

Exploration of On-Demand Urban Air Mobility: Network Design, Operation Scheduling and Uncertainty Considerations

Zhiqiang Wu

Dept. Civil & Environmental Engineering
University of South Florida
Tampa, U.S.
zhiqiangwu@mail.usf.edu

Yu Zhang

Dept. Civil & Environmental Engineering
University of South Florida
Tampa, U.S.
yuzhang@usf.edu

Abstract— Traffic congestion has been one of the leading sustainability issues in transportation around the world. The emerging concept urban air mobility (UAM) is expected to provide a new solution by making use of the three-dimensional airspace to transport passengers and goods in urban areas. Among different constraints and challenges for promotion and commercialization of UAM, we will focus on optimal infrastructures location identification, facility capacities and aircraft fleet size and analyze corresponding transportation system performance as well as impact from uncertainties.