

Town of Orangeville & Dufferin Area Stakeholders



**Black Castle
Networks**

Project: Consulting Services for a Telecommunications Review

Briefing Update & Discussion



August 8th, 2022



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Current Public Safety Communications Issues

Town of Orangeville & Dufferin Area Stakeholders Telecommunications Review



GEOGRAPHIC VIEW OF RF COVERAGE / RECEPTION PROBLEMS:

3.4.1.3 Town of Orangeville – Geographic Mapping of Coverage Problem Areas



Figure18 – Town of Orangeville and LMR / Data Sites – Areas with reported issues are noted with red squares.

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GEOGRAPHIC VIEW OF RF COVERAGE / RECEPTION PROBLEMS:

3.4.1.4 Dufferin County – Geographic Mapping of Coverage Problem Areas

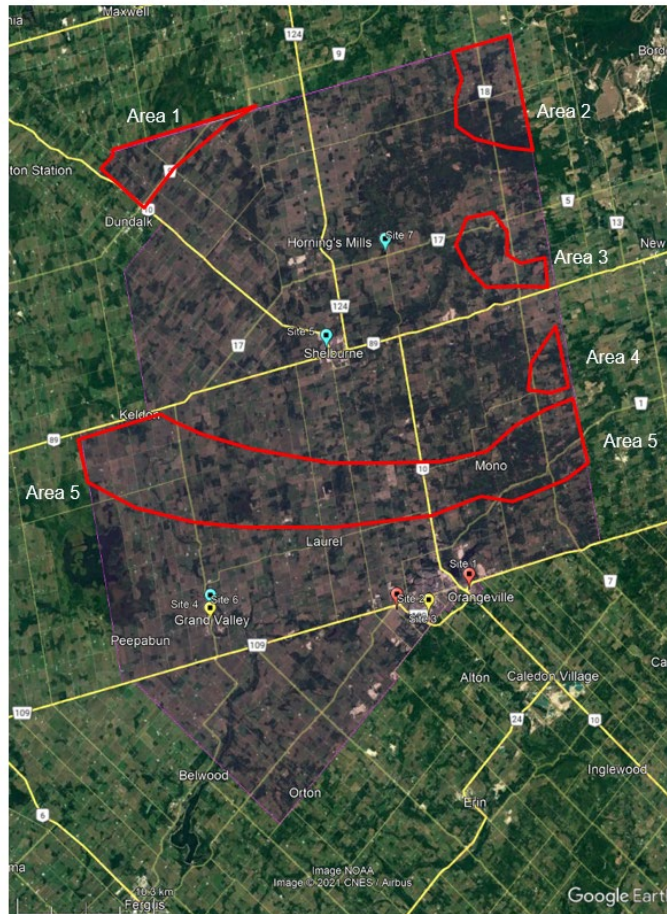


Figure 19 – Dufferin County with LMR / Data Sites – Areas with reported issues are noted with red squares.

Staff interviewed reported concerns in the noted red areas – problems with basic radio reception and interoperability among Fire agencies and neighboring agencies.

These serious issues are a health & safety concern + a 911 operations concern + a liability for the concerned parties → corrective action should be taken ASAP.

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WHAT DID WE DO TO GET HERE?

1. Incomplete / Fragmented County System per original Simulcast System Design Plan

- a) - lack of inter-site linkages for wide-area comms in original backhaul / system design means single site-based users cannot communicate with other users in the County or users en-route to 911 call
- b) - potential RF self-interference issues while paging volunteer Fire Fighters
- c) - RF coverage gaps in original RF design due to non-optimized RF site locations
- d) - lack of interoperability with neighbouring systems in the design (no ISSI linkages, site links)
- e) - legacy analog LMR technology without planned interoperability across radio sites
- f) - unencrypted LMR communications open to public
- g) - no cohesive County-wide radio system equipment strategy & no Public Safety data capabilities
- h) - a number of single-points of failure in backhaul design & system design

2. Overall System Maintenance Problems & Operations Issues

- a) - lack of on-site spares puts system at risk of multi-day outages if breakage occurs
- b) - no documentation / no organized radio system info rapidly available for emergencies / disasters
- c) - questions about scope of contracts for maintenance services and/or expired contracts

3. Equipment Incompatibilities between County & Orangeville & Neighbouring Fire Agencies

- a) - Incompatibility of radio equipment between County and Orangeville Fire agencies, and neighbouring agencies, which necessitate physical use of “donor radios” → risk
- b) - Original procurement & design → lack of strategic / interop. planning & infra. lifecycle planning



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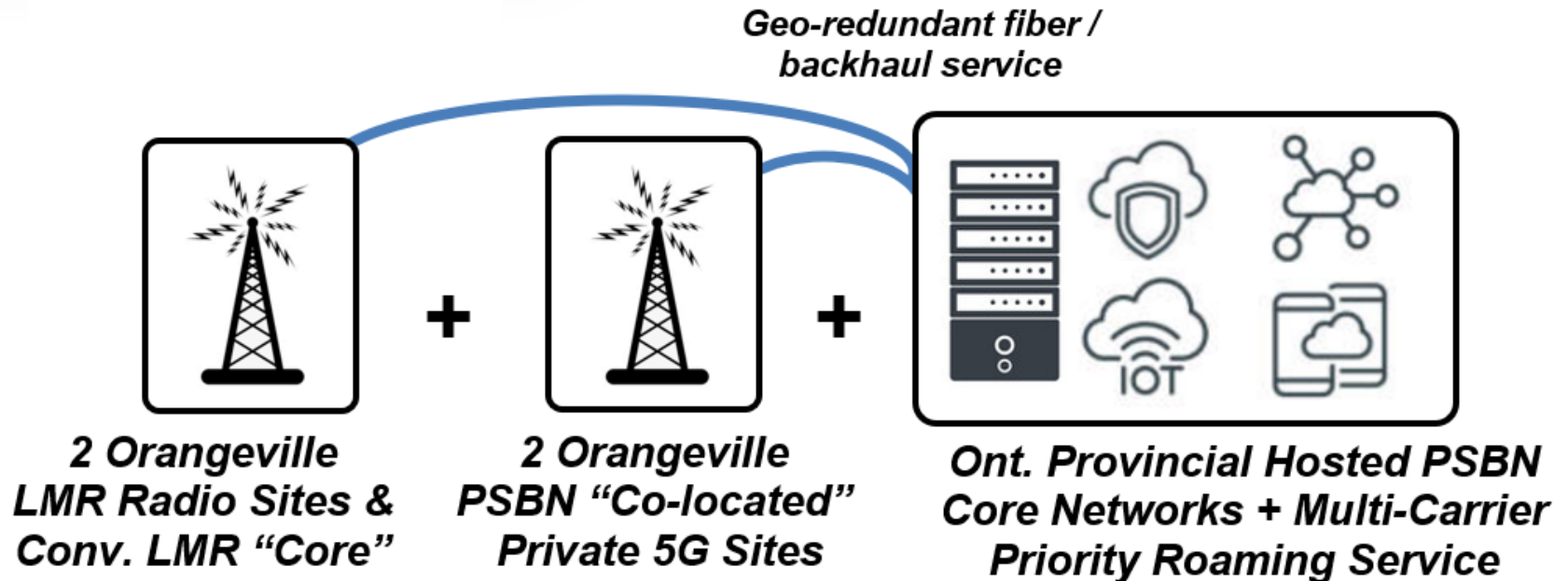
Opportunities to Solve Existing Issues & Improve 911 Response

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ROM EVALUATION – ORANGEVILLE SOLUTION OVERVIEW:



+ Optional County Scenario:

“County-Wide” Scenario with added County site locations & County users → Total of 6 LMR Sites & Between 6-9 PSBN Sites

‡ Please see the Report - Extended Summary for scenario details

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TELECOM INVESTMENT - GRANT & FUNDING ELIGIBILITY

Examples of Grants Orangeville & Dufferin Area Stakeholders could apply to for funding:

1. CRTC Broadband Fund – [\$750M over 5 yrs.]
2. CIRA (Canadian Internet Registration Authority) Community Investment Program
[Up to \$1.25M per year in \$250k / \$100k grants]
3. Govt. of Canada Universal Broadband Fund (UBF) – [\$6B over 10 yrs.]
4. Govt. of Canada / Prov. of Ontario – Rural & Northern Infrastructure Stream of Investing in Canada Infrastructure Program – [\$2B over 10 years; up to \$5M per proj.]
5. Prov. of Ontario ICON Fund – [\$4B over 4 yrs.]
6. PIA / PSBN Accelerator Program (Being Setup) – P3 Accelerator Fund – [\$28B over 7 yrs.]

Programs have varying requirements & annual deadlines / application cycles.

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KEY BENEFITS OF THE PROPOSED SOLUTION

1. Remove Potential Legal Liabilities from Radio System Failures / Inability to Communicate

- a) - Correcting the longstanding LMR issues will mitigate and remove potential liabilities due to 911 operations staff unable to call for help in an emergency, or due to worsened 911 outcomes for civilians in the event of communications mix-ups during 911 operations

2. Improve Interoperability among current 911 field staff (Fire, Police, EMS)

- a) - Correcting the longstanding LMR issues will improve 911 response & coordination
- b) - Improved 911 response outcomes and Improved Community Safety

3. Deployment of a Hybrid LMR-PSBN model brings added Critical Infrastructure & 911 Benefits

- a) - New data & Private 5G capabilities – Deploying a Hybrid LMR-PSBN system brings new voice & data capabilities for town, utility, critical infrastructure, 911 users and as a tool for digital divide / access
- b) - Enhanced Cybersecurity for Critical Infrastructure vs. Commercial Carriers
- c) - PSBN has a positive ROI for investment via significant cost savings on telecom service vs. status quo
- d) - PSBN improves 911 communications reliability & resiliency in the event of commercial carrier outages (e.g., recent Rogers outage) or disaster surge scenarios / evacuations in natural disasters, etc.
- e) - PSBN significantly improves municipal disaster preparedness for 911 access & 911 response
- f) - PSBN provides added call capacity + backup wireless access for Hybrid LMR device users



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Question & Answer



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Thank You!