

Learning from the Other Team: The Small Aircraft Transportation System as a Governance Model for Sustainable Sociotechnical Transitions

Maurie J. Cohen

Chemistry and Environmental Science
New Jersey Institute of Technology
University Heights
Newark, NJ 07102 USA
E-mail: mcohen@adm.njit.edu

Sustainability Research Institute
School of Earth and Environment
University of Leeds
Leeds LS2 9JT UK
E-mail: m.cohen@see.leeds.ac.uk

The National Aeronautic and Space Administration (NASA), the European Organisation for the Safety of Air Navigation (EUROCONTROL), and other aviation policy bodies have been working in recent years to develop distributed systems of personal aeromobility predicated upon the deployment of small jets and the use of general aviation airports. This redesign of the civilian aviation system is variously motivated by the need to reduce congestion at busy airports, to improve travel time non-metropolitan origins and destinations, to upgrade the economic prospects of lagging rural regions, and to reduce the catastrophic potential of terrorist attacks.

The prospect of more customized and prevalent air travel surely has profound implications for a whole range of entirely separate initiatives to enhance the sustainability of current mobility practices. There is no indication that issues such as climate change and efficient land use have been integrated into ongoing planning to create a widespread system of small aircraft transportation. Nevertheless, these projects to transform air travel have both the potential to generate instructive insights pertaining to the governance of sociotechnical transitions and to impart useful lessons for scholars whose normative commitments are grounded in sustainability.

The literature on sustainable mobility transitions has to date tended to emphasize the organization of small-scale niche experiments and the empowerment of actors without ties to existing system prerogatives. The inclination has been to explore the transformational role of highly compact, lightweight vehicles that function without the direct input of fossil fuels. There have furthermore been studies of alternative ownership schemes, as well as investigations of virtual mobility for shopping, commuting, and communicating. The highly tentative nature of most of these innovations has contributed to an implicit disposition that endorses relatively passive, egalitarian conceptions of governance over the formulation of purposeful and definitive strategic plans. Most authors suggest—with some justification—that high uncertainty and political contestation create conditions that make it necessary to guard against premature closure and inadvertent lock-in of suboptimal alternatives.

Current efforts to foster personal aeromobility are based on engineering-led governance models where “master planning” and “blueprinting” are considered essential to facilitate a common vision and to synchronize the activities of diverse stakeholders (e.g., aircraft manufacturers, control-system designers, aviation regulators, airport operators, insurance companies). In addition, the transition toward personal aeromobility demonstrates how ample resources and institutional legitimacy can help to overcome inertia during the early stages of complex sociotechnical reconfigurations.

This paper will describe how powerful government and industry actors have begun to shape the emergent system of personal aeromobility by situating this transition within the context of dominant political, social, and economic objectives. The discussion will also consider the efficacy of hierarchical models of governance on innovation toward more sustainable systems of production and consumption.