

Grant Deliverables and Reporting Requirements for UTC Grants

UTC Project Information	
Project Title	Reducing Airport Pollution and Consequent Health Impacts to Local Community
University	University of South Florida, Cornell University
Principal Investigator	Yu Zhang Oliver Gao Robert Bertini
PI Contact Information	yuzhang@usf.edu
Funding Source(s) and Amounts Provided (by each agency or organization)	USDOT: \$59,389 USF: \$33,856
Total Project Cost	\$93,245
Agency ID or Contract Number	Sponsor Source: Federal Government CFDA #: 20.701 Agreement ID: 69A3551747119
Start and End Dates	 Start date: 1/1/2018  End date: 9/30/2018
Brief Description of Research Project	<p>Research shows that air pollution caused by a large airport could be equivalent to that produced by many hundreds of miles of freeway traffic. Airplane air pollution include ultrafine sulfur dioxide, nitrogen oxide and other toxic particles, which not only affect employees and passengers on airport and residents near airport, but could spread to as far as 10 miles and cause health concerns of a significant amount of population.</p> <p>This study looks into the sources of local air pollution from aviation activities, for instance, ground access vehicles to and from the airport, aircraft taxiing at airfield surface, landing and take-off (LTO) cycle of aircraft, airport ground equipment etc. and seek the ways of reducing emissions from such sources by considering the interactions of different sources in airport operation.</p> <p>This project will have two main tasks. Task 1 aims at developing methods for reducing emissions from airfield aircraft taxiing and LTO by integrated optimization of the airfield aircraft</p>

	<p>operations. Task 2 investigates how emerging information technologies and automated driving would reshape the functions of airports and affect the sources of local air pollution from aviation activities.</p> <p>The project is expected to be completed in two years. In the first year, literature review and research approaches of both tasks will be conducted. In the second year, solution algorithms and real case studies will be developed and demonstrated.</p>
<p>Describe Implementation of Research Outcomes (or why not implemented)</p> <p>Place Any Photos Here</p>	
<p>Impacts/Benefits of Implementation (actual, not anticipated)</p>	
<p>Web Links</p> <ul style="list-style-type: none"> • Reports • Project website 	