



Transportation Consortium of South Central States

Key Points

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17TTNTU01

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Principal Investigator(s):
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Lead Institution:
Navajo Technical University

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\$20,000

Funding Source(s):
Tran-SET
Navajo Technical University

Total Project Cost:
\$31,552

Educational and Workforce Development through Creation of Programs in Transportation to Generate Future Careers for Our Students in Navajo Nation Region

Brief Project Description

This proposal responds to one of Tran-SET's goals to educate Under-Represented Minority (URMs) students in transportation fields, and address a critical shortfall in the workforce essential for future transportation industries. As such, this project will direct students and educators towards transportation engineering through the creation of programs in transportation fields, internship, and workshops using the infrastructure of an existing transportation-related program at Navajo Technical University (NTU).

Problem Statement

Workforce development for the transportation industry is a critical issue. Rising workforce shortage in the transportation industry is causing serious problems in Navajo Nation, New Mexico, and throughout Region 6. Current newcomers to the transportation construction industry do not have sufficient knowledge or experience when entering the field, while keeping existing workers is often challenging due to the draw of increased salaries and responsibilities offered by private companies. Research is needed to understand the causes of the shortage and to determine the skill sets needed for today's transportation industry worker. Possible causes include lack of programs in the field of transportation, increasing the education requirements, and too few educational institutions offering proper degrees. Once there is an understanding of the causes, strategies are needed to address them. This project will create a guidance report containing: 1) analysis of the causes of the workforce shortage in the transportation industry, 2) Develop and implement Educational workshops through workforce development by creating programs in transportation to generate and support careers in transportation construction.

Therefore, this project intends to investigate as well as implement education and workforce preparedness to better support current and future economic needs as well as improve job opportunities for transportation industry



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workers. Furthermore, as trends and innovations continue to evolve, employees will require additional education and training to keep pace with economic demands.

Objective

The aim of this proposal is to train Native American students in transportation-related industries at all of Region 6 partner universities, colleges, and schools.

Intended Implementation of Research

The program will develop on-line courses that would be provided for free to the Native American universities across the nation and therefore, will make this program sustainable. We expect to support of the order of 15 undergraduate and 20 high school students per year through this program

Undergraduate Internships: NTU undergraduate students will be selected from Navajo Technical University and other Tribal Colleges and Universities (TCUs) as they are brought into the program. Each undergraduate will intern at a consortium member's campus for ten weeks, receive a stipend, and will receive help to secure funds for a second summer. Based on experience at center, offering two consecutive Summer Internships significantly increases student productivity by cultivating mentor relationships, longer-term research, and creating an incentive to stay in the program pipeline and a transportation-related field. Awareness of the program also incentivizes high school students to attend a TCU to become eligible for the NTU internship. The intent of the program is to sustain and expand following initial center funding to create a core Tribal module for the program-specific objectives. It should be noted that qualified TCU candidates can also apply through the center recruitment mechanism.

NTU undergraduates may, in concert with their mentors, engage with high schools, including the use of online technology supported by the NTU Faculty Support. NTU will develop and provide on-line courses in the transportations related disciplines for use by NTU and eventually other TCUs, etc.

Workshops: Tran-SET Consortium members would host a workshop for NTU along with other university members' participants. Each workshop might include a one-day visit to hosting university facilities. Workshops should include presentations by representing faculty incorporating unique informational content in transportation-related fields, and other interconnected topics. Every workshop should include cultural content and presentations by Native-American and other student representatives. The content of the sessions should include preparation for the next internships. The workshops also should offer a venue for faculty researchers from center members to meet and develop collaborations and provide student meetings with Native-American students and other faculties.

Anticipated Impacts/Benefits of Implementation

The proposed project at NTU will integrate STEM education using Tran-SET's contributions in transportation engineering fields that will boost students' research skills and prepare them for careers in transportation. This project will implement and support new programs and courses that will greatly benefit TCUs.

Weblinks:

- [Tran-SET's website \(http://transet.lsu.edu/research-in-progress/\)](http://transet.lsu.edu/research-in-progress/)



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- [TRB's Research in Progress \(RIP\) database \(https://rip.trb.org/view/1467518\)](https://rip.trb.org/view/1467518)