

Standing Committee on Intergovernmental Relations in Aviation (AV010)
Pam Keidel-Adams, Chair

Intergovernmental Issues in Aviation

GEOFFREY GOSLING, *Aviation System Consulting, LLC*
ROGER MOOG, *Delaware Valley Regional Planning Commission (retired),
former Committee Chair*

EVOLUTION OF THE COMMITTEE

Aviation activities within the Transportation Research Board (TRB) were first formally established with the formation of the Special Committee on the Air Transport Activities of the Transportation Research Board (SC004B) on July 1, 1975. This committee recommended the establishment of a number of standing committees within TRB to address aviation issues. A Committee on Airport Landside Operations (A3A06) was formed on July 1, 1976, followed by a Committee on State Role in Air Transport (A1A04) on February 1, 1977. The latter committee eventually became the Committee on Intergovernmental Relations in Aviation and has been in continuous operation since 1977. On February 1, 1984, the committee code was changed to A1J01 with the creation of the TRB Aviation Section and on February 1, 1987, the name of the committee was changed to Intergovernmental Relations in Aviation to reflect the broader involvement in aviation of different levels of government in addition to the state role. On November 3, 2003, the committee code was changed again to AV010 with the creation of the TRB Aviation Group.

The mission of the committee recognizes that a wide range of governmental agencies and organizations are involved in aviation at the local, state, national, and international levels, and that effective intergovernmental relations and coordination are critical to the regulation, management, and operation of the aviation system.

Since the renaming of the committee as the Committee on Intergovernmental Relations in Aviation in 1987, it has sponsored or co-sponsored a total of over 100 sessions and workshops at the 31 TRB Annual Meetings which have occurred. Some of the major intergovernmental topics discussed and presented at these events include:

- Improving airport and ground access programs and facilities;
- Intergovernmental agreements and legislation impacting global aviation and international air service agreements, commonly referred to as Open Skies;
- Interrelations of master plans, regional systems plans, state systems plans and the National Plan of Integrated Airport Systems;
- Federal, state and local airport funding programs and their interaction;
- Multi-jurisdictional airport operating agencies and airspace design and management;
- GA airports ownership options and aspects of public versus private involvement;
- Intergovernmental issues involved in repurposing closing military bases;
- Aviation legislation including impacts of de-regulation and regulatory changes;

- Environmental impacts of local airport related noise pollution, and airspace design, and federal and state legislation;
- Multi-state airport markets and coordination between regional county, municipal and state jurisdictions.

National Aviation System Planning Symposium

In addition to organizing sessions at the TRB Annual Meetings, an early activity of the committee was to organize a series of National Aviation System Planning Symposia (NASPS) every few years. The first symposium was held in Minneapolis, Minnesota, in July 1991 and was sponsored by the Minnesota Department of Transportation, the National Association of State Aviation Officials, the Federal Aviation Administration (FAA), and the TRB.

Subsequent Symposia were held in St. Louis, Missouri (July 1993), Rochester, Minnesota (May 1996), Houston, Texas (March 1998), Duluth, Minnesota (May 2000), Daytona Beach, Florida (May 2006), Pacific Grove, California (May 2009), Galveston, Texas (May 2012), Charleston, South Carolina (May 2015), and Anchorage, Alaska (May 2018). These symposia provide a unique opportunity for aviation professionals involved in system planning to share ideas and latest practices, discuss common challenges, and identify research needs specific to aviation system planning.

With the formation of the TRB Task Force on Airport System Planning in November 1992 and its subsequent conversion to a standing Committee on Aviation System Planning in February 1998 (initially designated A1J08, later AV020), the Task Force and its successor committee actively assisted in organizing subsequent NASPS and eventually assumed the lead role, although AV010 has continued to co-sponsor the Symposia and play an active role in organizing the Symposia.

The most recent NASPS was held in Anchorage, Alaska, in May 2018 with the support of the Alaska Department of Transportation and Public Facilities and Ted Stevens Anchorage International Airport. The symposium included 11 technical sessions over two full days that addressed a range of topics in aviation system planning including:

- The impacts of technological evolution on system planning
- The changing environment of demographics, demand, and financing
- Aviation system planning in Alaska
- Examples of system planning practices from various states
- Integrating aviation system planning into larger land use and transportation planning processes
- Measuring airport capacity and aviation system performance.

The final day of the symposium comprised a workshop on research needs in aviation system planning that identified a broad range of needed research that could be addressed by submitting problem statements to the Airport Cooperative Research Program (ACRP) or by organizing sessions and workshops at future TRB Annual Meetings. The objective of the workshop was to more tightly integrate the discussions at the NASPS with the ongoing efforts of the two organizing committees (AV010 and AV020) to identify research needs in intergovernmental relations in aviation and aviation system planning, support the ACRP, issue calls for papers, and organize sessions and workshops at TRB Annual Meetings.

The Airport Cooperative Research Program

The establishment of the ACRP in 2005 changed the opportunities available to the TRB aviation committees to identify research needs and propose potential research projects in fundamental ways. At the same time it gave the committees an opportunity to influence which research projects received funding through their role in reviewing problem statements and making project funding recommendations to the ACRP Oversight Committee.

Since the start of the program, the AV010 committee members and officers have taken an active role by suggesting and reviewing numerous research topics. One significant example of committee involvement was the successful proposal which resulted in the funding and completion of ACRP Report 31, *Innovative Approaches to Addressing Aviation Capacity Issues in Coastal Mega-Regions*. This ACRP project was conceived by committee members, several of whom served on the Project Panel that directed the study. The study, reflecting the need for intergovernmental participation in addressing challenges in expanding airport capacity in large metropolitan regions, developed recommendations that would draw on the combined resources of airport operators, multi-jurisdictional operating agencies, regional, state, and federal transportation planners of all modes, highway and transit facilities, and regulatory agencies. The objective of the study was to generate alternative solutions to provide additional transportation capacity in high density population areas of the country where airports experience congestion and delay. Potential solutions identified in the study include utilizing alternative small commercial airports for scheduled service, integrating ground transport for shorter distance trips, modifying operating agreements to manage demand, as well as technical improvements to improve efficiency of airspace usage.

The committee continues to support the ACRP by reviewing research problem statements submitted to the ACRP in areas related to the committee's mission and providing its recommendations on these to the ACRP Oversight Committee. Individual committee members also have continued to generate and submit problem statements on a range of topics related to intergovernmental issues in aviation, several of which have been funded and resulted in ACRP Research Reports.

Subcommittees

In the last few years the committee has established a number of formal subcommittees to address specific aspects of its mission and activities.

Recognizing the growing importance of commercial space activities, a subcommittee on Commercial Space Transportation (CST) has been established to support the continued development of commercial space transportation by encouraging discussion of needed planning, research, policy development, and other efforts that will enable this emerging mode of transportation to successfully integrate into the nation's multi-modal transportation system. The subcommittee has established a website at <http://trbcst.org/> that provides information on subcommittee activities and membership, as well as links to relevant research reports.

The committee has also co-sponsored a subcommittee on Unmanned Aircraft Systems (UAS) in cooperation with the TRB Committees on Airfield and Airspace Capacity and Delay and the Committee on Aviation System Planning. The subcommittee has been organized in response to the rapid, ongoing development of UAS and the resulting increase in the number of unmanned aircraft and the diversity of the applications to which they are being put. At the same time, increased private and commercial use of UAS pose challenges to airport operators, for avoidance of airspace conflicts with conventional, manned aircraft, and for local jurisdictions faced with community concerns over privacy, visual intrusion, and noise.

Both the CST and UAS subcommittees have organized workshops and sessions at recent TRB Annual Meetings.

In addition a joint Research Needs Subcommittee has been established in cooperation with the Committee on Aviation System Planning to coordinate efforts by both committees to define research needs in their respective areas of interest, since many of these overlap. The subcommittee coordinates the review of ACRP problem statements and provides input to the TRB Research Needs Database for research topics identified in problem statements that were recommended by the committee for funding but not yet funded.

CURRENT ACTIVITIES AND CONTEXT

The primary activity of the committee and its subcommittees consists of organizing sessions and workshops related to current intergovernmental issues in aviation at the TRB Annual Meeting each year. In support of this activity, the committee has issued calls for papers on relevant topics. In addition, the committee supports the organization of the periodic NASPS and the annual review of ACRP problem statements.

Current Significant Intergovernmental Issues in Aviation

The foregoing discussion has suggested the broad range of intergovernmental issues that currently affect the aviation system. Some of the more significant of these issues are described in the following paragraphs.

In order to increase the airport and airspace capacity and operational efficiency, the FAA has embarked on a multi-year, multi-faceted program of air traffic management modernization, termed the Next Generation Air Transportation System, or NextGen for short. The requirements of this endeavor include investments in satellite-based navigation and communications systems, extensive enhancements to FAA computer capabilities, and installation of associated avionics equipment by aircraft operators. Airport approach and departure procedures and routes, and inflight routings will be modernized without ground based facilities. Resulting improvements in the capacity of airport terminal airspace and landing and takeoff spacing and travel times will allow larger system operating capacity, while minimizing ground infrastructure investment. Effective deployment of these capabilities requires extensive coordination between the FAA, airports, local governments of jurisdictions affected by changes in flight procedures, airlines, and other aircraft owners and operators, involving numerous intergovernmental issues.

Funding for the preservation and maintenance of general aviation and small commercial airport infrastructure has been an on-going concern for many years. Available funding, at the federal, state, and local levels, and the future programmatic features of that funding continue to be politically and fiscally controversial. Public debates over programmatic options and required funding levels raise a significant number of intergovernmental issues.

To accomplish the enhancements of the aviation system needed in the future, the aviation systems planning process must also be enhanced to effectively include and represent airports, airlines, local, state, and national and international governments and airport operating authorities, as well as be adequately funded. Funding aviation system planning has long been a problematic intergovernmental issue. Although the FAA has a reasonably well-funded program to support airport planning, most of the available funding is directed to meeting the planning needs for individual airports, with typically relatively little made available for system planning activities. At the same time, there is often a lack of capability to undertake airport system planning studies at a regional level within regional transportation planning agencies outside of a few large metropolitan regions.

The integration of aviation and airport planning into the planning of the larger transportation system and regional economic development remains a major intergovernmental challenge, complicated by the separation of federal transportation funding programs into surface transportation and aviation. The impacts of aircraft noise on communities near major airports and concerns over flight safety present another set of intergovernmental challenges involved in achieving compatible land use around airports. Land use decisions are generally a local government function and major airports may be surrounded by multiple local jurisdictions, while airports are often an agency of a different local jurisdiction and have little to no control over either airline operations at each airport or air traffic control procedures affecting the airport.

The Committee's Triennial Strategic Plan

The committee's Triennial Strategic Plan (TSP) provides a guide to help direct the activities of the committee in achieving its mission. The 2014 update of the TSP identifies the following emerging issues within the scope of the committee's mission:

- Changing demographic characteristics
- Desire for greater mobility both nationally and internationally
- Intermodal connections
- Growth in global industries
- Changing airline industry
- Evolving general aviation (GA) industry
- Evolving airport financial and business environment
- Environmental regulations
- Funding needs and abilities (including changes to FAA policies, privatization, privately funded public projects, financing, high program costs)
- Commercial space transportation

In addition, the TSP identifies five additional factors that are expected to influence aviation and the committee's activities in the longer term:

- Aging airport infrastructure
- Airport encroachment and land-use compatibility
- Growth and changes in civilian and commercial use of unmanned vehicle systems (UVS)
- Federal budget changes and uncertainties
- Skilled workforce shortage

The TSP then defined six specific goals and eight strategies to address these issues in its activities. Several of these relate to the organization, structure, and composition of the committee itself while others address the activities undertaken by the committee.

FUTURE INTERGOVERNMENTAL ISSUES IN AVIATION

The current intergovernmental issues in aviation are likely to continue for the foreseeable future, and the committee will continue to address these through its activities. In particular, as the primary commercial service airports in major metropolitan regions approach or reach their capacity constraints in the face of continued growth in air travel demand, airport system planning will become increasingly critical. Identifying, agreeing on, and implementing viable solutions will require effective coordination at the local, state, and national (federal) level. To the extent that potential airport capacity enhancement strategies will require a more intermodal approach,

whether to efficiently utilize more distant airports or divert some air travel demand to surface modes, airport system planning will need to involve a broader range of transportation agencies than has been typically the case in the past.

At the same time, as the FAA attempts to improve the efficient use of terminal airspace through changes in aircraft routing that take advantage of advanced aircraft navigation capabilities, this will expose new communities to aircraft overflights and associated aircraft noise. The successful implementation of such efforts will require close coordination at all levels of government.

The recent proliferation of unmanned aircraft systems (UASs) is likely to accelerate in both scale and aircraft size as UASs begin to be used commercially for package delivery and other purposes. This is likely to bring the federal regulation of airspace and aircraft operation into conflict with local jurisdictions responding to public pressure to address quality of life concerns, including noise, intrusiveness, and safety issues. However, beyond the current concerns over future UAS operations lies the prospect of large-scale use of small electrically-powered aircraft for short-distance trips within urban areas, which has come to be termed urban air mobility (UAM). The extent to which this concept will be economically or technically feasible and if so how soon this may occur is still unclear, but what is clear is that deployment of such a system will involve multiple government agencies at the local, state, and federal level.

The future growth of commercial space activities will continue to present intergovernmental issues at the federal, state, and local levels. While regulation of commercial space activities can be expected to remain primarily a federal responsibility, an increasing number of states are likely to seek to attract or expand commercial space launch facilities in order to take advantage of the economic development opportunities they provide. Local government agencies will continue to become involved in the associated land use permitting and development of support infrastructure, as well as community concerns over such issues as safety and noise.

Aircraft noise and land use compatibility planning around airports are likely to continue to present significant intergovernmental issues. Although aircraft have generally become quieter over the years, with improvements in engine and airframe technology, the growth in operations at major airports driven by increasing demand for air travel and air freight movement can be expected to offset the reduction in noise levels of individual operations. Future efforts to improve the efficiency of airspace operations around busy airports are also likely to shift and concentrate aircraft flight paths in a way that will increase the noise impacts on particular communities. There is also some evidence that many communities are becoming less tolerant of aircraft noise than they were in the past, so that even as aircraft are becoming quieter, public annoyance with aircraft noise is increasing.

Although major airports have numerous options to fund their infrastructure maintenance and expansion, and should be able to meet their future funding needs, the available funding for the many smaller, GA airports is likely to be much more limited. The financial situation for many of these airports can be expected to worsen in response to the declining trend in the number of new pilots learning to fly and reduced levels of many types of general aviation activity. Many smaller GA airports are owned by local jurisdictions, which often view these airports as important local assets and look to diminishing state and federal funding programs to meet their ongoing maintenance needs. Thus funding the continued maintenance and operation of these airports is likely to remain a significant intergovernmental concern.

DISCLAIMER

This paper is the property of its author(s) and is reprinted by NAS/TRB with permission. All opinions expressed herein are solely those of the respective author(s) and not necessarily the opinions of NAS/TRB. Each author assumes full responsibility for the views and material presented in his/her paper.