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RESEARCH REPORT

Unsettled Issues Concerning Urban Air Mobility Infrastructure

Bob McQueen

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About the Editor

Bob McQueen is an internationally recognized expert in the application of advanced technology to transportation. He has provided expert-level consulting advice to central and local governments in the Middle East, Asia-Pacific, Europe, and North America. He has also advised global companies when entering or improving positioning in the market for advanced transportation solutions. McQueen specializes in the concise communication of complex technology concepts, matching user needs to technology capabilities and constraints. McQueen has had the privilege of gaining in-depth experience in technology planning, interactive requirements analysis, international standardization, and the application of big data and analytics. His current focus is on the development of a body of knowledge regarding smart mobility. This is a multichannel knowledge repository and delivery system that collates knowledge and captures mobility philosophy. He is Chief Executive Officer for Bob McQueen and Associates, with offices in Orlando, Florida, and Perpignan, France.

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Unsettled Issues Concerning Urban Air Mobility Infrastructure

Abstract

Urban air mobility (UAM) refers to urban transportation systems that move people by air. UAM is a subset of advanced air mobility (AAM). While UAM addresses urban areas, AAM addresses the wider field of application including commercial intercity services. This has significant potential for reducing traffic congestion in cities and providing an integrated approach to urban mobility. At a minimum, it offers an alternative form of travel leading to reductions in commute/travel times and improved reliability. With the emergence of electric vertical takeoff and landing (eVTOL) aircraft, drone technology, and the possibility of automated aircraft, interest in this topic has grown considerably. Private sector solution providers, including aerospace and technology companies, are growing players in this space. This technology area is also of considerable interest to urban planners and transportation professionals seeking solutions to urban transportation problems and better integration across all mobility modes.

Infrastructure aspects are a crucial part of UAM services. The technologies that enable UAM are still emerging and maturing and require complementary infrastructure to enable UAM vehicles to operate effectively. Infrastructure must also be designed to accommodate multimodal trips and support the traveler from origin to ultimate destination. This requires that UAM infrastructure is effectively integrated into the overarching urban transportation system.

NOTE: SAE EDGE™ Research Reports are intended to identify and illuminate key issues in emerging, but still unsettled, technologies of interest to the mobility industry. The goal of SAE EDGE™ Research Reports is to stimulate discussion and work in the hope of promoting and speeding resolution of identified issues. These reports are not intended to resolve the challenges they identify or close any topic to further scrutiny.

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