The Florida Senate

BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Infrastructure and Security

BILL:	CS/SB 520
INTRODUCER:	Infrastructure and Security, Senator Gruters and others
SUBJECT:	Drones
DATE:	February 11, 2020
REVISED:	

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	Cellon	Jones	CJ	**Favorable**
2.	Proctor	Miller	IS	**CS/Fav**
3.			RC	

Please see Section IX. for Additional Information:

COMMITTEE SUBSTITUTE - Substantial Changes

I. Summary:

CS/SB 520 expands the possibilities for drone use by law enforcement agencies by creating additional exceptions for drone use found in s. 934.50(4), F.S. The new exceptions will allow law enforcement agencies to use drones to:

- Gain an aerial perspective of a crowd of 50 or more persons;
- Assist with traffic management, except that the agency may not issue a traffic infraction based on images or video captured by a drone; and
- Facilitate evidence collection at a crime scene or traffic crash scene.

The CS is effective July 1, 2020.

II. Present Situation:

A drone, also called Unmanned Aerial Vehicle (UAV) and Unmanned Aerial System (UAS), is defined in s. 934.50, F.S., 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.[1]

[1] Section 934.50(2), F.S.

Drones range in size from wingspans of six inches to 246 feet and can weigh from approximately four ounces to over 25,600 pounds.[2] They may be controlled manually or through an autopilot that uses a data link to connect the drone's pilot to the drone.[3] Drones can be equipped with infrared cameras,[4] and "LADAR" (laser radar).[5] In 2011, it was reported that the U.S. Army contracted with two corporations to develop facial recognition and behavioral recognition technologies for drone use.[6]

Federal Aviation Authority

In February 2012, Congress passed the Federal Aviation Authority (FAA) Modernization and Reform Act of 2012 (Act), which required the FAA to safely open the nation's airspace to drones by September 2015.[7] The FAA regulates the use of drones as it does all aircraft in the national airspace, with an emphasis on safety, efficiency, and national security, but views considerations such as privacy beyond the scope of FAA authority.[8]

Under the authority granted in the 2012 Act, the FAA issued its regulations on the operation and certification of small (less than 55 pounds at take-off) unmanned aircraft systems in June 2016.[9] The 2016 small drone regulations are still in effect and include airspace restrictions and a waiver mechanism allowing for deviations from drone operational restrictions upon application and authorization by the FAA.[10]

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[2] 14 CFR Part 91, Docket No. FAA-2006-25714, Department of Transportation, Federal Aviation Administration, *Unmanned Aircraft Operations in the National Airspace System*, February 6, 2007.
[3] *Id*.
[4] Infrared cameras can see objects through walls based on the relative levels of heat produced by the objects. *Drones in Domestic Surveillance Operations: Fourth Amendment Implications and Congressional Response*, Congressional Research Service, April 3, 2013, available at www.fas.org/sgp/crs/natsec/R42701.pdf (last viewed February 4, 2020). Search and rescue drones equipped with thermal imaging help first responders identify the location of people lost in chaotic scenes, and police departments have started using drones with thermal capabilities to identify the location of suspects while keeping an infrared eye on their officers. *Best Infrared Drones (Buying Guide)*, Spire Drones, available at https://buythebestdrone.com/best-infrared-drones/ (last viewed February 4, 2020).
[5] The research and development laboratory at the Massachusetts Institute of Technology has developed airborne ladar systems that generate detailed 3D imagery of terrain and structures, including those beneath dense foliage. The lab reports that the micro-ladar could be used under both clear and heavy foliage conditions for surveillance and reconnaissance missions as well as for humanitarian assistance and disaster relief operations. Lincoln Laboratory, Massachusetts Institute of Technology, R & D Projects, *Micro-ladar*, available at https://www.ll.mit.edu/r-d/projects/micro-ladar (last viewed February 4, 2020).
[6] Popular Science, Clay Dillow, *Army Developing Drones That Can Recognize Your Face From a Distance*, September 28, 2011, available at pops ci.com/technology/article/2011-09/army-wants-drones-can-recognize-your-face-and-read-your-mind (last viewed February 4, 2020). *See also* PoliceOne.com, 2017 Guide to Emerging Technologies, Val Van Brocklin, *Facial recognition technology and a 'reasonable expectation of privacy',* May 16, 2017, available at *https://www.policeone.com/emerging-tech-guide/articles/facial-recognition-technology-and-a-reasonable-expectation-of-privacy-cxdcrWsBRCu8Dieb/* (last viewed February 4, 2020).
[7] Public Law 112-95, February 14, 2012, The FAA Modernization and Reform Act of 2012, *Drones in Domestic Surveillance Operations: Fourth Amendment Implications and Congressional Response*, Congressional Research Service, April 3, 2013, available at www.fas.org/sgp/crs/natsec/R42701.pdf (last viewed February 4, 2020).
[8] 14 CFR Parts 21, 43, 61, 91, 101, 107, 119, 133, and 183, *Operation and Certification of Small Unmanned Aircraft Systems*, 81 FR 42064-01, June 28, 2016.
[9] *Id.*
[10] *Id*.

FAA Drone Airspace Restrictions

The FAA has designated generally restricted airspace including drone flight around and over sports stadiums and wildfires at specified times or under specified conditions. Drone operators must educate themselves on these restrictions prior to flying.[11]

FAA Drone Operational Restrictions

The following are among the operational restrictions in the 2016 FAA regulation:

- Small unmanned aircraft may not operate over any persons not directly participating in the operation, not under a covered structure, and not inside a covered stationary vehicle;[12]
- Maximum altitude of 400 feet above ground level (AGL) or, if higher than 400 feet AGL, remain within 400 feet of a structure; and
- Daylight-only operations or civil twilight (30 minutes before official sunrise to 30 minutes after official sunset, local time) with appropriate anti-collision lighting.[13]

Both the Lakeland Police Department and the Polk County Sheriff's Office have obtained waivers of the daylight-only operational restriction from the FAA, as has St. Johns County Fire Rescue.[14]

Proposed Rule

The FAA announced a new proposed regulation for the use of drones on January 18, 2019.[15] The proposal appears to provide avenues that would allow drone operators to routinely fly over people and fly at night.[16]

The proposed regulation creates a risk-assessment model based upon the weight of the drone, and the design of the drone, with an eye toward any mitigation the drone design presents to prohibit serious injury or property damage should the drone make contact with a person or

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[11] It is a federal crime, punishable by up to 12 months in prison, to interfere with firefighting efforts on public lands. Congress has authorized the FAA to impose a civil penalty of up to $20,000 against any drone pilot who interferes with wildfire suppression, law enforcement or emergency response operations. FAA, Unmanned Aircraft Systems, *Airspace Restrictions*, available at https://www.faa.gov/uas/where_to_fly/airspace_restrictions/#wildfires (last viewed February 4, 2020).

[12] The term "over" refers to the flight of the small unmanned aircraft directly over any part of a person. For example, a small UAS that hovers directly over a person's head, shoulders, or extended arms or legs would be an operation over people. Similarly, if a person is lying down, for example at a beach, an operation over that person's torso or toes would also constitute an operation over people. An operation during which a small UAS flies over any part of any person, regardless of the dwell time, if any, over the person, would be an operation over people. 14 CFR Parts 21, 43, 61, 91, 101, 107, 119, 133, and 183, *Operation and Certification of Small Unmanned Aircraft Systems*, 81 FR 42064-01, June 28, 2016.

[13] *Id*.

[14] Certificates of Waiver 107W-2018-16741 (dated November 28, 2018), 107W-2018-16274 (dated November 6, 2018); and 107W-2019-03646 (dated August 8, 2019), FAA, Unmanned Aircraft Systems, *Part 107 Waivers Issued*, available at https://www.faa.gov/uas/commercial_operators/part_107_waivers/waivers_issued/ (last viewed February 4, 2020).

[15] Department of Transportation, Office of the Secretary, FAA, 14 CFR Part 107, Notice of Proposed Rulemaking, *Operation of Small Unmanned Aircraft Systems over People*, Comments due on or before April 15, 2019, Federal Register, Vol 84, 3732, February 13, 2019.

[16] *Id*.

property on the ground.[17] The process of the FAA accepting public comment on the proposal, and then drafting a final regulation began on February 13, 2019, and is not yet complete.[18]

Law Enforcement Use of Drones in Florida – Section 934.50, F.S.

A law enforcement agency is defined in s. 934.50, F.S., as a lawfully established state or local public agency that is responsible for the prevention and detection of crime, local government code enforcement, and the enforcement of penal, traffic, regulatory, game, or controlled substance laws.[19]

The Florida Sheriff's Association estimates that 12 sheriff's offices have drones.[20] Of the 139 police departments that responded to the question regarding whether their department has at least one drone, 32 said they do have a drone and 10 responded that they plan to obtain a drone.[21]

Section 934.50(3)(b), F.S., provides that a real property owner, tenant, occupant, invitee, or licensee of the property is presumed to have a reasonable expectation of privacy from drone surveillance[22] of the property or the owner, tenant, occupant, invitee, or licensee by another person, state agency,[23] or political subdivision,[24] if he or she cannot be seen by persons at ground level who are in a place they have a legal right to be.[25]

Section 934.50, F.S., prohibits law enforcement agencies from using a drone to gather evidence or other information, with certain exceptions.[26] Evidence obtained or collected by a law enforcement agency using a drone is not admissible in a criminal prosecution in any court of law in this state unless it is permitted under one of the statute's exceptions.[27] An aggrieved party may

[17] *Id.*
[18] *Id*.
[19] Section 934.50(2)(d), F.S.
[20] E-mail from Florida Sheriff's Association Deputy Executive Director of Operations dated January 28, 2019 (on file with the Senate Committee on Infrastructure and Security).
[21] E-mail from Florida Police Chiefs Association Executive Director dated January 29, 2019 (on file with the Senate Committee on Infrastructure and Security).
[22] Surveillance is defined in. s. 934.50(2)(e), F.S.: With respect to an owner, tenant, occupant, invitee, or licensee of privately owned real property, the observation of such persons with sufficient visual clarity to be able to obtain information about their identity, habits, conduct, movements, or whereabouts; or with respect to privately owned real property, the observation of such property's physical improvements with sufficient visual clarity to be able to determine unique identifying features or its occupancy by one or more persons.
[23] A state agency, as defined in s. 11.45, F.S., is a separate agency or unit of state government created or established by law and includes, but is not limited to, the following and the officers thereof: authority, board, branch, bureau, commission, department, division, institution, office, officer, or public corporation, as the case may be, except any such agency or unit within the legislative branch of state government other than the Florida Public Service Commission.
[24] A political subdivision is defined in s. 11.45, F.S., as a separate agency or unit of local government created or established by law and includes, but is not limited to, the following and the officers thereof: authority, board, branch, bureau, city, commission, consolidated government, county, department, district, institution, metropolitan government, municipality, office, officer, public corporation, town, or village.
[25] Section 934.50(3)(b), F.S. *See also* s. 934.50(5)(b)-(d) F.S., providing for compensatory damages, injunctive relief, attorney fees, and punitive damages for a violation of s. 934.50(3)(b), F.S.
[26] Section 934.50(3)(a), F.S.
[27] Section 934.50(6), F.S.

initiate a civil action against a law enforcement agency to obtain all appropriate relief in order to prevent or remedy a violation of s. 934.50, F.S.[28]

The exceptions in s. 934.50(4), F.S., for law enforcement agencies using drones to gather evidence and other information are as follows:

- The U.S. Secretary of Homeland Security determines that credible intelligence exists indicating a high risk of a terrorist attack by an individual or organization and the drone is used to counter the risk;
- The law enforcement agency first obtains a search warrant authorizing the use of a drone; or
- The law enforcement agency has reasonable suspicion that swift action is necessary 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, but not limited to, facilitating the search for a missing person.[29]

Weaponized Drones Prohibited in Florida

In Florida, s. 330.411, F.S., prohibits a person from possessing or operating an unmanned aircraft or unmanned aircraft system as defined in s. 330.41, F.S., with an attached weapon, firearm, explosive, destructive device, or ammunition as defined in s. 790.001, F.S.[30] North Dakota is the only state that allows law enforcement agencies to utilize weaponized drones. The weapons are limited to the non-lethal variety such as tear gas, rubber bullets, beanbags, pepper spray, and tasers.[31]

Use of Drones for Law Enforcement Investigations

Several jurisdictions outside Florida, including the Massachusetts State Police and the Lake County Police in Illinois, are reported to be using drones to assist in more efficient and timely traffic crash investigations.[32] The North Carolina Department of Transportation and North Carolina State Highway Patrol demonstrated in a research project that some advantages to using drones in traffic crash investigations include faster processing and clearing of the scene and opening the road to traffic flow more quickly than traditional evidence-gathering methods.[33]

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[28] Section 934.50(5)(a), F.S.

[29] Section 934.50(4)(a)-(c), F.S. There are additional exceptions to the prohibition on the use of drones that are not law enforcement agency related. These exceptions can be found in s. 934.50(4)(d)-(j), F.S.

[30] Section 330.41(2)(c), F.S., defines an unmanned aircraft system as a drone and its associated elements, including communication links and the components used to control the drone which are required for the pilot in command to operate the drone safely and efficiently. Section 330.41(2)(b), F.S., specifies that drone has the same meaning as s. 934.50(2), F.S.

[31] North Dakota House Bill 1328 (2015), available at https://www.legis.nd.gov/assembly/64-2015/documents/15-0259-05000.pdf?20150501154934 (last viewed February 4, 2020).

[32] *How drones help Lake County police investigate crashes, get roads open faster*, Daily Herald, May 7, 2017, available at http://www.dailyherald.com/news/20170506/how-drones-help-lake-county-police-investigate-crashes-get-roads-open-faster (last viewed February 4, 2020).

[33] "Research shows that documenting a collision scene using photogrammetry and UAS can be advantageous, especially in terms of speed and cost. With a combination of advanced imaging software and the latest UAS technology, we find that the North Carolina State Highway Patrol (NCSHP) can rapidly map collision scenes and simultaneously gather more information than legacy technologies. Indeed, large scenes can be documented in less than 30 minutes." *Collision Scene Reconstruction & Investigation Using Unmanned Aircraft Systems*, Division of Aviation, UAS Program Office, N.C. Department of Transportation, August 2017, available at https://www.ncdot.gov/divisions/aviation/Documents/ncshp-uas-mapping-study.pdf (last viewed February 4, 2020).

In addition to quickly and efficiently clearing traffic crash scenes, drone technology has enhanced crime scene documentation using a process called orthomosaic photography that can recreate a crime scene in 3-D.[34]

Drones can also be used by law enforcement to more efficiently do jobs such as searching for evidence. For example, the San Bernardino Police Department used a drone to successfully search a large field for a gun thrown by a suspect who was being pursued.[35] The San Bernardino police chief emphasized the cost benefit in deploying a drone versus assembling a team to look for the gun in that situation.[36]

Tactical Uses for Drones

Some have suggested that drones could be used to gain a tactical advantage in active shooter situations like that which occurred in Las Vegas in 2017 at the outdoor music festival at which 58 people were killed and more than 500 injured.[37] For example, Brian Levin, director of The Center for the Study of Hate and Extremism at California State University-San Bernardino opines that a "drone could have provided real-time intelligence and surveillance to what's going on" during the Las Vegas incident.[38] In an article written for the International Journal of Aviation, Aeronautics, and Aerospace, Ryan Wallace and Jon Loffi, analyzed the law enforcement response to the Las Vegas shooting, concluding that had a drone been accessible to the Las Vegas Police it may have provided life-saving reconnaissance and shooter distraction.[39]

Crowd Control and Monitoring for Public Safety

According to a December 2017 news article, the Las Vegas Police Department planned to use drones to monitor New Year's Eve revelers on the Strip on December 31, 2017. The department decided to use drones to monitor crowds from an aerial view, which would help police better position barricades and other pedestrian control devices. Additionally, the department intended to use the drones to identify suspicious packages, track any unusual activity, and check hotel

[34] Mesa County, Colorado, Sheriff's Office unmanned aircraft program director, Ben Miller, envisions the 3-D crime scene preservation technique as a real aid in cold cases. The Huffington Post, Michelle Fredrickson, *Drones Add a New Dimension to Crime Scene Investigations*, October 24, 2014 (updated December 6, 2017), available at https://www.huffingtonpost.com/pro-journo/drones-add-a-new-dimensio_b_6033392.html (last viewed February 4, 2020).
[35] National Police Foundation, Jarrod Burguan, San Bernardino Police Chief, *Drones help augment a police department's capabilities to fight crime*, available at https://www.policefoundation.org/drones-help-augment-a-police-departments-capabilities-to-fight-crime/ (last viewed February 4, 2020).
[36] *Id*.
[37] Las Vegas Review-Journal, Nicole Raz, *Las Vegas police drones will monitor New Year's Eve crowds*, December 27, 2017, available at https://www.reviewjournal.com/entertainment/new-years-eve-in-vegas/las-vegas-police-drones-will-monitor-new-years-eve-crowds/ (last viewed February 4, 2020).
[38] *Id*. *See* also Wallace, Ryan and Loffi, Jon, *How Law Enforcement Unmanned Aircraft Systems (UAS) Could Improve Tactical Response to Active Shooter Situations: The Case of the 2017 Las Vegas Shooting*, Vol. 4, Article 7, International Journal of Aviation, Aeronautics, and Aerospace, October 9, 2017, available at https://commons.erau.edu/cgi/viewcontent.cgi?referer=https://scholar.google.com/&httpsredir=1&article=1198&context=ijaa (last viewed February 4, 2020).
[39] *Id*.

windows to try to detect anyone who might try to recreate the mass shooting incident that occurred in the city just a few months earlier.[40]

Likewise, New York City had planned to have a camera-equipped drone in the sky during the 2018 New Year's Eve celebration, but "relegated to a cordoned-off area and tethered to a building" to prevent injury should the drone fall. Inclement weather prevented the drone operation.[41]

As stated above, the FAA, which regulates the use of drones and other aircraft in the national airspace, has restricted drone flight over persons, however at least one local governmental authority has recently had that restriction waived by the FAA.[42] The same model drone (Vantage Robotics Snap) was used by CNN to obtain a waiver from the FAA due to the safety features of the drone, which has the ability to break apart upon impact.[43]

III. Effect of Proposed Changes:

The CS adds three exceptions in s. 934.50(4), F.S., which will allow law enforcement agencies to use drones to:

- Assist in crowd control involving a group of 50 people or more;
- Assist with traffic management, except that the agency may not issue a traffic infraction based on images or video captured by a drone; and
- Facilitate the collection of evidence at a crime scene or traffic crash scene.

The term law enforcement agency as used in s. 934.50, F.S., is currently defined in s. 934.50(2)(d), F.S.

The CS is effective July 1, 2020.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

B. Public Records/Open Meetings Issues:

None.

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[40] *Supra*, note 37.
[41] The Washington Post, Peter Holley, *The NYPD planned to use drones during Times Square New Year's Eve celebration. Then it started raining*, December 31, 2018, available at https://www.washingtonpost.com/technology/2018/12/31/nypds-latest-tool-keeping-times-square-revelers-safe-remote-controlled-drone/?utm_term=.1a63123ba637 (last viewed February 4, 2020).
[42] *See* the section of the Bill Analysis on the FAA above; *see also* Vantage Robotics News, *Snap Gets FAA Waiver with Rutherford County, Tennessee*, November 19, 2018, available at https://vantagerobotics.com/news/snap-gets-faa-waiver-rutherford-county-tennessee (last viewed February 4, 2020).
[43] IEEE Spectrum, David Schneider, *CNN Uses Vantage Robotics' Snap Drone to Win FAA Fly-Over-People Waiver*, October 19, 2018, available at https://spectrum.ieee.org/automaton/robotics/drones/cnn-uses-vantage-robotics-snap-drone-to-win-faa-fly-over-people-waiver (last viewed February 4, 2020).

C. Trust Funds Restrictions:

None.

D. State Tax or Fee Increases:

None.

E. Other Constitutional Issues:

Privacy

Although it is generally understood that a person does not currently have a reasonable expectation of privacy under the circumstances set forth in the CS, with the evolution of technology as it relates to intrusion into a person's privacy interests, the law applying the Fourth Amendment to the U.S. Constitution, too, may evolve.[44]

Preemption

The regulation of the national airspace and the aircraft that occupy it is a federal matter.[45] The FAA Chief Counsel issued a document in 2015 about state and local regulation of drones in which he said that state and local restrictions affecting UAS operations should be consistent with the extensive federal statutory and regulatory framework in order to "ensure the maintenance of a safe and sound air transportation system and of navigable airspace free from inconsistent restrictions."[46] However, given the Chief Counsel's acknowledgement that "laws traditionally related to state and local police power - including land use, zoning, privacy, trespass, and law enforcement operations - generally are not subject to federal regulation"[47] it appears that the CS would not be an encroachment into an area exclusively regulated by the federal government.

V. Fiscal Impact Statement:

A. Tax/Fee Issues:

None.

B. Private Sector Impact:

None.

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[44] The Fourth Amendment to the U.S. Constitution protects persons from unreasonable searches and seizures by the government. U.S. Const. amend. IV. *See Katz v. United States*, 389 U.S. 347 (1967) finding there is no reasonable expectation of privacy in the public view. *See also Carpenter v. United States*, 138 S.Ct. 2206 (2018) a recent Fourth Amendment case finding a reasonable expectation of privacy in historical cell phone location records.

[45] Congress has vested the FAA with authority to regulate the areas of airspace use, management and efficiency, air traffic control, safety, navigational facilities, and aircraft noise at its source. 49 U.S.C. ss. 40103, 44502, and 44701-44735.

[46] FAA, Office of the Chief Counsel, *State and Local Regulation of Unmanned Aircraft Systems (UAS) Fact Sheet*, December 17, 2015, available at https://www.faa.gov/uas/resources/policy_library/media/UAS_Fact_Sheet_Final.pdf (last viewed February 4, 2020).

[47] *Id*., citing *Skysign International, Inc. v. City and County of Honolulu*, 276 F.3d 1109, 1115 (9th Cir. 2002).

C. Government Sector Impact:

The CS allows for new uses for drones by law enforcement agencies under certain circumstances which could result in a cost savings for such agencies. However, nothing in the CS requires law enforcement agencies to spend resources to acquire drones or train personnel to use them.

The Florida Department of Law Enforcement does not anticipate a fiscal impact related to this CS.[48]

VI. Technical Deficiencies:

None.

VII. Related Issues:

None.

VIII. Statutes Affected:

This CS substantially amends the following sections of the Florida Statutes: 934.50

IX. Additional Information:

A. Committee Substitute – Statement of Changes:
(Summarizing differences between the Committee Substitute and the prior version of the bill.)

CS by Infrastructure and Security on February 10, 2020:
The committee substitute limits the bill's applicability to law enforcement agency activities only.

B. Amendments:

None.

[48] Florida Department of Agriculture and Consumer Services, 2020 Agency Bill Analysis, October 23, 2019; Florida Department of Law Enforcement, 2020 Agency Bill Analysis, October 2019 (on file with the Senate Committee on Infrastructure and Security).