**Project Requirements Form USDOT**
**CREATE UTC Contract Number 69A3552348330**
**Center Lead: Texas State University; University Puerto Rico Mayagüez**

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| **Research Project Name**: Capacity Building and Workforce Development for Coastal Transportation Infrastructure Subjected to Multi-hazards (UPRM) |
| Improving the Durability and Extending the Life of Transportation Infrastructure |
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| **Project Partners**:<br>Puerto Rico Local Technical Assistance Program (LTAP) Center, the UPRM Coastal Resilience Center (CRC), the RISE-UP initiative at UPRM, and the Municipality of Isabela. |
| **Research Project Funding**:<br>Federal: $ 58,646 Match: $ 49,846 (UPRM) |
| **Project Start Date**: 09/01/2024 **Project End Date**: 08/30/2025 |
| **Project Description**: This project aims to develop a decision-making tool to assess and enhance the resilience of transportation corridors in coastal communities, crucial for supporting a sustainable and equitable blue economy. By focusing on the specific needs of these communities, the research will address the challenges posed by natural hazards and the importance of resilient infrastructure in fostering economic growth and environmental sustainability. The initiative also seeks to advance transportation workforce development by integrating blue and green economy principles, emphasizing the need for collaboration among stakeholders, and providing education on designing infrastructure that withstands natural disasters. The project will identify key lessons and recommendations to help educators engage with this critical engineering field, ultimately driving regional economic growth and improving accessibility and equity in diverse coastal regions. |
| **US DOT Priorities**: According to CREATE Thrust 4 Pathways to Blue Economy Transportation Careers, this thrust will develop practical, evidence-based frameworks to promote equity in all levels of blue economy transportation careers. It is anticipated that the research outcomes will be adaptable to other transportation sectors. Such activities will also support US DOT Challenges of Preserving the Existing Transportation System, Improving the Mobility of People and Goods, and Promoting Safety.<br><br>**Outputs**: This project will engage in technology transfer activities through partnerships with the Puerto Rico Local Technical Assistance Program (LTAP) Center, the UPRM Coastal Resilience Center (CRC), and the RISE-UP initiative at UPRM. The collaboration aims to enhance transportation resilience and equity by developing evidence-based solutions, facilitating workforce development, and integrating research into educational curricula. Key strategies include the creation of an Interactive Learning Hub (IL-HUB) to centralize project materials, an annual CREATE-UPRM symposium for knowledge dissemination and networking, the development of case studies on coastal community challenges, and the publication of findings in peer-reviewed proceedings. These efforts will strengthen partnerships, |

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| foster capacity building, and contribute to more informed decision-making in coastal infrastructure resilience. |
| **Outcomes/Impacts**: The project outcome includes identifying key factors impacting transportation equity in coastal communities through an extensive literature review and demographic data analysis, which will highlight disparities in transportation access. By conducting interviews with community members, local leaders, and stakeholders, along with GIS mapping, the project will provide a detailed understanding of the challenges faced in transportation services within these regions. Additionally, the development of a case study in a selected coastal community in Puerto Rico will lead to the creation of a robust framework that assesses blue economy goals through the lens of transportation equity and resilience. This framework, informed by field surveys, stakeholder engagement, and analysis of historical disaster data, will offer a comprehensive approach to integrating social equity, environmental sustainability, and economic viability into the planning and assessment of coastal transportation infrastructure. As a result, the project is expected to make a significant contribution to advancing the understanding and implementation of transportation equity and resilience in coastal communities, aligning with the broader goals of supporting a sustainable blue economy. |
| **Final Research Report**: URL to final Report will be provided upon completion. |