Municipality of Chatham-Kent

Finance, Budget, Information Technology & Transformation

Information Technology & Transformation

To: Mayor and Members of Council

From: Catherine Fitzgerald, Director, Information Technology & Transformation

Jesse Hope, Project Manager, Information Technology & Transformation

Date: November 16, 2021

Subject: Next Generation 9-1-1 Implementation

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Recommendations

It is recommended that:

1.   The results of the Chatham-Kent Emergency Communications Next Generation 9-1-1 Business Needs assessment be used to inform the 2022 budget and Capital Budget process.

Background

The Municipality of Chatham-Kent has selected Chatham-Kent Police Services as the local public-safety answering point (PSAP) provider for 9-1-1 emergency communications for Police and Fire and Emergency response. The migration to Next Generation 9-1-1 (NG9-1-1) is regarded as the most significant technology and process change to the operation of PSAPs since the 9-1-1 system was introduced.

9-1-1 emergency communications are an essential service for Chatham-Kent and provide access to urgent and coordinated Police, Fire and Emergency response in our community. In 2020, the Chatham-Kent emergency communication centre received a total of 199,776 calls for service. Almost 38,000 of the calls were 911 calls, a 5 per cent increase from 2019.

PSAPs are mandated by the CRTC to implement Next Generation 9-1-1 (NG9-1-1) systems and decommission the current Enhanced 9-1-1 service by March 4, 2025. These changes will deliver improved emergency services based on modern communication infrastructure and data. NG 9-1-1 system will significantly enhance public safety communications and requires fundamental change to the operations and responsibilities of local PSAPs and municipalities who are the authoritative source for location data.

Chatham-Kent Police Services operates the primary PSAP Centre for Chatham-Kent. The operation of the PSAP Centre is required to fundamentally change to support Next Generation 9-1-1 within the next few years. This change will require a significant investment in new technology, data, processes, and training.

The Chatham-Kent Police Service, in partnership with the Municipality of Chatham-Kent, have begun the required network and call management technology upgrades in partnership with our telecommunications service providers, however this is only one preparatory component of the significant local capital investment and ongoing sustainability costs required to support NG9-1-1 in our community.

Comments

The transition to NG9-1-1 is estimated to be a significant effort and expense for the Municipality of Chatham-Kent. The Municipality procured the Barkwell Holland Group Inc., a preferred vendor under the Ontario Police Information Technology Cooperative (OPTIC), to conduct an Emergency Communications NG9-1-1 Business Needs Assessment. This assessment complements the recent telecommunications infrastructure work conducted by Chatham-Kent Police Services and identified the additional resource requirements and costs to fully implement NG9-1-1 service. This assessment also includes 11 recommendations to implement NG9-1-1 based on the CRTC deadlines.

In addition to implementation costs, the Barkwell Holland Group Inc. assessment includes estimated additional operational sustainability costs for the NG9-1-1 system for planning purposes. The NG9-1-1 system leverages modern technology, however with this comes increased technical requirements, including increased requirements for network and infrastructure management and cybersecurity expertise.

Areas of Strategic Focus and Critical Success Factors

The recommendation(s) in this report support(s) the following areas of strategic focus:

☐   Economic Prosperity:

Chatham-Kent is an innovative and thriving community with a diversified economy

☒   A Healthy and Safe Community:

Chatham-Kent is a healthy and safe community with sustainable population growth

☐   People and Culture:

Chatham-Kent is recognized as a culturally vibrant, dynamic, and creative community

☐   Environmental Sustainability:

Chatham-Kent is a community that is environmentally sustainable and promotes stewardship of our natural resources

The recommendation(s) in this report support(s) the following critical success factors:

☒   Financial Sustainability:

The Corporation of the Municipality of Chatham-Kent is financially sustainable

☐   Open, Transparent and Effective Governance:

The Corporation of the Municipality of Chatham-Kent is open, transparent, and effectively governed with efficient and bold, visionary leadership

☐   Has the potential to support all areas of strategic focus & critical success factors

☐   Neutral issues (does not support negatively or positively)

Consultation

The Municipal Chief Financial Officer and General Manager of Finance, Budget, Information Technology & Transformation, Director, Financial Services, Director, Budget Services, and Assistant Fire Chief were consulted in this report.

The Chatham-Kent Police Services Technology support team and Inspectors and Emergency Communications Manager were consulted in the Next Generation 9-1-1 Needs Assessment.

Police Chief Gary Conn and Fire Chief Chris Case were consulted in the preparation of this report.

Financial Implications

The financial implications resulting from the recommendations contained within this report will be presented in the 2022 –2024 operating and 2022-2023 capital budget process as described in the table below:

	2022	2023	2024	Total
Capital Budget	$1,000,000	$1,000,000		$2,000,000
Operating Base Budget	$125,000	$250,000	$55,000 (estimate)	$430,000 (estimate)

Recommendations regarding additional Emergency Communications Centre personnel will be taken into consideration by the Chatham-Kent Police Services.

Prepared by: Prepared by:

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Director, Information Technology & Project Manager
Transformation Information Technology & Transformation

Reviewed by:

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Gord Quinton, MBA, CPA CGA
Chief Financial Officer
Finance, Budget, Information Technology & Transformation

Consulted and confirmed the content of the consultation section of the report by:

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Chief Gary Conn
Chatham-Kent Police Services

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Chief Chris Case
Chatham-Kent Fire and Emergency Services

Attachment(s): Municipality of Chatham-Kent Next Generation 9-1-1 Needs
Assessment Executive Summary completed by Barkwell Holland Group
Inc.

C: Chief, Chatham-Kent Police Services
Chief, Chatham-Kent Fire and Emergency Services

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bhgroup inc.
www.bhgroup.ca

Barkwell Holland Group Inc.

Municipality of Chatham-Kent

Next Generation 9-1-1 Needs Assessment

Executive Summary Nov 14th, 2021

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1. EXECUTIVE SUMMARY

The existing Canadian national 9-1-1 emergency call network is based on analog technology that has remained essentially unchanged for the past 40 plus years. The need to accept and process new methods of requesting emergency assistance (mobile devices and internet calling) has meant forcing less than ideal solutions onto existing technology platforms. In short, the existing infrastructure cannot be leveraged any further.

In anticipation of future requirements and demands on the 9-1-1 network, the Canadian Radio-television and Telecommunications Commission (CRTC) has adopted a series of policies and legislative decisions to modernize the Canadian 9-1-1 network.

Recent decisions 2015-531 and 2017-182 fully support the adoption of the NENA i3 Next Generation 9-1-1 standard as the foundation to build a national end-to-end Internet Protocol (IP) digital network. To support the change on a national level, all 9-1-1 Service Providers (Bell, Telus and SaskTel) are required by the CRTC to *decommission their current 9-1-1 network components that will not form part of the NG9-1-1 network by March 4, 2025*.

1.1. Current Challenges

The Chatham-Kent Police service and municipal IT group have been preparing for the transition to Next Generation 9-1-1 (also known as NG9-1-1) call handling with several projects underway. To complement that effort, BH Group Inc. was asked to provide an independent review of the emergency communications environment to ensure all factors including those external to the immediate emergency call handling and response processes were considered during planning and preparation for transition to NG9-1-1.

The 9-1-1 call handling and emergency dispatch process is heavily dependent on technology but the people responsible for operating the tools and technology ultimately determine success or failure which is measured in response time and positive outcomes. The transition to NG9-1-1 aims to improve those goals over time.

The conversion to a digital platform is already underway and 9-1-1 data is currently delivered through an interim IP solution. The voice portion of the call however, remains on the analog network. As of the transition deadline, all call information (voice and data) will flow over the NG9-1-1 Emergency Services Internet (ESInet).

PSAPs (primary and secondary) nationally are struggling with the transition to NG9-1-1. The municipality of Chatham-Kent is proactive on the technology front and planning has begun but there is work yet to do. BH Group Inc. conducted a thorough assessment of systems, services, technology, tools, workflows, and skills to determine the range and extent of work yet required to meet future business requirements.

1.2. Recommendations

An assessment of the current operating and technical environments led to numerous findings which were condensed into eleven recommendations. A table on the following page summarizes the recommendations with cost estimates for capital implementation and ongoing operational expense. The recommendations are structured to enhance current 9-1-1 and emergency communications business practices and position the Municipality and Chatham-Kent Police Service (CKPS) to meet the CRTC mandated Next Generation 9-1-1 migration deadline

Recommendations focus on four key areas including skills development, technology, business process, and personnel. While no single recommendation in isolation presents a high risk to the migration process, as a whole, any item left unaddressed increases the risk of missing the transition deadline and additional stranded investments for interim solutions.

Recommendations are as follows:

1	Formal ECO and Supervisor Training with Certification / Includes: (17) ECOs + 1 Centre Manager
2	Formal IT Network / Security Training and Certification Includes: CompTIA, Network+, Security+, CASP+, CISSP, CISO, CISM
3	Network Upgrades for City and Emergency Communications
4	Komutel Upgrades and Replacement of Analog Recorder
5	Maintain and Enhance Cyber Security & Active Monitoring Programs
6	Stand Up a Functional Backup Communication Center
7	Procure New NG9-1-1 Enabled 9-1-1 and Emergency Call Handling System
8	Conduct a Geographical Information System (GIS) Workflow, Policy and Procedure Review
9	Implement a Quality Assessment / Quality Improvement Program
10	Review the Need For CKPS ECC Supervisor Positions
11	Budget for IT Project Manager or Coordinator Position

1.3. Next Steps

A Migration Strategy and Roadmap located in Appendix A provides the list of recommendations with sub tasks where appropriate and a suggested implementation timeline. Recommendations are sequenced in support of a future ready, NG9-1-1 enabled emergency communication environment, with trained certified staff including appropriate technical and operational support. BH Group Inc. is ready with subject matter experts to assist with implementation and support when the CKPS and Municipality of Chatham-Kent are ready to move forward.

Table 1 - Executive Summary Budgetary Cost Estimates

	CKPS ECC Budgetary Costs for NG9-1-1 Upgrades		
#	**Description**	**Freq of Cost (Incl FTE & PT)**	**Estimated Cost**
1	Formal ECO and Supervisor Training with Certification Includes: (17) ECOs + 1 Centre Manager	One time per personnel	$33,479.00
1	Formal ECO and Supervisor Training with Certification Includes: annual cost of dispatcher (fire service) and supervisor recertification training	Annual per personnel	$9,520.00
2	Formal IT Network / Security Training and Certification Includes: CompTIA, Network+, Security+, CASP+, CISSP, CISO, CISM	One time per personnel	$67,200.00
2	Formal IT Network / Security Training and Certification	Annual per personnel	$25,200.00
3	Network Upgrades for City and Emergency Communications	One time	$210,000.00
3	Network Upgrades for City and Emergency Communications	Annual	$52,500.00
4	Komutel Upgrades and Replacement of Analog Recorder	One Time	$155,000.00
4	Komutel Upgrades, and Replacement of Analog Recorder	Annual	$38,750.00
5	Maintain and Enhance Cyber Security & Active Monitoring Programs	One Time	N/A
5	Maintain and Enhance Cyber Security & Active Monitoring Programs	Annual	$38,850.00
6	Stand Up a Functional Backup Communication Center	One Time	$603,850.00
6	Stand Up a Functional Backup Communication Center	Annual	$180,100.00
7	Procure New NG9-1-1 Enabled 9-1-1 and Emergency Call Handling System	One Time	$480,000.00
7	Procure New NG9-1-1 Enabled 9-1-1 and Emergency Call Handling System	Annual	$120,000.00
8	Conduct a Geographical Information System (GIS) Workflow, Policy and Procedure Review	One Time	$30,000.00
8	Conduct a Geographical Information System (GIS) Workflow, Policy and Procedure Review	N/A	N/A
9	Implement a Quality Assessment / Quality Improvement Program	Internal effort	N/A
9	Implement a Quality Assessment / Quality Improvement Program	Internal effort	N/A
10	Review the Need For CKPS ECC Supervisor Positions	Net New Salary	N/A
10	Review the Need For CKPS ECC Supervisor Positions	Annual Salary	N/A
11	Budget for IT Project Manager or Coordinator Position	Net New Salary	N/A
11	Budget for IT Project Manager or Coordinator Position	Annual Salary	$104,000.00
	Capital Cost		**$1,579,529.00**
	Operating Cost		**$568,920.00**