Title:	Evaluate the Effectiveness of Dowels for Lateral Restraint of Prestressed Concrete Beams
The Problem:	TxDOT has traditionally utilized dowels in the bent cap to provide lateral restraint of prestressed concrete beams. The use of dowels for lateral restraint has never been researched, yet it is used on thousands of bridges in Texas. In many cases, the dowels are misplaced during construction which creates construction issues. When the beams are supported on an inverted-tee ledge, the density of the rebar cage makes the dowel placement difficult. In addition, this detail complicates bearing pad replacement. This research shall allow TxDOT to make a fully informed decision on stopping the use of dowels, thereby easing construction and make bearing pad replacement easier. The research shall identify if removal of the dowels has unintended side effects during erection of the beams, construction of the deck, and long-term stability.
Technical Objectives:	The objectives of this project are: • Conduct a literature review and summarize state-of-the practice and key findings. • Determine state of practice across the other DOTs. • Determine the effectiveness dowels for lateral restraint. The expected technology readiness level (TRL) for this project is 5.
Anticipated Deliverables:	1. Technical memorandum for each task completed. 2. Monthly progress reports. 3. Project Summary Report 4. Research report documenting the findings of this research, including: • Summary of literature review and key findings • Summary of state of practice • If applicable, summary of FEA modeling and lab testing, results, and key findings. • Detailed information on effectiveness of dowels, • Value of Research (VoR) that includes both qualitative and economic benefits.
Proposal Requirements:	1. The project duration shall not exceed 24 months. 2. RFP#1 Q&A Deadline: 12:00 p.m. Central Time, **Tuesday, February 20, 2024.** 3. Proposal Deadline: 12:00 p.m. Central Time, **Thursday, March 21, 2024**. 4. Use the current "ProjAgre" and "PA Forms" templates located at the RTI Forms webpage. 5. Proposals will be considered non-responsive and will not be accepted for technical evaluation if they are not received by the deadline or do not meet the requirements stated in RTI's University Handbook. 6. Proposals should be submitted by the University Liaison in PDF format; (1) PDF file per proposal. File name should include project name and university abbreviation. 7. This project will be tracked during the life of the project using the Technology Readiness Level (TRL) scale. 8. The 2021 Texas Legislative Session requires that universities be in compliance with Senate Bill 475 by submitting a completed and signed TxDOT Security Questionnaire (TSQ) to RTIMAIN@txdot.gov. Universities that have not submitted a completed and signed TSQ one week after award will be considered non-compliant and unable to participate in the Program.