





**Project Requirements Form USDOT  
CREATE UTC Contract Number 69A3552348330**

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**Advanced Technology and Comprehensive Approach:** The project introduces a transformative approach by integrating an equity category into VAST, which only considers technical aspects. This innovation allows for a more comprehensive assessment of vulnerabilities by considering the socioeconomic impact on different communities.

**Inclusion of Equity Considerations:** The project addresses equity by incorporating criteria that identify and highlight socioeconomic disparities and the specific needs of vulnerable communities. This ensures that decisions regarding transportation infrastructure are inclusive and that adaptation measures benefit all segments of the population, especially those most affected by climate risks.

**Outputs:**

An Equity Category will be created to integrate into the Vulnerability Assessment Scoring Tool (VAST). This category will be assessed using several key indicators:

- Income and Poverty Levels
- Percentage of People with Disabilities
- Availability of Transportation Modes
- Effectiveness of Transportation Modes During Extreme Events
- Number of Alternative Routes
- Community Knowledge of Evacuation Routes

Collaboration with the Puerto Rico Local Technical Assistance Program involves hosting seminars and workshops focused on vulnerability assessment of transportation infrastructure. These technology transfer events aim to educate local officials on how to effectively apply VAST, including the computational and analytical processes required, as well as the identification of stressors and indicators used in the methodology. Additionally, case studies developed in this study will be showcased to provide practical examples. An additional topic for the workshops will be how to integrate equity considerations into the identification of resilient solutions to improve accessibility for the population. Collaboration with the professional organizations will enhance the quality and impact of these training events.

**Outcomes/Impacts:** An equitable analysis of transportation corridor vulnerabilities is crucial to understanding who is most affected by extreme natural events. This analysis advocates for equitable measures that help identify vulnerabilities in coastal transportation infrastructure and services, integrate considerations for the blue economy, and employ visualization tools to enhance the resilience and durability of coastal transportation infrastructure in response to the impacts of extreme natural events. Furthermore, an equitable assessment of vulnerabilities in transportation infrastructure can lead to a more effective and just allocation of funds for maintenance, reconstruction, or new developments. By ensuring that resources are directed to areas most in need, such assessments can help reduce the marginalization of vulnerable communities, ensuring that all populations receive equal representation in disaster response and recovery efforts. Ultimately, this approach promotes a more inclusive and resilient infrastructure system that better serves all people, especially those historically underserved or disproportionately impacted by natural disasters.

**Final Research Report:** URL to final Report will be provided upon completion.