Center for Advanced Multimodal Mobility Solutions and Education

UTC Project Information – CAMMSE @ UNC Charlotte	
Project Title	Using General Transit Feed Specification (GTFS) Data as a Basis for Evaluating and Improving Public Transit Equity
University	The University of North Carolina at Charlotte
Principal Investigator	Wei Fan and Martin Kane
PI Contact Information	(704)-687-1222 / wfan7@uncc.edu
Funding Sources and Amount Provided (by each agency or organization)	U.S. Department of Transportation: $60,000 The University of North Carolina at Charlotte: $30,006
Total Project Cost	$90,006
Agency ID or Contract Number	
Start and End Dates	10/01/2017 – 09/30/2019
Brief Description of Research Project	As a critical part of economic and social fabric of metropolitan areas, public transit is necessary to provide mobility for users. A crucial task of transit planning is to better assess the equity and accessibility of public transit. The basic concept of transit equity refers to the degree to which transportation systems enable people to reach desired activity locations with fair and appropriate distribution of impact (benefits and costs), which explains the complex relationship between transportation, human activity and land use. Although years of research efforts have been done for better quantifying, analyzing, and planning for the concepts of accessibility and equity, they are still challenging due to many types

	of barriers (including spatial, temporal, financial, and social, etc.), all of which can limit accessibility. Meanwhile, the development of General Transit Feed Specification (GTFS), a well formatted transit feeds open data, provides new opportunities for transit performance measurement, benchmarking and research, especially in the field of transit equity and accessibility assessment. The standard transit feeds data format has been demonstrated to be extremely useful, due to its contents associated with spatial and temporal characteristics. However, the progress of studies combining those two together is still relatively slow and modest. To improve such studies, more spatially disaggregated, individualized and temporally-aware accessibility metrics, and more sophisticated spatial computational tools to operationalize such metrics and improve measurement of equity considerations in empirical research, are required. This research will develop guidelines and recommend best practices for the use of GTFS data as a main data source to better understand and assess public transit equity and accessibility for public transportation planning and operation.
Describe Implementation of Research Outcomes (or why not implemented) *Place Any Photos Here*	

Impacts/Benefits of Implementation (actual, not anticipated)	Project has not begun yet, so no impacts have been realized.
Web Links • *Reports* • *Project website*	https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2018-UTC-Project-Information-02-Fan.pdf