
Flying on-demand taxis: a myth or reality?

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Abstract

Urban Air Mobility (UAM) is a futuristic concept that utilizes on-demand aerial vehicles to transport people in urban settings. Companies like UBER and AIRBUS are openly talking about implementing such service in the near future, using Vertical Takeoff and Landing (VTOL) vehicles that are designed to be less noisy and more efficient than traditional helicopters. Integrating this kind of service in the areal space in urban areas and connecting it to existing transportation systems is a challenging task. Many questions arise, from regulations and insurance, over vehicle design and infrastructure placement, to market penetration and connectivity to already built transportation networks.

This paper summarizes challenges to implement such a service and investigates market penetration in Zurich, Switzerland using an agent-based simulation. We investigate the market potential by varying pricing structures, vehicle characteristics, and infrastructure placement. This gives as a general understanding of the demand for UAM in the high income, low-density metropolitan region like Zurich, Switzerland.

Keywords

UAM – VTOL – MATSim