

Airspace Design and Trajectory Planning for Urban Air Mobility (UAM) Traffic Management System

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Abstract— Given the gaps between UAM flights and commercial flights and sUAV, neither ATM nor UTM is suitable for UAM flights. Thus, it is critical to develop an air traffic management system for UAM, which enables safe and efficient operations of high-density UAM operations. In the perspective of UAM traffic management system, the two most important aspects that determine the future operation are safety and efficiency. In order to safely organize the traffic and maximize the capacity of urban airspace and flight efficiency, a framework of airspace management for UAM is proposed. In the framework, a low-altitude airspace system (defining flyable space and flight levels) and trajectory deconfliction schemes to resolve the conflicts while minimizing the total flying cost are developed.