National Center for Sustainable Transportation

Project Information Form

Project Title:	Graduate Fellowship Project: Building and Measuring Community Resilience
University:	University of California, Davis
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Funding Source(s) and Amounts Provided (by each agency or organization):	University of California, Davis, Graduate Studies - $61,000
Total Project Cost:	$61,000
Agency ID or Contract Number:	DOT 69A3551747114
Start and End Dates:	October 1, 2018 – September 30, 2019
Brief Description of Research Project:	The thread of sea level rise due to climate change will adversely affect our communities and the built environment. The recently concluded Intergovernmental Panel on Climate Change (IPCC) in Incheon, South Korea in its draft report stated the rise of temperature should be contained below 1.5 degrees Celsius to avoid witnessing extreme weather patterns and events across the globe. As developing countries direct its resources in rapid economic growth, leading to improvement of living standard, there will be an increment in the green houses gases (GHGs). These greenhouse gases will in turn increase the mean surface temperature leading to extreme weather patterns including the sea level rise. Our communities, neighborhoods, and the built environment are susceptible to the extreme weather fluctuations. As this century progresses and moves on, it is predicted that more extreme weather patterns and events will affect our communities and the built environment. Our communities and the built environment are not planned and designed to withstand the impact of these severe weather extremities. One good example is Puerto Rico where the island was devastated by Hurricane Maria in 2017. Transportation, power, and entire communities were destroyed along with thousands of lives lost. Resilient communities is about making the systems we use to be better prepared to withstand catastrophic events whether natural or manmade. Resilient communities is also about expending the recovery process and

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	emerging stronger and better than before. In all these cycles of destruction and recoveries of our communities and the built environment through extreme weather events, resilient transportation pays an important role. Transportation is the artery of our built environment helping to withstand extreme catastrophes as well as assist in the recovery process. Unfortunately, not a lot of research and attention has been directed toward building resilient transportation or communities. The objective of this project will be to analyze and explore the current literature available on resilient transportation. There has been plethora of anecdotal research on resilient transportation. However, most of the published research are gray without confidence level results. This research is an attempt to identify gray research in published academia. It will use Network Analysis to analyze the data and present the findings on resilient transportation and communities. This research is also an attempt to add value to the existing body of literature. This research will focus on a bibliometric analysis of the recent NAE publications, *Building and Measuring Community Resilience*. We focus on the propagation of peer-reviewed literature through this study and the 14 studies from which it draws. Our purpose is to examine how fast paced moving scholarly literature is reflected in the field of resilience.
Describe Implementation of Research Outcomes (or why not implemented): Place any photos here	
Impacts/Benefits of Implementation (actual, not anticipated):	
Web Links • Reports • Project website	https://ncst.ucdavis.edu/graduate-student-research/