TriDurLE

National Center for Transportation
Infrastructure Durability & Life-Extension

UTC Project Information – National UTC TriDurLE	
Project Title	Performance of ABC Columns and Cost-Effective Retrofit Strategies Subjected to Synergistic Distress Resulting from Corrosion and Seismic Loading
University	University of Colorado Denver
Principal Investigator	Yail Jimmy Kim
PI Contact Information	jimmy.kim@ucdenver.edu
Funding Source(s) and Amount Provided (by each agency or organization)	TriDurLE: $70,000 Matching Funds Northeast Forestry University (Co-research): $60,000 Libyan-North American Scholarship Program: $10,000
Total Project Cost	$140,000
Agency ID or Contract Number	
Start and End Dates	May 1, 2020 to June 30, 20212
Brief Description of Research Project	Despite the significance of seismic loadings on the performance of corroded ABC columns, scant information is available in the bridge engineering community. A holistic research program is imperative to cover various aspects ranging from deterioration to retrofit. Advanced modeling is conducted to accurately comprehend the repercussions of synergistic distress induced by corrosion and seismic loadings.
Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	To be provided
Impacts/Benefits of Implementation (actual, not anticipated)	To be provided

Web links • Reports • Project website	To be provided

UTC Project Information – National UTC TriDurLE	
Project Title	Evaluating Sidewalk Infrastructure & Prioritizing Investment
University	University of Colorado Denver
Principal Investigator	Professor Wesley Marshall, PhD, PE
PI Contact Information	wesley.marshall@ucdenver.edu
Funding Source(s) and Amount Provided (by each agency or organization)	TriDurLE: $50,000 Matching Funds Denver Streets Partnership: $20,850 CU Denver: $29,150
Total Project Cost	$100,000 (including match)
Agency ID or Contract Number	
Start and End Dates	5/1/20 – 6/30/21
Brief Description of Research Project	This project seeks to leverage advances in technology and increasing access to high-resolution remote sensing and spatial data to develop methods for inventorying sidewalk characteristics and static barriers across an entire major city. Thus far, such work has only been done for relatively small areas but not yet at the city scale. In-kind data from an on-demand mobility analytics platform will then be harnessed to develop a data-driven methodology to prioritize sidewalk infrastructure investments. We will rely on the trip data to find locations with high levels of short trips being made by automobile and combine that with crash data, socio-demographic data, socio-economic data, and land use data (such as schools) to overlay on top of our sidewalk infrastructure analysis. The project team will then conduct a life cycle assessment, coupled within a systems dynamics modeling framework, of sidewalk infrastructure to better understand, for example, the benefit of routine, preventative maintenance as compared to current practice. The result of this project will help transition the transportation community towards a state-of-the-art approach to the management and monitoring of sidewalk infrastructure.

Describe Implementation of Research Outcomes (or why not implemented) Place Any Photos Here	N/A (project not yet initiated)
Impacts/Benefits of Implementation (actual, not anticipated)	N/A (project not yet initiated)
Web links • Reports • Project website	N/A (project not yet initiated)