

MERCATUS SPECIAL STUDY



**IS YOUR STATE READY
FOR DRONE COMMERCE?**
THE 2022 STATE-BY-STATE SCORECARD

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ABSTRACT

Worldwide, commercial drone services are being tested and permitted. Progress in the United States has been slow, in part because of a lack of clarity about the federal and state roles in drone and airspace management. We give scores to the 50 states and rank them using their laws and drone industry data that indicate their preparedness for commercial drones. By adopting laws that allow cities to lease the air rights above public roads, vesting property owners with air rights, and establishing aviation easements, states can facilitate drone integration.

JEL codes: H77, K11, K23, L93, R48, R52

Keywords: drones, federalism, aviation, FAA, air rights, property rights, transportation, public policy, regulation

DISCLAIMER

This report is not legal advice and is intended solely for informational and educational purposes. Laws and legal interpretations are subject to change. Operators should consult a local licensed attorney before attempting drone operations.

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We are pleased to publish this third release of a 50-state drone commerce report. This report, like its predecessors, aims to give aviation officials and representatives in the industry practical policies to consider when looking to stimulate long-term commercial investment into advanced drone services. There are numerous commercial drone pilot programs throughout the nation, and worldwide hundreds of drone companies are testing and creating new drone services.¹ Commercial drone companies have operated for years in countries such as China, Japan, Rwanda, and Guatemala, providing agricultural services, deliveries to rural areas, and medical shipments. In the United States, UPS, Amazon, USPS, and others also want to gain a sliver of the \$30 billion home delivery market. The Federal Aviation Administration (FAA) has authorized several drone pilot projects, including some for public safety and medical uses, but widespread deployment of commercial drones is years away.

Progress has been slow, in part because of a lack of clarity about the federal and state roles in drone and airspace management. For instance, in 2019, the North Dakota legislature authorized \$28 million for a statewide drone traffic management system, but it is still negotiating with the FAA over the state's role in traffic management.² Ohio's drone task force director says the task force hopes to have a statewide drone traffic management system in the next few years, but it is uncertain how to proceed given the regulatory issues.³ Some in Congress would like to codify state and local authority over the low-altitude

1. In this report, the term *drone* refers to small, commercial drones that typically fly below 400 feet altitude, not large freight and passenger drones, which typically fly at higher altitudes.

2. Patrick Groves, "North Dakota Plans Statewide Drone Air Traffic Control," *Government Technology*, June 10, 2019.

3. Brian Garrett-Glaser, "At Ohio Air Taxi Symposium, Policy Seen as Far Behind Technology," *Aviation Today*, March 3, 2020. The article notes "many questions remaining on what kind of authority and oversight the FAA will have over locally-operated infrastructure."

airspace that drones fly in, but the technology is moving faster than the federal legislation.⁴

CREATING DRONE HIGHWAYS

Creating *drone highways*—aerial corridors above public rights-of-way—has generated industry and regulator interest in recent years.⁵ In 2021, the Federal Highway Administration discussed “potentially new opportunities with air rights” and “leasing airspace over highways” to encourage commercial drone use.⁶ In 2022, one of the FAA’s appointed aviation rulemaking committees recommended the creation of a system of drone corridors above critical infrastructure⁷—including up to 100 feet above utility lines, rail lines, and pipelines—as a way to expand long-distance drone services.⁸ Former FAA Deputy Administrator Sandy Murdock noted that “real estate experts who can negotiate aerial easements over roads should prepare or begin to market these otherwise unmonetized incorporeal property interests” to drone companies.⁹ However, as the Government Accountability Office pointed out in a report to Congress in September 2020, it is unclear how federal and state governments will share authority over low-altitude airspace, and this uncertainty slows technological progress.¹⁰

State authorities should prepare to have more involvement in drone operations than they have historically had in aviation. States and cities have police powers over land use and zoning, and low-altitude airspace—where many drones will fly—is

4. A few bills in Congress would codify state authority over low-altitude airspace, generally up to 200 feet above the ground. See Drone Integration and Zoning Act of 2019, S. 2607, 116th Cong. (2019); Drone Federalism Act of 2017, S. 1272, 115th Cong. (2017); and Drone Innovation Act, H.R. 2930, 115th Cong. (2017).

5. See, for example, Jack Daleo, “Drone Highways in the Sky Could Be on the Horizon,” *Modern Shipper*, August 30, 2021: “[M]any industry advocacy groups, regulators and operators see a drone ‘highway’ model as the way forward.”

6. The Federal Highway Administration report cites an earlier version of this drone report. Federal Highway Administration, *The Transportation Future: Trends, Transportation, and Travel* (Washington, DC: US Department of Transportation, 2021), 59.

7. The name of the committee is the Unmanned Aircraft Systems Beyond Visual Line-of-Sight Aviation Rulemaking Committee.

8. See Unmanned Aircraft Systems Beyond Visual Line-of-Sight Aviation Rulemaking Committee, *Final Report* (Washington, DC: FAA, 2022), 162, https://www.faa.gov/regulations_policies/rulemaking/committees/documents/media/UAS_BVLOS_ARC_FINAL_REPORT_03102022.pdf.

9. Sandy Murdock, “Aviation Rights Can Create New Revenues for Pipelines, Powerlines, etc. by Establishing Them as UAS Roads,” *JDA Journal*, September 13, 2021.

10. Government Accountability Office, *Unmanned Aircraft Systems: Current Jurisdictional, Property, and Privacy Legal Issues Regarding the Commercial and Recreational Use of Drones* (B-330570), September 16, 2020, <https://www.gao.gov/assets/710/709370.pdf>: “The legal uncertainty surrounding these [drone federalism] issues is presenting challenges to integration of UAS into the national airspace system.”

inseparable from the land beneath it.¹¹ Further, courts look to state law when determining whether approved flight paths amount to an unconstitutional taking of property.¹² For practical and legal reasons, then, state and city authorities will play a key role in demarcating drone highways, as well as in creating time, place, and manner restrictions, such as time-of-day rules, noise maximums, and privacy protections.¹³

To jump-start this new industry and bring drone services to residents, state and local leaders should coordinate with the FAA to create drone highways, which operators could use for parcel delivery, inspections, search and rescue, and other drone services. By demarcating drone highways above roadways, regulators can avoid nuisance, trespass, and takings lawsuits from landowners.¹⁴

Leasing the aerial corridors above public roads would allow state and local authorities to manage drone highways for safe and efficient drone services. Exercising this power would also allow many authorities to receive passive income through leasing or auction of a currently unused public resource: the public right-of-way between 50 feet and 200 feet above the ground.

ASSESSING STATE POLICY

State laws need to accommodate drone flights from large and small operators and clarify who—whether state, local, or federal officials—can make low-altitude airspace available. This report scores the existing laws and policies and ranks all 50 states and Puerto Rico (see table 1 on page 6). The report also identifies which states have laws and policies that show promise in creating drone highways and a statewide drone industry (see appendix A).

METHODOLOGY

We give the states scores based on six factors that signal a state’s readiness for commercial drone services. Given the legal obstacles to creating drone highways above private property, we give the most weight to the two factors that make drone highways over public roads feasible: airspace lease law and

11. The FAA, for instance, acknowledges local authorities’ police powers in five areas: land use, zoning, privacy, trespass, and law enforcement operations. Operation and Certification of Small Unmanned Aircraft Sys., 81 Fed. Reg. 42064, 42194 (June 28, 2016) (codified at 14 C.F.R. pts. 21, 43, 61, 91, 101, 107, 119, 133, 183).

12. *United States v. Causby*, 328 U.S. 256, 266 (1946).

13. See, for example, Laura K. Donohue, “Who Owns the Skies? *Ad Coelum*, Property Rights, and State Sovereignty,” in *Eyes to the Sky*, ed. Matthew Feeney (Washington, DC: Cato Institute, 2021), 131–64.

14. For a discussion of the imprecise nature of landowners’ air rights and interaction with aerial nuisance laws, see Lindsey P. Gustafson, “Arkansas Airspace Ownership and the Challenge of Drones,” *University of Arkansas at Little Rock Law Review* 39 (2017): 245, 258–77.

TABLE 1. STATE RANKINGS

Overall Rank		Overall Score	Overall Rank		Overall Score
1	Oklahoma	74	26	Idaho	37
2	North Dakota	70	26	Hawaii	37
2	Arkansas	70	26	Indiana	37
4	Arizona	68	29	Tennessee	36
5	Minnesota	66	30	Oregon	35
6	North Carolina	58	30	West Virginia	35
6	Georgia	58	32	Kansas	34
6	New Jersey	58	33	New Hampshire	33
9	Nevada	57	34	Utah	32
9	Montana	57	34	Pennsylvania	32
11	Virginia	55	36	New York	25
12	Texas	54	37	Connecticut	24
12	Washington	54	38	Illinois	23
14	California	50	38	Alaska	23
15	Maryland	49	40	Alabama	15
16	Delaware	47	41	Maine	12
17	Wisconsin	46	41	Florida	12
18	Louisiana	44	43	Kentucky	11
19	Michigan	41	43	South Carolina	11
19	Ohio	41	45	Iowa	5
21	Vermont	40	46	South Dakota	4
22	Massachusetts	39	47	New Mexico	3
22	Missouri	39	48	Nebraska	1
24	Wyoming	38	48	Rhode Island	1
24	Colorado	38	48	Mississippi	1

Note: Puerto Rico has a profile at the end of the report; however, because our data source does not provide drone jobs numbers for US territories, we have omitted Puerto Rico from the rankings.

avigation easement law. That said, the other factors are economically important and weighed accordingly. There is necessarily some subjectivity in how to weigh each factor. Other relevant legal issues, such as state-based insurance and liability rules, will also affect the drone industry; but in our estimation, the following six factors should be the top state priorities. For a breakdown of the scores for each state, see appendix B.

1. Airspace Lease Law (30 points total)

For states to achieve a widespread and safe drone delivery economy, they will in most cases need drone highways that are demarcated by regulators and safely

separated from airports, homes, schools, and other sensitive locations. Leasing airspace above public roadways would accelerate drone services, because creating flight paths over backyards and private lands raises difficult questions about the taking of private property.¹⁵

Over one-third of states currently allow state or local authorities to lease airspace above public roads and public property. Many variations of these road airspace leasing provisions exist, but Oregon's law is a good, clear example:

Any political subdivision holding the easement or fee title to a street or highway may lease the space above or below that street or highway for private purposes.¹⁶

Although these laws were passed decades ago with real estate development in mind, they allow the creation of statewide or citywide drone delivery networks.

A state law allowing authorities to lease airspace above state *and* local roads receives a full 30 points. Only seven states authorize such airspace leasing.¹⁷ A state law allowing authorities to lease airspace above state roads but not local roads, or vice versa, receives 10 points. Sixteen states fall into this category.¹⁸ The remaining states, which are silent on the matter, receive zero points.

2. Avigation Easement Law (25 points total)

Though many states recognize landowners' property rights in the air, they often condition those rights and allow drone (and airplane) flights over land as long as flights do not interfere with land use or disturb people on the ground. In 1922, the influential Uniform Law Commission approved a model law known as the Uniform State Law for Aeronautics.¹⁹ Many states have adopted a version of the avigation easement provision from this model law:

Flight in aircraft over the lands and waters of this State is lawful, unless at such a low altitude as to interfere with the then existing use

15. *United States v. Causby* (holding that landowners have "a claim to [low-altitude airspace] and that invasions of it are in the same category as invasions of the surface").

16. OR. REV. STAT. § 271.430 (2017).

17. These are Arkansas, New Hampshire, Oklahoma, Oregon, Texas, Virginia, and Washington.

18. These are Arizona, California, Connecticut, Florida, Georgia, Illinois, Louisiana, Maine, Massachusetts, Michigan, Minnesota, New York, Ohio, South Carolina, West Virginia, and Wisconsin.

19. The American Bar Association established the Uniform Law Commission in the late 1800s. Today, members of the commission are lawyers, judges, law professors, and legislators appointed by their states to draft model laws that state legislatures are encouraged to enact.

to which the land or water, or the space over the land or water, is put by the owner, or unless so conducted as to be imminently dangerous to persons or property lawfully on the land or water beneath.²⁰

These aviation easement laws mean that drone operators can fly their drones as long as they are high enough not to bother landowners and passersby. The laws also mean that if the state or municipality does not own the aerial corridors above public roads, drones would still be able to access the aerial easements if state officials demarcated drone highways above public roads.

Nearly one-half of states have aviation easement laws and receive 25 points. The states that are silent on the matter receive zero points.

3. Drone Task Force or Program Office (20 points total)

For state and local authorities, widespread commercial drone services will raise novel issues related to zoning rules, such as noise limits, time-of-day restrictions, job training and education, insurance, and privacy for private dwellings. Most of these issues require evaluation and discussion by regulators, residents, researchers, and operators. States that have a statewide task force or a drone program office within their department of transportation will be ahead of the curve and can anticipate future issues before they become problems for industry and residents.

States that have an active statewide task force or a program office dedicated to commercial drone services receive 20 points. Nineteen states fulfill this criterion.²¹

States that created a task force that appears to have lapsed receive 10 points. Further, states that have a legislative body that has produced a drone report receive 10 points, as it indicates growing lawmaker knowledge and prioritization of drone issues. The remaining states, which have no task force, program office, or policy reports, receive zero points.

4. Law Vesting Landowners with Air Rights (10 points total)

Air rights laws serve a few purposes. First, they clarify that the state is exercising its police powers and defining property rights within the state. Second, where

20. UNIF. ST. L. FOR AERONAUTICS § 4 (Unif. L. Comm'n 1922).

21. These are Alaska, Arizona, Kansas, Louisiana, Michigan, Minnesota, Montana, Nevada, New Jersey, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Texas, Utah, Virginia, Washington, and West Virginia.

state or local authorities own public rights-of-way, these laws recognize their property interest in the aerial corridors above public roads. Third, these laws put drone operators and residents on notice about the extent of homeowners' property rights, which reduces litigation risk for operators and homeowners alike.

One provision from the Uniform State Law for Aeronautics recognized that landowners own the low-altitude airspace above their land:

The ownership of the space above the lands and waters of this State is declared to be vested in the several owners of the surface beneath, subject to the right of flight.²²

Nearly one-half of states have adopted some version of this model law; those states receive 10 points. States that are silent on the matter of air rights ownership receive zero points.

5. Sandbox (10 points total)

The term *sandbox* in technology policy refers to a designated place, either geographical or digital, where new technologies can be tested under liberal rules for a predetermined duration.²³ The policy goal is to stimulate a new industry or service by providing innovators and regulators a place to watch and learn about the new technology without a full-scale launch to the public.²⁴ A drone sandbox for our purposes has three components:

1. Designated airspace and facilities
2. Prominent, open invitation to commercial drone services companies to use the airspace and facilities
3. Affiliation with state transportation or economic development officials

Eight states have a drone sandbox, but their models vary. In Oklahoma, the Choctaw Nation has dedicated more than 1,000 square miles of tribal land—an aerial corridor about 25 miles long—to drone services testing, with an eye toward

22. UNIF. ST. L. FOR AERONAUTICS § 3 (Unif. L. Comm'n 1922).

23. See, for example, Rees Empey, "Opportunity Sandboxes," Libertas Institute, accessed March 16, 2022, <https://libertas.org/outreach/sandbox/>.

24. Molly Leshner, "Bringing New Digitally Enabled Products and Services to Market: Sandboxes and the Role of Policy Experimentation," VoxEU, Centre for Policy Research, October 13, 2020; and James Czerniawski, "Utah Innovates: Regulatory Frameworks for the Future," Libertas Institute, December 2019, http://libertas.org/policy-papers/regulatory_sandbox.pdf.

manufacturing and economic development.²⁵ In New York, state officials have designated a 50-mile-long corridor in a rural area for drone testing. In Ohio and Maryland, officials have repurposed an existing small airport.

We distinguish *sandboxes* from the dozens, perhaps hundreds, of pilot programs throughout the nation. Drone pilot programs are typically initiated by a single drone services company, are of short duration, and are limited to that company solely. In a drone sandbox, by contrast, airspace access is widely available and indefinite, which allows many early stage companies to test their technology and show proof of concept to investors and regulators.

This factor requires state affiliation, because a sandbox grows the knowledge and competence of state and local transportation and economic development officials in the new area of drone commerce.²⁶

6. Jobs Estimate (5 points total)

The final factor that contributes to a state's score is the estimated number of drone job openings in 2021.²⁷ We rank states by the number of drone jobs listings per 100,000 residents, so that populous states are not unduly favored. Once ranked, we divide the states into quintiles: the top 10 states for drone jobs listings receive the maximum five points, the next 10 states receive four points, and so on. The number of drone jobs serves as a proxy for soft factors that benefit a state, such as a university or community college system with drone programs or workers in the aerospace industry. These soft factors can position states for future jobs and services growth, much like the automotive supplies industry revolving around Detroit and the information technology industry revolving around Silicon Valley.

ABOUT THE SOURCES

The three relevant airspace laws were found in state codes. We compiled the existence of a drone task force or program office by consulting drone experts, state law databases, and news reports. The data we used to determine drone job listings per state were provided by ZipRecruiter.²⁸ From its drone jobs listing data

25. See, for example, Dawn Zoldi, "This High Tech Tribe Will Bring Drone Deliveries to Rural Areas," *Forbes*, August 24, 2021.

26. In a few cases, such as New Mexico and Texas, there is airspace access for drone companies but no apparent involvement with state officials.

27. See notes 28–29 for more information on ZipRecruiter drone jobs data.

28. ZipRecruiter, Inc., internal data, January 1, 2016, through February 2, 2022.

for 2021, we estimated the number of drone jobs per 100,000 persons in a given state.²⁹ A handful of states did not have 2021 drone job listing data, so we used the most recent data available, either 2020 or 2019.³⁰

CHANGES FROM THE 2021 SCORECARD

In this 2022 report, we have kept the same five factors used in our previous scorecards and added a sixth: sandbox.³¹ There have been several changes in scoring and state rankings. First, in some cases state laws and policies have changed, or we unintentionally omitted a relevant state law or policy in an earlier release. Second, to add a sandbox factor and capture its economic significance, we have reweighed the scoring. We assigned 10 points to the sandbox and reduced the jobs estimate score to a maximum of 5 points (previous releases scored this up to 15 points). The weights of other factors remain the same. For score gains and losses for each state, from 2021 to 2022, see appendix C.

Puerto Rico's report remains at the end of the report but, because our data source does not provide drone jobs scores for US territories, we have omitted Puerto Rico from the rankings.

CONCLUSION

Drone commerce in the United States requires collaborative action between federal, state, and local governments and within the industry. The primary challenge to growing the current pilot programs is bringing coherence and predictability to airspace access. Economist Tyler Cowen raised this question a few years ago: “How are we going to have easements in the air, where do the property rights

29. ZipRecruiter provided us with average drone job listings per 10,000 ZipRecruiter job listings. From this, we could derive the number of drone jobs per 100,000 persons in the state. The data are job postings mentioning terms strongly associated with drone operation: *drone*, *UAVs* (unmanned aerial vehicles), *UASs* (unmanned aircraft systems), *AUVSI* (Association for Uncrewed Systems International), *MAV* (micro air vehicle), or *RPA* (remotely piloted aircraft). The latest available data for average ZipRecruiter total active job postings were from June 2021. “Labor Market Trends, June 2021,” ZipRecruiter, July 1, 2021, <https://www.ziprecruiter.com/blog/labor-market-trends-june-2021/>.

30. These are Alaska, Delaware, Maine, South Dakota, Vermont, and Wyoming.

31. The 2020 and 2021 reports are available on the Mercatus Center website. See Brent Skorup and Connor Haaland, “Which States Are Prepared for the Drone Industry? A Fifty-State Report Card” (Mercatus Research, Mercatus Center at George Mason University, Arlington, VA, March 19, 2020); and Brent Skorup and Connor Haaland, “Which States Are Prepared for the Drone Industry? A Fifty-State Report Card 2.0” (Mercatus Research, Mercatus Center at George Mason University, Arlington, VA, January 14, 2021).

really lie? . . . It will take a while to untangle that mess.”³² This report aims to simplify some of those issues and show that a public policy priority for this young industry should be long-term access to airspace and drone highways. Parts of this report remain controversial within the industry. While the precise trajectory of federal and state drone rules is unclear, many issues are predictable and should be anticipated. This report complements other research showing how to bring about safety and privacy to residents and a predictable investment climate for the industry.³³

32. Brendan Fitzgerald Wallace, “My conversation with economist, author & podcaster Tyler Cowen,” Facebook, January 2020, <https://www.facebook.com/fitzgerald.brendan.wallace/posts/10101719850747122>.

33. See, for example, Brent Skorup, “Drones, Airspace Design, and Aerial Law in States and Cities,” *Akron Law Review* 55, no. 1 (2022): 157–86.

APPENDIX A: STATE PROFILES

Alabama

Rank: 40th

Score: 15/100

- Airspace Lease Law: 0/30
- Avigation Easement Law: 0/25
- Task Force or Program Office: 10/20
- Law Vesting Landowners with Air Rights: 0/10
- Sandbox: 0/10
- Jobs Estimate: 5/5

Factors Helping the State Score

- *Task Force or Program Office:* Alabama gets partial points because it had a temporary drone task force. In 2014, Governor Robert Bentley established a drone task force, which produced a one-time report for the governor and state legislature.³⁴ For a full score, the state needs an active drone task force or a program office within the state transportation department.
- *Jobs Estimate:* Alabama is in the top quintile when it comes to the number of drone-related jobs per 100,000 people, receiving five out of five points.

Factors Hindering the State Score

- *Airspace Lease Law:* Alabama law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Avigation Easement Law:* Alabama law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Law Vesting Landowners with Air Rights:* Alabama law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.

34. The task force appears to be inactive. Governor's Alabama Unmanned Aerial Systems (UAS) Task Force, accessed May 19, 2022, <https://www.dot.state.al.us/publications/Aero/pdf/uasTaskForce.pdf>.

- *Sandbox*: Alabama does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Alabama the 40th most drone-friendly state in the country.

Alaska

Rank: 38th (tied)

Score: 23/100

- *Airspace Lease Law*: 0/30
- *Avigation Easement Law*: 0/25
- *Task Force or Program Office*: 20/20
- *Law Vesting Landowners with Air Rights*: 0/10
- *Sandbox*: 0/10
- *Jobs Estimate*: 3/5

Factors Helping the State Score

- *Task Force or Program Office*: Alaska gets full points. The state has a drone program office in the Department of Transportation and Public Facilities.³⁵
- *Jobs Estimate*: Alaska is in the middle quintile when it comes to the number of drone-related jobs per 100,000 people, receiving three out of five points.

Factors Hindering the State Score

- *Airspace Lease Law*: Alaska law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Avigation Easement Law*: Alaska law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.

35. “Unmanned Aircraft Systems (UAS),” Alaska Department of Transportation and Public Facilities, last modified December 22, 2021, <https://dot.alaska.gov/uas/>.

- *Law Vesting Landowners with Air Rights*: Alaska law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox*: Alaska does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Alaska tied (with Illinois) for the 38th most drone-friendly state in the country.

Arizona

Rank: 4th

Score: 68/100

- *Airspace Lease Law*: 10/30
- *Avigation Easement Law*: 25/25
- *Task Force or Program Office*: 20/20
- *Law Vesting Landowners with Air Rights*: 10/10
- *Sandbox*: 0/10
- *Jobs Estimate*: 3/5

Factors Helping the State Score

- *Airspace Lease Law*: Arizona law allows the director of the Arizona Department of Transportation to lease airspace above state roads.³⁶ Such a law allows state officials to create drone highways above these roadways. However, the state did not receive full points, because the law is silent as to whether local officials can lease airspace above local roads and property.
- *Avigation Easement Law*: Arizona law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.³⁷

36. ARIZ. REV. STAT. ANN. § 28-7048 (2015).

37. § 28-8277 (2018).

- *Task Force or Program Office*: Arizona gets full points. State lawmakers created the Urban Air Mobility Study Committee in 2021; membership is mostly by governor appointment.³⁸ The study committee is required to provide recommendations to lawmakers about how to improve passenger drone regulation and commerce in the state.
- *Law Vesting Landowners with Air Rights*: Arizona law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.³⁹
- *Jobs Estimate*: Arizona is in the middle quintile when it comes to the number of drone-related jobs per 100,000 people, receiving three out of five points.

Factors Hindering the State Score

- *Sandbox*: Arizona does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Arizona the 4th most drone-friendly state in the country.

Arkansas

Rank: 2nd (tied)

Score: 70/100

- *Airspace Lease Law*: 30/30
- *Avigation Easement Law*: 25/25
- *Task Force or Program Office*: 0/20
- *Law Vesting Landowners with Air Rights*: 10/10
- *Sandbox*: 0/10
- *Jobs Estimate*: 5/5

38. 2021 ARIZ. SESS. LAWS 197.

39. § 28-8207.

Factors Helping the State Score

- *Airspace Lease Law*: Arkansas law allows public authorities to lease low-altitude airspace above state and local roads.⁴⁰ Such a law allows state or local officials to create drone highways above these roadways.
- *Avigation Easement Law*: Arkansas law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.⁴¹
- *Law Vesting Landowners with Air Rights*: Arkansas law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.⁴²
- *Jobs Estimate*: Arkansas is in the top quintile when it comes to the number of drone-related jobs per 100,000 people, receiving five out of five points.

Factors Hindering the State Score

- *Task Force or Program Office*: State leaders should consider convening a statewide drone task force or creating a commercial drone program office within the transportation department.
- *Sandbox*: Arkansas does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Arkansas tied (with North Dakota) for the 2nd most drone-friendly state in the country.

California

Rank: 14th

Score: 50/100

- Airspace Lease Law: 10/30
- Avigation Easement Law: 25/25

40. ARK. CODE ANN. § 27-64-101 (2017).

41. § 27-116-102.

42. *Id.*

- Task Force or Program Office: 0/20
- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 0/10
- Jobs Estimate: 5/5

Factors Helping the State Score

- *Airspace Lease Law*: California law allows state authorities to lease low-altitude airspace above state highways.⁴³ Such a law allows state officials to create drone highways above these roadways. However, the state did not receive full points, because the law is silent as to whether local officials can lease airspace above local roads and local property.
- *Avigation Easement Law*: California law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.⁴⁴
- *Law Vesting Landowners with Air Rights*: California law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.⁴⁵
- *Jobs Estimate*: California is in the top quintile when it comes to the number of drone-related jobs per 100,000 people, receiving five out of five points.

Factors Hindering the State Score

- *Task Force or Program Office*: State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Sandbox*: California does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make California the 14th most drone-friendly state in the country.

43. CAL. STS. & HIGH. CODE § 104.12 (Deering 2020).

44. CAL. PUB. UTIL. CODE § 21403 (Deering 2020).

45. § 21402.

Colorado

Rank: 24th (tied)

Score: 38/100

- Airspace Lease Law: 0/30
- Avigation Easement Law: 25/25
- Task Force or Program Office: 0/20
- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 0/10
- Jobs Estimate: 3/5

Factors Helping the State Score

- *Avigation Easement Law*: Colorado law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.⁴⁶
- *Law Vesting Landowners with Air Rights*: Colorado law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.⁴⁷ Colorado law also affirms the existence of “estates, rights, and interests” in airspace, independent of the connection to the property owner of the land below the airspace.⁴⁸
- *Jobs Estimate*: Colorado is in the middle quintile when it comes to the number of drone-related jobs per 100,000 people, receiving three out of five points.

Factors Hindering the State Score

- *Airspace Lease Law*: Colorado law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Task Force or Program Office*: The state legislature passed a law in 2017 creating a center within the Division of Fire Prevention and Control that studies the integration of unmanned aircraft systems (UAS) as they relate

46. COLO. REV. STAT. § 13-21-118 (2016).

47. § 41-1-107.

48. § 38-32-101.

to public safety functions.⁴⁹ While commendable, the narrow scope of the center’s responsibilities does not satisfy the criteria of this report. State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.

- *Sandbox*: Colorado does not have a drone sandbox. There is an indoor drone-testing facility at Rifle Garfield County Airport for public safety users.⁵⁰ However, the narrow scope of the site does not satisfy the criteria of this report. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Colorado tied (with Wyoming) for the 24th most drone-friendly state in the country.

Connecticut

Rank: 37th

Score: 24/100

- Airspace Lease Law: 10/30
- Avigation Easement Law: 0/25
- Task Force or Program Office: 10/20
- Law Vesting Landowners with Air Rights: 0/10
- Sandbox: 0/10
- Jobs Estimate: 4/5

Factors Helping the State Score

- *Airspace Lease Law*: Connecticut law allows local authorities to lease low-altitude airspace above local roads.⁵¹ Such a law allows local officials to create drone highways above these roadways. However, the state did not receive full points, because the law is silent as to whether state officials can lease airspace above state roads and state property.

49. H.B. 17-1070, 72nd Gen. Assemb., Reg. Sess. (Colo. 2017), <http://leg.colorado.gov/bills/hb17-1070>.

50. Jed Pressgrove, “Colorado Drone Facility Paves Way for Public Safety Innovations,” *Government Technology*, October 18, 2019.

51. CONN. GEN. STAT. ANN. § 13A-80G (West 2018).

- *Task Force or Program Office:* Connecticut gets partial points because the legislature produced a one-time drone policy report in 2014. The Connecticut General Assembly produced a report giving a thorough assessment of Connecticut’s state drone policies and how state agencies are involved with regulation.⁵²
- *Jobs Estimate:* Connecticut is in the second quintile when it comes to the number of drone-related jobs per 100,000 people, receiving four out of five points.

Factors Hindering the State Score

- *Avigation Easement Law:* Connecticut law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Law Vesting Landowners with Air Rights:* Connecticut law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox:* Connecticut does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Connecticut the 37th most drone-friendly state in the country.

Delaware

Rank: 16th

Score: 47/100

- Airspace Lease Law: 0/30
- Avigation Easement Law: 25/25
- Task Force or Program Office: 10/20

52. Connecticut General Assembly, Legislative Program Review and Investigations Committee, *Drone Use Regulation*, 2014, <https://www.cga.ct.gov/pri/docs/2014/Drone%20Use%20Regulation%20Final%20Report%20for%20printing.pdf>.

- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 0/10
- Jobs Estimate: 2/5

Factors Helping the State Score

- *Avigation Easement Law*: Delaware law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.⁵³
- *Task Force or Program Office*: Delaware gets partial points because the state created a temporary statewide drone task force in 2015 to encourage education about drones and commercial drone services.⁵⁴
- *Law Vesting Landowners with Air Rights*: Delaware law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.⁵⁵

Factors Hindering the State Score

- *Airspace Lease Law*: Delaware law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Sandbox*: Delaware does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.
- *Jobs Estimate*: Delaware is in the fourth quintile when it comes to the number of drone-related jobs per 100,000 people, receiving two out of five points.

These factors make Delaware the 16th most drone-friendly state in the country.

53. DEL. CODE tit. 2, § 304 (2020).

54. The task force appears to have lapsed around 2016. See Nick Roth, “Drones Are the Buzz in Lewes,” *Cape Gazette*, October 28, 2016.

55. § 303.

Florida

Rank: 41st (tied)

Score: 12/100

- *Airspace Lease Law:* 10/30
- *Avigation Easement Law:* 0/25
- *Task Force or Program Office:* 0/20
- *Law Vesting Landowners with Air Rights:* 0/10
- *Sandbox:* 0/10
- *Jobs Estimate:* 2/5

Factors Helping the State Score

- *Airspace Lease Law:* Florida law allows state authorities to lease low-altitude airspace above state highways.⁵⁶ Such a law allows state officials to create drone highways above these roadways. However, the state did not receive full points, because the law is silent as to whether local officials can lease airspace above local roads and local property.

Factors Hindering the State Score

- *Avigation Easement Law:* Florida law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Task Force or Program Office:* State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Law Vesting Landowners with Air Rights:* Florida law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox:* Florida does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

56. FLA. STAT. ANN. § 337.251 (2019).

- *Jobs Estimate*: Florida is in the fourth quintile when it comes to the number of drone-related jobs per 100,000 people, receiving two out of five points.

These factors make Florida tied (with Maine) for the 41st most drone-friendly state in the country.

Georgia

Rank: 6th (tied)

Score: 58/100

- Airspace Lease Law: 10/30
- Avigation Easement Law: 25/25
- Task Force or Program Office: 10/20
- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 0/10
- Jobs Estimate: 3/5

Factors Helping the State Score

- *Airspace Lease Law*: Georgia law allows state authorities to lease low-altitude airspace above limited-access highways. Such a law allows state officials to create drone highways above these roadways.⁵⁷ However, the state did not receive full points, because the law is silent as to whether officials can lease airspace above local roads and state highways that do not have limited access.
- *Avigation Easement Law*: Georgia law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.⁵⁸
- *Task Force or Program Office*: Georgia gets partial points because the legislature produced a one-time drone policy report in 2015. The report by the Georgia House of Representatives contained clarifying recommendations for the government use of state-owned drones and for understanding surveillance boundaries and privacy laws.⁵⁹

57. GA. CODE ANN. § 32-6-117 (2018).

58. § 6-2-5 (2010).

59. Georgia House of Representatives, *House Study Committee on the Use of Drones*, December 1, 2015, http://www.house.ga.gov/Documents/CommitteeDocuments/2015/Drones_FINAL_REPORT.pdf.

- *Law Vesting Landowners with Air Rights*: Georgia law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.⁶⁰
- *Jobs Estimate*: Georgia is in the middle quintile when it comes to the number of drone-related jobs per 100,000 people, receiving three out of five points.

Factors Hindering the State Score

- *Sandbox*: Georgia does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Georgia tied (with New Jersey and North Carolina) for the 6th most drone-friendly state in the country.

Hawaii

Rank: 26th (tied)

Score: 37/100

- *Airspace Lease Law*: 0/30
- *Avigation Easement Law*: 25/25
- *Task Force or Program Office*: 0/20
- *Law Vesting Landowners with Air Rights*: 10/10
- *Sandbox*: 0/10
- *Jobs Estimate*: 2/5

Factors Helping the State Score

- *Avigation Easement Law*: Hawaii law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.⁶¹

60. § 44-1-2 (2019).

61. HAW. REV. STAT. § 263-4 (2012).

- *Law Vesting Landowners with Air Rights*: Hawaii law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.⁶²

Factors Hindering the State Score

- *Airspace Lease Law*: Hawaii law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Task Force or Program Office*: State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Sandbox*: Hawaii does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.
- *Jobs Estimate*: Hawaii is in the fourth quintile when it comes to the number of drone-related jobs per 100,000 people, receiving two out of five points.

These factors make Hawaii tied (with Idaho and Indiana) for the 26th most drone-friendly state in the country.

Idaho

Rank: 26th (tied)

Score: 37/100

- Airspace Lease Law: 0/30
- Avigation Easement Law: 25/25
- Task Force or Program Office: 0/20
- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 0/10
- Jobs Estimate: 2/5

62. § 263-3.

Factors Helping the State Score

- *Avigation Easement Law*: Idaho law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.⁶³
- *Law Vesting Landowners with Air Rights*: Idaho law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.⁶⁴

Factors Hindering the State Score

- *Airspace Lease Law*: Idaho law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Task Force or Program Office*: State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Sandbox*: Idaho does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.
- *Jobs Estimate*: Idaho is in the fourth quintile when it comes to the number of drone-related jobs per 100,000 people, receiving two out of five points.

These factors make Idaho tied (with Hawaii and Indiana) for the 26th most drone-friendly state in the country.

Illinois

Rank: 38th (tied)

Score: 23/100

- Airspace Lease Law: 10/30
- Avigation Easement Law: 0/25
- Task Force or Program Office: 10/20

63. IDAHO CODE § 21-204 (2019).

64. § 21-203 (2016).

- Law Vesting Landowners with Air Rights: 0/10
- Sandbox: 0/10
- Jobs Estimate: 3/5

Factors Helping the State Score

- *Airspace Lease Law*: Illinois law allows Chicago authorities to lease low-altitude airspace above city streets.⁶⁵ Such a law allows local officials to create drone highways above these roadways. However, outside of Chicago, the law is unclear. Municipalities are prohibited from airspace sale and lease for “purely private uses.” It is uncertain whether drone operations would qualify as a private or public benefit, and there are other minor state limits on airspace leasing.⁶⁶
- *Task Force or Program Office*: Illinois gets partial points because it had a temporary drone task force in 2016 under the Illinois Unmanned Aerial System Oversight Task Force Act.⁶⁷
- *Jobs Estimate*: Illinois is in the middle quintile when it comes to the number of drone-related jobs per 100,000 people, receiving three out of five points.

Factors Hindering the State Score

- *Avigation Easement Law*: Illinois law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Law Vesting Landowners with Air Rights*: Illinois law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox*: Illinois does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Illinois tied (with Alaska) for the 38th most drone-friendly state in the country.

65. 65 ILL. COMP. STAT. 20/21-17 (2019).

66. 5/11-80-8 (2020); 5/11-75-1 (2022).

67. See 20 ILL. COMP. STAT. 5065/15 (2017); repealed in 2018 by 20 ILL. COMP. STAT. 5056/20 (2022).

Indiana

Rank: 26th (tied)

Score: 37/100

- *Airspace Lease Law:* 0/30
- *Avigation Easement Law:* 25/25
- *Task Force or Program Office:* 0/20
- *Law Vesting Landowners with Air Rights:* 10/10
- *Sandbox:* 0/10
- *Jobs Estimate:* 2/5

Factors Helping the State Score

- *Avigation Easement Law:* Indiana law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.⁶⁸
- *Law Vesting Landowners with Air Rights:* Indiana law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.⁶⁹

Factors Hindering the State Score

- *Airspace Lease Law:* Indiana law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Task Force or Program Office:* State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Sandbox:* Indiana does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.
- *Jobs Estimate:* Indiana is in the fourth quintile when it comes to the number of drone-related jobs per 100,000 people, receiving two out of five points.

68. IND. CODE § 8-21-4-4 (2018).

69. § 8-21-4-3.

These factors make Indiana tied (with Hawaii and Idaho) for the 26th most drone-friendly state in the country.

Iowa

Rank: 45th

Score: 5/100

- *Airspace Lease Law:* 0/30
- *Avigation Easement Law:* 0/25
- *Task Force or Program Office:* 0/20
- *Law Vesting Landowners with Air Rights:* 0/10
- *Sandbox:* 0/10
- *Jobs Estimate:* 5/5

Factors Helping the State Score

- *Jobs Estimate:* Iowa is in the top quintile when it comes to the number of drone-related jobs per 100,000 people, receiving five out of five points.

Factors Hindering the State Score

- *Airspace Lease Law:* Iowa law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Avigation Easement Law:* Iowa law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Task Force or Program Office:* State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Law Vesting Landowners with Air Rights:* Iowa law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox:* Iowa does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing

and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Iowa the 45th most drone-friendly state in the country.

Kansas

Rank: 32nd

Score: 34/100

- *Airspace Lease Law:* 0/30
- *Avigation Easement Law:* 0/25
- *Task Force or Program Office:* 20/20
- *Law Vesting Landowners with Air Rights:* 0/10
- *Sandbox:* 10/10
- *Jobs Estimate:* 4/5

Factors Helping the State Score

- *Task Force or Program Office:* Kansas gets full points. The state has a drone program office, led by the director of unmanned aircraft systems, in the Department of Transportation.⁷⁰
- *Sandbox:* The Kansas State University Salina Aerospace and Technology Campus offers airspace access to drone companies, is affiliated with the state transportation department, and has a prominent, open invitation to drone companies to test their hardware and services.⁷¹
- *Jobs Estimate:* Kansas is in the second quintile when it comes to the number of drone-related jobs per 100,000 people, receiving four out of five points.

Factors Hindering the State Score

- *Airspace Lease Law:* Kansas law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law

70. See Kansas Department of Transportation, Division of Aviation, accessed March 16, 2022, <http://airkansas.org/about.html>.

71. See “UAS at K-State Aerospace and Technology Campus,” Kansas State University, accessed March 17, 2022, <https://www.salina.k-state.edu/research-training/applied-aviation-research-center/about/>.

would allow state or local officials to create drone highways above these roadways.

- *Avigation Easement Law*: Kansas law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Law Vesting Landowners with Air Rights*: Kansas law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.

These factors make Kansas the 32nd most drone-friendly state in the country.

Kentucky

Rank: 43rd (tied)

Score: 11/100

- *Airspace Lease Law*: 0/30
- *Avigation Easement Law*: 0/25
- *Task Force or Program Office*: 0/20
- *Law Vesting Landowners with Air Rights*: 0/10
- *Sandbox*: 10/10
- *Jobs Estimate*: 1/5

Factors Helping the State Score

- *Sandbox*: Kentucky's USA Drone Port, currently under construction in eastern Kentucky, will offer airspace access to drone companies, is affiliated with the state transportation department, and has a prominent, open invitation to drone companies to test their hardware and services.⁷²

Factors Hindering the State Score

- *Airspace Lease Law*: Kentucky law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease

72. See "Flight Areas & Facilities," USA Drone Port, accessed March 17, 2022, <https://www.usadroneport.com/flight-areas-facilities>.

law would allow state or local officials to create drone highways above these roadways.

- *Avigation Easement Law*: Kentucky law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Task Force or Program Office*: State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Law Vesting Landowners with Air Rights*: Kentucky law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Jobs Estimate*: Kentucky is in the bottom quintile when it comes to the number of drone-related jobs per 100,000 people, receiving one out of five points.

These factors make Kentucky tied (with South Carolina) for the 43rd most drone-friendly state in the country.

Louisiana

Rank: 18th

Score: 44/100

- Airspace Lease Law: 10/30
- Avigation Easement Law: 0/25
- Task Force or Program Office: 20/20
- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 0/10
- Jobs Estimate: 4/5

Factors Helping the State Score

- *Airspace Lease Law*: Louisiana law allows local authorities to lease low-altitude airspace above local roads and waterways.⁷³ Such a law allows local officials to create drone highways above these roadways. It

73. LA. REV. STAT. § 33:4712 (2020).

is noteworthy that Louisiana law also allows the state land office and municipalities to lease airspace above non-navigable waters of the state. However, the state did not receive full points, because the law is silent as to whether state officials can lease airspace above state roads and state property.⁷⁴

- *Task Force or Program Office:* Louisiana gets full points. The state has a drone task force overseen by the Louisiana Department of Transportation and Development.⁷⁵ This task force was created by the legislature in 2021 and develops statewide policy recommendations on the operation, use, and regulation of drones.
- *Law Vesting Landowners with Air Rights:* Louisiana law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.⁷⁶
- *Jobs Estimate:* Louisiana is in the second quintile when it comes to the number of drone-related jobs per 100,000 people, receiving four out of five points.

Factors Hindering the State Score

- *Avigation Easement Law:* Louisiana law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Sandbox:* Louisiana does not have a drone sandbox. The Louisiana National Guard created a drone sandbox at Fort Polk in 2015, but it appears to be limited to battlefield services.⁷⁷ State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Louisiana the 18th most drone-friendly state in the country.

74. LA. REV. STAT. § 41:91 (2020).

75. § 2:2.1 (2021). See Louisiana Department of Transportation and Development, Louisiana Drone Advisory Committee, accessed March 16, 2022, [http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Multimodal/Aviation/Pages/Louisiana_Drone_Advisory_Committee_\(LADAC\).aspx](http://wwwsp.dotd.la.gov/Inside_LaDOTD/Divisions/Multimodal/Aviation/Pages/Louisiana_Drone_Advisory_Committee_(LADAC).aspx).

76. § 14:63 (2020).

77. See Rebekah Malone, “La. Guard Officially Opens ‘Unique’ Unmanned Aircraft Facility,” Louisiana National Guard, 2015, <https://geauxguard.la.gov/la-guard-officially-opens-unique-unmanned-aircraft-facility/>.

Maine

Rank: 41st (tied)

Score: 12/100

- *Airspace Lease Law:* 10/30
- *Avigation Easement Law:* 0/25
- *Task Force or Program Office:* 0/20
- *Law Vesting Landowners with Air Rights:* 0/10
- *Sandbox:* 0/10
- *Jobs Estimate:* 2/5

Factors Helping the State Score

- *Airspace Lease Law:* Maine law allows local authorities to lease low-altitude airspace above local roads. Such a law allows local officials to create drone highways above these roadways.⁷⁸ However, the state did not receive full points, because the law is silent as to whether state officials can lease airspace above state roads and state property.

Factors Hindering the State Score

- *Avigation Easement Law:* Maine law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Task Force or Program Office:* State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Law Vesting Landowners with Air Rights:* Maine law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox:* Maine does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

78. ME. REV. STAT. tit. 30-A, § 3551 (2019).

- *Jobs Estimate*: Maine is in the fourth quintile when it comes to the number of drone-related jobs per 100,000 people, receiving two out of five points.

These factors make Maine tied (with Florida) for the 41st most drone-friendly state in the country.

Maryland

Rank: 15th

Score: 49/100

- Airspace Lease Law: 0/30
- Avigation Easement Law: 25/25
- Task Force or Program Office: 0/20
- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 10/10
- Jobs Estimate: 4/5

Factors Helping the State Score

- *Avigation Easement Law*: Maryland law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.⁷⁹
- *Law Vesting Landowners with Air Rights*: Maryland law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.⁸⁰
- *Sandbox*: Maryland’s drone center at Salisbury Regional Airport offers airspace access to drone companies, is affiliated with the state transportation department, and has a prominent, open invitation to drone companies to test their hardware and services.⁸¹
- *Jobs Estimate*: Maryland is in the second quintile when it comes to the number of drone-related jobs per 100,000 people, receiving four out of five points.

79. MD. CODE ANN., TRANSP. § 5-1001 (2019).

80. § 5-104 (2020).

81. See “Drone Center,” Salisbury Airport, accessed March 17, 2022, <https://www.flybyairport.com/drone-center>; and Zach Ryall, “Maryland Airport Embraces Drone Integration,” AOPA, May 24, 2021.

Factors Hindering the State Score

- *Airspace Lease Law*: Maryland law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Task Force or Program Office*: The Maryland Department of Commerce released a state drone report as instructed by the legislature in 2015.⁸² While commendable, for Maryland to receive partial points, the report would need to come directly from the legislature to signify lawmaker prioritization of drone policy. State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.

These factors make Maryland the 15th most drone-friendly state in the country.

Massachusetts

Rank: 22nd (tied)

Score: 39/100

- Airspace Lease Law: 10/30
- Avigation Easement Law: 25/25
- Task Force or Program Office: 0/20
- Law Vesting Landowners with Air Rights: 0/10
- Sandbox: 0/10
- Jobs Estimate: 4/5

Factors Helping the State Score

- *Airspace Lease Law*: Massachusetts law allows state authorities to lease low-altitude airspace above Boston's metropolitan highways and state highways.⁸³ Such a law allows state officials to create drone highways above these roadways. However, the state did not receive full points, because the law is silent as to whether local officials outside of Boston can lease airspace above local roads and local property.

82. Maryland Department of Commerce, *UAS and Maryland: Opportunity and Accountability*, 2015, <https://commerce.maryland.gov/Documents/ProgramReport/Maryland-UAS-report.pdf>.

83. MASS. GEN. LAWS ANN. ch. 6C, § 46 (2020); MASS. GEN. LAWS ANN. ch. 81, § 7L (2019).

- *Avigation Easement Law*: Massachusetts law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.⁸⁴
- *Jobs Estimate*: Massachusetts is in the second quintile when it comes to the number of drone-related jobs per 100,000 people, receiving four out of five points.

Factors Hindering the State Score

- *Task Force or Program Office*: The Massachusetts Department of Transportation has a drone program, but it serves only intragovernmental customers. State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.⁸⁵
- *Law Vesting Landowners with Air Rights*: Massachusetts law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox*: Massachusetts does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Massachusetts tied (with Missouri) for the 22nd most drone-friendly state in the country.

Michigan

Rank: 19th (tied)

Score: 41/100

- *Airspace Lease Law*: 10/30
- *Avigation Easement Law*: 0/25
- *Task Force or Program Office*: 20/20
- *Law Vesting Landowners with Air Rights*: 0/10

⁸⁴ MASS. GEN. LAWS ANN. ch. 90, § 46 (2019).

⁸⁵ See “About the Drone Program,” Massachusetts Department of Transportation, March 16, 2022, <https://www.mass.gov/service-details/about-the-drone-program>. This limited drone program does not satisfy the criteria of this report, which focuses on commercial drone services.

- Sandbox: 10/10
- Jobs Estimate: 1/5

Factors Helping the State Score

- *Airspace Lease Law*: Michigan law allows local authorities to lease low-altitude airspace above local roads.⁸⁶ Such a law allows local officials to create drone highways above these roadways. However, the state did not receive full points, because the law is silent as to whether state officials can lease airspace above state roads and state property.
- *Task Force or Program Office*: Michigan gets full points. The state has an active drone task force, overseen by the Michigan Department of Transportation, consisting of members of various state governmental agencies.⁸⁷ This 27-member task force was created by the legislature in 2017 and develops statewide policy recommendations on the operation, use, and regulation of drones.
- *Sandbox*: Michigan’s Detroit Region Aerotropolis offers airspace access to drone companies, is affiliated with the state transportation department, and has a prominent, open invitation to drone companies to test their hardware and services.⁸⁸

Factors Hindering the State Score

- *Avigation Easement Law*: Michigan law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Law Vesting Landowners with Air Rights*: Michigan law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.

86. See MICH. COMP. LAWS § 117.4h (2020) (cities); § 78.24 (2020) (villages); § 42.16 (2020) (townships).

87. Mike Trout, “Unmanned Aircraft Systems (UAS) Task Force,” Michigan Department of Transportation, accessed June 2, 2022, <https://www.michigan.gov/aero/business/pilots/uas-task-force>.

88. See “Detroit Metropolitan FlySafe Drone Digital Infrastructure,” Detroit Region Aerotropolis, accessed March 17, 2022, <https://www.detroitaero.org/the-region/drones/>.

- *Jobs Estimate*: Michigan is in the bottom quintile when it comes to the number of drone-related jobs per 100,000 people, receiving one out of five points.

These factors make Michigan tied (with Ohio) for the 19th most drone-friendly state in the country.

Minnesota

Rank: 5th

Score: 66/100

- *Airspace Lease Law*: 10/30
- *Avigation Easement Law*: 25/25
- *Task Force or Program Office*: 20/20
- *Law Vesting Landowners with Air Rights*: 10/10
- *Sandbox*: 0/10
- *Jobs Estimate*: 1/5

Factors Helping the State Score

- *Airspace Lease Law*: Minnesota law allows state authorities to lease low-altitude airspace over “trunk highways.”⁸⁹ Such a law allows state officials to create drone highways above these roadways. However, the state did not receive full points, because the law is silent as to whether local officials can lease airspace above local roads and local property and whether airspace above non-trunk highways can be leased.
- *Avigation Easement Law*: Minnesota law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.⁹⁰
- *Task Force or Program Office*: Minnesota gets full points. The state has a drone program office in the Office of Aeronautics that provides guidance to commercial users and local officials.⁹¹

89. MINN. STAT. § 161.433 (2019).

90. § 360.012.

91. See “UAS Information for Communities,” Office of Aeronautics, Minnesota Department of Transportation, accessed March 16, 2022, <http://dot.state.mn.us/aero/drones/communities.html>.

- *Law Vesting Landowners with Air Rights:* Minnesota law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.⁹²

Factors Hindering the State Score

- *Sandbox:* Minnesota does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.
- *Jobs Estimate:* Minnesota is in the bottom quintile when it comes to the number of drone-related jobs per 100,000 people, receiving one out of five points.

These factors make Minnesota the 5th most drone-friendly state in the country.

Mississippi

Rank: 48th (tied)

Score: 1/100

- *Airspace Lease Law:* 0/30
- *Avigation Easement Law:* 0/25
- *Task Force or Program Office:* 0/20
- *Law Vesting Landowners with Air Rights:* 0/10
- *Sandbox:* 0/10
- *Jobs Estimate:* 1/5

Factors Hindering the State Score

- *Airspace Lease Law:* Mississippi law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Avigation Easement Law:* Mississippi law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.

⁹². § 360.012(2).

- *Task Force or Program Office:* State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Law Vesting Landowners with Air Rights:* Mississippi law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox:* Mississippi does not have a drone sandbox. Mississippi State University has a drone test site, including airspace and facilities, at the Raspet Flight Research Laboratory, but there does not appear to be an affiliation with the state transportation department or an invitation to commercial operators.⁹³ State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.
- *Jobs Estimate:* Mississippi is in the bottom quintile when it comes to the number of drone-related jobs per 100,000 people, receiving one out of five points.

These factors make Mississippi tied (with Nebraska and Rhode Island) for the 48th most drone-friendly state in the country.

Missouri

Rank: 22nd (tied)

Score: 39/100

- Airspace Lease Law: 0/30
- Avigation Easement Law: 25/25
- Task Force or Program Office: 0/20
- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 0/10
- Jobs Estimate: 4/5

93. See “UAS Support,” Raspet Flight Research Laboratory, Mississippi State University, accessed March 16, 2022, <https://www.raspet.msstate.edu/capabilities/uas-support>.

Factors Helping the State Score

- *Avigation Easement Law*: Missouri law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.⁹⁴
- *Law Vesting Landowners with Air Rights*: Missouri law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.⁹⁵
- *Jobs Estimate*: Missouri is in the second quintile when it comes to the number of drone-related jobs per 100,000 people, receiving four out of five points.

Factors Hindering the State Score

- *Airspace Lease Law*: Missouri law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Task Force or Program Office*: State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Sandbox*: Missouri does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Missouri tied (with Massachusetts) for the 22nd most drone-friendly state in the country.

Montana

Rank: 9th (tied)

Score: 57/100

- *Airspace Lease Law*: 0/30
- *Avigation Easement Law*: 25/25

94. MO. REV. STAT. § 305.030 (2018).

95. § 305.020 (2012).

- Task Force or Program Office: 20/20
- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 0/10
- Jobs Estimate: 2/5

Factors Helping the State Score

- *Avigation Easement Law*: Montana law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.⁹⁶
- *Task Force or Program Office*: Montana gets full points. The state has a drone task force—the Montana Unmanned Aerial Systems (UAS) Council—overseen by the Montana Department of Transportation.⁹⁷ The task force was created by Governor Steve Bullock’s executive order in 2019 and develops statewide policy recommendations regarding residents’ property rights and privacy expectations.
- *Law Vesting Landowners with Air Rights*: Montana law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.⁹⁸

Factors Hindering the State Score

- *Airspace Lease Law*: Montana law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Sandbox*: Montana does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.
- *Jobs Estimate*: Montana is in the fourth quintile when it comes to the number of drone-related jobs per 100,000 people, receiving two out of five points.

96. MONT. CODE ANN. § 67-1-204 (2019).

97. “Montana Unmanned Aerial Systems (UAS) Council,” Montana Department of Transportation, accessed March 16, 2022, <https://www.mdt.mt.gov/pubinvolve/uas/default.aspx>.

98. § 67-1-203.

These factors make Montana tied (with Nevada) for the 9th most drone-friendly state in the country.

Nebraska

Rank: 48th (tied)

Score: 1/100

- *Airspace Lease Law:* 0/30
- *Avigation Easement Law:* 0/25
- *Task Force or Program Office:* 0/20
- *Law Vesting Landowners with Air Rights:* 0/10
- *Sandbox:* 0/10
- *Jobs Estimate:* 1/5

Factors Hindering the State Score

- *Airspace Lease Law:* Nebraska law does not allow public authorities to lease low-altitude airspace above state and local roads. More precisely, the law allows cities to lease airspace but not to drone operators. Leases of the airspace above local roads can be made only to landowners on either side of the street.⁹⁹ An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Avigation Easement Law:* Nebraska law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Task Force or Program Office:* State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Law Vesting Landowners with Air Rights:* Nebraska law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox:* Nebraska does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone

⁹⁹. See NEB. REV. STAT. § 14-1730 (2020).

testing and should have a prominent, open invitation for drone companies to test their hardware and services.

- *Jobs Estimate*: Nebraska is in the bottom quintile when it comes to the number of drone-related jobs per 100,000 people, receiving one out of five points.

These factors make Nebraska tied (with Mississippi and Rhode Island) for the 48th most drone-friendly state in the country.

Nevada

Rank: 9th (tied)

Score: 57/100

- *Airspace Lease Law*: 0/30
- *Avigation Easement Law*: 25/25
- *Task Force or Program Office*: 20/20
- *Law Vesting Landowners with Air Rights*: 10/10
- *Sandbox*: 0/10
- *Jobs Estimate*: 2/5

Factors Helping the State Score

- *Avigation Easement Law*: Nevada law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.¹⁰⁰
- *Task Force or Program Office*: The state created a drone program office—the Nevada Institute for Autonomous Systems—within the Governor’s Office of Economic Development. The program office develops statewide drone policy and leads the commercial drone industry through business relations and collaboration with research institutions.¹⁰¹
- *Law Vesting Landowners with Air Rights*: Nevada law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.¹⁰²

100. NEV. REV. STAT. ANN. § 493.050(1) (2017).

101. Nevada Institute for Autonomous Systems, accessed May 3, 2022, <https://nias-uas.com/about/> (website under construction).

102. NEV. REV. STAT. ANN. § 493.040 (2013).

Factors Hindering the State Score

- *Airspace Lease Law*: Nevada law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Sandbox*: Nevada does not have a drone sandbox.¹⁰³ State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.
- *Jobs Estimate*: Nevada is in the fourth quintile when it comes to the number of drone-related jobs per 100,000 people, receiving two out of five points.

These factors make Nevada tied (with Montana) for the 9th most drone-friendly state in the country.

New Hampshire

Rank: 33rd

Score: 33/100

- Airspace Lease Law: 30/30
- Avigation Easement Law: 0/25
- Task Force or Program Office: 0/20
- Law Vesting Landowners with Air Rights: 0/10
- Sandbox: 0/10
- Jobs Estimate: 3/5

Factors Helping the State Score

- *Airspace Lease Law*: New Hampshire law allows public authorities to lease low-altitude airspace above state and local roads.¹⁰⁴ Such a law allows state or local officials to create drone highways above these roadways.
- *Jobs Estimate*: New Hampshire is in the middle quintile when it comes to the number of drone-related jobs per 100,000 people, receiving three out of five points.

103. The Nevada Institute for Autonomous Systems may be developing a drone sandbox, but as of the writing of this report, the institute's website is under construction and there is not enough information available for the purposes of this report.

104. N.H. REV. STAT. ANN. § 236:18 (2017); § 48-B:2 (2018).

Factors Hindering the State Score

- *Avigation Easement Law*: New Hampshire law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Task Force or Program Office*: State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Law Vesting Landowners with Air Rights*: New Hampshire law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox*: New Hampshire does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make New Hampshire the 33rd most drone-friendly state in the country.

New Jersey

Rank: 6th (tied)

Score: 58/100

- *Airspace Lease Law*: 0/30
- *Avigation Easement Law*: 25/25
- *Task Force or Program Office*: 20/20
- *Law Vesting Landowners with Air Rights*: 10/10
- *Sandbox*: 0/10
- *Jobs Estimate*: 3/5

Factors Helping the State Score

- *Avigation Easement Law*: New Jersey law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.¹⁰⁵

105. N.J. REV. STAT. § 6:2-6 (2013).

- *Task Force or Program Office:* New Jersey gets full points. The state created a drone program within the Bureau of Aeronautics in the New Jersey Department of Transportation.¹⁰⁶ The state has hired professionals to lead the program and intends to use drone technology for initiatives related to traffic management, structural inspections, and aerial corridor 3D mapping.
- *Law Vesting Landowners with Air Rights:* New Jersey law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.¹⁰⁷
- *Jobs Estimate:* New Jersey is in the middle quintile when it comes to the number of drone-related jobs per 100,000 people, receiving three out of five points.

Factors Hindering the State Score

- *Airspace Lease Law:* New Jersey law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create commercial drone highways above these roadways.
- *Sandbox:* New Jersey does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make New Jersey tied (with Georgia and North Carolina) for the 6th most drone-friendly state in the country.

New Mexico

Rank: 47th

Score: 3/100

- Airspace Lease Law: 0/30
- Avigation Easement Law: 0/25
- Task Force or Program Office: 0/20

106. Glenn Stott and Kinan Tadmori, “Drone Program Takes Off in Bureau of Aeronautics,” *NJDOT Technology Transfer*, January 24, 2018.

107. § 6:2-5; § 46:3-19.

- Law Vesting Landowners with Air Rights: 0/10
- Sandbox: 0/10
- Jobs Estimate: 3/5

Factors Helping the State Score

- *Jobs Estimate:* New Mexico is in the middle quintile when it comes to the number of drone-related jobs per 100,000 people, receiving three out of five points.

Factors Hindering the State Score

- *Airspace Lease Law:* New Mexico law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Avigation Easement Law:* New Mexico law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Task Force or Program Office:* State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Law Vesting Landowners with Air Rights:* New Mexico law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox:* New Mexico does not have a drone sandbox. There is a major drone test site and airspace access at New Mexico State University facilities, but there does not appear to be an affiliation with the state transportation agency.¹⁰⁸ State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make New Mexico the 47th most drone-friendly state in the country.

108. See “Unmanned Aerial Systems,” New Mexico State University, accessed March 17, 2022, <https://psl.nmsu.edu/divisions/unmanned-aerial-systems.html>.

New York

Rank: 36th

Score: 25/100

- *Airspace Lease Law:* 10/30
- *Avigation Easement Law:* 0/25
- *Task Force or Program Office:* 0/20
- *Law Vesting Landowners with Air Rights:* 0/10
- *Sandbox:* 10/10
- *Jobs Estimate:* 5/5

Factors Helping the State Score

- *Airspace Lease Law:* New York law allows local authorities to lease low-altitude airspace above local roads.¹⁰⁹ Such a law allows local officials to create drone highways above these roadways. However, the state did not receive full points, because the law is silent as to whether state officials can lease airspace above state roads and state property.
- *Sandbox:* New York's NUAIR program in Upstate New York offers air-space access to drone companies, is affiliated with the state transportation department, and has a prominent, open invitation to drone companies to test their hardware and services.¹¹⁰
- *Jobs Estimate:* New York is in the top quintile when it comes to the number of drone-related jobs per 100,000 people, receiving five out of five points.

Factors Hindering the State Score

- *Avigation Easement Law:* New York law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Task Force or Program Office:* State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.

109. N.Y. GEN. MUN. LAW § 72-N (Consol. 2020).

110. See "The Multi-Million Dollar Corridor Creates Unparalleled Drone Testing Capability," NUAIR, November 13, 2019, <https://nuair.org/2019/11/13/governor-cuomo-announces-completion-of-50-mile-drone-corridor/>.

- *Law Vesting Landowners with Air Rights:* New York law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.

These factors make New York the 36th most drone-friendly state in the country.

North Carolina

Rank: 6th (tied)

Score: 58/100

- Airspace Lease Law: 0/30
- Avigation Easement Law: 25/25
- Task Force or Program Office: 20/20
- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 0/10
- Jobs Estimate: 3/5

Factors Helping the State Score

- *Avigation Easement Law:* North Carolina law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.¹¹¹
- *Task Force or Program Office:* North Carolina gets full points. The state has a drone program office in the Division of Aviation with the goal of promoting economic development and airport safety.¹¹²
- *Law Vesting Landowners with Air Rights:* North Carolina law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.¹¹³
- *Jobs Estimate:* North Carolina is in the middle quintile when it comes to the number of drone-related jobs per 100,000 people, receiving three out of five points.

111. N.C. GEN. STAT. § 63-13 (2019).

112. "Unmanned Aircraft Systems," North Carolina Department of Transportation, December 6, 2019, <https://www.ncdot.gov/divisions/aviation/uas/Pages/default.aspx>.

113. N.C. GEN. STAT. § 63-12 (2019).

Factors Hindering the State Score

- *Airspace Lease Law*: North Carolina law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Sandbox*: North Carolina does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make North Carolina tied (with Georgia and New Jersey) for the 6th most drone-friendly state in the country.

North Dakota

Rank: 2nd (tied)

Score: 70/100

- Airspace Lease Law: 0/30
- Avigation Easement Law: 25/25
- Task Force or Program Office: 20/20
- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 10/10
- Jobs Estimate: 5/5

Factors Helping the State Score

- *Avigation Easement Law*: North Dakota law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.¹¹⁴
- *Task Force or Program Office*: North Dakota gets full points. The state has established a drone program office—the Northern Plains Unmanned Systems Authority—overseen by state agencies and chaired by the lieutenant governor.¹¹⁵ The program office develops policies that advance UAS

114. N.D. CENT. CODE § 2-03-04 (2019).

115. “Executive Team,” Northern Plains UAS Test Site, accessed June 7, 2022, <https://www.npuasts.com/team>.

operations, including beyond visual line of sight, flights over people, and night operations.

- *Law Vesting Landowners with Air Rights*: North Dakota law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.¹¹⁶
- *Sandbox*: North Dakota’s Vantis program offers airspace access to drone companies, is affiliated with the state transportation department, and has a prominent, open invitation to drone companies to test their hardware and services.¹¹⁷
- *Jobs Estimate*: North Dakota is in the top quintile when it comes to the number of drone-related jobs per 100,000 people, receiving five out of five points.

Factors Hindering the State Score

- *Airspace Lease Law*: North Dakota law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.

These factors make North Dakota tied (with Arkansas) for the 2nd most drone-friendly state in the country.

Ohio

Rank: 19th (tied)

Score: 41/100

- Airspace Lease Law: 10/30
- Avigation Easement Law: 0/25
- Task Force or Program Office: 20/20
- Law Vesting Landowners with Air Rights: 0/10
- Sandbox: 10/10
- Jobs Estimate: 1/5

116. § 2-03-03.

117. See “Space to Grow,” Vantis, accessed March 17, 2022, <https://www.vantisuas.com/why-north-dakota>.

Factors Helping the State Score

- *Airspace Lease Law*: Ohio law allows state authorities to lease low-altitude airspace above state roads.¹¹⁸ Such a law allows state officials to create drone highways above these roadways. However, the state did not receive full points, because the law is silent as to whether local officials can lease airspace above local roads and local property.
- *Task Force or Program Office*: Ohio gets full points. The state has a drone program office—the Ohio Unmanned Aircraft Systems Center—which is an initiative created and overseen by the Ohio Department of Transportation. The program office has initiatives such as FlyOhio and SkyVision, which focuses on enabling drone flights in low-altitude airspace and unmanned traffic management research.¹¹⁹ It is researching and considering the creation of drone highways in aerial corridors above Interstate 71.¹²⁰
- *Sandbox*: The Ohio Unmanned Aircraft Systems Center and Springfield–Beckley Municipal Airport offer airspace access to drone companies, are affiliated with the state transportation department, and have a prominent, open invitation to drone companies to test their hardware and services.¹²¹

Factors Hindering the State Score

- *Avigation Easement Law*: Ohio law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Law Vesting Landowners with Air Rights*: Ohio law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Jobs Estimate*: Ohio is in the bottom quintile when it comes to the number of drone-related jobs per 100,000 people, receiving one out of five points.

118. OHIO REV. CODE § 5501.45 (2003).

119. “Initiatives,” Ohio Unmanned Aircraft Systems Center, accessed June 2, 2022, <https://uas.ohio.gov/initiatives>.

120. See Rubén Del Rosario, “Infrastructure to Support Advanced Autonomous Aircraft Technologies in Ohio” (Project No. 111453, Ohio Department of Transportation, Columbus, OH, June 2021), <https://ohiomemory.org/digital/collection/p267401ccp2/id/21062/rec/1>.

121. See “SkyVision,” Ohio Unmanned Aircraft Systems Center, accessed June 2, 2022, <https://uas.ohio.gov/skyvision/skyvision>.

These factors make Ohio tied (with Michigan) for the 19th most drone-friendly state in the country.

Oklahoma

Rank: 1st

Score: 74/100

- *Airspace Lease Law:* 30/30
- *Avigation Easement Law:* 0/25
- *Task Force or Program Office:* 20/20
- *Law Vesting Landowners with Air Rights:* 10/10
- *Sandbox:* 10/10
- *Jobs Estimate:* 4/5

Factors Helping the State Score

- *Airspace Lease Law:* Oklahoma law allows public authorities to lease low-altitude airspace above local roads, state roads, and state property.¹²² Such a law allows state or local officials to create drone highways above these areas.
- *Task Force or Program Office:* Oklahoma gets full points. In May 2020, a state law created a drone program office—the Oklahoma Advanced Mobility Pilot Program—within the Oklahoma Department of Transportation.¹²³ Among other things, the program office creates a nine-member advisory council that makes recommendations about drone and electric vertical-takeoff-and-landing aircraft.¹²⁴
- *Law Vesting Landowners with Air Rights:* Oklahoma law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.¹²⁵ The law also affirms the existence of “titles, estates, rights and interests” in airspace, independent of the connection to the property owner of the land.¹²⁶

122. OKLA. STAT. tit. 60, § 812 (2019).

123. OKLA. STAT. tit. 3, § 374 (2020).

124. “Oklahoma Advanced Mobility Pilot Program Signed into Law,” Oklahoma Senate, press release, May 27, 2020, <https://oksenate.gov/press-releases/oklahoma-advanced-mobility-pilot-program-signed-law>.

125. OKLA. STAT. tit. 60, § 802 (2016).

126. § 805 (2014).

- *Sandbox*: Oklahoma’s Choctaw Nation has a program that offers airspace access to drone companies, is affiliated with the state transportation department, and has a prominent, open invitation to drone companies to test their hardware and services.¹²⁷
- *Jobs Estimate*: Oklahoma is in the second quintile when it comes to the number of drone-related jobs per 100,000 people, receiving four out of five points.

Factors Hindering the State Score

- *Avigation Easement Law*: Oklahoma law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.

These factors make Oklahoma the most drone-friendly state in the country.

Oregon

Rank: 30th (tied)

Score: 35/100

- *Airspace Lease Law*: 30/30
- *Avigation Easement Law*: 0/25
- *Task Force or Program Office*: 0/20
- *Law Vesting Landowners with Air Rights*: 0/10
- *Sandbox*: 0/10
- *Jobs Estimate*: 5/5

Factors Helping the State Score

- *Airspace Lease Law*: Oregon law allows public authorities to lease low-altitude airspace above state and local roads.¹²⁸ Such a law allows state or local officials to create drone highways above these roadways.
- *Jobs Estimate*: Oregon is in the top quintile when it comes to the number of drone-related jobs per 100,000 people, receiving five out of five points.

127. See “Choctaw Nation BEYOND,” Choctaw Nation of Oklahoma, accessed June 2, 2022, <https://www.cnoaa.com/#operations>.

128. OR. REV. STAT. § 271.430 (2019).

Factors Hindering the State Score

- *Avigation Easement Law*: Oregon law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Task Force or Program Office*: State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Law Vesting Landowners with Air Rights*: Oregon law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests. The law allows landowners to sue for drone trespass, but there are many exemptions for drone flights, so the litigation risk remains.¹²⁹
- *Sandbox*: Oregon does not have a drone sandbox. There are major drone test sites and airspace access at the Pendleton UAS Range and the Tillamook UAS Test Range, but neither site appears to have an affiliation with the state transportation department.¹³⁰ State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Oregon tied (with West Virginia) for the 30th most drone-friendly state in the country.

Pennsylvania

Rank: 34th (tied)

Score: 32/100

- *Airspace Lease Law*: 0/30
- *Avigation Easement Law*: 0/25
- *Task Force or Program Office*: 20/20
- *Law Vesting Landowners with Air Rights*: 10/10
- *Sandbox*: 0/10
- *Jobs Estimate*: 2/5

129. See OR. REV. STAT. § 837.380 (2020).

130. See Pendleton UAS Range, accessed March 17, 2022, <https://pendletonuasrange.com/>; and Tillamook UAS Test Range, accessed March 17, 2022, <https://tillamookuas.com/>.

Factors Helping the State Score

- *Task Force or Program Office:* Pennsylvania gets full points. The state has a drone task force overseen by the Pennsylvania Department of Transportation.¹³¹ This task force was created by Governor Tom Wolf in 2021 and develops statewide policy recommendations that aim to integrate drones into the state transportation system and to develop commercial drone services.¹³²
- *Law Vesting Landowners with Air Rights:* Pennsylvania law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.¹³³

Factors Hindering the State Score

- *Airspace Lease Law:* Pennsylvania law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Avigation Easement Law:* Pennsylvania law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Sandbox:* Pennsylvania does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.
- *Jobs Estimate:* Pennsylvania is in the fourth quintile when it comes to the number of drone-related jobs per 100,000 people, receiving two out of five points.

These factors make Pennsylvania tied (with Utah) for the 34th most drone-friendly state in the country.

131. See PennDOT Bureau of Innovations, “PennDOT Hosts Three-Day Workshop on Unmanned Aerial Systems,” *PennDOT Way*, September 27, 2021, <https://www.penndot.pa.gov/PennDOTWay/Pages/Article.aspx?post=472>.

132. See “PennDOT Holds Inaugural UAS Task Force Meeting,” *Mobility21*, June 21, 2021, https://mobility21.cmu.edu/whats_happening/penn-dot-holds-inaugural-uas-task-force-meeting/.

133. 68 PA. STAT. REAL & PERSONAL PROP. § 802.

Rhode Island

Rank: 48th (tied)

Score: 1/100

- Airspace Lease Law: 0/30
- Avigation Easement Law: 0/25
- Task Force or Program Office: 0/20
- Law Vesting Landowners with Air Rights: 0/10
- Sandbox: 0/10
- Jobs Estimate: 1/5

Factors Hindering the State Score

- *Airspace Lease Law*: Rhode Island law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Avigation Easement Law*: Rhode Island law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Task Force or Program Office*: State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Law Vesting Landowners with Air Rights*: Rhode Island law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox*: Rhode Island does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.
- *Jobs Estimate*: Rhode Island is in the bottom quintile when it comes to the number of drone-related jobs per 100,000 people, receiving one out of five points.

These factors make Rhode Island tied (with Mississippi and Nebraska) for the 48th most drone-friendly state in the country.

South Carolina

Rank: 43rd (tied)

Score: 11/100

- Airspace Lease Law: 10/30
- Avigation Easement Law: 0/25
- Task Force or Program Office: 0/20
- Law Vesting Landowners with Air Rights: 0/10
- Sandbox: 0/10
- Jobs Estimate: 1/5

Factors Helping the State Score

- *Airspace Lease Law*: South Carolina law allows local authorities to lease low-altitude airspace above local roads.¹³⁴ Such a law allows local officials to create drone highways above local roadways. However, the state did not receive full points, because the law is silent as to whether state officials can lease airspace above state roads and state property.

Factors Hindering the State Score

- *Avigation Easement Law*: South Carolina law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Task Force or Program Office*: State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Law Vesting Landowners with Air Rights*: South Carolina law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox*: South Carolina does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

134. S.C. CODE ANN. § 5-7-50 (2020).

- *Jobs Estimate:* South Carolina is in the bottom quintile when it comes to the number of drone-related jobs per 100,000 people, receiving one out of five points.

These factors make South Carolina tied (with Kentucky) for the 43rd most drone-friendly state in the country.

South Dakota

Rank: 46th

Score: 4/100

- Airspace Lease Law: 0/30
- Avigation Easement Law: 0/25
- Task Force or Program Office: 0/20
- Law Vesting Landowners with Air Rights: 0/10
- Sandbox: 0/10
- Jobs Estimate: 4/5

Factors Helping the State Score

- *Jobs Estimate:* South Dakota is in the second quintile when it comes to the number of drone-related jobs per 100,000 people, receiving four out of five points.

Factors Hindering the State Score

- *Airspace Lease Law:* South Dakota law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Avigation Easement Law:* South Dakota law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.¹³⁵

135. South Dakota law had an avigation easement law until 2019. See S.D. CODIFIED LAWS § 50-13-4 (repealed 2019).

- *Task Force or Program Office*: State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Law Vesting Landowners with Air Rights*: South Dakota law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.¹³⁶
- *Sandbox*: South Dakota does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make South Dakota the 46th most drone-friendly state in the country.

Tennessee

Rank: 29th

Score: 36/100

- Airspace Lease Law: 0/30
- Avigation Easement Law: 25/25
- Task Force or Program Office: 0/20
- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 0/10
- Jobs Estimate: 1/5

Factors Helping the State Score

- *Avigation Easement Law*: Tennessee law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.¹³⁷
- *Law Vesting Landowners with Air Rights*: Tennessee law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.¹³⁸

136. South Dakota law expressly vested landowners with air rights until 2019. See S.D. CODIFIED LAWS § 50-13-3 (repealed 2019).

137. TENN. CODE ANN. § 42-1-104(a) (2018).

138. § 42-1-103 (2014).

Factors Hindering the State Score

- *Airspace Lease Law*: Tennessee law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Task Force or Program Office*: State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Sandbox*: Tennessee does not have a drone sandbox. There are a major drone test site and airspace access at the Memphis–Shelby County Airport and Memphis International Airport, but there does not appear to be an invitation to commercial operators.¹³⁹ State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.
- *Jobs Estimate*: Tennessee is in the bottom quintile when it comes to the number of drone-related jobs per 100,000 people, receiving one out of five points.

These factors make Tennessee the 29th most drone-friendly state in the country.

Texas

Rank: 12th (tied)

Score: 54/100

- Airspace Lease Law: 30/30
- Avigation Easement Law: 0/25
- Task Force or Program Office: 20/20
- Law Vesting Landowners with Air Rights: 0/10
- Sandbox: 0/10
- Jobs Estimate: 4/5

139. See “U.A.S. Integration Pilot Program (Drones),” Memphis International Airport, accessed March 17, 2022, <https://flymemphis.com/drones/>.

Factors Helping the State Score

- *Airspace Lease Law*: Texas law allows public authorities to lease low-altitude airspace above state and local roads.¹⁴⁰ Such a law allows state or local officials to create drone highways above these roadways.
- *Task Force or Program Office*: Texas gets full points. In 2021, a state law created a drone task force—the Urban Air Mobility Advisory Committee—within the Texas Department of Transportation.¹⁴¹ Among other things, the task force makes recommendations about passenger drones and airspace policy. The state also has an autonomous vehicle task force that examines drone issues.¹⁴²
- *Jobs Estimate*: Texas is in the second quintile when it comes to the number of drone-related jobs per 100,000 people, receiving four out of five points.

Factors Hindering the State Score

- *Avigation Easement Law*: Texas law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Law Vesting Landowners with Air Rights*: Texas law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox*: Texas does not have a drone sandbox. Researchers at Texas A&M University–Corpus Christi manage several drone test sites and offer airspace access, but they do not appear to have an affiliation with the state transportation agency.¹⁴³ State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

140. TEX. TRANSP. CODE ANN. § 202.052 (2019); TEX. LOC. GOV'T CODE ANN. § 373.005 (2019).

141. TEX. TRANSP. CODE ANN. § 21.004 (2021). See “Urban Air Mobility Advisory Committee,” Texas Department of Transportation, accessed March 16, 2022, <https://www.txdot.gov/inside-txdot/division/planning/urban-air-mobility-advisory-committee.html>.

142. “Texas to Form Connected and Automated Vehicle Task Force,” Texas Department of Transportation, January 22, 2019, <https://www.txdot.gov/inside-txdot/media-center/statewide-news/2019-archive/020-2019.html>.

143. See “FAQ,” Lone Star UAS, Texas A&M University–Corpus Christi, accessed June 2, 2022, <https://www.tamucc.edu/lone-star-uas/faq/index.php#where>.

These factors make Texas tied (with Washington) for the 12th most drone-friendly state in the country.

Utah

Rank: 34th (tied)

Score: 32/100

- *Airspace Lease Law:* 0/30
- *Avigation Easement Law:* 0/25
- *Task Force or Program Office:* 20/20
- *Law Vesting Landowners with Air Rights:* 10/10
- *Sandbox:* 0/10
- *Jobs Estimate:* 2/5

Factors Helping the State Score

- *Task Force or Program Office:* Utah gets full points. The state has a drone program office within the state department of transportation’s Division of Aeronautics.¹⁴⁴ The program office aims to educate the public about drone technology and encourage commercial drone services.
- *Law Vesting Landowners with Air Rights:* Utah law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.¹⁴⁵

Factors Hindering the State Score

- *Airspace Lease Law:* Utah law does not allow public authorities to lease low-altitude airspace above state and local roads. It does allow UDOT, municipalities, counties, and airport authorities to lease, for airport purposes, “any available property that is owned or controlled by the department or by a municipality, county, or airport authority.” However, it is unclear whether the law applies to drones.¹⁴⁶ An airspace lease law would allow state or local officials to create drone highways above these roadways.

144. “Unmanned Aircraft Systems & Advanced Air Mobility,” UDOT, <https://site.utah.gov/connect/employee-resources/uas/>.

145. UTAH CODE ANN. § 76-6-206 (2020).

146. UTAH CODE ANN. § 72-10-203 (2019).

- *Avigation Easement Law*: Utah law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Sandbox*: Utah does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.
- *Jobs Estimate*: Utah is in the fourth quintile when it comes to the number of drone-related jobs per 100,000 people, receiving two out of five points.

These factors make Utah tied (with Pennsylvania) for the 34th most drone-friendly state in the country.

Vermont

Rank: 21st

Score: 40/100

- *Airspace Lease Law*: 0/30
- *Avigation Easement Law*: 25/25
- *Task Force or Program Office*: 0/20
- *Law Vesting Landowners with Air Rights*: 10/10
- *Sandbox*: 0/10
- *Jobs Estimate*: 5/5

Factors Helping the State Score

- *Avigation Easement Law*: Vermont law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.¹⁴⁷
- *Law Vesting Landowners with Air Rights*: Vermont law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.¹⁴⁸

147. VT. STAT. ANN. tit. 5, § 403 (1985).

148. § 402.

- *Jobs Estimate:* Vermont is in the top quintile when it comes to the number of drone-related jobs per 100,000 people, receiving five out of five points.

Factors Hindering the State Score

- *Airspace Lease Law:* Vermont law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Task Force or Program Office:* The state created a UAS program within the Vermont State Police. However, the program's main use is governmental. Its functions include aiding that agency in emergency operations, infrastructure inspection, and construction site monitoring.¹⁴⁹ State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Sandbox:* Vermont does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Vermont the 21st most drone-friendly state in the country.

Virginia

Rank: 11th

Score: 55/100

- Airspace Lease Law: 30/30
- Avigation Easement Law: 0/25
- Task Force or Program Office: 20/20
- Law Vesting Landowners with Air Rights: 0/10
- Sandbox: 0/10
- Jobs Estimate: 5/5

149. "Unmanned Aircraft Systems Program," Vermont State Police, accessed March 16, 2022, <https://vsp.vermont.gov/specialteams/uas>. While commendable, the narrow scope of the program's responsibilities does not satisfy the criteria of this report.

Factors Helping the State Score

- *Airspace Lease Law*: Virginia law allows public authorities to lease low-altitude airspace above state and local roads.¹⁵⁰ Such a law allows state or local officials to create drone highways above these roadways.
- *Task Force or Program Office*: Virginia gets full points. The Department of Aviation created a program office devoted to drone technologies, overseen by the manager of aviation technology.¹⁵¹ Furthermore, a state law, passed in March 2020, created a drone policy group that reports to the Department of Aviation.¹⁵²
- *Jobs Estimate*: Virginia is in the top quintile when it comes to the number of drone-related jobs per 100,000 people, receiving five out of five points.

Factors Hindering the State Score

- *Avigation Easement Law*: Virginia law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Law Vesting Landowners with Air Rights*: Virginia law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox*: Virginia does not have a drone sandbox. The Mid-Atlantic Aviation Partnership manages a drone test site and offers airspace access, but it does not appear to have an affiliation with the state transportation agency.¹⁵³ State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Virginia the 11th most drone-friendly state in the country.

150. VA. CODE ANN. § 33.2-226 (2022) (leasing airspace above state highways); § 15.2-2030 (2022) (leasing airspace above local roads).

151. “Aviation Technology,” Virginia Department of Aviation, accessed March 16, 2022, <https://doav.virginia.gov/programs-and-services/aviation-technology/>.

152. See H.B. 742, 161st Gen. Assemb., Reg. Sess. (Va. 2020), <https://lis.virginia.gov/cgi-bin/legp604.exe?201+ful+CHAP0345+pdf>.

153. See “Facilities and Resources,” Mid-Atlantic Aviation Partnership, Virginia Tech, accessed March 17, 2022, <https://maap.ictas.vt.edu/capabilities/facilities.html>.

Washington

Rank: 12th (tied)

Score: 54/100

- Airspace Lease Law: 30/30
- Avigation Easement Law: 0/25
- Task Force or Program Office: 20/20
- Law Vesting Landowners with Air Rights: 0/10
- Sandbox: 0/10
- Jobs Estimate: 4/5

Factors Helping the State Score

- *Airspace Lease Law*: Washington law allows public authorities to lease low-altitude airspace above state and local roads.¹⁵⁴ Such a law allows state or local officials to create drone highways above these roadways.
- *Task Force or Program Office*: Washington gets full points. The Washington Department of Transportation created and oversees a program office devoted to drone technologies.¹⁵⁵
- *Jobs Estimate*: Washington is in the second quintile when it comes to the number of drone-related jobs per 100,000 people, receiving four out of five points.

Factors Hindering the State Score

- *Avigation Easement Law*: Washington law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Law Vesting Landowners with Air Rights*: Washington law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox*: Washington does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone

154. WASH. REV. CODE ANN. § 35.22.302 (2019); § 47.12.120.

155. "Drones and Unmanned Aircraft Systems (UAS)," Washington State Department of Transportation, accessed March 16, 2022, <https://wsdot.wa.gov/travel/aviation/pilots-aircraft/drones-unmanned-aircraft-systems-uas>.

testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Washington tied (with Texas) for the 12th most drone-friendly state in the country.

West Virginia

Rank: 30th (tied)

Score: 35/100

- Airspace Lease Law: 10/30
- Avigation Easement Law: 0/25
- Drone Task Force or Program Office: 20/20
- Law Vesting Landowners with Air Rights: 0/10
- Sandbox: 0/10
- Jobs Estimate: 5/5

Factors Helping the State Score

- *Airspace Lease Law*: West Virginia law allows state authorities to lease low-altitude airspace above state roads.¹⁵⁶ Such a law allows state officials to create drone highways above these roadways. However, the state did not receive full points, because the law is silent as to whether local officials can lease airspace above local roads and local property.
- *Task Force or Program Office*: West Virginia gets full points. In 2022, the state legislature created a drone and advanced aviation mobility task force, overseen by the Department of Economic Development.¹⁵⁷
- *Jobs Estimate*: West Virginia is in the top quintile when it comes to the number of drone-related jobs per 100,000 people, receiving five out of five points.

Factors Hindering the State Score

- *Avigation Easement Law*: West Virginia law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.

156. W. VA. CODE § 17-2A-19a (2019).

157. § 5B-2-18 (2022).

- *Law Vesting Landowners with Air Rights*: West Virginia law does not expressly provide air rights to landowners, which raises litigation risk for drone operators because landowners do not know the extent of their property rights and may sue to protect their interests.
- *Sandbox*: West Virginia does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make West Virginia tied (with Oregon) for the 30th most drone-friendly state in the country.

Wisconsin

Rank: 17th

Score: 46/100

- Airspace Lease Law: 10/30
- Avigation Easement Law: 25/25
- Task Force or Program Office: 0/20
- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 0/10
- Jobs Estimate: 1/5

Factors Helping the State Score

- *Airspace Lease Law*: Wisconsin law allows local authorities to lease low-altitude airspace above local roads.¹⁵⁸ Such a law allows local officials to create drone highways above these roadways. However, the state did not receive full points, because the law is silent as to whether state officials can lease airspace above state roads and state property.
- *Avigation Easement Law*: Wisconsin law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.¹⁵⁹

158. WIS. STAT. § 66.0915 (2019).

159. § 114.04.

- *Law Vesting Landowners with Air Rights:* Wisconsin law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.¹⁶⁰

Factors Hindering the State Score

- *Task Force or Program Office:* State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Sandbox:* Wisconsin does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.
- *Jobs Estimate:* Wisconsin is in the bottom quintile when it comes to the number of drone-related jobs per 100,000 people, receiving one out of five points.

These factors make Wisconsin the 17th most drone-friendly state in the country.

Wyoming

Rank: 24th (tied)

Score: 38/100

- Airspace Lease Law: 0/30
- Avigation Easement Law: 25/25
- Task Force or Program Office: 0/20
- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 0/10
- Jobs Estimate: 3/5

Factors Helping the State Score

- *Avigation Easement Law:* Wyoming law creates an avigation easement, which means drone operators are protected from nuisance and trespass laws as long as their drones do not disturb people on the ground.¹⁶¹

160. § 114.03.

161. WYO. STAT. § 10-4-303 (2018).

- *Law Vesting Landowners with Air Rights:* Wyoming law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.¹⁶²
- *Jobs Estimate:* Wyoming is in the middle quintile when it comes to the number of drone-related jobs per 100,000 people, receiving three out of five points.

Factors Hindering the State Score

- *Airspace Lease Law:* Wyoming law does not allow public authorities to lease low-altitude airspace above state and local roads. An airspace lease law would allow state or local officials to create drone highways above these roadways.
- *Task Force or Program Office:* State leaders should consider convening a statewide drone task force or creating a drone program office within the transportation department.
- *Sandbox:* Wyoming does not have a drone sandbox. State officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.

These factors make Wyoming tied (with Colorado) for the 24th most drone-friendly state in the country.

Puerto Rico

Rank: NA

Score: NA/100

- Airspace Lease Law: 0/30
- Avigation Easement Law: 0/25
- Task Force or Program Office: 0/20
- Law Vesting Landowners with Air Rights: 10/10
- Sandbox: 0/10
- Jobs Estimate: NA/5

162. § 10-4-302.

Factors Helping the Territory Score

- *Law Vesting Landowners with Air Rights:* Puerto Rico law expressly provides air rights to landowners, which reduces litigation risk for drone operators because landowners know the extent of their property rights.¹⁶³

Factors Hindering the Territory Score

- *Airspace Lease Law:* Puerto Rico law does not allow public authorities to lease low-altitude airspace above territory and local roads. An airspace lease law would allow territory or local officials to create drone highways above these roadways.
- *Avigation Easement Law:* Puerto Rico law does not create an avigation easement, which means drone operators may be subject to nuisance and trespass laws, even if their drones do not disturb people on the ground.
- *Task Force or Program Office:* Territory leaders should consider convening a territory-wide drone task force or creating a drone program office within the transportation department.
- *Sandbox:* Puerto Rico does not have a drone sandbox. Territory officials should consider dedicating state facilities and airspace to commercial drone testing and should have a prominent, open invitation for drone companies to test their hardware and services.
- *Jobs Estimate:* Our data source does not provide jobs data for Puerto Rico, so we do not have a drone jobs estimate for the territory. We also do not rank the territory overall.

163. P.R. LAWS ANN. tit. 21, § 4601(dd) (2020) (defining “land” as including “the space above” the land).

APPENDIX B: FULL BREAKDOWN OF 2022 SCORES

	Airspace Lease Law (30 points)	Avigation Easement Law (25 points)	Task Force or Program Office (20 points)	Law Vesting Landowners with Air Rights (10 points)	Sandbox (10 points)	Jobs Estimate (5 points)	Overall Score, 2022	Overall Rank, 2022
Oklahoma	30	0	20	10	10	4	74	1
North Dakota	0	25	20	10	10	5	70	2
Arkansas	30	25	0	10	0	5	70	2
Arizona	10	25	20	10	0	3	68	4
Minnesota	10	25	20	10	0	1	66	5
North Carolina	0	25	20	10	0	3	58	6
Georgia	10	25	10	10	0	3	58	6
New Jersey	0	25	20	10	0	3	58	6
Nevada	0	25	20	10	0	2	57	9
Montana	0	25	20	10	0	2	57	9
Virginia	30	0	20	0	0	5	55	11
Texas	30	0	20	0	0	4	54	12
Washington	30	0	20	0	0	4	54	12
California	10	25	0	10	0	5	50	14
Maryland	0	25	0	10	10	4	49	15
Delaware	0	25	10	10	0	2	47	16
Wisconsin	10	25	0	10	0	1	46	17
Louisiana	10	0	20	10	0	4	44	18
Michigan	10	0	20	0	10	1	41	19
Ohio	10	0	20	0	10	1	41	19
Vermont	0	25	0	10	0	5	40	21
Massachusetts	10	25	0	0	0	4	39	22
Missouri	0	25	0	10	0	4	39	22
Wyoming	0	25	0	10	0	3	38	24
Colorado	0	25	0	10	0	3	38	24
Idaho	0	25	0	10	0	2	37	26
Hawaii	0	25	0	10	0	2	37	26
Indiana	0	25	0	10	0	2	37	26
Tennessee	0	25	0	10	0	1	36	29
Oregon	30	0	0	0	0	5	35	30

	Airspace Lease Law (30 points)	Avigation Easement Law (25 points)	Task Force or Program Office (20 points)	Law Vesting Landowners with Air Rights (10 points)	Sandbox (10 points)	Jobs Estimate (5 points)	Overall Score, 2022	Overall Rank, 2022
West Virginia	10	0	20	0	0	5	35	30
Kansas	0	0	20	0	10	4	34	32
New Hampshire	30	0	0	0	0	3	33	33
Utah	0	0	20	10	0	2	32	34
Pennsylvania	0	0	20	10	0	2	32	34
New York	10	0	0	0	10	5	25	36
Connecticut	10	0	10	0	0	4	24	37
Illinois	10	0	10	0	0	3	23	38
Alaska	0	0	20	0	0	3	23	38
Alabama	0	0	10	0	0	5	15	40
Maine	10	0	0	0	0	2	12	41
Florida	10	0	0	0	0	2	12	41
Kentucky	0	0	0	0	10	1	11	43
South Carolina	10	0	0	0	0	1	11	43
Iowa	0	0	0	0	0	5	5	45
South Dakota	0	0	0	0	0	4	4	46
New Mexico	0	0	0	0	0	3	3	47
Nebraska	0	0	0	0	0	1	1	48
Rhode Island	0	0	0	0	0	1	1	48
Mississippi	0	0	0	0	0	1	1	48

Note: Our data source does not provide drone jobs numbers for US territories, so we have omitted Puerto Rico from this table.

APPENDIX C: SCORE GAINS AND LOSSES, 2021 TO 2022

	Overall Score 2021 (corrected)*	Overall Score 2022	Change
Arizona	46	68	+22
West Virginia	13	35	+22
Louisiana	23	44	+21
Minnesota	48	66	+18
Montana	39	57	+18
Maryland	37	49	+12
Washington	44	54	+10
Pennsylvania	23	32	+9
Alaska	15	23	+8
Oregon	31	35	+4
California	47	50	+3
Oklahoma	72	74	+2
Arkansas	68	70	+2
New Jersey	56	58	+2
Texas	52	54	+2
Missouri	37	39	+2
Iowa	3	5	+2
Georgia	57	58	+1
Massachusetts	38	39	+1
Colorado	37	38	+1
Hawaii	36	37	+1
Indiana	36	37	+1
New York	24	25	+1
Illinois	22	23	+1
Alabama	14	15	+1
Florida	11	12	+1
North Dakota	70	70	0
North Carolina	58	58	0
Virginia	55	55	0
Michigan	41	41	0
Ohio	41	41	0
Vermont	40	40	0
Kansas	34	34	0
Utah	32	32	0
Connecticut	24	24	0
Kentucky	11	11	0
South Carolina	11	11	0
Idaho	38	37	-1
New Hampshire	34	33	-1

	Overall Score 2021 (corrected)*	Overall Score 2022	Change
South Dakota	5	4	-1
Mississippi	2	1	-1
Nevada	59	57	-2
Wisconsin	48	46	-2
Wyoming	40	38	-2
Maine	14	12	-2
New Mexico	5	3	-2
Delaware	50	47	-3
Tennessee	39	36	-3
Nebraska	5	1	-4
Rhode Island	5	1	-4

Note: Our data source does not provide drone jobs numbers for US territories, so we have omitted Puerto Rico from this table.

* The previously released 2021 overall scores were recalculated in this table according to the updated 2022 scoring methodology to allow for better comparison.

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.

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The White House, the FCC, the Pennsylvania Supreme Court, and a dissenting opinion at the Illinois Supreme Court have cited his research. In addition to economics and law journal publication, he has authored pieces for *National Affairs*, Reuters, *Wall Street Journal*, *New York Times*, *Wired*, *Air Traffic Management* magazine, *Regulation* magazine, and elsewhere. He's appeared as a guest for news outlets like C-SPAN, NPR, CBS News, ABC News, and CNBC Asia.

Brent has a BA in economics from Wheaton College and a law degree from the George Mason University School of Law, where he was articles editor for the *Civil Rights Law Journal*. He was a legal clerk at the FCC's Wireless Telecommunications Bureau and at the Energy and Commerce Committee in the US House of Representatives. Before joining Mercatus, he was the director of research at the Information Economy Project, a law and economics university research center.

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