

Committee of the Whole (2) Report

DATE: Tuesday, November 12, 2024

WARD(S): ALL

TITLE: USE OF DRONES FOR BY-LAW ENFORCEMENT

FROM:

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ACTION: FOR INFORMATION

Purpose

This report is a follow-up to the report of September 2023, on the use of remotely piloted aircraft i.e., 'drones', for conducting by-law enforcement activities.

Report Highlights

- Drones are one of numerous tools that can be used in the course of conducting by-law inspections and investigations.
- Staff undertook a cost-benefit analysis for the use of drones, in line with the type of assessment normally carried out when considering the use of other enforcement tools.
- Based on the cost-benefit analysis, at this time, staff are not recommending the purchase of drones to conduct by-law enforcement activities.

Recommendations

1. That City Council receive this report for information.

Background

As a follow-up to a report in September of 2023 that examined the application of drones in a wide variety of activities, this report provides additional information and analysis with respect to the potential for the use of drones in the delivery of enforcement services.

Laws which apply to drone usage

As explored in more detail in the previous [report](#), there are a myriad of laws that govern drone use, such as [Canadian Aviation Regulations](#), [Criminal Code of Canada](#), [Trespass to Property Act](#), [Canadian Charter of Rights and Freedoms](#) and the City's [Parks By-law](#), all of which emphasize both safety and respect for privacy of people and property. However, used judiciously and within the confines of the powers of entry granted through legislation (e.g., the *Municipal Act* and the *Planning Act*), staff are confident that drone technology can be used to assist in by-law inspections and investigations.

How drones are being used in the City and Region

City staff are already using drones in a variety of applications, including photography and filming to create promotional media, and to track the development of infrastructure. City staff also collaborate with the Regional Municipality of York (the Region) and York Regional Police (YRP), who use drones for various purposes, such as mapping and emergency response. When flying over private property, the Region obtains permission from property owners prior to doing so, along with confirmation of when drone flying will take place. YRP, acting within the bounds of its authorities, similarly use drones for gathering evidence while operating in line with all Canadian and provincial laws. The City of Vaughan currently does not use drones in its by-law enforcement activities.

Other municipalities and drone usage

Staff reached out to over 20 Canadian municipalities to see if they are using drones for non-emergency municipal law enforcement. While many are using drones for similar purposes to Vaughan, such as media development, mapping and emergency responses, most who responded are not using drones in municipal law enforcement activities; this includes: Mississauga, Oshawa, Ottawa, Pickering, Regina, Richmond Hill, Toronto and Yellowknife.

The Ontario municipality of Kawartha Lakes is a notable exception, using drones in some of their zoning and property standards enforcement activities. It should be noted that Kawartha Lakes is a geographically large, rural municipality, with a population of approximately 80,000 (with an overall population density of 26 people per square kilometre, compared to a population density of 1,186 people per square kilometre in Vaughan). While drones are used across the entire municipality, they have been particularly useful to access rural, woodland or otherwise more difficult-to-access properties.

Of those cities that do not use drones for municipal law enforcement, some did express interest in using drones to enhance their ability to reach hard-to-reach places, such as

to inspect the exteriors of houses or buildings for compliance with property standards, to fly over large properties, woodlands, and properties which have large bodies of water, or in a situations where there is deemed to be a higher risk to staff.

Previous Reports/Authority

[Extract from the Council Meeting Minutes of September 26, 2023 \(Item 9, Report No. 37 of the Committee of the Whole\)](#)

Analysis and Options

In making operational decisions as to how to best deliver services, staff consider a number of factors:

- Alignment of the program or service with the strategic priorities of Council and its relative priority (i.e., how important is this?);
- The most effective way of implementing the program or delivering the service (i.e., how do we obtain an optimal outcome?);
- Given resource constraints, the most efficient and economical way to implement the program or deliver the service, balancing this against the need to address other identified priorities (i.e., how do we ensure best value for money?);
- Selecting a suite of tools that will most optimally achieve the above factors (i.e., what's the best way to do our work?);
- Continuing to monitor socio-economic and other trends that may impact how a program or service is best delivered and compare this against the ongoing evolution of new approaches, including technology (i.e., what's new and how can we improve?).

By-law enforcement is clearly aligned with Council's strategic priority of ensuring Community Safety and Well-being. This priority has as its principal goal to foster a high quality of life in Vaughan through safe and healthy communities. In addition, property-related by-law enforcement also is an integral component of moving forward Council's strategic priority of City Building (e.g., by ensuring compliance with land use) and Environmental Sustainability (e.g., by enforcing responsible water use practices and supporting tree canopy protection).

Optimal outcomes are obtained by working with other departments and external partner agencies (such as YRP, TRCA, York Region Public Health) to leverage technical expertise, differing authorities, the use of technology and other tools, and the diversity of regulatory approaches. The most effective way of implementing an initiative or delivering a service also includes ensuring that safe, best practices are used and that the exposure (business, financial, legal and reputational) to the City is minimized.

These priorities and objectives need to be considered in relation to each other and staff need to make decisions, both strategic and operational, that will yield best results across its entire gamut of activities. This includes the use of specific tools, including a myriad of technological tools, for delivering results. The more specific the application of a tool, the greater the economical scrutiny. In other words, staff generally prefer to adopt tools that can be used across a number of applications as opposed to highly specialized tools that can only serve one purpose. Thus, staff always consider the economy of alternatives, especially if those alternatives also offer more versatility and thus a better return on investment.

When considering the use of in-house drones for conducting by-law inspections or investigations, a case can be made for their use under certain circumstances, as the images obtained from overhead images may offer a broader perspective of the conditions or circumstances being regulatorily addressed. However, at the same time, in most instances such perspectives, while perhaps useful, are rarely critical. Thus, the benefit of using drones is ultimately mitigated when considered in terms of whether enforcement staff can still effectively conduct inspections and investigations.

In addition, purchasing a drone for in-house by-law enforcement use is likely to have some significant costs. These costs include the purchase of the hardware, training of staff, IT capacity upgrades, and ongoing maintenance and repairs. Thus, in the initial year of implementing the purchase of an in-house drone for by-law enforcement purposes, staff estimate the cost to be over \$56,000, with ongoing annual costs to exceed \$40,000.

Other considerations

Aside from the direct outlays involved in the purchase of a drone, there would also be a series of less tangible costs associated with the administration aspect of using a drone for by-law enforcement. These costs would include the development of standard operating procedures (SOPs), and some related training, for the appropriate use of drones for gathering information and evidence (including any required notification requirements), the storage and use of photographic and video images, and the release of such information as part of legal disclosure.

How drones may be used in enforcement activities

There is little doubt that there are a number of potential applications for drones in by-law enforcement. These potential applications will also likely expand, as technology improves, service demands increase and become more complex, and the use of drones becomes more commonplace. However, their effectiveness will always have to be scrutinized vis-à-vis the use of other tools and processes in order to ensure that

programs and services are being delivered, not only effectively, but also with the most value for money in mind.

As a result, at this time, staff believe that the benefits of using drones in enforcement are limited, with the costs (i.e., purchase, maintenance, officer certification and likely job reclassification, insurance, technological, etc.) outweighing those benefits. Staff are of the opinion that in those few cases where the use of drones may make a material difference to the favourable outcome of an investigation, the appropriate resources may be procured from a professional service provider. With that said, as technology and societal trends progress, staff will continue to assess whether the use of drones, as well as other tools, can improve the delivery of programs or services.

Financial Impact

There are no financial implications as a result of the recommendation of this report.

Operational Impact

This report was prepared in consultation with Legal Services. There are no anticipated operational impacts as a result of the recommendation of this report.

Broader Regional Impacts/Considerations

City staff will continue to contract and/or operate drones in line with the regulatory requirements and practices of other levels of government.

Conclusion

This report is a summary of staff considerations of how to best deliver programs and services to the public, in line with City Council's priorities of Community Safety and Well-being, City Building, and Environmental Sustainability. In so doing, staff work in collaboration with regional, provincial, and federal partners to leverage expertise and resources. Staff also assess and evaluate its suite of enforcement tools to ensure that it is able to meet service demands from the community in the most effective and economical way. And although staff are of the opinion that purchasing a drone for use in by-law enforcement has limited value and significant costs at this time, staff will continue to consider use of drones for by-law enforcement over time, as the City's needs grow and services and technology continue to evolve.

For more information, please contact: Susan Kelly, Director of By-Law and Compliance, Licensing and Permit Services, ext. 8952.

Attachments

N/A

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