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Flying Inside America's Drone Dome and Landing in Aerial Trespass Limbo

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FLYING INSIDE AMERICA'S DRONE DOME AND LANDING IN AERIAL TRESPASS LIMBO

I. INTRODUCTION

Imagine you are standing in your kitchen late Saturday morning.[1] You pour the last cup of coffee into your stained mug, turn off the pot, and gaze out your kitchen window. The summer sun floods your backyard. You see your daughters sunbathing in swimsuits, eyes glued to their phones. A drone hovers above them. You notice the grass needs cut. You take a sip of coffee and try to remember what you were doing.

Wait a minute.

Was that a drone?

You don't own a drone.

You run back to the window. A drone hovers above your daughters, light flashing. Your children have no idea. Time to think fast. What are your options? You could run outside with a broom and try to shoo the drone away. But a broom does nothing to prevent the drone's triumphant return. What if you ran outside with a shotgun and blasted the drone out of the sky?

Either way, you should have grounds for legal recourse.[2] Private property owners have rights and the drone pilot messed with your bundle of sticks.[3] Putting the complicated elements for invasion of privacy aside, your obvious homerun is trespass, right?[4] Wrong.[5] Your trespass claim likely fails because you cannot satisfy aerial trespass under either the *Restatement* or new state statutes.[6]

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1 This is a hypothetical situation created by the author, inspired by a Kentucky case. *See, e.g.*, Boggs v. Merideth, No. 3:16-CV-00006-TBR, 2017 WL 1088093 (W.D. Ky. Mar. 21, 2017).

2 *See* Elizabeth Austermuehle, *Drones and Private Property Rights*, 34 WESTLAW J. AVIATION, no. 26, Feb. 22, 2017, at 1, 2 (reporting owners may use tort law to sue invading drones unless regulations give drones permission).

3 *See infra* notes 34–38 and accompanying text (describing the bundle of sticks given to property owners).

4 *See* Austermuehle, *supra* note 2, at 2 (finding tort claims available for property owners against drone invasions include trespass and privacy claims). This Note focuses on trespass, not invasion of privacy. For a detailed discussion on drones and privacy rights, see generally Nicole D. Milos, *It's a Bird! It's a Plane! No . . . It's a Drone. How Privacy Laws Fare in the Age of Private-Use UAVs*, 63 PRAC. LAW. 31 (2017) (applying drone invasions to privacy).

5 *See* Troy A. Rule, *Drone Zoning*, 95 N.C. L. REV. 133, 180–81 (2016) (explaining that common law trespass claims cannot handle the rapid growth of drone technology). *See* ALISSA M. DOLAN & RICHARD M. THOMPSON II, CONG. RESEARCH SERV., R42940, INTEGRATION OF DRONES INTO DOMESTIC AIRSPACE: SELECTED LEGAL ISSUES 2 (2013) (discussing complicated legal issues involving drones, like if flight over private property creates trespass).

6 *See infra* Part III (analyzing the problems with bringing aerial trespass claims in court today).

To fulfill a claim for aerial trespass under the *Restatement*, you must first navigate the undefined territories of the immediate reaches element.[7] Next, you must travel through the foggy realm of the substantial interference element.[8]

Alternatively, your state may have an aerial trespass statute.[9] Unfortunately, you lose again.[10] State statutes will tell you the first aerial trespass is free.[11] They will also tell you that you need to hunt down the drone pilot and tell him to keep his drone off your property.[12] Once you exhibit this hostile showing over your own property, you can bring an aerial trespass claim.[13] But you still have to wait for that same drone to return.[14] Remember, the first aerial trespass is free.[15]

Try bringing the claim in federal court and you lose again.[16] Federal agencies probably cannot touch the drone pilot, and federal courts do not care about drone tort claims or private property disputes.[17] All you really want is to keep that drone away from your backyard, but the effort is unreasonable and the potential litigation is not worth the time or money.[18]

This Note proposes that state courts must define aerial trespass to give property owners some rights against drones.[19] Part II explains the collision between airspace rights and federal regulations and introduces holes in current aerial trespass options.[20] Part III isolates each aerial trespass option, targets its flaws, and closes the door to the *Restatement*,

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7 *See infra* Part III.A (applying the elements of aerial trespass by an aircraft to a drone). *See, e.g.*, RESTATEMENT (SECOND) OF TORTS § 159(1) (Am. Law Inst. 1979) [hereinafter RESTATEMENT].

8 *See infra* Part III.A.

9 *See infra* Section II.C.2 (describing states with drone aerial trespass statutes).

10 *See infra* Part III.B (analyzing the problems with state aerial trespass statutes that target drones).

11 *See infra* Part III.B (discussing state statutes allowing drones one free pass to invade private property).

12 *See infra* Part III.B.

13 *See infra* Part III.B (comparing state statutes that require property owners to chase the drone and warn the pilot to the adverse and hostile element of adverse possession).

14 *See infra* Part III.B (finding drones must trespass twice, and the second time must come after a hostile showing by the property owner).

15 *See infra* Part III.B.

16 *See infra* Part III.C (explaining why drone tort claims do not fall into federal jurisdiction).

17 *See infra* Part III.C (teasing apart FAA regulatory limits and lack of federal court concern over drone torts).

18 *See infra* Part III (describing the problems with bringing aerial trespass claims to court today).

19 *See infra* Part IV (offering a new approach to protect private property owners from unwanted drone invasions).

20 *See infra* Part II (outlining how aircraft retracted property owner airspace rights, the purposes of trespass, Congress and the FAA's back-and-forth over federal airspace, and the impact on property owners' legal remedies).

state statutes, and federal courts.[21] Finally, Part IV argues courts must redefine aerial trespass with arrive-and-hover laws to protect property owners from unwanted drone invasions.[22]

II. BACKGROUND

Aerial trespass remains undefined.[23] Today's laws carve no aerial boundary separating private property from federal airspace.[24] Initially, property extended to the heavens to protect the owner's right to exclude.[25] But planes made ownership of heavenly airspace impractical.[26] When Congress claimed United States air, the Federal Aviation Administration (FAA) took charge, creating an aerial warzone between FAA regulations and state and federal laws.[27] Courts continue to leave a chunk of air with property owners, but no clear aerial boundary exists.[28] Without an aerial boundary, federal regulations continue to swallow exclusion rights deeded to property owners.[29]

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[21] *See infra* Part III (analyzing the problems with using the *Restatement*'s approach for aerial trespass by aircraft and statutes that target drone aerial trespass, and analyzing why remedies at the federal level do not exist).

[22] *See infra* Part IV (suggesting arrive-and-hover laws replace basic trespass elements to define aerial trespass).

[23] *See* Austermuehle, *supra* note 2, at 2 ("[E]xisting legislation regarding drones does not explicitly address the trespass or privacy concerns of real property owners with regard to flying [drones] over their land."); Troy A. Rule, *Airspace in an Age of Drones*, 95 B.U. L. REV. 155, 188 (2015) (suggesting laws should "plainly define[] landowners' interests in the low-altitude airspace above their land" to "simplify aerial trespass . . . claims involving drones").

[24] *See* JOHN G. SPRANKLING & RAYMOND R. COLETTA, PROPERTY: A CONTEMPORARY APPROACH 135 (3d ed. 2015) (stating that "vertical dimensions of real property" are unclear today). *See also* Mark J. Connot & Jason J. Zummo, *Everybody Wants to Rule the World: Federal vs. State Power to Regulate Drones*, 29 AIR & SPACE LAW. 1, 15 (2016) (explaining that the FAA claims "sole 'authority'" to regulate airspace but defers some tort issues to states).

[25] *See* SPRANKLING & COLETTA, *supra* note 24, at 49 (calling the right to exclude "one of the most essential" land rights). The right to exclude originated in English common law after economic and social changes in the 1500s "enclosed" land, which subsequently ended the English tradition of communal farming and the special rights given to peasants to freely roam across the land, remove resources, and raise livestock. *Id.* Scholars credit Sir William Blackstone with "the absolutist view" of the right to exclude. *See id.* (quoting Sir William Blackstone, "[e]very such entry or breach of a man's close carries necessarily along with it some damage or other").

[26] *See infra* Part II.A.

[27] *See infra* Part II.B.

[28] *See, e.g.*, United States v. Causby, 328 U.S. 256, 264 (1946) (granting title of the immediate reaches airspace to property owners after planes flying as close as eighty feet above the land interfered with the land's use as a chicken farm); RESTATEMENT, *supra* note 7, § 159 cmt. *l* (attempting to define immediate reaches between fifty and 500 feet above the property); *infra* Part II.A.

[29] *See infra* Part II.A. *See also infra* Part II.B (discussing recent federal regulations that allow drones to fly closer to property owner air than what is provided to most airplanes).

Part II.A departs from Sir Edward Coke's ancient airspace rights, passes over the Wright brothers, and lands in the Supreme Court.[30] Part II.B takes off from the Supreme Court, connects with Congress and the FAA, and lands inside the FAA's latest regulations, Part 107.[31] Finally, Part II.C peeks into today's options for flying aerial trespass in court.[32]

A. Planes Trim Property Rights

In the beginning, a property owner held "*cujus est solum, ejus est usque ad coelom et ad inferos*," or title from earth's core to the heavens.[33] This slender property column included certain property owner rights, often referred to as a "bundle of sticks."[34] These sticks allowed a property owner to transfer, use, exclude, and destroy the property.[35] Many scholars find the right to exclude "'one of the most essential sticks' in the bundle."[36] Property owners swing this exclusion stick through trespass claims.[37] Once an actor pierces the "close" of someone else's property column without permission, the actor violates the right to exclude, creating a trespass.[38]

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30 *See infra* Part II.A (discussing how property rights diminished over time).

31 *See infra* Part II.B.

32 *See infra* Part II.C (providing methods for bringing aerial trespass in court today).

33 SPRANKLING & COLETTA, *supra* note 24, at 135 (describing early English courts' grant of a "slender column" of title extending above and below the property); RESTATEMENT, *supra* note 7, § 159 cmt. g (quoting Sir Edward Coke).

34 SPRANKLING & COLETTA, *supra* note 24, at 25–26 (explaining property rights as "a bundle of rights, or more informally, a bundle of sticks" given to property owners (emphasis omitted)). *See also* J.E. Penner, *The "Bundle of Rights" Picture of Property*, 43 UCLA L. REV. 711, 712 n.1 (1996) (critiquing the bundle of rights, but pointing out "that [the bundle of rights] has become the standard starting point for an inquiry into the nature of property").

35 *See* SPRANKLING & COLETTA, *supra* note 24, at 26 (outlining "the most important 'sticks' in the bundle are: [t]he right to transfer[; t]he right to exclude[; t]he right to use[; and t]he right to destroy").

36 *Id.* at 49 ("Indeed, the Supreme Court has characterized the right to exclude 'as one of the most essential sticks' in the bundle." (quoting Kaiser Aetna v. United States, 444 U.S. 164, 176 (1976))). The bundle of sticks metaphor illustrates abstract property rights as tangible. *See* Jerry L. Anderson, *Britain's Right to Roam: Redefining the Landowner's Bundle of Sticks*, 19 GEO. INT'L ENVTL. L. REV. 375, 376–77 (pointing out the metaphor may harm interpretations of property principles for illustrating property rights as more absolute than they really are, failing to balance private property rights with public interests). The Supreme Court "plac[es] the landowner's 'right to exclude' at the top of the woodpile" and "canonized the right to exclude others as 'essential' to the concept of private property." *Id.* at 377 (citing Nollan v. Cal. Coastal Comm'n, 483 U.S. 825 (1987); Loretto v. Teleprompter Manhattan CATV Corp., 458 U.S. 419 (1982); Kaiser Aetna v. United States, 444 U.S. 164 (1979)).

37 *See* SPRANKLING & COLETTA, *supra* note 24, at 49 (finding landowners invoke the right to exclude with trespass).

38 *See id.* at 49–50 (comparing trespass laws today to English common law because any intentional entry without consent creates a trespass (quoting WILLIAM BLACKSTONE, 3 COMMENTARIES ON THE LAWS OF ENGLAND 209–10 (1768) ("Every unwarrantable entry on

Exclusion rights retracted when two brothers sketched an idea on wrapping paper, slapped some fabric to wood, and built the first airplane.[39] After the Wright brothers' first successful flight in North Carolina in 1903, they contracted with the United States military, and eventually, Congress passed the first laws granting planes use of "navigable airspace."[40] Planes hit the sky, and property owners lost title to heavenly air.[41]

Planes circled back to North Carolina in 1946 to shave more property rights.[42] In *United States v. Causby*, military planes flew over a chicken farm and caused chickens to fly into barn walls, leaving the owner with no use for the property.[43] The Court shelved heavenly airspace property rights as too antique for modern use.[44] However, the Court concluded that property owners still needed some airspace rights to fully enjoy their land.[45]

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another's soil the law entitles a trespass. . . . Every such entry or breach of a man's close carries necessarily along with it some damage . . . ."))).

39 *See* RESTATEMENT, *supra* note 7, § 159 cmt. g (noting "[t]he advent of aviation has meant that [owning from the soil to heaven] can no longer be regarded as law"). *See also* VINCENT R. JOHNSON, STUDIES IN AMERICAN TORT LAW 876 (5th ed. 2013) (reporting airplanes changed property rights that originally extended from land to heaven); *The Wright Brothers & the Invention of the Aerial Age: Inventing a Flying Machine*, SMITHSONIAN NAT'L AIR & SPACE MUSEUM, https://airandspace.si.edu/exhibitions/wright-brothers/online/fly/1903 [https://perma.cc/E3G5-ZXHT] (describing the design of the machine under "Designing the Flyer" and material used under "Construction and Fabric").

40 *See* Tom D. Crouch, *1908: The Year the Airplane Went Public*, AIRSPACEMAG.COM (Aug. 28, 2008), https://www.airspacemag.com/history-of-flight/1908-the-year-the-airplane-went-public-8791602/ [https://perma.cc/G6QS-5V2L] (explaining how the Wright brothers kept their invention a secret until contracting with Army a few years after their first flight). *See also* Rule, *Airspace in an Age of Drones*, *supra* note 23, at 166 (discussing congressional concerns that aircraft would need easements to fly over property under the infinite airspace ownership theory). *See generally* Air Commerce Act of 1926, Pub. L. No. 69-254, 44 Stat. 568 (providing initial uses of national airspace ("NAS")); Civil Aeronautics Act of 1938, ch. 601, 52 Stat. 973 (amending the Air Commerce Act and defining NAS as all air above the lowest altitude needed for safe flights).

41 *See* SPRANKLING & COLETTA, *supra* note 24, at 135 (stating that infinite ownership above property "collapsed with the invention of the airplane").

42 *See id.* at 135–36 (introducing *Causby* as the initial common law redaction of the heavenly airspace doctrine and the beginning of the rights to the property's immediate reaches).

43 *See* United States v. Causby, 328 U.S. 256, 258–59 (1946) (describing how military planes flying closely above the chicken farm scared the chickens into "flying into the [barn] walls from fright," destroyed "the use of the property as a commercial chicken farm," and kept residents awake and scared at night).

44 *See id.* at 260–61 (finding the "ancient doctrine that at common law ownership of the land extended to the periphery of the universe . . . has no place in the modern world," and "air is a public highway").

45 *See id.* at 264 ("Yet it is obvious that if the landowner is to have full enjoyment of the land, he must have exclusive control of the immediate reaches of the enveloping

The Court found an unconstitutional taking because frequent military invasions into air within the immediate reaches destroyed the chicken farm's use.[46] The Court reasoned that property rights extended into immediate reaches airspace to protect the owner's right to use the land and exclude others.[47] Thus, the Court shielded immediate reaches airspace from frequent aerial invasions.[48]

After *Causby*, property owner airspace rights dropped from "navigable airspace" to "immediate reaches."[49] *Causby*'s impact rippled through property and airspace two-fold.[50] First, Congress enabled the FAA to regulate airspace use, safety, and efficiency.[51] Second, the *Causby* test navigated into the *Restatement (Second) of Torts* as an aircraft trespass claim.[52]

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atmosphere. . . . The landowner owns at least as much of the space above the ground as he can occupy or use in connection with the land.").

46 The Court ruled, "Flights over private land are not a taking, unless they are so low and so frequent as to be a direct and immediate interference with the enjoyment and use of the land." *Id*. at 266. The Court concluded the lower court "plainly establish[ed] that there was a diminution in value of the property and that the frequent, low-level flights were the direct and immediate cause." *Id.* at 266–67.

47 *See id*. at 265 ("The superadjacent airspace at this low altitude is so close to the land that continuous invasions of it affect the use of the surface of the land itself. We think that the landowner, as an incident to his ownership, has a claim to it and that invasions of it are in the same category as invasions of the surface.").

48 *See generally id*. at 264–67. Planes that "skim the surface . . . [are] as much an appropriation of the use of the land as a more conventional entry upon it." *Id*. at 264. Government "intrusion[s] so immediate and direct as to subtract from the owner's full enjoyment of the property [] limit his exploitation of it." *Id*. at 265.

49 *Compare* Rule, *Airspace in an Age of Drones*, *supra* note 23, at 166 (discussing the definition of "navigable airspace" in the Civil Aeronautics Act of 1938 and how it shrunk property owner rights), *and* Civil Aeronautics Act of 1938, ch. 601, 52 Stat. 973 (defining "navigable airspace" as all air above the lowest altitude needed for safe flights), *with* United States v. Causby, 328 U.S. 256, 260–61, 264 (1946) (replacing old common law property rights that extended to the heavens with rights to the "immediate reaches").

50 *See infra* notes 51–52 and accompanying text.

51 *See* 49 U.S.C. § 40103(b)(1) (2012) (authorizing the FAA to "develop plans and policy for the use of the navigable airspace and assign by regulation or order the use of the airspace necessary to ensure the safety of aircraft and the efficient use of airspace").

52 The *Restatement* uses *Causby*'s takings test to find aerial trespass. *See* RESTATEMENT, *supra* note 7, § 159. First, an aircraft must invade the land's immediate reaches, which remains undefined. *Id*. The *Restatement* suggests immediate reaches falls somewhere between fifty and 500 feet above property. *Id*. Second, an aircraft must substantially interfere with the property. *Id*. Substantial interference requires interfering with the use and enjoyment of the land. *Id*. The *Restatement* is analyzed later, but for now, remember the *Restatement*'s aerial trespass test requires a taking analysis. *Id. See also* Part III.A (analyzing the *Restatement*'s aircraft trespass test as it relates to takings); *infra* note 123 and accompanying text (explaining that drones are aircraft according to numerous sources, including the FAA, federal courts, and even state statutes).

B. Fight Over Flight: Government Branches Battle for Jurisdiction

Shortly after *Causby*, Congress claimed rights to all United States airspace.[53] Then, Congress enabled the FAA to regulate national airspace.[54] The FAA started by issuing some simple guidelines before testing its regulatory reach.[55] Today, the FAA claims sole authority over every inch of airspace.[56] As a result, federal courts and Congress continue to limit the agency from such absolute regulatory reach.[57] Section II.B.1 of

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[53] *See* 49 U.S.C. § 40103(a)(1) (2012) (claiming "exclusive sovereignty of airspace of the United States").

[54] *See* 49 U.S.C. § 40103(b)(1) (2012) (cloaking the FAA with duties like developing plans for using navigable airspace, regulating airspace for safety, and ensuring efficient use of airspace).

[55] *Compare* AC 91-57, *infra* note 62 (differentiating between manned and unmanned aircraft), *with* Unmanned Aircraft Operations in the National Airspace System, 72 Fed. Reg. 6689, 6689–90 (Feb. 13, 2007) (to be codified at 14 C.F.R. pt. 91) (defining specific classes of drones and how each should be regulated), *and* Operation and Certification of Small Unmanned Aircraft Systems, 81 Fed. Reg. 42,064, 42,194 (June 28, 2016) (suggesting states consult the FAA before writing any laws that apply to drones or any low-altitude restrictions).

[56] *See* Huerta v. Haughwout, No. 3:16-cv-358 (JAM), 2016 WL 3919799, at *4 (D. Conn. July 18, 2016) (finding the FAA claims "regulatory sovereignty over every cubic inch of outdoor air in the United States"); Rule, *Drone Zoning*, *supra* note 5, at 144, 150 ("[T]he FAA continues to assert broad preemptive authority over both [hobby] and commercial drones uses," using broad interpretations of its Congressional authority to keep air safe, and "has conveniently opted to interpret [airspace above the United States] to encompass every inch of airspace above land, all the way to the ground, at least when it comes to air safety regulation."). *See also* Connot & Zummo, *supra* note 24, at 15 ("[T]he FAA considers any state operational drone restrictions on flight altitude, flight paths, or airspace to infringe on its authority.").

[57] *See infra* Section II.B.2 (noting Congress and federal courts have limited the FAA from applying certain regulations to hobby drones). The growth of administrative agency power is no legal secret. *See* Catherine M. Sharkey, *The Administrative State and the Common Law: Regulatory Substitutes or Complements?*, 65 EMORY L.J. 1705, 1710 (2016) (reporting "[t]he growth of the administrative state poses a threat to the common law of torts"). Supreme Court Justices express concern that current trends in administrative agency power gravitate toward tangling government branches. *See id*. at 1714–22 (quoting some Justices concerned with the expanding reach of agencies and concluding "if an agency is allowed to interpret its own regulations, it wields the power to both write the law (a legislative function) and interpret and enforce the law (an executive function), thus raising a serious separation-of-powers issue"). Congress gave the FAA regulatory authority over national airspace. 49 U.S.C. § 40103(b)(1) (2012). Recently, Congress instructed the FAA to incorporate drones into national airspace via the FAA Modernization and Reform Act (FMRA). FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, Feb. 14, 2012, 126 Stat. 11 (codified 49 U.S.C. § 40101 note). However, Congress limited FAA regulations from reaching hobby drones. *See id.* § 336 (enacting a special rule that exempts hobby drones from FAA regulations). As far as administrative law is concerned, this Note focuses on FAA attempts to circumvent FMRA's hobby drone limitation. *See infra* Section III.C.2 (analyzing the hazards the FAA's FMRA interpretation poses on property owners). *See, e.g.*, Taylor v. Huerta, 856 F.3d 1089, 1090–94 (D.C. Cir. 2017) (holding an FAA regulation requiring hobby

this Note outlines the FAA's transition from advisory regulations to regulatory overreach.[58] Section II.B.2 describes Congress's FAA Modernization and Reform Act (FMRA) and the FAA's FMRA interpretation.[59] Section II.B.3 explains the FAA's Final Rule on drones, the Final Rule's creation of a drone dome inside America, and the drone dome's implications on the airspace rights of property owners.[60]

1. The FAA Prepares for Take Off

Congress enacted the FAA in the 1950s, and about twenty years later, drones soared across the FAA's radar.[61] First, the FAA issued Model Aircraft Operating Standards in Advisory Circular 91-57 ("AC 91-57").[62] AC 91-57 separated model airplanes (or unmanned aircraft) from manned aircraft and suggested model airplane pilots use AC 91-57 as a safety

drones to register with the FAA invalid because FMRA clearly prevented the FAA from regulating hobby drones).

58 *See infra* Section II.B.1 (describing the FAA's first regulations).

59 *See infra* Section II.B.2.

60 *See infra* Section II.B.3 (explaining relevant implications of the FAA's Final Rule on property owners). *See, e.g.*, Operation and Certification of Small Unmanned Aircraft Systems ("Final Rule"), 81 Fed. Reg. 42,064, 42,064 (June 28, 2016) (providing roughly 400 pages discussing the FAA's Final Rule).

61 *See* Joshua Kohler, *The Sky Is the Limit: FAA Regulations and the Future of Drones*, 15 COLO. TECH. L.J. 151, 156 (2016) (reporting Congress enacted the FAA in 1958, but unmanned aircraft remained free from regulations until the "model aircraft operating standards" in the FAA's Advisory Circular 91-57). This Note will refer to "model aircraft" as hobby drones. *See* Shane Crotty, Note, *The Aerial Dragnet: A Drone-ing Need For Fourth Amendment Change*, 49 VAL. U. L. REV. 219, 223–24 n.33 (2014) ("For purposes of this Note, the term 'drone' will be used interchangeably to mean an unmanned aerial vehicle, unmanned aircraft system, remotely piloted vehicle, remotely operated aircraft, and other potential synonyms for an aircraft that operates without an onboard pilot.").

62 *See* FEDERAL AVIATION ADMINISTRATION, AC 91-57 (CANCELLED)—MODEL AIRCRAFT OPERATING STANDARDS (June 9, 1981), https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentid/22425 [https://perma.cc/7C8D-SCQ4] [hereinafter AC 91-57] (providing a pdf version of the initial Advisory Circular 91-57). On September 2, 2015, the FAA cancelled AC 91-57 and replaced it with a revised version, AC 91-57A. *Compare* AC 91-57 (noting the cancellation of the original AC 91-57), *with* FEDERAL AVIATION ADMINISTRATION, AC 91-57A—MODEL AIRCRAFT OPERATING STANDARDS—INCLUDING CHANGE 1 (Jan. 11, 2016), https://www.faa.gov/regulations_policies/advisory_circulars/index.cfm/go/document.information/documentID/1028086 [https://perma.cc/MP7B-ALZC] (announcing the issuance of the updated version of AC 91-57), *and* FEDERAL AVIATION ADMINISTRATION, AC 91-57A—MODEL AIRCRAFT OPERATING STANDARDS—INCLUDING CHANGE 1 (Jan. 11, 2016), https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_91-57A_Ch_1.pdf [https://perma.cc/YN9C-WTXY] [hereinafter AC 91-57A] (showing a pdf version of the revised Advisory Circular 91-57).

standard.[63] After AC 91-57, drones ghosted FAA regulations until 2007.[64] In 2007, the FAA released Unmanned Aircraft Operations in the National Airspace System ("Drone Clarification").[65] Drone Clarification placed drones into three groups: (1) public drones operated by the government; (2) civil drones used by businesses; and (3) hobby drones, or model airplanes.[66]

Drone Clarification tried to pull hobby drones into FAA regulations for safety reasons, naming AC 91-57 as the authority for hobby drones.[67] Meanwhile, presidential pressures to push drones into national airspace prompted a Congressional response that contradicted Drone Clarification.[68]

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[63] *See* AC 91-57, *supra* note 62. The purpose of the Model Aircraft Operating Standards was to "outline[], and encourage[] voluntary compliance with, safety standards for model aircraft operators." *Id*. However, following Congressional enactment of the Federal Modernization and Reform Act, the FAA cancelled AC 91-57. *Id*.

[64] *See* Milos, *supra* note 4, at 32–33 (explaining the history of drones). Early drone use remained compartmentalized inside the military. *Id* at 32. However, in the 1980s and 1990s, lack of results with drone technology slowed funding and development. *Id*. In the mid-90s, the Central Intelligence Agency wanted better pictures over Bosnia and refueled drone development. *Id*. Around the turn of the century, drones flew into national airspace as police and the Department of Homeland Security built off the CIA's use. *Id*. Consumers began using drones a decade later. *Id*. at 33.

[65] *See* Unmanned Aircraft Operations in the National Airspace System, 72 Fed. Reg. 6689, 6689–90 (Feb. 13, 2007) (to be codified at 14 C.F.R. pt. 91) [hereinafter Drone Clarification] (providing a summary that clarifies types of drone operations in national airspace).

[66] *See id*.

[67] *See id*. at 6690 (stating that "for model aircraft the authority is AC 91-57"). The FAA reasoned that model aircraft present safety concerns, and AC 91-57 provides guidance, encourages good judgment, and protects people on the ground. *Id*. Thus, "[m]odel aircraft should be flown below 400 feet above the surface," and "[t]he FAA expects that hobbyists will operate these recreational model aircraft within visual line-of-sight." *Id*. Therefore, the FAA concluded that hobby drones should operate according to AC 91-57. *Id*.

[68] *See* Exec. Order No. 13,479, 73 Fed. Reg. 70,241 (Nov. 18, 2008), *reprinted in* 49 U.S.C. § 40101 (2012) (ordering "Transformation of the National Air Transportation System" under United States policy "to establish and maintain a national air transportation system that meets the present and future civil aviation . . . needs of the United States, including through effective implementation of the Next Generation Air Transportation System"). *See also* Presidential Memorandum Promoting Economic Competitiveness While Safeguarding Privacy, Civil Rights, and Civil Liberties in Domestic Use of Unmanned Aircraft Systems, 80 Fed. Reg. 9355 (Feb. 15, 2015) ("As UAS are integrated into the NAS, the Federal Government will take steps to ensure that the integration takes into account . . . public safety, [and] the privacy, civil rights, and civil liberties concerns these systems may raise."); *infra* Section II.B.2 (explaining Congress passed FMRA, which prevented the FAA from regulating hobby drones).

2. Congress Conducts Maintenance on the FAA

In 2012, Congress passed the FMRA.[69] FMRA directed the FAA to incorporate civil drones into national airspace.[70] However, FMRA's Special Rule for Model Aircraft ("Special Rule") prevents the FAA from regulating hobby drones.[71] The Special Rule includes three subsections:

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[69] *See generally* FAA Modernization and Reform Act of 2012, Pub. L. No. 112-95, Feb. 14, 2012, 126 Stat. 11 (codified 49 U.S.C. § 40101 note) [hereinafter FMRA]. *See, e.g.*, *infra* note 71 (describing duties under FMRA for incorporating drones into national airspace like, "streamline programs, create efficiencies, reduce waste, and improve aviation safety and capacity, to provide stable funding for the national aviation system and for other purposes").

[70] *See* FMRA, *supra* note 69, § 332 Integration of Civil Unmanned Aircraft Systems into National Airspace System, § 333 Special Rules for Certain Unmanned Aircraft Systems, § 334 Public Unmanned Aircraft Systems, § 335 Safety Studies (designating timeframes for meeting objectives like establishing test ranges and researching drone technology). *See also* Kohler, *supra* note 61, at 157–58 (explaining functions of specific sections of the FMRA). Basically, FMRA created specific tasks and deadlines for the FAA to prepare United States airspace for business and government drone use. *See, e.g.*, FMRA § 332(a)(1) ("[S]afely accelerate the integration of civil unmanned aircraft systems into the national airspace system."); § 332(a)(2)(A)(i) ("[D]efine acceptable standards for operation and certification of civil unmanned aircraft systems."); § 332(a)(2)(G) (requiring the "establishment of a process to develop certification, flight standards, and air traffic requirements for civil unmanned aircraft systems at test ranges where such systems are subject to testing"); § 332(b)(1) (calling for a "final rule on small unmanned aircraft systems that will allow for civil operation of such systems in the national airspace system"); § 332(c) (asking for test ranges to establish navigation procedures for drones, to integrate drones with manned aircraft systems, and to experiment with both civil and public drones). *See, e.g.*, FMRA § 333(b)(1) (pinpointing which types of drones, if any, threaten national airspace and national security); § 334(a)(2) (encouraging "a collaborative process with public agencies to allow for an incremental expansion of access to the national airspace system as technology matures and the necessary safety analysis and data become available"); § 334(b) ("Not later than December 31, 2015, the Administrator shall develop and implement operational and certification requirements for the operation of public unmanned aircraft systems in the national airspace system."); § 335 ("The Administrator of the [FAA] shall carry out all safety studies necessary to support the integration of unmanned aircraft systems into the national airspace system.").

[71] *See* FMRA, *supra* note 69, § 336(a) (stating "the Administrator of the Federal Aviation Administration may not promulgate any rule or regulation regarding a model aircraft [hobby drone], or an aircraft being developed as a model aircraft" if the drone satisfies the hobby drone definition and passes the hobby drone test). *But see* FMRA § 336(b) (permitting the FAA "to pursue enforcement action against persons operating model aircraft who endanger the safety of the national airspace system"). However, the FAA offered a unique interpretation of FMRA. *See* FEDERAL AVIATION ADMINISTRATION, INTERPRETATION OF THE SPECIAL RULE FOR MODEL AIRCRAFT 14–15 (June 18, 2014), https://www.faa.gov/uas/media/model_aircraft_spec_rule.pdf [https://perma.cc/YYZ8-WY77] [hereinafter FAA INTERPRETATION]. According to the FAA, Congress confirmed that hobby drones are aircraft in FMRA. *Id*. at 5 (interpreting FMRA as a congressional confirmation of "the FAA's long-standing position that model aircraft are aircraft"). Furthermore, the FAA found that FMRA only prevented the FAA from writing rules that specifically target hobby drones. *Id*. at 7 (asserting "the prohibition against future rulemaking is not a complete bar . . . [and] the rulemaking prohibition would not apply in the case of general rules that the FAA may issue

(a) a hobby drone test ("the test"); (b) a safety net for the FAA to regulate some hobby drones ("safety net"); and (c) a hobby drone definition ("the definition").[72]

Subsection (c) gives the definition for hobby drones.[73] Hobby drones must be: "(1) capable of sustained flight in the atmosphere; (2) flown within visual line of sight of the person operating the aircraft; and (3) flown for hobby or recreational purposes."[74] Drones meeting the hobby drone definition advance to the hobby drone test outlined in subsection (a).[75]

Next, subsection (a) states the FAA cannot regulate a drone that passes the hobby drone test.[76] First, the hobby drone must be "flown strictly for

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or modify that apply to all aircraft, such as rules addressing the use of airspace," or rules issued "for safety or security reasons"). According to the FAA, FMRA "does not require the FAA to exempt model aircraft from those rules [addressing use of airspace, safety, and security] because those rules are not specifically regarding model aircraft." *Id*. at 7.

72 *See* FMRA, *supra* note 69, § 336(a)–(c) (outlining general provisions, retaining safety procedures, and defining model aircraft). Again, this Note generally refers to all model aircraft as hobby drones. *See, e.g.*, Crotty, *supra* note 61, at 223–24 n.33 (using "drone" to replace other synonyms for unmanned aircraft and model airplanes).

73 *See* FMRA, *supra* note 69, § 336(c). *See also* FAA INTERPRETATION, *supra* note 71, at 8 (interpreting FMRA § 336(c) as providing the definition for model aircraft, or hobby drones).

74 FMRA, *supra* note 69, § 336(c). The "hobby or recreational" use prong is also incorporated into § 336(a)'s hobby drone test, so the aim of § 336(c)'s definition focuses on the visual line of sight. *See* FMRA § 336(a)(1) (requiring that "the aircraft is flown strictly for hobby or recreational use"); FAA INTERPRETATION, *supra* note 71, at 8–11 (focusing on the line-of-sight requirement when interpreting § 336(c), and saving interpretations of hobby use, mentioned in both § 336(a)(1) and § 336(c)(3), for the section devoted to interpreting § 336(a)). According to the FAA, visual line of sight requires the drone pilot to be able to use "natural vision" to see the drone "at all times." *Id*. at 8. The drone pilot cannot use another person to fulfill the visual line of sight requirement. *Id*. at 8–9 ("[T]he operator must be able to view the aircraft at all times."). Failure to meet the line-of-sight requirement presumably expels the drone from the hobby drone exemption for failing to satisfy the hobby drone definition. *Id*. at 7–9.

75 *See* FMRA, *supra* note 69, § 336(a), (c) (preventing the FAA from regulating drones meeting the definition of model aircraft found in subsection (c)). *See also* FAA INTERPRETATION, *supra* note 71, at 11 (finding that drones satisfying the hobby drone definition "must also meet the five additional criteria for model aircraft established in section 336(a) [the test] to be exempt from future rulemaking regarding model aircraft").

76 *See* FMRA, *supra* note 69, § 336(a) (excluding model aircraft surviving subsection (a) from FAA regulations). The FMRA's preceding sections specifically target both civil and public drones, place deadlines on each, and delegate tasks for incorporating each into national airspace, including integrating both types of drones with simultaneous navigation procedures. *See, e.g.*, FMRA § 332 (requiring federal agencies to develop a plan to integrate civil drones into national airspace); FMRA § 333 (providing rules for civil drones); FMRA § 334 (allocating rules for public drones). The FMRA's civil and public drone integration discussion remains silent on hobby drones until the Special Rule, which prevents rules and regulations that apply to hobby drones. *Compare* FMRA § 332–35 (calling for civil and public drone integration into national airspace, with certain testing procedures, deadlines, and

hobby or recreational use."[77] Second, the hobby drone must comply with community safety guidelines.[78] Third, the hobby drone cannot exceed fifty-five pounds.[79] Fourth, the hobby drone must steer clear of planes.[80] Finally, the hobby drone must either avoid airports or communicate with air traffic control.[81] Any drone that survives the test may fly outside FAA regulations but only if it evades the FAA's safety net in subsection (b).[82]

Subsection (b) gives the FAA a bigger net for catching hobby drones otherwise exempt from regulation.[83] The safety net allows the FAA "to pursue enforcement action against" hobby drones that "endanger [national airspace] safety."[84] Thus, subsection (a) excludes hobby drones from FAA regulations, but subsection (b) allows the FAA to attack hobby drones that make national airspace unsafe.[85]

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other requirements), *with* § 336 (prohibiting the FAA from enacting any rules or regulations that apply to hobby drones).

77 FMRA, *supra* note 69, § 336(a)(1). Both § 336(a) and § 336(c) restrict hobby drone use to "flown strictly for hobby or recreational use," and "flown for hobby or recreational purposes," respectively. FMRA § 336(a)(1), (c)(3). The pivotal prong is the purpose of the drone's use during flight. *See id.* (placing a hobby-use requirement in two parts of the statute). The FAA takes a stiff approach to the hobby-use requirement, stating, "Any operation not conducted strictly for hobby or recreation purposes could not be operated under the special rule for model aircraft." FAA INTERPRETATION, *supra* note 71, at 10. *See also infra* note 90 and accompanying text (explaining how the FAA interpretation of FMRA may create a hybrid drone category outside the definitions of both civil and hobby drones).

78 *See* FMRA, *supra* note 69, § 336(a)(2) (stating "the aircraft is operated in accordance with a community-based set of safety guidelines and within the programming of a nationwide community-based organization"). This prong intends to address "a membership based association that represents the aeromodeling community within the United States" that provides, develops, and maintains safety guidelines for the public. H.R. REP. NO. 112-381 (Conf. Rep.), 158 CONG. REC. H230-04, 2012 WL 300072 (Feb. 1, 2012), at H280; FAA INTERPRETATION, *supra* note 71, at 11–12.

79 *See* FMRA, *supra* note 69, § 336(a)(3) (providing "the aircraft is limited to not more than 55 pounds unless otherwise certified through a design, construction, inspection, flight test, and operational safety program administered by a community-based organization").

80 *See id*. § 336(a)(4) (enumerating "the aircraft is operated in a manner that does not interfere with and gives way to any manned aircraft").

81 If a drone flies "within 5 miles of an airport," the drone pilot must "provide[] the airport operator and the airport air traffic control tower [] with prior notice of the operation." *Id*. § 336(a)(5). Furthermore, hobby drone pilots "flying from a permanent location within 5 miles of an airport should establish a mutually-agreed upon operating procedure with the airport operator and the airport air traffic control tower." *Id*.

82 *Compare* FAA INTERPRETATION, *supra* note 71, at 6–7 (stating drones satisfying the "statutory definition and operational requirements . . . would be exempt from future FAA rulemaking action"), *with* FMRA, *supra* note 69, § 336(b) (retaining the FAA's authority over aircraft to keep airspace safe).

83 *See* FMRA, *supra* note 69, § 336(b) (giving the FAA authority over hobby drones that "endanger the safety of the national airspace system").

84 *Id*.

85 *Compare* FMRA, *supra* note 69, § 336(a) (stating "the Administrator of the [FAA] may not promulgate any rule or regulation regarding a model aircraft, or an aircraft being

The FAA's interpretation of FMRA narrows the escape hole Congress granted hobby drones.[86] In an official interpretation of the Special Rule, the FAA explained how general safety rules that apply to all aircraft still apply to hobby drones to protect property owners.[87] According to the FAA, property owners need protection from all aircraft—including hobby drones—and Congress left the safety net to snare hobby drones in the FAA's web of general safety regulations.[88]

Further, the FAA interpreted the Special Rule to prevent a narrow subset of hobby drone regulations. According to the FAA, the only regulations prevented are those that target drones passing the hobby drone *test*—all other drones qualify as "Not Hobby" drones and are subject to FAA regulations.[89] In other words, if a drone meets the hobby

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developed as a model aircraft"), *with* § 336(b) ("Nothing in this section shall be construed to limit the authority of the Administrator to pursue enforcement action against persons operating model aircraft who endanger the safety of the national airspace system.").

86 *See generally* FAA INTERPRETATION, *supra* note 71 (offering an interpretation of the impact of FMRA § 336 on past and future FAA regulations as applied to all drone classes and finding § 336(b)'s safety net expansive enough to allow the FAA to protect property owners).

87 *See id.* at 7 ("Thus, the rulemaking prohibition would not apply in the case of general rules that the FAA may issue or modify that apply to all aircraft, such as rules addressing the use of airspace [] for safety or security reasons."). According to the FAA, hobby drones are not exempt from any regulations labeled as safety precautions because general aviation safety rules do not specifically target hobby drones and instead apply to all aircraft. *See id.* ("The statute does not require FAA to exempt model aircraft from [safety and security] rules because those rules are not specifically regarding model aircraft."). Thus, the Special Rule prohibition that blocks the FAA from applying regulations to hobby drones still allows the FAA to regulate hobby drones for safety purposes, according to the FAA. *See id.* (asserting "the prohibition against future rulemaking is not a complete bar on rulemaking that may have an effect on [hobby drones] . . . [and] the rulemaking limitation applies only to rulemaking actions specifically 'regarding a [hobby drone]'"). FMRA grants the FAA authority to conduct "safety studies" to aid in integrating drones into national airspace. *See* FMRA, *supra* note 69, § 335 ("The Administrator of the [FAA] shall carry out all safety studies necessary to support the integration of unmanned aircraft systems into the national airspace system."). While § 335 does not specifically exclude hobby drones, the preceding sections (§ 332–34) clearly apply to civil and public drones, and the following section (§ 336) clearly exempts hobby drones. *Compare* FMRA § 332–34 (applying certain regulations and duties for analyzing civil and public drone use in national airspace), *with* FMRA § 336 (preventing regulations on hobby drones). The placement of § 335 could account for some of the FAA's confusion, or, more literally, act as a wedge separating drones the FAA can regulate from those it cannot regulate. *Id.*

88 *See* FAA INTERPRETATION, *supra* note 71, at 14–15 ("As demonstrated by the FAA's statutory and regulatory authorities, our charge to protect the safety of the NAS is not only intended to protect users of the airspace, but is also intended to protect persons and property on the ground."). *See also id.* at 15 ("For example, the FAA regulates low-altitude operations to protect people and property on the ground.").

89 *See id.* at 6–7 ("[W]e conclude that aircraft that meet the statutory definition and operational requirements . . . would be exempt from future FAA rulemaking action specifically regarding model aircraft."). According to the FAA, any drone that fails the

definition but fails the hobby *test*, it falls into the "Not Hobby" class as a hybrid drone—which, despite not being used for commercial profit, is still not a hobby drone—and must comply with FAA regulations.[90]

One federal court denied the FAA's interpretation of the safety net.[91] In *Taylor v. Huerta*, Taylor challenged an FAA regulation requiring hobby drone registration ("Registration Rule").[92] Taylor argued the Special Rule

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hobby drone test, or does not satisfy the hobby drone definition, does not qualify as a hobby drone and is subject to FAA rules and regulations. *See id.* at 7 ("However, the prohibition against future rulemaking is not a complete bar on [hobby drone] rulemaking . . . . [T]he rulemaking limitation applies only to rulemaking actions specifically 'regarding a model aircraft.'").

[90] *See id.* at 11 (stipulating that drones meeting the hobby drone definition "must also meet the five additional criteria for model aircraft established in section 336(a) [the test] to be exempt from future rulemaking regarding model aircraft"). More pointedly, the FAA stated that hobby drones "not meet[ing] these statutory requirements [hybrid drones] are nonetheless unmanned aircraft, and as such, are subject to all existing FAA regulations, as well as future rulemaking action, and the FAA intends to apply its regulations to such unmanned aircraft." *Id.* at 6–7. Thus, the moment a hobby drone operates outside hobby use, it is no longer a hobby drone, loses its hobby drone protections, and falls victim to FAA regulations, even if the drone is not being used for a business or government purpose at that time. *See id.* at 10 ("Any operation not conducted strictly for hobby or recreation purposes could not be operated under the [Special Rule]."). For example, once a drone flies outside the operator's visual line of sight or is used for a purpose other than "relaxation" or "refreshment of strength and spirits after work," the drone is no longer a hobby drone under the FAA's interpretation. *Id.* at 8–9. Even uses "incidental to a person's business [] would not be a hobby or recreation flight." *Id.* at 10 ("Although they are not commercial operations conducted for compensation or hire, such operations do not qualify as a hobby or recreation flight because of the nexus between the operator's business and the operation of the aircraft."). This inflexible interpretation offered by the FAA would create a category of hybrid drones that are neither hobby drones nor civil drones, and according to the FAA, hybrid drones are subject to existing and future FAA rules and regulations. *See id.* at 8–11 (asserting any violation of the hobby drone exemption subjects the drone to FAA rules and regulations, even though the drone is not used for business purposes). The FAA tried to fill this hybrid drone gap with a helpful chart, which allows hobby drone users to fly drones at local model airplane clubs, take personal pictures, "mov[e] a box" for no profit, and observe crops grown for personal use. *Id.* at 11. However, flying drones for profit, taking pictures for profit, delivering boxes for profit, and observing crops "grown as part of commercial farming operation" all qualify as "Not Hobby or Recreation." *Id.* The latter examples are not commercial uses but not hobby uses under the FAA's interpretation, thus creating a hybrid drone category. *Id.* at 11 (labeling uses as "Not Hobby or Recreation").

[91] *See* Taylor v. Huerta, 856 F.3d 1089, 1090–94 (D.C. Cir. 2017) (determining an FAA regulation that required hobby drone registration violated the FAA Modernization and Reform Act).

[92] *See Taylor*, 856 F.3d at 1090–92 (finding the Special Rule trumped the FAA's interpretation of the safety net). *See also* Registration and Marking Requirements for Small Unmanned Aircraft, 80 Fed. Reg. 78,594, 78,594–96 (Dec. 16, 2015) [hereinafter Registration Rule] (requiring hobby drone pilots to register drones by a certain deadline, pay a five-dollar fee, display an identification number, and provide the FAA with the owner's name, email, mailing address, and other registration-type information). The summary of the Registration Rule clearly targets hobby drones, an action prevented by FMRA. *Compare* Registration Rule,

prevented the FAA from writing hobby drone rules.[93] The FAA argued the Special Rule did not specifically prevent hobby drone registration and the safety net gave the FAA authority to write hobby drone safety rules.[94]

The court held the Registration Rule was invalid because the Special Rule prevented the FAA from writing any rules that apply to hobby drones.[95] The court reasoned the Registration Rule was "undoubtedly a rule" that applied to hobby drones, which the Special Rule prevented, and

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80 Fed. Reg. 78,594 (stating "[t]his action provides an alternative, streamlined and simple, web-based aircraft registration process for the registration of small unmanned aircraft, including small unmanned aircraft operated as model aircraft"), *with* FMRA, *supra* note 69, § 336 (prohibiting the FAA from regulating hobby drones).

93 *See Taylor*, 856 F.3d at 1090 (explaining Taylor's argument that, as a hobby drone pilot, he is not required to register his hobby drone with the FAA pursuant to the Special Rule). *See also* FMRA, *supra* note 69, § 336(a), (c) (stating "the [FAA] may not promulgate any rule or regulation regarding a [hobby drone]," and continuing to supply the hobby drone test and definition). Taylor also challenged AC 91-57A, a provision that revised AC 91-57 by allocating restricted areas for drone operations, but the claim is not relevant to the scope of this Note. *See, e.g.*, *Taylor*, 856 F.3d at 1092–94 (determining a procedural deadline barred one claim from moving forward). *Compare* Revision of Advisory Circular 91-57 Model Aircraft Operating Standards, 80 Fed. Reg. 54,367, 54,367 (Sept. 9, 2015) ("The revised AC provides guidance to persons operating unmanned aircraft for hobby or recreation purposes meeting the statutory definition of 'model aircraft' contained in Section 336 of the [FMRA]."), *with* AC 91-57A, *supra* note 62 (providing a pdf version of a more recent revision to Advisory Circular 91-57).

94 *See Taylor*, 856 F.3d at 1092–93 (claiming the Registration Rule was "authorized by pre-existing statutory provisions that are unaffected by the FAA Modernization and Reform Act [Special Rule]"). Essentially, the FAA's first argument is that because the Special Rule is silent on the hobby drone registration issue, previous laws allow the FAA to require hobby drones to register. *Id.* FMRA § 336 states the FAA cannot "promulgate any rule or regulation regarding a model aircraft." FMRA, *supra* note 69, § 336(a). According to the FAA, § 336 does not specifically exclude hobby drone registration. *See Taylor*, 856 F.3d at 1093 ("The FAA responds that nothing in the 2012 [FMRA] prevents the FAA from changing course and applying that registration requirement to model aircraft now."). *See id.* at 1093 (arguing that requiring hobby drones to register is within the safety net's reach to help "improve aviation safety"). The FAA frequently uses this airspace safety argument to seemingly stretch its authoritative reach. *See, e.g.*, FAA INTERPRETATION, *supra* note 71, at 4 (noting that "[t]he FAA first recognized in 1981 that 'model aircraft can at times pose a hazard to full-scale aircraft in flight and to persons and property on the surface'" (quoting AC 91-57, *supra* note 62)).

95 *See Taylor*, 856 F.3d at 1092–94. Quoting the Special Rule, the court determined that the FAA cannot write "any rule or regulation regarding a [hobby drone]." *Id.* at 1093. In addressing the FAA's argument that the registration rule improved airspace safety, the court concluded that while safety is important, the rule is still "barred by the text of [the Special Rule]." *Id.* The court did not enter into *Chevron* analysis, presumably because congressional intent was so clear that no *Chevron* deference was required. *Compare Taylor*, 856 F.3d at 1092–94 (stating "[s]tatutory interpretation [of FMRA] does not get much simpler"), *with* Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc., 467 U.S. 837, 842–46 (1984) (finding that administrative agencies interpreting a statute must defer to any clear Congressional intent, but if Congress leaves "a gap for the agency to fill," then courts must accept any reasonable statutory interpretation by the administrative agency).

"[s]tatutory interpretation does not get much simpler."[96] While *Taylor* told the FAA to mind FMRA's Special Rule and avoid hobby drones, FMRA still tasked the FAA with incorporating other drones into national airspace.[97]

3. America's Drone Dome

In June 2016, the FAA released Operation and Certification of Small Unmanned Aircraft Systems ("Final Rule") to allow drone operations in national airspace and keep hobby drones from making national airspace unsafe.[98] Part 107 of the Final Rule drew a 400-foot flight ceiling across America.[99] The flight ceiling presumably grants qualifying drones an all-access pass to fly anywhere within 400 feet of the ground—creating an American drone dome.[100] Part 107's drone dome does not insulate

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[96] *Taylor*, 856 F.3d at 1092. The FAA appeared to argue that the Registration Rule was not a new rule, but part of an old regulation that required aircraft registration. *Id*. at 1092–93. The court found this argument troubling because the new registration rule used a new hobby drone definition, the same definition used in the Special Rule. *Id*. *See also* Registration Rule, *supra* note 92, at 78,604 ("The definition of 'model aircraft' is identical to the definition provided in section 336(c) of Public Law 112-95 [FMRA].") The court concluded that whether a regulation or a rule, "[t]he new regulatory regime imposes new requirements . . . [and] new penalties . . . on model aircraft owners who do not comply. In short, the Registration Rule is a rule regarding [hobby drones]." *Taylor*, 856 F.3d at 1093.

[97] *See* Taylor v. Huerta, 856 F.3d 1089, 1092–94 (D.C. Cir. 2017) (holding a hobby drone registration rule violated the FMRA, which prevented the FAA from regulating hobby drones). *See, e.g.*, *supra* note 70 and accompanying text (tasking the FAA to incorporate drones into national airspace, create efficient programs, and improve safety).

[98] *See* Operation and Certification of Small Unmanned Aircraft Systems, 81 Fed. Reg. 42,064, 42,064 (June 28, 2016) [hereinafter Final Rule] ("The FAA is amending its regulations to allow the operation of [drones] in the National Airspace System . . . [and] also prohibit model aircraft from endangering the safety of the National Airspace System."); *id*. at 42,065 (establishing authority under FRMA "to determine whether UAS operations posing the least amount of public risk and no threat to national security could safely be operated in the NAS and, if so, to establish requirements for the safe operation of these systems in the NAS"). FMRA instructed the FAA to implement a "final rule" on drones. *See, e.g.*, FMRA, *supra* note 69, § 332(b)(1) (requiring publication of "a final rule on small unmanned aircraft systems that will allow for civil operation of such systems in the national airspace system"); *id*. § 332(a)(2)(A)(i) (stipulating that a plan for integrating civil drones into national airspace must "define the acceptable standards for operation and certification of civil unmanned aircraft systems").

[99] *See* 14 C.F.R. § 107.51 (2016) (outlining "[o]perating limitations for small unmanned aircraft"). *See also id*. § 107.51(b) (2016) (defining an altitude restriction of 400 feet above ground, with exceptions); *infra* note 100 and accompanying text (defining the drone dome created by Part 107).

[100] *See* 14 C.F.R. § 107.51(b) (2016) ("The altitude of the small unmanned aircraft cannot be higher than 400 feet above ground."). Drone dome refers to the all-access pass Part 107 gives drones to fly anywhere throughout the country within 400 feet of the ground. *Id*. Part 107 grants per se legal flight to drones encapsulated inside the drone dome, which expands from the ground to 400 feet in the air. *Id*. § 107.51(b). Presumably, the drone dome grants flight

property owners from drones.[101] The FAA determined states control drones landing on property, but not flying over property, because states

access to civil drones. *See id.* § 107.11 ("This subpart applies to the operation of all civil small unmanned aircraft systems subject to this part."). However, the FAA's flexible interpretation of FMRA creates a tight class of hobby drones and another class of drones that may be used like hobby drones but are blended civil and hobby drones, or hybrid drones. *See supra* notes 86–90 and accompanying text (elaborating on the hybrid class of drones created by the FAA's Special Rule interpretation); *infra* Section III.C.2 (analyzing how a hybrid drone class under the FAA's interpretation is problematic for property owners). Furthermore, not-hobbies—hybrid drones that are not technically civil and not technically hobby according to the FAA—still have to comply with FAA regulations. *See, e.g.*, *supra* notes 89–90 and accompanying text (explaining how the FAA's interpretation of FMRA creates a hybrid category of drones that falls under FAA regulations). Thus, the drone dome's applicability to hobby drones is not entirely clear. *Compare* FMRA, *supra* note 69, § 336(a) (prohibiting the FAA from regulating hobby drones), *with* Final Rule, *supra* note 98, at 42,064 (applying the regulations to model aircraft to keep airspace safe), *and* FMRA § 336(b) (granting the FAA authority to attack hobby drones that make airspace unsafe).

[101] *See* 14 C.F.R. § 107.51(b) (2016) (outlining the 400-foot flight ceiling); Final Rule, *supra* note 98, at 42,119 (stating "[a]djudicating private property rights is beyond the scope of this rule" and some causes of action may require applying state or local common laws). The text addresses commenter proposals for 100-foot and 300-foot flight floors to establish "incidental incursions" and "intentional flight across private property without permission," respectively. *Id.* Arguably, a flight floor could lead to the greatest taking of private property rights this nation has ever seen. *See* Rule, *Drone Zoning*, *supra* note 5, at 171 (reporting that granting the FAA "sole control over low-altitude airspace . . . would [] arguably orchestrate one of the largest uncompensated transfers of property interests in United States history"). The Supreme Court already ruled in *Causby* that property owners only keep reachable air. *See* United States v. Causby, 328 U.S. 256, 264 (1946) (finding a "landowner owns at least as much of the space above the ground as he can occupy or use in connection with the land"). Property owners cannot lose air they never owned and while, theoretically, a flight floor raised high enough above immediate reaches may not be a taking, this analysis is outside this Note's scope. *Id.* Perhaps the FAA has authority to write a flight floor—perhaps not. *Compare* 49 U.S.C. § 40103(a), (b) (2012) (granting the FAA regulatory authority over national airspace), *with* Rule, *Drone Zoning*, *supra* note 5, at 149–50 (stipulating local airspace conflicts between drone pilots and landowners may fall outside Congress's reserved authority for the FAA), *and* Final Rule, *supra* note 98, at 42,119 (noting a flight floor was suggested, considered, and apparently rejected, although the reasoning is inconclusive).

make national airspace unsafe by writing aerial statutes.[102] Thus, states should ask the FAA before writing aerial trespass laws.[103]

In conclusion, the FAA finds: (1) the Special Rule grants the FAA authority to regulate hobby drones for safety reasons and all other drones, including hybrid drones, for all other purposes; and (2) states cannot write aerial trespass laws without the FAA's approval.[104] As an administrative agency, the FAA cannot write tort laws, so for now, property owners remain shackled in limbo with limited options.[105]

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[102] *See supra* note 101 and accompanying text (discussing the FAA's rejection of flight-floor proposals). *See also* Final Rule, *supra* note 98, at 42,119 (separating trespass from aerial trespass and finding only state trespass laws applicable to drones). Despite finding that "[a]djudicating private property rights [was] beyond the scope of this rule," the FAA determined "[w]ith regard to property rights, trespassing on property (as opposed to flying in the airspace above a piece of property) without the owner's permission may be addressed by State and local trespassing laws." *Id*. Thus, the FAA finds that drones landing on property fall into state territory, but drones hovering above property do not. *Id*. *See also id*. at 42,194 (finding states make airspace unsafe by writing altitude restrictions). The FAA concluded, "[s]ubstantial air safety issues are implicated when State or local governments attempt to regulate the operation of aircraft in the national airspace." *Id*.

[103] *See* Final Rule, *supra* note 98, at 42,194 ("For example, consultation with FAA is recommended when State or local governments enact operational UAS restrictions on flight altitude, flight paths; operational bans; or any regulation of the navigable airspace."). Trespass laws are not clear. *Compare* Final Rule, *supra* note 98, at 42,194 ("[L]aws traditionally related to State and local police power [] including land use, zoning, privacy, [and] trespass . . . generally are not subject to Federal regulation."), *with* Final Rule, *supra* note 98, at 42,119 ("[T]respassing on property (as opposed to flying in the airspace above a piece of property) without the owner's permission may be addressed by State and local trespassing law."). Thus, drone aerial trespass remains unclear. *Id*.

[104] *See supra* Section II.B.2 (describing how the FAA concluded FMRA grants it authority to regulate hobby drones for safety purposes, regulate all hybrid drones that fall somewhere between hobby and civil, and why safety concerns require states to consult the FAA before writing any aerial drone laws). *See, e.g.*, FAA INTERPRETATION, *supra* note 71, at 14–15 ("For example, the FAA regulates low-altitude operations to protect people and property on the ground."); Final Rule, *supra* note 98, at 42,194 (suggesting states ask the FAA before enacting low-altitude airspace laws).

[105] *See infra* Part II.C (describing limited options for property owners to sue for aerial trespass). *See also* Rule, *Airspace in an Age of Drones*, *supra* note 23, at 172 (calling for clarification of property airspace rights against drones and pointing out the confusing takings-style test now available for property owners); Sharkey, *supra* note 57, at 1710–25, 1734, 1738–40 (analyzing recent Supreme Court opinions, concurrences, and dissents that address administrative agencies overstepping authority and acknowledging that courts may need to cooperate with federal agencies to usher in a new style of regulatory common law). The Supreme Court has expressed concern with administrative agencies under the executive branch blending legislative powers to write laws. *Cf*. Sharkey, *supra* note 57, at 1706–07 n.5 (providing various sources discussing how administrative agencies have used regulations to dismantle state tort law).

C. Flying Aerial Trespass Claims in Court

Property owners have a few options for filing aerial trespass claims.[106] They can use the *Restatement* to fashion a claim, sift through state statutes, or swing for the fences in federal court.[107] Section II.C.1 outlines common law trespass claims under the *Restatement (Second) of Torts*.[108] Section II.C.2 explains that some state statutes specifically address drone aerial trespass.[109] Section II.C.3 discusses how one federal court tip-toed around drone aerial trespass.[110]

1. Trespass under the *Restatement (Second) of Torts*

Trespass protects the right to exclude.[111] To protect the right to exclude, the *Restatement* offers two definitions for trespass: basic trespass and aircraft trespass.[112] Basic trespass to land requires intent to enter another's property without consent.[113] Aircraft trespass requires an aerial invasion into the immediate reaches that substantially interferes with the land.[114]

Basic trespass requires: (1) intent; (2) entrance; and (3) lack of consent.[115] Intent requires only intent to enter, not intent to trespass.[116]

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106 *See generally infra* Sections II.C.1–II.C.3 (describing common law and statutory rights for property owners).

107 *See infra* Sections II.C.1–II.C.3.

108 *See infra* Section II.C.1 (detailing the *Restatement*'s approach to basic trespass and aerial trespass).

109 *See infra* Section II.C.2.

110 *See infra* Section II.C.3 (discussing a federal court case in which a man shot a hobby drone out of the sky).

111 *See* SPRANKLING & COLETTA, *supra* note 24, at 49–50 (providing a detailed background on the right to exclude, including how the right originated and evolved in early English common law).

112 *Compare* RESTATEMENT, *supra* note 7, § 158 Liability for Intentional Intrusions on Land (explaining basic trespass), *with* RESTATEMENT § 159 Intrusions Upon, Beneath, and Above Surface of Earth (defining aircraft trespass).

113 *See* RESTATEMENT, *supra* note 7, § 158(a)–(c), cmt. c.

114 *See id*. § 159(2). The *Restatement* excludes "space rockets, satellites, missiles, and similar objects," from aircraft. *Id*. Most jurisdictions classify drones as aircraft. *See infra* note 123 and accompanying text (citing authorities classifying drones as aircraft). *See, e.g.*, IND. CODE ANN. § 8–21–2–1 (Westlaw through 2018) (defining "aircraft" as "any contrivance . . . used or designed for navigation of or flight in the air, except a parachute or other contrivance designed for such navigation but used primarily as safety equipment").

115 *See* RESTATEMENT, *supra* note 7, § 158(a)–(c), cmt. c.

116 JOHNSON, *supra* note 39, at 119 (explaining "intent to be present" on the land as sufficient without requiring intent to trespass). *See also* RESTATEMENT, *supra* note 7, § 158 cmt. b (stating that using "enters land" is a convenient way of describing "not only coming upon land, but also remaining on it, and in addition, to include the presence upon the land of a third person or thing which the actor has caused to be or to remain there").

Entering without consent breaks the exclusion stick, creating a trespass.[117] Thus, entrance is the key.[118]

Entrance includes intentionally entering, remaining, failing to remove, or causing entrance—like flying an object over the property.[119] A person trespasses simply by knowing the object will enter the land.[120] Entrance also includes entering over or under the property.[121] However, if an aircraft enters by flying over the property, the *Restatement* supplies a different test.[122]

Drones are aircraft, and aircraft trespass requires an invasion of the "immediate reaches" that "interferes substantially" with the property's use.[123] The *Restatement* explains that federal laws control upper air, but

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117 *See* RESTATEMENT, *supra* note 7, § 158 cmt. c ("The word 'intrusion' . . . denote[s] the fact that the possessor's interest in the exclusive possession of his land has been invaded by the presence of a person or thing upon it without the possessor's consent."). In other words, entering without consent invades a property owner's right to exclude. *Id*.

118 *See* JOHNSON, *supra* note 39, at 119 (describing intent as "intent to be present" on the land and that "intent to be present *on someone else's land* is not necessary"). *See also* RESTATEMENT, *supra* note 7, § 158 cmt. c (noting the "land has been invaded by the presence of a person or thing upon it without the [property owner's] consent").

119 *See* RESTATEMENT, *supra* note 7, § 158(a)–(c), cmt. c (discussing varying degrees of entrance that fall within the trespass definition, including mere presence without consent). *See also id*. § 158 cmt. i ("The actor, without himself entering the land, may invade another's interest in its exclusive possession by throwing, propelling, or placing a thing either on or beneath the surface of the land or in the air space above it."). Even flying a kite or balloon or shooting or propelling something above the property creates a trespass. *See, e.g.*, *id*. § 158 cmt. i (highlighting that, without consent, "it is actionable trespass to throw rubbish on another's land . . . fire projectiles or to fly an advertising kite or balloon through the air above it, even though no harm is done to the land").

120 *See id*. § 158 cmt. i ("It is enough that an act is done with knowledge that it will to a substantial certainty result in the entry of the foreign matter."). *See id*. § 158 illus. 6 ("A, on a public lake, intentionally discharges his shotgun over a point of land in B's possession, near the surface. The shot falls into the water on the other side. A is a trespasser."). The actor aggravates trespass by remaining on the property. *See, e.g.*, *id*. § 158 cmt. *l* ("If the actor's entry was unprivileged, his remaining on the land may at the option of the [property owner] be treated as an aggravation of the original trespass of entering the land . . . .").

121 *See infra* note 122 and accompanying text (summarizing layers of trespass, including on, over, and under land).

122 *See* RESTATEMENT, *supra* note 7, § 158 cmt. g ("A trespass on land may be committed by an intrusion upon the surface of the land or beneath or above the surface. (See § 159.)"); *id*. § 159 cmt. f ("Except as stated in Subsection (2), an unprivileged intrusion into the space above the surface of the earth, at whatever height above the surface, is a trespass."). Entering airspace above land without consent creates a trespass, but if an aircraft enters, the test changes. *Compare* RESTATEMENT § 158 cmt. g (finding trespass for surface, air, and subsurface intrusions, and referencing § 159 for air intrusions by an aircraft), *and* RESTATEMENT § 159(1) (including invasions on, above, or under the land as trespass, "[e]xcept as stated in Subsection (2)"), *with* RESTATEMENT § 159 (2)(a)–(b) (outlining aircraft trespass).

123 *See* RESTATEMENT, *supra* note 7, § 159(2)(a)–(b) (finding aircraft trespass above property "if, but only if, (a) it enters into the immediate reaches of the air space next to the land, and (b) it interferes substantially with the other's use and enjoyment of his land"). The

property owners still enjoy some air exclusion rights.[124] Aircraft trespass preserves the property's immediate reaches to protect the owner from aircraft invasions.[125] Squeezing drones into ancient airplane laws prompted legislative response in some states.[126]

2. Aerial Trespass in State Statutes

Some state statutes aim at low-flying drones.[127] Most target privacy concerns, but a few hone in on aerial trespass, generally requiring: (1) a

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Restatement explains aerial trespass by an aircraft does not consider "space rockets, satellites, missiles, and similar objects." *Id*. § 159 caveat. Multiple authorities conclude drones are aircraft. *See, e.g.*, FMRA, *supra* note 69 (calling all drones aircraft, whether public, civil, or hobby); FAA INTERPRETATION, *supra* note 71, at 5 ("In [FMRA] Congress confirmed the FAA's long-standing position that model aircraft are aircraft."); Huerta v. Pirker, 2014 WL 8095629, at *2–5 (NTSB 2014) (discussing the "[d]efinition of 'aircraft,'" concluding that "an 'aircraft' is any device used for flight in the air," and finding a hobby drone is an aircraft). *See, e.g.*, IND. CODE § 8–21–4–1 (Westlaw through 2018) ("'Aircraft' includes balloon, airplane, hydroplane, and every other vehicle used for navigation through the air. . . . While being operated through the air otherwise than immediately above water, it shall be treated as an aircraft."); NEV. REV. STAT. § 493.020(1) (Westlaw through 2017) ("'Aircraft' includes a balloon, airplane, hydroplane, unmanned aerial vehicle and any other vehicle used for navigation through the air."); AZ. REV. STAT. ANN. § 13-3729(F)(7) (Westlaw through 2018) ("Unmanned aircraft means an aircraft, including an aircraft commonly known as a drone, that is operated without the possibility of direct human intervention from within or on the aircraft."); OR. REV. STAT. § 837.300(4) (Westlaw through 2018) ("'Unmanned aircraft system' means an unmanned flying machine, commonly known as a drone, and its associated elements, including communication links and the components that control the machine."). *But see* IDAHO CODE § 21-213(1)(a)–(b) (Westlaw through 2018) ("For the purpose of this section, the term 'unmanned aircraft system' (UAS) means an unmanned aircraft vehicle, drone . . . . Unmanned aircraft system does not include: [m]odel flying airplanes . . . .").

124 *Compare* RESTATEMENT, *supra* note 7, § 159 cmt. i (citing *Causby* as granting "the upper air, above the prescribed minimum altitudes of flight, a public highway" to be regulated by federal law and that "private rights in the upper air no longer exist"), *with* RESTATEMENT § 159 cmt. j (referencing that *Causby* also gave "exclusive control of the immediate reaches of the enveloping atmosphere" to property owners "to have full enjoyment of the land").

125 *See id*. § 159 cmt. j (interpreting *Causby*'s finding "invasions of [the immediate reaches] are in the same category as invasions of the surface," as intending to "clearly [] preserve the action of trespass as a remedy where the 'immediate reaches' are invaded by flight"). Acknowledging *Causby*, the *Restatement* notes, "[t]he actual holding in [*Causby*] was that the rights of the landowner were invaded, and there was a wrongful 'taking' of his property, when the flights into the 'immediate reaches' of the air space substantially interfered with his use of the land." *Id*. § 159 cmt. k.

126 *See infra* Section II.C.2.

127 *See* NATIONAL CONFERENCE OF STATE LEGISLATURES, CURRENT UNMANNED AIRCRAFT STATE LAW LANDSCAPE [hereinafter NCSL] (June 25, 2017), http://www.ncsl.org/research/transportation/current-unmanned-aircraft-state-law-landscape.aspx [https://perma.cc/K58E-6D8F] (reporting forty states have passed laws aiming at drones, but most focus on improving privacy laws). *See* Darlene Ricker, *Taking Flight*, 103 A.B.A. J. 56, 62 (2017) (finding hundreds of drone regulation bills proposed in 2016). *See also* Terry Carter, *Federal Judge Overturns Massachusetts City Law Regulating Drones*, A.B.A. J. (Sept. 22,

height invasion; (2) a prior invasion, or two trespasses; and (3) a chase, where the property owner must pursue the drone and warn the pilot.[128] Experts cite Nevada and Oregon for giving property owners some rights against drones.[129]

Nevada's statute allows aerial trespass if the drone flies within 250 feet over the property, and the property owner follows the drone and tells the pilot to keep out.[130] If the drones flies below the 250-foot flight floor again, the Nevada property owner may sue.[131] Oregon outlines similar

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2017), http://www.abajournal.com/news/article/federal_judge_overturns_massachusetts_city_law_regulating_drones [https://perma.cc/C5YH-W9P3] (summarizing a city ordinance on drone regulations struck down in federal court as preempted by the FAA). *See, e.g.*, Singer v. City of Newton, 284 F. Supp. 3d 125, 126–33 (D. Mass. 2017). In *Singer*, an ordinance required drone registration with local government and restricted drones from flying within 400 feet of the ground. *Id*. The court found the ordinance preempted by FAA regulations, which already required federal registration and allowed flight within 400 feet of the ground. *Id*.

128 *See, e.g.*, NEV. REV. STAT. § 493.103(1)(a)–(b) (requiring two invasions within 250 feet above the property and an owner warning) (Westlaw through 2017); OR. REV. STAT. § 837.380(1)(a)–(b) (Westlaw through 2018) (permitting an action if the drone invades twice and the owner warned the pilot to stop); Ricker, *supra* note 127, at 62 (stipulating that Part 107's failure to address privacy concerns led to over 280 state and local drone regulation bill proposals in 2016 and arguing the variance may make air unsafe). The impact of drones on privacy laws is outside this Note's scope. *See, e.g.*, Milos, *supra* note 4, at 44–55 (focusing on drones and privacy laws as a major concern); Kohler, *supra* note 61, at 174–76 (explaining states and cities are enacting privacy laws because federal privacy laws for drones are absent); Connot & Zummo, *supra* note 24, at 17 (stating the FAA left privacy laws for state and local governments). States also provide varying commercial drone exceptions. *Id*. (acknowledging states have taken measures to balance privacy and commercial interests). *See, e.g.*, *infra* Part III.B (explaining how varying statutory language creates aerial obstacle courses for interstate drones). *But see* CAL. CIV. CODE § 1708.8(a) (Westlaw through 2018) (blending privacy with trespass and finding liability when entering and capturing a "visual image, sound recording, or other physical impression of the plaintiff engaging in a private, personal, or familial activity and the invasion occurs in a manner that is offensive to a reasonable person").

129 *See, e.g.*, Rule, *Drone Zoning*, *supra* note 5, at 172 (pointing out Nevada and Oregon for giving property owners some rights against drones); Kristen G. Juras, *The Game of Drones: Federal and State Rules of Play and Their Intersect with Property Law*, 34 PRAC. REAL EST. LAW., no. 3, 2017, at 23, 29 (noting Nevada and Oregon statutes).

130 *See* NEV. REV. STAT. § 493.103 (creating a trespass action for drones); *id*. § 493.103(1) (allowing a property owner to "bring an action for trespass against the owner or operator of an unmanned aerial vehicle that is flown at a height of less than 250 feet over the property"); *id*. § 493.103(1)(b) (requiring the property owner "notif[y] the owner or operator of the [drone] that the [property owner] did not authorize the flight of the unmanned aerial vehicle over the property at a height of less than 250 feet"). *See, e.g.*, RESTATEMENT, *supra* note 7, § 159 cmt. *l* (reporting immediate reaches likely falls between fifty and 500 feet, and a 150-foot invasion is unclear).

131 *See* NEV. REV. STAT. § 493.103(1)(a) (allowing aerial trespass if the drone pilot has flown the drone "over the property at a height of less than 250 feet on at least one previous occasion"). Exceptions to the statute include business drones licensed with the FAA that

pursue-and-evict laws.[132] Other state statutes label drones, but most states simply lack aerial trespass statutes.[133] Without uniform aerial trespass guideposts, claims leak all over American courtrooms.[134]

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operate within the scope of the business and "do[] not unreasonably interfere with the existing use of the real property." *Id*. § 493.103(2)(d)(1)–(3).

[132] *See* OR. REV. STAT. § 837.380. In Oregon, the first element of drone aerial trespass requires a drone to fly "over the property." *Id*. § 837.380(1). Initially, Oregon required an invasion "at a height of less than 400 feet," but the legislature deleted this language from the statute. *See* Aircraft—Unmanned Aircraft—Generally, 2015, ch. 315, sec. 11, § 837.380(1)(a)–(b), 2015 Or. Sess. Law 2354 (West) (to be codified at OR. REV. STAT. § 837.380(1)(a)–(b)) (deleting a 400-foot flight floor from the statute). The second element requires a positive action by the property owner, who must find the drone pilot and notify the pilot to keep out. *See* OR. REV. STAT. § 837.380(1)(b) (requiring that the property owner, after one invasion, "notif[y] the owner or operator of the unmanned aircraft system that the [property owner] did not want the [drone] flown over the property"). Finally, the same drone must invade again. *See id*. § 837.380(1)(a) (stating the drone must fly "over the property on at least one previous occasion"). Commercial exceptions in Oregon reflect those authorized by the FAA. *See id*. § 837.380(3) (exempting drones used for "commercial purposes in compliance with authorization granted by the [FAA]").

[133] *See* NCSL, *supra* note 127 (reporting most state laws targeting drones focus on defining drones and authorizing public uses). *See* Timothy M. Ravich, *Airports, Droneports, and the New Urban Airspace*, 44 FORDHAM URB. L.J. 587, 604 (2017) ("[N]ot every state has enacted drone specific laws."). *See also id*. at 605–06 (explaining many state laws simply defer to federal laws and regulations). *See, e.g.*, R.I. GEN. LAWS § 1–8–1 (Westlaw through 2018) (stating only Rhode Island may regulate its drones, without including any property owner rights); UTAH CODE ANN. § 72–14–104, 403(7)(a)–(b) (effective May 9, 2017) (deferring to the FAA for commercial drone restrictions and writing general hobby drones laws mimicking FAA commercial drone regulations). *See, e.g.*, Johnathan Rupprecht, *US Drone Laws*, JRUPPRECHTLAW.COM (2017), https://jrupprechtlaw.com/drone-laws-state [https://perma.cc/3S65-DW5H] (providing an excellent interactive website with a compound list of general state drone regulation statutes).

[134] *See* Rule, *Drone Zoning*, *supra* note 5, at 140–41 (listing drone conflicts like bothering sunbathers and sports stadiums, soaring into houses and over parades, and eluding to self-help attempts to clip drones from the air). *See also* Ravich, *supra* note 133, at 604 (pointing out the patchwork of regulations below national airspace). While a Nevada property owner may have statutory guidance for aerial trespass, a Kentucky property owner may have to resort to using the *Restatement*. *Compare* NEV. REV. STAT. § 493.103 (enumerating drone aerial trespass), *with* Boggs v. Merideth, No. 3:16-CV-00006-TBR, 2017 WL 1088093 (W.D. Ky. Mar. 21, 2017) (order granting motion to dismiss) (suggesting drone aerial trespass may require an "unreasonable" interference with the land, similar to the *Restatement*'s language).

3. Flying Aerial Trespass Claims in Court

Drone claims continue to invade state and federal courts.[135] While most claims vary from trespass to privacy violations, a recent case tip-toed into aerial trespass limbo.[136]

In *Boggs v. Merideth*, Boggs flew a drone above Merideth's property, and Merideth shot it down with a shotgun.[137] Boggs claimed trespass to chattels and sued in federal court, arguing federal question jurisdiction because the drone was a federal aircraft flying in federal airspace.[138] The

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135 *See* Rule, *Drone Zoning*, *supra* note 5, at 140–41 (describing several specific instances of tort-like drone claims); Hillary B. Farber, *Keep Out! The Efficacy of Trespass, Nuisance and Privacy Torts as Applied to Drones*, 33 GA. ST. U. L. REV. 359, 384–86 (2017) (detailing the jurisdictional collision between state and federal rights to regulate low airspace). A Kansas man spotted a drone hovering outside his daughter's window and called police. *Id*. at 385. A drone in Miami spied on a woman breastfeeding on an apartment balcony, close enough for her to "swat." *Id*. A Seattle drone perched mid-air outside a woman's twenty-sixth floor apartment, watching her change clothes. *Id*. New York cops busted drones for using cameras to peek through windows of newspapers and medical facilities. *Id*. *See also* cases cited *infra* note 210 (citing federal cases involving drones). *See, e.g.*, Boggs v. Merideth, No. 3:16-CV-00006-TBR, 2017 WL 1088093 (W.D. Ky. Mar. 21, 2017) (finding lack of subject matter jurisdiction over a trespass to chattels claim involving a drone but still discussing drone aerial trespass as a potential counterclaim for the defendant).

136 *See* Rule, *Drone Zoning*, *supra* note 5, at 136–37, 140–41 (detailing various drone claims); Farber, *supra* note 135, at 385 (mentioning many reports of drones peeking through windows). *See also* Boggs v. Merideth, No. 3:16-CV-00006-TBR, at 15–16, 2017 WL 1088093 (W.D. Ky. Mar. 21, 2017) (explaining some difficulties with bringing drone aerial trespass, despite the cause of action being trespass to chattels). The court ultimately dismissed the claim for trespass to chattels for lack of subject matter jurisdiction but highlighted other issues like aerial trespass and whether property owners or the FAA hold rights to low airspace. *Id.* at 7–12, 15–16.

137 *See* Boggs v. Merideth, No. 3:16-CV-00006-TBR, at 1, 2017 WL 1088093 (W.D. Ky. Mar. 21, 2017) (explaining "Defendant Merideth shot down Boggs' unmanned aircraft, or 'drone,' with a shotgun"). Following the federal court ruling, Defendant Merideth nicknamed himself "the droneslayer" and sold shirts. *See* Miriam McNabb, *The Kentucky "Drone Slayer" Case Dismissed*, DRONE LIFE (Mar. 22, 2017), https://dronelife.com/2017/03/22/kentucky-drone-slayer-case-dismissed/ [https://perma.cc/LG3W-4PMK]. *See also* Miriam McNabb, *Drone Slayer T-shirt*, DRONE LIFE (Jan. 21, 2016), https://dronelife.com/2016/01/21/why-the-drone-slayer-matters/drone-slayer-t-shirt/ [https://perma.cc/NLE8-R55N] (providing a picture of the shirt, with the front saying "Team Willie," and the back saying "#DRONESLAYER" and "We the People . . . have had enough!").

138 *See* Complaint for Declaratory Judgment and Damages ¶ 3, Boggs v. Merideth, No. 3:16-CV-00006-TBR (W.D. Ky. Jan. 4, 2016). Boggs claims his "right to relief as well as the defendant's defenses, will necessarily require resolution of a substantial question of federal law," including "the boundaries of the airspace surrounding real property, the reasonable expectation of privacy as viewed from the air, and the right to damage or destroy an aircraft in-flight, in relation to the exclusive federal regulation and protection of air safety, air navigation, and control over the national airspace." *Id. See also id*. ¶ 12 (reporting that criminal charges were initially filed for "felony wanton endangerment and criminal mischief" but dismissed because "[d]efendant 'had a right to shoot' at the aircraft"). Boggs alleged the "aircraft" fell under federal laws and flew in United States jurisdiction, "not

court dismissed the complaint as a state tort claim cloaked by a federal question.[139]

Before dismissal, the court considered whether any federal issues lingered for Defendant Merideth.[140] After a quick glance at aerial trespass, the court found no federal question.[141] The court refused to draw a line between Merideth's property and federal airspace and determined that any drone aerial trespass claim would require showing the drone "unreasonabl[y] interfered with" the use of the property.[142] The court resisted the temptation to dive into aerial trespass but noted that the

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within Defendant's property." *Id.* ¶ 25(A), (C). Merideth did not address this argument, and the court found a response unnecessary because no subject matter jurisdiction existed. *See Boggs*, No. 3:16-CV-00006-TBR, at 6–7.

139 *See Boggs*, No. 3:16-CV-00006-TBR, at 5–6 (reiterating "a federal question must appear on the face of the complaint" (quoting Caterpillar Inc. v. Williams, 482 U.S. 386, 398–99 (1987))). The court found "the heart of Boggs' claim is one for damage to his unmanned aircraft under Kentucky state law." *Id.* at 10. Further, even if the drone was a federal aircraft flying in federal airspace, any relevant claims remain "garden-variety state tort" claims, and Boggs could not gain federal question jurisdiction by anticipating and rebutting Merideth's defense in the complaint. *See Boggs*, No. 3:16-CV-00006-TBR, at 7 (quoting Hampton v. R.J. Corman R.R. Switching Co., 683 F.3d 708, 712 (6th Cir. 2012)). *See also id.*, at 5–6 (finding "Boggs not only anticipates Merideth's potential defense that his conduct was privileged due to a need to protect his property, but [Boggs] goes one step further and anticipates his own response to that potential defense" (emphasis omitted)). The court continued that despite Boggs' claims the FAA governs his drone and the air involved, if the FAA has any interest, it is limited. *See id.* at 8 ("[A]lthough the FAA certainly has an interest in enforcing its regulations governing federal airspace, its interest in applying those regulations in the context of a state law tort claim for trespass to chattels is limited or nonexistent.").

140 *See* Boggs v. Merideth, No. 3:16-CV-00006-TBR, at 14, 2017 WL 1088093 (W.D. Ky. Mar. 21, 2017) ("With regard to potential coercive actions that Merideth could bring, two causes of action appear plausible to the Court based on the declaratory relief Boggs seeks."). The court found potential claims for "invasion of privacy and trespass, both tort claims under Kentucky law." *Id.*

141 *See Boggs*, No. 3:16-CV-00006-TBR, at 14, 16 ("Rather, these hypothetical [trespass and invasion of privacy] claims would sound in 'garden-variety state tort' law." (quoting *Hampton*, 683 F.3d at 712)). Generally, the court found drone tort claims were not federal court issues. *See id.*, at 9 (reporting that other federal courts "expressed serious skepticism as to whether all unmanned aircrafts are subject to FAA regulation" (quoting Huerta v. Haughwout, No. 3:16-cv-358 (JAM), 2016 WL 3919799, at *4 (D. Conn. July 18, 2016)).

142 *See* Boggs v. Merideth, No. 3:16-CV-00006-TBR, at 15–16 (W.D. Ky. Mar. 21, 2017) ("Specifically, as with Boggs' trespass to chattels claim, whether Boggs' aircraft was on Merideth's property or federal property is not significant to the federal system as a whole." (citing Gunn v. Minton, 133 S. Ct. 1059, 1066 (2013))). Most importantly, the court appeared to point at the *Restatement*, or at least common law aircraft trespass, by stating, "if a court determined that Boggs' aircraft was flying on Merideth's property, those claims would still require a determination of whether any such intrusion was 'unreasonable' or interfered with Merideth's possession or control of his land." *Compare id.*, at 15–16, *with* RESTATEMENT, *supra* note 7, § 159 (requiring aircraft trespass claims only if the aircraft invades the "immediate reaches" and "interferes substantially" with the property's use).

Restatement's aircraft trespass test places a burden on property owners launching aerial trespass claims.[143]

III. ANALYSIS

Courts must define aerial trespass to protect property owners from drone invasions.[144] Aerial trespass claims tank in courtrooms because the tests soar beyond basic trespass and crash near nuisance and taking.[145] Property rights are vanishing as new aerial trespass laws that require nuisance-type analysis replace basic trespass principles.[146] Part III.A takes off with the *Restatement*'s failure to cover drone aerial trespass.[147] Part III.B soars over states with drone aerial trespass statutes and through the holes in each.[148] Part III.C slices into pieces of aerial trespass tangled up in potential federal issues.[149]

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[143] *See supra* note 142 and accompanying text (highlighting how the court's language in *Boggs* clearly resembles the language used in the *Restatement*'s test for aircraft trespass). *See, e.g.*, *Boggs*, No. 3:16-CV-00006-TBR, at 15–16 (determining even if Boggs invaded Merideth's property, the drone must also unreasonably interfere with Merideth's use of his property).

[144] *See* Rule, *Drone Zoning*, *supra* note 5, at 170 (reporting that most states do not have laws defining property owner airspace to prevent unwanted drone invasions).

[145] *See supra* Parts II.A, II.C. *Compare* RESTATEMENT, *supra* note 7, § 158(a)–(c), cmt. c (defining basic trespass as intent to enter another's property without consent), *with* RESTATEMENT § 159(1)–(2) (providing a different test for aircraft trespass, which requires an invasion of the property's immediate reaches that substantially interferes with the use and enjoyment of property), *and* United States v. Causby, 328 U.S 256, 264–67 (1946) (finding aircraft that invaded immediate reaches and substantially interfered with property created a constitutional taking requiring just compensation), *and* JOHNSON, *supra* note 39, at 878 (distinguishing trespass from nuisance). While trespass and nuisance both protect land interests, trespass requires an entrance and does not require actual damages. JOHNSON, *supra* note 39, at 878. However, nuisance does not require an entrance and needs substantial harm. *Id*.

[146] *See* discussion *infra* Parts III.A–III.C (describing how trespass began as protecting a property owner's right to exclude, but today's aerial trespass tests give drones a privilege to invade private property); *supra* Part II.A (discussing the property column and its bundle of rights). For example, the *Restatement*'s aircraft trespass test uses a takings test used by the *Causby* Court in 1946. *See infra* Part III.A (applying the *Restatement*'s approach to aircraft trespass to drones). Furthermore, states writing aerial trespass statutes require the property owner to pursue and evict the drone pilot and require two invasions. *See infra* Part III.B (elaborating on state legislatures' one-free-pass and pursue-and-evict laws).

[147] *See infra* Part III.A (analyzing how the *Restatement*'s trespass tests fail to protect property owners from unwanted drone invasions because drones, as aircraft, require a heightened level of interference with property).

[148] *See infra* Part III.B (pointing out how state statutes addressing aerial trespass by drones fail to protect property owners from drones because height limitations are unclear and laws presume a privilege to invade property once and fall far from the traditional principles that defined trespass to protect the property owner's right to exclude).

[149] *See infra* Part III.C (describing why federal courts do not want drone aerial trespass claims, and the FAA is not authorized to write aerial trespass laws, despite claiming control over all the air and all the drones).

A. Drones Defeat Aerial Trespass under the Dull Axe of the Restatement

Drones beat both basic land trespass and aircraft trespass under the *Restatement* because drones are aircraft.[150] Trespass protects the right to exclude, so an unauthorized entrance creates a trespass.[151] However, entrance by an object and entrance by an aircraft receive different treatment.[152] While aerial invasions by objects like kites and balloons fall under basic land trespass, aerial invasions by drones fly into aircraft trespass.[153] Aircraft trespass requires a drone to invade the immediate reaches and substantially interfere with the property's use.[154] Drones do not fit into the aircraft trespass test because the test derives from a takings

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[150] The *Restatement* does not explicitly call drones aircraft. However, federal authorities consider drones aircraft. Similarly, state statutes, whether addressing drone aerial trespass or not, tend to agree that drones are aircraft. *See supra* note 123 and accompanying text (listing multiple federal authorities that define drones as aircraft).

[151] *See* JOHNSON, *supra* note 39, at 118–19 (defining trespass to land as "intentionally and without consent or privilege enter[ing] on, under, or above the land of another," and describing how the trespass elements rely on an initial entrance and only require an intent to enter the land, not an intent to trespass). *See also* discussion *supra* notes 33–38 (elaborating on the genesis of trespass, the bundle of sticks, and the right to exclude); discussion *supra* notes 115–18 (explaining how entrance is key to trespass because entrance encompasses both intent and lack of consent). Again, the *Restatement* clearly defines basic trespass to land. RESTATEMENT, *supra* note 7, § 158(a)–(c), cmt. c (stating trespass is intentionally entering, remaining, or failing to remove from land).

[152] *See supra* Section II.C.1 (discussing how drones are aircraft and subject to the *Restatement*'s aircraft trespass test, not the basic land trespass test). *See, e.g.*, RESTATEMENT, *supra* note 7, § 158, cmt. i (illustrating varying degrees of entry onto another's property that fall within the definition of trespass, including an object like a kite or balloon propelled over land); *id*. § 158, cmt. g (noting trespass includes aerial trespass and citing § 159 for aerial invasions); *id.* § 159 (defining aircraft trespass and using a different test than § 158 uses for objects like kites and balloons).

[153] *See supra* note 123 and accompanying text (supplying multiple federal and state authorities establishing drones as aircraft). *Compare* RESTATEMENT, *supra* note 7, § 158, cmt. i (illustrating various aerial invasions that create trespass without the actor physically entering the land, such as when the actor causes something else, like a balloon or kite, to enter the air above the land), *with* RESTATEMENT § 158, cmt. g (referring to § 159 for aerial trespass), *and* RESTATEMENT § 159(2) (applying a different trespass test for aircraft flying over property).

[154] *See supra* note 122 and accompanying text (discussing how a trespassing aircraft changes the test). *See, e.g.*, RESTATEMENT, *supra* note 7, § 159(1)–(2).

test that was first applied to a manned aircraft.[155] Thus, aircraft trespass requires a taking.[156] A trespass is not a taking.[157]

Property owners should not lose the right to keep drones off their property merely because a drone has not seriously and frequently invaded the property to the point that the invasion rises to a constitutional taking.[158] As an initial matter, immediate reaches remains undefined.[159] Furthermore, substantial interference blends nuisance with trespass—two

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[155] *See supra* Parts II.A, II.C. *Compare* United States v. Causby, 328 U.S. 256, 264–67 (1946) (holding planes flying over a farm that invaded the immediate reaches of the farm and substantially interfered with the use and enjoyment of property constituted a taking), *with* RESTATEMENT, *supra* note 7, § 159(1)–(2) (explaining aerial trespass and how aircraft invasions change the test), *and* RESTATEMENT § 159(2) (applying *Causby*'s immediate reaches and substantial interference elements as requirements for pursuing an aerial trespass claim against an aircraft).

[156] *Compare Causby*, 328 U.S. at 264–67 (finding a taking when planes flew into the immediate reaches of a chicken farm and substantially interfered with the farm's use), *with* RESTATEMENT, *supra* note 7, § 159(1)–(2) (requiring an aircraft to invade the immediate reaches and substantially interfere with the property's use to constitute an aircraft trespass).

[157] *See* SPRANKLING & COLETTA, *supra* note 24, at 49–58 (explaining that trespass allows the right to exclude others from property while taking establishes the right to keep and use property without the government seizing that property for public use without compensating the owner). A trespass is so far from a taking, the two are completely different chapters in the property playbook. *Id.* The reason for this takings test application may be that property rights collided with airspace in the 1940s and the two were never untangled. *See supra* Part II.A (elaborating on the collision between old English property rights that extended toward heaven and how planes trimmed those rights down to an undefined altitude today). Still, under aircraft trespass, theoretically, a single drone invasion must rise to a government-style taking of the property to create an actionable trespass. *Compare* U.S. CONST. amend. V (stating that private property taken for public use requires just compensation), *and* SPRANKLING & COLETTA, *supra* note 24, at 925 (pointing out that a taking is either seizing land for public use or seizing property by restricting the owner's rights), *with* RESTATEMENT, *supra* note 7, § 158(a)–(c), cmt. c (addressing trespass as intent to enter another's property without consent), *and* JOHNSON, *supra* note 39, at 118–19 (describing trespass as intentionally entering another's property without consent and that intent to enter only requires "intent to be present" on the property).

[158] *See* SPRANKLING & COLETTA, *supra* note 24, at 49–58 (differentiating between the right to use and exclude); *supra* notes 152–57 and accompanying text (comparing the *Restatement*'s test for aerial trespass by an aircraft to the takings test used in *Causby*). *See also infra* note 160 and accompanying text (splicing nuisance from trespass).

[159] *See* RESTATEMENT, *supra* note 7, § 159 cmt. *l* ("'Immediate reaches' of the land has not been defined as yet, except to mean that 'the aircraft flights were at such altitudes as to interfere substantially with the landowner's possession and use of the airspace above the surface.' No more definite line can be drawn than is suggested by the word 'immediate.'"). According to the *Restatement*, 500 feet is outside immediate reaches, fifty feet is inside immediate reaches, and middle measurements, like 150 feet, are unclear. *Id.*

claims that protect completely different property rights.[160] Fortunately, states are trying to sharpen these dull laws.[161]

B. Drones Beat Blacksmiths Inside State Legislatures

Drones avoid aerial trespass statutes because states with statutes align drone invasions with nuisance, not trespass.[162] States borrow broken *Restatement* rules instead of building from basic trespass laws designed to

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[160] *See* RESTATEMENT, *supra* note 7, § 159 cmt. m ("Even though the flight is not within the 'immediate reaches' of the air space, it may still unreasonably interfere with the use and enjoyment of the land. In such a case the liability will rest upon the basis of nuisance rather than trespass."). Trespass protects the right to exclude and is not limited to protecting only an owner's right to exclude nuisances. *See* JOHNSON, *supra* note 39, at 878 (discussing how trespass protects the right to exclude, while nuisance protects the right to use and enjoy property). Trespass and nuisance are further distinguishable because "[t]respass requires entry above, under, or onto the land in question, but typically does not require . . . actual damages." *Id*. On the other hand, nuisance "does not require entry, but substantial harm must be shown." *Id*. Absorbing aircraft trespass into nuisance would absorb part of the exclusion stick into part of the right-to-use stick, arguably destroying the most essential stick in the bundle of property rights. *See, e.g.*, *supra* notes 34–36 and accompanying text (explaining the bundle of sticks, including the right to use and exclude, and emphasizing the right to exclude as an essential stick). Even a leading expert in the field, Troy A. Rule, agrees that "most states rely upon vague, nuisance-like balancing tests to address conflicts between flying objects and landowners." Rule, *Drone Zoning*, *supra* note 5, at 170. *See also* Ian Ayres, *Protecting Property with Puts*, 32 VAL. U. L. REV. 793, 828–29 (1998) (calling nuisance "muddier" than trespass because nuisance requires "more of a cost-benefit" analysis, whereas trespass acts as a more "bright-line 'rule'").

[161] *See* NCSL, *supra* note 127 (offering a comprehensive list of recently passed drone legislation organized by state). *See infra* Part III.B (dissecting state statutes addressing drone aerial trespass). *See, e.g.*, NEV. REV. STAT. § 493.103 (providing statutory guidelines for aerial trespass); OR. REV. STAT. § 837.380 (listing elements similar to Nevada for aerial trespass claims).

[162] *See supra* note 160 and accompanying text (noting that trespass and nuisance protect different property rights and how experts agree that state statutes use tests similar to nuisance, not trespass). *See also* Rule, *Drone Zoning*, *supra* note 5, at 170 (finding many states use "vague, nuisance-like balancing tests to address conflicts between flying objects and landowners"); sources cited *supra* note 127 (providing multiple sources that cite state laws and local ordinances and explaining how some are not surviving judicial review). *See also, e.g.*, NEV. REV. STAT. § 493.103(1)(a)–(b) (requiring two drone invasions within 250 feet of the property before a property owner can sue for aerial trespass); OR. REV. STAT. § 837.380(1)(a)–(b) (stating a drone must invade another's property twice before an owner can sue for aerial trespass).

protect the right to exclude.[163] State laws: (1) lack intent; (2) dismiss consent; and (3) create aerial obstacle courses.[164]

First, aerial trespass statutes eliminate a crucial element from trespass: intent.[165] Trespass is an intentional tort and is immediately actionable.[166] However, aerial trespass statutes require two drone invasions, suggesting aerial trespass is not intentional until the second invasion.[167] Battery is not the second time you swing the bat.[168]

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[163] *See supra* Parts II.B, II.C. *Compare* NEV. REV. STAT. § 493.103(1)(a)–(b) (defining aerial trespass as a 250-foot invasion that occurs twice and the property owner must notify the drone pilot to stop flying over the land), *and* RESTATEMENT, *supra* note 7, § 159(2)(a)–(b) (describing aircraft trespass as an invasion of immediate reaches that substantially interferes with use and enjoyment of property), *with* SPRANKLING & COLETTA, *supra* note 24, at 49–50 (explaining that property owners use trespass to protect the right to exclude and any intentional entry without consent constitutes trespass), *and* RESTATEMENT § 158, cmt. c (noting any invasion without consent creates a trespass).

[164] *See* discussion *infra* notes 165–184 (arguing aerial trespass statutes remove intent and consent from basic trespass by requiring two drone invasions and a hostile showing by the property owner, and statutes add vague flight floors and conflicting rules and exceptions).

[165] *See supra* note 128 and accompanying text (discussing Nevada and Oregon statutes defining drone aerial trespass and mentioning that experts routinely cite to both state statutes). *See, e.g.*, NEV. REV. STAT. § 493.103(1)(a)–(b) (defining drone trespass as an invasion within 250 feet above the property after the drone operator previously invaded the property and the property owner told the drone operator to stop).

[166] *See* JOHNSON, *supra* note 39, at 43, 118 (defining trespass to land, including above the land, as a basic intentional tort and that satisfying intent only requires an "intent to be present," not intent to trespass); SPRANKLING & COLETTA, *supra* note 24, at 50 (finding "the defendant acts *intentionally* if he voluntarily enters onto the land," regardless of intent to trespass, bad faith, or good faith). *See also* RESTATEMENT, *supra* note 7, § 7 cmt. a (reporting "any intrusion upon land in the possession of another is an injury, and, if not privileged, gives rise to a cause of action").

[167] *See supra* note 128 and accompanying text. *See, e.g.*, NEV. REV. STAT. § 493.103(1)(a). Thus, aerial trespass statutes, at minimum, lower the traditional trespass intent requirement from intentional to reckless, if not completely reframe the analysis to that of nuisance. *Compare* RESTATEMENT, *supra* note 7, § 158 (stating that the intentional tort of trespass only requires a one-time intentional entry upon land without consent), *with* JOHNSON, *supra* note 39, at 17 (describing reckless tortious conduct as either heightened lack of care or conscious indifference), *and* JOHNSON, *supra* note 39, at 878 (discussing the difference between nuisance, which protects the right to use and enjoy property and requires substantial harm, and trespass).

[168] *See* RESTATEMENT, *supra* note 7, § 8A cmt. a (explaining intent as a "reference to the consequences of an act rather than the act itself"). *See, e.g.*, JOHNSON, *supra* note 39, at 58 (describing battery as intentional, harmful, unconsented, bodily contact). For example, hitting a drone pilot with a baseball bat one time is still actionable battery after the first swing, regardless of the number of subsequent swings taken. *Compare id.* (drawing a comparison between trespass and battery as both being immediately actionable), *with supra* Part I (referencing a drone pilot flying a drone over sunbathing girls). Similarly, one air invasion should create an actionable trespass, regardless of the number of subsequent invasions or property owner actions following the first invasion.

Second, aerial trespass statutes erase consent.[169] By requiring the property owner to pursue and evict the drone pilot after one invasion, and demanding a subsequent invasion, statutes hand drones a free pass to invade property.[170] Free pass laws grant drones invasion privileges until property owners exhibit hostile showings over their own property.[171] Allowing drones an automatic privilege to hover over each house on the block until told otherwise defies trespass by violating the right to exclude.[172] Trespass is intent to enter the property, period.[173] Trespass is not intent to enter after entering once and getting chased off.[174] Free pass laws contradict traditional consent requirements by taking privileges from the hands of property owners.[175]

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169 *See, e.g.*, NEV. REV. STAT. § 493.103(1)(a)–(b) (finding actionable aerial trespass if a drone flew over property "on at least one previous occasion" and the property owner "notified the owner or operator of the unmanned aerial vehicle that the [property owner] did not authorize the flight of the [drone] over the property at a height of less than 250 feet"); OR. REV. STAT. § 837.380(1)(a)–(b) (requiring, after one prior invasion, the property owner to "notif[y] the owner or operator of the unmanned aircraft system that the [property owner] d[oes] not want the unmanned aircraft system flown over the property"). Trespass involves an "intrusion" or an invasion without consent. RESTATEMENT, *supra* note 7, § 158, cmt. c. State statutes replace consent with a statutory privilege for drones traditionally given by "the possessor of land," not by state law. *Id*.

170 After one invasion, states require the property owner to find the owner of the drone and tell the pilot not to fly over the property anymore. *See* sources cited *supra* note 169 (reporting that state statutes grant drones a privilege to invade property until the property owner tells the drone pilot otherwise).

171 State statutes that require the property owner to hunt down the drone pilot to exclude the drone from the property effectively asks the property owner to show the adverse and hostile element of adverse possession. *Compare* NEV. REV. STAT. § 493.103(1)(a)–(b) (requiring the property owner to inform the drone pilot that flying is forbidden above the property), *with* SPRANKLING & COLETTA, *supra* note 24, at 116 (stating that some courts require adverse possessors to show "a claim of right" to gain title to the land to fulfill the element of adverse and hostile).

172 *See supra* notes 36–38 and accompanying text (discussing the right to exclude as one of the essential sticks in a property owner's bundle of rights).

173 *See* JOHNSON, *supra* note 39, at 119 (explaining that mistaken entry is no defense to trespass because intent to be present on the land is all that is necessary).

174 *See, e.g.*, Jacque v. Steenberg Homes, Inc., 563 N.W.2d 154, 157, 159–60 (Wis. 1997) (finding punitive damages were not excessive when a business delivered a mobile home across private property, after the property owners told the business not to cross the property, because the right to exclude is "one of the most essential sticks in the bundle of rights that are commonly characterized as property" and exclusive enjoyment of property is a constitutional right).

175 *See* RESTATEMENT, *supra* note 7, § 158 cmt. i ("Thus, in the absence of the possessor's consent . . . it is an actionable trespass to throw rubbish on another's land, even though he himself uses it as a dump heap, or to fire projectiles or to fly an advertising kite or balloon through the air above it, even though no harm is done to the land or to the possessor's enjoyment of it."). *See also id*. § 158 cmt. c (describing the traditional no consent rule).

Finally, state statutes create aerial obstacle courses.[176] First, states replace the *Restatement*'s "immediate reaches" with equally vague phrases like "over the property" and within a "structure," without clarifying the exact point a drone pierces the property and creates an invasion.[177]

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[176] *See* Final Rule, *supra* note 98, at 42,194 (suggesting states consult the FAA before writing flight altitude restrictions because airspace may become unsafe otherwise). For example, the FAA's drone dome allows drones (purportedly commercial drones) to fly anywhere, up to "400 feet above ground level, unless the [drone]" flies within 400 feet "of a structure" and stays within 400 feet of "the structure's immediate uppermost limit." 14 C.F.R. § 107.51(b)(1)–(2) (2016). Utah uses similar language, deferring to FAA regulations for commercial drones, and only restricting hobby drones from flying "at an altitude that is higher than 400 feet above ground level." UTAH CODE ANN. §§ 72–14–104, 403(7)(a)–(b) (effective May 9, 2017). Basically, Utah drones can fly within 400 feet of the ground, but if the drone gets close to a structure, the drone needs to fly higher, but not too high. *Id*. Nevada, on the other hand, places a hardline flight floor "250 feet over the property" to insulate property owners. NEV. REV. STAT. § 493.103(1)(a)–(b). However, if the drone is a commercial drone, Nevada allows the commercial drone to fly over private property if the use is within the scope of the business and "does not unreasonably interfere with the existing use of the real property." NEV. REV. STAT. § 493.103(2)(d)(3). Thus, a drone flying across the Utah-Nevada border must figure out if it qualifies as a commercial drone, which gains a more flexible flight path so long as the drone avoids every "structure" within 400 feet of the flight path—any structures require the drone fly higher in Utah, but not Nevada. UTAH CODE ANN. § 72–14–104; NEV. REV. STAT. § 493.103(2)(d). However, if the drone pilot determines the drone is not a commercial drone and must comply with hobby drone flight rules, the drone must bob and weave through these conflicting statutory altitudes and stay within 400 feet of the ground or a structure while in Utah but must adjust to an altitude of 250 feet above the ground the moment it crosses into Nevada. UTAH CODE ANN. § 72–14–403(7)(a)–(b); NEV. REV. STAT. § 493.103(1)(a)–(b). Additionally, other states define commercial purposes differently, and may require similar acrobatic maneuvers. *See* ARIZ. REV. STAT. ANN. § 13–3729(F)(2) (declaring "[c]ommercial purpose[]" as any drone use "for financial compensation and includes aerial photography, aerial mapping or geospatial imaging" under Arizona's criminal statute prohibiting certain operations); CAL. CIV. CODE § 1708.8(a), (b), (d), (k) (Westlaw through 2018) (defining commercial purpose as "any act done with the expectation of a sale, financial gain, or other consideration" including images, sounds, or other physical impressions "intended to be, or was in fact sold, published, or transmitted," and any commercial drone invasion results in heightened fines); TEX. GOV'T CODE ANN. § 423.002(a) (effective Sept. 1, 2017) (enumerating several permissible commercial and public uses for drone imaging including education, military, mapping, utility, law enforcement, government, disaster, rescue, real estate, port surveillance and security, land survey, engineering practices, insurance, and any use approved by the FAA); OR. REV. STAT. § 837.380(3) (deferring all permissible "commercial purposes" drone uses to those permitted by the FAA). *See also* Ricker, *supra* note 127, at 62 (explaining the variance in over 280 state and local drone regulation bills proposed in 2016 may lead to unsafe use of airspace). Some states still lack aerial trespass statutes. *See, e.g.*, R.I. GEN. LAWS § 1–8–1 (stating, generally, that Rhode Island has "exclusive legal authority to regulate [drones]," without specifying any rights for property owners against unwanted drone invasions or any other causes of action). For more state differences, see Rupprecht, *supra* note 133 (providing a comprehensive list of state drone statutes on an interactive website).

[177] *See* OR. REV. STAT. § 837.380(1)(a)–(b) (preventing drones from flying "over the property" without pinpointing "property"). States writing flight floors failed to define if the flight floor starts from the ground, the house, the immediate reaches, or the tallest tree. *Id*.

Second, contradicting state flight floors require interstate drones to perform aerial gymnastics.[178] When flight floors vary, efficient aerial

(failing to clarify limits on flight altitude restrictions above property); UTAH CODE ANN. § 72–14–403(7)(a)–(b) (allowing flight within 400 feet of a structure, without defining structure); NEV. REV. STAT. § 493.103(1)(a)–(b) (requiring an invasion "250 feet over the property" without defining if property means the ground or includes a structure or tree). Nevada provides a flight floor of "250 feet over the property," but the exact measuring point is unclear. *Id.* Thus, aerial trespass statutes leave the same gaping definitional holes as the *Restatement*. *See* RESTATEMENT, *supra* note 7, § 159 cmt. *l* (noting "immediate reaches" remains undefined, but "flight at 500 feet or more above the surface is not within the 'immediate reaches,' while flight within 50 feet, which interferes with actual use, clearly is, and flight within 150 feet, which also so interferes, may present a question of fact"). Placing a vertical height restriction requires connecting the line between a trespassing drone and the invaded property. *See* Rule, *Airspace in an Age of Drones*, *supra* note 23, at 188 (discussing how laws need to define low-altitude property rights to "simplify aerial trespass and takings claims involving drones"). *See* BLACKSTONE, *supra* note 38, at 209–10 (calling every unauthorized entry onto property actionable for breaching the property owner's "close"). *See, e.g.*, Farber, *supra* note 135, at 385 (reporting a Seattle woman "saw a drone hovering outside her window on the twenty-sixth floor while she was getting dressed"). For example, if a 100-foot flight floor began at ground level, a resident on the twenty-fifth floor would have no protection against aerial trespass. *Id.* The FAA defines an obstruction as "[a]ny object of natural growth, terrain, or permanent or temporary construction or alteration, including equipment or materials used and any permanent or temporary apparatus," and includes alterations to any of those obstructions. 14 C.F.R. § 77.13 (2016). States could use the FAA's definition for obstruction to clarify structure for the purposes of aerial trespass while showing deference to the FAA. *Id. See, e.g.*, Final Rule, *supra* note 98, at 42,194 (warning states to consult the FAA before writing low-altitude laws). Regardless, flight floors need precision to clarify property rights and filter claims from polluting courtrooms. *See* Rule, *Airspace in an Age of Drones*, *supra* note 23, at 188 (explaining the need for more precise lines between property rights and federal airspace, which may need to extend up to 500 feet, or navigable airspace, although this article was published before Part 107). Professor Rule provides an excellent example of a futuristic look at some advanced altitude restrictions that include city, state, and federal jurisdictions, as well as variations for rural and urban areas. *See, e.g.*, Rule, *Drone Zoning*, *supra* note 5, at 161–84. For instance, in large cities, states may decide to implement a block-by-block approach and prohibit drone flight on certain high-rise blocks. *Id.* As Professor Rule points out, flight heights for drones will certainly vary depending on topographic composition of the state or city. *Id.*

[178] *See* FEDERAL AVIATION ADMINISTRATION, STATE AND LOCAL REGULATION OF UNMANNED AIRCRAFT SYSTEMS (UAS) FACT SHEET (Dec. 17, 2015), https://www.faa.gov/uas/resources/uas_regulations_policy/media/uas_fact_sheet_final.pdf [https://perma.cc/VP53-2PWW] (reasoning "[s]ubstantial air safety issues are raised when state or local governments attempt to regulate the operation or flight of aircraft" and such "fractionalized control of the navigable airspace" could result in a "'patchwork quilt' of differing restrictions [that] could severely limit the flexibility of FAA in controlling the airspace and flight patterns, and ensuring safety and an efficient air traffic flow"). *See also* Rule, *Drone Zoning*, *supra* note 5, at 151, 155 (citing the FAA's "patchwork quilt" theory and later arguing that drone regulations varying across localities may be similar to the standard variance in local traffic laws for automobiles).

navigation becomes impossible.[179] The result creates an aerial obstacle course for drones that parallels aeromodelling.[180]

Part III has officially gone from basic trespass to aeromodelling.[181] Aerial trespass is not rocket science and should not inflate trespass laws to require a taking, force a hostile showing by the property owner, or give drones a privilege to invade.[182] Yet both state statutes and the *Restatement* fail to leave property owners space to swing their exclusion sticks.[183] With

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[179] *See supra* note 176 and accompanying text (explaining how a drone may need to maneuver to higher altitudes upon crossing state borders where flight floors and structural restrictions vary). States will likely puzzle different regulations and flight floors together because state topographies, populations, and industries are unique. *See* Connot & Zummo, *supra* note 24, at 16 (arguing states, not the federal government, must address certain drone operations based on the unique characteristics of each state, like topography and whether the cities within states are more rural or urban). However, a more manageable approach may exist. *See, e.g.*, Rule, *Drone Zoning*, *supra* note 5, at 161–85 (breaking down a comprehensive plan that allows federal, state, and local governments to share airspace in a detailed drone regulation system); Kelsey Atherton, *The Future of Urban Planning: Zoning for Drones*, POPULAR SCI. (Aug. 22, 2014), https://www.popsci.com/article/technology/future-urban-planning-zoning-drones [https://perma.cc/AEV3-YVRK] (citing an example from urban designer, Mitchell Sipus, of what Chicago would look like if drones were regulated like traffic, using color-coded flying zones).

[180] *See* Ricker, *supra* note 127, at 63 (pointing out aeromodelling, the newest extreme sport). Aeromodelling involves racing drones through airborne obstacle courses at speeds reaching eighty miles per hour. *Compare* Ricker, *supra* note 127, at 63 (discussing various uses for drones, including racing them through obstacle courses), *with supra* note 176 and accompanying text (describing situations in which different drones flying across state borders will need to change altitudes depending on the drone's classification and the type of property and structures the drone flies above).

[181] *Compare supra* Part III.A (describing basic trespass), *with infra* Section III.C.2 (determining flaws in state laws regulating drones, ultimately leading to comparing state statutes to aerial obstacle courses).

[182] *Compare* RESTATEMENT, *supra* note 7, § 158 (outlining basic trespass), *with* RESTATEMENT § 159 (detailing requirements for invasions of air above land, which include entering the immediate reaches of land and causing substantial interference with the land), *and* NEV. REV. STAT. § 493.103(1)(a)–(b) (requiring an invasion within 250 feet above the property, the property owner to notify the drone pilot not to enter the property owner's airspace, and the drone pilot to invade the property owner's airspace again).

[183] *See supra* Parts III.A, III.B (pointing out problems with both the *Restatement* and state statutes addressing drone aerial trespass). However, blaming these sources is premature because virtually no drone case law exists for either the *Restatement* or state legislatures to build a definition for drone aerial trespass. *See* Rule, *Drone Zoning*, *supra* note 5, at 180–81 (describing the fast pace of drone technology, which creates problems that traditional laws cannot handle, and even some new "aerial trespass laws or other airspace rights statutes . . . only offer limited" property rights). Furthermore, states remain somewhat shackled by the FAA's claim of "regulatory sovereignty over every cubic inch of outdoor air in the United States." *See* Huerta v. Haughwout, No. 3:16-cv-358 (JAM), 2016 WL 3919799, at *4 (D. Conn. July 18, 2016); sources cited *supra* note 56.

state options closed, property owners may need to pursue federal avenues.[184]

C. Federal Avenues Shielding Property Owners From Aerial Trespass Claims

Knowing state roads lead to dead ends, property owners could embark on a federal journey to sue an aerial trespassing drone.[185] But federal roads are dead ends, too.[186] While Congress claimed United States air and gave the FAA regulatory authority, the agency's authority is not absolute.[187] The FAA cannot regulate every inch of airspace or every aircraft.[188] Furthermore, the FAA cannot write tort law.[189]

Federal avenues fail for three reasons.[190] First, the FAA cannot regulate every inch of air because reachable air belongs to the landowner.[191] Second, the FAA cannot regulate every aircraft because

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184 *See infra* Part III.C.

185 *See supra* Parts III.A, III.B (analyzing why *Restatement* aerial trespass and state statutes addressing drone aerial trespass fail to protect property owners from unwanted drone invasions).

186 *See infra* Section III.C.1 (arguing the FAA cannot regulate all air); *infra* Section III.C.2 (examining why the FAA cannot regulate all drones); *infra* Section III.C.3 (explaining federal courts do not want drone aerial trespass claims).

187 *See* 49 U.S.C. § 40103(a)(1), (b)(1) (2012) (stating the federal government "has exclusive sovereignty of airspace of the United States," and delegating authority to the FAA to develop plans for use of navigable airspace, regulate airspace for safety, and ensure efficient use of airspace); DOLAN & THOMPSON, *supra* note 5, at 22 ("It is well settled that agencies do not wield inherent powers, and that any authority they do have must be delegated by Congress."). *See also* sources cited *supra* note 56 (quoting multiple authorities that question exactly how expansive Congress intended FAA regulatory authority to reach regarding airspace control).

188 *See infra* Sections III.C.1, III.C.2 (explaining the FAA lacks authority over hobby drones and "immediate reaches" air). *See, e.g.*, FMRA, *supra* note 69, § 336(a) (limiting the FAA from regulating hobby drones); United States v. Causby, 328 U.S. 256, 264 (1946) (granting property owners "exclusive control of the immediate reaches" airspace to fully enjoy their land).

189 *See* sources cited *supra* note 187 (enumerating duties Congress gave the FAA and stating an agency's authority is limited to the regulatory powers Congress delegates under statute). *See also* Sharkey, *supra* note 57, at 1706–07, 1710–25, 1734, 1738–40 (discussing Supreme Court opinions on administrative agencies acting as legislative bodies, concerns with administrative law replacing common law, and suggesting courts may need to work with agencies to fix common law collisions with regulations).

190 *See infra* Sections III.C.1–C.3.

191 *See infra* Section III.C.1 (analyzing the distinction between property and federal airspace). *See, e.g.*, *Causby*, 328 U.S. at 264 (granting property owner's "exclusive control of the immediate reaches").

FMRA places limits on hobby drones.[192] Finally, drone tort claims simply do not belong in federal court.[193]

1. Reachable Air

The FAA cannot regulate every inch of air because reachable air belongs to the landowner.[194] Above each piece of land sits a block of air for the landowner to use.[195] This block of air, or reachable air, attaches to the land as part of the whole property and absorbs its protections.[196]

The FAA claims power over all United States air and warns states that writing aerial trespass laws interferes with the FAA's federal airspace.[197] However, trespass laws protect property.[198] If property includes land and reachable air, then aerial trespass laws protect reachable air.[199] Reachable

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192 *See infra* Section III.C.2.

193 *See infra* Section III.C.3. *See, e.g.*, Boggs v. Merideth, No. 3:16-CV-00006-TBR, 2017 WL 1088093 (W.D. Ky. Mar. 21, 2017) (finding a trespass to chattels complaint, when defendant shot plaintiff's drone from the sky, belonged in state court because the core of the issue was state tort law).

194 *See* United States v. Causby, 328 U.S. 256, 264 (1946) ("Yet it is obvious that if the landowner is to have full enjoyment of the land, he must have exclusive control of the immediate reaches of the enveloping atmosphere. . . . The landowner owns at least as much of the space above the ground as he can occupy or use in connection with the land.").

195 *See id.*

196 *See id*. at 264–67. The *Causby* Court coined this block of air the "immediate reaches," defining it as "superadjacent airspace at [a] low altitude" that a landowner "can occupy or use in connection with the land." *Id*. at 264–65. In other words, the usable low altitude air that sits on top of the land belongs to the property owner. *Id*.

197 *See* Huerta v. Haughwout, No. 3:16-cv-358 (JAM), 2016 WL 3919799, at *4 (D. Conn. July 18, 2016) ("It appears from oral argument as well as from the FAA's website that the FAA believes it has regulatory sovereignty over every cubic inch of outdoor air in the United States (or at least over any airborne objects therein)."). *See also* Final Rule, *supra* note 98, at 42,194 (determining "[s]ubstantial air safety issues are implicated when State or local governments attempt to regulate [drones]," and to keep federal airspace safe, "[f]or example, consultation with the FAA is recommended when State or local governments enact [drone] restrictions on flight altitude, flight paths; operational bans; or any regulation of navigable airspace"); *id*. at 42,119 ("With regard to property rights, trespassing on property (as opposed to flying in the airspace above a piece of property) without the owner's permission may be addressed by State and local trespassing law.").

198 *See supra* Part II.A (describing the right to exclude and how property owners exercise this right with trespass claims). *See also* SPRANKLING & COLETTA, *supra* note 24, at 49 (explaining that property owners use trespass laws to protect a property owner's right to exclude).

199 *See Causby*, 328 U.S. at 265 ("The superadjacent airspace at this low altitude is so close to the land that continuous invasions of it affect the use of the surface of the land itself. We think that the landowner, as an incident to his ownership, has a claim to it and that invasions of it are in the same category as invasions of the surface."). If trespass laws protect the right to exclude, and property owners possess the immediate reaches, then trespass extends to the immediate reaches, thereby allowing trespass for invasions of the immediate reaches. *Id*. *See also supra* Part II.A (explaining the bundle of rights that comes with property); *supra* notes

air does not float in federal airspace.[200] Instead, reachable air sinks below federal air and anchors to the ground as part of the landowner's property.[201] Thus, the FAA cannot regulate every inch of air because reachable air belongs to the landowner, not the federal government.[202]

2. Unreachable Aircraft

The FAA cannot regulate every aircraft because FMRA limits the FAA's authority over hobby drones.[203] Congress left a safety net for the FAA to snare high-flying hobby drones, but the FAA claims the safety net can reach down into low-altitude airspace and catch low-flying hobby drones.[204] However, courts have found statutory language clear enough

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195–96 and accompanying text (defining property as including both the land and the block of air on top of the land).

200 *See* United States v. Causby, 328 U.S. 256, 264 (1946). In fact, the Court found federal government planes infringing on the property owner's airspace amounted to a Constitutional taking. *Id*. at 267.

201 *See id*. at 264; *Haughwout*, 2016 WL 3919799, at *5 (quoting *Causby* for giving property owners' some airspace but failing to rule on whether the FAA should control property owner airspace when objects fly through it because the issue was not relevant in resolving the case). Trespass protects a property owner's right to exclude. SPRANKLING & COLETTA, *supra* note 24, at 49. Drones that trespass infringe on a property owner's right to exclude by invading the property's air. *Id*. Thus, a drone commits aerial trespass by invading private property, not federal airspace. *Id*. Absent more facts that make national airspace (air 500 feet above ground) unsafe, aerial trespass does not ring any federal bells. *See also* Farber, *supra* note 135, at 382–84 (reporting the FAA's definition for navigable airspace covers air within 500 feet of the ground). *Compare* 49 U.S.C. § 40103(b)(1) (2012) (providing the federal government with control over United States air, and tasking the FAA with regulatory duties), *with Causby*, 328 U.S. at 264–67 (allowing the property owner to keep reachable air under traditional property use and exclusion purposes), *and* IND. CODE § 8–21–4–3 (stating "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").

202 *See Causby*, 328 U.S. at 264 (extending property owner exclusion rights to the "immediate reaches" airspace); SPRANKLING & COLETTA, *supra* note 24, at 49 (stating trespass protects the right to exclude). *See also* Farber, *supra* note 135, at 382–84 (explaining that most drones fly within 500 of the ground).

203 *See supra* Section II.B.2; *supra* note 71 and accompanying text. *See, e.g.*, FMRA, *supra* note 69, § 336(a) (preventing the FAA from applying rules and regulations to hobby drones).

204 According to Congress, drones that fit into the hobby drone definition and pass the hobby drone test avoid FAA regulations. *See* FMRA, *supra* note 69, § 336(a), (c) (enumerating the hobby drone definition and test). However, Congress also gave the FAA a safety net to snare hobby drones "who endanger the safety of the national airspace system." *Id*. § 336(b). While Congress likely left the safety net to attack drones flying in high altitude airspace, the FAA interpreted the safety net's scope to include low-altitude airspace too. *See* FAA INTERPRETATION, *supra* note 71, at 14–15 ("For example, the FAA regulates low-altitude operations to protect people and property on the ground."); Final Rule, *supra* note 98, at 42,194 (suggesting states ask the FAA before enacting low-altitude airspace laws). The actual text of the statute's safety net reads, "Nothing in this section shall be construed to limit the authority of the Administrator to pursue enforcement action against persons operating

to avoid deferring to the FAA's broad interpretation.[205] For example, *Taylor* torpedoed the FAA's argument that the safety net allowed hobby

model aircraft who endanger the safety of the national airspace system." FMRA § 336(b). However, Congress buried the safety net in section (b) between the hobby drone test in section (a) and the hobby drone definition in section (c). *Id*. § 336(a), (c). Under a plain text reading of section (b), Congress may have merely intended to authorize the FAA to chase mischievous and dangerous hobby drone pilots into court. *Id*. § 336(b). Or maybe the FAA's broad interpretation is correct, and Congress meant to give the FAA authority to write general laws for all drones and merely refrain from specifically targeting hobby drones. *See* FAA INTERPRETATION, *supra* note 71, at 7 ("The statute does not require FAA to exempt model aircraft from [safety and security] rules because those rules are not specifically regarding [hobby drones]."). The FAA used the Special Rule's safety net as a platform for applying the Final Rule to hobby drones. *See* Final Rule, *supra* note 98, at 42,194 (applying the Final Rule to hobby drones for national airspace safety purposes). In the Final Rule, the FAA also used "safety concerns" to justify telling states to consult the FAA before writing any aerial trespass laws. *See id*. at 42,064 (using the safety net to prevent states from writing aerial trespass laws without first consulting the FAA). The FAA is no stranger to uniquely interpreting congressional laws that intend to limit the FAA's regulatory authority. *See* sources cited *supra* note 56. According to the FAA, the Special Rule allows the FAA to continue writing general safety laws for all aircraft, including hobby drones. *See* FAA INTERPRETATION, *supra* note 71, at 7 ("Thus, the rulemaking prohibition would not apply in the case of general rules that the FAA may issue or modify that apply to all aircraft, such as rules addressing the use of airspace [] for safety or security reasons."). Thus, the Special Rule would only prevent the FAA from writing laws that specifically target hobby drones. *See id*. (claiming "the prohibition against future rulemaking is not a complete bar on rulemaking that may have an effect on [hobby drones] . . . the rulemaking limitation applies only to rulemaking actions specifically 'regarding a [hobby drone]'"). The FAA reasoned that keeping national airspace safe includes protecting property owners, thus FAA regulations still touch hobby drones that threaten the safety of property owners. *See id*. at 14–15 ("As demonstrated by the FAA's statutory and regulatory authorities, our charge to protect the safety of the NAS is . . . intended to protect . . . persons and property on the ground.").

[205] The actual text of FMRA states, "[T]he Administrator of the [FAA] may not promulgate any rule or regulation regarding a [hobby drone], or an aircraft being developed as a [hobby drone]." FMRA, *supra* note 69, § 336(a). Presumably, courts have found congressional intent clear enough to avoid *Chevron* analysis. *See* Taylor v. Huerta, 856 F.3d 1089, 1092–94 (D.C. Cir. 2017) (finding FMRA prohibits the FAA from writing rules that apply to hobby drones, the FAA's Registration Rule applied to hobby drones, thus was unlawful, and that "[s]tatutory interpretation does not get much simpler"); Chevron, U.S.A., Inc. v. Nat. Res. Def. Council, Inc., 467 U.S. 837, 842–46 (1984) (determining that administrative agencies interpreting a statute must first defer to clear Congressional intent, but if Congress leaves "a gap for the agency to fill," then courts must accept an agency's reasonable statutory interpretation). *Compare* FAA INTERPRETATION, *supra* note 71, at 7, 14–15 (interpreting FMRA as allowing the FAA to write general safety laws that apply to hobby drones as well as any safety laws, including potential aerial trespass laws, to keep property owners safe), *with* Boggs v. Merideth, No. 3:16-CV-00006-TBR, at 8, 2017 WL 1088093 (W.D. Ky. Mar. 21, 2017) ("[A]lthough the FAA certainly has an interest in enforcing its regulations governing federal airspace, its interest in applying those regulations in the context of a state law tort claim for trespass to chattels is limited or nonexistent."), *and* Huerta v. Haughwout, No. 3:16-cv-358 (JAM), 2016 WL 3919799, at *4 (D. Conn. July 18, 2016) (stating "[n]o clause in the Constitution vests the federal government with a general police power over all of the air or all objects that leave the ground," and "it is far from clear that Congress intends—or could

drone regulations, holding the hobby drone Registration Rule violated FMRA.[206]

Furthermore, the FAA's Special Rule interpretation wreaks havoc on property owners inside America's drone dome by creating a hybrid class of drones that lands between hobby and civil drones.[207] First, the FAA's approach forces some hobby drones to comply with unnecessary regulations.[208] Second, the FAA's approach opens backdoor channels to

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constitutionally intend—to regulate all that is airborne on one's own property and that poses no plausible threat to or substantial effect on air transport or interstate commerce in general"), *and Taylor*, 856 F.3d at 1093–94 (holding "[t]he FAA's Registration Rule violates Section 336 of the [FMRA]" because the Special Rule "prohibits the FAA from promulgating 'any rule or regulation regarding a model aircraft[,]'" thus, a drone registration rule is "unlawful to the extent that it applies to model aircraft").

[206] *See Taylor*, 856 F.3d at 1093 (invalidating the FAA's argument that a rule requiring hobby drones to register is not a rule and even if it is, the safety net allows the FAA to demand hobby drone registration). According to the court, "[s]tatutory interpretation does not get much simpler." *Id*. at 1092 (citing FMRA § 336).

[207] Drone clarification placed drones into three categories: government (public) drones, commercial (civil) drones, and model aircraft (hobby drones). *See* Drone Clarification, *supra* note 65, at 6689–90 (specifying which regulations apply to each drone class). According to the FAA's FMRA interpretation, some drones fall into a fourth category of "Not Hobby" drones (or at least a broader category of drones). FAA INTERPRETATION, *supra* note 71, at 11. These hybrid drones are not used commercially but must comply with FAA rules, registrations, and regulations. *See id*. at 10 (calling the use "incidental to a person's business," and "[a]lthough they are not commercial operations conducted for compensation or hire," they still "do not qualify as a hobby or recreation flight because of the [business] nexus . . . "). The FAA asserts that hobby drones that fail either the hobby drone test or the hobby drone definition "are nonetheless unmanned aircraft, and as such, are subject to all existing [and future] FAA regulations . . . and the FAA intends to apply its regulations to such unmanned aircraft." *Id*. at 6–7. Thus, once a drone leaves visual line of sight, it qualifies as an "operation not conducted strictly for hobby or recreation purposes," and qualifies as a hybrid drone, subject to FAA rules and regulations. *Id*. at 8–10.

[208] Some hobby drones that have no need for commercial benefits, like those granted in Part 107, will have to pay a fee, register will the FAA, and comply with FAA regulations. *See* FAA INTERPRETATION, *supra* note 71, at 6–11 (describing how some noncommercial uses are not hobby uses and qualify as a "Not-Hobby" use subject to FAA regulations); *supra* Section II.B.3 (discussing how Part 107 created a drone dome inside America, granting all-access passes for qualifying drones to fly anywhere within 400 feet of the ground). For example, flying a drone to check crops in a field for personal use qualifies as a hobby drone according to the FAA. FAA INTERPRETATION, *supra* note 71, at 11. However, a person flying a drone to check crops in a field that belong to a farming operation is not a hobby use. *Id*. The FAA does not specifically call the use commercial, but simply labels it "Not Hobby." *Id*. Thus, small farmers using drones to check fields are hybrid drones, according to the FAA, and need to comply with FAA fees and regulations because the drone is "incidental[ly]" used to make a profit on those crops. *Id*. at 10. These small farmers will have access to the commercial drone dome and will need to pay fees, despite having no need for most commercial benefits and reaping no direct commercial profit from the drone's use. *Compare* Final Rule, *supra* note 98, at 42,064 (offering explanations for Part 107), *and* 14 C.F.R. § 107 (2017) (regulating drone dome qualifiers), *with* FAA INTERPRETATION, *supra* note 71, at 11 (illustrating some drones may not be commercial but must register and comply with FAA regulations).

the drone dome, handing out drone dome passes to hobby-like drones with no substantial commercial use.[209] More courts must check the FAA's

[209] Some hobby drone pilots may want the benefits of the commercial drone dome and could qualify as a hybrid drone by claiming incidental business use, despite having no commercial purpose. *See* 14 C.F.R. § 107.51(b) (2017) (allowing qualifying drones to fly anywhere within 400 feet of the ground); FAA INTERPRETATION, *supra* note 71, at 10–11 (suggesting drones used for incidental business purposes, even if not for profit, qualify for FAA regulations). As a hybrid drone, the pilot will be subject to the FAA's regulations—both regulations that shackle the drone and free the drone for use as if it were a commercial drone. FAA INTERPRETATION, *supra* note 71, at 6–7, 10–11 (asserting that hybrid drones remain subject to FAA rules and "the FAA intends to apply its regulations to such [drones]"). Thus, hobby drone pilots seeking hybrid drone classification could theoretically pay a fee and register with the FAA solely to gain access to the drone dome. *Id*. Once cloaked with the privileges given to drone dome access holders, these hybrid drones could fly anywhere over the country within 400 feet of the ground—including right above backyards, near apartment windows, and outside businesses. *See, e.g.*, Rebecca J. Rosen, *So This Is How it Begins: Guy Refuses to Stop Drone-Spying on Seattle Woman*, ATLANTIC (May 13, 2013), https://www.theatlantic.com/technology/archive/2013/05/so-this-is-how-it-begins-guy-refuses-to-stop-drone-spying-on-seattle-woman/275769/ [https://perma.cc/SU28-MBLY] (reporting a man refused to remove his drone from flying within feet of a couple's home, claiming the flight was legal and for "research" purposes); Milos, *supra* note 4, at 34 (providing an example of a hobbyist drone pilot claiming commercial use). In Seattle, a woman spotted a drone flying feet from her home's third-story window. *Id*. Her husband approached the pilot, who refused to leave, claiming "it was legal for him to fly the drone over their yard and adjacent to their windows" because he was conducting "research." *Id*. The couple called the police, who never showed up, and the strange man walked away eventually. *Id*. In another case, a woman saw a drone hovering outside her twenty-sixth-floor apartment window as she put on clothes. *Id*. at 35. This time, the man apologized, reassuring her he was using the drone commercially, taking "pictures of real estate and architecture." *Id*. These are merely a few examples of how a hybrid drone, or even commercial drone, classification could operate as a backdoor to the drone dome. *Compare* § 107.51(b) (permitting some drones to fly anywhere within 400 feet of the ground), *and* FAA INTERPRETATION, *supra* note 71, at 6–7, 10–11 (interpreting FMRA as creating a class of "Not Hobby" drones, including those used by realtors to photograph property), *with* Milos, *supra* note 4, at 34 (mentioning cases of drones hovering over property to spy on people), *and* Farber, *supra* note 135, at 385 (reporting a Brooklyn newspaper found a drone spying through a thirtieth-floor window, after which the pilot claimed to be an architect "surveilling the property for potential development").

attempts to step beyond its regulatory bounds.[210] In the meantime, drones will continue swarming federal court dockets.[211]

3. Actions for Aerial Trespass Belong in State Court

Aerial trespass claims belong in state court because trespass creates a tort action.[212] Trespass torts defend the right to exclude.[213] The aerial right to exclude extends only through reachable air.[214] Thus, finding aerial trespass does not require defining federal airspace.[215]

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[210] *See, e.g.*, Taylor v. Huerta, 856 F.3d 1089, 1092–94 (D.C. Cir. 2017) (finding the FAA's argument that FMRA allowed it to require hobby drone registration for air safety purposes invalid because Congress was clear that FMRA prohibited the FAA from regulating hobby drones); Huerta v. Haughwout, No. 3:16-cv-358 (JAM), 2016 WL 3919799, at *4 (D. Conn. July 18, 2016) (concluding "[n]o clause in the Constitution vests the federal government with a general police power over all of the air or all objects that leave the ground," and Congress has not expressed intent to regulate every airborne object that flies over private property, especially those posing no real threat to the property); Boggs v. Merideth, No. 3:16-CV-00006-TBR, at 8, 2017 WL 1088093 (W.D. Ky. Mar. 21, 2017) (stating "the FAA certainly has an interest in enforcing its regulations governing federal airspace," however, those interests are "limited or nonexistent" in the context of "state law tort claim[s]").

[211] *See, e.g.*, *infra* Section III.C.3 (analyzing why drone tort claims do not belong in federal court); Boggs v. Merideth, No. 3:16-CV-00006-TBR, 2017 WL 1088093 (W.D. Ky. Mar. 21, 2017) (illustrating one federal court's dismissal of a drone tort claim).

[212] *See* JOHNSON, *supra* note 39, at 118 (connecting "[t]he tort of trespass" to protecting "exclusive possession of real property"). Johnson explains, "tort law is a creature of the state, rather than the national, government," and "America's federal system" gives "each state [] broad leeway to define" tort law and liability. *Id*. at 4.

[213] *See* JOHNSON, *supra* note 39, at 118 ("The tort of trespass to land [] protects a possessor's interest in exclusive possession of real property."); SPRANKLING & COLETTA, *supra* note 24, at 49–50 ("In practical terms, a landowner's right to exclude is implemented through the tort doctrine of trespass."). *See also* SPRANKLING & COLETTA, *supra* note 24, at 49 (explaining how title to land allows a property owner to prevent others from entering and the right to exclude is one of the most "essential sticks" given to property owners).

[214] *See supra* Section III.C.1 (analyzing how some air belongs to the property owner, not the federal government). *See, e.g.*, United States v. Causby, 328 U.S. 256, 258–59, 264 (1946) (finding a landowner's property no longer extends to the heavens and air is a public highway, but a landowner needs exclusive control of immediate reaches or at least occupiable space).

[215] One federal court dismissed a drone trespass lawsuit as a state tort claim that did not belong in federal court. *See* Boggs v. Merideth, No. 3:16-CV-00006-TBR, at 15, 2017 WL 1088093 (W.D. Ky. Mar. 21, 2017) (determining "the federal system as a whole" is not concerned with whether the drone was flying in private property or in federal airspace). In *Boggs*, despite Plaintiff Boggs arguing his drone was a federal aircraft flying in federal airspace, the court found the trespass claim belonged in state court. *See id*. at 7 (calling a claim for trespass to chattels, when a property owner shot a drone flying over the property, a "garden-variety state tort claim"). The court determined the "face of the complaint" lacked a federal question because the heart of the complaint alleged drone damages under state law. *Id*. at 5–6. The court even speculated if Defendant Merideth could claim aerial trespass but concluded that if the claim existed, it too belonged in state court. *See id*. at 14 (examining if a federal question existed on the defendant's side but ultimately determining that even if the

Additionally, federal courts suggest the FAA does not have power to regulate claims that primarily touch state tort and property laws.[216] Courts express concern that the FAA reaches too far with regulatory powers by dipping into multiple branches of government.[217] Thus, aerial trespass claims belong in state court—not federal courts, not state legislatures, and not federal agencies.[218]

IV. CONTRIBUTION: ARRIVE AND HOVER

State courts need to redefine aerial trespass to protect property owners from unwanted drone invasions.[219] Instead of drafting

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defendant could bring a claim against the plaintiff, any claim for "invasion of privacy and trespass" belonged in state court). *See also* Rule, *Drone Zoning*, *supra* note 5, at 151 ("States' and municipalities' long histories of regulating activities in the low-altitude airspace where small civilian drones fly cast further doubt on the notion that the FAA's field of broad regulatory jurisdiction engulfs that space.").

216 *See, e.g.*, *Boggs*, No. 3:16-CV-00006-TBR, at 8 (concluding that the FAA's "interest in applying those regulations [governing federal airspace] in the context of a state law tort claim for trespass to chattels is limited or nonexistent"); Huerta v. Haughwout, No. 3:16-cv-358 (JAM), 2016 WL 3919799, at *4 (D. Conn. July 18, 2016) (finding the Constitution lacks a clause vesting "all of the air or all objects that leave the ground" with the federal government, and "it is far from clear that Congress intends—or could constitutionally intend—to regulate all that is airborne on one's own property and that poses no plausible threat to or substantial effect on air transport or interstate commerce in general").

217 *See* Taylor v. Huerta, 856 F.3d 1089, 1093–94 (D.C. Cir. 2017) (finding the FAA incorrectly interpreted the scope of the Special Rule's safety net and violated FMRA's Special Rule). *See also* Sharkey, *supra* note 57, at 1710–22 (reporting the Supreme Court's concern with agencies trying to write laws). Even Supreme Court Justices agree that administrative agencies should refrain from tangling legislative duties with executive branch functions to avoid "raising a serious separation-of-powers issue." *Id*. at 1714–22.

218 *See infra* Part IV (explaining why state courts need to resolve aerial trespass laws for drones). Defining where property rights end and federal airspace begins may not be relevant for aerial trespass because property owners only own the immediate reaches. *See* United States v. Causby, 328 U.S. 256, 264 (1946) (leaving airspace within the immediate reaches for property owners). If landowners only keep reachable air, states could define how much air anchors to state property, allowing the FAA and state legislatures to coordinate in defining the remaining airspace. *See id*. at 258–59, 264 (determining some air belongs to the landowner, and the remainder is a public highway). Regardless of how much air anchors to land and how much floats in federal airspace, aerial trespass claims still fall into state tort territory because the invaded air attaches to state property, not federal airspace. *See, e.g.*, *supra* Section III.C.1 (describing how some airspace stays with the property as airspace anchored to the ground). However, the exact point that reachable air becomes federal airspace, or some other layer of air, is beyond the scope of this Note. *See, e.g.*, DOLAN & THOMPSON, *supra* note 5, at 8 (exploring unanswered questions from *Causby*, like "the dividing line between the 'immediate reaches' of the surface and public domain airspace," and if "navigable airspace [can] intersect with the 'immediate reaches'").

219 *See supra* Part III (eliminating all other federal and state options for resolving aerial trespass laws and disputes).

complicated legislation, state courts can simply tweak basic trespass.[220] By building from basic trespass, aerial trespass will retain exclusion rights without launching into interstellar reasoning.[221] Part IV.A introduces arrive and hover as elements to supplement basic trespass.[222] Part IV.B explains how these new elements repair today's broken aerial trespass laws by supplying state courts with a simple solution that links drone aerial trespass to land trespass.[223]

A. Arrive and Hover

Arrive-and-hover laws swap basic trespass language with new elements.[224] For example, basic trespass requires: (1) intent to (2) enter (3) without consent.[225] By replacing "intent to enter" with "arrive and hover," aerial trespass will retain basic trespass principles and hand property owners a drone-swatting law.[226] Thus, aerial trespass requires a drone: (1) arrive and (2) hover (3) without consent.[227] First, arrival scoops up intent and the initial entry.[228] Second, hover covers movement after arrival.[229] Finally, consent welds the same basic trespass privileges to aerial trespass.[230]

First, arrival applies basic trespass principles like intent and the initial entrance to drones.[231] Arrival means intent to enter the air above the

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220 *See supra* Parts III.A, III.B (discussing the problems with the *Restatement*'s outdated test that requires aerial trespass by an aircraft to rise to the level of a Constitutional taking and state statutes that create completely new aerial trespass laws that retain none of the principles underlying basic trespass and its exclusionary purpose).

221 *See supra* Part II.A (defining a property owner's right to exclude as a crucial purpose for trespass laws). *See also supra* note 160 and accompanying text (explaining how recent attempts to define aerial trespass tend to lean more toward vague nuisance and outdated takings tests).

222 *See infra* Part IV.A.

223 *See infra* Part IV.B.

224 *See* discussion *infra* text accompanying notes 225–27 (breaking down each element of basic trespass and separating aerial trespass into elements similar to basic trespass).

225 *See supra* Section II.C.1.

226 *See supra* Part II.A (explaining the principles of basic trespass). *Compare supra* note 225 and accompanying text (stating the elements of basic trespass), *with infra* note 227 (offering the new elements of aerial trespass).

227 This is the author's personal contribution. *Cf. supra* Section II.C.1 (defining trespass and focusing on entrance, which includes entering or remaining).

228 *See* discussion *infra* text accompanying notes 231–36.

229 *See* discussion *infra* text accompanying notes 237–43.

230 *See* discussion *infra* text accompanying notes 244–49.

231 *See* discussion *supra* text accompanying notes 225–27 (supplying an aerial trespass definition that replaces basic trespass with similar elements).

land.[232] The moment a drone flies over the land, it arrives.[233] However, arrival alone cannot create aerial trespass because every flying aircraft would constantly be trespassing.[234] Arrival expands entrance too far by calling aerial entrances by helicopters, planes, or civil or public drones a trespass.[235] Aerial trespass needs to target the drone pilot, while giving other aircraft flexibility.[236] Thus, once a drone arrives over land, the trespass clock starts ticking.

Second, hover follows the drone's movement after arriving.[237] Hover means a slow, low, or stopped flight path.[238] Hover tracks the drone.[239] Slow hovers include slowdowns and slow flights.[240] Stopped hovers include flights that stay suspended over land.[241] Low hover offers flexibility by including other flights through reachable air.[242] Hover

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232 *Cf. supra* Section III.C.1 (pinpointing the intent element under basic trespass, requiring only intent to enter land).

233 *Cf. supra* Section III.C.1 (concluding intent only requires intent to enter or be present, not intent to trespass).

234 *See* United States v. Causby, 328 U.S. 256, 261 (1946) (finding if a property owner held title to all the air above the land, "every transcontinental flight would subject the operator to countless trespass suits").

235 *See id*. (acknowledging that "such private claims to the airspace would clog [aerial] highways [and] seriously interfere with their control and development in the public interest").

236 *Compare id*. at 261–67 (giving some air to the property owner but leaving the rest for the public to use), *with supra* Part I (illustrating a drone pilot's use of a hobby drone to fly and spy on private property).

237 This is the author's personal contribution. *Cf.* RESTATEMENT, *supra* note 7, § 158(a)–(c) (describing trespass as causing something to enter, remaining, or failing to remove).

238 *Cf. Hover*, MERRIAM-WEBSTER, https://www.merriam-webster.com/dictionary/hover [https://perma.cc/BE8Y-ECTA] [hereinafter *Hover*, MERRIAM-WEBSTER] (defining hover as "to remain suspended over a place or object," like a helicopter); *Hover*, CAMBRIDGE DICTIONARY, https://dictionary.cambridge.org/us/dictionary/english/hover [https://perma.cc/8Z7G-J2SL] [hereinafter *Hover*, CAMBRIDGE) (explaining that hover means "to stay in the air in one place: *A helicopter hovered overhead*"); RESTATEMENT, *supra* note 7, § 158(b) (qualifying remaining on land as sufficient to satisfy trespass).

239 This is the author's personal contribution. *Cf.* RESTATEMENT, *supra* note 7, § 158(c) (stating that failing to remove something from the land of another creates a trespass).

240 Slow hovers combine remaining on land with aerial invasions. *Compare* RESTATEMENT, *supra* note 7, § 158(b) (noting that remaining on land creates a trespass), *with* RESTATEMENT § 158 cmt. g (including air invasions as a § 159 trespass).

241 *See Hover*, MERRIAM-WEBSTER, *supra* note 238 (describing hover as "remain[ing] suspended over a place or object"); *Hover*, CAMBRIDGE, *supra* note 238 (explaining hover as "stay[ing] in the air in one place"). Stopped hovers combine remain, failure to remove, and aerial trespass. *See* RESTATEMENT, *supra* note 7, § 158(b)–(c) cmt. g.

242 *See infra* Part IV.B (elaborating on how "low hover" can evolve into layers). Basically, low hover covers all other flights by drones through *Causby*'s reachable air. *See* United States v. Causby, 328 U.S. 256, 264 (1946).

catches the drone pilot while providing faster, high-altitude aircraft necessary operational freedom.[243]

Finally, consent stays the same.[244] Hovering without consent completes the tort.[245] Current laws give drones automatic privileges to trespass.[246] Reviving consent returns the drone-swatting exclusion stick to the property owner.[247] Consent includes ordering a drone-delivered package or giving a drone pilot permission.[248] Without consent, the drone pilot completes aerial trespass.[249]

B. Commentary

The purpose of aerial trespass is to keep unwanted drones from flying too low and hanging above land.[250] Arrive-and-hover laws keep aerial trespass simple.[251] Under basic trespass, entrance is key.[252] Under arrive

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[243] *See supra* Part I (illustrating an example of a drone hovering over girls sunbathing in a backyard).

[244] *See supra* Section II.C.1 (defining basic trespass as entering another's property without consent).

[245] Intentional wrongs lack consent. *See* JOHNSON, *supra* note 39, at 137 ("In the context of intentional torts, it is said that '[a]ll intended wrongs . . . have in common the element that they are inflicted without the consent of the victim." (quoting Fricke v. Owens-Corning Fiberglass Corp., 571 So. 2d 130, 132 (La. 1990))). With trespass, entrance inflicts the wrong. *See* JOHNSON, *supra* note 39, at 118 ("A person who intentionally and without consent or privilege enters on, under, or above the land of another commits a trespass."); *id.* at 119 (reporting "[a]ll that is required is the intent to be present," not intent to trespass). With aerial trespass, hover inflicts the wrong. *See* discussion *supra* notes 231–43 and accompanying text (discussing how arrival gets the ball rolling, but hover completes the tort).

[246] *See supra* Part III.B (noting state statutes allow one free invasion). *See also supra* Section II.B.3 (explaining Part 107 and how the drone dome grants a privilege to some drones); *supra* Section III.C.2 (describing how Part 107's drone dome infringes on the exclusion rights of private property owners).

[247] *Compare supra* Part II.A (explaining the right to exclude), *and supra* Section III.C.1 (analyzing how far the right to exclude extends), *with supra* Part III.B (pointing out the failure of aerial trespass statutes to account for consent).

[248] *See supra* Part II.A (detailing consent and privileges as applied to tort law and trespass).

[249] *Compare supra* Part I (applying the drone pilot situation in the hook to the lack of consent principle in trespass), *with supra* note 245 and accompanying text (noting how intentional torts presume lack of consent and are complete once the wrong is committed).

[250] *See supra* Part II.A (discussing the right to exclude as the core of trespass).

[251] *Compare supra* note 225 and accompanying text (outlining basic trespass), *and supra* note 227 and accompanying text (listing aerial trespass elements as basic trespass derivatives), *with supra* Section II.C.1 (noting the *Restatement*'s approach to aerial trespass, which blends *Causby*'s takings analysis with nuisance principles), *and supra* Section II.C.2 (describing state statutes addressing aerial trespass, which allow a free pass for drones to invade private property until the property owner pursues and evicts the drone).

[252] *See supra* Section II.C.1 (explaining how basic trespass elements rely on entrance).

and hover, entrance is still key because the moment a drone arrives over the property, the clock starts ticking.[253] Once it hovers, it trespasses.[254]

Opponents may argue that aerial property rights need defined.[255] Not yet.[256] States should not start slicing statutes into the sky until states gain a better understanding of how each state will use drones.[257] Furthermore, "low hover" can evolve and separate into layers based on drone classes.[258] For example, a hobby drone trespasses by hovering low enough to see, but a commercial drone may require more than mere sight to commit a low-hovering trespass.[259] Instead, commercial drones may trespass based on other low-hover factors like height, time of day, and frequency.[260] Thus, if a commercial drone hovers within 100 feet, at night, or ten times in one day, it trespasses.[261] But any hobby drone that hovers trespasses.[262]

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253 *See supra* Part IV.A.

254 *See supra* Part IV.A.

255 *See supra* Part III.B (analyzing some state statutes attempting to draw lines in the sky for property owners).

256 The last solution a confused airspace system needs is more statutes. *See supra* Part II.B (expanding on Congress and the FAA trying to untangle the airspace and aircraft ownership conundrum); sources cited *supra* note 216 (citing federal cases acknowledging that states are likely better suited for low-altitude airspace claims).

257 Aerial trespass is not a federal government issue. *See supra* Section III.C.1 (differentiating between a property owner's immediate reaches airspace and federal air); *supra* Part III.B (detailing the problems with current statutes).

258 This is the author's personal contribution. *See, e.g.*, *supra* notes 259–62 and accompanying text (explaining how low hover can adapt to fit the purposes and uses of varying classes of drones).

259 *Cf.* Final Rule, *supra* note 98, at 42,119 (mentioning one "commenter proposed a 100-foot limit for incidental incursions and a 300-foot limit for intentional flights across private property without permission"). The idea is that hobby drones arrive and hover easier than commercial drones.

260 See Final Rule, *supra* note 98, at 42,119 (proposing multiple layers of airspace). *See also* 14 C.F.R. § 107.29(a) (2016) ("No person may operate a small unmanned aircraft system during night.").

261 *See* sources cited *supra* note 260 (citing federal regulations restricting night flights and considering multiple flight floors). Restricting multiple flights, night flights, and placing a 100-foot altitude restriction on commercial drones are just a few examples of how to make the "hover" element of aerial trespass more difficult to prove against commercial drones, opposed to hobby drones, provided the drone operator can prove the drone was being used for commercial purposes. *See, e.g.*, RESTATEMENT § 159 cmt. *l* (stipulating that property rights begin somewhere between fifty and 500 feet, landing around 150 feet); United States v. Causby, 328 U.S. 256, 264–67 (1946) (finding eighty-foot government invasions interfered with the landowner's right to use and exclude from the land's immediate reaches).

262 Today's hobby drones do not need the same legal cushions that commercial drones may require, particularly because most drone tort claims stem from hobby drone abuse. *See supra* Part II.A (defining the importance of the right to exclude); *supra* note 209 and accompanying text (citing instances of hobby drones allegedly used for tortious conduct).

Opponents may also argue that video capabilities and other technology will allow drones to evade aerial trespass.[263] However, privacy laws can handle outer-layer drone claims that aerial trespass cannot.[264] Drones can still trespass over land without rising to the level of a privacy invasion.[265] Arrive and hover slaps unwanted drones hanging over land with an intentional tort.[266]

Trespass protects the right to exclude.[267] Aerial trespass is still a trespass, trespass is still common law, and common law is still defined by courts.[268] Arrive and hover avoids navigating through complicated privacy laws and privileges created by state statutes, allows states to collect information on drone use, and adapts as drone use evolves. Arrive and hover keeps aerial trespass simple.[269] Arrive and hover slowly targets a drone, then slaps it with a quick tort claim.

V. CONCLUSION

State courts must define aerial trespass to protect property owners from drone invasions. Drones cannot take exclusion rights from property owners. First, the *Restatement* uses a takings test. A trespass is not a taking. Second, state statutes give drones a free pass to invade until the property owner hunts down the drone pilot and fires off a warning shot. But trespass through the air is still trespass. And trespass is still an intentional tort. Third, the FAA places hurdles in front of state legislatures, but the FAA does not control all the air or all the drones. Finally, drone tort claims belong in state court, not federal court. Therefore, state courts must carve a new definition for aerial trespass.

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263 *See supra* Section II.C.2 (explaining states have reacted to drones invading privacy with drone privacy statutes).

264 *See supra* Section II.C.2 (providing sources that explain how drones impact privacy laws and trespass separately).

265 Again, privacy is beyond the scope of this Note. *See* sources cited *supra* note 128 (listing sources for further investigation into privacy laws as applied to drones). But for the sake of argument, trespass protects the right to exclude. *See supra* Part II.A (discussing the genesis of trespass as a means to protect the right to exclude). And a privacy intrusion upon seclusion claim places a heavier burden on the property owner. *See* JOHNSON, *supra* note 39, at 1026 (requiring an intentional interference into a secluded space that "would be highly offensive to a reasonable person").

266 *See supra* Part IV.A (describing how arrive-and-hover elements interact to catch drones that trespass).

267 *See supra* Part II.A (elaborating on the bundle of rights and the right to exclude).

268 *See supra* Parts III.A–III.B.

269 Arrive and hover aims to keep aerial trespass simple by placing drones into a category somewhere between *Restatement* § 158's balloons and kites and *Restatement* § 159's airplanes or aircraft. *Compare* RESTATEMENT, *supra* note 7, § 158 (noting balloons and kites as objects capable of trespassing), *with* RESTATEMENT § 159 (describing trespass when committed by an aircraft).

Arrive and hover chisels the building blocks of basic trespass into a contemporary claim that fits on the mantelpiece of modern courtrooms.

Speaking of mantelpieces, the drone pilot's drone would probably look good on yours. You better get back to your kitchen window and check on your daughters.

Looks like you dropped your coffee mug. It shattered on the new kitchen tile, and now the dog is licking it up. Great.

Looks like the drone is still hovering over your backyard. With one hand on a broom and one on a shotgun, take a moment to arrive and hover on your legal options. Right now, the drone pilot is violating your right to exclude. But he is not trespassing. The *Restatement*'s test fails you because the drone pilot has not constitutionally taken your property. And any state statute fails you because the drone pilot's first invasion is free. His second invasion will be free too if you let that drone escape. Until you chase down the drone, shake your fist at the pilot, and catch him in the act again, every invasion is free.

Your left hand wraps around a wooden broom handle. Your right hand clenches a shotgun barrel. That drone still hovers over your harmless little girls. Time to act.

Take the broom. Shoo the drone away. Maybe now the drone pilot will stop invading your property. Maybe no drone will ever fly over your property again.

Suddenly, the living room television breaks your concentration. "The future will likely include a lot more drones buzzing overhead."[270] The morning news report echoes through the hallway, bounces into the kitchen, and climbs into your ear. In the next three years, hobby drone sales will double, and total drone sales will triple, according to the FAA.[271]

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[270] Johnathan Vanian, *Drone Sales Are About To Go Crazy*, FORTUNE (Mar. 25, 2016), http://fortune.com/2016/03/25/federal-governmen-drone-sales-soar/ [https://perma.cc/G4GK-BVRW].

[271] *See id.* (reporting drone sales will nearly triple by 2020, and hobby drone sales will "more than double," according to the FAA).

No.
More drones?
More drone pilots invading your property?
Drones are coming—whether you like it or not.[272]

Kyle Joseph Farris[*]

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[272] This Note is for educational and entertainment purposes only and in no way intends to offer legal advice for resolving property disputes nor is it meant to encourage property owners to use violence.

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