



# Federal Advanced Air Mobility and Unmanned Aerial Systems Policy

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The world is entering a new era of aviation, and the United States has an opportunity to take new approaches to air traffic management and infrastructure. There is significant private and public investment in advanced air mobility (AAM) aircraft, infrastructure, and research. These investments include planned certification of electric vertical-takeoff-and-landing aircraft, regional air mobility, urban air mobility, and small unmanned aerial systems (UAS). Although the technology has advanced rapidly in the past few years, federal and state aviation policy has moved more slowly. In anticipation of the growth of these AAM and UAS industries, federal lawmakers and federal aviation officials should consider the following public policies:

- Create a process for Federal Aviation Administration (FAA) and state aviation officials to designate AAM and drone corridors.
- Adopt a policy of airspace markets for AAM corridors to fund air traffic management and to protect competition.
- Endorse cooperative federalism regarding low-altitude flights.
- Encourage private air traffic management services and private vertiport facilities.
- Liberalize low-altitude airspace used for commercial drones across the nation.

## **POLICY 1: CREATE A PROCESS FOR THE FAA AND STATE AVIATION OFFICIALS TO DESIGNATE AAM AND DRONE CORRIDORS**

The National Aeronautics and Space Administration (NASA) and representatives of aviation trade associations have endorsed the creation of AAM corridors,<sup>1</sup> and drone corridors are popping up in

the United States and around the world. Air corridors safely separate AAM traffic from other airspace users, simplify operations for AAM operators and pilots, and avoid overburdening air traffic managers. These linear volumes of airspace will be used for testing and, eventually, commercial air services. Aviation and technology officials in several states—including Ohio,<sup>2</sup> Oklahoma,<sup>3</sup> and Utah<sup>4</sup>—have created or plan to create drone or AAM corridors. Recently, in New York, state and FAA officials designated a 50-mile-long corridor in a rural area for drone testing and an AAM corridor connecting Syracuse Hancock International Airport and Mirabel in Quebec, Canada.<sup>5</sup> As for outside the United States, Chinese aviation officials have established dozens of AAM corridors.<sup>6</sup> A UK government-funded report recently analyzed the economics for AAM for 20 potential routes across the country.<sup>7</sup>

To date, in the United States, the creation of air corridors has been ad hoc and uncoordinated, but that creation is a promising development that the FAA should formalize and encourage. In the United States, regional air mobility corridors could be especially important. In 2021, there were nearly 900 US city pairs with at least 30 passengers traveling between them daily but with no nonstop service, the so-called Nashville-to-Asheville problem.<sup>8</sup> Congress should endorse a national system of AAM corridors developed by federal and state transportation departments for urban and regional air mobility, and Congress should impose a deadline to ensure the system is implemented in a timely manner.<sup>9</sup>

## **POLICY 2: ADOPT A POLICY OF AIRSPACE MARKETS FOR AAM CORRIDORS TO FUND AIR TRAFFIC MANAGEMENT AND TO PROTECT COMPETITION**

Congress should instruct the FAA and the Federal Communications Commission (FCC) to study the implementation of airspace markets.<sup>10</sup> Federal research in this area began with a Government Accountability Office (GAO) study required by the 2018 reauthorization of the FAA.<sup>11</sup> There is growing recognition that new airspace users will need to pay compensation to fund the US air traffic management system.<sup>12</sup> As GAO noted, airspace leases or auctions are one way to fund needed federal investment in air traffic management.<sup>13</sup> Many federal and state assets are auctioned or leased to private industry, including spectrum bands, offshore wind energy sites, and offshore oil sites. As the Federal Highway Administration said in a 2021 transportation trends report, “There are also potentially new opportunities with air rights with interest in leasing airspace over highways.”<sup>14</sup> Air corridor purchasers would compensate the government with upfront payment or with royalties.

Furthermore, airspace markets can preserve competition in AAM and make airspace access more equitable. Airspace markets prevent anticompetitive “route squatting” by first movers on high-revenue AAM routes. As researchers at the Massachusetts Institute of Technology, funded by a NASA University Leadership Initiative grant, noted, “Using multiple AAM traffic scenarios, we demonstrate that the proposed cost-aware prioritization mechanisms [i.e., auctions] perform similarly in delay and fairness to other prioritization methods, while exhibiting superior performance

on metrics of weighted delay and fairness.”<sup>15</sup> This type of research into airspace auctions should be encouraged, and the resulting policies considered for adoption.

### **POLICY 3: ENDORSE COOPERATIVE FEDERALISM REGARDING LOW-ALTITUDE FLIGHTS**

State and local officials will have more involvement in drone and AAM policy. State and tribal governments are sovereign and have historical and legal interests in aviation operations in low-altitude airspace.<sup>16</sup> It’s important that federal policies for UAS—which will frequently fly in low-altitude airspace and at landing sites in residential areas—complement state and tribal laws about issues such as aerial trespass, property rights, and noise rules.

Yet, as a US Department of Transportation inspector general report to Congress in 2022 noted, “[the] FAA has not yet resolved the role of State, local, and tribal governments in the development and enforcement of Federal UAS regulations.”<sup>17</sup> The FAA created a working group in 2017 to determine how state and local rules for drone operations would complement federal rules. The *Washington Post* detailed the dramatic falling out among members.<sup>18</sup> Advisory groups in Texas and other states have likewise approached the issue and are looking for guidance as they proceed to draft state AAM and UAS polices.<sup>19</sup> Federal and state lawmakers and officials should, for pragmatic and constitutional reasons, elaborate on how federal and state laws will complement each other regarding aircraft operations in low-altitude airspace.

### **POLICY 4: ENCOURAGE PRIVATE AIR TRAFFIC MANAGEMENT SERVICES AND PRIVATE VERTIPOINT FACILITIES**

It’s unclear today whether and to what extent drone and AAM traffic management systems will be privately operated. Given the immense new air traffic that drones and AAM aircraft represent, federal policy should encourage private operation and investment in traffic management systems. Of course, these systems should safely complement traditional air traffic management and air traffic control.

Furthermore, it’s unclear whether and to what extent vertiports and related infrastructure will be privately funded. At least one state has seemingly required that vertiports within the state be shared or for public use.<sup>20</sup> Public-use vertiports would represent an anomalous trend: Only about 1 percent of heliports are for public use.<sup>21</sup> The reason such heliports are rare is that they present regulatory, financing, and safety challenges to infrastructure investors and operators. As an aviation industry analyst noted about AAM vertiports, “public-use models could be seen as a significant challenge in achieving the throughput levels sought while maintaining a reasonable level of risk.”<sup>22</sup> Federal policy should ensure that vertiport, unmanned traffic management, and AAM traffic management system financing—and financial risk—remains primarily with private companies, not taxpayers.

## **POLICY 5: LIBERALIZE LOW-ALTITUDE AIRSPACE USED FOR COMMERCIAL DRONES ACROSS THE NATION**

Congress and the FAA should focus on protecting existing aviation users first, and then on liberalizing airspace use in low-altitude airspace that poses a negligible risk to aviation safety. For instance, it is exceedingly rare for aircraft to fly lower than 200 feet (outside of air facilities and heliports, where drones are prohibited). There should be an early emphasis on permitting operation by landowners or their appointed agents in low-altitude airspace that can easily be used for linear inspections—such as rail, telecom, and roadways—and agricultural uses. Once owners of rural land and linear infrastructure know they can freely fly drones at low altitudes—say, under 200 feet—drone companies will start approaching them about offering their services.

In this new era of aviation, lawmakers and industry should take a clean-sheet approach to air traffic management and infrastructure investment and adopt new technologies and methods. These five policies can help foster competition, economic growth, and innovation in aviation without sacrificing safety and manageability.

### **ABOUT THE AUTHOR**

Brent Skorup is a senior research fellow at the Mercatus Center at George Mason University. His research areas include transportation technology, telecommunications, aviation, and wireless policy. He served on the Texas Urban Air Mobility Advisory Committee and as a drone law adviser to the Virginia Department of Aviation. He was also appointed to the Federal Communications Commission’s Broadband Deployment Advisory Committee from 2017 to 2021.

### **NOTES**

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10. See, for example, Brent Skorup, “Auctioning Airspace,” *North Carolina Journal of Law and Technology*, vol. 21 (2019): 79; Troy Rule, “Drones, Airspace, and the Sharing Economy” (Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, July 2022), <https://www.mercatus.org/research/research-papers/drones-airspace-and-sharing-economy>.
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