Owen Sound Police Service

Emergency Communications Centre



- The CRTC (Canadian Radio-Television and Tecommunications Commission) regulates the telecommunications services providers who supply the networks need to direct and connect 9-1-1 calls to emergency call centres who then dispatch the calls to emergency first responders
- In June 2017 the CRTC directed all telephone companies to update their networks in order to be ready to provide next-generation (NG9-1-1) voice and text messaging services to all Canadians

BASIC 9-1-1

connects a 9-1-1 call to call centre. The caller must identify his or her location to the 9-1-1 operator, who then connects the call to emergency response centre serving that area

ENHANCED 9-1-1

connects a 9-1-1 call to an emergency call centre and automatically provides the 9-1-1 operator with the phone number and address of the location of the caller (landline). Wireless capabilities were added during E9-1-1 for locating cell phones or nearest cell tower

NEXT GEN 9-1-1

connects 9-1-1 calls to emergency call centres and automatically provide the 9-1-1 operator with the phone number and address or location of the caller. In addition, NG9-1-1 will enable Canadians to interact with 9-1-1 call centres using new and innovative services and capabilities such as real time chat (not basic texting) and the transmission of photos, and videos

9-1-1 Services

- Traditional Wireline Telephone
 - you make or receive calls from a fixed address, you receive enhanced 9-1-1 service, with caller's phone # and address automatically provided to the 9-1-1 operator, except where Basic 9-1-1 Service is provided
- Wireless 9-1-1 Service

- wireless phones can be important safety tools because they are mobile and aren't associated to a fixed location or address. This mobility however makes it harder for both service providers and 9-1-1 operators to pinpoint the location of the 9-1-1 call

- Enhanced wireless 9-1-1 service is provided in areas that currently received Enhanced 9-1-1, the CRTC required that wireless carriers to upgrade their 9-1-1 services to provide an enhanced capability to identify the location of the wireless 9-1-1 callers
- Improved location capability based on two technologies: global position system (GPS) or triangulation capability to identify a 9-1-1 caller's location generally within 50 to 300 meters of the cellphone and is automatically transmitted to a 9-1-1 call centre serving that area
- The GPS/triangulation information is automatically provided to the 9-1-1 operation and delivered within 10-15 seconds

- VOIP
 - 2 types of VOIP services :

Fixed VoIP service which are calls made from a fixed address provided over private communication network (ie cable service provider) instead of over the internet

Nomadic VoIP service provided over the internet and lets callers access telephone services using any high speed internet connection from any location, provides only Basic 9-1-1 and because there is no fixed address makes it very difficult to pinpoint location of the 9-1-1 call

PSAP-Public Safety Answering Point

- is a call center where emergency calls (police, fire and ambulance) initiated by any mobile or landline subscriber are answered. There are 2 types of PSAPs
- Primary-PSAP (P-PSAP) is the first point of reception of a 911 call by a public agency. The Primary-PSAP must be capable of receiving and processing enhanced 911 calls from all voice communications service provides.
- Secondary-PSAP is able to receive voice and data of an Enhanced 911 call transfer from a Primary PSAP to complete the 911 process by dispatching law enforcement, ambulance and firefighters.

P-PSAP vs S-PSAP

300,000

- Primary Public Safety Access/Answer Point
 - Bruce and Grey County
 - Dryden
 - Port Hope
 - Cobourg
- Population served =

First Responder Agencies 9-1-1 Calls Downstreamed To

- Barrie Fire
 London OPP
- Cambridge Ambulance North Bay OPP
- Durham Regional
 Northern 9-1-1
 Police
 Orangeville Police
- Guelph Fire
- Kenora Ambulance
- Kenora Fire
- Lindsay Ambulance
- London Ambulance

- Orillia OPP
- Peterborough Fire
- Smith Falls OPP
 - Spectrum
 Communications









Total # of 9-1-1 Calls 2019 62,468 2018 52,254

We keep on average 46% of the 9-1-1 calls, the remainder are transferred to a Secondary PSAP

No Voice/Abandoned/Disconnected Calls

3,615	
7,445	
MMUNITY PARTNER	
	3,615 7,445

 Must be treated as an emergency until all efforts have been exhausted to indicate otherwise

9-1-1 Calls By Hour



Text with 9-1-1 Services for

Deaf, Hard of Hearing or Speech Impaired Persons

- Text message access to 9-1-1 services is currently only available for hearing or speech impaired Canadians in most areas of Canada
- In June 2017 we updated our 9-1-1 system to be able to process text with 9-1-1 callers who have hearing or speech impairments
- To utilize this service a hearing or speech impaired person needs to register for the service with their wireless service provider
- In the event of an emergency the registered user makes a voice call to the PSAP and the 9-1-1 operator receives a notification to communication with the caller via text message

Text w 9-1-1

				N	/elcome, Suzann	ie <u>Sign out</u>				
Be	Home	2								
◄To initiate a sessio	n, enter phone number					_				
519-270-1995	Start session	Select a user: Suzanne BellMatheson V								
		Suzanne]						
Request Trans	sfer	١	four current view is:	Current chats	~					
Active Se	essions									
PSAP	User	Phone	Started	Last Message	Messages	Open				
OwenSoundPol	sbellmat	5192701995	03/15/19 12:33:24	03/15/19 12:45:21	6					
		<< Previous	1 <u>Next >></u>							

2	911 0	Chat \	Window -	5192701995	- Internet	Explorer

Français	lide delivery confirmation.	
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5559114814021 ROGERS 911 What is your emerge 12:41:02 03/15/19	cy? 🔮	
	5192701995 ROGERS ** test event ** need police at 456 7th Street West 12:44:12 03/15/19	
5559114814021 ROGERS Why do you need police, 12:44:43 03/15/19	vhat is going on there?	
	5192701995 ROGERS My dog was just bit by my neighbour's dog 12:45:21 03/15/19	
Insert into conversation:	~	
You have 136 characters left.		Send
tps://www.textblue.ca/textblue/admin?cm	=F911ChatSessionResponder	End Call

What the public see

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	My dog was 12:45 PM neighbour's	just bit by my dog	6
0	Enter message	\odot	SEND

ANI/ALI

sP ANI/ALI

Owen Sound Police Service Primary - OS-DISPAQS1

Name:	DOLLARAMA S.E.C REF #321	Service Class:	СОМ
Address:	223 7TH AV	PSAP Answer Time:	2019-03-15 12:51:37
		Call Taker Position:	1
	HANOVER	Call Taker Label:	Pos.1
	HANOVER ON		
	NA		
		PBX Trunk ID:	T030002
Tel Number:	<u>(519) 364-1738</u>		
ESN:	00547		
OWENSOUNDPOL:	(519) 376-2033	N/A:	(000) 000-0000
TILLSONBRGFIR:	(519) 842-3229	N/A:	(000) 000-0000
LONDONCACC:	(519) 434-2711	N/A:	(000) 000-0000
Status:	Ok		
Call Time:	2019-03-15 12:51:37		
CLLI:	21		
PSAP ID:	0266		
Trunk ID:	1		
Call ID:	21519364173800010266		
Data Provider:	BELL BELL CANADA 8009100911		

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- The evolution of emergency calling beyond the traditional voice 911 calls has caused the recognition that our current E911 system is no longer able to support the needs of the future
- While upgrades to 9-1-1 have helped evolve basic 9-1-1 services to support wireless callers, location accuracy still remains a sizable challenge
- Promise of NG91-1-1 is not just about updating current 9-1-1 call centers, its about disrupting the paradigm and rethinking the way emergency communication centres connect with our clients (public and responders) with the best available information and tools available.



PSAP Timelines for NG911 Readiness

The following list is a high-level summary actions PSAPs should consider, to deploy NG9-1-1 capabilities as they become available.

BY DECEMBER 31 2018

- Develop a strategic roadmap & technology plan specific to • your PSAP
- Assign resources to participate in ESWG working groups*
- Identify and plan procurements
- Develop change & learning management programs
- Identify funding sources and establish a funding reserve
- Develop NG9-1-1 governance
- Develop cybersecurity strategy
- Prepare for network upgrades as described in in ESWG Task ESTF0083 (TIF 83 - Q2 2018)
- Have NENA i3 IP Phone system in place
- Connect to ESInet for NG9-1-1 Voice
- Plan for implementing RTT capabilities .
- . Implement middleware systems to share data between systems

BY DECEMBER 31 2020

2020

2023

- RTT capabilities in place, along with supporting systems and processes
- Mechanism to push data to responders
- Implement advanced analytics/Artificial Intelligence capabilities
- Investigate/implement Virtual Customer Assistants for text sessions

BY JUNE 30

BY JUNE 30

- Migrate off legacy systems
- Maintain strategic technology plans
- Adopt emerging technologies as they become available

*The importance of every PSAP participating in the Emergency Services Working Group (ESWG) of the CRTC cannot be overstated. This group is composed of PSAP representatives, Telecommunications Service Providers (TSPs) and industry specialists. The working group addresses issues relating to the provisioning of 9-1-1 services and includes the technical and operational implementation of 9-1-1 services as assigned by the CRTC, or as requested by stakeholders. The ESWG provides PSAP members with an opportunity to collaborate on issues, participate in trials of new capabilities and influence the shape of telecommunications policy for 9-1-1.

NG911 Challenges

- Current 9-1-1 telephone network is not designed to handle data, nor to receive and analyze the vast amount of information available in the current consumer space
- Network infrastructure and security by the dispatch service - IT staffing and training
- Access and storage of video files, issues surrounding who will have access to it, when, how will it be stored, where will it be stored, disclosure, personnel etc.

- OS Dispatch is the only Fire Dispatch in all of Canada to have completed the voice trials/transfers and are ready to switch to NG911
- OS Dispatch answering a 911 call (As the Primary PSAP) and keeping the firecall saves on average 30 seconds per call (duplication of address verification and downstreaming)

NG911 - What's Required?

- Most phone systems will be need replacement to natively handle IP voice vs older digital technologies
- NG911 Middleware (Software) handles voice coming from Bell and directs it to the dispatch phone system as well as maintains call records and reporting functions.
- Call Recorders capable of recording NG911 format audio from dispatch desks

NG911 - What's Required?

- Active and Alternate dispatch locations (no longer Primary and Secondary)
- Full features/redundancies same as main site
- Requires identical infrastructure at both locations (40 servers including NG911 software, call recorders, etc, phone systems)
- Phone systems to be linked and seamless between locations (monthly fees plus initial setup)

Enhanced 911 (2010)



NG911 (2020-)



NG911 (2020-)

- E911 requires 2 or even just 1 server(s) (primary psap or secondary psap) and a basic copper phone system compatible with the past 20-30 years
- Bell only provides connectivity to the premises, all requirements are on the dispatch centre to integrate, train, staff and provide services as well as hardware and software
- Ontario is one of the only provinces in Canada that do not pass 911 fees from phones on a monthly basis to psaps or dispatch centres to provide cost recovery for 911/NG911
- NG911 currently requires 50 servers and network devices to be managed and monitored 24/7
- Cost for onboarding approximately \$500, 000 capital and \$90, 000 annually for maintenance costs (Enhanced call recorders for voice/video, Bell circuits, software and hardware support for NG911 providers)

County Radio System

- OS Dispatch provided consultations from the beginning of radio issues with no cost to fire departments
- Developed a paging and county radio talk system to Grey County Fire Departments to fulfill safety and performance requirements
- Is managing the project until go-live at no cost to the County or the County Fire Departments

- Administration/Finance role to be determined after system is live in 12-18 months
- Role is for verification of system reliability and invoicing
- Those with OS Dispatch will receive continuing implementation consultation of the radio system at no cost and ongoing troubleshooting