

Legislative Change #P-L8 - Next Generation 911 Centre

Description: Creation of a 911 communications centre that has the physical, technological, and human resource capacity to manage significant changes in 911 services from the inception of the Next Generation 911 service

Service(s): London Police Service

Lead: Deputy Chief Trish McIntyre

Tax Levy Impact Detail (\$ Thousands)	2024	2025	2026	2027	2024 to 2027 Total
Annual Tax Levy Impact	\$4,622	\$2,407	\$2,721	\$3,148	\$12,898
Annual Incremental Tax Levy Impact	\$4,622	-\$2,215	\$314	\$427	\$3,148
Estimated Annual Tax Levy Impact %	0.63%	-0.34%	0.04%	0.04%	0.09% Average
Estimated Annual Taxpayer Impact \$ ¹	\$20.69	\$9.81	\$11.71	\$13.83	\$14.01 Average

Operating Budget Impact (\$ Thousands)	2024	2025	2026	2027	2024 to 2027 Total
Expenditure – Operating Costs	\$554	\$2,041	\$2,661	\$3,123	\$8,379
Expenditure – Capital Levy	\$4,068	\$366	\$60	\$25	\$4,519
Non-Tax Levy Revenue	-\$0	-\$0	-\$0	-\$0	-\$0
Net Tax Levy Impact	\$4,622	\$2,407	\$2,721	\$3,148	\$12,898

Capital Budget Impact (\$ Thousands)	2024	2025	2026	2027	2024 to 2027 Total	2028 to 2033 Total
Expenditure	\$4,068	\$366	\$60	\$25	\$4,519	\$3,162
Source of Financing: Capital Levy	-\$4,068	-\$366	-\$60	-\$25	-\$4,519	-\$3,162

All figures subject to rounding.

1) Calculated based on the average assessed value of \$252 thousand for a residential property (excludes education tax portion and impacts of tax policy).

Staffing Summary - Changes	2024	2025	2026	2027
# of Full-Time Employees Impacted	8	7	2	0
# of Full-Time Equivalents Impacted	8.0	7.0	3.0	1.0
Cost of Full-Time Equivalents (\$ Thousands)	\$529	\$1,481	\$601	\$465

Subject to rounding.

Summary of Legislative Change:

The existing 911 communications centre within the London Police Service has been in operation for 32 years and is responsible for the receipt of all 911 calls from within the City of London and County of Middlesex. Where a call is deemed to be primarily a law enforcement matter, the call is retained within the 911 centre of the London Police Service which is also responsible for the dispatching of police officers to service calls for help across the city. The base budget for this initiative finances communications operators, supervisors and support staff that are required to keep all 911 equipment functioning. Upgrades or improvements to this area have been largely impossible given the fact that this area must remain operational 24 hours a day 365 days a year and no other facility exists within the city to adequately transfer these services for any more than a couple of hours.

Risks associated to this initiative are significant. If the London Police Service were to walk away from the Next Generation 911 program, then by 2026 over a half million people would have no access to 911 at all. The existing 911 system is at the brink of failure and cannot be sustained much longer. Not moving forward with Next Generation 911 would be catastrophic for the entire region.

Meanwhile a host of legislative requirements exist that require us to move forward with the cut over of 911 to Next Generation 911. The first involves requirement to migrate to this new system as the Canadian Radio-television and Telecommunications Commission and Bell will no longer support existing 911 in the very near future. So, while there is no requirement to convert to Next Generation 911, if a municipality wants 911 services, Next Generation 911 is the only option available. Part of the Next Generation 911 system is designed to provide greater accessibility to individuals with communicative disabilities and such, failing to adopt Next Generation 911 will further isolate these individuals within the City of London and County of Middlesex. Pursuant to O. Reg 3/99 the London Police Service is also required to ensure an auditing process exists for all of our services. This business case provides the London Police Service with an avenue to achieve that in the area of Emergency Communications.

Business Case Detail

911 Call Answering Centres are officially referred to a Public Safety Access Points. Since the 1990's Public Safety Access Points across Canada have accessed a second generation 911 platform commonly referred to e911. The primary feature of this system was a subprogram known as Automated Number Identification / Automated Location Identification that can relay the phone number and precise address of any 911 call originating from a landline. While the system worked well, new communication platforms like cellular

telephones or Voice Over IP calling, along with an increase in the volume of Multiline Telephone Systems (extensions in an office building) Automated Number Identification / Automated Location Identification could not adequately evolve with technology. In conjunction with this, the systems used to operate e911 became antiquated and incompatible with many of today's technological advancements. The fall out of this was manufacturers moved on to product relevant technologies within the marketplace and scuttled the construction of the hardware required to run e911. Today, the e911 system is at the brink of collapse and 911 centres across the country are using technology that cannot be fixed as neither the equipment nor the expertise to service these dilapidated items exists.

By 2006, the Canadian Radio-television and Telecommunications Commission realized a need to replace e911 but discovered technology required was not yet ready. In partnership with Bell Canada, they kept the e911 system alive as these emerging technologies came on board. Finally, by 2020, the new 911 system, coined Next Generation 911, was ready to be distributed in Canada. Unfortunately, the pandemic interfered with this rollout and another delay ensued. In March of 2022, Bell Canada activated the Emergency Services Internet and Next Generation 911 was ready to be adopted across the country. As of today, no Public Safety Access Points has managed to migrate to the Next Generation 911 platform. This is significant as the Canadian Radio-television and Telecommunications Commission has set a deadline of March 2025 to demarcate (shut down) e911 across Canada. The London Police Service has no discretion in following the lead of the Canadian Radio-television and Telecommunications Commission as this body regulates the operation of 911 services across Canada and will leave the Corporation of the City of London without any 911 services if it simply opted to forgo Next Generation 911. What is important to recognize is that the Next Generation 911 system being installed in Canada will be a first of its kind in the world. Its capabilities are vast and will continue to expand in breadth and complexity over the next two decades. The reason this is possible is that this Next Generation 911 system operates through the internet within a Voice over Internet Protocol based environment. In essence, 911 will no longer operate using traditional copper-based telephone lines as it has advanced to the Internet and travels through conduits of fibre optic cabling.

The London Police Service recognized the critical state that the e911 system was in and had staff in place who could proactively initiate the procurement process to take concrete steps forward and adopt this technology before the required deadline. A back up 911 centre, that was a requirement to transition to this new emergency service platform, is almost completed and secure networks to feed into the Next Generation 911 system are currently being installed. A vendor, Comtect-Solacom Technologies (Solacom) has already been selected to install the new 911 system and the London Police Service plan to cut over to Next Generation 911 between January and March of 2024. As a result of these proactive steps, Solacom asked the London Police Service to be their flagship in testing their system in a live environment before being released to the Canadian market. Once this testing is completed, the rest of the country will have a template with Comtech-Solacom to migrate their own 911 systems to Next Generation. As of September 1, 2023, none of the other companies competing within this 911 marketplace have successfully tested their products for release. Therefore, because of the proactive work conducted by the London Police Service, London, Ontario will be among the first Public Safety Access Points to migrate to Next Generation 911 ensuring that it's people can live and work in a municipality with a far more robust and secure 911 system.

While this endeavour is a valuable step in the evolution of 911 services in Canada, it is not without its challenges.

In 1991 the London Police Service migrated its 911 Communications Centre into its current location overlooking the Adelaide St overpass and created a telephone relay station immediately adjacent to this room. 32 years later, the London Police Service continues

to use these two facilities which have remained ostensibly unchanged in that time other than the relay centre has morphed into an adhoc data room. While furniture has been replaced and offices constructed, the bulk of this area has not changed at all due to an inability to maintain business continuity of 911 services during a renovation. Essentially, without a viable back-up 911 centre, the London Police Service Public Safety Access Point could not leave its primary location in order to upgrade the facility. The consequence of this was that the 911 Communications Centre has been left almost completely unchanged for over three decades.

Throughout 2023, the London Police Service has been working on the construction of a Back-Up Communications Centre capable of being operational for an extended period. It is anticipated that this facility will be online in January of 2024. Once up and running, the London Police Service will be in a position where it can modernize its primary 911 communications platform which has been impossible until now.

The changes in 911 operations since the early 1990's is significant and include but not limited to:

- The creation of the internet and subsequent evolution of the cellular telephone and VoIP based communications.
- Tiered emergency responses integrating the operations of police, fire and ambulance at many more calls.
- The collection and analysis of greater volumes of data to predicate appropriate responses.
- A sworn complement increase of almost 50% in conjunction with an exploding population base; and
- The creation of both best practices and adequacy standards in conjunction with an imposition to disclose all potential evidence where criminal charges are laid. All these factors require a more thorough collection of information to first predicate responses then justify the actions taken.

Both the Federal and Provincial governments over the last decade have also placed a heavy emphasis on both the interoperability of emergency services and the implementation of sound algorithms to predicate emergency responses. While this is being done to improve public safety outcomes, it is also an important tool in the efficient use of limited emergency resources. For that reason, many police agencies across the country have constructed embedded Data Management Centres to ensure resources are effectively deployed to maximize their public safety impact. These centres coordinate across specialized emergency services in their jurisdiction and across the Province or Country to provide front line responders with the support they need using analytical tactics and deployment practices that ensure resources are used effectively. Those deployment practices may involve the activation of public order units to search for a missing person, explosive disposal teams when a potentially volatile object is identified, the monitoring of social media immediately after a homicide, or the analysis of a series of events instigated from a root cause.

The London Police Service does not have a functioning Data Management Center embedded in the 911 Center and has been alive to the need to construct one (previously called a Real Time Operations Center) for over five years now. The challenge for the London Police Service was determining the most effective way to run such a facility, particularly as Next Generation 911 came on board. Administrators within the service knew this new 911 system would be game changer but required greater clarity in just how its features could change the emergency service landscape. The work of staff at the London Police Service over the last 24 months has

enlightened the service enough now that to create a vision of how the embedded Data Center should operate and is ready to move forward.

Currently, the London Police Service and is dealing with a crisis related to massive back logs in their call for service queues, worsening response times for non-urgent, urgent, and emergency calls for service. In conjunction with this, significant events that require the deployment of time-consuming resources are expensive to activate and should be done in a manner that balances public safety needs with the limited resources available within a municipality. It should be noted that an embedded Data Management Center is not intended to act as a command post to manage major incidents but rather a generalized oversight body capable of digesting incoming information in a variety of platforms and deploying resources in a manner that can optimize the utilization of resources to service the needs of people calling for help. A result, the London Police Service have determined that a model where the embedded Data Management Center oversees front line operations, digesting all available information to coordinate the best and most efficient response possible.

The onset of Next Generation 911 places an additional drive on the London Police Service to ensure that a modernized 911 system can integrate itself with facilities capable of gathering the appropriate analytics to provide the most effective emergency response possible. To do that, the London Police Service urgently needs to modernize it's Primary 911 Communications Centre while constructing an adjacent Data Management Center to ensure systems and personnel are in place to effectively respond to the data received through Next Generation 911 data portals. A list of the technologies that the Next Generation 911 system will be reasonably capable of exploiting includes, but is not limited to:

- The Automatic Number Identifier from an application designed to compliment a recorder system data from all communication platforms including cellular and Voice over Internet Protocol telephones will be available. This means that the phone numbers from every 911 caller be accessible to 911 operators in conjunction with their precise latitude, longitude, and altitude of 911 calls from almost all communication platforms. The changes this feature will trigger include;
 - The London Police Service averages 3000 silent 911 calls a year. Only a small fraction of these calls come from landlines. The rest are from cellular or Voice over Internet Protocol telephones. Within the Next Generation 911 platform, the London Police Service will know the precise location and phone number of all callers. Operational changes related to these calls for help will need to be adjusted to address the existence of this new information. Traditionally, 911 Operators would attempt to call these no answer calls back if a number was available. If either no number or location could be identified, their response to help was non-existent. The London Police Service Public Safety Access Point will have examined how all 3000 additional “pocket-dials” are addressed under Next Generation 911. The increase in workload starting in 2024 will be significant.
- The transmission of motor vehicle collision data from car accidents involving motor vehicles built since 2015:
 - 911 centres will know the speed, number of occupants, number of belted occupants, and the state of airbag deployment before arriving on scene. This will require personnel to examine this data to rapidly identify which resources should be deployed to provide timely and life saving care to injured persons.

- Access to Closed-Circuit Television cameras embedded within the maps displaying caller locations to provide real time live access to Closed-Circuit Television camera footage of an event in progress:
 - Communications Operators will be able to watch serious events unfold to provide the police, fire and paramedics with real-time intelligence on an emergency in progress. To provide examples:
 - 911 Operators will be able to watch a homicide in progress through the Closed-circuit television cameras at a near by community centre to provide accurate and timely intelligence to responding officers; or
 - Public Safety Access Point operators within the London Fire Department will be able to ascertain the magnitude of a structure fire using nearby surveillance cameras from an elementary school.
 - Again, the workload impacts of this technology are expansive.
- Real Time Text to 911 services will be available to anyone who wants to call for help using this medium.
 - While it will slow down call answering capabilities within a Public Safety Access Point, people who are deaf or mute will have full access to 911 regardless of their disability.
 - As well, people requiring help who are required to stay quiet to stay safe will also have the ability to call 911.
 - An added feature that makes this version of Next Generation 911 unique here in Canada, is that despite this being a text to 911 feature, the caller's microphone will be open allowing 911 Call Takers to hear what's happening during the call to better understand the caller's need for help.
 - Note that while this is a National initiative, the Real Time Text to 911 service will also assist all Public Safety Access Points across the Province of Ontario to achieve their accessibility requirements under the Accessibility for Ontarians with Disabilities Act. In essence, this particular feature is a legislated requirement within the Province of Ontario.
 - The workload impacts are vast as 911 Call Takers will still be individually focussed on the Real Time Text caller as texted responses will be further enhanced by what the operator can hear going on in the background. It is anticipated that these calls will be quite long in duration limiting at least one operator's ability to move onto the next incoming call for help.
- Data collected during a 911 call will be fully transferrable to another Public Safety Access Point as the need arises.
 - A call that originates in London, Ontario can be transferred to Calgary, Alberta and all of the information collected to that point will move with the call.

In addition, the Next Generation 911 system will dramatically change the way in which the London Police Communications Section answers 911 and this Public Safety Access Point is among the last to function without an Administrative Call Distribution Queue. Every other large sized police agency in the Province of Ontario has already adopted Administrative Call Distribution Queue to control the flow of calls coming into the centre. Since the London Police Service does not employ this technology, all 911 call takers are forced to place people calling for help on hold to answer other 911 calls. This is required as Bell Canada, in concert with the Canadian Radio-television and Telecommunications Commission requires 90% of all 911 calls to be answered within 15 seconds.

This practice of putting calls on hold is not only a violation of best practices within the industry but viewed by most 911 centres as unacceptable for obvious reasons. The London Police Service staved off the use of Administrative Call Distribution Queue's to realize

efficiencies that forced 911 operators in London to answer overlapping 911 calls and thereby reduce a need for more human resources within the Public Safety Access Points. 911 Call Takers report individually managing up to six 911 calls for help simultaneously and routinely manage three or four 911 calls at a time. In 2022, the London Police Service Public Safety Access Point averaged 633 events every month where 5 or more 911 calls were received concurrently with a high in June of 121 911 calls simultaneously. To manage, 911 operators bounce between callers asking for help to collect information emergency responders may need. This also means that these call takers may terminate calls prematurely to move on to the next call, fail to monitor calls for service transferred to the fire or ambulance, or risk putting a caller on hold that needs their undivided attention in that instant. This compromises public safety and exposes the Corporation of the City of London in a number of ways:

- Responding emergency service workers may not receive the most up-to-date information they require for the call;
- Documentation errors cause witnesses or information about an emergency to be lost;
- People calling for help may not have a chance to outline the gravity of their situation;
- The incident may possess dynamics that can rapidly change the life-safety status of the caller or someone else;
- Communication deficits by callers may prevent them from accurately outlining the gravity of their need for help; or
- 911 Call Takers swamped with calls may not correctly interpret the dangers associated to the call for help and place someone on hold.

All of these scenarios have taken place within the London Police Service Public Safety Access Point. With over 275,000 calls for service last year alone, errors like the ones outlined above are inevitable.

As pointed out in London Police Services Board report 22-40, the London Police Service did not have the redundancy necessary to upgrade their Public Safety Access Points as the business continuity capabilities to operate outside of the London Police Headquarters. It was therefore not possible to prepare its Primary 911 Communications Centre until now without risking a massive service disruption in 911 services. Now that Next Generation 911 is coming on-line and a fully operational back-up facility will be live starting in the first quarter of 2024, the London Police Service can begin to move forward with the upgrades of these critical facilities.

Recommendations

This Business Case is requesting:

1. Capital Funds in the amount of \$4.07M in 2024 in the existing 911 Communication Centre facility located at 601 Dundas St, the London Police Headquarters; and,
2. An increase in the London Police Service Operational and Capital Budget 2024-2027 to hire an additional 19 full time equivalent positions (17 x full time and 4 x part time) through 2024-2027 to oversee all aspect of 911 services.

Financial Implications (\$):

Itemized Detail (Capital)	2024	2025	2026	2027	2028
Next Generation 911 Centre	4,067,901	-	-	-	
Total Cost	4,067,901	-	-	-	

Itemized Detail (Capital) continued	2029	2030	2031	2032	2033
Next Generation 911 Centre	636,850	1,210,000	-	-	1,315,000
Total Cost	636,850	1,210,000	-	-	1,315,000

The projected capital costs for the construction of a Next Generation 911 Center in 2024 include:

Item	Amount
Construction Costs	\$2,393,468
Consoles	\$120,000
Furniture and Appliances	\$52,828
Audio/Video Enhancements	\$200,000
Audio/Video Equipment/Infrastructure	\$250,000
Generator Replacement	\$75,000
Additional Servers for New Tech	\$50,000
Replacement Cabling and Power to Consoles	\$239,625
UPS	\$150,000
Computers for RTOC	\$42,000
Key Scan Expenses	\$14,000
Electrical Upgrades	\$24,000
Contingency for Construction Costs	\$530,207
Design & Construction Management Fees	\$315,000
Total Capital Budget	\$4,456,128
Less: Existing Real Time Operation Centre Funding (PP4472)	(\$388,227)
Required Capital Funding	\$4,067,901

Note: Operating funds of \$5,600 per year are required 2024-27.

The Canadian Radio-television and Telecommunications Commission also vowed that the 911 network would never become this antiquated again. As a result, the London Police Service has recognized that significant costs related to the life cycle replacement of Next Generation 911 hardware and commensurate software upgrades will take place every 5 years and has projected the appropriate costs for product replacement over the next 10 years.

The Province of Ontario continues to make Grants available to help Police Services in Ontario offset the costs associated with the implementation of the legislated requirements of Next Generation 911. London Police Service was successful in obtaining the Phase 1 Grant and is currently applying for a Phase 2 Grant. We are applying for the total Phase 2 Grant amount which is set at 1.5 million. London Police Service is hopeful we will be successful in our bid which would help offset some associated costs.

Itemized Detail (Operating)	2024	2025	2026	2027
Next Generation 911 Centre	\$5,600	\$5,600	\$5,600	\$5,600
Total Cost	\$5,600	\$5,600	\$5,600	\$5,600

Itemized Detail (New Positions)	2024	2025	2026	2027
Personnel Costs	\$529,239	\$2,010,281	\$2,611,654	\$3,076,443
Other Operating Costs	\$19,138	\$24,790	\$44,122	\$40,500
Capital Costs	-	\$365,503	\$60,098	\$24,556
Total Cost (cumulative)	\$548,377	\$2,400,574	\$2,715,874	\$3,141,499