Regulating Drones: What Municipal Lawyers Need to Know

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In cities across the country, drones are taking flight. According to the Federal Aviation Administration (FAA), 2,000 new drones are being registered with the agency every day, and more than 600,000 commercial operators could be licensed by the FAA by summer 2017, with sales of recreational and commercial drones soaring to seven million in 2020.[1] Over the next ten years, drones will provide billions in benefits to our economy, creating 100,000 U.S. jobs and generating $82 billion in economic impact.[2]

Cities and counties are on the cutting edge of drone innovation. In Modesto, California, drones assist search-and-rescue efforts and deliver aerial imagery to law enforcement during criminal pursuits. In Somerville, Massachusetts, drones are improving public safety by surveying snow buildup on municipal buildings during the winter. And in Tampa, Florida, drones inspect and monitor port construction projects.

As new uses of drones become part of everyday life, cities – and the lawyers who guide them – will also be among the first to grapple with how to balance their interest in innovation with their mandate to ensure the safety and security of residents.

Drones are governed by a rapidly evolving legal framework that presents a particular challenge to municipal lawyers. These attorneys are asking: "How can I help my city council or city manager craft drone rules that ensure both innovation and accountability? How can I stay abreast of recent developments? Does my city even have the authority to regulate drones?"

Fortunately, the legal environment for drones is becoming more clear, not less. With the advent of Part 107 (the FAA's regulations for small unmanned aircraft – drones under 55 pounds), the FAA is beginning to clarify the role that cities will play in ensuring that drones are effectively integrated into community life.

Know the Categories of Operators

Before Part 107 took effect in June 2016, pilots of unmanned aircraft were required by federal law to operate in one of the following ways: (1) as a "model aircraft" operator; (2) under an FAA exemption for non-recreational flight; or (3) as a public operator. While Part 107 has established a new avenue for drone pilots to earn access to the national airspace, the regulations that created these initial categories remain in effect, at least for the time being.

Category 1: Model Aircraft Operators under Section 336/Part 101

In 2012, the Modernization and Reform Act (Act) was signed into law. Section 336 of the Act charged the FAA with creating regulations to govern "model aircraft."

That designation, codified as Part 101 by the FAA, outlines strict criteria that now differentiate model aircraft operators from drone operators. In order to be considered a model aircraft operator, the operator must:

- Fly exclusively for hobby or recreation;
- Not operate a drone weighing more than 55 pounds;
- Not interfere with manned aircraft;
- Notify the airport operator and air traffic control tower prior notice to operation when flying within five miles of an airport;
- Register the aircraft with the FAA; and
- Operate in accordance with a community-based set of safety guidelines.

To date, the only set of community-based guidelines recognized by the FAA is the Academy of Model Aeronautics' safety code. This code prohibits model aircraft operators from flying over people or structures, and in practice, this requirement will oftentimes limit these operators to model aircraft fields and other open spaces. With that said, the vast majority of people who believe they're operating as model aircraft operators are not aware of the safety code, or choose not to operate within its parameters.

Category 2: Section 333 Exemption Holders

The Act also included a process that created Section 333 exemptions. Those exemptions allowed flight for non-recre-

ational purposes. Before Part 107, Section 333 was the designation used by commercial drone operators to fly. To acquire the exemption, operators were required to obtain a pilot's certificate (i.e. learn to fly a manned aircraft), and an exemption that would specify the circumstances under which these operators could fly.

Despite the introduction of Part 107 and more detailed rules for drone operations, the Section 333 exemption is still in effect for those who received it. However, these exemptions are slowly being phased out. Operators with this exemption are entitled to fly under the conditions of their individual Section 333 exemption until their exemption expires, two years after it was issued.

Category 3: Public Operators
Public agencies and those operating drones for government purposes can also apply for a Certificate of Waiver or Authorization (COA) from the FAA, defining how and where the drone can be used. This process is labor-intensive, and municipalities should carefully weigh whether it is justifiable for them to become a public operator. Becoming a public operator is an option, not a requirement. The other option available to municipalities is to have their employees pass the Part 107 test. Many cities will find that it is cheaper and easier for them to have their employees take and pass the Part 107 test, and operate municipal drones under Part 107 rules, rather than dealing with the complexity of public operator status.

Category 4: Part 107 Operators — "The New Normal"
On June 21, 2016, the FAA released Part 107 regulations that govern the use of "small unmanned aircraft," or drones, under 55 pounds. Part 107 establishes a new pathway for drone operators to access U.S. airspace, whether those operators are flying recreationally or commercially, and whether those operators are public or private.

To become a Part 107 operator, an individual must be 16 years of age or older and pass a simple knowledge test. The overwhelming majority of those who take the test are expected to pass: the FAA has announced that the present pass rate is 91% for first-time takers and they estimate that all test takers will pass on the second attempt.[3]

In return for passing the test and a TSA background check, Part 107 operators earn significant privileges. They can:

- Fly any drone weighing up to 55 pounds, up to 100 miles per hour, for any purpose;
- Fly up to altitudes of 400 feet, unless they are within 500 feet of a building;
- Fly anywhere within line of sight; or
- Fly in controlled airspace as long as they have authorization from air traffic control.[4]

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These privileges offer significant advantages over the previous operator classifications. Now, any new drone operator has a few options: 1) take and pass the Part 107 test and fly for any purpose (whether commercial or recreational) in nearly any location; or 2) elect not to take the test and be limited to model aircraft rules under Part 101, and thus a restrictive set of community-based guidelines, or (in the case of municipalities) go through the laborious process of obtaining public operators status.

It should come as no surprise that more than 16,000 people have taken and passed the Part 107 test to date.[5]

Are Part 107 operations the same as commercial operations?
Part 107 operations are often incorrectly referred to as "commercial operations." While Part 107 certainly allows the operator to conduct drone flights for business purposes, a pilot with a Part 107 certificate may operate for *any reason*, whether recreational or commercial.[6]

In fact, classifying operators as either commercial or recreational is not a particularly helpful way to think about the drone ecosystem, and municipal attorneys should caution their city council against making such simplistic distinctions. Part 107 offers privileges that either kind of operator will want to take advantage of. Moreover, commercial and recreational flights are indistinguishable from one another from the ground. Hobbyists and commercial drone operators often use the very same drone for their flights. That drone may be used by one operator to conduct a building inspection, and by another to film a ski trip. A person may be taking photos of a home for fun or for a real estate sale. The passing police officer or a neighbor will have no idea what the purpose of the operation is. Similarly, the drone may be in the exact same location, at the same time, flying in the same manner. The purpose of the operation is immaterial to the issues that it may raise in a community.

Because of this reality, local ordinances that make commercial and recreational distinctions are doomed to fail. Operators with a Part 107 certificate may be irresponsible, but if a local ordinance makes a carve-out for commercial operators, those operators may have a defense merely because they took and passed the Part 107 test. In short, the simple retreat to making a commercial versus recreational distinction will not solve any of the problems that a municipality may be concerned about. Rather, a municipality should focus on reasonable time, manner, and place rules.

Municipal lawyers, city councils, and other local stakeholders should avoid equating Part 107 operations with commercial operations, as these classifications will have very little meaning in the future of drones.

> "Part 107 is not the "commercial" rule. It is the visual line of sight rule. Recreational operators may fly under part 107, and they likely will because it gives them more privileges. Distinctions between recreational and commercial are vestiges of our old rules. Part 107 is the new normal and is the future."
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> -Earl Lawrence,
> FAA UAS Integration Office, 2016

Continued on page 14

Regulating Drones Cont'd from page 13

Category 5: The "I Don't Know, Don't Care" Operator and Creating a Culture of Accountability

While in law there are four distinct categories of operators, in actuality there remains a fifth operator– the "I Don't Know or Care" (IDKOC) operator.

This is the operator who gets a drone for Christmas, opens the box, and immediately starts flying. For municipal lawyers, this is the operator that makes you squirm in your seat. The IDKOC operators may believe they are model aircraft operators, but they fail to obey the safety code. They may fail to provide notice to the nearby airport. They may choose to fly where prohibited - above 400 feet, or over people, structures, or objects, recklessly endangering others.

The reality is that some operators don't follow the rules, whether it's because they weren't aware of the requirements or simply chose to ignore them. Not all IDKOC operators are bad apples. While it's not a defense, some may not have understood the rules or were discouraged by the perceived complexity of the process.

The key for regulators – whether local, federal, or somewhere between – is to empower operators that want to follow the rules, and help those who don't know and don't care learn how to act as responsible members of the community. In order to make this possible, the rules must be clear, accessible, and easy to follow.

Thanks to advances in technology, today's drones can already access detailed information about where they can and cannot fly, from nearby airspace restrictions and infrastructure (prisons or schools, for example), to real-time information about wildfires, presidential visits, or community events. Drone operators also have the ability to provide their location and flight information to airports with just a tap from digital applications – making notification a seamless process and thus, encouraging compliance with rules. This is a technology we can all imagine being implemented by cities to facilitate local rules, should they choose to do so.

Fortunately, the operators that cities want to empower – the roof inspectors, the realtors, the journalists and photographers – already want to fly responsibly. They understand that following the rules is one of the keys to a long and successful career in the drone industry. If cities make the rules clear, simple, and accessible, these operators will do their best to follow them.

Best Practices for Municipal Lawyers

Municipal lawyers are in a position to help ensure that drone rules are easy to implement and easy to follow. Already, local attorneys are beginning to receive direction from their city councils and city managers that they should craft local drone ordinances. Before a foray into the world of drone regulation, municipal lawyers should consider the following:

Does the FAA and Part 107 preempt local regulation?

Part 107 represents the minimum federal rules that govern drone operations. To date, the FAA has chosen not to issue a blanket preemption of local regulation, instead addressing preemption issues on a case-by-case basis. The FAA has pointed to "land use, zoning, privacy, trespass, and law enforcement operations" as areas that are typically outside the scope of federal regulation and potentially appropriate for local rules.[7,8] While this may seem vague at first glance, in the next section, we'll identify pitfalls that municipal lawyers should avoid when crafting rules and best practices to avoid Federal preemption.

How can municipal lawyers craft enduring ordinances?

First, ensure that the requirements of any local ordinance avoid issues that are clearly preempted by federal regulation. Cities should:

- Avoid any laws related to equipage of the aircraft.
- Avoid any laws related to knowledge testing or training.
- Avoid regulating any airspace that can be deemed as navigable airspace for manned aircraft.
- Avoid laws that are so difficult to comply with that they amount to a prohibition on operations.

Examples of drone rules that are likely to be preempted include:

- Outright bans on drones.
- Limiting drones to narrow bands of airspace, such as 100 feet above the ground.
- Requiring a flight permit that is subject to a lengthy approval process of multiple days or weeks.
- Requiring that drones have certain types of equipment like transponders or "geofencing."
- Requiring that operators in the city take a flight test.

In addition to these pitfalls, cities should consider the following best practices when crafting local drone rules:

Focus on areas of traditional local authority: Cities have substantial authority if they stay focused on regulations enacted with the stated purpose of protecting public safety, public health, aesthetics and general welfare—all regularly found to be a legitimate exercise of a state's or municipality's police power.[9] When thinking of how to draft rules, municipal lawyers should focus on a city's traditional police power in areas such as land use, zoning or law enforcement. Think in terms of how the police power allows for reasonable time, manner, and place restrictions on even protected constitutional conduct like free speech, and consider applying this to where drones may take off and land, rather than creating outright bans on the overflight activities of the drone. Another way to think about drafting rules is to focus on the conduct of the operator rather than the flight of the drone.

Leave room for flexibility: Effective drone ordinances recognize that requirements may change over time, rather than setting specific restrictions for specific areas. One approach is to craft an ordinance that states a set of "reserved powers" that may be implemented at a future date and time (permitting, notice requirements, etc.) For example, local authorities may think prohibiting drone takeoff and landing on public school property is a good idea – but may not realize that the school may want to fly a drone for science class or building maintenance. Or an airport runway may not be the right place for a drone – until an airline requests permission to use one to inspect a plane after a lightning strike. Enacting a flexible set of rules, rather than prescriptive set of rules, can allow for rules to evolve.

Cities may also consider how the

flexibility to implement rules through administrative procedures, rather than through the ordinance itself, may provide benefits. In doing so, they can ensure the evolution of drone rules according to the needs of the city, without requiring the passage of a new ordinance or hampering local innovation.

Make communication easy (and digital) for both operators and administrators: For tech-savvy drone operators, paper permits or lengthy waiting times are likely to discourage responsible pilots from following the rules. Flight notices (the who, what, when, and where of a flight) can be delivered and processed digitally with existing technology, while requirements about when and where is safe to fly can be posted to a city's website or delivered via an app or online map. (Full disclosure: AirMap, the company I co-founded, provides some of these services to cities).

On the Regulatory Horizon:
While drone regulation evolves rapidly at the federal level, it also follows a clear timeline of expected milestones. Over the next three years, municipal lawyers should watch for three developments in drone law.

Flights over people: At the time of this writing, the FAA has yet to publish its rules for flight over people. In the spring of 2016, the FAA's advisory rulemaking committee convened to discuss this issue and publication of the rules were expected to be announced before the end of 2016. Shortly thereafter, on January 6, 2017, Michael Huerta, Administrator to the FAA, spoke at the Consumer Electronics Show (CES) in Las Vegas, and noted various safety and security concerns. Those concerns specifically focused on the challenges law enforcement faces in identifying who is operating a drone. Those concerns postponed the publication of their rules.[10] Despite the delay, Mr. Huerta confirmed his commitment to advancing the rulemaking process for flight over people, working with both interagency partners and industry stakeholders to "ensure drones can fly over people without sacrificing safety or security."[11]

Earlier this year, I participated in a task force assembled by the FAA – MICRO ARC – that was asked to recommend regulations that would allow an unmanned aircraft to fly over people not involved in the aircraft's operations. The drone manufacturers, operators, consensus standards organizations, researchers and academics on the task force suggested the following general recommendations (among others):

- Certain small drones should require no additional operational restrictions beyond Part 107
- Larger drones may require mitigation techniques and coordination with local authorities prior to flying over people
- To fly over crowds, the operation must be conducted in accordance with a documented risk mitigation plan

The proposed rules will be released soon, and municipalities may want to consider commenting on the rules to ensure their input is included. Regardless of whether the FAA implements these regulations, the passage of new rules for flight over people will mean that flights in populated areas will become far more common, and will become a matter of concern for municipal attorneys.

Beyond Visual Line of Sight (BVLOS): While Part 107 currently requires flights to be within the visual line of sight of the operator, when we think of the not so distant future, beyond visual line of sight (BVLOS) operations will become the norm, not the exception to the rule. Currently, under limited circumstances, the FAA has begun to administer waivers for BVLOS operations. On December 28, 2016, for example, the FAA approved a certificate of authorization for oversight of BVLOS operations at the Northern Plains UAV test site in North Dakota.[12] The FAA is currently operating on a timeline that will allow for regular BVLOS operations by 2020, with regular shorter range operations (where the operator can't see the drone, but can see the sky) as soon as 2018. In short, the present ways in which municipalities think about drones will quickly give way to new technologies and newer, more permissive federal rules.

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As these regulatory milestones become reality, drones will become more common and more important to cities and their citizens. Municipal attorneys will be responsible for crafting laws that protect residents, while ensuring that cities benefit from the contributions drones will make to our economy and society. Fortunately, this is a perfect time for cities to act: the regulatory environment is becoming clearer, and the expansion of drone technology is only beginning. My advice to municipal attorneys: for drones operated by residents, start with a common-sense and flexible ordinance that focuses on time, manner, and place restrictions and your city will be well-prepared to make the most of the drone opportunity. For more resources on how to craft an ordinance or for insights into how to create rules for drones operated by municipalities, feel free to contact me at greg@airmap.com.

Notes

1. Alina Selyukh, "FAA Expects 600,000 Commercial Drones in The Air Within a Year," NPR, (August 29, 2016) http://www.npr.org/sections/thetwo-way/2016/08/29/491818988/faa-expects-600-000-commercial-drones-in-the-air-within-a-year; *see also* Joan Lowry, "FAA Faces Big Drone Demand," Times Union, (September 16, 2016) http://www.timesunion.com/news/article/FAA-faces-big-drone-demand-9228572.php..

2. Fact Sheet: New Commitments to Accelerate the Safe Integration of Unmanned Aircraft Systems; https://obamawhitehouse.archives.gov/the-press-office/2016/08/02/fact-sheet-new-commitments-accelerate-safe-integration-unmanned-aircraft

3. Huerta, Michael, Drones: A Story of Revolution and Evolution, Consumer Electronics Show (January 6, 2017), https://www.faa.gov/news/speeches/news_story.cfm?newsId=21316.

Continued on page 34



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Regulating Drones Cont'd from page 15

4. Fact Sheet—Small Unmanned Aircraft Regulations (Part 107), FAA, (June 21, 2016), https://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=20516.
5. Huerta *supra* note 3.
6. Unmanned Aircraft Systems (UAS) Frequently Asked Questions/Help, FAA, https://www.faa.gov/uas/faqs/ (last visited January 25, 2017).
7. State and Local Regulation of Unmanned Aircraft Systems (UAS) Fact Sheet, FAA, https://www.faa.gov/news/updates /?newsId=84369 (lastvisited January 25, 2017).
8. Skysign International, Inc. v. City and County of Honolulu, 276 F.3d 1109, 1115 (9th Cir. 2002).
9. Koscielski v. City of Minneapolis, 435 F.3d 898, 902 (8th Cir. 2006), Grace United Methodist Church v. City Of Cheyenne, 451 F.3d 643, 659 (10th Cir. 2006), Restigouche, Inc. v. Town of Jupiter, 59 F.3d 1208, 1214 (11th Cir. 1995), *See also* FAA Docket No. 16-04-01 (Dec. 15, 2005), Aircraft Owners & Pilots Ass'n (Aopa) Members: Bill Bahlke, Reagan L. Dubose, Howard G. Soloff, Laurence K. Mellgren, David Watkins, Joseph Haughey, Robert Kwass, Herbert Jacobs, & Levent Erkmen, Complainants, 2005 WL 3722717, at *9 ("An airport may limit any given type, kind, or class of aeronautical use of the airport if such action is necessary for the safe operation of the airport or necessary to serve the civil aviation needs of the public."); *See, e.g.*, Gustafson v. City of Lake Angelus, 76 F.3d 778, 791 (6th Cir. 1996) (city's prohibition on landing seaplanes on lake within city limits did not violate riparian owner's equal protection rights, since all similarly situated persons were similarly regulated, and ordinance was rationally related to legitimate land use concerns over noise, danger, apprehension of danger, destruction of property values, and interferences with other lawful uses of lake); Casciani v. Nesbitt, 659 F. Supp. 2d 427, 439 (W.D.N.Y. 2009), aff'd 392 F. App'x 887 (2d Cir. 2010) (finding ordinance that permitted ultralight aircraft but not helicopters "quite plainly, rationally related to the protection of the health, safety and welfare of [the municipality's] residents"); Caswell v. City of Bloomington, 430 F.Supp.2d 907, 914 (D. Minn. 2006) (city's zoning ordinance regulating land use surrounding a newly constructed runway at municipal airport passed rational-basis test, since it was rationally related to legitimate government interest of protecting public safety).
10. Michael Huerta, Drones: A Story of Revolution and Evolution, Adress at Consumer Electronics Show (January 6, 2017), https://www.faa.gov/news/speeches/news_story.cfm?newsId=21316.
11. *Id.*
12. Steven Crowe, *FAA to Approve Drone Flights BVLOS at Test Site*, Robotics Trends, (December 28, 2016) http://www.roboticstrends.com/article/faa_to_approve_drone_flights_bvlos_at_test_site.

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Inside Canada Cont'd from page 28

held that the trial judge's conclusions were accurate and were supported by case law that assessed whether the Appellant as an occupier had taken reasonable and appropriate care.

The Appellant next challenged the trial judge's finding that it had breached its duty to warn the Respondent of the dangers associated with the obstacle itself. The Appellant agreed with the trial judge in finding not only the principle of inherent risk but also that the Respondent was aware of the inherent risk associated in the sport of mountain biking. The Appellant took issue with the trial judge's final conclusion that the Respondent may have been an experience mountain biker but he was not experienced with wooden obstacles or apparatuses. This led the trial judge to conclude that "Although [Stephan Campbell] foresaw risk of some injury, he did not foresee the severity of the potential injury."

The Court found the trial judge's conclusion proper, and dismissed the Appellant's argument. Next, the Appellant raised concern that the trial judge did not clearly articulate an appropriate standard of care it had to meet dispute concluding that the standard was not met. The Court disagreed; finding numerous examples of the trial judge outlining what the Appellant could have done to differently to avoid liability:

There were no instructional signs, no requirements to complete an easy trail or [a difficult trail]... no warning of serious injury, and no instruction on how to extricate oneself from the feature.

The Appellant challenged trial judge's application of "but-for" test which concluded that the Appellant caused the Respondent's injuries. The Court indicated that the Appellant could only succeed if it demonstrated that none of the causation conclusions could stand, which it could not do. The Court found that the trial judge's conclusion that the Appellant breached its duty of care and but for that breach the Respondent would not have attempted the obstacle or sustained his injury. The trial judge found that the Respondent was not contributorily negligent and cannot be found liable for falling, as the risks were not obvious. The Appellant argued that the trial judge failed to broaden his view beyond the Respondent's actions attempting to avoid the accident instead of considering the Respondent's decision to attempt the obstacle in the first place. The Court again disagreed, finding that it was reasonable for the trial judge to have that viewpoint as the trial judge had already concluded that the Appellant breached its duty of care under s.3(1) of the *Occupiers Liability Act*.

The Appellant also argued two other interpretations of the trial judge's language during the trial to indicate contributory negligence on behalf of the Respondent. The Court dismissed both, stating that it was not prepared to accept that the interpretive language used during the trial amounts to a formal admission of some liability. The appeal was dismissed and the Respondent was awarded $25,000 in costs.

Standing: No Standing to Challenge Procedural Fairness of Zoning Bylaw on Behalf of Third Parties

***Miner v Kings* (County), 2017 NSCA 5 (CanLII) http://canlii.ca/t/gx0t7**

The Appellants are mother and son residents in the Municipality of the County of Kings (Municipality). The Glooscap First Nation Economic Development Corporation (Glooscap) owns the property across the road from the Appellants and sought to rezone it to commercial for development. The appropriate application was submitted