



# Integration of Drones into Domestic Airspace: Selected Legal Issues

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April 4, 2013

**Congressional Research Service**

7-5700

[www.crs.gov](http://www.crs.gov)

R42940

## Summary

Under the FAA Modernization and Reform Act of 2012, P.L. 112-95, Congress has tasked the Federal Aviation Administration (FAA) with integrating unmanned aircraft systems (UASs), sometimes referred to as unmanned aerial vehicles (UAVs) or drones, into the national airspace system by September 2015. Although the text of this act places safety as a predominant concern, it fails to address significant, and up to this point, largely unanswered legal questions.

For instance, several legal interests are implicated by drone flight over or near private property. Might such a flight constitute a trespass? A nuisance? If conducted by the government, a constitutional taking? In the past, the Latin maxim *cujus est solum ejus est usque ad coelum* (for whoever owns the soil owns to the heavens) was sufficient to resolve many of these types of questions, but the proliferation of air flight in the 20<sup>th</sup> century has made this proposition untenable. Instead, modern jurisprudence concerning air travel is significantly more nuanced, and often more confusing. Some courts have relied on the federal definition of “navigable airspace” to determine which flights could constitute a trespass. Others employ a nuisance theory to ask whether an overhead flight causes a substantial impairment of the use and enjoyment of one’s property. Additionally, courts have struggled to determine when a government-operated overhead flight constitutes a taking under the Fifth and Fourteenth Amendments.

With the ability to house surveillance sensors such as high-powered cameras and thermal-imaging devices, some argue that drone surveillance poses a significant threat to the privacy of American citizens. Because the Fourth Amendment’s prohibition against unreasonable searches and seizures applies only to acts by government officials, surveillance by private actors such as the paparazzi, a commercial enterprise, or one’s neighbor is instead regulated, if at all, by state and federal statutes and judicial decisions. Yet, however strong this interest in privacy may be, there are instances where the public’s First Amendment rights to *gather* and *receive* news might outweigh an individual’s interest in being let alone.

Additionally, there are a host of related legal issues that may arise with this introduction of drones in U.S. skies. These include whether a property owner may protect his property from a trespassing drone; how stalking, harassment, and other criminal laws should be applied to acts committed with the use of drones; and to what extent federal aviation law could preempt future state law.

Because drone use will occur largely in federal airspace, Congress has the authority or can permit various federal agencies to set federal policy on drone use in American skies. This may include the appropriate level of individual privacy protection, the balancing of property interests with the economic needs of private entities, and the appropriate safety standards required.

## Contents

Introduction.....	1
Development of Aviation Law and Regulations .....	1
Current FAA Regulations of Navigable Airspace.....	2
Fixed-Wing Aircraft .....	2
Helicopters .....	3
Drones .....	3
Current FAA Regulation of Drones .....	3
Public and Civil Operators .....	4
Recreational Users.....	4
Future FAA Regulation of Drones .....	4
Civil Operators .....	5
Public Operators .....	5
Recreational Users.....	5
Test Ranges .....	6
Airspace and Property Rights .....	6
<i>United States v. Causby</i> .....	6
Post- <i>Causby</i> Theories of Airspace Ownership .....	8
Trespass and Nuisance Claims Against Private Actors .....	10
Potential Liability Arising from Civilian Drone Use.....	11
Privacy .....	12
Early Privacy Jurisprudence .....	13
Privacy Torts.....	14
First Amendment and Newsgathering Activities .....	17
Congressional Response .....	19
Drone Aircraft Privacy and Transparency Act of 2013 (H.R. 1262).....	19
Preserving American Privacy Act of 2013 (H.R. 637).....	20
Other Proposals .....	20
FAA Regulation of Privacy.....	22
Rulemaking Required by FMRA .....	23
Test Ranges and Privacy.....	25
Related Legal Issues .....	27
Conclusion .....	30

## Contacts

Author Contact Information.....	30
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## Introduction

The integration of drones into U.S. skies is expected by many to yield significant commercial and societal benefits.<sup>1</sup> Drones could be employed to inspect pipelines, survey crops, and monitor the weather.<sup>2</sup> One newspaper has already used a drone to survey storm damage,<sup>3</sup> and real estate agents have used them to survey property.<sup>4</sup> In short, the extent of their potential domestic application is bound only by human ingenuity.

In an effort to accelerate this introduction, in the FAA Modernization and Reform Act of 2012, Congress tasked the Federal Aviation Administration (FAA) with safely integrating drones into the national airspace system by September 2015.<sup>5</sup> Likewise, sensing the opportunities that unmanned flight portend, lobbying groups and drone manufacturers have joined the chorus of those seeking a more rapid expansion of drones in the domestic market.<sup>6</sup>

Yet, the full-scale introduction of drones into U.S. skies will inevitably generate a host of legal issues. This report will explore some of those issues. To begin, this report will describe the regulatory framework for permitting the use of unmanned vehicles and the potential rulemaking that will occur over the next few years. Next, it will discuss theories of takings and property torts as they relate to drone flights over or near private property. It will then discuss the privacy interests implicated by drone surveillance conducted by private actors and the potential countervailing First Amendment rights to gather and receive news. Finally, this report will explore possible congressional responses to these privacy concerns, discuss how the FAA has approached these concerns, and identify additional potential legal issues.

## Development of Aviation Law and Regulations

The predominant theory of airspace rights applied before the advent of aviation derived from the Roman Law maxim *cujus est solum ejus est usque ad coelum*, meaning whoever owns the land

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<sup>1</sup> A “drone” is simply an aircraft that can fly without a human operator. They are sometimes referred to as unmanned aerial vehicles (UAV), and the whole system—including the aircraft, the operator on the ground, and the digital network required to fly the aircraft—is referred to as an unmanned aircraft system (UAS). See generally CRS Report R42718, *Pilotless Drones: Background and Considerations for Congress Regarding Unmanned Aircraft Operations in the National Airspace System*, by Bart Elias.

<sup>2</sup> See GOV’T ACCOUNTABILITY OFFICE, UNMANNED AIRCRAFT SYSTEMS: MEASURING PROGRESS AND ADDRESSING POTENTIAL PRIVACY CONCERNS WOULD FACILITATE INTEGRATION INTO THE NATIONAL AIRSPACE SYSTEM (2012).

<sup>3</sup> It is reported that News Corp. has used a small drone to monitor storm damage in Alabama and flooding in North Dakota. Kashmir Hill, *FAA Looks Into News Corp’s Daily Drone, Raising Questions About Who Gets to Fly Drones in the U.S.*, FORBES, (August 2, 2011 3:52 P.M.), <http://www.forbes.com/sites/kashmirhill/2011/08/02/faa-looks-into-news-corps-daily-drone-raising-questions-about-who-gets-to-fly-drones-in-the-u-s/>.

<sup>4</sup> Nick Wingfield & Somini Sengupta, *Drones Set Sights on U.S. Skies*, N.Y. TIMES (February 17, 2012), available at [http://www.nytimes.com/2012/02/18/technology/drones-with-an-eye-on-the-public-cleared-to-fly.html?pagewanted=all&\\_r=0](http://www.nytimes.com/2012/02/18/technology/drones-with-an-eye-on-the-public-cleared-to-fly.html?pagewanted=all&_r=0).

<sup>5</sup> FAA Modernization and Reform Act of 2012, P.L. 112-95, 126 Stat. 11.

<sup>6</sup> Groups such as the Association for Unmanned Vehicle Systems International, which boasts 7,200 members, including defense contractors, educational institutions, and government agencies, have been formed to advance the interests of the UAV community. Association for Unmanned Vehicle Systems International; <http://www.auvsi.org/Home>.

possesses all the space above the land extending upwards into the heavens.<sup>7</sup> This maxim was adopted into English common law and eventually made its way into American common law.<sup>8</sup> At the advent of commercial aviation, Congress enacted the Air Commerce Act of 1926<sup>9</sup> and later the 1938 Civil Aeronautics Act.<sup>10</sup> These laws included provisions stating that “to the exclusion of all foreign nations, [the United States has] complete sovereignty of the airspace” over the country.<sup>11</sup> Additionally, Congress declared a “public right of freedom of transit in air commerce through the navigable airspace of the United States.”<sup>12</sup> This right to travel in navigable airspace came into conflict with the common law idea that each landowner owned the airspace above the surface in perpetuity. If the common law idea was to be followed faithfully, there could be no right to travel in navigable airspace without constantly trespassing in private property owners’ airspace. This conflict was directly addressed by the Supreme Court in *United States v. Causby*, discussed extensively below.

With the passage of the Federal Aviation Act in 1958,<sup>13</sup> the administrator of the FAA was given “full responsibility and authority for the advancement and promulgation of civil aeronautics generally....”<sup>14</sup> This centralization of responsibility and creation of a uniform set of rules recognized that “aviation is unique among transportation industries in its relation to the federal government—it is the only one whose operations are conducted almost wholly within federal jurisdiction....”<sup>15</sup> The FAA continues to set uniform rules for the operation of aircraft in the national airspace. In the FAA Modernization and Reform Act of 2012 (FMRA), Congress instructed the FAA to “develop a comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system.”<sup>16</sup> These regulations must provide for this integration “as soon as practicable, but not later than September 30, 2015.”<sup>17</sup>

## Current FAA Regulations of Navigable Airspace

### Fixed-Wing Aircraft

FAA regulations define the minimum safe operating altitudes for different kinds of aircraft. Generally, outside of takeoff and landing, fixed-wing aircraft must be operated at an altitude that allows the aircraft to conduct an emergency landing “without undue hazard to persons or property on the surface.”<sup>18</sup> In a congested area, the aircraft must operate at least “1,000 feet above the highest obstacle within a horizontal radius of 2,000 feet of the aircraft.”<sup>19</sup> The minimum safe

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<sup>7</sup> Colin Cahoon, *Low Altitude Airspace: A Property Rights No-Man’s Land*, 56 J. AIR L. & COM. 157, 161 (1990).

<sup>8</sup> *Id.*; see also R. WRIGHT, THE LAW OF AIRSPACE 11-65 (1968).

<sup>9</sup> Air Commerce Act of 1926, P.L. 69-254, 44 Stat. 568.

<sup>10</sup> Civil Aeronautics Act of 1938, P.L. 75-706, 52 Stat. 973.

<sup>11</sup> Codified as amended at 49 U.S.C. § 40103 (2012).

<sup>12</sup> Codified as amended at 49 U.S.C. § 40101 (2012).

<sup>13</sup> P.L. 85-726; 72 Stat. 737 (1958).

<sup>14</sup> H. Rept. 2360, 85<sup>th</sup> Cong., 2d Sess. (1958).

<sup>15</sup> S. Rept. 1811, 85<sup>th</sup> Cong., 2d Sess. (1958).

<sup>16</sup> P.L. 112-95, §332(a)(1).

<sup>17</sup> *Id.* at §332(a)(3).

<sup>18</sup> 14 C.F.R. §91.119(a).

<sup>19</sup> *Id.* at §91.119(b).

operating altitude over non-congested areas is “500 feet above the surface.”<sup>20</sup> Over open water or sparsely populated areas, aircraft “may not be operated closer than 500 feet to any person, vessel, vehicle, or structure.”<sup>21</sup> Navigable airspace is defined in statute as the airspace above the minimum safe operating altitudes, including airspace needed for safe takeoff and landing.<sup>22</sup>

## **Helicopters**

While a fixed-wing aircraft is subject to specific minimum safe operating altitudes based on where it is flying, regulation of helicopter minimum altitudes is less rigid. According to FAA regulations, a helicopter may fly below the minimum safe altitudes prescribed for fixed-wing aircraft if it is operated “without hazard to person or property on the surface.”<sup>23</sup> Therefore, arguably a helicopter may be lawfully operated outside the zone defined in statute as navigable airspace.<sup>24</sup>

## **Drones**

The FAA does not currently regulate safe minimum operating altitudes for drones as it does for other kinds of aircraft. Defining navigable airspace for drone operation may be one way that the FAA responds to Congress’s instruction, in FMRA, to write rules integrating civil drones into the national airspace, which is discussed in more detail below.<sup>25</sup> One possibility is for the FAA to create different classes of drones based on their size and capabilities. Larger drones that physically resemble fixed-wing aircraft could be subject to similar safe minimum operating altitude requirements whereas smaller drones could be regulated similar to helicopters.

## **Current FAA Regulation of Drones**

In 2007, the FAA issued a policy notice stating that “no person may operate a UAS in the National Airspace without specific authority.”<sup>26</sup> Therefore, currently all drone operators who do not fall within the recreational use exemption discussed below must apply directly to the FAA for permission to fly.<sup>27</sup>

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<sup>20</sup> *Id.* at § 91.119(c).

<sup>21</sup> *Id.*

<sup>22</sup> 49 U.S.C. § 40102(32).

<sup>23</sup> 14 C.F.R. § 91.119(d).

<sup>24</sup> *See People v. Sabo*, 185 Cal. App. 3d 845, 852 (1986) (“While helicopters may be operated at less than minimum altitudes so long as no hazard results, it does not follow that such operation is conducted within navigable airspace. The plain meaning of the statutes defining navigable airspace as that airspace above specified altitudes compels the conclusion that helicopters operated below the minimum are not in navigable airspace. The helicopter hovering above the surface of the land in such fashion as not to constitute a hazard to persons or property is, however, lawfully operated.”).

<sup>25</sup> *See id.* at § 332(b).

<sup>26</sup> FAA, “Unmanned Aircraft Operations in the National Airspace System,” 72 Fed. Reg. 6689 (Feb. 13, 2007).

<sup>27</sup> *See id.*

## **Public and Civil Operators**

Drones operated by federal, state, or local agencies must obtain a certificate of authorization or waiver (COA) from the FAA.<sup>28</sup> After receiving COA applications, the FAA conducts a comprehensive operational and technical review of the drone and can place limits on its operation in order to ensure its safe use in airspace.<sup>29</sup> In response to a directive in FMRA, the FAA recently streamlined the process for obtaining COAs, making it easier to apply on their website.<sup>30</sup> It also employs expedited procedures allowing grants for temporary COAs if needed for time-sensitive missions.<sup>31</sup>

Civil operators, or private commercial operators, must receive a special airworthiness certificate in the experimental category in order to operate.<sup>32</sup> These certificates have been issued on a limited basis for flight tests, demonstrations, and training. Presently, there is no other method of obtaining FAA approval to fly drones for commercial purposes. It appears these restrictions will be loosened in the coming years, since the FAA has been instructed to issue a rulemaking that will lead to the phased-in integration of civilian unmanned aircraft into national airspace.<sup>33</sup>

## **Recreational Users**

The FAA encourages recreational users of model aircraft, which certain types of drones could fall under, to follow a 1981 advisory circular.<sup>34</sup> Under the circular, users are instructed to fly a sufficient distance from populated areas and away from noise-sensitive areas like parks, schools, hospitals, or churches. Additionally, users should not fly in the vicinity of full-scale aircraft or more than 400 feet above the surface. When flying within three miles of an airport, users should notify the air traffic control tower, airport operator, or flight service station. Compliance with these guidelines is voluntary.

## **Future FAA Regulation of Drones**

FMRA instructs the FAA to integrate civil unmanned aircraft systems into the national airspace by the end of FY2015 and implement new standards for public drone operators. This law included provisions describing the comprehensive plan and rulemaking the agency must create to address different aspects of integrating civil drones, restricting the FAA's ability to regulate "model aircraft," and requiring the creation of drone test sites.

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<sup>28</sup> *Id.*

<sup>29</sup> See generally FAA "Unmanned Aircraft Systems," available at <http://www.faa.gov/about/initiatives/uas/cert/>.

<sup>30</sup> See P.L. 112-95, § 334(a) (instructing the issuance of "guidance regarding the operation of public unmanned aircraft systems to ... expedite the issuance of a certificate of authorization process ..."); see also "Certificates of Authorization or Waiver (COA)," available at [http://www.faa.gov/about/office\\_org/headquarters\\_offices/ato/service\\_units/systemops/aaim/organizations/uas/coa/](http://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/aaim/organizations/uas/coa/).

<sup>31</sup> "FAA makes progress with UAS integration," available at <http://www.faa.gov/news/updates/?newsId=68004>.

<sup>32</sup> 72 Fed. Reg. 6689; see 14 C.F.R. §§ 21.191, 21.193 (experimental certificates generally); 14 C.F.R. § 91.319 (operating limitations on experimental certificate aircraft).

<sup>33</sup> P.L. 112-95, § 332(2).

<sup>34</sup> See 72 Fed. Reg. 6689; Advisory Circular 91-57, "Model Aircraft Operating Standards" (June 1981), available at [http://www.faa.gov/documentLibrary/media/Advisory\\_Circular/91-57.pdf](http://www.faa.gov/documentLibrary/media/Advisory_Circular/91-57.pdf).



## **Civil Operators**

The statute instructs the FAA to create a “comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace”<sup>35</sup> and submit the plan to Congress within one year of enactment.<sup>36</sup> The statute contains a non-exhaustive list of elements that the plan must address, including predictions on how future rulemaking will address the certification process for drones; drone sense and avoid capabilities; and establishing operator or pilot standards, including a licensing and registration system.<sup>37</sup> The plan must also include a timeline for a phased-in approach to integration and ways to ensure the safe operation of civil drones with publicly operated drones in the airspace.<sup>38</sup> The FAA has not yet submitted this comprehensive plan to Congress.

FMRA also directs the FAA to promulgate a series of rules, including rules governing the civil operation of small drones in the national airspace and rules implementing the comprehensive plan described above.<sup>39</sup> Additionally, the FAA must update its 2007 policy statement that established the current scheme of drone authorizations.<sup>40</sup>

## **Public Operators**

As noted above, the FAA has already implemented a streamlined process for public operators to obtain COAs.<sup>41</sup> In addition to this streamlining, FMRA instructs the FAA to “develop and implement operations and certification requirements for the operation of public unmanned aircraft systems in the national airspace.”<sup>42</sup> Similar to the provisions governing civil users, these standards must be in place by the end of 2015.

## **Recreational Users**

In FMRA, the FAA was prohibited from promulgating rules regarding certain kinds of model aircraft flown for hobby or recreational use.<sup>43</sup> This prohibition applies if the model aircraft is less than 55 pounds, does not interfere with any manned aircraft, and is flown in accordance with a community-based set of safety guidelines.<sup>44</sup> Additionally, the aircraft must be flown within the line of sight of the operator and be used solely for hobby or recreational purposes.<sup>45</sup> If flown within five miles of an airport, the operator of the model aircraft must notify both the airport operator and air traffic control tower.<sup>46</sup> While the FAA is prohibited from writing rules or

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<sup>35</sup> P.L. 112-95, § 332(a)(1).

<sup>36</sup> *Id.* at § 332(a)(4).

<sup>37</sup> *Id.* at § 332(a)(2).

<sup>38</sup> *Id.*

<sup>39</sup> *Id.* at § 332(b).

<sup>40</sup> *Id.* at § 332(b)(3).

<sup>41</sup> P.L. 112-95, § 334(a), (c).

<sup>42</sup> *Id.* at § 334(b).

<sup>43</sup> *Id.* at § 336.

<sup>44</sup> *Id.* at § 336(a).

<sup>45</sup> *Id.* at § 336(c).

<sup>46</sup> *Id.* at § 336(a)(5).



regulations governing these aircraft, it is not prohibited from pursuing enforcement actions “against persons operating model aircraft who endanger the safety of the national airspace system.”<sup>47</sup>

## Test Ranges

As part of its efforts to integrate drones into the national airspace, FMRA also directed the FAA to establish six test ranges that will serve as integration pilot projects.<sup>48</sup> As part of the test range program, the FAA must designate airspace for the operation of both manned and unmanned flights, develop certification and air traffic standards for drones at the test ranges, and coordinate with both NASA and the Department of Defense during development. The test ranges should address both civil and public drone operations.<sup>49</sup>

In February 2013, the FAA published a notice in the Federal Register announcing the process for selection of the sites.<sup>50</sup> In its words, “The overall purpose of this test site program is to develop a body of data and operational experiences to inform integration and the safe operation of these aircraft in the National Airspace System.”<sup>51</sup> As directed in the statute, factors for site selection include geographic and climactic diversity and a consideration of the location of the ground infrastructure needed to support the sites.<sup>52</sup> Additionally, in the notice the FAA announced privacy requirements that will be applicable to operations at test sites. These provisions are discussed in more detail below.<sup>53</sup>

The FAA received 50 applications spread across 37 states and is in the process of making its test range site selections.<sup>54</sup>

## Airspace and Property Rights

Since the popularization of aviation, courts have had to balance the need for unobstructed air travel and commerce with the rights of private property owners. The foundational case in explaining airspace ownership rights is *United States v. Causby*.<sup>55</sup>

### *United States v. Causby*

In *United States v. Causby*, the Supreme Court directly confronted the question of who owns the airspace above private property.<sup>56</sup> The plaintiffs filed suit against the U.S. government arguing

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<sup>47</sup> *Id.* at § 336(b).

<sup>48</sup> *Id.* at § 332(c).

<sup>49</sup> *Id.* at § 332(c)(2).

<sup>50</sup> Unmanned Aircraft System Test Site Program, 78 Fed. Reg. 12259 (Feb. 22, 2013).

<sup>51</sup> *Id.*

<sup>52</sup> *Id.*; see P.L. 112-95, § 332(c)(3).

<sup>53</sup> See *infra* “FAA Regulation of Privacy”.

<sup>54</sup> FAA, “UAS Test Site Map,” available at [http://www.faa.gov/about/initiatives/uas/media/UAS\\_testsite\\_map.pdf](http://www.faa.gov/about/initiatives/uas/media/UAS_testsite_map.pdf).

<sup>55</sup> *United States v. Causby*, 328 U.S. 256 (1946).

<sup>56</sup> *Id.*

that flights of military planes over their property constituted a violation of the Fifth Amendment Takings Clause, which states that private property shall not “be taken for public use, without just compensation.” Generally, takings suits can only be filed against the government when a government actor, as opposed to a private party, causes the alleged harm.<sup>57</sup>

Causby owned a chicken farm outside of Greensboro, North Carolina, that was located near an airport regularly used by the military. The proximity of the airport and the configuration of the farm’s structures led the military planes to pass over the property at 83 feet above the surface, which was only 67 feet above the house, 63 feet above the barn, and 18 feet above the tallest tree.<sup>58</sup> While this take-off and landing pattern was conducted according to the Civil Aeronautics Authority guidelines, the planes caused “startling” noises and bright glare at night.

As the Court explained, “as a result of the noise, respondents had to give up their chicken business. As many as six to ten of their chickens were killed in one day by flying into the walls from fright. The total chickens lost in this manner was about 150.... The result was the destruction of the use of the property as a commercial chicken farm.”<sup>59</sup> The Court had to determine whether this loss of property constituted a taking without just compensation.

At the outset, the Court directly rejected the common law conception of airspace ownership: “It is ancient doctrine that at common law ownership of the land extended to the periphery of the universe—*Cujus solum ejus est usque ad coelum*. But that doctrine has no place in the modern world.”<sup>60</sup> The Court noted that Congress had previously declared a public right of transit in air commerce in navigable airspace and national sovereignty in the airspace.<sup>61</sup> These statutes could not be reconciled with the common law doctrine without subjecting aircraft operators to countless trespass suits. In the Court’s words, “common sense revolts at the idea.”<sup>62</sup>

Even though it rejected the idea that the Causbys held complete ownership of the air up to the heavens, the Court still had to determine if they owned any portion of the space in which the planes flew such that a takings could occur. The government argued that flights within navigable airspace that do not physically invade the surface cannot lead to a taking. It also argued that the landowner does not own any airspace adjacent to the surface “which he has not subjected to possession by the erection of structures or other occupancy.”<sup>63</sup>

The Court did not adopt this reasoning, finding instead that “the landowner owns at least as much space above the ground as he can occupy or use in connection with the land. The fact that he does not occupy it in a physical sense—by the erection of building and the like—is not material.”<sup>64</sup> Therefore, it found that the landowner owns the airspace in the immediate reaches of the surface necessary to use and enjoy the land and invasions of this space “are in the same category as

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<sup>57</sup> Takings claims filed against state government actors would not be filed under the Fifth Amendment. Rather, they would arise as state constitutional claims. For more information on takings, see CRS Report RS20741, *The Constitutional Law of Property Rights “Takings”*: An Introduction, by Robert Meltz.

<sup>58</sup> *Causby*, 328 U.S. at 258.

<sup>59</sup> *Id.* at 259.

<sup>60</sup> *Id.* at 260-61.

<sup>61</sup> *Id.* at 260 (citing statutes then codified at 49 U.S.C. §§ 176(a), 403).

<sup>62</sup> *Id.*

<sup>63</sup> *Id.*

<sup>64</sup> *Id.* at 264 (citing *Hinman v. Pacific Air Transport*, 84 F.2d 755 (9<sup>th</sup> Cir. 1936)).

invasions of the surface.”<sup>65</sup> Above these immediate reaches, the airspace is part of the public domain, but the Court declined to draw a clear line. The Court also noted that the government’s argument regarding the impossibility of a taking based on flights in navigable airspace was inapplicable in this case because the flights over Causby’s land were not within navigable airspace.<sup>66</sup> At the time, federal law defined navigable airspace as the space above the minimum safe flying altitudes for specific areas, but did not include the space needed to take off and land. Even though these flights were not within navigable airspace, the Court seemed to suggest that if they were, the inquiry would not immediately end. Instead, the Court would then have to determine if the regulation itself, defining the navigable airspace, was valid.<sup>67</sup>

Ultimately, in the context of a taking claim, the Court concluded that “flights over private land are not a taking, unless they are so low and so frequent to be a direct and immediate interference with the enjoyment and use of the land.”<sup>68</sup> With regard to the Causbys’ chicken farm, the Court concluded that the military flights had imposed a servitude upon the land, similar to an easement, based on the interference with the use and enjoyment of their property. Although the land did not lose all its economic value, the lower court’s findings clearly established the flights led directly to a diminution in the value of the property, since it could no longer be used for its primary purpose as a chicken farm.

## **Post-Causby Theories of Airspace Ownership**

*Causby* clearly abandoned the ancient idea that private landowners each owned their vertical slice of the airspace above the surface in perpetuity as incompatible with modern life. The case set up three factors to examine in a takings claim that courts still utilize today: (1) whether the planes flew directly over the plaintiff’s land; (2) the altitude and frequency of the flights; and (3) whether the flights directly and immediately interfered with the plaintiff’s use and enjoyment of the surface land.<sup>69</sup>

However, it left many questions unanswered. Where is the dividing line between the “immediate reaches” of the surface and public domain airspace? Can navigable airspace intersect with the “immediate reaches” belonging to the private property? Can aircraft flying wholly within navigable airspace, as defined by federal law, ever lead to a successful takings claim? How does one assess claims based on lawfully operated aircraft, such as helicopters, flying below navigable airspace?

Subsequent cases have been brought using many different legal claims, including trespass and nuisance, as discussed below, and various ways of describing the resulting injury. Claims could include an “inverse condemnation,” another way of describing a taking, or the establishment of an avigation, air, or flying easement. While these legal claims may have different names, it appears

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<sup>65</sup> *Id.* at 265.

<sup>66</sup> *Id.* at 264.

<sup>67</sup> *Id.* at 263.

<sup>68</sup> *Id.* at 266.

<sup>69</sup> See e.g., *Andrews v. United States*, 2012 U.S. Claims LEXIS 1644, \*10 (explaining that the “The United States Court of Appeals for the Federal Circuit (Federal Circuit) has derived from *Causby* three factors for consideration ‘in determining whether noise and other effects from overflights ... constitute a taking....’”). But see *Argent v. United States*, 124 F.3d 1277, 1284 (Fed. Cir. 1997) (finding a taking claim may be based on “a peculiarly burdensome pattern of activity, including both intrusive and non-intrusive flights”).

that courts use *Causby* as the starting point for analyzing all property-based challenges to intrusions upon airspace. Several different interpretations of *Causby* have emerged in the attempt to articulate an airspace ownership standard, a few of which are described here.

Following *Causby*, several lower courts employed a fixed-height theory and interpreted the decision as creating two distinct categories of airspace. On the one hand, the stratum of airspace that was defined in federal law as “navigable airspace” was always a part of the public domain. Therefore, flights in this navigable airspace could not lead to a successful property-right based action like a takings or trespass claim because the property owner never owned the airspace in the public domain. On the other hand, the airspace below what is defined as navigable airspace could be “owned” by the surface owner and, therefore, intrusions upon it could lead to a successful takings or property tort claim. Since this fixed-height theory of airspace ownership relies heavily on the definition of navigable airspace, the expansion of the federal definition of “navigable airspace” to include the airspace needed to take-off and land<sup>70</sup> greatly impacts what airspace a property owner could claim.

This strict separation between navigable airspace and the airspace a landowner can claim seems to have been disavowed by the Supreme Court. First, in dicta in *Braniff Airways v. Nebraska State Board of Equalization & Assessment*,<sup>71</sup> a case primarily dealing with the question of federal preemption of state airline regulations, the Court left open the possibility of a taking based on flights occurring in navigable airspace. It summarized *Causby* as holding “that the owner of land might recover for a taking by national use of navigable air space resulting in destruction in whole or in part of the usefulness of the land property.”<sup>72</sup> Next, in *Griggs v. Allegheny County* the Supreme Court found that the low flight of planes over the plaintiff’s property, taking off from and landing at a nearby airport’s newly constructed runway, constituted a taking that had to be compensated under the Fifth Amendment.<sup>73</sup> The noise and fear of a plane crash caused by the low overhead flights made the property “undesirable and unbearable” for residential use, making it impossible for people in the house to converse or sleep.<sup>74</sup> The Court reached this conclusion that a taking occurred based on this injury, despite the fact that the flights were operated properly under federal regulations and never flew outside of navigable airspace.<sup>75</sup> Despite this holding, some lower courts have continued to lend credence to a fixed-height ownership theory as a reasonable interpretation of *Causby*.<sup>76</sup>

Another interpretation of *Causby* essentially creates a presumption of a non-taking when overhead flights occur in navigable airspace. This presumption would recognize the importance of unimpeded travel of air commerce and that Congress placed navigable airspace in the public domain. However, the presumption could be rebutted by evidence that the flights, while in navigable airspace, interfered with the owner’s use and enjoyment of the surface enough to justify compensation. As one court reasoned, “as the height of the overflight increases... the Government’s interest in maintaining sovereignty becomes weightier while the landowner’s

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<sup>70</sup> 49 U.S.C. §40102(32) (2012).

<sup>71</sup> 347 U.S. 590 (1954).

<sup>72</sup> *Id.* at 596.

<sup>73</sup> *Griggs v. Allegheny County*, 369 U.S. 84, 90 (1962).

<sup>74</sup> *Id.* at 87.

<sup>75</sup> *Id.* at 86-89.

<sup>76</sup> *See, e.g., Aaron v. United States*, 311 F.2d 798 (Ct. Cl. 1963); *Powell v. United States*, 1 Cl. Ct. 669 (1983).

interest diminishes, so that the damage showing required increases in a continuum toward showing absolute destruction of all uses of the property.”<sup>77</sup>

Finally, some courts have concluded that the altitude of the overhead flight has no determinative impact on whether a taking has occurred. One federal court noted that the government’s liability for a taking is not impacted “merely because the flights of Government aircraft are in what Congress has declared to be navigable airspace and subject to its regulation.”<sup>78</sup> Under this approach, “although the navigable airspace has been declared to be in the public domain, ‘regardless of any congressional limitations, the land owner, as an incident to his ownership, has a claim to the superjacent airspace to the extent that a reasonable use of his land involves such space.’”<sup>79</sup> Under this theory, the court would only need to examine the effect of the overhead flights on the use and enjoyment of the land, and would not need to determine if the flight occurred in navigable airspace.

While the definition of navigable airspace impacts each theory differently, it is clear that under each interpretation a showing of interference with the use and enjoyment of property is required. Cases have clearly established that overhead flights leading to impairment of the owner’s livelihood or that cause physical damage qualify as an interference with use and enjoyment of property.<sup>80</sup> Additionally, flights that cause the surface to become impractical for its intended use by the current owner also satisfy the use and enjoyment requirement.<sup>81</sup> For example, in *Griggs*, the noise, vibration, and fear of damage caused by overhead flights made it impossible for the plaintiffs to converse with others or sleep within their house, leading to their retreat from the property, which had become “undesirable and unbearable for their residential use.”<sup>82</sup> Some courts have recognized a reduction in the potential resale value of the property as an interference with its use and enjoyment, even if the property continues to be suitable for the purposes for which it is currently used.<sup>83</sup> One court explained: “Enjoyment of property at common law contemplated the entire bundle of rights and privileges that attached to the ownership of land.... Owners of fee simple estates ... clearly enjoy not only the right to put their land to a particular present use, but also to hold the land for investment and appreciation....”<sup>84</sup> However, other courts have rejected the idea that restrictions on uses by future inhabitants, without showing loss of property value, are relevant to a determination of the owner’s own use and enjoyment of the property.<sup>85</sup>

## Trespass and Nuisance Claims Against Private Actors

Although *Causby* arose from a Fifth Amendment takings claim, its articulation of airspace ownership standards is also often used in determining state law tort claims such as trespass and nuisance. These state law tort claims could be used to establish liability for overhead flights

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<sup>77</sup> *Stephens v. United States*, 11 Cl. Ct. 352, 362 (1986).

<sup>78</sup> *Branning v. United States*, 654 F.2d 88, 99 (1981).

<sup>79</sup> *Id.* at 98-99 (citing *Palisades Citizens Association, Inc. v. C.A.B.*, 420 F.2d 188, 192 (D.C. Cir. 1969)).

<sup>80</sup> *See, e.g., Causby*, 328 U.S. 256.

<sup>81</sup> *See, e.g., Griggs*, 369 U.S. 84; *Pueblo of Sandia v. Smith*, 497 F.2d 1043 (10<sup>th</sup> Cir. 1974) (“appellant failed to show interference with actual, as distinguished from potential, use of its land.”).

<sup>82</sup> *Griggs*, 369 U.S. at 87.

<sup>83</sup> *See, e.g., Brown v. United States*, 73 F.3d 1100 (1996); *Branning*, 654 F.2d 88.

<sup>84</sup> *Brown*, 73 F.3d 1100.

<sup>85</sup> *Stephens v. United States*, 11 Cl. Ct. 352 (1986).



operated by private actors, where a lack of government involvement precludes a takings claim. Generally, the tort of trespass is any physical intrusion upon property owned by another. However, unlike with surface trespass claims, simply proving that an object or person was physically present in the airspace vertically above the landowner's property is generally not enough to establish a trespass in airspace. Since *Causby* struck down the common law idea of *ad coelum*, landowners generally do not have an absolute possessory right to the airspace above the surface into perpetuity. Instead, airspace trespass claims are often assessed using the same requirements laid out in the *Causby* takings claim. Arguably, these standards are used in property tort claims because there can be no trespass in airspace unless the property owner has some possessory right to the airspace, which was the same question at issue in *Causby*.

To allege an actionable trespass to airspace, the property owner must not only prove that the interference occurred within the immediate reaches of the land, or the airspace that the owner can possess under *Causby*, but also that its presence interferes with the actual use of his land. As one court explained, "a property owner owns only as much air space above his property as he can practicable use. And to constitute an actionable trespass, an intrusion has to be such as to subtract from the owner's use of the property."<sup>86</sup> This standard for airspace trespass was also adopted by the Restatement (Second) of Torts.<sup>87</sup>

Nuisance is a state law tort claim that is not based on possessory rights to property, like trespass, but is rooted in the right to use and enjoy land.<sup>88</sup> Trespass and nuisance claims arising from airspace use are quite similar, since trespass to airspace claims generally require a showing that the object in airspace interfered with use and enjoyment of land. However, unlike trespass, nuisance claims do not require a showing that the interference actually occupied the owner's airspace. Instead, a nuisance claim can succeed even if the interference flew over adjoining lands and never directly over the plaintiff's land, as long as the flight constitutes a substantial and unreasonable interference with the use and enjoyment of the land.

## **Potential Liability Arising from Civilian Drone Use**

The integration of drones into domestic airspace will raise novel questions of how to apply existing airspace ownership law to this new technology. How courts may apply the various interpretations of *Causby*, discussed above, to drones will likely be greatly impacted by the FAA's definition of navigable airspace for drones.

The potential for successful takings, trespass, or nuisance claims from drone use will also be impacted by the physical characteristics of the drone, especially given that current case law heavily emphasizes the impact of the flight on use and enjoyment of the surface property. Several characteristics of drones may make their operation in airspace less likely to lead to liability for drone operators than for aircraft operators. First, the noise attributed to drone use may be significantly less than noise created by helicopters or planes powered by jet engines. Second, drones commonly used for civilian purposes could be much smaller than common aircraft used today. This decreased size is likely to lead to fewer physical impacts upon surface land such as

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<sup>86</sup> *Geller v. Brownstone Condominium*, 82 Ill. App. 3d 334, 336-37 (1980).

<sup>87</sup> RESTATEMENT (SECOND) OF TORTS §159(2) (1965) (stating that "Flights by aircraft in the airspace above the land of another is a trespass if, but only if, (a) it enters into the immediate reaches of the airspace next to the land, and (b) it interferes substantially with the other's use and enjoyment of the land.").

<sup>88</sup> RESTATEMENT (SECOND) OF TORTS §821D (1979); 2 DAN B DOBBS ET AL., THE LAW OF TORTS §398 (2d ed. 2011).

vibration and dust, which are common complaints arising from overhead aircraft and helicopter flights. Finally, it is unknown at this time how most drones will be deployed into flight. Will drone “airports” be used to launch the aircraft or will they take off and land primarily from individual property? If drone use remains decentralized and is not organized around an “airport,” then drones are less likely to fly repeatedly over the same piece of property, creating fewer potential takings, trespass, or nuisance claims. Additionally, the majority of drones are more likely to operate like helicopters, taking off and landing vertically, than like traditional fixed-wing aircraft. This method of takeoff reduces the amount of surface the aircraft would have to fly over before reaching its desired flying altitude, minimizing the potential number of property owners alleging physical invasion of the immediate reaches of their surface property.

Alternatively, the potential ability for drones to fly safely at much lower altitudes than fixed-wing aircraft or helicopters could lead to a larger number of property-based claims. Low-flying drones are more likely to invade the immediate reaches of the surface property, thus satisfying part of the requirement for a takings or trespass claim.

## Privacy

Perhaps the most contentious issue concerning the introduction of drones into U.S. airspace is the threat that this technology will be used to spy on American citizens. With the ability to house high-powered cameras, infrared sensors, facial recognition technology, and license plate readers, some argue that drones present a substantial privacy risk.<sup>89</sup> Undoubtedly, the government’s use of drones for domestic surveillance operations implicates the Fourth Amendment and other applicable laws.<sup>90</sup> In like manner, privacy advocates have warned that private actors might use drones in a way that could infringe upon fundamental privacy rights.<sup>91</sup> This section will focus on the privacy issues associated with the use of drones by private, non-governmental actors. It will provide a general history of privacy law in the United States and survey the various privacy torts, including intrusion upon seclusion, the privacy tort most applicable to drone surveillance. It will then explore the First Amendment right to gather news. Application of these theories to drone surveillance will be discussed in the section titled “Congressional Response.”

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<sup>89</sup> See Jennifer Lynch, *Are Drones Watching You?*, ELECTRONIC FRONTIER FOUNDATION (January 10, 2012), <https://www EFF.org/deeplinks/2012/01/drones-are-watching-you>; M. Ryan Calo, *The Drone as Privacy Catalyst*, 64 STAN. L. REV. ONLINE 29 (December 12, 2011), [http://www.stanfordlawreview.org/sites/default/files/online/articles/64-SLRO-29\\_1.pdf](http://www.stanfordlawreview.org/sites/default/files/online/articles/64-SLRO-29_1.pdf).

<sup>90</sup> For an analysis of the Fourth Amendment implications of government drone surveillance, see CRS Report R42701, *Drones in Domestic Surveillance Operations: Fourth Amendment Implications and Legislative Responses*, by Richard M. Thompson II.

<sup>91</sup> See Press Release, Rep. Ed Markey, Markey Releases Discussion Draft of Drone Privacy and Transparency Legislation (August 1, 2012), available at <http://markey.house.gov/press-release/markey-releases-discussion-draft-drone-privacy-and-transparency-legislation>.

Drones are already flying in U.S. airspace – with thousands more to come – but with no privacy protections or transparency measures in place. We are entering a brave new world, and just because a company soon will be able to register a drone license shouldn’t mean that company can turn it into a cash register by selling consumer information. Currently, there are no privacy protections or guidelines and no way for the public to know who is flying drones, where, and why. The time to implement privacy protections is now.

*Id.*



## Early Privacy Jurisprudence

Although early Anglo-Saxon law lacked express privacy protections, property law and trespass theories served as proxy for the protection of individual privacy. Lord Coke pronounced in 1605 that “the house of everyone is to him as his castle and fortress, as well for his defence against injury and violence, as for his repose[.]”<sup>92</sup> This proposition that individuals are entitled to privacy while in their homes crossed the Atlantic with the colonists and appeared prominently in early revolutionary thinking.<sup>93</sup> In one early American common law decision, the court noted that “[t]he law is clearly settled, that an officer cannot justify the breaking open an outward door or window, in order to execute process in a civil suit; if he doth, he is a trespasser.”<sup>94</sup> In cases lacking physical trespass, prosecutors relied on an eavesdropping theory, which protected the privacy of individuals’ conversations while in their home.<sup>95</sup>

These century-old theories of trespass and eavesdropping, however, failed to keep up with a rapidly changing society fueled by advancing technologies. As with today’s celebrity-obsessed society, late-19<sup>th</sup> century society experienced the birth and spread of “yellow journalism,” a new media aimed at emphasizing the “curious, dramatic, and unusual, providing readers a ‘palliative of sin, sex, and violence.’”<sup>96</sup> Faster presses and instantaneous photography enabled journalists to exploit and spread gossip.<sup>97</sup> Louis D. Brandeis (then a private attorney) and Samuel Warren were bothered with the press’s constant intrusions into the private affairs of prominent Bostonians.<sup>98</sup> In 1890, they published a seminal law review article formulating a new legal theory—the right to be let alone.<sup>99</sup> Brandeis and Warren understood that existing tort doctrines such as trespass and libel were insufficient to protect privacy rights, as “only a part of the pain, pleasure, and profit of life lay in physical things.”<sup>100</sup> They noted that this new right to privacy derived not from “the principle of private property, but that of an inviolate personality.”<sup>101</sup> The authors observed that “instantaneous photographs and newspaper enterprise have invaded the sacred precincts of private and domestic life; and numerous mechanical devices threaten to make good the prediction that ‘what is whispered in the closet shall be proclaimed from the house-tops.’”<sup>102</sup> Although this new theory had its detractors,<sup>103</sup> it found its way into the common law of several states.<sup>104</sup>

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<sup>92</sup> *Semayne’s Case*, 5 Co. Rep. 91 (K. B. 1604).

<sup>93</sup> In contesting the use of general warrants by officials of the British Crown, known then as writs of assistance, James Otis argued that “one of the most essential branches of English liberty, is the freedom of one’s house. A man’s house is his castle; and while he is quiet, he is as well guarded as a prince in his castle.” II LEGAL PAPERS OF JOHN ADAMS 142.

<sup>94</sup> *See State v. Armfield*, 9 N.C. 246, 247 (1822).

<sup>95</sup> Note, *The Right to Privacy in Nineteenth Century America*, 94 HARV. L. REV. 1892, 1896 (1981). In an early case from Pennsylvania, in recognizing eavesdropping as an indictable offense, the court noted: “Every man’s home is his castle, where no man has a right to intrude for any purpose whatever. No man has a right to pry into your secrecy in your own house.” *Commonwealth v. Lovett*, 4 Pa. L.J. Rpts. (Clark) 226, 226 (Pa. 1831); *see also State v. Williams*, 2 Tenn. 108, 108 (1808) (recognizing eavesdropping as an indictable offense).

<sup>96</sup> Ken Gromley, *One Hundred Years of Privacy*, 1992 WIS. L. REV. 1335, 1351 (1992) (quoting EDWIN EMERY & MICHAEL C. EMERY, *THE PRESS AND AMERICA: AN INTERPRETATIVE HISTORY OF THE MASS MEDIA* 349-50 (3d ed. 1972)).

<sup>97</sup> *Id.* at 1350-51.

<sup>98</sup> William M. Prosser, *Privacy*, 48 Cal. L. Rev. 383, 383 (1960).

<sup>99</sup> Louis D. Brandeis & Samuel D. Warren, *The Right to Privacy*, 4 HARV. L. REV. 193, 205 (1890).

<sup>100</sup> *Id.* at 195.

<sup>101</sup> *Id.* at 205.

<sup>102</sup> *Id.* at 195.

<sup>103</sup> Herbert Spencer Hadley, *Right to Privacy*, 3 N.W. L. REV. 1, 3-4 (1894) (“The writer believes that the right to (continued...)”).

## Privacy Torts

In 1939, the First Restatement of Torts (a set of model rules intended for adoption by the states) created a general tort for invasion of privacy.<sup>105</sup> By 1940, a minority of states had adopted some right of privacy either by statute or judicial decision, and six states had expressly refused to adopt such a right.<sup>106</sup> Twenty years later, Dean William Prosser surveyed the case law surrounding this right and concluded that the right to privacy entailed four distinct (yet, sometimes overlapping) rights: (1) intrusion upon seclusion; (2) public disclosure of private facts; (3) publicity which puts the target in a false light; and (4) appropriation of one's likeness.<sup>107</sup> These four categories were incorporated into the Restatement (Second) of Torts.<sup>108</sup>

Section 652B of the Restatement (Second) of Torts creates a cause of action for intrusion upon seclusion,<sup>109</sup> the privacy tort most likely to apply to drone surveillance.<sup>110</sup> It has been adopted either by common law or statute in an overwhelming majority of the states.<sup>111</sup> Section 652B provides: "One who intentionally intrudes, physically or otherwise, upon the solitude or seclusion of another or his private affairs or concerns, is subject to liability to the other for invasion of his privacy, if the intrusion would be highly offensive to a reasonable person."<sup>112</sup> Courts have developed a set of rules for applying Section 652B. First, it requires an objective person standard, testing whether a person of "ordinary sensibilities" would be offended by the alleged invasion.<sup>113</sup> Thus, someone with an idiosyncratic sensitivity—say, an aversion to cameras—could not satisfy this standard by simply having his photograph taken. Likewise, the intrusion must not only be offensive, but "*highly* offensive,"<sup>114</sup> or as one court put it, "outrageously unreasonable conduct."<sup>115</sup> Generally, a single incident will not suffice; instead, the intrusion must be "repeated with such persistence and frequency as to amount to a course of hounding" and "becomes a burden to his existence...."<sup>116</sup> However, in a few cases a single intrusion was adequate.<sup>117</sup> The

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privacy does not exist; that the arguments in its favor are based on a mistaken understanding of the authorities cited in its support[.]"

<sup>104</sup> Compare *Roberson v. Rochester Folding Box Co.*, 171 N.E. 538, 542 (N.Y. 1902) (declining to adopt right of privacy), with *Pavesich v. New England Life Ins. Co.*, 50 S.E. 68 (Ga. 1905) (recognizing a right to privacy).

<sup>105</sup> RESTATEMENT (FIRST) OF TORTS §867 (1939).

<sup>106</sup> See Louis Nizer, *Right of Privacy – A Half Century's Development*, 39 MICH. L. REV. 526, 529-30 (1940).

<sup>107</sup> Prosser, *supra* note 98, at 385.

<sup>108</sup> RESTATEMENT (SECOND) OF TORTS §§652B (intrusion upon seclusion), 652C (appropriation of name or likeness), 652D (publicity given to private fact), 652E (publicity placing person in false light).

<sup>109</sup> *Id.* at §652B.

<sup>110</sup> Because the use of drones for surveillance primarily concerns the collection, and not necessarily the dissemination, of information, this section will focus on the tort of intrusion upon seclusion, which has no publication requirement for recovery. *Id.* cmt. a.

<sup>111</sup> North Dakota and Wyoming are the only states not to adopt the privacy tort of intrusion upon seclusion. See Tigran Palyan, *Common Law Privacy in a Not So Common World: Prospects for the Tort of Intrusion Upon Seclusion in Virtual Worlds*, 38 SW. L. REV. 167, 180 n.106 (2008).

<sup>112</sup> *Id.*

<sup>113</sup> *Shorter v. Retail Credit Co.*, 251 F. Supp. 329, 322 (D.S.C. 1966).

<sup>114</sup> RESTATEMENT (SECOND) OF TORTS §652B (emphasis added).

<sup>115</sup> *N.O.C., Inc. v. Schaefer*, 484 A.2d 729, 733 (N.J. Super. Ct. Law Div. 1984).

<sup>116</sup> RESTATEMENT (SECOND) OF TORTS §652B cmt. d.

<sup>117</sup> See, e.g., *Miller v. National Broadcasting Co.*, 187 Cal. App. 3d 1463 (Cal. Ct. App. 1986) (videotaping man in his (continued...))

invasion of privacy must been intentional, meaning the defendant must desire that the intrusion would occur, or as with other torts,<sup>118</sup> knew with a substantial certainty that such an invasion would result from his actions.<sup>119</sup> An accidental intrusion is not actionable. Finally, in some states, the intrusion must cause mental suffering, shame, or humiliation to permit recovery.<sup>120</sup>

A review of the case law demonstrates that the location of the target of the surveillance is, in many cases, determinative of whether someone has a viable claim for intrusion upon seclusion. For the most part, conducting surveillance of a person while within the confines of his home will constitute an intrusion upon seclusion.<sup>121</sup> The illustrations to Section 652B offer an example of a private detective who photographs an individual while in his home with a telescopic camera as a viable claim.<sup>122</sup> Likewise, as one court observed, “when a picture is taken of a plaintiff while he is in the privacy of his home, ... the taking of the picture may be considered an intrusion into the plaintiff’s privacy just as eavesdropping or looking into his upstairs windows with binoculars are considered an invasion of his privacy.”<sup>123</sup>

The likelihood of a successful claim is diminished if the surveillance is conducted in a public place. The comments to Section 652B explain that there is generally no liability for photographing or observing a person while in public “since he is not then in seclusion, and his appearance is public and open to the public eye.”<sup>124</sup> Likewise, Prosser observed:

On the public street, or in any other public place, the plaintiff has no right to be alone, and it is no invasion of his privacy to do no more than follow him about. Neither is it such an invasion to take a photograph in such a place, since this amounts to nothing more than making a record, not differing essentially from a full written description, of a public sight which anyone present would be free to see.<sup>125</sup>

The case law also supports this proposition. The Alabama Supreme Court dismissed a claim of wrongful intrusion against operators of a race track who photographed the plaintiffs while they were in the “winner’s circle” at the track.<sup>126</sup> Similarly, a federal district court dismissed a claim by a husband and wife who had been photographed by Forbes Magazine while waiting in line at the Miami International Airport as it was taken in “a place open to the general public.”<sup>127</sup> Likewise, a Vietnam veteran lost a claim for invasion of privacy based on photographs that depicted him and

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home while being resuscitated after having suffered a heart seizure); *Nader v. General Motors Corp.*, 25 N.Y.2d 560, 570 (1970) (surveilling plaintiff in bank in an “overzealous” manner).

<sup>118</sup> RESTATEMENT (SECOND) OF TORTS §652B.

<sup>119</sup> See *DOBBS ET AL.*, *supra* note 88, at §29.

<sup>120</sup> *DeAngelo v. Fortney*, 515 A.2d 594, 596 (Pa. Sup. 1986); *Burns v. Masterbrand Cabinets, Inc.*, 369 Ill. App. 3d 1006, 1012 (Ill. App. Ct. 2007).

<sup>121</sup> See, e.g., *Wolfson v. Lewis*, 924 F. Supp. 1413 (E.D. Penn. 1996).

<sup>122</sup> RESTATEMENT (SECOND) OF TORTS §652B cmt. b, illus. 2.

<sup>123</sup> *Lovgren v. Citizens First Nat. Bank of Princeton*, 534 N.E.2d 987 (Ill. 1989); see also *Souder v. Pendleton Detectives*, 88 So.2d 716, 718 (La. Ct. App. 1956) (peeping into plaintiff’s windows); *Egan v. Schmock*, 93 F. Supp. 2d 1090, 1094-95 (N.D. Cal. 2000) (filming plaintiff and family while in their home).

<sup>124</sup> RESTATEMENT (SECOND) OF TORTS §652B cmt. c.

<sup>125</sup> Prosser, *supra* note 98, at 392.

<sup>126</sup> *Schifano v. Green County*, 624 So. 2d 178 (Ala. 1993).

<sup>127</sup> *Fogel v. Forbes*, 500 F. Supp. 1081, 1084, 1087 (E.D. Pa. 1980).

other soldiers during a combat mission in Vietnam—again, a public setting.<sup>128</sup> Other examples include the recording of license plate numbers of cars parked in a public parking lot<sup>129</sup> and photographing a person while walking on a public sidewalk.<sup>130</sup>

Indeed, even plaintiffs who were videotaped or photographed while on their own property have generally been unsuccessful in their privacy claims so long as they could be viewed from a public vantage point. Rejecting one plaintiff's claim for intrusion upon seclusion, the Supreme Court of Oregon held that even though the investigators trespassed on the plaintiff's property to film him, the investigation did not "constitute an unreasonable surveillance 'highly offensive to a reasonable man[.]'"<sup>131</sup> as the plaintiff could have been viewed from the road by his neighbors or passersby.<sup>132</sup> In another case, the wife of a prominent Puerto Rican politician sought damages from a newspaper for invasion of privacy allegedly committed when an agent of the newspaper photographed her house as part of a news story about her husband.<sup>133</sup> The court dismissed her claim as the photographers were not "unreasonably intrusive," and the photographs depicted only the outside of the home and no persons were photographed.<sup>134</sup> Similarly, in one case a couple sued a cell phone company for intrusion upon seclusion when the company's workers looked onto their property each time they serviced a nearby cell tower.<sup>135</sup> The court rejected their claim, holding that "[t]he mere fact that maintenance workers come to an adjoining property as part of their work and look over into the adjoining yard is legally insufficient evidence of highly offensive conduct."<sup>136</sup> There are many other examples.<sup>137</sup>

However, there have been some successful claims for intrusion upon seclusion involving surveillance conducted in public.<sup>138</sup> The comments to Section 652B explain: "Even in a public place, however, there may be some matters about the plaintiff, such as his underwear or lack of it, that are not exhibited to the public gaze, and there may still be invasion of privacy when there is intrusion upon these matters."<sup>139</sup> One of the most famous cases concerning this "public gaze" theory involved a suit for invasion of privacy against a newspaper when it published a picture of

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<sup>128</sup> *Tellado v. Time-Life*, 643 F. Supp. 904, 907 (D.N.J. 1986).

<sup>129</sup> *See International Union v. Garner*, 601 F. Supp. 187, 191-92 (M.D. 1985); *Tedeschi v. Reardon*, 5 F. Supp. 2d 40, 46 (D. Mass. 1998).

<sup>130</sup> *Jackson v. Playboy Enterprises, Inc.*, 574 F. Supp. 10, 13 (S.D. Ohio 1983).

<sup>131</sup> *McClain v. Boise Cascade Corp.*, 271 OR 549, 556 (1975). It should be noted that the court also relied on previous case law which held that one who seeks damages for alleged injuries "waives his right to privacy to the extent of a reasonable investigation." *Id.* at 554-555.

<sup>132</sup> *Id.* at 556.

<sup>133</sup> *Mojica Escobar v. Roca*, 926 F. Supp. 30, 32-33 (D.P.R. 1996).

<sup>134</sup> *Id.* at 35 (citing *Dopp v. Fairfax Consultants, Ltd.*, 771 F. Supp. 494, 497 (D.P.R. 1990)).

<sup>135</sup> *GTE Mobilnet of South Texas, LTD. Partnership v. Pascouet*, 61 S.W. 3d 599, 605 (Tex. App. 2001).

<sup>136</sup> *Id.* at 618.

<sup>137</sup> *See, e.g., Aisenson v. American Broadcasting Co*, 220 Cal. App. 3d 146, 162-63 (1990) (holding that broadcast of plaintiff while in his driveway and car was not an intrusion upon seclusion); *Wehling v. Columbia Broadcasting System*, 721 F.2d 506, 509 (5<sup>th</sup> Cir. 1983) (holding that broadcast of the outside of plaintiff's home taken from public street was not an invasion of privacy); *Munson v. Milwaukee Bd. of School Directors*, 969 F.2d 266, 271 (7<sup>th</sup> Cir. 1992) (same).

<sup>138</sup> *See Kramer v. Downey*, 684 S.W. 2d 524, 525 (Tex. Ct. App. 1984) ("[W]e now hold that the right to privacy is broad enough to include the right to be free of those willful intrusions into one's personal life at home and at work which occurred in this case.").

<sup>139</sup> RESTATEMENT (SECOND) OF TORTS §652B cmt. c.

the plaintiff with her dress blown up as she was leaving a fun house at a county fair.<sup>140</sup> In upholding the plaintiff's claim, the court observed: "To hold that one who is involuntarily and instantaneously enmeshed in an embarrassing pose forfeits her right of privacy merely because she happened at the moment to be part of a public scene would be illogical, wrong, and unjust."<sup>141</sup> In *Huskey v. National Broadcasting Co. Inc.*, a prisoner sued NBC, a television broadcasting company, alleging that by filming him without consent while he was working out in the exercise yard at the prison, NBC invaded his privacy.<sup>142</sup> NBC countered that depictions of persons in a "publicly visible area" could not support the claim for invasion of seclusion.<sup>143</sup> Ultimately, the court permitted the prisoner's claim to go forward, observing that "[o]f course [the prisoner] could be seen by guards, prison personnel and inmates, and obviously he was in fact seen by NBC's camera operator. But the mere fact a person can be seen by others does not mean that person cannot legally be 'secluded.'"<sup>144</sup> Although relief is available for certain cases of public surveillance, recovery seems to be the exception rather than the norm.<sup>145</sup>

## First Amendment and Newsgathering Activities

Based on the foregoing discussion, safeguarding privacy from intrusive drone surveillance is clearly an important societal interest. However, this interest must be weighed against the public's countervailing concern in securing the free flow of information that inevitably feeds the "free trade of ideas."<sup>146</sup> Unmanned aircraft can improve the press and the public's ability to gather news: they can operate in dangerous areas without putting a human operator at risk of danger; can carry sophisticated surveillance technology; can fly in areas not currently accessible by traditional aircraft; and can stay in flight for long durations. However, challenges arise in attempting to find an appropriate balance between this interest in newsgathering and the competing privacy interests at stake.

The First Amendment to the United States Constitution provides that "Congress shall make no law ... abridging the freedom of speech, or of the press...."<sup>147</sup> The Court has construed this phrase to cover not only traditional forms of speech, such as political speeches or polemical articles, but also conduct that is "necessary for, or integrally tied to, acts of expression,"<sup>148</sup> such as distribution of political literature<sup>149</sup> or door-to-door solicitation.<sup>150</sup> Additionally, the Court has pulled within

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<sup>140</sup> *Daily Times Democrat v. Graham*, 276 Ala. 380, 381 (1964).

<sup>141</sup> *Id.* at 383.

<sup>142</sup> *Huskey v. National Broadcasting Co., Inc.*, 632 F. Supp. 1282, 1285 (1986).

<sup>143</sup> *Id.* at 1286.

<sup>144</sup> *Id.* at 1287-88 (emphasis in original).

<sup>145</sup> Jennifer R. Scharf, *Shooting for the Stars: A Call for Federal Legislation to Protect Celebrities' Privacy Rights*, 3 *BUFF. INTELL. PROP. L.J.* 164, 183 (2006) ("Modifying intrusion to apply in public places would be necessary in order to provide any relief").

<sup>146</sup> *Abrams v. United States*, 250 U.S. 616, 630 (1919) (Holmes, J., dissenting). Justice Stevens described this as a "conflict between interests of the highest order—on the one hand, the interest in the full and free dissemination of information concerning public issues, and, on the other hand, the interest in individual privacy and, more specifically, in fostering private speech." *Bartnicki v. Vopper*, 532 U.S. 514, 518 (2001).

<sup>147</sup> U.S. CONST. amend. I.

<sup>148</sup> Barry P. McDonald, *The First Amendment and the Free Flow of Information: Towards a Realistic Right to Gather Information in the Information Age*, 65 *OHIO ST. L. J.* 249, 260 (2004).

<sup>149</sup> *Lovell v. City of Griffin*, 3030 U.S. 444, 452 (1938).

<sup>150</sup> *Watchtower Bible and Tract Soc'y of New York, Inc. v. Vill. of Stratton* 536 U.S. 150, 168-69 (2002).



the First Amendment's protection other conduct that is not expressive in itself, but is "necessary to accord full meaning and substance to those guarantees."<sup>151</sup> For example, the Court has said that the public is entitled to a "right to receive news" as a correlative of the right to free expression.<sup>152</sup>

Like this right to receive news, the Court has intimated in a series of cases beginning in the 1960s that the public and the press may be entitled to *a right to gather news* under the First Amendment. Initially, in *Zemel v. Rusk*, the Court observed that the right "to speak and publish does not carry with it the unrestrained right to gather information."<sup>153</sup> The Court's reluctance to extend this right may have signaled its concern that an unconditional newsgathering right could subsume almost any government regulation that places a slight restriction on the ability to gather news.<sup>154</sup> However, several years later the Court indicated in *Branzburg v. Hayes* that although laws of general applicability apply equally to the press as to the general public, that "[n]ews gathering is not without its First Amendment protections,"<sup>155</sup> and that "without some protection for seeking out the news, freedom of the press could be eviscerated."<sup>156</sup> The Court, however, failed to clearly delineate the parameters of such a protection. In the Court's most recent case, *Cohen v. Cowles Media Co.*, the Court adhered to the "well-established line of decisions holding that generally applicable laws do not offend the First Amendment simply because their enforcement against the press has incidental effects on its ability to gather and report the news."<sup>157</sup> The Court noted that it is "beyond dispute 'that the publisher of a newspaper has no special immunity from the application of general laws. He has no special privilege to invade the rights of others.'"<sup>158</sup>

The lower federal courts have explored this right to gather news in the context of photographing or video recording. In *Dietemann v. Time, Inc.* the Ninth Circuit Court of Appeals explored the extent to which reporters could use surreptitious means to carry out their newsgathering.<sup>159</sup> There, defendants Time Life sent undercover reporters to a man's house where he claimed to use minerals and other materials to heal the sick. The reporters used a hidden camera to take pictures of the man, and a hidden microphone to transmit the conversation to other operatives. The defendants claimed that the First Amendment's right to freedom of the press shielded its newsgathering activities. In rejecting this claim, the court observed that although an individual accepts the risk when inviting a person into his home that the visitor may repeat the conversation to a third party, "he does not and should not be required to take the risk that what is heard and seen will be transmitted by photograph or recording, or in our modern world, in full living color and hi-fi to the public at large or to any segment of it that the visitor may select."<sup>160</sup> The court held that "hidden mechanical contrivances" are not indispensable tools of investigative reporting, and that the "First Amendment has never been construed to accord newsman immunity from torts

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<sup>151</sup> McDonald, *supra* note 148, at 260.

<sup>152</sup> Kleindienst v. Mandel, 408 U.S. 753, 762–63 (1972).

<sup>153</sup> *Zemel v. Rusk*, 381 U.S. 1, 17 (1965).

<sup>154</sup> *Id.* at 16–17 ("There are few restrictions on action which could not be clothed by ingenious argument in the garb of decreased data flow. For example, the prohibition of unauthorized entry into the White House diminishes the citizen's opportunities to gather information he might find relevant to his opinion of the way the country is being run, but that does not make entry into the White House a First Amendment right.").

<sup>155</sup> *Branzburg v. Hayes*, 408 U.S. 665, 707 (1972).

<sup>156</sup> *Id.* at 681.

<sup>157</sup> *Id.* at 669.

<sup>158</sup> *Cohen v. Cowles Media Co.*, 501 U.S. 663, 666 (1991).

<sup>159</sup> *Dietemann v. Time, Inc.*, 449 F.2d 245 (9<sup>th</sup> Cir. 1971).

<sup>160</sup> *Id.* at 249.

or crimes committed during the course of newsgathering.”<sup>161</sup> In *Galella v. Onassis*, Galella, a self-proclaimed “paparazzo,” constantly followed around, harassed, and photographed Jacqueline Kennedy Onassis and her children.<sup>162</sup> As part of an ongoing lawsuit, Onassis sued Galella for, *inter alia*, invasion of her and her family’s privacy. Galella argued that he was entitled to the absolute “wall of immunity” that protects newsmen under the First Amendment. The Second Circuit Court of Appeals quickly rejected this absolutist position: “There is no such scope to the First Amendment right. Crimes and torts committed in news gathering are not protected. There is no threat to a free press in requiring its agents to act within the law.”<sup>163</sup> By contrast, the Seventh Circuit in *Desnick v. American Broadcast Companies, Inc.* held that surreptitious recording was not a privacy invasion because the target of the surveillance was a party to the conversation, thereby vitiating any claim to privacy in those conversations.<sup>164</sup>

## Congressional Response

If Congress chooses to act, it could create privacy protections to protect individuals from intrusive drone surveillance conducted by private actors.<sup>165</sup> Such proposals would be considered in the context of the First Amendment rights to gather and receive news. Several bills have been introduced in the 113<sup>th</sup> Congress that would regulate the private use of drones. Additionally, there are other measures Congress could adopt.

### Drone Aircraft Privacy and Transparency Act of 2013 (H.R. 1262)

In the 113<sup>th</sup> Congress, Representative Ed Markey introduced the Drone Aircraft Privacy and Transparency Act of 2013 (H.R. 1262).<sup>166</sup> This bill would amend FMRA to create a comprehensive scheme to regulate the private use of drones, including data collection requirements and enforcement mechanisms. First, this bill would require the Secretary of Transportation, with input from the Secretary of Commerce, the Chairman of the Federal Trade Commission, and the Chief Privacy Officer of the Department of Homeland Security, to study any potential threats to privacy protections posed by the introduction of drones in the national airspace. Next, the bill would prohibit the FAA from issuing a license to operate a drone unless the application for such use included a “data collection statement.” This statement would require the following items: a list of individuals who would have the authority to operate the drone; the location in which the drone will be used; the maximum period it will be used; and whether the drone would be collecting information about individuals. If the drone will be used to collect personal information, the statement must include the circumstances in which such information will be used; the kinds of information collected and the conclusions drawn from it; the type of data minimization procedures to be employed; whether the information will be sold, and if so, under what circumstances; how long the information would be stored; and procedures for destroying irrelevant data. The statement must also include information about the possible impact on privacy protections posed by the operation under that license and steps to be taken to mitigate

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<sup>161</sup> *Id.*

<sup>162</sup> *Galella v. Onassis*, 487 F.2d 986, 991-92 (2d Cir. 1973).

<sup>163</sup> *Id.* at 996-97 (internal citations omitted).

<sup>164</sup> *Desnick v. American Broadcast Corporation*, 44 F.3d 1345, 1353 (7<sup>th</sup> Cir. 1995).

<sup>165</sup> For legislation that would regulate public actors, see Thompson, *supra* note 90.

<sup>166</sup> H.R. 1262, 113<sup>th</sup> Cong. 1<sup>st</sup> Sess. (1<sup>st</sup> Sess. 2013).



this impact. Additionally, the statement must include the contact information of the drone operator; a process for determining what information has been collected about an individual; and a process for challenging the accuracy of such data. Finally, the FAA would be required to post the data collection statement on the Internet.

H.R. 1262 includes several enforcement mechanisms. First, the FAA may revoke any license of a user that does not comply with these requirements. The Federal Trade Commission would have the primary authority to enforce the data collection requirements just stated. Additionally, the Attorney General of each state, or an official or agency of a state, is empowered to file a civil suit if there is reason to believe that the privacy interests of residents of that state have been threatened or adversely affected. H.R. 1262 would also create a private right of action for a person injured by a violation of this legislation.

### **Preserving American Privacy Act of 2013 (H.R. 637)**

Representative Poe introduced the Preserving American Act of 2013 (H.R. 637) which would prohibit the use of drones to capture images in a manner highly offensive to a reasonable person where the person is engaging in a personal or familial activity under circumstances in which the individual has a reasonable expectation of privacy, regardless of whether there is a physical trespass.<sup>167</sup>

### **Other Proposals**

Additionally, Congress could create a cause of action for surveillance conducted by drones similar to the intrusion upon seclusion tort provided under Restatement Section 652B.<sup>168</sup> How would a court assess whether drone surveillance violated this type of tort? First, generally speaking, the location of the search would be determinative of whether a person is entitled to an expectation of privacy. Although courts have posited that the common law, like the Fourth Amendment, is intended to “protect people, not places[,]”<sup>169</sup> the *location* of an alleged intrusion factors heavily in a privacy analysis. The greatest chance for liability occurs when a person photographs or videotapes another while in the seclusion of his home. While technology has increasingly shrunk other spheres of privacy in the digital age, the home is still accorded significant legal protection. Using a drone to peer inside the home of another—whether looking through a window or utilizing extra-sensory technology such as thermal imaging—would likely constitute an intrusion upon seclusion. Moving from the home to a public space, or even a space on private property where one can be seen from a public vantage point, significantly reduces the chance of tort liability. However, certain instances of highly offensive surveillance in public may be actionable.

This leads to the second factor that will inform a reviewing court’s analysis: the degree of offensiveness of the surveillance. The Ninth Circuit Court of Appeals, applying California law,

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<sup>167</sup> H.R. 637, 113<sup>th</sup> Cong (1<sup>st</sup> Sess. 2013).

<sup>168</sup> As with the enactment of any federal statute, Congress must act within one of its constitutionally delegated powers when creating a federal privacy tort or a crime based on intrusion of privacy. It would appear that Congress could regulate this area under its Commerce Clause power, U.S. Const. art. I, §8, cl. 3, which it acts under when regulating similar federal airspace issues. *See* *Braniff Airways v. Nebraska Bd. of Equalization and Assessment*, 347 U.S. 590 (1954); *United States v. Helsley*, 615 F.2d 784 (9<sup>th</sup> Cir. 1979).

<sup>169</sup> *Pearson v. Dodd*, 410 F.2d 701, 704 (D.C. Cir. 1969) (quoting *Katz v. United States*, 389 U.S. 347, 351 (1967)).

observed that, in determining offensiveness, “common law courts consider, among other things: ‘the degree of intrusion, the context, conduct and circumstances surrounding the intrusion as well as the intruder’s motives and objectives, the setting into which he intrudes, and the expectations of those whose privacy is invaded.’” Several of these factors—especially, the context of the intrusion and the motive of the intruder—are fact intensive and require application in a particular case to fully understand. However, some generalizations can be made. The cases discussed above that did find an intrusion upon seclusion in a public place required highly offensive activity, such as closely following another person for an extended period or photographing another in a highly embarrassing shot. Likewise, a court might recognize liability if one were to use a drone to follow another for an extended period of time, particularly at a close distance. It is not clear, however, whether knowledge of being surveilled makes the monitoring more or less offensive. For example, one court seemed to rely on the fact that the defendant was unaware that her house was being photographed to hold that she did not have a viable privacy claim.<sup>170</sup> A drone flying at several thousand feet may not significantly disturb the target of the surveillance and could fall within this rationale. Nevertheless, filming someone in a compromising or embarrassing situation without his knowledge can be equally offensive. Here, the facts of the particular case would determine liability.

Congress could also create a privacy statute tailored to drone use similar to the anti-voyeurism statutes, or “Peeping Tom” laws, enacted in many states.<sup>171</sup> These laws prohibit persons from surreptitiously filming others in various circumstances and places.<sup>172</sup> Some states prohibit surreptitious surveillance of a person while on private property, usually a private residence.<sup>173</sup> Nevada employs this model, prohibiting a person from entering the property of another with the intent to peep through a window of the building.<sup>174</sup> Likewise, New Jersey prohibits a person from peering into the window of the dwelling of another “under circumstances in which a reasonable person in the dwelling would not expect to be observed.”<sup>175</sup> Other states require a prurient intent when conducting the surveillance. Under Washington State’s statute, a person commits the crime of voyeurism if, for the purpose of arousing or gratifying his sexual desire, he films or photographs (1) a person in a place where he or she would expect privacy; or (2) the intimate areas of another person, whether he or she is in a public or private place.<sup>176</sup>

Similarly, Congress could adopt an “anti-paparazzi” statute, like that enacted in California, to prevent intrusive drone surveillance.<sup>177</sup> In fact, Congress considered a similar measure in the 105<sup>th</sup>

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<sup>170</sup> *Mojica Escobar v. Roca*, 926 F. Supp. 30, 35 (D.P.R. 1996).

<sup>171</sup> Federal law does prohibit certain acts of voyeurism on federal property. Section 1801, Title 18 provides: “Whoever, in the special maritime and territorial jurisdiction of the United States, has the intent to capture an image of a private area of an individual without their consent, and knowingly does so under circumstances in which the individual has a reasonable expectation of privacy, shall be fined under this title or imprisoned not more than one year, or both.” 18 U.S.C. §1801(a). As discussed in note 168, *supra*, it appears Congress would have the authority to extend this section to voyeurism committed not only on federal property but that committed from federal airspace.

<sup>172</sup> Timothy J. Hortstmann, *Protecting Traditional Privacy Rights in Brave New Digital World: The Threat Posed by Cellular Phone-Cameras and What States Should Do to Stop It*, 111 PENN. ST. L. REV. 739, 742 (2007).

<sup>173</sup> See, e.g., GA. CODE ANN. §16-11-61; MONT. CODE ANN. §45-5-223.

<sup>174</sup> NEV. REV. STAT. §200.603.

<sup>175</sup> N.J. STAT. ANN. §2C:18-3c.

<sup>176</sup> WASH. REV. CODE §9A.44.115; see also CAL. PENAL CODE §647; R.I. GEN. LAWS §11-64-2.

<sup>177</sup> California Civil Code §1708.8 provides:

A person is liable for constructive invasion of privacy when the defendant attempts to capture, in a manner that is offensive to a reasonable person, any type of visual image, sound recording, or other  
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Congress. The Privacy Protection Act of 1998 and the Personal Intrusion Act of 1998 would have made it unlawful to persistently follow or chase another person for the purpose of obtaining a visual image of that person if the plaintiff met the following elements: (1) the image was transferred in interstate commerce or the person taking the photograph traveled in interstate commerce; (2) the person had a reasonable expectation of privacy from such intrusion; (3) the person feared death or bodily injury from being chased; and (4) the taking of the image was for commercial purposes.<sup>178</sup> Also, these bills would have created a civil remedy for an individual whose privacy was intruded upon. Congress could use this model to make it unlawful to persistently monitor another person using drone surveillance.

## FAA Regulation of Privacy

Some observers have questioned whether the FAA has the legal authority to create privacy protections as it begins to integrate drones in the national airspace.<sup>179</sup> This section will explore the FAA's legal authority to establish privacy protections when it engages in rulemaking and establishes the six drone test ranges as required under FMRA.

It is well settled that agencies do not wield inherent powers, and that any authority they do have must be delegated by Congress.<sup>180</sup> Thus, when engaging in rulemaking or any other administrative action, the agency must be able to identify a specific statutory source of authority. In *Chevron v. Natural Resources Defense Council*, the Supreme Court established a two-part test (now known as the *Chevron* two step) that assesses whether a federal agency should be accorded deference in interpreting and implementing its authorizing statute or a statute it administers.<sup>181</sup> First, this test asks "whether Congress has directly spoken to the precise question at issue."<sup>182</sup> If so, the analysis ends there and the court and the agency "must give effect to the unambiguously expressed intent of Congress."<sup>183</sup> If, however, "the statute is silent or ambiguous" the court must

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physical impression of the plaintiff engaging in a personal or familial activity under circumstances in which the plaintiff had a reasonable expectation of privacy, through the use of a visual or auditory enhancing device, regardless of whether there is a physical trespass, if this image, sound recording, or other physical impression could not have been achieved without a trespass unless the visual or auditory enhancing device was used.

<sup>178</sup> H.R. 3224, H.R. 2448, 105<sup>th</sup> Cong., 2d sess. (1998).

<sup>179</sup> See, e.g., Press Release, Association for Unmanned Vehicle Systems International, AUVSI to FAA: Focus on your Mission, Proceed with UAS Integration (Nov. 28, 2012) ("As an industry, we support a continued, civil dialogue on privacy, but any such conversations should take place concurrent with the integration. The selection process for the six test sites are a separate issue and should be treated as such. Meanwhile, the FAA should adhere to its mission and do what it does best – focus on the safety of the U.S. airspace – while other, more appropriate institutions consider privacy issues."), available at <http://www.auvsi.org/AUVSINews/AssociationNews>.

<sup>180</sup> See *Louisiana Pub. Serv. Comm'n v. FCC*, 476 U.S. 355, 374 (1986).

<sup>181</sup> *Chevron v. Natural Resources Defense Council*, 467 U.S. 837 (1984). It should be noted that there is a disagreement among the circuit courts as to whether *Chevron* deference should be accorded to an agency's interpretation of its own jurisdictional statute. Compare *Hydro Res., Inc. v. EPA*, 608 F.3d 1131, 1445-46 (10<sup>th</sup> Cir. 2010) (en banc) (applying *Chevron* deference) with *N. Ill. Steel Supply Co. v. Sec'y of Labor*, 294 F.3d 844, 846-47 (7<sup>th</sup> Cir. 2002) (applying de novo standard). The Supreme Court has granted a petition for writ of certiorari in *City of Arlington v. FCC*, 133 S. Ct. 524 (2012) and may potentially resolve this circuit split. See CRS Report WSLG373, *Can an Agency Determine the Scope of its Jurisdiction? Supreme Court Hears Argument Regarding Chevron Deference*, by Daniel T. Shedd.

<sup>182</sup> *Chevron*, 467 U.S. at 842.

<sup>183</sup> *Id.* at 843.

then determine if the agency's interpretation is a "permissible construction of the statute."<sup>184</sup> This type of *Chevron* analysis may be applied by a reviewing court if the FAA promulgated rules governing privacy, as part of the FMRA directed rulemaking and those rules were challenged.

## Rulemaking Required by FMRA

FMRA directs the FAA to engage in two sets of rulemaking. The first rulemaking requires that by August 14, 2014, the FAA issue a final rule on integrating "small unmanned aircraft systems" into the national airspace system.<sup>185</sup> The second rulemaking requires the FAA to develop a "comprehensive plan to safely accelerate the integration of civil unmanned aircraft systems into the national airspace system[;]"<sup>186</sup> provide notice on proposed rulemaking to implement this comprehensive plan not later than August 14, 2014; and publish a final rule by December 14, 2015.<sup>187</sup>

As to the small drone rulemaking, FMRA provides little guidance on what factors should inform the agency's rulemaking. The act merely requires that the FAA issue a final rule "on small unmanned aircraft systems that will allow for civil operation of such systems in the national airspace system...."<sup>188</sup> Applying the first step of *Chevron*, it is clear that Congress did not address the precise issue at question—that is, Congress did not expressly provide FAA authority to regulate privacy. Accordingly, a reviewing court would then have to assess under step two whether addressing privacy as part of rulemaking would be a reasonable interpretation of FMRA. There are plausible arguments on both sides of this question.

The Court asserted in *Chevron* that "the power of an administrative agency to administer a congressionally created ... program necessarily requires the formulation of policy and the making of rules to fill any gap left, implicitly or explicitly, by Congress."<sup>189</sup> Given that privacy has been a paramount concern of both the public and various Members of Congress, it would seem odd if Congress delegated the FAA rulemaking authority to integrate drones into the national airspace, but withheld the authority to regulate one of the most prominent and controversial issues surrounding this integration. Rather, one could argue that Congress would have inferred that the FAA would fill in these gaps with reasonable regulations, including those regulating privacy and data collection issues. Conversely, those who contend that the FAA has neither the legal authority nor the expertise to regulate privacy issues concerning drone use may point to the FAA's organic statute. This law provides the FAA authority to ensure the safety and efficiency of air travel,<sup>190</sup>

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<sup>184</sup> *Id.*

<sup>185</sup> § 332 (b)(1).

<sup>186</sup> § 332(a)(1).

<sup>187</sup> § 332(b)(2).

<sup>188</sup> § 332(b)(1).

<sup>189</sup> *Chevron*, 467 U.S. at 843 (quoting *Morton v. Ruiz*, 415 U.S. 199, 231 (1974)).

<sup>190</sup> The policy section to FAA's authorizing statute provides that when implementing agency regulations, the FAA shall consider, among other things, the following:

- (1) assigning, maintaining, and enhancing safety and security as the highest priorities in air commerce.
  - (2) regulating air commerce in a way that best promotes safety and fulfills national defense requirements.
  - (3) encouraging and developing civil aeronautics, including new aviation technology.
  - (4) controlling the use of the navigable airspace and regulating civil and military operations in that
- (continued...)

but appears to contain no *express* authority to regulate privacy. They may further argue that the FAA has not historically regulated privacy as it pertains to persons or things on the ground in relation to traditional air flight, and currently does not have the technical expertise to undertake such regulations. These arguments could support the theory that Congress intentionally omitted privacy regulation from the FAA's purview when conducting this required rulemaking.

Next, as to the comprehensive plan rulemaking, Congress has provided some guidance as to the factors the FAA should take into consideration, but none of the factors discuss privacy concerns.<sup>191</sup> Thus, like the rulemaking for small drones, under the *Chevron* first step, Congress has not spoken directly to the issue in question. Moving to the second step, would it be reasonable for the FAA to include privacy regulations in its rulemaking implementing this comprehensive plan? First, the use of the term "at a minimum" as a preface to the list of factors to be considered in this comprehensive plan and rulemaking make it illustrative, not exhaustive. This phrasing

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airspace in the interest of the safety and efficiency of both of those operations.

(5) consolidating research and development for air navigation facilities and the installation and operation of those facilities.

(6) developing and operating a common system of air traffic control and navigation for military and civil aircraft.

(7) providing assistance to law enforcement agencies in the enforcement of laws related to regulation of controlled substances, to the extent consistent with aviation safety.

49 U.S.C. § 40101(d).

<sup>191</sup> The "comprehensive plan" must contain, "at a minimum," recommendations on:

(A) the rulemaking to be conducted under subsection (b), with specific recommendations on how the rulemaking will—

(i) define the acceptable standards for operation and certification of civil unmanned aircraft systems;

(ii) ensure that any civil unmanned aircraft system includes a sense and avoid capability; and

(iii) establish standards and requirements for the operator and pilot of a civil unmanned aircraft system, including standards and requirements for registration and licensing;

(B) the best methods to enhance the technologies and subsystems necessary to achieve the safe and routine operation of civil unmanned aircraft systems in the national airspace system;

(C) a phased-in approach to the integration of civil unmanned aircraft systems into the national airspace system;

(D) a timeline for the phased-in approach described under subparagraph (C);

(E) creation of a safe

(F) airspace designation for cooperative manned and unmanned flight operations in the national airspace system;

(G) 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;

(H) the best methods to ensure the safe operation of civil unmanned aircraft systems and public unmanned aircraft systems simultaneously in the national airspace system; and

(I) incorporation of the plan into the annual NextGen Implementation Plan document (or any successor document) of the Federal Aviation Administration.

§ 332(a).



arguably suggests that Congress understood that the FAA might address other factors, perhaps including privacy, beyond those enumerated in section 332. Second, section 332 provides that the FAA must “define the acceptable standards for operation and certification of civil unmanned aircraft systems.”<sup>192</sup> Viewing this language in light of *Chevron* deference, a court could find that regulating requirements that protect privacy fall within the “acceptable standards for operation” of drones in the national airspace.

In sum, it appears that the open-ended nature of Congress’s instructions to the FAA, coupled with the prominence of privacy concerns, would likely persuade a court that the FAA’s potential regulation of privacy as part of formal rulemaking is a reasonable interpretation of FMRA that should be accorded deference under a *Chevron* analysis.

## Test Ranges and Privacy

In addition to the rulemaking described above, section 332(c) of FMRA requires the FAA Administrator to “establish a program to integrate unmanned aircraft systems into the national airspace system at 6 test ranges.”<sup>193</sup> On February 22, 2013, the FAA issued a request for comment on the privacy rules that will apply to test range operators.<sup>194</sup> In its request for comment, the FAA proposed several requirements that might apply to the operation of these test ranges.<sup>195</sup> Once the

<sup>192</sup> § 332(a)(2).

<sup>193</sup> P.L. 112-95, § 332(c)(1), 126 Stat. 11, 74.

<sup>194</sup> Unmanned Aircraft System Test Site Program, 78 Fed. Reg. 12259 (Feb. 22, 2013).

<sup>195</sup> The FAA has proposed that the OTA include the following privacy requirements:

(1) The Site Operator must ensure that there are privacy policies governing all activities conducted under the OTA, including the operation and relevant activities of the UASs authorized by the Site Operator. Such privacy policies must be available publically, and the Site Operator must have a mechanism to receive and consider comments on its privacy policies. In addition, these policies should be informed by Fair Information Practice Principles. The privacy policies should be updated as necessary to remain operationally current and effective. The Site Operator must ensure the requirements of this paragraph are applied to all operations conducted under the OTA.

(2) The Site Operator and its team members are required to operate in accordance with Federal, state, and other laws regarding the protection of an individual’s right to privacy. Should criminal or civil charges be filed by the U.S. Department of Justice or a state’s law enforcement authority over a potential violation of such laws, the FAA may take appropriate action, including suspending or modifying the relevant operational authority (e.g., Certificate of Operation, or OTA), until the proceedings are completed. If the proceedings demonstrate the operation was in violation of the law, the FAA may terminate the relevant operational authority.

(3) If over the lifetime of this Agreement, any legislation or regulation, which may have an impact on UAS or to the privacy interests of entities affected by any operation of any UAS operating at the Test Site, is enacted or otherwise effectuated, such legislation or regulation will be applicable to the OTA and the FAA may update or amend the OTA to reflect these changes.

(4) Transmission of data from the Site Operator to the FAA or its designee must only include those data listed in Appendix B to the OTA.

78 Fed. Reg. 12260. Appendix B to the OTA is available at <https://faaco.faa.gov/index.cfm/attachment/download/29581>.

The FAA notes that these rules are not permanent but are intended to:

help inform the dialogue among policymakers, privacy advocates, and the industry regarding broader questions concerning the use of UAS technologies. The privacy requirements proposed here are not intended to pre-determine the long-term policy and regulatory framework under which commercial UASs would operate. Rather, they aim to assure maximum transparency of privacy policies associated with UAS test site operations in order to engage stakeholders in discussion

(continued...)

FAA selects the site operators, each must enter into an Other Transaction Agreement (OTA) with the FAA—a legally binding agreement setting out the terms and conditions under which the site will be operated. This request for comment is intended to provide the public the ability to comment on “potential privacy considerations, associated reporting requirements, and how the FAA can help ensure privacy considerations are addressed through mechanisms put in place as a result of the OTA.”<sup>196</sup>

This FAA announcement raises another legal question: does the FAA have the authority to regulate privacy via OTA agreements entered into with the test range operators? As a threshold issue, it is not clear what level of deference a court would apply to this administrative action. In certain instances, agency actions that do not amount to formal rulemaking have not been accorded *Chevron* deference. In *Christensen v. Harris County*, the Supreme Court held that a Department of Labor opinion letter interpreting the Family Medical Leave Act was not entitled to deference under *Chevron*.<sup>197</sup> The Court observed that “[i]nterpretations such as those in opinion letters—like interpretations contained in policy statements, agency manuals, and enforcement guidelines, all of which lack the force of law—do not warrant *Chevron*-style deference.”<sup>198</sup> Instead, interpretations contained in administrative pronouncements such as opinion letters are entitled to some deference under the rule pronounced in *Skidmore v. Swift & Co.*,<sup>199</sup> “but only to the extent that those interpretations have the ‘power to persuade.’”<sup>200</sup> In *United States v. Mead*, the Court again ruled that *Skidmore*, not *Chevron*, deference applied to a United States Custom Service opinion letter setting tariff levels on certain imports.<sup>201</sup>

A reviewing court could apply the *Christensen-Mead* line of cases to hold that the lower level deference accorded under *Skidmore* should apply to the FAA’s use of the OTAs in establishing the test ranges. As in those cases, the OTAs would not have the force of law and would not be the product of formal agency adjudication or rulemaking. These factors weigh against applying *Chevron*’s deferential approach.

However, *Mead* suggested that *Chevron* deference may be due when the agency conducts notice and comment procedures as part of its interpretive process, which were not utilized in either

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about which privacy issues are raised by UAS operations and how law, public policy, and the industry practices should respond to those issues in the long run.

78 Fed. Reg. 12260.

<sup>196</sup> 78 Fed. Reg. 12260.

<sup>197</sup> *Christensen v. Harris County*, 529 U.S. 576, 587 (2000).

<sup>198</sup> *Id.*

<sup>199</sup> *Skidmore v. Swift & Co.*, 323 U.S. 134 (1944). In *Skidmore*, the Court was required to determine what level of deference should be accorded the Department of Labor in its issuance of bulletins interpreting a wage provision in the Fair Labor Standard Act. *Id.* at 138. The Court ruled:

We consider that the rulings, interpretations and opinions of the Administrator under this Act, while not controlling upon the courts by reason of their authority, do constitute a body of experience and informed judgment to which courts and litigants may properly resort for guidance. The weight of such a judgment in a particular case will depend upon the thoroughness evident in its consideration, the validity of its reasoning, its consistency with earlier and later pronouncements, and all those factors which give it power to persuade, if lacking power to control.

*Id.* at 140.

<sup>200</sup> *Christensen*, 529 U.S. at 588 (citing *Skidmore*, 323 U.S. at 140).

<sup>201</sup> *United States v. Mead*, 533 U.S. 218 (2001).



*Christensen* or *Mead*.<sup>202</sup> Here, the FAA has issued a notice for comment on the proposed privacy regulations that will be included in the OTAs. This fact might persuade a court into applying the more deferential *Chevron* test.

Under either level of scrutiny, it is not at all clear whether the FAA would have the authority to regulate privacy as part of the OTAs. Congress did not speak to this issue in FMRA.<sup>203</sup> Thus, a reviewing court would have to determine if the agency's regulation of privacy is either a reasonable interpretation of the statute under *Chevron* or has the "power to persuade" under *Skidmore*. Some of the same factors that arguably support the inclusion of privacy in the formal rulemaking could apply equally to the test ranges. The idea that Congress left it to the FAA to fill in the gaps in establishing the test ranges, and that privacy is one of the primary concerns surrounding the integration of drones into U.S. airspace, could be offered as an argument to uphold the FAA's regulation of privacy. On the other side of the ledger, the act's enumerated list of factors to be addressed at these test ranges is primarily focused on safety issues and does not expressly permit the FAA to regulate privacy. One could argue that this formulation evinces Congress's intent for the FAA to focus on safety, the FAA's stock and trade, rather than privacy, an area in which the FAA appears to have little experience.

## Related Legal Issues

In addition to the legal issues described above, there are a host of other issues that may arise when introducing drones into the U.S. national airspace system.

**Preemption of State and Local Regulations.** The increased presence of drones in domestic airspace raises the question of potential federal preemption of state or local efforts to regulate different aspects of drone use. The doctrine of preemption derives from the Supremacy Clause of the Constitution, which states that federal law, treaties, and the Constitution are the "supreme

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<sup>202</sup> *Mead*, 533 U.S. at 230 ("The overwhelming number of our cases applying Chevron deference have reviewed the fruits of notice-and-comment rulemaking or formal adjudication."); *Christensen*, 529 U.S. at 587 ("Here, however, we confront an interpretation contained in an opinion letter, not one arrived at after, for example, a formal adjudication or notice-and-comment rulemaking.") See also *Mead*, 533 U.S. at 231 ("The authorization for classification rulings, and Custom's practice in making them, present a case far removed ... from notice-and-comment process....").

<sup>203</sup> The FAA Reform Act provides that in setting up the test sites, the Administrator shall:

- (A) safely designate airspace for integrated manned and unmanned flight operations in the national airspace system;
- (B) develop certification standards and air traffic requirements for unmanned flight operations at test ranges;
- (C) coordinate with and leverage the resources of the National Aeronautics and Space Administration and the Department of Defense;
- (D) address both civil and public unmanned aircraft systems;
- (E) ensure that the program is coordinated with the Next Generation Air Transportation System; and
- (F) provide verification of the safety of unmanned aircraft systems and related navigation procedures before integration into the national airspace system.<sup>203</sup> The second is FAA's mandate to come up with a comprehensive plan to integrate drones in the national airspace and subsequent rule-making based on this plan.

§ 332(c)(1).

Law of the Land.”<sup>204</sup> A federal law may preempt state or local action in one of three ways: if the statute expressly states its intent to preempt state or local action (express preemption); if a court concludes that Congress intended to occupy the regulatory field, implicitly preventing state or local action in that area (field preemption); or if the state or local action directly conflicts with or frustrates the purpose of the federal provisions (conflict preemption).<sup>205</sup>

With regard to traditional aviation laws, generally, state regulations of aviation safety, airspace management, and aviation noise are preempted by federal laws and regulations.<sup>206</sup> Congress vested sole responsibility for the aviation industry and domestic airspace with the federal government in the Federal Aviation Act of 1958.<sup>207</sup> According to the legislative history, the FAA was to have “full responsibility and authority for the advancement and promulgation of civil aeronautics generally, including promulgation and enforcement of safety regulations.”<sup>208</sup> In *City of Burbank v. Lockheed Air Terminal, Inc.*, the Supreme Court struck down a local city ordinance that prohibited planes from taking off during certain hours of the day as preempted by the federal regulatory scheme.<sup>209</sup> Expressing its fear regarding local control of airspace, the Court stated, “If we were to uphold the Burbank ordinance and a significant number of municipalities followed suit, it is obvious that fractionalized control of the timing of takeoffs and landings would severely limit the flexibility of the FAA in controlling air traffic flow.”<sup>210</sup> The Supreme Court has, however, upheld state regulations imposing taxes on aircraft equipment located within the state.<sup>211</sup>

State proposals seeking to regulate the use of drones are currently pending in many state legislatures throughout the country.<sup>212</sup> The Virginia General Assembly has passed a two-year moratorium on the use of drones by state and local law enforcement.<sup>213</sup> The bill prohibits the use of drones by agencies with jurisdiction over criminal law enforcement or regulatory violations, but includes exceptions for emergency situations. Following passage of the bill, the Governor neither signed nor vetoed the bill, but rather sent it back to the General Assembly with amendments, where it now awaits further action. Several other states have introduced bills similarly targeting the use of drones for surveillance.<sup>214</sup> Other states, like Texas, have introduced

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<sup>204</sup> U.S. CONST. art. VI, cl 2.

<sup>205</sup> See, e.g., *Crosby v. Nat’l Foreign Trade Council*, 530 U.S. 363, 373 (2000); *English v. Gen. Elec. Co.*, 496 U.S. 72, 78-79 (1990); *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293, 300 (1988).

<sup>206</sup> See, e.g., *City of Burbank v. Lockheed Air Terminal, Inc.*, 411 U.S. 624 (1973); *Abdullah v. American Airlines, Inc.*, 181 F.3d 363 (3d Cir. 1999); *San Diego Unified Port Dist. v. Gianturco*, 651 F.2d 1306, 1316 (9th Cir. 1981); *Price v. Charter Township*, 909 F. Supp. 498 (E.D. Mich. 1995).

<sup>207</sup> P.L. 85-726; 72 Stat. 737 (1958).

<sup>208</sup> H.R. Rept. No. 2360, 85th Cong. (1958).

<sup>209</sup> *City of Burbank*, 411 U.S. at 639.

<sup>210</sup> *Id.*

<sup>211</sup> *Braniff Airways v. Nebraska Board*, 347 U.S. 590 (1954). Additionally, several courts have determined that state law tort claims based on injuries caused by aircraft are not federally preempted. See, e.g., *Bieneman v. City of Chicago*, 864 F.2d 463 (7th Cir. 1988) (overturning *Luedtke v. County of Milwaukee*, 521 F.2d 387 (7th Cir. 1975), which ruled that *City of Burbank* preempted application of state tort laws, such as negligence and nuisance, to flights that complied with federal laws and regulations); *Greater Westchester Homeowners Association v. City of Los Angeles*, 603 P.2d 1329 (Sup. Ct. Cali. 1979).

<sup>212</sup> See CRS Report WSLG447, *Congress and the States Grapple with Drones in U.S. Skies*, by Alissa M. Dolan.

<sup>213</sup> “An Act to place a moratorium on the use of unmanned aircraft systems,” HB2012, Virginia General Assembly, available at <http://lis.virginia.gov/cgi-bin/legp604.exe?131+ful+HB2012ER+pdf>.

<sup>214</sup> See, e.g., S. 395, South Carolina General Assembly, 120th Session; S. 524, 77th Oregon Legislative Assembly, 2013 Regular Session; SB 92, Florida Legislature, 2013 Regular Session.

bills attempting to address privacy concerns related to widespread drone use. The Texas proposal would create a new state misdemeanor when a person uses a drone to capture an image without the consent of the landowner who owns the property captured in the image.<sup>215</sup>

If these proposals were implemented, questions about federal preemption may be raised. It appears that field preemption or conflict preemption would be the most likely grounds for finding preemption of such state regulations based on current federal law, if at all, since FMRA does not contain an express preemption clause. The extent to which the state can regulate drone use without being preempted by federal law may depend on the scope of the forthcoming federal regulations, the nature of the state regulations, and a reviewing court's analysis of whether Congress intended to "occupy the field" of regulation on that issue. The Court has determined that field preemption can be inferred when "the pervasiveness of the federal regulation precludes supplementation by the States, where the federal interest in the field is sufficiently dominant, or where the object sought to be obtained by the federal law and the character of obligations imposed by it reveal the same purpose."<sup>216</sup>

**Right to Protect Property from Trespassing Drones.** There may be instances where a landowner is entitled to protect his property from intrusion by a drone. Under Restatement (Second) of Torts Section 260, "one is privileged to commit an act which would otherwise be a trespass to a chattel or a conversion if the act is, or is reasonably believed to be, necessary to protect the actor's land or chattels or his possession of them, and the harm inflicted is not unreasonable as compared with the harm threatened."<sup>217</sup> What this means is, in certain instances, a landowner would not be liable to the owner of a drone for damage necessarily or accidentally resulting from removing it from his property. However, there appear to be no cases where a landowner was permitted to use force to prevent or remove an aircraft from his property. Additionally, as discussed above, determining whether a drone in flight is trespassing upon one's property may be unusually challenging.

**Stalking, Harassment, and Other Crimes.** Traditional crimes such as stalking, harassment, voyeurism, and wiretapping may all be committed through the operation of a drone. As drones are further introduced into the national airspace, courts will have to work this new form of technology into their jurisprudence, and legislatures might amend these various statutes to expressly include crimes committed with a drone.

**Wiretap Laws.** Under the federal wiretap statute, it is unlawful to intentionally intercept an "oral communication"<sup>218</sup> by a person "exhibiting an expectation that such communication is not subject to interception under circumstances justifying such expectation...."<sup>219</sup> Currently, commercial microphones can record sounds upwards of 300 feet.<sup>220</sup> Use of such a microphone on a drone to record private conversations could implicate the federal wiretap statute.

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<sup>215</sup> H.B. 912, Texas Legislature, 83<sup>rd</sup> Session, available at <http://www.capitol.state.tx.us/BillLookup/History.aspx?LegSess=83R&Bill=HB912>.

<sup>216</sup> *Schneidewind*, 485 U.S. at 300.

<sup>217</sup> RESTATEMENT (SECOND) OF TORTS §260.

<sup>218</sup> 18 U.S.C. §2511(1)(a).

<sup>219</sup> 18 U.S.C. §2510(2).

<sup>220</sup> See, e.g., Electromax International, Inc., <http://www.electromax.com/penmics.html>.

## Conclusion

The legal issues discussed in this report will likely remain unresolved until the civilian use of drones becomes more widespread. To that end, the FAA has been tasked with developing “a comprehensive plan to safely accelerate the integration” of drones into the national airspace, which focuses on the safety of the drone technology and operator certification. While the deadline for development of the plan has already elapsed, the FAA has until the end of FY2015 to implement such a plan.<sup>221</sup> Additionally, the FAA must identify six test ranges where it will integrate drones into the national airspace. This deadline, 180 days after enactment of the act, has also elapsed without FAA compliance. Once these regulations are tested and promulgated, the unique legal challenges that could arise based on the operational differences between drones and already ubiquitous fixed-wing aircraft and helicopters may come into sharper focus.

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<sup>221</sup> See P.L. 112-95, §332(a) (requiring development of a plan within 270 days of enactment of the act, falling in November 2012).