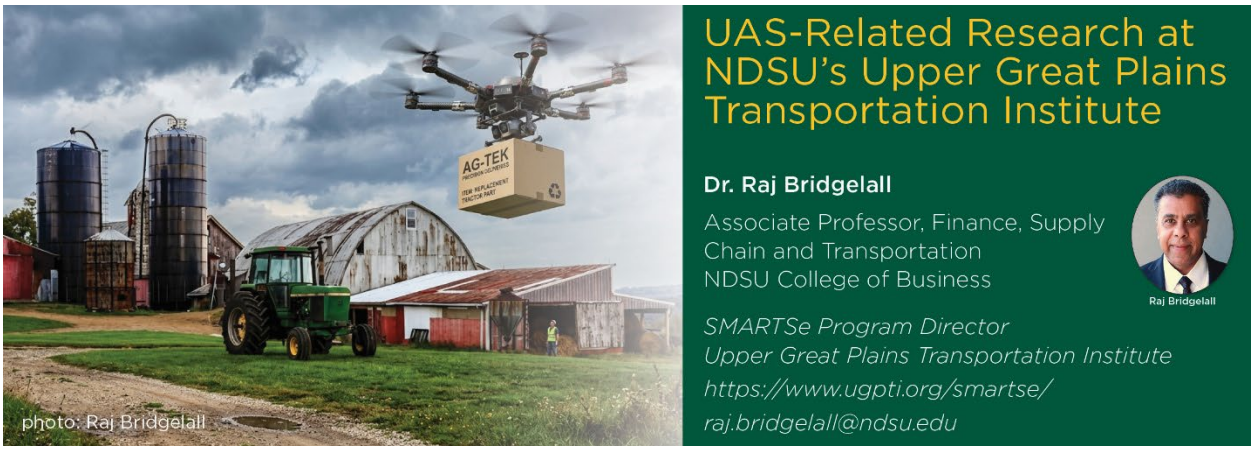

Dr Raj Bridgelall's research at North Dakota State University's Upper Great Plains Transportation Institute examines Advanced Air Mobility (AAM), autonomous aircraft, and drones as emerging components of transportation and logistics systems. His work focuses particularly on using drones for cargo delivery, rural freight, infrastructure monitoring, and healthcare logistics. (North Dakota State University Bio)

A central theme of his work is whether drones can shift some freight from roads to the air, potentially reducing highway wear, congestion, and exposure to roadway crashes—especially in rural and remote areas. His research uses machine learning, GIS, market forecasting, transportation modeling, and technology assessment to identify where drone-based freight services could be economically and operationally viable. (CTIPS)

His work also examines the technology and infrastructure needed for AAM, including VTOL aircraft, propulsion efficiency, batteries and hydrogen systems, vertiports, autonomous drone corridors, and integration with conventional transportation networks. (MDPI)

Additional research investigates drones equipped with advanced sensors and AI for transportation infrastructure inspection—including roads, bridges, railroads, pipelines, and other assets. The research identifies potential advantages in speed, safety, cost, and the quantity of information collected. (UGPTI)

Most recently, Bridgelall examined statewide drone-delivery networks for rural areas, developing methods for locating multimodal hubs while considering population, airport proximity, and infrastructure readiness. (Wiley Online Library)

Raj Bridgelall — Selected Research on Advanced Air Mobility and Drones

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