

## HOUSE OF REPRESENTATIVES STAFF ANALYSIS

**BILL #:** HB 75 Expanded Uses of Unmanned Aircraft

**SPONSOR(S):** Yarborough, Clay and others

**TIED BILLS:** **IDEN./SIM. BILLS:**

REFERENCE	ACTION	ANALYST	STAFF DIRECTOR or BUDGET/POLICY CHIEF
1) Criminal Justice Subcommittee	14 Y, 1 N	Bruno	Hall
2) State Affairs Committee			
3) Judiciary Committee			

### SUMMARY ANALYSIS

Section 934.50, F.S., defines a drone as a powered, aerial vehicle that does not carry a human operator, uses aerodynamic forces to provide vehicle lift, can fly autonomously or be piloted remotely, can be expendable or recoverable, and can carry a lethal or nonlethal payload. The full system comprising of a drone and its associated elements – including communication links and components used to control the drone – is called an unmanned aircraft system (UAS).

Florida law restricts the use of drones to conduct surveillance. Law enforcement may not use a drone to gather evidence or other information, with certain exceptions. When law enforcement has reasonable suspicion that swift action is needed for one of the following reasons, drone use is permitted:

- To prevent imminent danger to life or serious damage to property,
- To forestall the imminent escape of a suspect or the destruction of evidence, or
- To achieve purposes including facilitating the search for a missing person.

Other exceptions authorizing drone use include, among others, countering terrorist attacks, effecting a search warrant, aerial mapping, and certain lawful business activities licensed by the state.

HB 75 expands the exceptions to the prohibition on drone surveillance to permit use of a drone:

- To assist a law enforcement agency in crowd control or traffic management.
- To facilitate a law enforcement agency's collection of evidence at a crime scene or traffic crash scene.
- By a state agency or political subdivision for the assessment of damage due to a flood, wildfire, or natural disaster, or for land management.

Drones have proven to be more efficient than traditional on-the-ground or manned aircraft efforts in several public safety operations. Authorizing their use for more purposes may reduce costs for state and local governments.

The bill has an effective date of July 1, 2019.

## FULL ANALYSIS

### I. SUBSTANTIVE ANALYSIS

#### A. EFFECT OF PROPOSED CHANGES:

##### Background

Under Florida law, a drone is a powered, aerial vehicle that:

- Does not carry a human operator;
- Uses aerodynamic forces to provide vehicle lift;
- Can fly autonomously or be piloted remotely;
- Can be expendable or recoverable; and
- Can carry a lethal or nonlethal payload.<sup>1</sup>

The full system comprising of a drone and its associated elements – including communication links and components used to control the drone – is called an unmanned aircraft system (UAS).<sup>2</sup>

##### Public Safety Uses for Drones

Drones have proven useful to law enforcement and governmental entities. A study by the Center for the Study of the Drone at Bard College estimates that at least 910 state and local police, fire, EMS, and other public safety agencies have acquired drones in recent years.<sup>3</sup> Two thirds of the public safety agencies using drones are law enforcement.<sup>4</sup> Some available capabilities include searching for missing persons;<sup>5</sup> enhancing situational awareness in active shooter, hostage, or barricaded suspect incidents;<sup>6</sup> and assisting with border patrol operations.<sup>7</sup>

In traffic accident reconstruction, a drone can capture photographs from above a crash site for highly accurate reconstructions using composite images.<sup>8</sup> The North Carolina Department of Transportation (NCDOT) found that by utilizing drones and advanced imaging software, law enforcement can greatly accelerate accident investigations at a lower cost and with less risk to motorists and investigators.<sup>9</sup> In a study, NCDOT simulated a two-car crash and found that a drone was able to map the scene in 25 minutes while a terrestrial scanner, traditionally used for such mapping, took one hour and 51 minutes.<sup>10</sup> Other departments cite similar time-saving benefits to drone use, which consequently saves resources and helps reopen roads more quickly.<sup>11</sup>

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<sup>1</sup> S. 934.50(2)(a), F.S.

<sup>2</sup> S. 330.41(2)(c), F.S.

<sup>3</sup> Dan Gettinger, Center for the Study of the Drone at Bard College, *Public Safety Drones: An Update* (May 2018), <https://dronecenter.bard.edu/files/2018/05/CSD-Public-Safety-Drones-Update-1.pdf> (last visited Jan. 24, 2019).

<sup>4</sup> *Id.*

<sup>5</sup> Associated Press, *Lost horse riders found with drone* (Jan. 26, 2019), <https://www.wctv.tv/content/news/Lost-horse-riders-found-with-drone-504913522.html> (last visited Jan. 26, 2019).

<sup>6</sup> Los Angeles Police Department, *Small Unmanned Aerial System Pilot Program Deployment Guidelines and Procedures* (Oct. 13, 2017), [http://www.lapdpolicecom.lacity.org/101717/BPC\\_17-0410.pdf](http://www.lapdpolicecom.lacity.org/101717/BPC_17-0410.pdf) (last visited Jan. 26, 2019).

<sup>7</sup> David Bier and Matthew Feeney, *Drones on the Border: Efficacy and Privacy Implications*, Cato Institute (May 1, 2018), <https://www.cato.org/publications/immigration-research-policy-brief/drones-border-efficacy-privacy-implications> (last visited Jan. 26, 2019).

<sup>8</sup> Bob Susnjara, *How drones help Lake County police investigate crashes, get roads open faster*, DAILY HERALD (May 7, 2017), <http://www.dailyherald.com/news/20170506/how-drones-help-lake-county-police-investigate-crashes-get-roads-open-faster> (last viewed Jan. 20, 2018).

<sup>9</sup> North Carolina Department of Transportation, Aviation Division, *Collision Scene Reconstruction and Investigation Using Unmanned Aircraft Systems* (August 2017), <https://www.ncdot.gov/divisions/aviation/Documents/ncshp-uas-mapping-study.pdf#search=traffic%20reconstruction%20drone> (last visited Jan. 24, 2019).

<sup>10</sup> *Id.*

<sup>11</sup> Jenni Bergal, Pew Charitable Trusts, *Another Use for Drones: Investigating Car Wrecks* (August 6, 2018), <https://www.pewtrusts.org/en/research-and-analysis/blogs/stateline/2018/08/06/another-use-for-drones-investigating-car-wrecks> (last visited Jan. 24, 2019).

Another potential use for drones is in traffic management, where the need for timely information on traffic flow and incidents is essential.<sup>12</sup> A 2004 study from the University of Florida, in conjunction with the Florida Department of Transportation, found that drone use in data collection and other tasks could drastically improve traffic management.<sup>13</sup> More recently, the Georgia Department of Transportation conducted a feasibility study to determine the economic and operational benefits of using drones.<sup>14</sup> The study noted that current traffic surveillance technologies are either inflexible, such as fixed traffic sensors, or labor intensive;<sup>15</sup> however, drones provide a low-cost means of observing traffic aurally and thus improve response times and outcomes for a number of different traffic events.<sup>16</sup> In 2018, the Ohio Department of Transportation launched a three-year study on the potential for coordination and communication between smart vehicles, transportation infrastructure, and drones.<sup>17</sup>

Drones also promote efficiency in responding to natural disasters. A drone can quickly assess damage to buildings and infrastructure.<sup>18</sup> During Hurricane Harvey in Houston in 2017, drones were used to monitor levees, predict flooding, estimate how long an area would be underwater, and create detailed maps to help emergency management agencies.<sup>19</sup>

### Federal Drone Regulation

The Federal Aviation Administration (FAA) regulates use of navigable airspace under federal law.<sup>20</sup> The FAA has allowed drone use for essential public operations such as firefighting, disaster relief, search and rescue, law enforcement, border patrol, and scientific research since 1990.<sup>21</sup> In 2012, the United States Congress directed the Secretary of the United States Department of Transportation to determine whether to allow other drone operations in the national airspace system and, if so, to establish safety requirements.<sup>22</sup> Consequently, the FAA introduced regulations to facilitate civilian drone use in the navigable airspace.<sup>23</sup> These regulations include a maximum altitude of 400 feet above the ground or a structure,<sup>24</sup> a requirement that the operator maintain visual line of sight of the aircraft,<sup>25</sup> and a prohibition on operating a drone at night.<sup>26</sup>

In 2017, the FAA launched the Unmanned Aircraft Systems Integration Pilot Program.<sup>27</sup> One objective of this pilot program is to test and evaluate various models of state, local, and tribal government involvement to develop and enforce federal regulation of drone operations. Lee County in Florida is

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<sup>12</sup> Florida Department of Transportation, *Use of Unmanned Aerial Vehicles in Traffic Surveillance and Traffic Management: Technical Memorandum*, pg. 1 (May 12, 2005), [https://www.i95coalition.org/wp-content/uploads/2015/03/Report\\_TechMemo\\_UAV\\_FL.pdf](https://www.i95coalition.org/wp-content/uploads/2015/03/Report_TechMemo_UAV_FL.pdf) (last visited Jan. 26, 2019).

<sup>13</sup> *Id.* at 4.

<sup>14</sup> Javier Irizarry and Eric Johnson, *Feasibility Study to Determine the Economic and Operational Benefits of Utilizing Unmanned Aerial Vehicles (UAVs): Final Report* (May 6, 2014), <https://smartech.gatech.edu/bitstream/handle/1853/52810/FHWA-GA-1H-12-38.pdf> (last visited Jan. 26, 2019).

<sup>15</sup> *Id.* at 13.

<sup>16</sup> *Id.*

<sup>17</sup> Matt Leonard, *Ohio plans to integrate drones into traffic management*, GCN (Jun. 19, 2018), <https://gcn.com/articles/2018/06/19/ohio-drone-traffic-management.aspx> (last visited Jan. 26, 2019).

<sup>18</sup> Matthew Hutson, *Hurricanes Show Why Drones Are the Future of Disaster Relief* (Sep. 9, 2017), <https://www.nbcnews.com/mach/science/hurricanes-show-why-drones-are-future-disaster-relief-ncna799961> (last visited Jan. 26, 2019).

<sup>19</sup> *Id.*

<sup>20</sup> 49 U.S.C. § 40103 (2018).

<sup>21</sup> Federal Aviation Administration, *Fact Sheet – Unmanned Aircraft Systems*, (Feb. 15, 2015), [https://www.faa.gov/news/fact\\_sheets/news\\_story.cfm?newsId=18297](https://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=18297) (last visited Jan. 20, 2018).

<sup>22</sup> Pub. L. 112-95.

<sup>23</sup> Federal Aviation Administration, *Press Release – DOT and FAA Propose New Rules for Small Unmanned Aircraft Systems* (Feb. 15, 2015), [https://www.faa.gov/news/press\\_releases/news\\_story.cfm?newsId=18295](https://www.faa.gov/news/press_releases/news_story.cfm?newsId=18295) (last visited Jan. 20, 2018).

<sup>24</sup> 14 C.F.R. § 107.51 (2018).

<sup>25</sup> 14 C.F.R. § 107.31 (2018).

<sup>26</sup> 14 C.F.R. § 107.29 (2018).

<sup>27</sup> The White House, Office of the Press Secretary, *Presidential Memorandum for the Secretary of Transportation* (Oct. 25, 2017), <https://www.whitehouse.gov/the-press-office/2017/10/25/presidential-memorandum-secretary-transportation> (last visited Jan. 26, 2019).

participating in the pilot program with a mosquito control proposal.<sup>28</sup> Other participants are exploring package delivery, delivery of life-saving medical equipment, pipeline inspection, and border protection.<sup>29</sup> These proposals involve waiver of some FAA regulations controlling drone operation.

#### Fourth Amendment Considerations

The Fourth Amendment of the United States Constitution guarantees:

- The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures shall not be violated; and
- No warrants shall issue without probable cause, supported by oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.<sup>30</sup>

Under Fourth Amendment jurisprudence, a search occurs whenever the government intrudes upon an area in which a person has a reasonable expectation of privacy. If there is no reasonable expectation of privacy in the area, Fourth Amendment protections do not apply. However, if the activity qualifies as a search because there is a reasonable expectation of privacy in the area, either the government must secure a warrant or an exception to the warrant requirement must apply.<sup>31</sup>

#### *Searches from the Navigable Airspace*

The United States Supreme Court (Supreme Court) has generally held that a person does not have an expectation of privacy in the navigable airspace above otherwise protected areas, such as the home. In 1986, the Supreme Court held in *California v. Ciraolo* that police officers who flew a private plane 1,000 feet over a yard to observe marijuana growing within did not conduct a search under the Fourth Amendment.<sup>32</sup> The Court reasoned that a person does not have a reasonable expectation of privacy under these circumstances because "[a]ny member of the public flying in this airspace who glanced down could have seen everything that these officers observed."<sup>33</sup> Of note, the officers' observations in *Ciraolo* were naked-eye.

During the same term as *Ciraolo*, the Supreme Court considered *Dow Chemical Co. v. United States*, in which the federal Environmental Protection Agency (EPA) employed a contractor to conduct aerial surveillance of a chemical plant using an airplane and aerial mapping camera.<sup>34</sup> The Court noted that the photographs used by the EPA are commonly used in mapmaking, further reasoning that "any person with an airplane and an aerial camera could readily duplicate them."<sup>35</sup> The Court signaled, however, that more sophisticated technologies might give rise to Fourth Amendment protections:

It may well be, as the Government concedes, that surveillance of private property by using highly sophisticated surveillance equipment not generally available to the public, such as satellite technology, might be constitutionally proscribed absent a warrant. But the photographs here are not so revealing of intimate details as to raise constitutional concerns. Although they undoubtedly give EPA more detailed information than naked-eye views, they remain limited to an outline of the facility's buildings and equipment. The mere fact that human vision is enhanced somewhat, at least to the degree here, does not give rise to constitutional problems.<sup>36</sup>

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<sup>28</sup> Federal Aviation Administration, *Integration Pilot Program Lead Participants*, [https://www.faa.gov/uas/programs\\_partnerships/integration\\_pilot\\_program/lead\\_participants/](https://www.faa.gov/uas/programs_partnerships/integration_pilot_program/lead_participants/) (last visited Jan. 26, 2019).

<sup>29</sup> *Id.*

<sup>30</sup> U.S. Const. amend. IV.

<sup>31</sup> Examples of exceptions to the warrant requirement include exigent circumstances, searches of motor vehicles, and searches incident to arrest.

<sup>32</sup> *California v. Ciraolo*, 476 U.S. 207 (1986).

<sup>33</sup> *Id.* at 214-15.

<sup>34</sup> *Dow Chemical Co. v. U.S.*, 476 U.S. 227 (1986).

<sup>35</sup> *Id.* at 231.

<sup>36</sup> *Id.* at 238.

Three years after *Ciraolo* and *Dow*, the Supreme Court decided *Florida v. Riley*, in which a police officer used a helicopter flying at an altitude of 400 feet to observe, with his naked eye, the interior of a partially covered greenhouse.<sup>37</sup> The Court extended the reasoning of *Ciraolo* and held that the officer in this case did not conduct a search under the Fourth Amendment.<sup>38</sup> The Court noted that private and commercial flight by helicopter is routine and FAA regulations permit helicopters to fly lower than fixed-wing aircraft.<sup>39</sup>

### *Governmental Use of Advanced Technologies*

In 2001, the Supreme Court held in *Kyllo v. United States* that police use of sense-enhancing technology not generally available to the public constituted a search under the Fourth Amendment when used to intrude into a constitutionally protected area.<sup>40</sup> The technology at issue in *Kyllo* was a thermal-imaging sensor, which police used to scan a home to detect marijuana cultivation within. Although the police did not physically enter the home, the Court held that using a device not in general public use to explore details of the home that would previously have been unknowable without physical intrusion was a search that was presumptively unreasonable without a warrant.<sup>41</sup>

The Supreme Court has not addressed drones and the Fourth Amendment. Importantly, civilian hobbyist and commercial drone use has increased in recent years along with law enforcement use. The FAA forecasts up to seven million annual drone sales by 2020.<sup>42</sup> As drone flight is available to the general public, it follows under both the *Ciraolo* line of cases regarding aerial surveillance and *Kyllo* that drone observations would not constitute a search. However, the Supreme Court has recently changed course in Fourth Amendment jurisprudence with several key cases addressing new technological capabilities in other areas, such as with cell phones, mobile trackers, and cell site tracking.<sup>43</sup> These cases addressing new technologies suggest a trend towards increasing privacy protections beyond the traditional analyses used in the *Ciraolo* and *Kyllo* era, making it difficult to predict with any precision how the courts will handle drones and privacy issues.

### Florida Law

Section 934.50, F.S., restricts the use of drones to conduct surveillance. Law enforcement may not use a drone to gather evidence or other information, with certain exceptions.<sup>44</sup> When law enforcement has reasonable suspicion that swift action is needed for one of the following reasons, drone use is permitted:

- To prevent imminent danger to life or serious damage to property,
- To forestall the imminent escape of a suspect or the destruction of evidence, or
- To achieve purposes including facilitating the search for a missing person.<sup>45</sup>

Other exceptions authorizing drone use include:

- Countering terrorist attacks,
- Effecting search warrants, authorized by a judge,
- Lawful business activities licensed by the state, with certain exceptions,
- Assessing property for ad valorem taxation purposes,
- Capturing images of utilities for specified purposes,

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<sup>37</sup> *Florida v. Riley*, 488 U.S. 445 (1989).

<sup>38</sup> *Id.* at 445.

<sup>39</sup> *Id.* at 445-46.

<sup>40</sup> *Kyllo v. U.S.*, 533 U.S. 27, 34 (2001).

<sup>41</sup> *Id.* at 40.

<sup>42</sup> Federal Aviation Administration, *FAA Aerospace Forecast: Fiscal Years 2016-2036*,

[https://www.faa.gov/data\\_research/aviation/aerospace\\_forecasts/media/FY2016-36\\_FAA\\_Aerospace\\_Forecast.pdf](https://www.faa.gov/data_research/aviation/aerospace_forecasts/media/FY2016-36_FAA_Aerospace_Forecast.pdf) (last visited Jan. 26, 2019).

<sup>43</sup> *Riley v. California*, 134 S.Ct. 2473 (2014); *United States v. Jones*, 565 U.S. 400 (2012); *Carpenter v. United States*, 138 S.Ct. 2206 (2018).

<sup>44</sup> S. 934.50(3)(a) and (4), F.S.

<sup>45</sup> S. 943.50(4)(c), F.S.

- Aerial mapping,
- Cargo delivery,
- Capturing images necessary for drone navigation, and
- Routing, siting, installation, maintenance, or inspection of communications service facilities.<sup>46</sup>

### Effect of Proposed Changes

HB 75 expands the exceptions to the prohibition on drone surveillance to permit use of a drone:

- To assist a law enforcement agency in crowd control or traffic management.
- To facilitate a law enforcement agency's collection of evidence at a crime scene or traffic crash scene.
- By a state agency or political subdivision for the assessment of damage due to a flood, wildfire, or natural disaster, or for land management.

The bill opens up opportunities for law enforcement and state agencies to improve efficiency by authorizing drone use to accomplish tasks currently performed by manned aircraft. As with any surveillance activity, governmental actors are bound by Fourth Amendment protections. Though the bill allows the government to use drones, the manner of use must comport with constitutional privacy protections.

### B. SECTION DIRECTORY:

**Section 1:** Amends s. 934.50, F.S., relating to searches and seizures using a drone.

**Section 2:** Provides an effective date of July 1, 2019.

## II. FISCAL ANALYSIS & ECONOMIC IMPACT STATEMENT

### A. FISCAL IMPACT ON STATE GOVERNMENT:

#### 1. Revenues:

None.

#### 2. Expenditures:

Drones have proven to be more efficient than traditional on-the-ground or manned aircraft efforts in several public safety operations. Authorizing their use for more purposes may reduce costs for state agencies performing these operations, such as the Florida Highway Patrol and the Department of Agriculture and Consumer Services.

### B. FISCAL IMPACT ON LOCAL GOVERNMENTS:

#### 1. Revenues:

None.

#### 2. Expenditures:

Drones have proven to be more efficient than traditional on-the-ground or manned aircraft efforts in several public safety operations. Authorizing their use for more purposes may reduce costs for local law enforcement.

<sup>46</sup> S. 943.50(4)(a)-(b), (d)-(j), F.S.

C. DIRECT ECONOMIC IMPACT ON PRIVATE SECTOR:

None.

D. FISCAL COMMENTS:

None.

**III. COMMENTS**

A. CONSTITUTIONAL ISSUES:

1. Applicability of Municipality/County Mandates Provision:

Not applicable. The bill does not appear to affect county or municipal governments.

2. Other:

Governmental action is subject to the requirements of the Fourth Amendment. Though the bill authorizes drone use in certain circumstances, the Fourth Amendment might control how the drone is used under a particular factual scenario, such as determining whether a warrant is required.

B. RULE-MAKING AUTHORITY:

Not applicable.

C. DRAFTING ISSUES OR OTHER COMMENTS:

None.

**IV. AMENDMENTS/ COMMITTEE SUBSTITUTE CHANGES**