The Municipal Eye in the Sky: Local Government's Use of Drones

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The Municipal Eye in the Sky

I. What's All the Buzz About? Drone Technology and Uses

II. Regulating the Friendly Skies: US and Canadian Statutory Environment—Federal/State/Provincial

III. Respecting Individual Rights: Privacy, Property and More

IV. Drafting Local Policies and Ordinances: Policy Issues, Data Protection and Retention, Best Practices

Governmental drone uses

Drone Fleets Could Monitor Bridge Safety

By Ian Chant
Posted 22 Aug 2014 | 17:00 GMT

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Illustration: Randi Klett; Bridge: Getty Images

Drones could monitor the structural integrity of bridges in the near future



Florida to Test Drones for Mosquito Search and Destroy

Water-spotting UAVs could help make living in Florida a little more bearable

13 Aug 2013

INFRASTRUCTURE & ENVIRONMENT

Michigan May Use Drones to Study Unpaved Roads

Unmanned Aircraft Systems



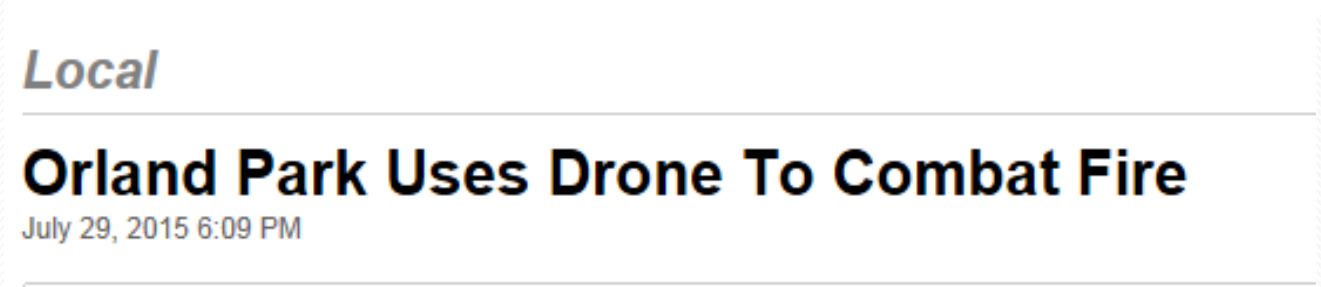
Switzerland begins postal delivery by drone

North Dakota Legalizes Armed Police Drones

AUGUST 27, 2015 7:16 PM ET

LAURA WAGNER

With the passage of a new law earlier this year, North Dakota has become the first state to legalize law enforcement use of armed drones.



Local

Orland Park Uses Drone To Combat Fire

July 29, 2015 6:09 PM

We are late to this party…

- 2016: 1.9 mm hobbyists => 2020: 4.3mm
- 2016: 600,000 commercial operators => 2.7mm

- 135 local governments in 31 states regulating drone use
- Another 10 states considering legislation in 2017
  - 2 Types of Regulations:
    - use by the public
    - **use by units of government and government agencies**

--Center for the Study of Drones @ Bard College

Hardware and Software Options

(including auto-pilot and night flight)

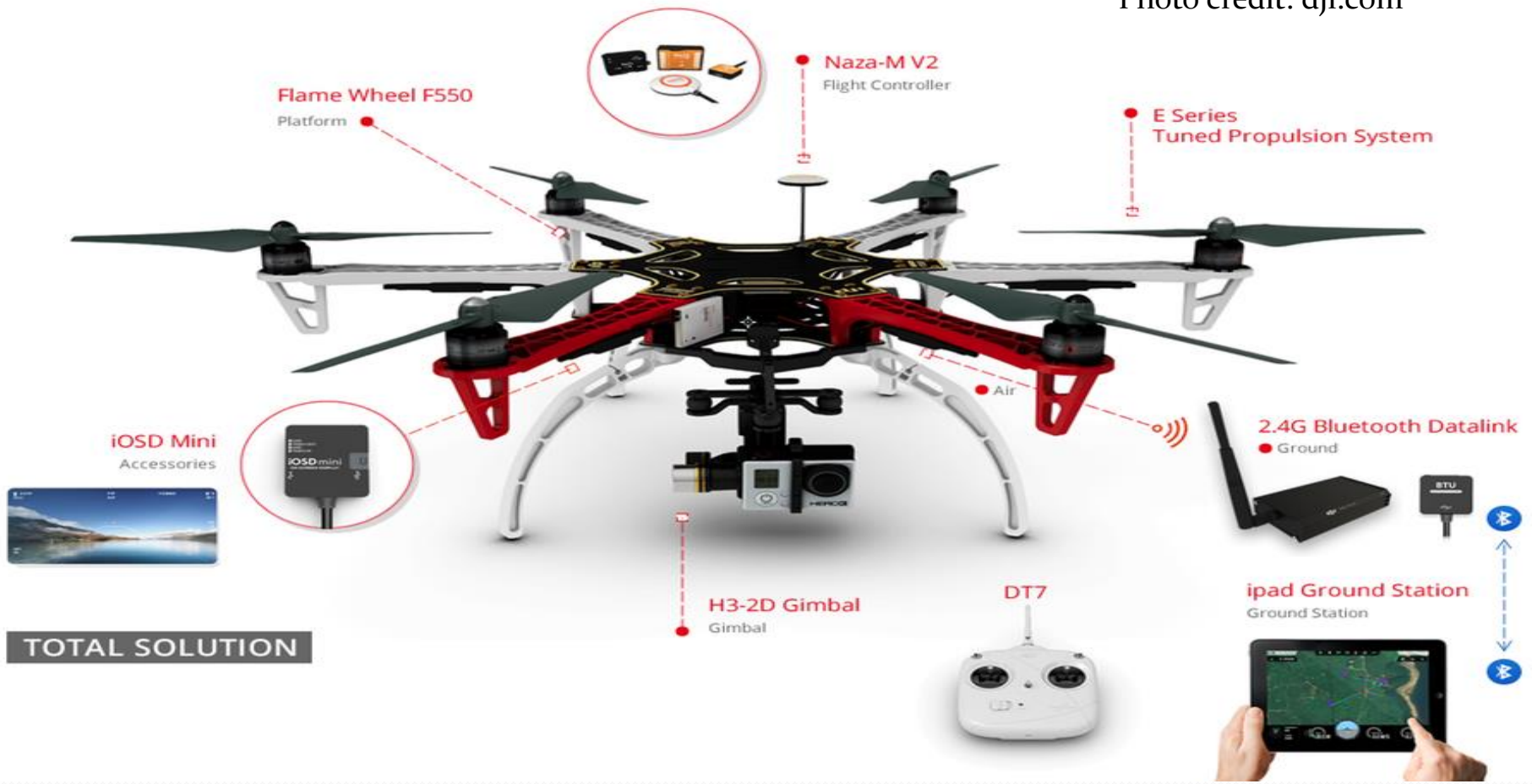






The “A” and “S” in “UAS”

Photo credit: dji.com



Ground Station

photo credit: Victoria Air Photos



Options = longer policies

- In-House Operation
- Procured Services from Vendors



Law Enforcement

- Surveillance and Criminal Code Enforcement
- Traffic Monitoring
- Property Maintenance



Fire Safety

- Front Line Intelligence
- Fire Code Inspections



California firefighters use drones to aid rescue.mp4

Notes On Drafting Policies - Fire

- FAA Approval for Use
- Part of team training and drills
- Pilots trained

Public Works

- Infrastructure Inspection
- Topographical Survey
- Construction Project Documentation
- Property Maintenance
- Environmental Monitoring
- Conservation and agri-maintenance (parks)



LA Public Works - Drone Fleet Survey.mp4

Notes on Drafting Policies–Public Works

- Tool used by several different divisions of the agency
- Collaborative /Committee structure on uses
- Cost-Effective

Federal Regulatory Authority



States of Play: Battle of the Domes





FAA v. States: Tie Goes to FAA

*Under 49 USC 40103, the United States Government has **exclusive sovereignty of airspace** of the United States and the FAA has the authority to prescribe air traffic regulations on the flight of aircraft, including UAS. Whether Federal law preempts state or local requirements for UAS depends on the precise nature of those requirements. The Department of Transportation evaluates these laws or requirements on a case-by-case basis to make sure they don't conflict with FAA's authority to provide safe and efficient use of U.S. airspace.*

**FAA.gov*

FAA classifies UAS in the national airspace as:

A. Public (Non-Military)

B. Civil (Commercial)

C. Hobbyist (Model Aircraft)

FAA Rules: Overview

www.faa.gov/uas

	Hobbyist (Recreational)	Part 107 (Business Purposes)
Pilot Requirements	No pilot requirements	Must have Remote Pilot Airman Certificate Must be 16 years old Must pass TSA vetting
Aircraft Requirements	Unless exclusively operated in compliance with Section 336 of Public Law 112-95 (*Special Rule for Model Aircraft*), the aircraft must be registered if over 0.55 lbs.	Must be less than 55 lbs. Must be registered if over 0.55 lbs. (online) Must undergo pre-flight check to ensure UAS is in condition for safe operation
Location Requirements	5 miles from airports without prior notification to airport and air traffic control	Class G airspace*
Operating Rules	Must ALWAYS yield right of way to manned aircraft Must keep the aircraft in sight (visual line-of-sight) UAS must be under 55 lbs. Must follow community-based safety guidelines Must notify airport and air traffic control tower before flying within 5 miles of an airport	Must keep the aircraft in sight (visual line-of-sight)* Must fly under 400 feet* Must fly during the day* Must fly at or below 100 mph* Must yield right of way to manned aircraft* Must NOT fly over people* Must NOT fly from a moving vehicle*
Example Applications	Educational or recreational flying only	Flying for commercial use (e.g. providing aerial surveying or photography services) Flying incidental to a business (e.g. doing roof inspections or real estate photography)
Legal or Regulatory Basis	Public Law 112-95, Section 336 – *Special Rule for Model Aircraft* FAA Interpretation of the Special Rule for Model Aircraft	Title 14 of the Code of Federal Regulation (14 CFR) Part 107

Public Entity Operation:

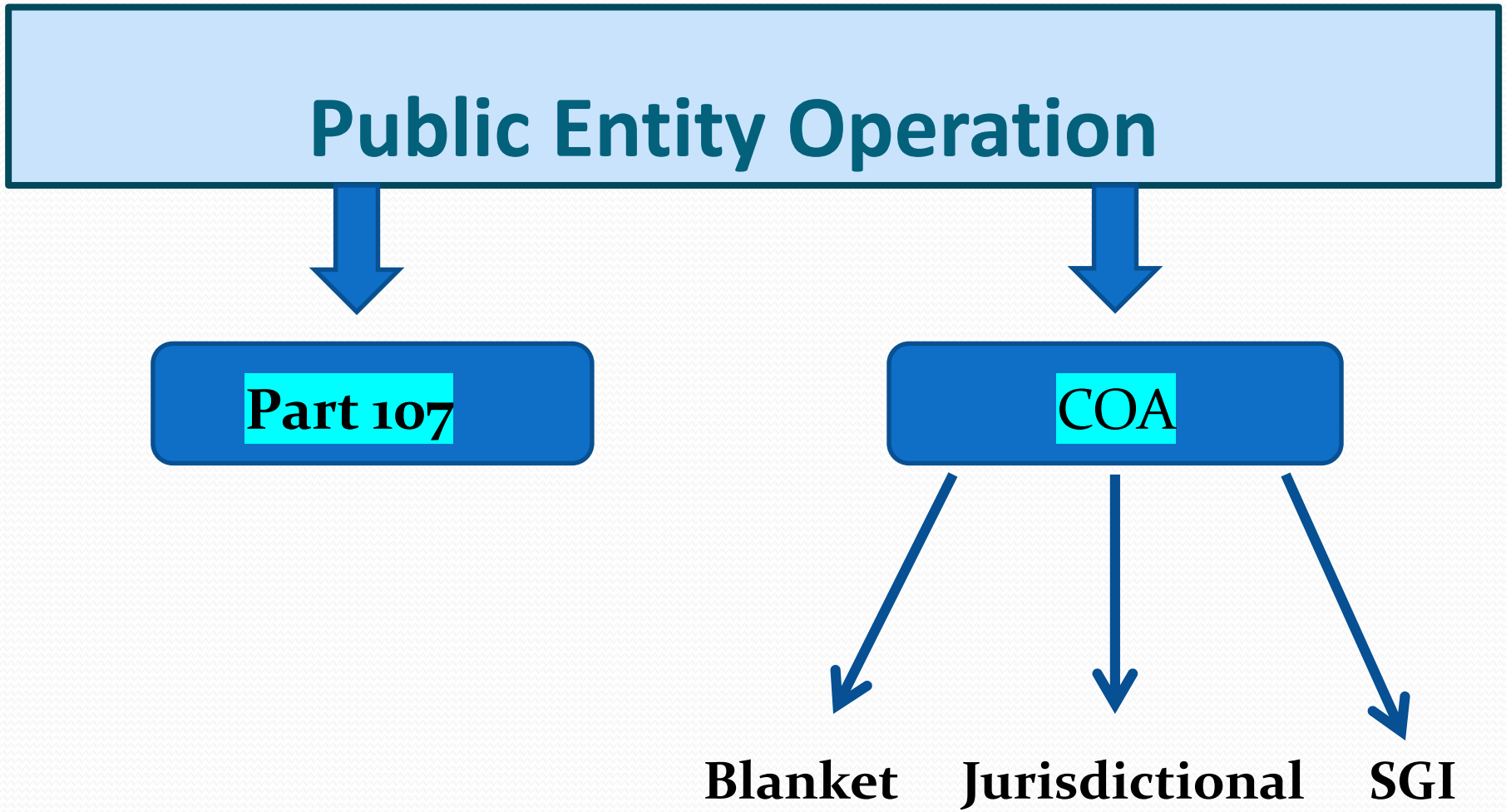
1. Public Entity



2. Public Aircraft



3. Public Operations


Public Entity Operation
Part 107
COA
Blanket
Jurisdictional
SGI

Three Public COAs

A. *Blanket Public COA*:

- nationwide flights in Class G airspace
- at or below 400 feet
- self-certification of the UAS pilot

Three Public COAs

B. Jurisdictional:

- Tailored to requested needs
- Detailed FAA application



Three Public COAs

C. SGI:

- Specific Emergency Situation
- Shorter review period



Framework at the State Level

- "Task Forces" on UAS
  - Privacy, Civil Rights, Civil Liberties
- Developing policies that apply across all levels of government:
  - Avoid a patchwork of local ordinances
  - Promote coordination with federal regulation
  - Promote use of UAS in the economy

Examples

- **State of Washington**
  - Issued Guidelines for individual development of policies



- **State of Colorado**
  - Centralized through: Department of Public Safety and State Center for Excellence



States as Laboratories

- Scope of Regulations differ:
  - **Louisiana** SB 69

Key: Definition of UAS



States as Laboratories

- **Wyoming** SF 70

  Key: jurisdiction over operations when NOT in "navigable air space"

  (Note: FAA mercurial on "navigable air space")



States as Laboratories

- UAS pilot programs (pun intended)

- Different Approaches to Authorization:
  - Pre-approved with reporting *post-use*
  - Specific approval for:
    - Agency Purchase
    - Each particular use

Records and Record Retention

- One set of rules for law enforcement
- Another for the “civil” side

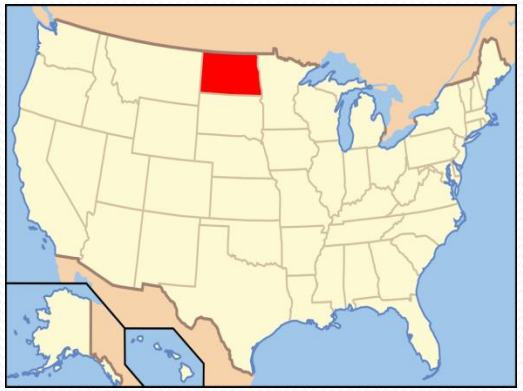


Law Enforcement and Searches

- Policies will reflect criminal code and common law precedent
  - Warrant requirements
  - Evidentiary provisions

Examples

- State of **North Dakota**
  - NDCC 29-29.4-01 et seq.
  - Warrants tied to State Constitution
  - Unique Exceptions (border security)



- State of **Connecticut**
  - HB5274
  - Warrants within general evidentiary presumptions



Canadian Regulation



- Aviation is also a matter of federal jurisdiction in Canada
- A revamping of the existing drone regulation regime is in progress
- New regulations are scheduled to come into effect on January 15, 2018
- In the meantime, the existing regulations continue to apply

Existing Canadian Regulations

- *Aeronautics Act*, R.S.C., 1985
- Canadian Aviation Regulations, SOR/960433 (CARs)
- An aircraft is "any machine capable of deriving support in the atmosphere from reactions of the air" (*Aeronautics Act*, s.3)
- UAVs are "power-driven aircraft, other than model aircraft, that is designed to fly without a human operator on board" (CARS, s.101.01(1))
- Model aircraft are UAVs weighing less than 35 kg and used for recreational purposes only (CARs, s. 101.01(1))

Non-Recreational Use Under Existing Canadian Regulations

- Currently, Special Flight Operation Certificates (SFOCs; comparable to COAs in the U.S.) are required to operate a UAV for non-recreational purposes (CARs, s. 602.41)
- SFOCs set conditions on flights which must be complied with
- Failure to obtain an SFOC could result in fines up to $25,000.00 for corporations
- SFOCs are issued by Transport Canada on a case-by-case basis upon application
- Operator must meet certain competency requirements

Exemptions to SFOC Requirement

- Operators who would normally be required to obtain an SFOC may be exempt from the requirement if they meet 61 conditions, including not using the drone in “built up” areas

- It is nearly impossible for most operators to meet all 61 of the required conditions for an SFOC exemption

Proposed Changes to the Canadian Regulations

- A complete overhaul of the regulatory regime will go into effect on January 15, 2018
- Will eliminate the distinction between recreational and non-recreational uses
- New distinctions based on level of risk:
  - Within visual line of sight (VLOS) v. beyond VLOS
  - Micro (250 g or less) v. very small (250 g-1 kg) v. small (1-25 kg) v. large (above 25 kg)
  - Limited operations (in rural areas and non-populated areas) v. complex operations (in populated areas, near aerodromes)

Proposed New Canadian Drone (UAV) Categories

Micro	Very Small	Small (Limited)	Small (Complex)	Large/BVLOS
250 grams or less	Between 250 grams and 1 kilogram	Between 1 kilogram and 25 kilograms and operated in rural areas	Between 1 kilogram and 25 kilograms and operated in or within .5 nautical miles (.93 km) of built-up areas	Greater than 25 kilograms and/or operated beyond visual-line-of-sight (BVLOS)

Proposed Changes to the Canadian Regulations, Cont'd

- Only higher risk operations, including UAVs larger than 25 kg and those operated beyond VLOS will continue to require an SFOC
- "Micro" UAVs (less than 250 g) are unregulated
- SFOCs will no longer be required for "very small" or "small" UAVs

Proposed Changes to the Canadian Regulations Cont'd

- Different aircraft, pilot and flight restrictions will apply depending on whether the UAV is "very small" (250g-1 kg)m "small limited" (1-25 kg, rural), or "small complex" (1-25 kg, built-up area)

- Flying micro and small complex drones in built-up areas will be permitted

Proposed Changes to the Canadian Regulations Cont'd

- Transport Canada will develop a standardized knowledge test for pilots
  - Operators of "very small" and "small limited" UAVs will be required to pass a basic written knowledge test
  - Operators of "small complex" UAVs will have to obtain a pilot permit (valid for 5 years), which requires a comprehensive written knowledge test and a reference from another drone pilot

Municipal/Provincial Regulation of UAVs: Jurisdictional Issues

- The federal government has exclusive jurisdiction to regulate aeronautics pursuant to sections 91 of the *Constitution Act*, 1867

- Municipalities and provinces may be able to regulate the use of drones for reasons within their competence

Municipal/Provincial Regulation of UAVs: Jurisdictional Issues, Cont'd

- However, the doctrine of interjurisdictional immunity provides that provincial and municipal laws impairing the federal exercise of a "core competence" of one of its powers will be adjudged to be inapplicable, e.g., municipal by-laws directly or indirectly regulating airports have repeatedly been struck down as encroaching on federal aeronautics jurisdiction
- Municipal restrictions on where drones may fly would likely be found to impair a "core competence" of the federal aviation power and thus be ultra vires (ie. unenforceable).

Municipal Regulation of Drones in Canada

- In Ontario, the *Municipal Act, 2001*, S.O. 2001, c.25 confers broad powers on municipalities
- The powers of single-tier municipalities include:
  - the economic, social and environmental well-being of the municipality;
  - the health, safety and well-being of its persons;
  - the protection of persons and property within its jurisdiction;
  - Animal control within its jurisdiction; and
  - Regulation of buildings and structures

Examples of Municipal and Provincial Drone Regulation in Canada

- Very few instances of municipalities or provinces regulating drones in Canada to date
- Some municipal by-laws and provincial statutes pre-date modern drone technology but may nonetheless have the effect of regulating drone usage:
  - Parks by-laws restricting use of model aircraft (Ottawa, Toronto, Windsor)
  - Provincial park restrictions on use of drones by hunters (Manitoba and B.C.)
  - Zoning by-laws

Tort Liability for Misuse of Drones – Canadian Context



Tort Liability for Misuse of Drones – Canadian Context Cont'd

- Potential sources of liability include:
  - Breach of s. 8 of the Canadian Charter of Rights and Freedoms ("the Charter")
  - Tort of Invasion of privacy
  - Tort of Trespass

Breach of Charter Rights

- Section 8, Charter: “Everyone has the right be to secure against unreasonable search or seizure.”
- *Hunter v. Southam Inc.*, [1984] 2 S.C.R. 145, Justice Dickson: Individuals are entitled to a “reasonable expectation of privacy”
- A reasonable expectation of privacy can exist in public spaces because the right protects people, not places
- Courts take a contextual approach, considering the totality of the circumstances in determining whether a reasonable expectation of privacy exists

Breach of Charter Rights

- Police required to obtain a warrant before conducting video surveillance of a person in circumstances in which the person has a reasonable expectation of privacy (Criminal Code, section 487.01(4))

Damages for Breach of Charter Rights

- Pursuant to s. 24(1) of the Charter, courts can award damages for breach of Charter rights
- Unclear whether there is a requirement of proof of wilful misconduct or *mala fides* to recover damages for breach of a Charter right. The Supreme Court of Canada appeared to say "no" in *Vancouver (City) v. Ward* (2010) (and again in 2015: *Henry v. B.C.(A.G.),* however, recent provincial appellate court decisions in Ontario and Alberta have purported to distinguish *Ward* and required proof of malice or bad faith in order to justify an award of damages for Charter breach

Canadian Perspective on Tort Liability for Invasions of Privacy

- Tortious liability for invasion of privacy is a relatively recent development in Canada
- Two different privacy-related torts:
  - Intrusion upon seclusion
  - Public disclosure of private facts

Intrusion Upon Seclusion

- Ontario's privacy legislation does not create an actionable tort for violation of privacy as several other provinces have done
- *Jones v. Tsige*, 2012 ONCA 32 Unauthorized access of Plaintiff's bank records by defendant bank employee
- Tort established where:
  - The defendant acted intentionally;
  - The Plaintiff's private affairs were invaded without lawful justification; and

Intrusion upon Seclusion Cont'd

- A reasonable person would regard the conduct as highly offensive, causing distress, humiliation or anguish
- Non-pecuniary damages of $20,000.00 awarded
- Risk of unjustified surveillance or access to information by municipal employee
  - Need for privacy training and security measures

Public Disclosure of Private Facts

- *Doe 464533 v. ND*, 2016 ONSC 541
  - "Revenge porn" – Plaintiff's ex-boyfriend published photos online without Plaintiff's consent
- Tort established where:
  - Defendant gave publicity to a matter concerning the private life of the Plaintiff;
  - Matter publicized or act of publication itself would be highly offensive to a reasonable person; and
  - Matter publicized, or act of publication is not of legitimate concern to the public

Public Disclosure of Private Facts Cont'd

- Damages awarded in the amount of $25,000.00
- Risk management implications
  - Avoid inadvertent disclosure of private information in responding to *MFIPPA* requests
  - Ensure security of personal information collected by drone to prevent access by unauthorized third parties
  - Avoid collection of unnecessary personal information

Privacy Issues

- Drones can gather information from a variety of vantage points including surreptitiously
- UAVs are typically equipped with cameras that can record and transmit images from increasingly greater distances and with increasingly greater resolution
- Capable of acute and persistent tracking of individual activities as well as systemic surveillance of a wide area
- Can be equipped with sensors, infrared or thermal imaging cameras
- Facial recognition software can be applied to the images captured to identify the individuals pictured

Privacy in the Civil Context: Canadian Legislation

- *Municipal Freedom of Information and Protection of Privacy Act*, R.S.O. c. M.56 ("*MFIPPA*")
  - Protects the privacy of individuals with respect to personal information held by municipalities and provides individuals with a right of access to that information
  - No person shall collect personal information on behalf of an institution unless the collection is specifically authorized by statute, used for the purposes of law enforcement or necessary to the proper administration of a lawfully authorized activity (section 28(2))

MFIPPA: Disclosure of Personal Information Collected by Drone

- Section 4(1) of *MFIPPA* gives every person a right of access to a record or a part of a record in the custody of a municipality subject to a few exceptions

- Information should not be disclosed if it would constitute an unjustified invasion of personal privacy (*MFIPPA*, section 14(1)(f))

MFIPPA: Disclosure of Personal Information Collected by Drone

- Where methods of redaction are available that would render the individuals anonymous, the records should be redacted and disclosed (*MFIPPA*, section 4(2))

- Privacy commissioner has recommended technological solutions to prevent unnecessary and personal information from being collected in the first place, e.g., adjusting focus and sensitivity of sensors, or blurring images of third parties

Privacy Issues

- The issue is how to strike the right balance between a municipality's desire to use drones to further its mandates in a cost-effective and efficient manner and the protection of privacy rights of its citizens
- Concerns arise in context of use of drones for policing, surveillance and inspection of populated buildings
- Some Canadian police forces have already started using UAVs for clearing accident scenes, accident reconstruction, crime scene surveys, and search and rescue missions

Suggested Guidelines for the Use of Drones for Video Surveillance in Public Places

- Must address a real, pressing and substantial concern
- Less privacy-invasive alternatives should be considered and ruled out
- Minimizing privacy impact should be addressed before surveillance undertaken
- Public consultation should precede any decision to introduce drone surveillance

Suggested Guidelines for the Use of Drones for Video Surveillance in Public Places Cont'd

- Surveillance must be consistent with applicable laws
- Drone operation should be conducted in a manner that minimizes impact on privacy
- Advise public in advance that they will be under surveillance in a given location
- Fair information practices regarding collection, use, disclosure, retention and destruction of personal information

Suggested Guidelines for the Use of Drones for Video Surveillance in Public Places Cont'd

- Security of equipment and images should be assured
- Respect right of individuals to access their personal information
- Video surveillance systems subject to independent audit and evaluation
- Use of video surveillance should be governed by an explicit policy

Reasonableness of Use of Drone Surveillance – Key Factors

- Location of intended drone use
- Sophistication of the technology to be employed
- The public's increasing concern about privacy in an age of rapid technological advancement

Risk Management Tools for Minimizing Tort Liability in Drone Use Context

- Develop council-approved policies for assessing appropriateness of use of drones in a given context
- Develop council-approved checklists to evaluate privacy impact and means of minimizing privacy intrusions
- Sample drone use policy statement and privacy checklist are included in the written conference materials

State Protections

- Freedom from Drone Surveillance Act
- Prohibits Use of Drones to gather information
  - There are exceptions (Section 15)
  - Non-disclosure (w/ exceptions)
  - Evidentiary Penalties
  - Prohibits Use of Private Drones (no silver-platter doctrine)



Section 15 Exceptions

- Counter Terrorism (Homeland Security determination of threat)
- Pursuant to search warrant (45 days)
- Exigent circumstances to protect life etc. (48 hrs max with reporting requirement)
- Search for missing person (not a criminal investigation)
- Crime scene and traffic crash scene photography (private property requires consent or search warrant)
- Disaster or Public Health Emergency

Constitutional Concerns

- **Fourth Amendment** (unreasonable searches/plain view doctrine)

  v.

  First Amendment (free press and right to record what is in public view)

- **42 USC Section 1983** concerns
  - Actual authority of operators should be in policy

Privacy Concerns

- United States v. Jones
  - GPS tracker case—concerned with constant surveillance
  - Mosaic Theory: evaluate the collective sequence of distinct government activity as an aggregate whole
- Private parties and the Exclusionary Rule
- Record management (how long do you keep the video?)

FAA: UAS = Aircraft

- Aviation Insurance Coverage
- Additional Liability Coverage Amounts
- Additional “UAS” or Drone Coverage



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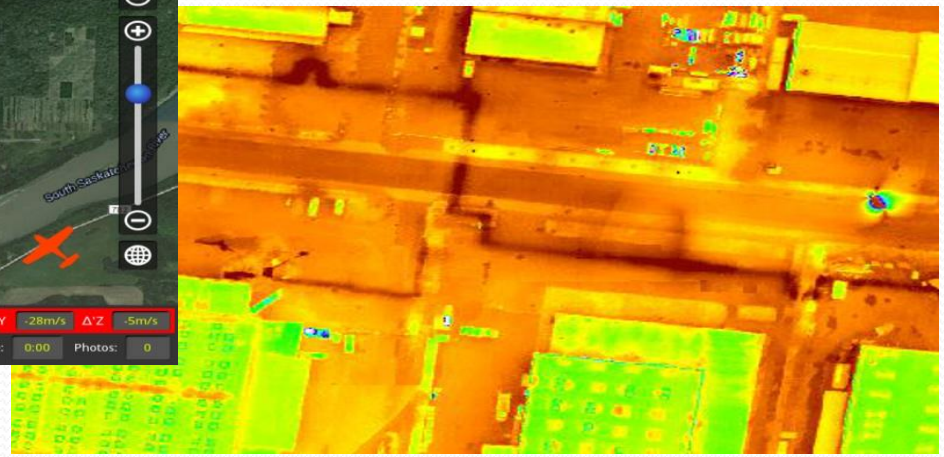


Drone = Aircraft + Software + Systems









Drafting Notes: Data

- Ownership
- Protection
- Open Records Requests
- Permission to Use (marketing purposes)
- Delete raw, unprocessed data once flight operation purpose complete
- Minimum data storage policy (90 days, 1 year)

Drafting Notes: Safety & Software & Security

- Encryption
- Training beyond minimal FAA Certification Course (internal operations)
- Lost Link Procedures
- Redundancies (communications)
- Geo-fencing (not fool-proof)
- Require Updates & Patches

Drafting Notes: Privacy

- Limit use to a specific, approved purpose
- Restrict internal access to images, data
- Coordinate with community for input and education

Questions

