The Issue Hovering Over Our Heads: Common Sense Analysis and Solutions to Drones

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I. Introduction

If you asked someone five years ago what a drone is, a likely response would entail a description of some covert unmanned military craft, or even more likely, a simple “I don’t know.” Drones, like so many things in this technological age, have surged in popularity in a short period of time.¹ Once reserved for the military, these unmanned aerial vehicles (UAV’s) have become readily available for private purchase online and even from big-box retailers like Wal-Mart. Ranging in prices from less than $100 to thousands of dollars, there is likely an application for almost any budget. These drones are capable of both private and commercial applications.

The multitude of uses can create a myriad of problems. First are the obvious safety implications of having these remote-controlled devices, with rapidly spinning propellers, flying over the heads of innocent bystanders (not to mention risks to the pilot). There have been plenty of documented injuries of the sort. Second, and just as important are privacy concerns.

Most people would not take kindly to a camera hovering over their backyard, and the privacy implications are rather obvious.

This proposed ordinance will address many of the public and governmental concerns brought on by drones. The focus of the ordinance will be to enact commonsense simple-to-follow regulation that will protect the public while providing ample opportunity for both drone enthusiasts and commercial/governmental users. The ordinance will include limitations on users, locations, and altitudes. These limitations will include prohibited uses such as using drones to harass, attaching weapons to drones, flying outside the pilot’s line of sight and more. The ordinance will also define and distinguish use on public versus private property. Users of drones will also be classified as commercial, non-commercial and municipal employees to better tailor when drone usage is appropriate. A permitting process will be established by the ordinance to ensure proper usage and to achieve accountability from the operators. The following information will first provide an in-depth exploration of the problems faced by drones followed by why we need such regulation to address them. Next, we will look at how this issue has been addressed in other jurisdictions, particularly what methods have worked well, and what methods have been unsuccessful. Finally, the key policy issues involved in enacting this ordinance will be discussed in an effort to explain why this ordinance is among the best options for Susquehanna Township.

II. The problems presented by drones and their users

Drones are incredibly functional pieces of technology. They are combining hobby and purpose which is an alluring cocktail for sales and popularity. Many if not most drones for sale
to the public are now outfitted (or capable of being outfitted) with high-resolution cameras. These cameras can offer a live and/or recorded view of what is below. There are serious privacy implications when a drone is flying over someone else’s private property.² Using a drone to photograph others or their property without permission is one of the leading concerns to bystanders and governments. There have been numerous instances of drones being used as a “peeping tom” to spy on unsuspecting people who assumed they had privacy.³ To put it simply, anyone can go online or to their local big box store and, for a few hundred dollars, come home with an operational drone, equipped with a camera, that they can quite easily fly right outside your bedroom window. This ordinance provides not only regulation to prevent this behavior, but penalty for doing so.

Secondly, there are some safety concerns presented by drones. They are essentially miniature helicopters. Most drones available to the public are known as quadcopters. These employ four propellers (one on each corner) which lift and move the drone around with smoothness and precision. While most are billed a “easy to fly,” even a seasoned expert can hurt himself or others by mishandling the remote control, or allowing the drone to travel out of range. Further, some drones will run until their battery is completely depleted and simply fall out of the sky. It is because of these dangers that drones must be regulated in regards to where and when they can be flown, along with who is flying them.

III. Why this new drones ordinance is needed

² Canada Department of Public Safety Report on Privacy Implications of Drones
³ https://nypost.com/2017/11/03/drones-are-reportedly-spying-on-women-in-australia/
Currently, Susquehanna Township has no ordinance in place that covers drone activity. While there are laws preventing harassment, and invasions of privacy, drones present a unique challenge to those laws because of their unconventional position in the sky. Because of this, it can be difficult to meet elements of those laws, meaning offenders are left unchecked.

In the federal realm of law, The Federal Aviation Administration (FAA) has issued some federal regulation regarding the use of drones, but it has only been in limited amounts. The problem of drones is growing faster than the slow wheels of the federal government can turn. The FAA has even recommended that local municipalities take initiative on these matters by supplementing federal rules so long as they do not interfere with the federal rules. Users of drones are left with little guidance from the Federal Aviation Administration, which even when violated is lacking on enforcement. Local municipalities then have no options to stop behavior that is either dangerous or harmful to the rights of others. If the township enacts some simple regulation it can not only protect its residents, but also have recourse against those who violate it. Residents would be offered peace of mind that there are rules in place to prevent privacy intrusions. It is important to be proactive on matters like these to protect members of the community.

There are numerous benefits of enacting an ordinance such as this one. Drones, as mentioned earlier, have become an incredibly popular hobby among amateur photographers, “techies,” R/C (remote control) enthusiasts and more. Allowing drone flight in safe areas can provide great community involvement and social interaction. The benefits do not stop there.

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4 https://www.faa.gov/uas/
Economically, drones are a valuable tool. Businesses are using drones more and more, especially for professional photography. Real estate companies are utilizing drones to create awesome videos and pictures of their property listings. These kinds of photos were previously unattainable to them without the massive price tag of renting a real airplane or helicopter. Even if attainable, the airplanes and helicopters could not match the versatility and flexibility of a drone. Environmentally, drones could prove to be hugely beneficial to the environment. Companies like Amazon are interested in using drones for package deliveries at your home. Prime Air can deliver packages to your doorstep in 30 minutes or less. This means a big diesel truck is not being used to drive that package to your home. Because most drones are battery powered and highly efficient, the potential reduction in fossil fuel consumption could be substantial if put to use on a widespread basis. Companies like UPS are working to ensure drones are not taking away the jobs of their drivers by integrating the drones in to the trucks. The trucks could deploy a drone to reach an out of the way delivery and lighten the workload of the driver.

IV. What other jurisdictions have done about drones

Other municipalities are taking the initiative on the drones issue by enacting regulation similar to that which is proposed here. They are expanding upon the existing regulation given by the FAA to tailor the use of drones in their municipalities. Many states are also considering drone legislation, and at least 2 have already enacted such.

5 https://hiflyphotography.com/running-a-drone-business/
6 https://www.amazon.com/Amazon-Prime-Air/b?node=8037720011
What Susquehanna Township must be careful of is preempting federal regulations from the FAA. A prime example of this is what happened in the city of Newton Massachusetts. In Newton, the city enacted a drones ordinance in 2016. It was comprehensive legislation that governed nearly every aspect of drone usage, including requiring users to register their drones. A local resident sued the city, on the basis that the ordinance preempted FAA regulation. In September of this year, the court ruled in favor of that resident nullifying four provisions of that ordinance due to preemption. This ordinance went too far by not being mindful of federal regulation.

The regulation of drones, like any other regulation, must be carefully thought out and scrutinized. As nearly every municipality, state, and the federal government has realized, you cannot just throw laws and money at a problem and expect it to go away. For these reasons, this ordinance has been thoughtfully crafted to solve and prevent problems in the township, while avoiding preemption issues.

Because drones regulation is so new on a local level, it is difficult to measure how effective it can be. However, if you employ the “better safe than sorry” approach, enacting some simple legislation can be effective in staying ahead of the issue before it was to become a problem.

V. Some key policy issues to consider when enacting drones regulation

As with any new regulation, policy issues arise. There are many policy concerns that Susquehanna Township will likely face in enacting new drones regulation. First is the scope of the regulation. The township must strike a delicate balance between being too broad and

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8 Singer v. City of Newton, 2017 U.S. Dist. LEXIS 153844
exclusive of drones and being too narrow, allowing for loopholes. Finding that balance involves identifying the most likely problems drones will cause like privacy intrusions and safety concerns, and addressing only those problems. It is important to not be too focused on hypotheticals and address only those potential acts that pose serious threats to the safety and rights of township residents and visitors.

Second is the matter of preemption. Preemption in this case would be when the federal and local governments are trying to regulate the same thing as we have previously discussed. In such instance, the federal law will nullify any conflicting regulation enacted by the municipality. This is why it is important to understand what the FAA has already done in regards to drones, and be careful not to contradict the policy they are trying to achieve. The FAA has been particular to the navigable airspace which is generally above 400 feet. This has left a gap for local municipalities to fill in regulation in the airspace below 400 feet, which is where most of this amateur drone activity takes place. The goal is to expand upon the FAA’s regulation and tailor it to the needs and concerns of Susquehanna Township. This type of co-regulation is commonplace across the regulatory world.

Third is the all too common challenge of funding and enforcement of a new local ordinance. One of the most common questions at a township hearing is undoubtedly related to: “How are we going to pay for this?” Fortunately, when it comes to drones regulation, there will be little to no cost in enacting this ordinance. It is more about laying a groundwork of regulation for users and potential users. Enacting this legislation sets forth the rules for drones users. The only cost to the township at that point would be printing the permits, or providing access to them on the township website. The ordinance sets forth penalties for violations, which the township can
then adopt a schedule of fines associated with those violations to compensate them for the cost of enforcement. This ordinance is not meant to be a revenue stream for the township, but rather a self-sufficient arm of regulation.

Enforcement can also have a positive edge. Because the ordinance will outline violations and therefore penalties, the level of enforcement will be commensurate with the level of return desired by the township. If the township wants to pay someone to issue fines for the unlawful use of drones, the township will receive money for those violations which can pay for further enforcement. If violations are not common, such aggressive enforcement (and cost) would not be necessary.

These policy concerns often include delicate balances such as privacy versus freedom or safety versus practicality. Considering residents opinions on how strict is too strict can be helpful. Given that drones have not become a substantial problem in the township up to this point, it is not necessary to enact incredibly strict rules. Rather the approach of this ordinance is simply to be ready, willing, and able to handle any issues drones may present as their popularity grows.

VI. To conclude...

Despite the “problems” outlined above, drones can offer both a fun and safe hobby. In addition to the recreational uses, drones are also commonly used by businesses and governments. Real estate companies use drones to photograph properties for sale in order to showcase a unique overview. Before drones, such photos would usually be unattainable due to the cost of paying a helicopter or airplane pilot (and photographer) for the photos.
Drones are also used for other types of photo documentation and surveying by many different types of businesses from construction companies to wedding photographers.

Governments and first responders are also popular drone users. Some municipalities employ drones to monitor compliance with other regulations. Police and fire departments can use this technology in search and rescue missions. Drones can deploy in seconds and be searching for their target immediately. Traditional helicopters not only cannot deploy nearly as fast, but their cost to operate is exponentially higher. Drones are also being utilized to deliver lifesaving AEDs to remote places like golf courses. Police departments can use drones for warrant authorized covert surveillance and reconnaissance. This ordinance has been drafted will all these uses and those previously mentioned in mind.

The regulations we have been discussing are meant to prevent the reckless and improper use of these drones. It is important to regulate these uses so that people are not weaponizing drones or using them for unsportsmanlike things such as hunting or fishing. Such behavior would create not only an unfair advantage but a danger to the public. The benefits are clear, and the risks and burdens are understood and accounted for in a practical way. This ordinance is tailored to minimize the likelihood of interference or preemption of federal law.

Commonsense regulation enacted by Susquehanna Township can ensure safety and allow the municipality to stay ahead of the curve on the drones’ issue. Having regulation in place before the problem grows is smart government.
ORDINANCE NUMBER: XXXXX

§ 29-101:

AN ORDINANCE OF SUSQUEHANNA TOWNSHIP AMENDING THE CODE OF ORDINANCES BY ADDING A NEW CHAPTER 29, WHICH CONTAINS REGULATIONS RELATED TO THE OPERATION OF UNMANNED AERIAL VEHICLES (UAV’S).

WHEREAS, the use of unmanned aerial vehicles, also referred to as drones, in the United States is becoming increasingly popular and affordable;

WHEREAS, these unmanned aerial vehicles are used for recreational, commercial and governmental activity;

WHEREAS, the Federal Government through the Federal Aviation Administration regulates the national airspace; ⁹

WHEREAS, the Federal Aviation Administration has issued some regulations on unmanned aerial vehicles and has allowed for some regulation of unmanned aerial vehicles by state and local governments;¹⁰

⁹ State and Local Regulation of Unmanned Aircraft Systems (UAS) Fact Sheet, Federal Aviation Administration Office of the Chief Counsel, 12/17/2015.
WHEREAS, the use of unmanned aerial vehicles can make search and rescue and many other emergency responses much quicker and more efficient when used by first responders;

WHEREAS, responsible and safe drone use is an increasingly popular recreational activity, particularly among amateur photographers, and promotes technological innovation, economic growth and job creation;¹¹

WHEREAS, unmanned aerial vehicles can be equipped with highly sophisticated photography and audio equipment that threatens privacy;

WHEREAS, the prevalence and unregulated use of drones throughout Susquehanna Township poses a threat to the public health, safety and welfare and has created public health, safety and welfare concerns, including, but not limited to, privacy, nuisance and trespass concerns.¹²

BE IT ENACTED AND ORDAINED, by the Board of Commissioners of Susquehanna Township, Dauphin County, Pennsylvania, and it is hereby enacted and ordained by authority of the same.

§ 29-102: AMENDMENT.

¹⁰ Id.
¹² Proposed ordinance for Paradise Valley, Arizona. Article 10-12
The Code of Ordinances, Susquehanna Township shall be amended to add a new chapter to read: Chapter 29: Unmanned Aerial Vehicles (UAV)

§ 29-103: PURPOSE AND GOALS OF THIS ORDINANCE.
To provide thoughtful drones regulation that is easy to follow for both the township and its residents. This ordinance is meant to meet the increasing popularity of drones with common-sense and fair law.

§ 29-104: DEFINITIONS.
Unless the context clearly indicates otherwise, the following words or phrases used in this Chapter shall have the meanings given to them in this section:

“Commercial use.” Any use of a UAV within Susquehanna Township for a commercial purpose including aerial photography, aerial mapping, geospatial imaging or other audio-visual purpose. 13/14

“Commercial user.” A person operating a UAV for commercial use. 15

“Cooperating municipality.” A municipality that has entered into an Intergovernmental Agreement with another municipality.

“Department.” Any department, agency or authority of Susquehanna Township. 16

15 Id.
“Drone.” See: “UAV”

“Drone Friendly Areas.” Areas within Susquehanna Township boundaries determined by the township to be a safe and practical areas to operate drones, taking in to consideration the public health, welfare, and safety.

“Emergency situation.” A scenario to which first responders have been dispatched and/or which poses an immediate risk to health, life, property, or environment.¹⁷

“Emergency zone.” Any location which is the site of an emergency situation and over which first responders have designated, cordoned off, or otherwise taken authority for the duration of the emergency situation.

“FAA.” The Federal Aviation Administration of the United States.

“First Responders.” Emergency personnel including police, emergency medical services, and fire departments working in their official capacities, or any person requested and authorized by emergency personnel to assist in an emergency situation. The term includes search and rescue personnel.

“Harass.” To approach or be near any person or animal for the purpose of annoying, intimidating, or otherwise disrupting that person or animal.

¹⁶ Through discussions with Susquehanna Township, the department likely to handle this ordinance would be Parks and Recreation.

“Intergovernmental agreement.” A compact, contract, or other agreement entered into by the township and a cooperating municipality, that governs the use of any UAV’s within this municipality and the cooperating municipality.

“Multi-drone Event.” A gathering on public property involving four or more drones.

“Municipal worker.” A person who is employed by the township or any emergency personnel dispatched within the township and whose operation of a UAV is in furtherance of their employment duties.

“Operate.” To fly, control or otherwise manipulate.

“Private Property.” Land owned by a private person or by a public body but to which the general public does not have access, including schools and government buildings, and the airspace above that land up to 400 feet in altitude.

“Public land.” Land owned by the general public, that the public is free to enter, such as a public right of way or public park. This includes the airspace above that land up to 400 feet in altitude.

“Recreational use.” Use for enjoyment or relaxation.\(^{18}\)

“Surveillance.” The gathering, without permission, of visual images, physical impressions, sound recordings, data or other information involving the private, personal, business or familial activities of another person, or that otherwise intrudes upon the privacy, solitude or seclusion of another person, regardless of whether there is a physical trespass onto or above real property owned, leased, or otherwise lawfully occupied by such other person.19

“Township.” Susquehanna Township, Pa.

“UAV.” (Unmanned Aerial Vehicles) A device, object, or contrivance which can be flown without a pilot or operator in physical contact with any part of the device, object, or contrivance. For the purposes of this ordinance “UAV” and “Drone” mean the same thing.

“Utility.” A line, pole, device or object that is above ground and used for the distribution of electricity, gas, oil, telecommunications or water.

“Weapon.” An instrument, article or substance that, under the circumstances in which it is used, attempted to be used, or threatened to be used, is readily capable of causing death or serious physical injury.20

§ 29-105 – GENERAL USES PROHIBITED.

General Rule: On any property, an individual may not operate a UAV:

19 City of Chicago, Proposed Amendment.
20 Some definitions from last year’s model ordinance have minor changes based on information from Susquehanna Township.
1. Which has a weapon attached to any portion of the UAV.

2. To harass.

3. For the purpose of unwarranted surveillance.

4. In a reckless or careless manner that causes a real or reasonably perceived threat to persons or property or actually causes damage to persons or property.\textsuperscript{21}

5. More than 400 feet in altitude from the ground.


7. Outside the unobstructed visual line of sight of the operator.\textsuperscript{22}

8. Weighing more than 55 pounds, including payload and fuel.\textsuperscript{23}

9. While under the influence of drugs or alcohol.

10. At night (after dusk and before dawn). Excluding search and rescue operations

11. That produces a noise level greater than 90 decibels at a distance of nine feet from the UAV.\textsuperscript{24}


13. In any illegal manner, including transportation of illegal substances.

\textbf{§ 29-106: USE ON PRIVATE PROPERTY.}

(a) An individual may not operate a UAV on or above private property between zero feet and four hundred feet in altitude from the ground unless the individual:

1. is owner of such property, or

2. has obtained express permission from the owner of that private property.

\textsuperscript{21} Id.
\textsuperscript{23} Id.
\textsuperscript{24} Id.
(b) Notwithstanding subsection (a), a municipal worker may operate a UAV on or above private property without the express permission of the owner of private property if any of the following conditions are met:

1. The operation is for the resolution of an emergency situation and the operation takes place within an emergency zone or within a reasonable distance from an emergency zone, or
2. The operation is by law enforcement personnel executing a valid warrant, or
3. A sanctioned municipal purpose, including but not limited to:
   A. code administration;
   B. zoning; or
   C. marketing.

§ 29-107: USE ON PUBLIC PROPERTY.

(a) An individual may not operate a UAV on public property unless the person:
   1. has a permit issued under §202 by the department for that use.
   2. is not operating the UAV within 25 feet of a utility.
   3. is in a “Drone Friendly Area” as designated by Susquehanna Township.

(b) An individual may not utilize public property to conduct surveillance or harassment on neighboring private property.

(c) Multi-drone events must first obtain approval and a separate permit from the township, issued to the organizer or person otherwise responsible for the gathering.

§ 29-108: PUBLIC PROPERTY PERMITS.
(a) General Rule – the department may issue a permit to any person to operate a UAV on public property if the department determines the issuance will not be harmful to the public.

(b) Standard for issuance: To determine if the issuance will be harmful to the public, the department shall consider the following factors:

1. The location on the public property where the person will operate the UAV.
2. Any potential large gatherings of people near the location of operation on the public property.\(^{25}\)
3. The UAV experience of the applicant.

(c) Duration – Permits will be issued for twenty-four (24) hour increments

(d) Submission – A person must submit a request for permit during regular township building operating hours

(e) Request for Permit – A request for permit form shall be made available to applicants and require identifying information of both applicant and drone, along with applicant’s experience and location of intended flight.

(f) Review – The department will have up to twenty-four (24) to review and make a determination of the issuance of a permit.

(g) Written explanation required – if the department declines to issue a permit under subsection (a), the department shall provide a written explanation of the denial to the applicant.\(^{26}\)

(h) Fees – There will be no fee for the issuance of a permit for operation on township owned public property.

\(^{25}\) 14 CFR 107.39 already provides a general prohibition against flying over any person not directly involved in flying the UAV or who is protected by a building or vehicle.

\(^{26}\) Last year’s model ordinance.
§ 29-109: COMMERCIAL PERMITS.

(a) General Rule – Permits for commercial use of drones shall not be required so long as all other requirements of this ordinance are met, including obtaining a valid permit for use on public property.

§ 29-110: USE FOR COMMERCE.

(a) General rule – A person may operate a UAV for the purpose of commercial use within the limits of Susquehanna Township.

(b) Use includes but is not limited to all of the following:

1. Professional photography or video
2. Demonstration purposes
3. Professional documentation
4. Educational purposes
5. Visual access (point-of-view), for professional purpose, achievable through use of a UAV.
6. Any use of a UAV in exchange for money.

(c) Commercial users must comply with all other sections of this ordinance.

§ 29-111: EMERGENCY SITUATIONS.

(a) General Rule – except as provided under subsection (b), no person may operate a UAV in any of the following conditions:

1. Within 150 feet of an emergency zone.
2. Within 2000 feet of any UAV being operated by emergency personnel.

3. In a location in which emergency helicopters are being utilized.

4. If the operation of a UAV in any way interferes with the resolution of the emergency situation.

(b) Exception – Notwithstanding the provisions of subsection (a), a municipal worker may operate a UAV in an emergency zone for the purpose of resolving an emergency situation, as long as the operation is in accordance with the policies set forth by the department, and in consultation with other commanding first responders.

§ 29-112: USE BY MUNICIPAL WORKERS.

(a) A municipal worker may operate a UAV for any sanctioned purpose outlined in §102(b)(3) of this ordinance.

(b) No municipal worker may operate a UAV for surveillance unless such surveillance is in execution of a valid search warrant.27

(c) A municipal worker may not operate a UAV without either:

1. Satisfying the requirements for a UAV operator in 14 CFR 107; or

2. Obtaining a certificate of waiver or authorization issued by the FAA.28

§ 29-113: SEIZURE OF EVIDENCE.29

(a) General rule – if the Susquehanna Township Police Department seizes a UAV in accordance with applicable law for any violation, the seizure may last until the owner of

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27 As courts have not yet clearly weighed in on 4th Amendment implications from drones, this is to protect the municipality from potential liability.
28 https://www.faa.gov/uas/beyond_the Basics/#gov
29 We have envisioned the reasonable basis here to be the Constitutional standard (or if there is a stricter statutory standard applicable) so as to avoid any potential liability from the seizure.
the UAV reimburses the township for the actual costs incurred in connection with the seizure and storage of the UAV.

(b) Seizure Hearing – following a seizure of a UAV under §107, the department shall notify the owner of the seized UAV within ten (10) business days and give the owner an opportunity for an administrative hearing to review the appropriateness of the seizure.\textsuperscript{30}

\section*{§ 29-114: Penalties.}

(a) General rule – A violation of any section of this ordinance shall include penalty.

(b) Notice – For violations, the department shall issue a Notice of Violation to the user within ten (10) business days of the date the department determined the violation and responsible party. The notice of violation shall revoke any current permits, and require reapplication, if desired.

(c) A first violation of this chapter shall be a civil violation with a fine to be determined by the Board of Township Commissioners.

(d) Any subsequent violation shall be reviewed on a case-by-case basis by the department and may include fines, additional charges, revocation of permit, and rejection of future permit requests.

\section*{§ 29-115: Emergency Guidelines.}

The department shall issue guidelines to all municipal workers, including any foreseeable first responders, for the use of a UAV during an emergency situation.

\section*{§ 29-116: Severability.}

\textsuperscript{30} The governmental body to conduct these hearings is yet to be determined
If any section, subsection, sentence, clause, phrase or portion of this ordinance or any part of these amendments to Susquehanna Township’s Code of Ordinances adopted herein by reference is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this ordinance. 31

§ 29-117: REPEAL.
Any ordinance or section of the Susquehanna Township Code of Ordinances that is inconsistent with this ordinance is hereby repealed.

§ 29-118: EFFECTIVE DATE.
The provisions of this ordinance will be effective 60 days after its passage. 32

ORDAINED AND ENACTED as an Ordinance this ____ day of ______, 2017.

ATTEST: BOARD OF COMMISSIONERS OF
          SUSQUEHANNA TOWNSHIP

31 Severability Clause p.22 - Last year’s model ordinance
32 Effective Date p.14 - Id.