UTC Project Information

Project Title	MPC-678 – Pedestrian Infrastructure and ADA Compliance: Leveraging Advances in Spatial Technologies
University	University of Colorado Denver
Principal Investigator	Wesley Marshall, Ph.D., P.E. Bruce Janson, Ph.D.
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Funding Source(s) and Amounts Provided (by each agency or organization)	USDOT, Office of the Assistant Secretary for Research and Technology $268,422 University of Colorado Denver $268,425
Total Project Cost	$536,847
Agency ID or Contract Number	69A3551747108
Start and End Dates	November 12, 2021 to July 31, 2023
Brief Description of Research Project	Cities are increasingly facing costly litigation because of their inability to build and maintain sidewalks and curb ramps that comply with the Americans with Disabilities Act (ADA) of 1990. The underlying problem is often less about willingness and more about a lack of good data. This research project will examine the use of mobile LiDAR (Light Detection and Ranging) technology to measure the ADA compliance of sidewalks and curb ramps. While historically expensive and somewhat difficult to employ at scale, high-density LiDAR has become much more commonplace and is standard on higher-end iPhones and iPads. The proposed project seeks to create a map of ADA sidewalk and sidewalk ramp compliance issues using iPhone LiDAR. This will include a comparison of sidewalk metrics from planimetric data to on-the-ground LiDAR sidewalk infrastructure data collection. We will compare the results of the iPhone LiDAR to manual methods, planimetric data, as well as data derived from a much higher-end LiDAR data collection device. We will also compare our ability to measure sidewalk issues from the sidewalk versus the street and consider how this differs by different possible occlusion issues (such as

	on-street parking). Lastly, we will explore built environment data against sidewalk infrastructure data to identify what factors are significantly associated with ADA compliance issues. The resulting ADA compliance maps will be integrated into a GIS platform for deployment into web-mapping and mobile-mapping applications. Given that 1 in 7 Americans has a mobility-related disability, this is about more than asset management and protecting cities from liability; it will help put cities on a data-driven path towards fulfilling the promise of the ADA.
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	