

Report to Corporate Services Committee

To: Chair and Members
Community and Protective Services Committee
From: Jacqueline Davison, Deputy City Manager, Enterprise Supports
Subject: Information Report on Line of Sight for the Emergency Communications System
Date: August 23, 2022

Recommendation

That, on the recommendation of the Deputy City Manager, Enterprise Supports, an Information Report on Civic Administration's approach for addressing the impacts of loss of Line of Sight (LOS) for the Emergency Communications System **BE RECEIVED**

Executive Summary

The City of London operates an Emergency Communications (Radio) System used by emergency first responders and some municipal departments that relies on microwave backhaul to function. The microwave backhaul relies on Line of Sight (LOS) propagation where two stations can only transmit and receive data signals when they are in direct view of each other with no obstacles in between. The purpose and effect of the recommended action is to develop a municipal approach and identify mitigation measures that will address adverse impacts of certain mid and high-rise buildings which may block or impair emergency radio system signals and result in a loss of the transmission and/or reception of the City's Emergency Communication System, and to begin stakeholder engagement.

Linkage to the Corporate Strategic Plan

This report supports the 2019-2023 Strategic Plan in the following areas:

Building a Sustainable City

- London's infrastructure is built, maintained, and operated to meet the long-term needs of our community

Leading in Public Service

- The City of London is trusted, open, and accountable in service of our community

Strengthening Our Community

- Londoners have access to the services and supports that promote well-being, health, and safety in their neighbourhoods and across the City

Analysis

1.0 Background Information

In February of 2020, a Request for Proposals was initiated for the City's microwave backhaul as it was nearing the end of its useful service life. As part of that project, a vulnerability was identified with regards to the potential interruption or blockage of emergency radio signals from new tall building developments if they locate within the LOS.

If a new mid or high-rise development is proposed in a location that falls within LOS for the Emergency Communication System, it could block or interrupt the visual connection between the sites. An interruption or blockage of the LOS could result in a loss of emergency radio signal through compromised system reliability, dropped calls due to

increased traffic as other sites compensate, loss of communication among first responders and reduced response times. This scenario represents a significant vulnerability for the Emergency Communication System, and a loss of reliable emergency radio signal poses a serious risk to the health and safety of Londoners City-wide

As the City continues to grow, it is anticipated that there will be more infill and intensification developments throughout the City at greater heights. The purpose of this project is to create a municipal approach to identify and mitigate potential impacts to the integrity of the emergency communications system, in a manner that is sensitive and accommodating to future development.

1.1 Previous Reports Related to this Matter

- Corporate Services Committee, June 22, 2020: Microwave Backhaul Replacement RFP 20-19 Microwave Radio Backhaul Replacement And SS 20-16 Single Source Procurement For Router Replacement And Configuration For Microwave Radio Backhaul Project
- Community and Protective Services Committee, November 13, 2018: Emergency Communications Program Update (One Voice)

2.0 Discussion and Considerations

2.1 Work to Date

- Internal Discussion
 - Corporate Security and Emergency Management approached both Planning and Development and Building identifying the issue. A system was put in place to flag any new developments that may potentially impact LOS
 - Currently, Emergency Communication System staff review and track new Building Permits and Planning Act Applications (Official Plans, Zoning By-Law Amendments and Site Plans) to identify any potential conflicts This review is ongoing and there have been one (1) potential conflicts to date
 - In the current Status-Quo approach, there would be reactive and individual response to new buildings that interrupt Line of Sight. Each unique situation may involve one of the options below:
 - **Modify or Refuse Proposed Development:** Modifying a proposal could include moving a building or reducing the height. If modifying the building isn't feasible, a refusal may be necessary to ensure continued integrity of the emergency communication system. This option may require changes to the Zoning By-law.
 - **Install Repeaters on the New Building:** An alternative to refusing developments that could jeopardize the LOS is to install a new microwave antenna link on the new building to reestablish LOS from one hop to another. This approach would preserve the integrity of the radio system, while allowing for development to proceed in a responsible manner. The capital costs of such infrastructure would vary from site to site and do not have an allocated source of funding at this time. This option would require the developer to be a willing participant to coordinate the installation, lease, associated operational costs and supporting infrastructure.
 - **Change Location of Municipal Infrastructure:** Changing the existing location of the infrastructure is one possible solution, however it would be at the City's cost without any guarantee that the new site would not be impacted by a LOS issue in the future. There is no budget currently allocated for this type of response, and it would be difficult to anticipate costs associated as every situation would be unique. This option is not recommended for further consideration

2.2 Next Steps

The Line of Sight project will be advertised to invite public comments and begin public and stakeholder consultation. Any amendments proposed to planning policies will be captured in a report to the Planning and Environment Committee.

3.0 Financial Impact/Considerations

Currently, there is no designated funding allocated for this project, however it is being explored for potential inclusion within the 2025 Development Charges Study under a separate Emergency Preparedness category. Should Emergency Preparedness be included in the 2025 Development Charges Study, the statutory deductions including the growth / non-growth allocations will need to be determined. If there is an approved funding source, the installation and integration of required infrastructure to continue the Line of Sight could become a standard procedure during the application review process.

Conclusion

The City of London's Emergency Communication Radio System is based on LOS to function properly. New mid or high-rise buildings in certain locations have the potential to block or interrupt the LOS, which would have significant impacts. This project will develop a municipal approach to these situations, and explore planning tools and mitigation measures that will address adverse impacts of certain mid or high-rise buildings.

Prepared by:	Cori Dooling Manager Emergency Communications System
Submitted by:	Paul Ladouceur Director, Corporate Security and Emergency Management
Recommended by:	Jacqueline Davison Deputy City Manager, Enterprise Supports