



Appendix

APPENDIX

Maps (M)

Status Quo Response Time

1. Station Location
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3. Fire Services Response Times
4. Technical Rescue Response
5. Hazardous Material Response
6. Medical Tiered Response (MTR)
7. Fire Stations and Fire Beats

FUS Drive Time Hydrant

8. 5 km Walden Area (Waters and Lively Stations)
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10. 5 km Valley East Area (Val Therese, Val Caron and Hanmer Stations)
11. 8 km Garson Station
12. 8 km Wahnapiatae Station
13. 8 km Chelmsford Station
14. 8 km Long Lake Station
15. 8 km Val Therese Station

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16. Overall Greater Sudbury
17. Fire District 1
18. Fire District 2
19. Fire District 3
20. Fire District 4
21. Fire District 5

22. Area Rated Taxation

Optimized Model Response Time

23. Station Location
24. Paramedic Services Response Times
25. Fire Services Response Times
26. Hazardous Material Response
27. Technical Rescue Response
28. Medical Tiered Response (MTR)

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1. MPAC Assessment Summary
2. Primary Care Paramedic (PCP) Medications and Skills
3. Advanced Care Paramedic (ACP) Medications and Skills
4. Volunteer Firefighter 2016 Attendance and Analysis
5. GIS and M Analysis Fire Response Time and MPAC Assessed Values
6. Career Firefighter Protection Ontario Comparison
7. Station Summary Table
8. Risk Based Inspection Program
9. Paramedic Service Response Times by Station

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1. Operating Budget - 2016
2. CCI Engineering Group – Building Condition Summary
3. Capital Equipment Requirements and Funding Gap Analysis / Capital Costs by Category
4. Current Station Renewal Analysis
5. Current Financial Summary by Station
6. Area Rated Taxation Analysis Summary
7. Financial Analysis Summary
8. Optimized Model Station Construction and Renovation Analysis Summary
9. Optimized Model Capital Equipment Requirements and Funding Gap Analysis

Reports and Documents (R)

1. Fire Underwriter Survey Report
2. Enterprise Risk Registry for Paramedic Services
3. Enterprise Risk Registry for Fire Services
4. Establishing and Regulating Bylaw 2014-84
5. Fire Service Delivery Standards
6. Public Information Session Summary

SUPPORTING DOCUMENTS

- CCI Engineering Group – Building Condition Report, February 2014
- IBI Group – Comprehensive Fire Services Review Report, March 2014
- IBI Group, City of Greater Sudbury Master Fire Plan, February 2004
- IBI Group - Land Ambulance Review, 1999
- Fire Protection Survey Services - Fire Fleet Rationalization Study, December 2010
- *From the Ground Up: A Community Economic Strategic Plan 2015-2025*
- National Fire Protection Association 1710 Standard for Career Fire Response
- National Fire Protection Association 1720 Standard for Volunteer Fire Response
- National Fire Protection Association 1901 Standard for Automotive Fire Apparatus
- *We Have a Working Fire: A Compilation of Sudbury's Fire History – 1883 to 2013*, Former Greater Sudbury Chief Prevention Officer Fern Bourque, 2014
- City of Greater Sudbury Corporate Strategic Plan 2015 – 2018
- City of Greater Sudbury Emergency Services Strategic Plan 2014-2020
- City of Greater Sudbury Emergency Services Tactical Plan 2014-2020
- City of Greater Sudbury Hazard Identification and Risk Assessment (HIRA), November 2016

- City of Greater Sudbury Community Services Committee Reports
 - o Current Service Levels, February 2017
 - o Volunteer Recruitment and Retention, December 2016

- Legislation
 - o Employment Standards Act
 - o Fire Protection and Prevention Act (FPPA)
 - o Occupational Health and Safety Act (OHSA)
 - o Ontario Ambulance Act



Maps (M)

City of Greater Sudbury

Status Quo

Paramedic Services

Response Times



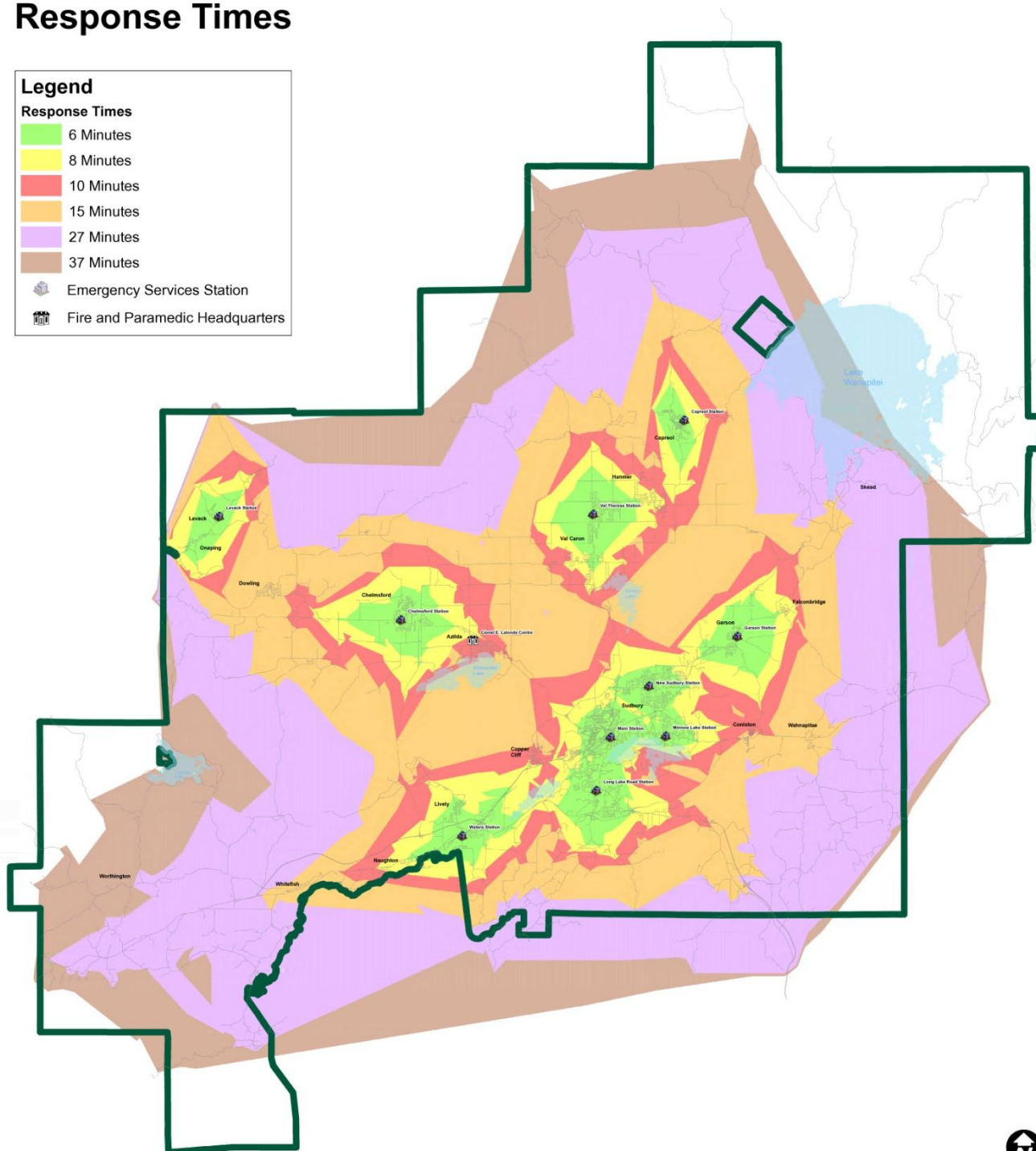
Legend

Response Times

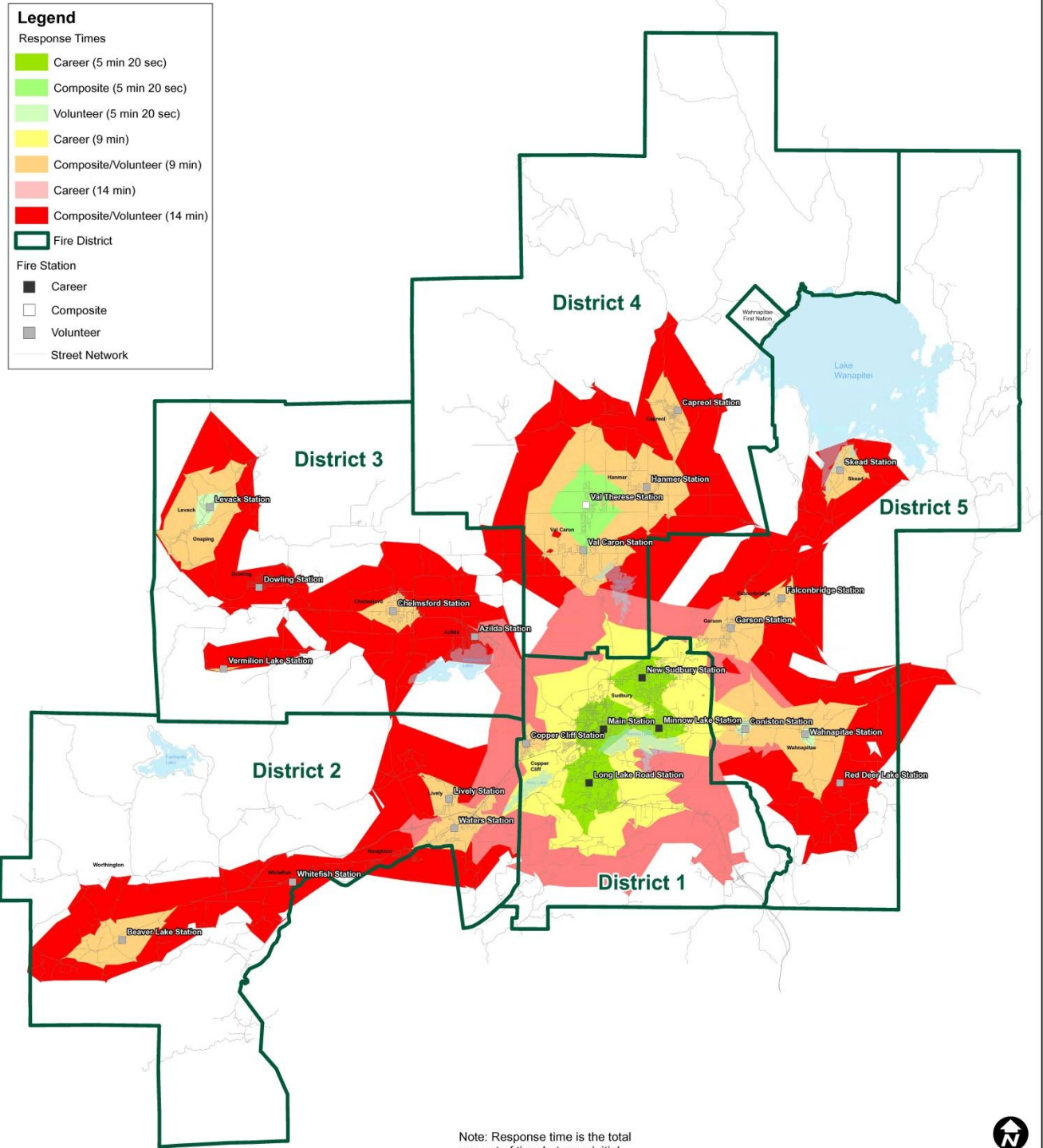
- 6 Minutes
- 8 Minutes
- 10 Minutes
- 15 Minutes
- 27 Minutes
- 37 Minutes

Emergency Services Station

Fire and Paramedic Headquarters



City of Greater Sudbury Status Quo 2015 Response Times



Legend

Response Times

- Career (5 min 20 sec)
- Composite (5 min 20 sec)
- Volunteer (5 min 20 sec)
- Career (9 min)
- Composite/Volunteer (9 min)
- Career (14 min)
- Composite/Volunteer (14 min)

Fire District

Fire Station

- Career
- Composite
- Volunteer
- Street Network

Note: Response time is the total amount of time between initial dispatch/page to arrival on scene based on historical average for short time plus drive time.



City of Greater Sudbury

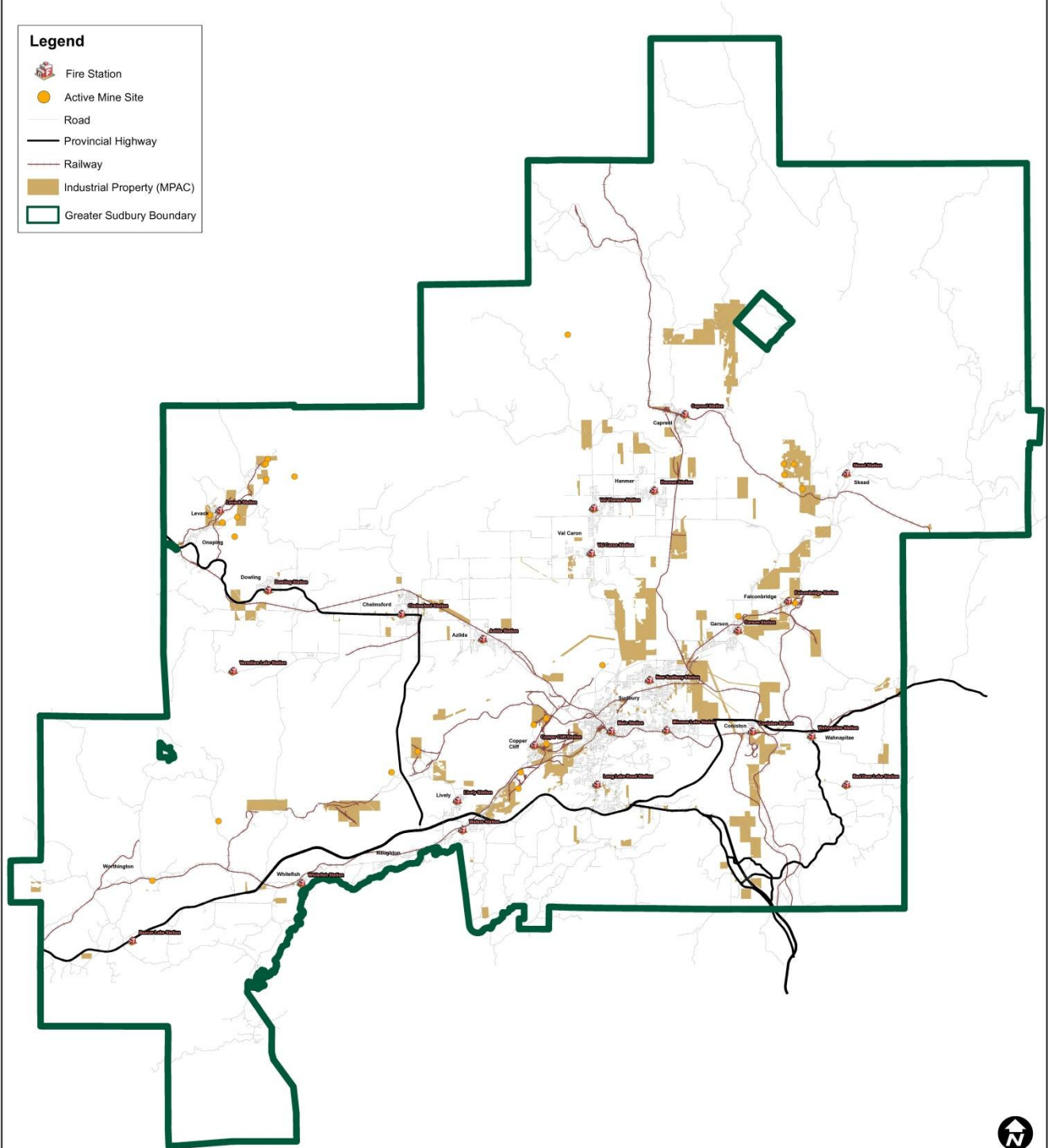
Status Quo Response

HazMat



Legend

-  Fire Station
-  Active Mine Site
-  Road
-  Provincial Highway
-  Railway
-  Industrial Property (MPAC)
-  Greater Sudbury Boundary

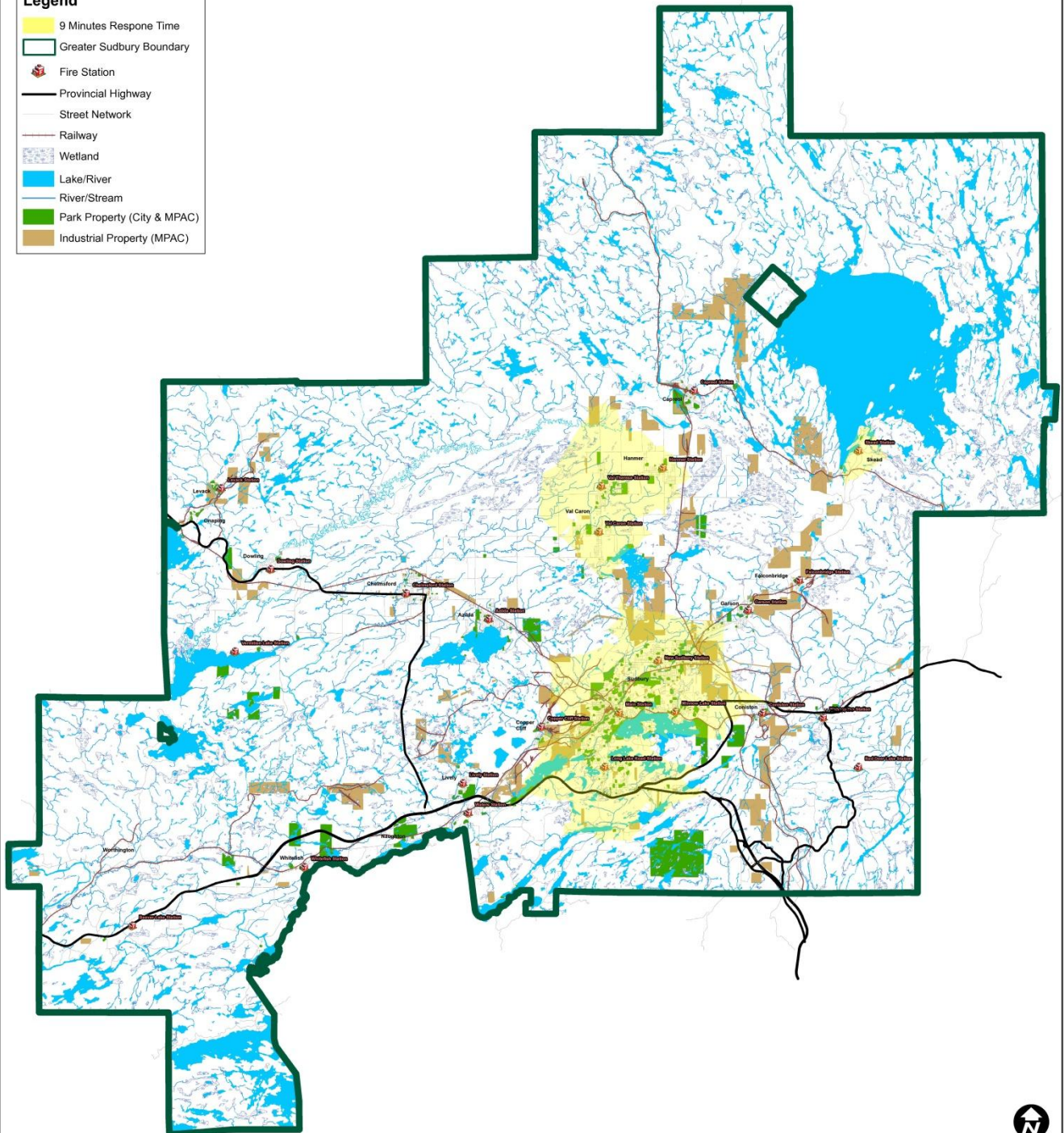


City of Greater Sudbury Status Quo Response Tech Rescue



Legend

- 9 Minutes Response Time
- Greater Sudbury Boundary
- Fire Station
- Provincial Highway
- Street Network
- Railway
- Wetland
- Lake/River
- River/Stream
- Park Property (City & MPAC)
- Industrial Property (MPAC)



City of Greater Sudbury Fire Stations and Fire Beats

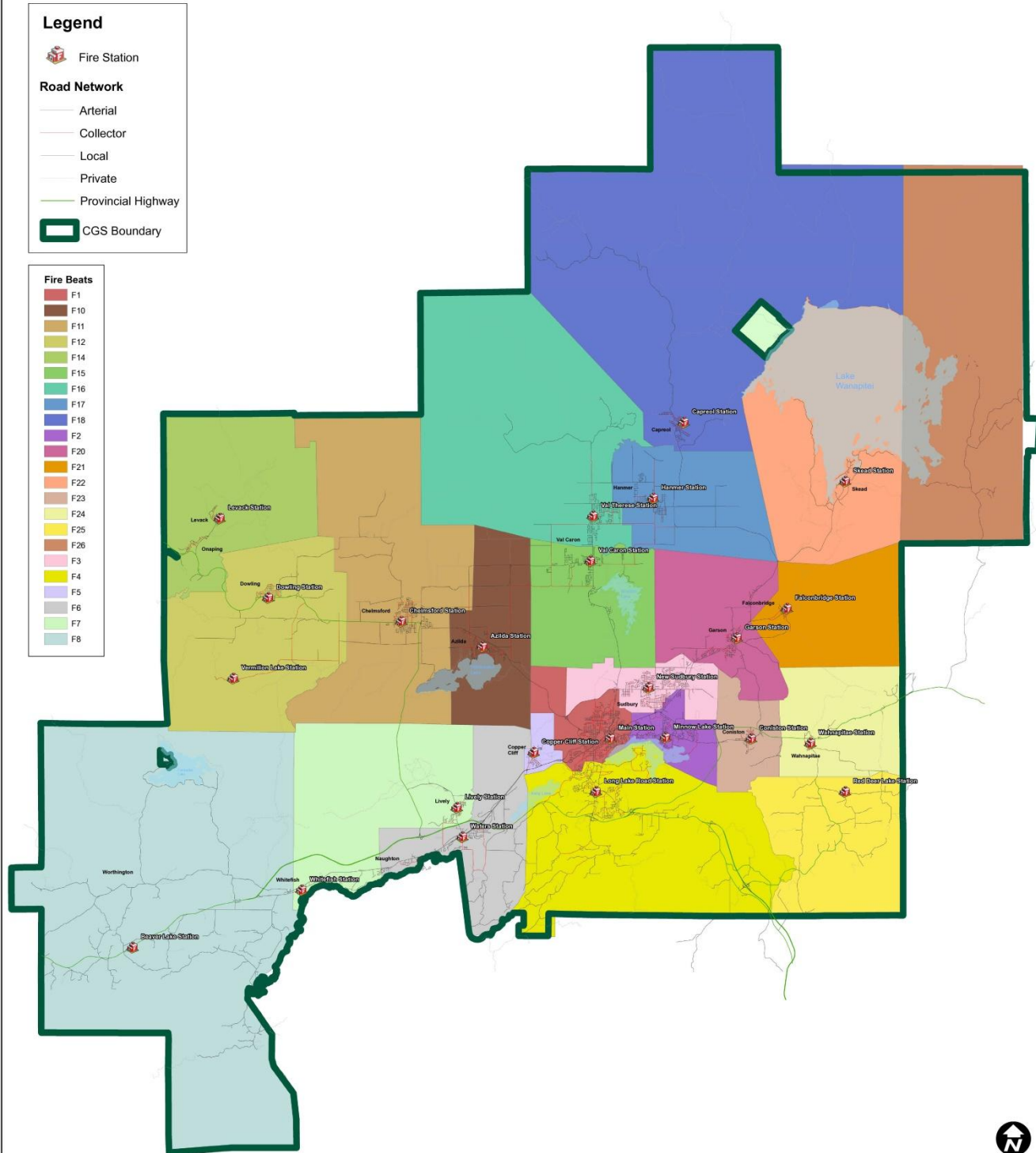


Legend

- Fire Station
- Road Network**
- Arterial
- Collector
- Local
- Private
- Provincial Highway
- CGS Boundary

Fire Beats

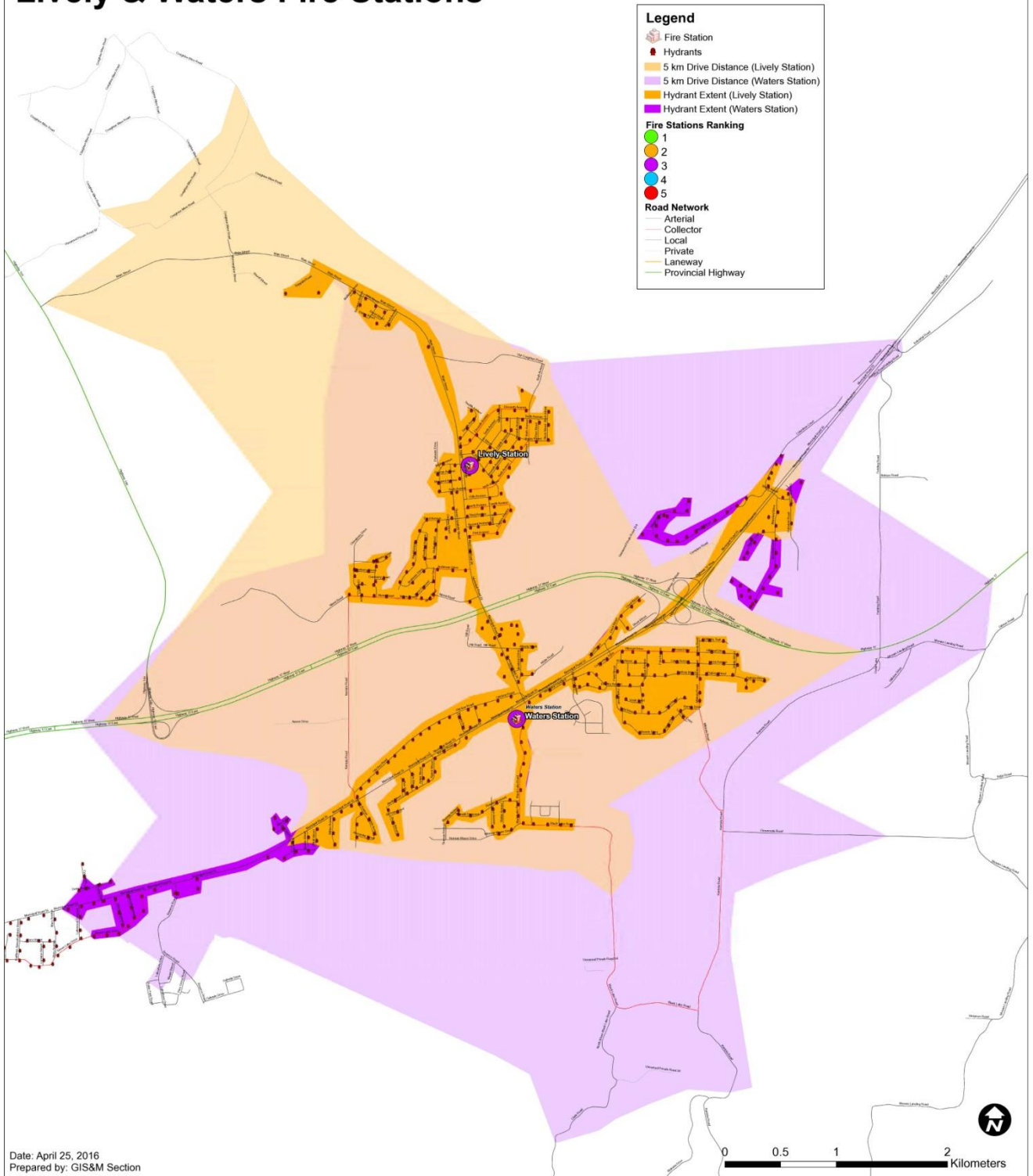
- F1
- F10
- F11
- F12
- F14
- F15
- F16
- F17
- F18
- F2
- F20
- F21
- F22
- F23
- F24
- F25
- F26
- F3
- F4
- F5
- F6
- F7
- F8



City of Greater Sudbury

F.U.S. - 5 km Drive Distance with Hydrants

Lively & Waters Fire Stations



City of Greater Sudbury

F.U.S. - 8 km Drive Distance with Hydrants

Waters Fire Station

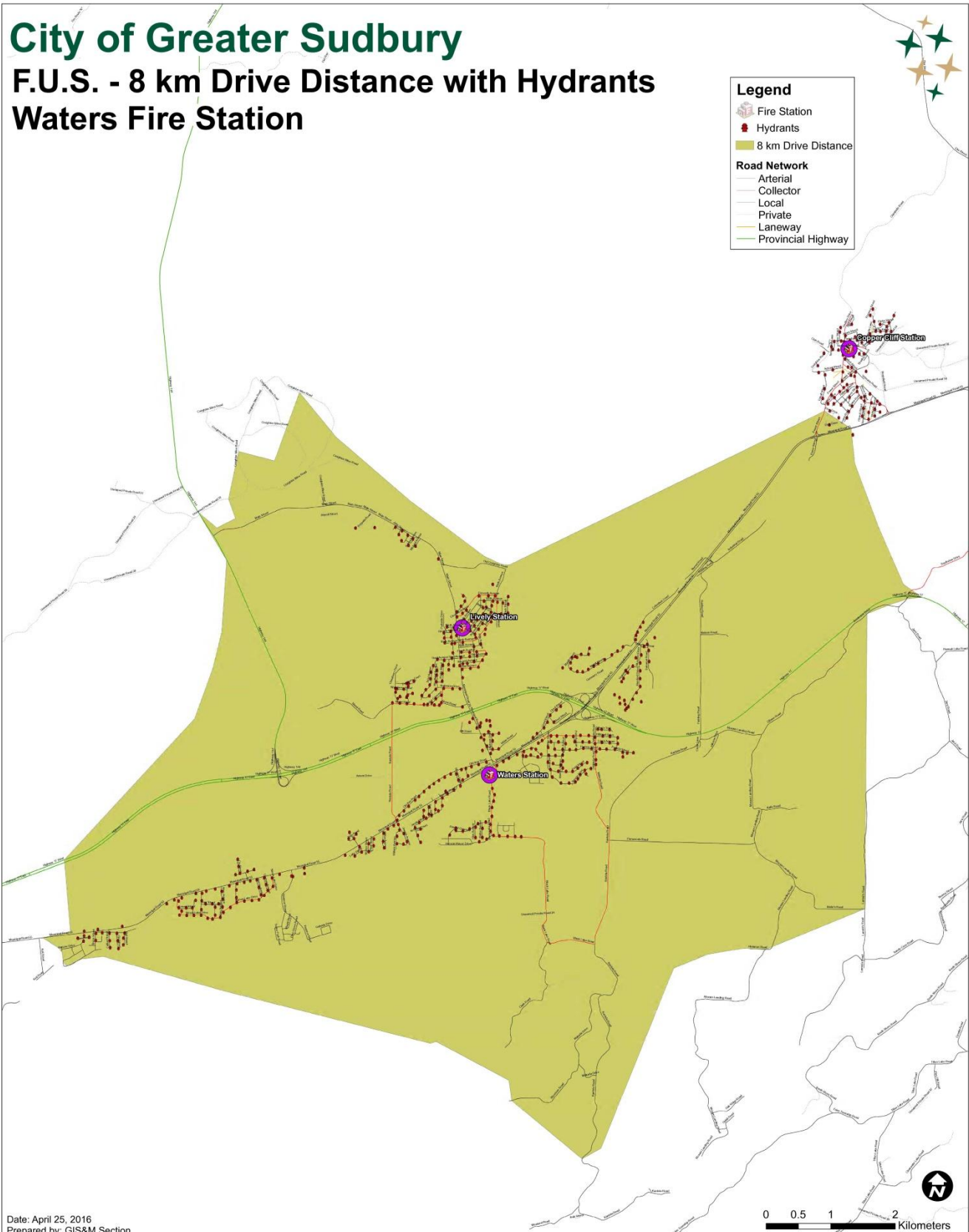


Legend

- Fire Station
- Hydrants
- 8 km Drive Distance

Road Network

- Arterial
- Collector
- Local
- Private
- Laneway
- Provincial Highway



City of Greater Sudbury

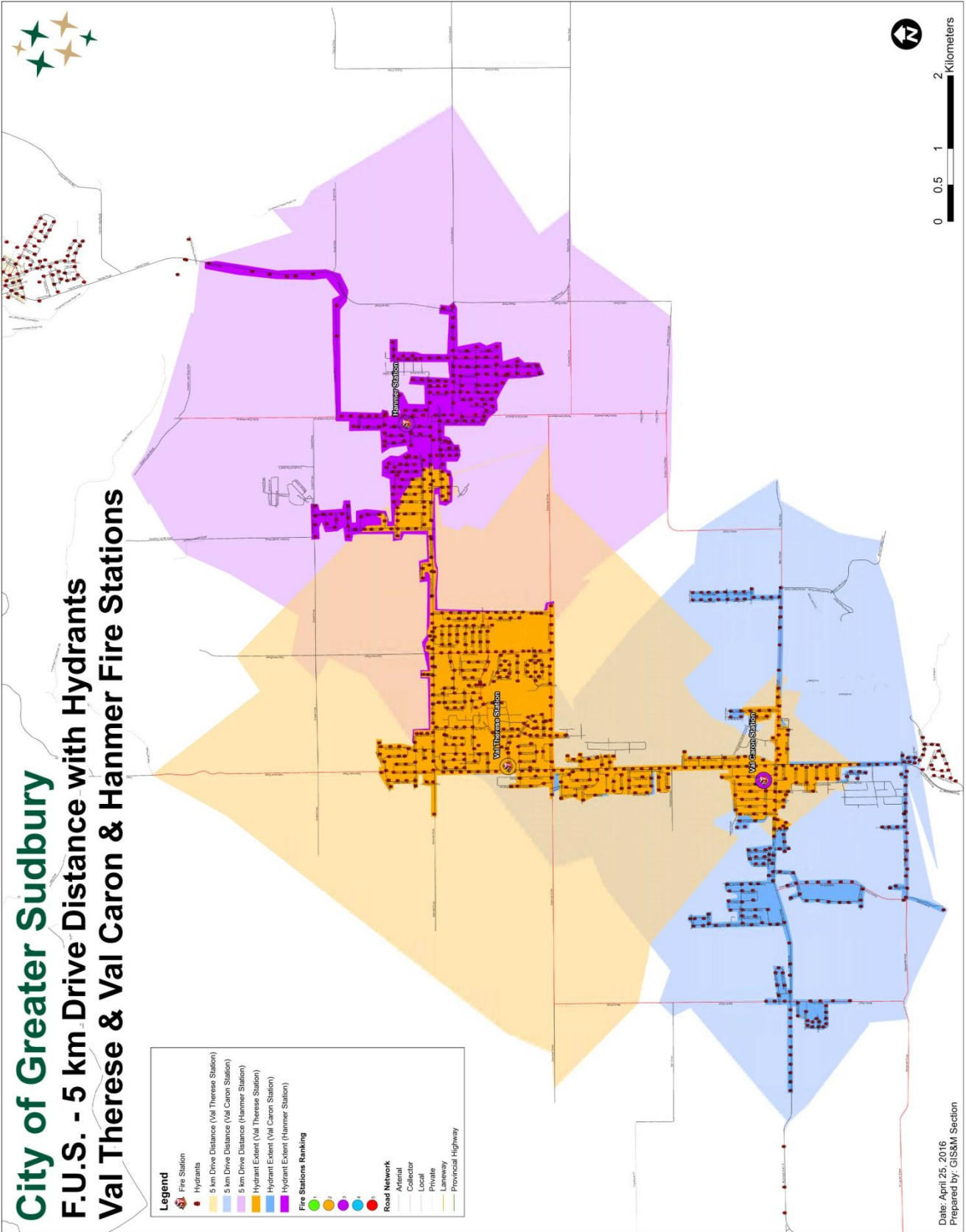
F.U.S. - 5 km Drive Distance with Hydrants Val Therese & Val Caron & Hammer Fire Stations

Legend

- Fire Station
- Hydrants
- 5 km Drive Distance (Val Therese Station)
- 5 km Drive Distance (Val Caron Station)
- 5 km Drive Distance (Hammer Station)
- Hydrant Extent (Val Therese Station)
- Hydrant Extent (Val Caron Station)
- Hydrant Extent (Hammer Station)
- Fire Stations Ranking**
- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10

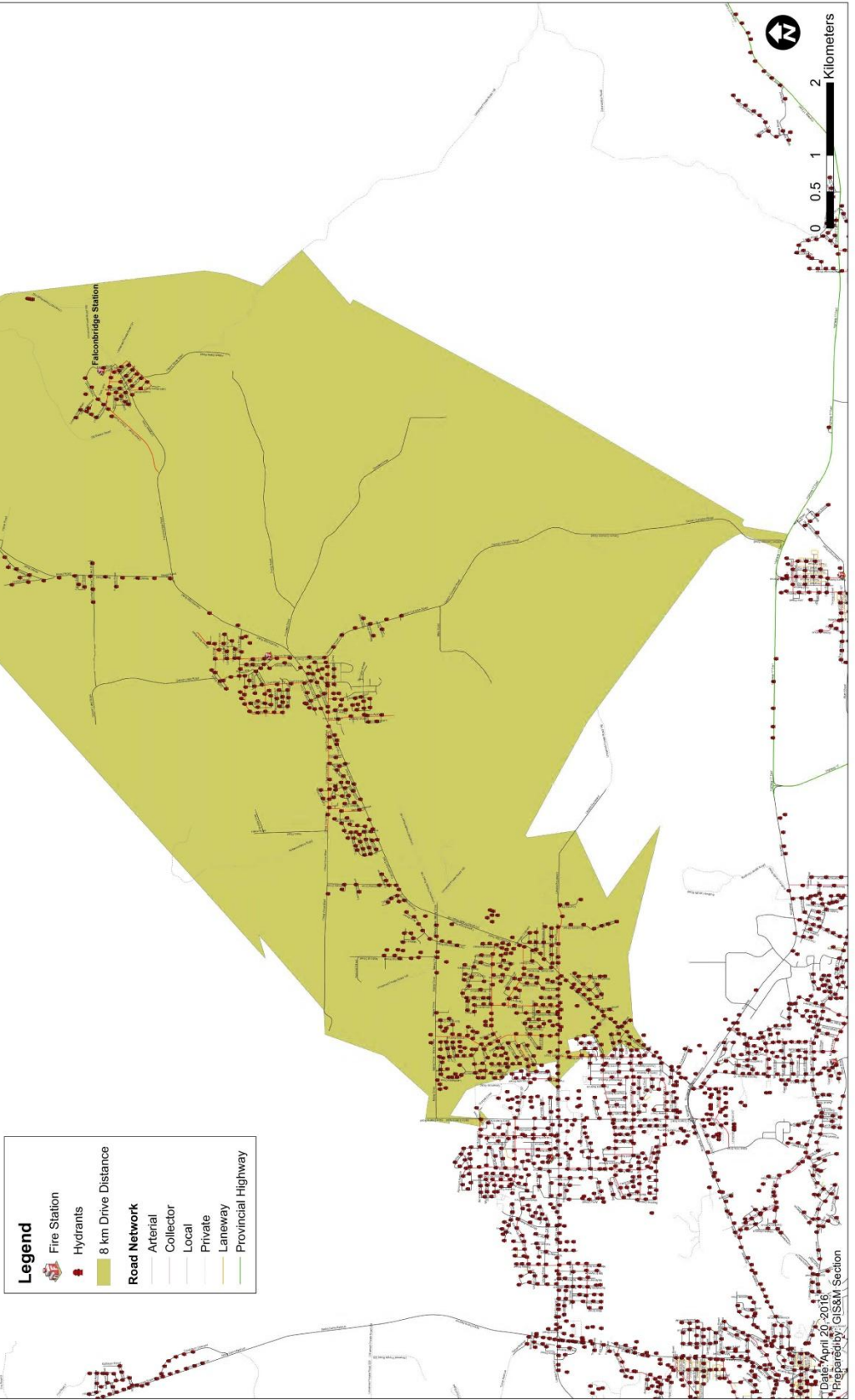
Road Network

- Arterial
- Collector
- Local
- Private
- Laneway
- Provincial Highway

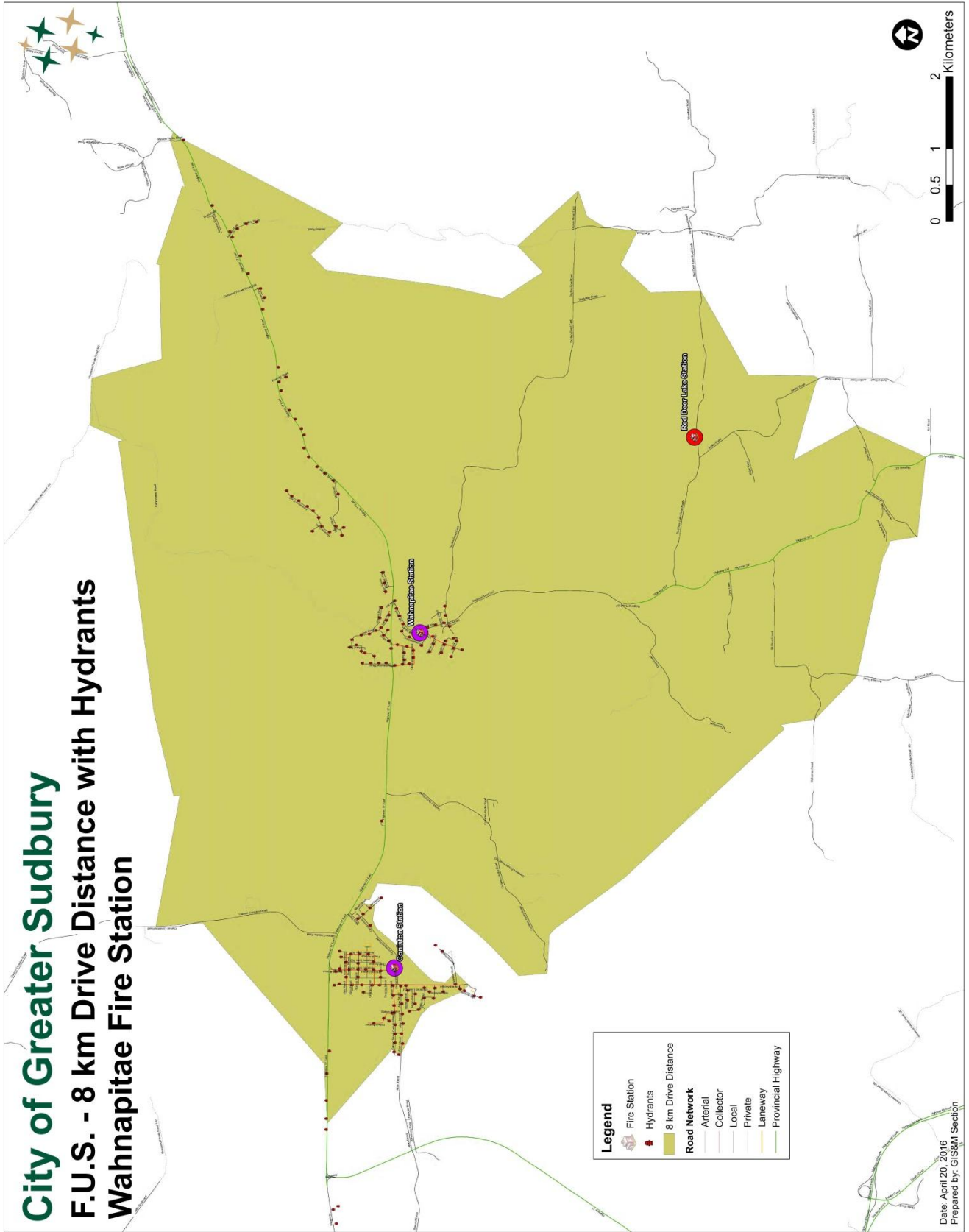


City of Greater Sudbury

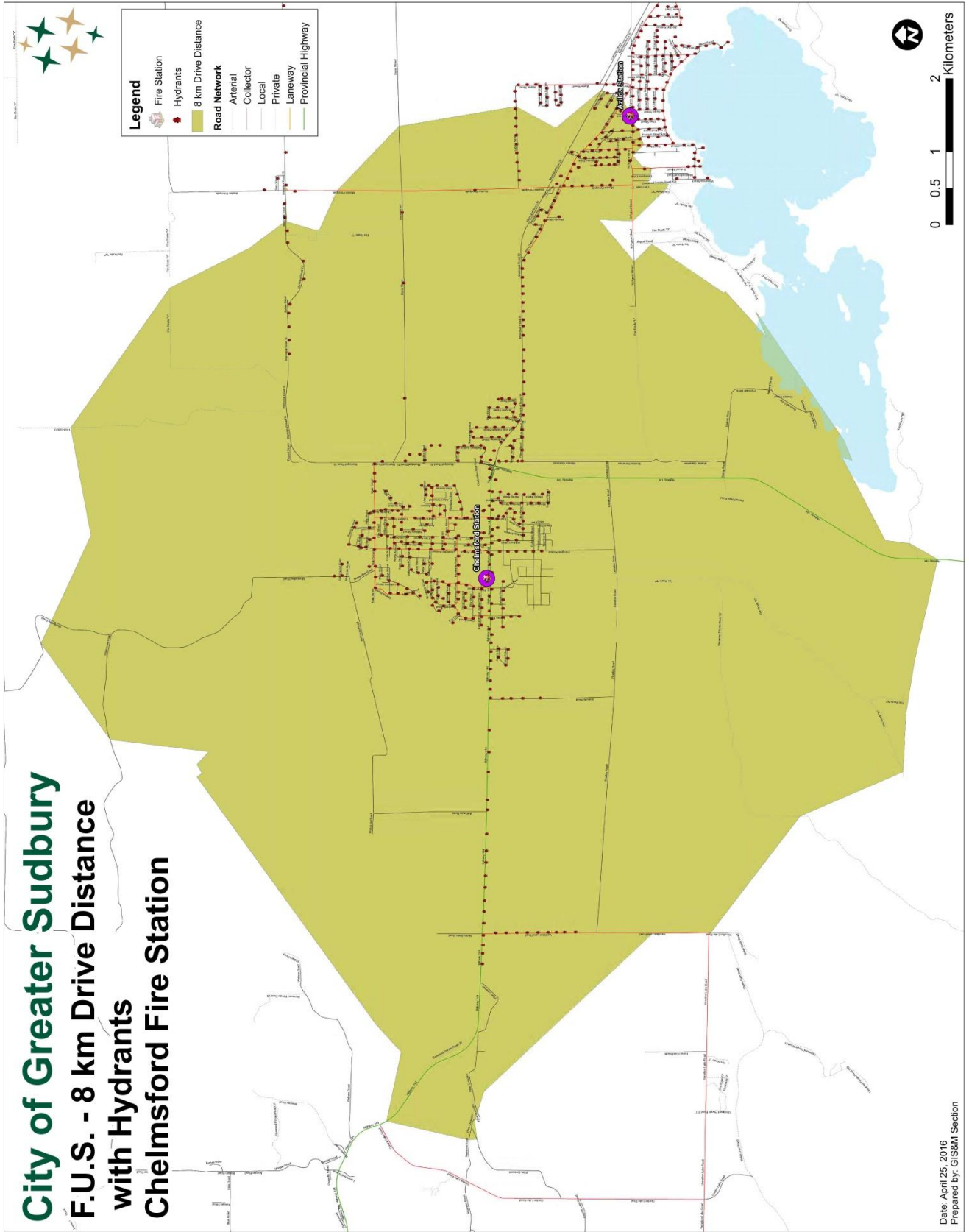
F.U.S. - 8 km Drive Distance with Hydrants Garson Fire Station



City of Greater Sudbury F.U.S. - 8 km Drive Distance with Hydrants Wahnapiatae Fire Station




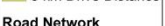
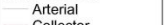

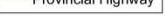


City of Greater Sudbury F.U.S. - 8 km Drive Distance with Hydrants Chelmsford Fire Station

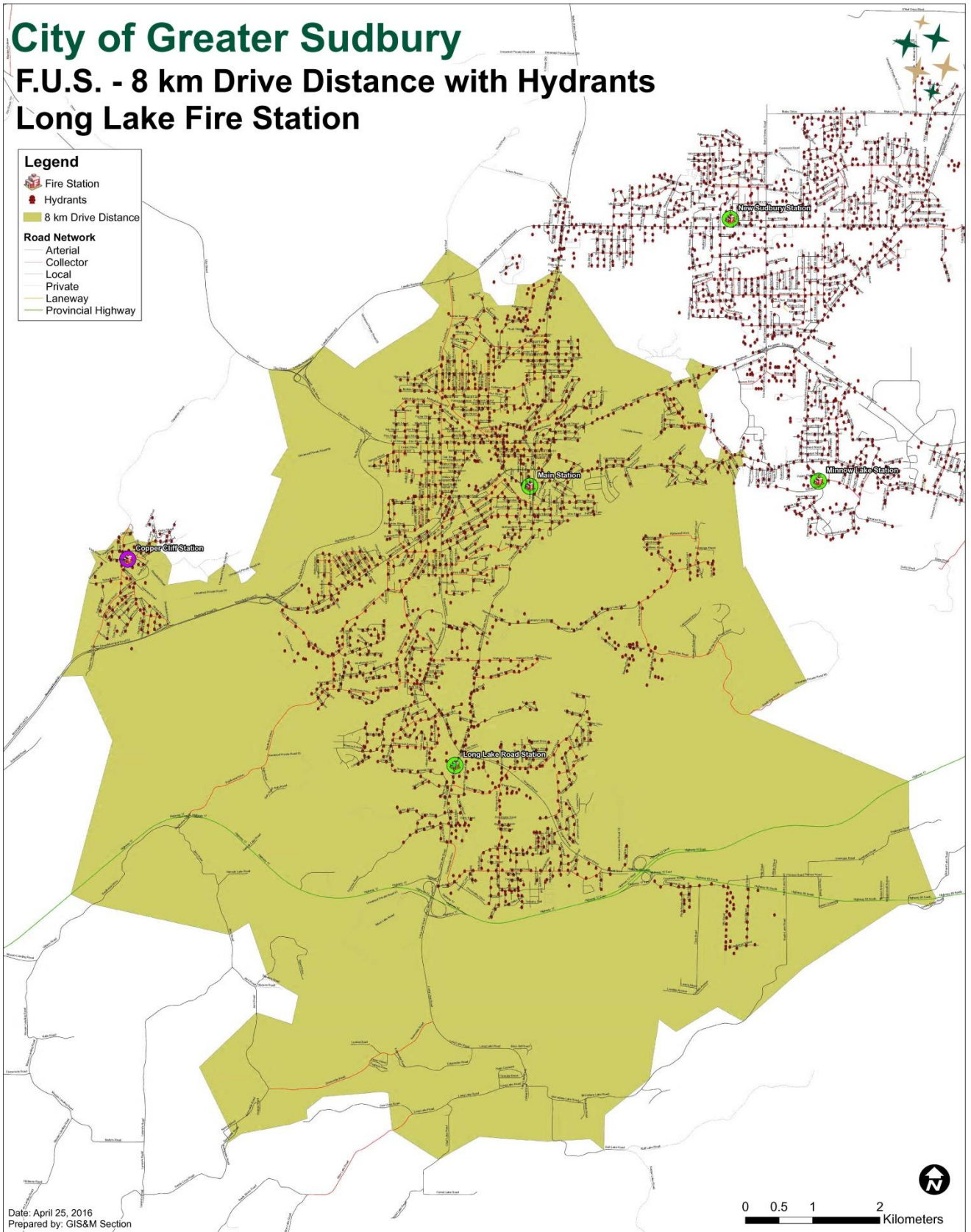


City of Greater Sudbury

F.U.S. - 8 km Drive Distance with Hydrants

Long Lake Fire Station

- Legend**
-  Fire Station
 -  Hydrants
 -  8 km Drive Distance
- Road Network**
-  Arterial
 -  Collector
 -  Local
 -  Private
 -  Laneway
 -  Provincial Highway






City of Greater Sudbury







F.U.S. - 8 km Drive Distance with Hydrants

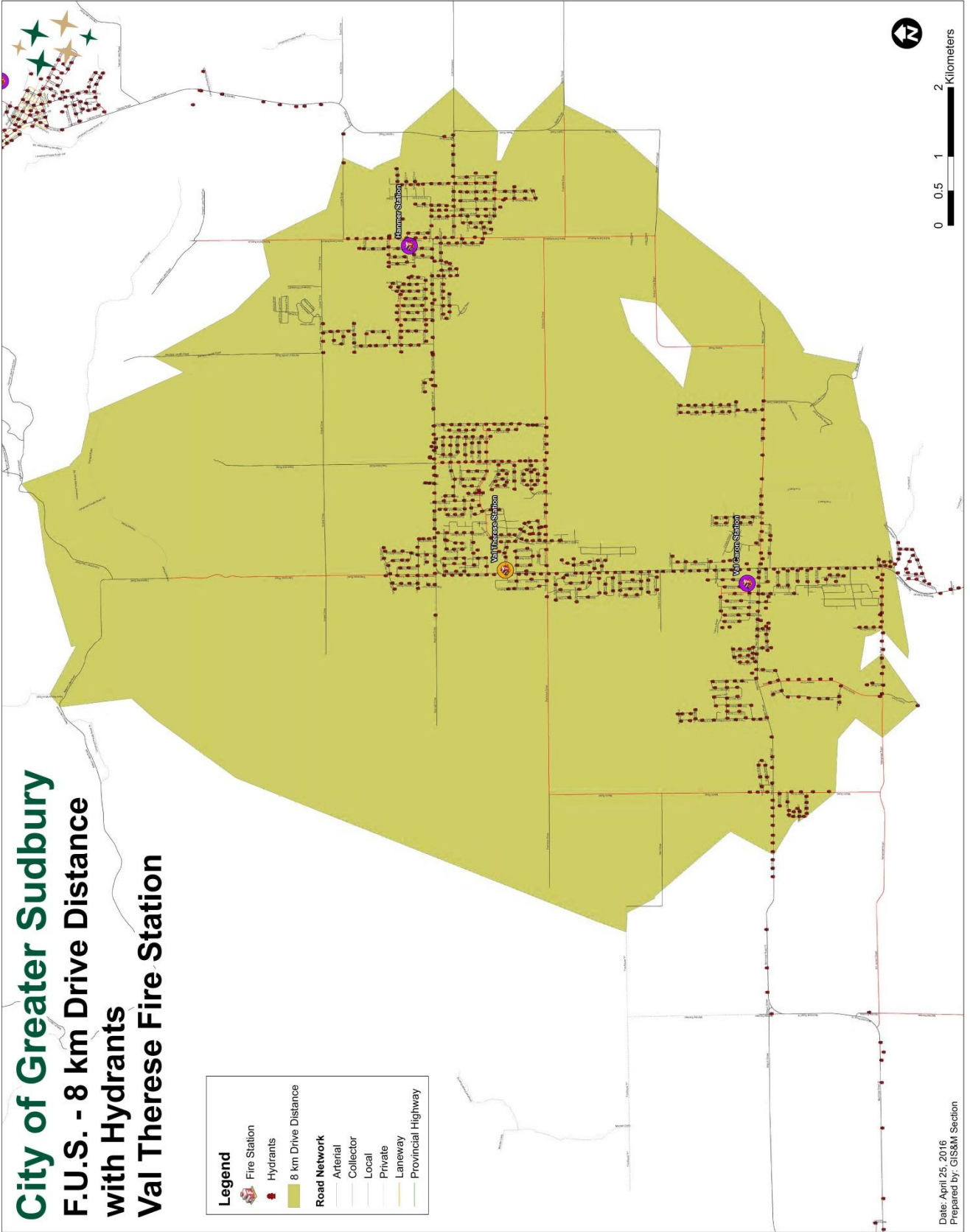
Val Therese Fire Station

Legend

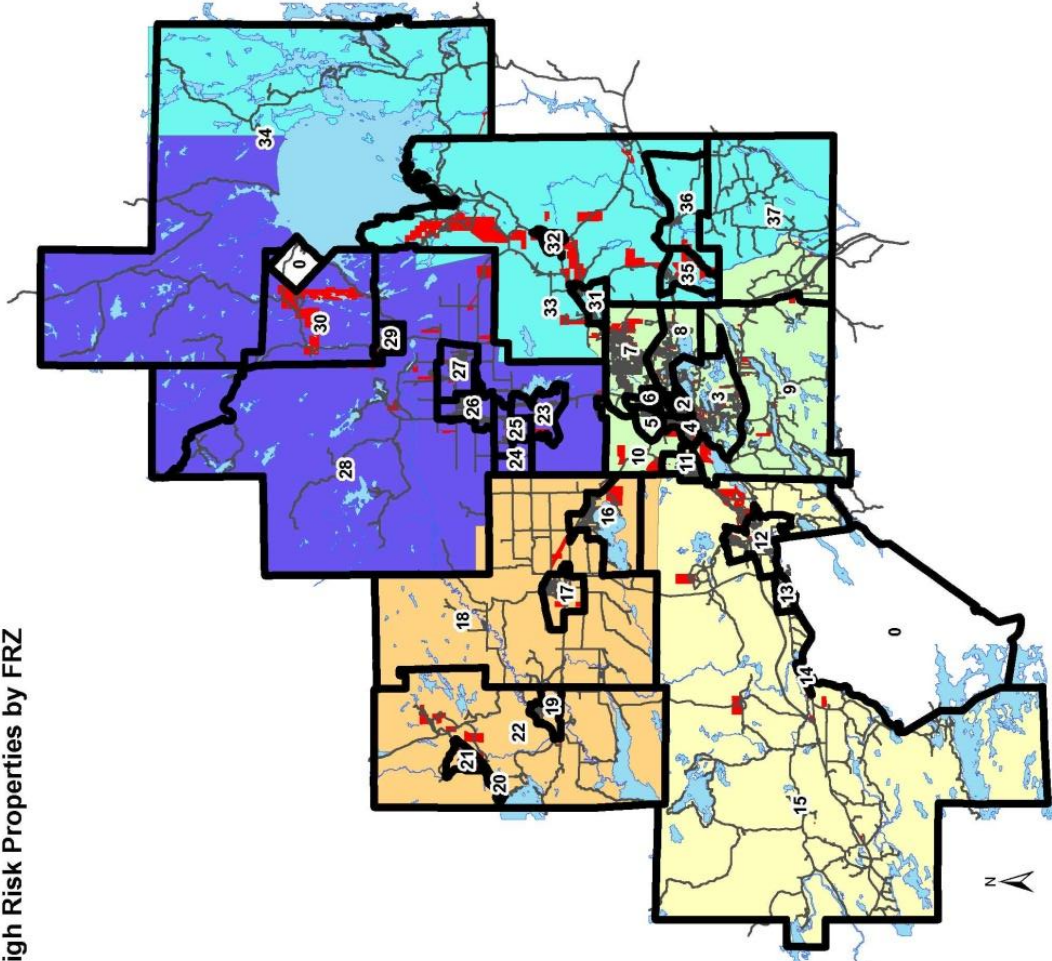
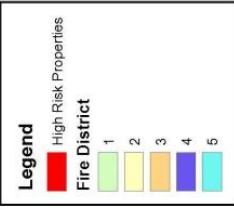
-  Fire Station
-  Hydrants
-  8 km Drive Distance

Road Network

-  Arterial
-  Collector
-  Local
-  Private
-  Laneway
-  Provincial Highway

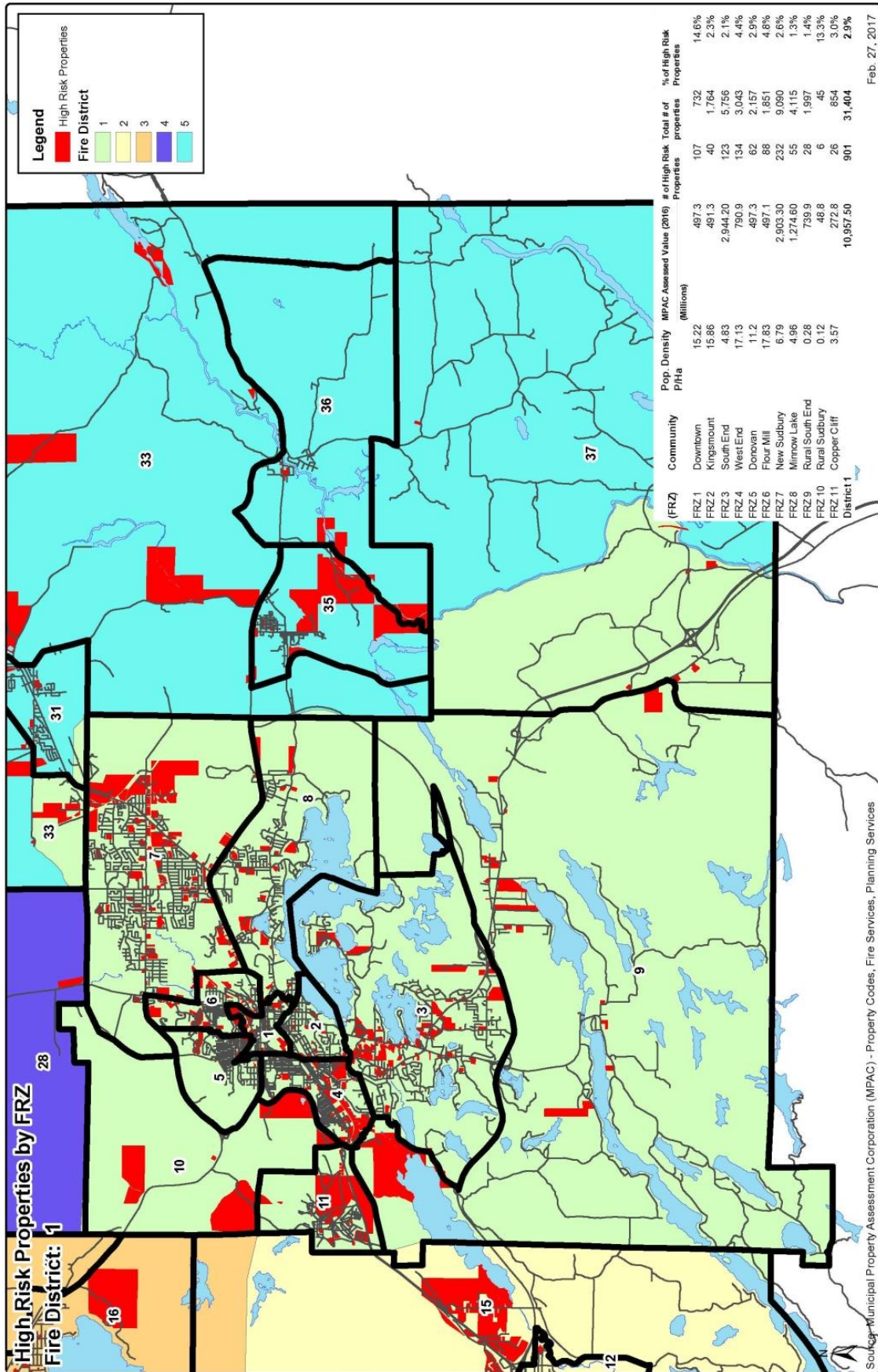


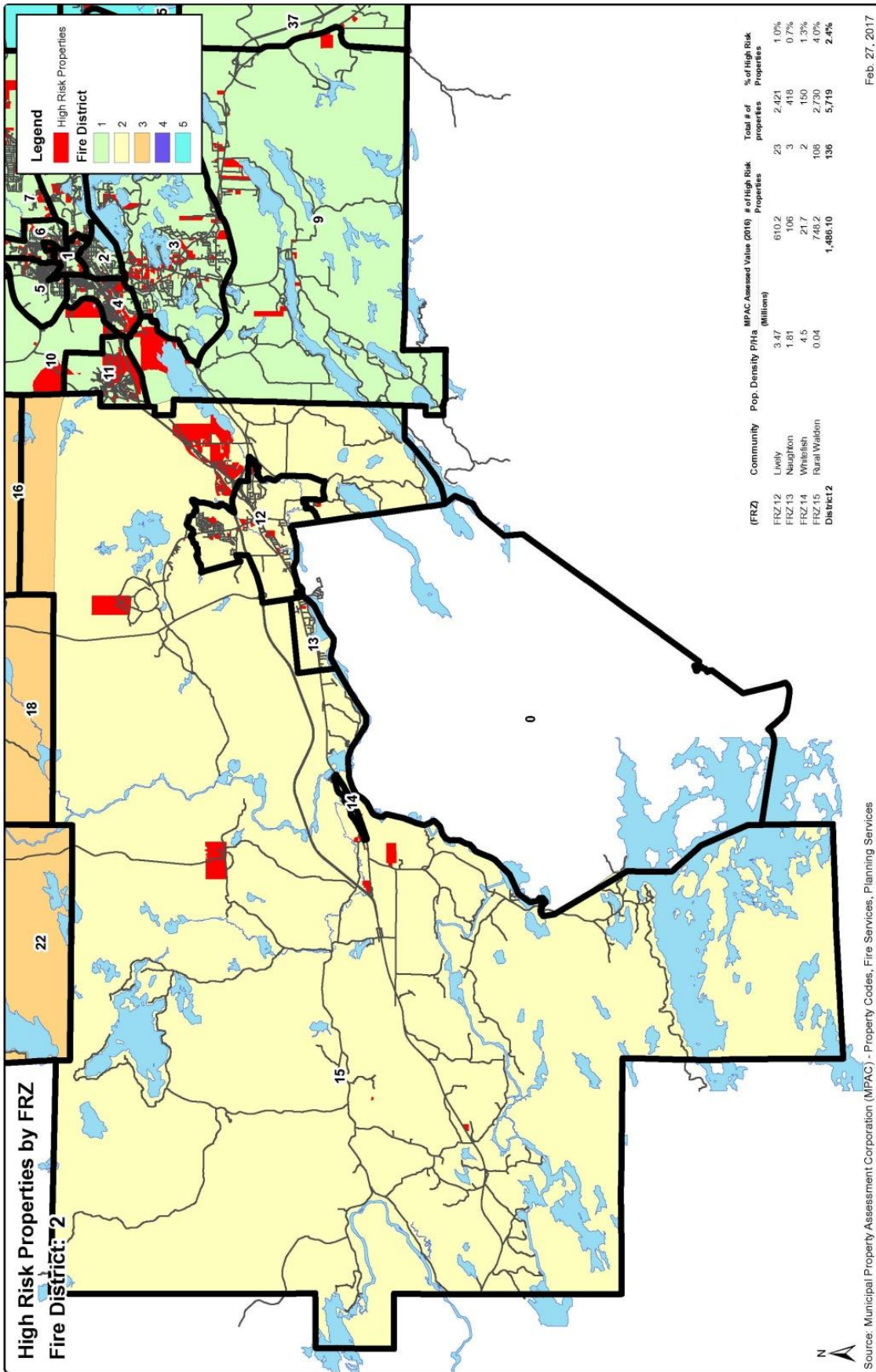
High Risk Properties by FRZ

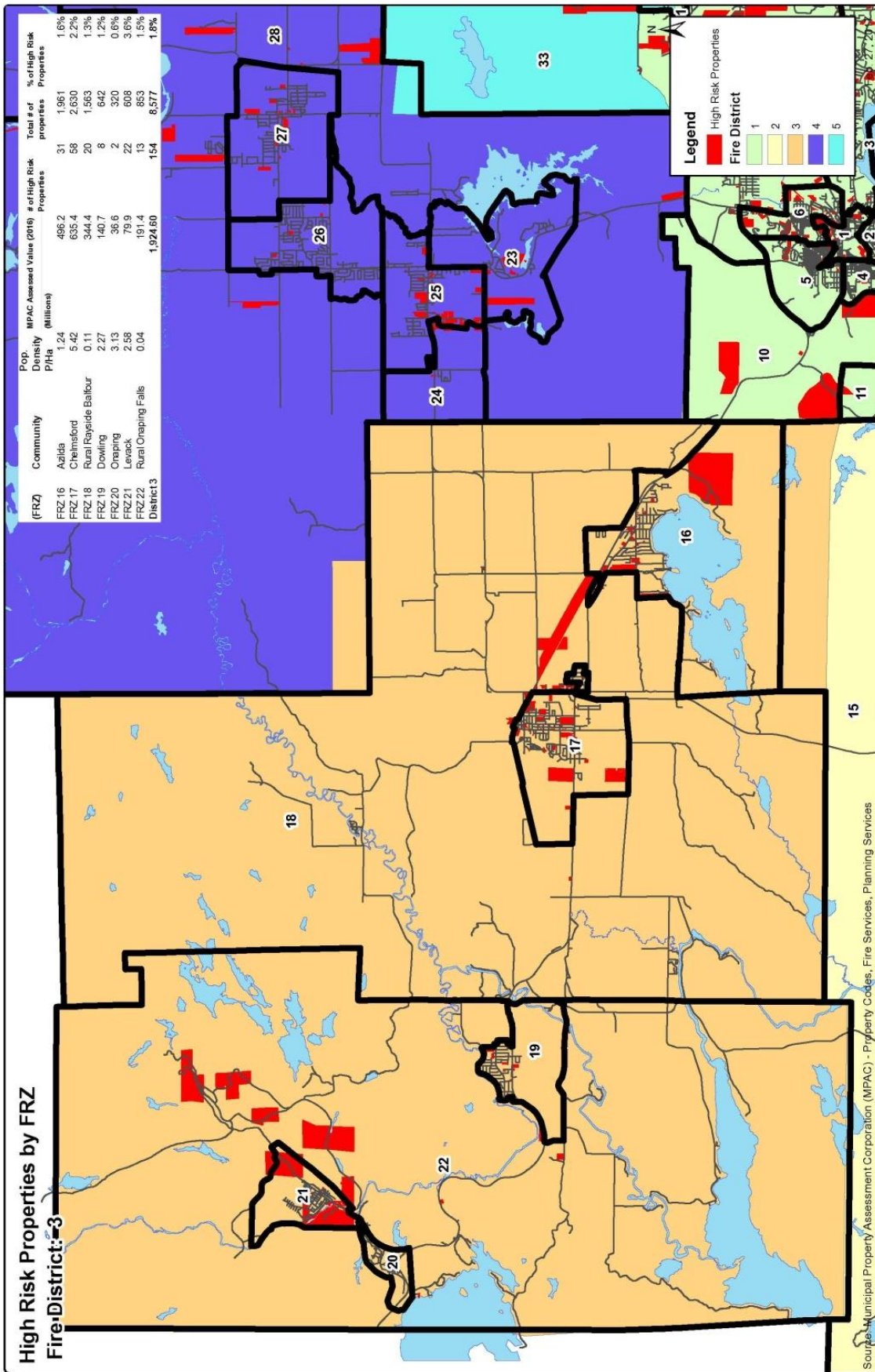


FRZ	Community	Pop. Density P/Ha	MPAC Assessed Value (2016) (Millions)	# of High Risk Properties	Total # of Properties	% of High Risk Properties
FRZ1	Downtown	15.22	457.3	107	732	14.6%
FRZ2	Kingsmount	15.86	491.3	40	1,764	2.3%
FRZ3	South End	4.83	2,944.20	123	5,756	2.1%
FRZ4	West End	1.19	1,809	194	3,053	6.3%
FRZ5	Forest Hill	11.2	1,007	11	1,007	1.1%
FRZ6	Flower Hill	17.83	497	86	1,057	8.1%
FRZ7	New Suburb	6.79	2,903.30	232	9,060	2.6%
FRZ8	Minnow Lake	4.66	1,274.60	55	4,115	1.3%
FRZ9	Rural Lake	0.28	739.9	28	1,997	1.4%
FRZ10	Rural South End	0.12	48.8	6	45	13.3%
FRZ11	Rural South End	3.57	272.8	26	854	3.0%
District1	Copper Cliff		10,957.50	901	31,404	2.9%
FRZ12	Lively	3.47	610.2	23	2,421	1.0%
FRZ13	Naughton	1.81	106	3	418	0.7%
FRZ14	Whitefish	4.5	21.7	2	150	1.3%
FRZ15	Rural Walden	0.04	748.2	108	2,730	4.0%
District2			1,486.10	138	5,719	2.4%
FRZ16	Azilda	1.24	496.2	31	1,061	3.0%
FRZ17	Chelmsford	5.42	635.4	58	2,030	2.9%
FRZ18	Rural Bayside Harbour	0.11	344.4	20	1,563	1.3%
FRZ19	Downing	0.27	107.2	6	72	8.3%
FRZ20	Lowry	3.13	38.6	2	326	0.6%
FRZ21	Lowry	2.58	79.9	22	608	3.6%
FRZ22	Rural Onaping Falls	0.04	191.4	13	863	1.5%
District3			1,924.60	154	8,577	1.8%
FRZ23	McCreo Heights	0.97	124.7	4	596	0.7%
FRZ24	Blizzard Valley	0.92	93	22	332	6.6%
FRZ25	Val Caron	4.39	461.5	56	2,120	2.6%
FRZ26	Val Therese	6.82	708.5	11	2,940	0.4%
FRZ27	Harmer	4.12	534.7	20	2,238	0.9%
FRZ28	Rural Valley East	0.07	508	14	2,106	0.7%
FRZ29	Capriol	5.12	224.2	31	1,425	2.2%
FRZ30	Rural Capriol	0	19.3	1	100	1.0%
District4			2,673.90	159	11,857	1.3%
FRZ31	Garsen	8.25	538.8	24	2,222	1.1%
FRZ32	Falconbridge	2.29	89.6	4	314	1.3%
FRZ33	Rural Napanee Centre	0.08	453.5	40	1,503	2.7%
FRZ34	Wentworth	0.08	11.4	1	10	10.0%
FRZ35	Concession	1.64	171.4	12	825	1.4%
FRZ36	Wabessipate	0.38	57.6	9	465	1.9%
FRZ37	SE Townships	0.08	116.7	37	729	5.1%
District5			1,469.30	126	6,118	2.1%
			18,511.40	1,476	63,675	2.3%

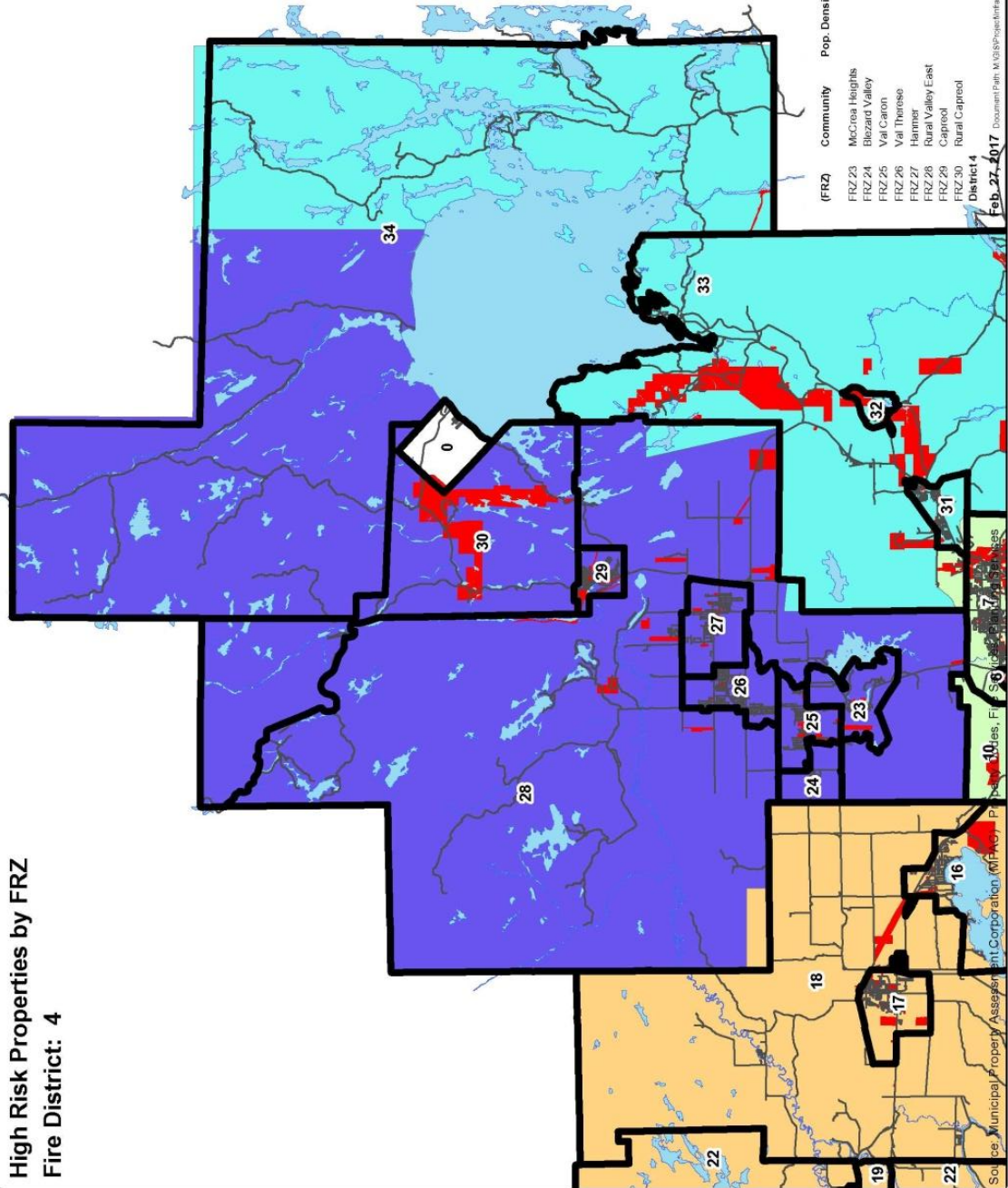
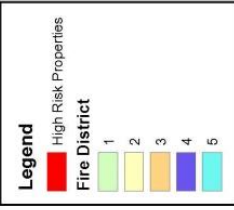
Feb. 27, 2017



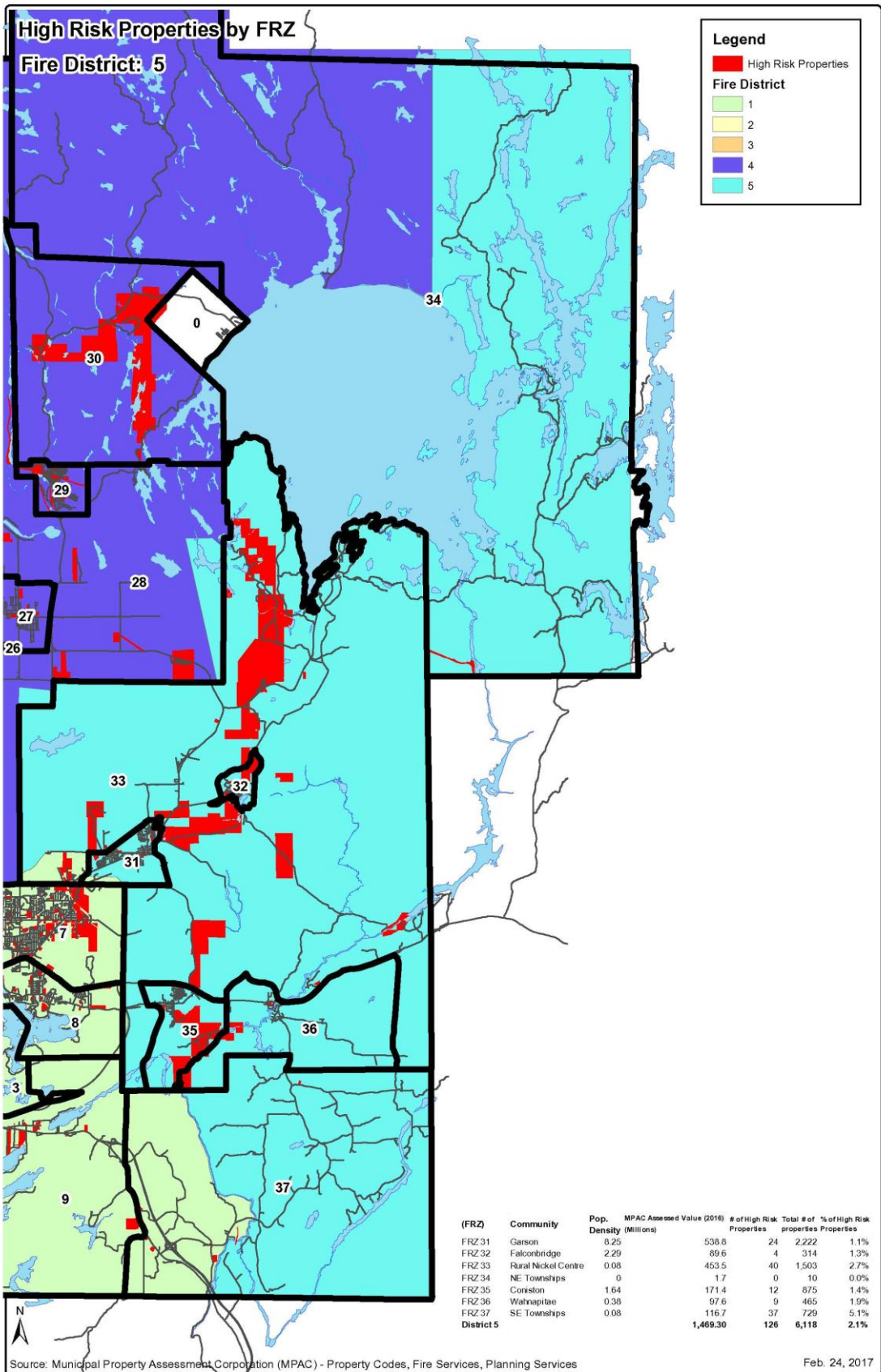




High Risk Properties by FRZ
Fire District: 4



(FRZ)	Community	Pop. Density P/ha	MPAC Assessed Value (\$millions)	# of High Risk Properties	Total # of Properties	% of High Risk Properties
FRZ 23	McCrea Heights	0.97	124.7	4	598	0.7%
FRZ 24	Bleazard Valley	0.92	93	22	332	6.6%
FRZ 25	Vail Caron	4.39	461.5	56	2,120	2.6%
FRZ 26	Vail Thoreson	6.82	708.5	11	2,940	0.4%
FRZ 27	Hanner	4.12	534.7	20	2,238	0.9%
FRZ 28	Rural Valley East	0.07	508	14	2,108	0.7%
FRZ 29	Capitol	5.12	224.2	31	1,425	2.2%
FRZ 30	Rural Capitol	0	19.3	1	100	1.0%
District 4			2,673.90	159	11,857	1.3%



City of Greater Sudbury Area Rating (Fire Service Levels)



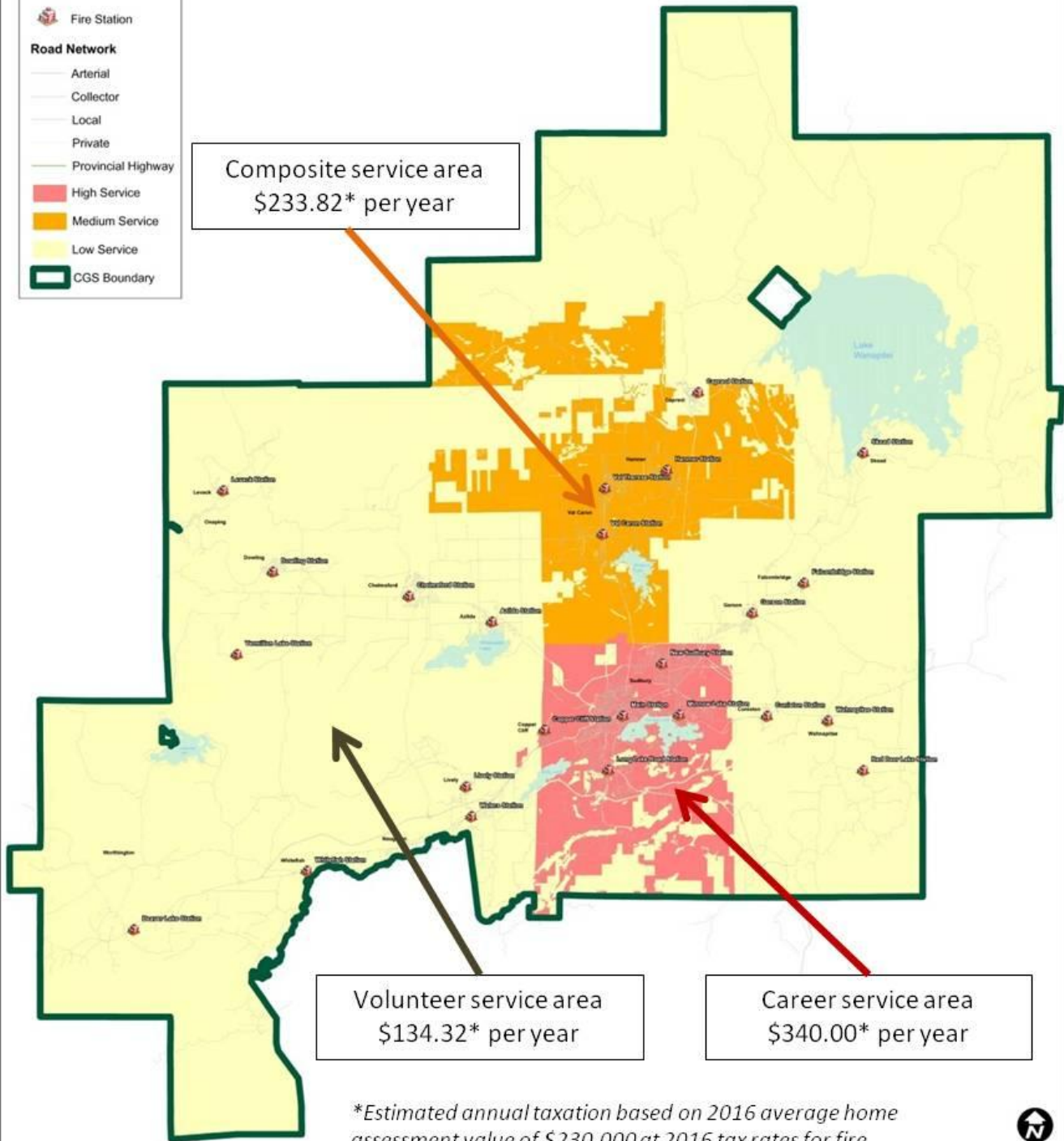
Legend

- Fire Station
- Road Network**
- Arterial
- Collector
- Local
- Private
- Provincial Highway
- High Service
- Medium Service
- Low Service
- CGS Boundary

Composite service area
\$233.82* per year

Volunteer service area
\$134.32* per year

Career service area
\$340.00* per year



**Estimated annual taxation based on 2016 average home assessment value of \$230,000 at 2016 tax rates for fire services*

City of Greater Sudbury Optimized Fire and Paramedic Stations

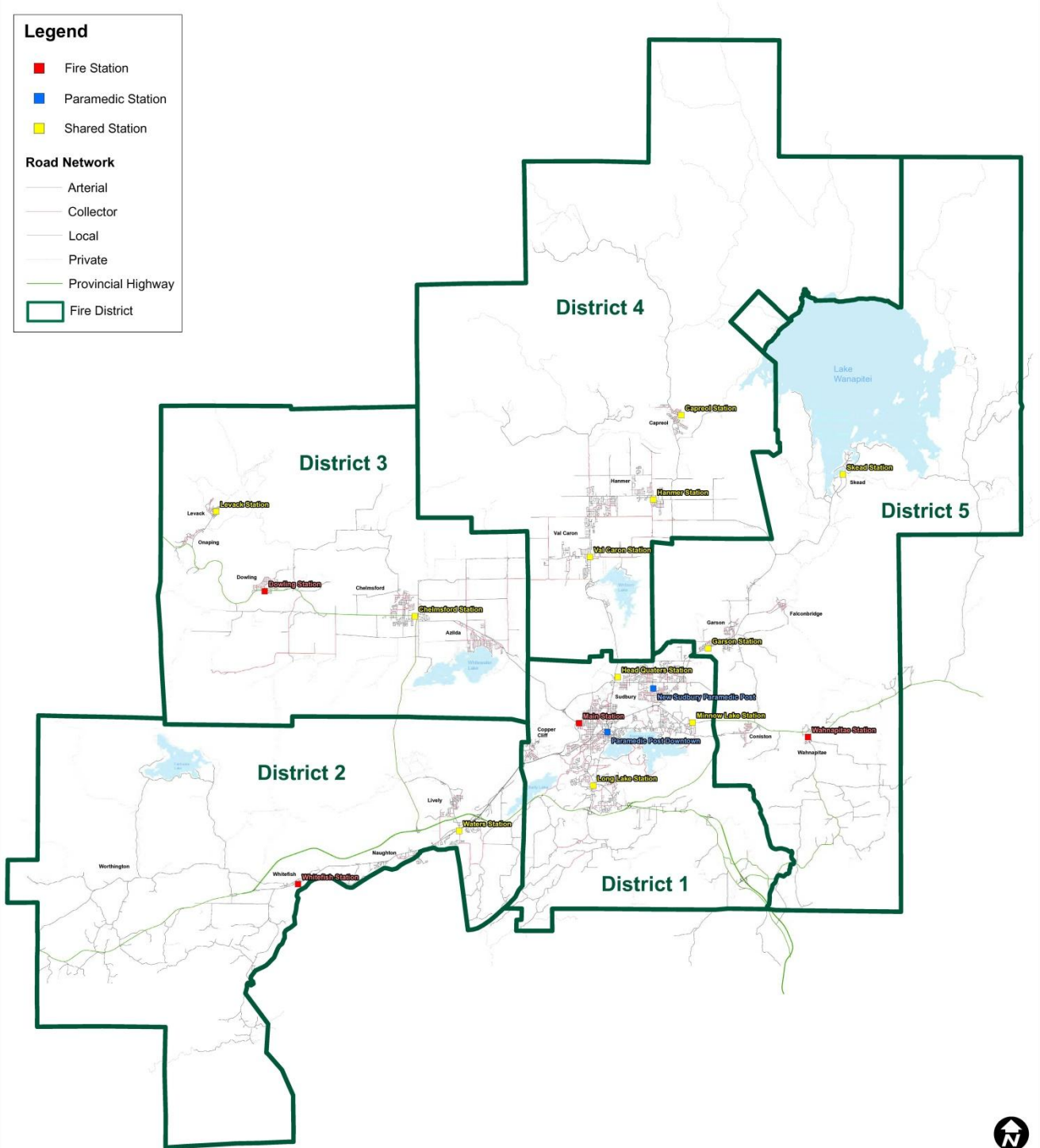


Legend

- Fire Station
- Paramedic Station
- Shared Station

Road Network

- Arterial
- Collector
- Local
- Private
- Provincial Highway
- Fire District



City of Greater Sudbury

Optimized Plan

Paramedic Services

Response Times

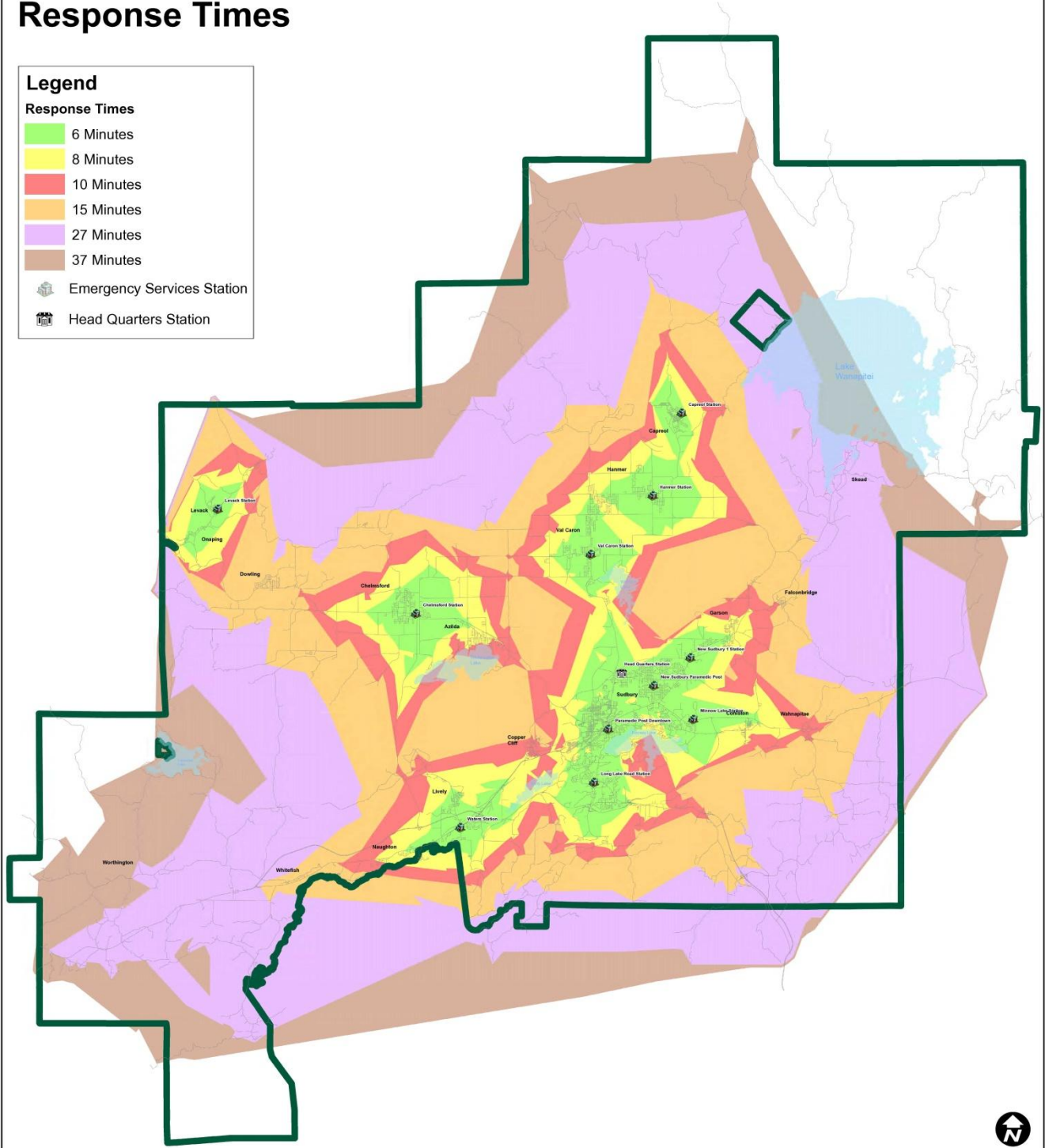


Legend

Response Times

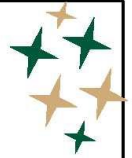
- 6 Minutes
- 8 Minutes
- 10 Minutes
- 15 Minutes
- 27 Minutes
- 37 Minutes

- Emergency Services Station
- Head Quarters Station



City of Greater Sudbury

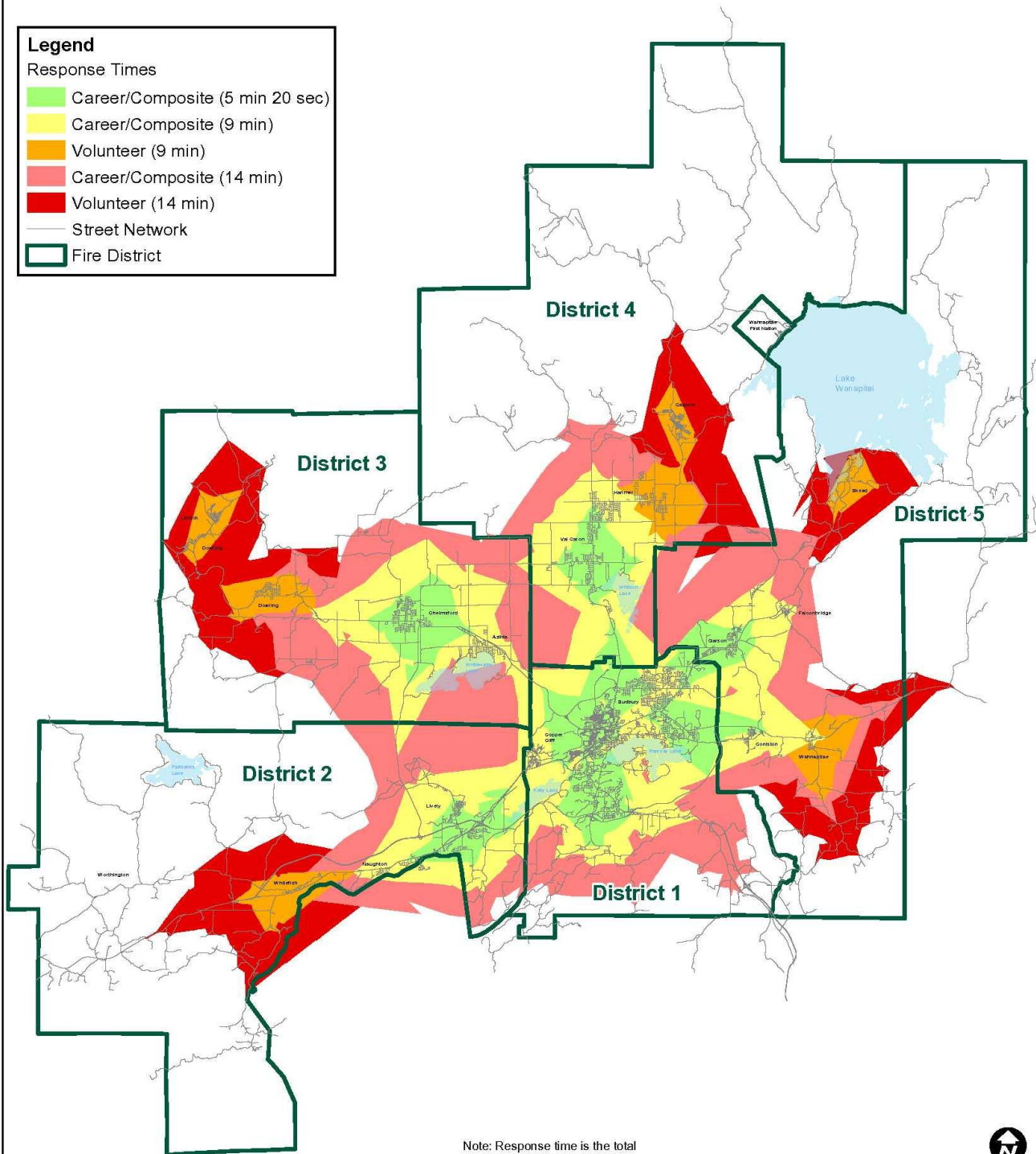
Optimized 2015 Response Times



Legend

Response Times

- Career/Composite (5 min 20 sec)
- Career/Composite (9 min)
- Volunteer (9 min)
- Career/Composite (14 min)
- Volunteer (14 min)
- Street Network
- Fire District



Note: Response time is the total amount of time between initial dispatch/page to arrival on scene based on historical average for shoot time plus drive time.

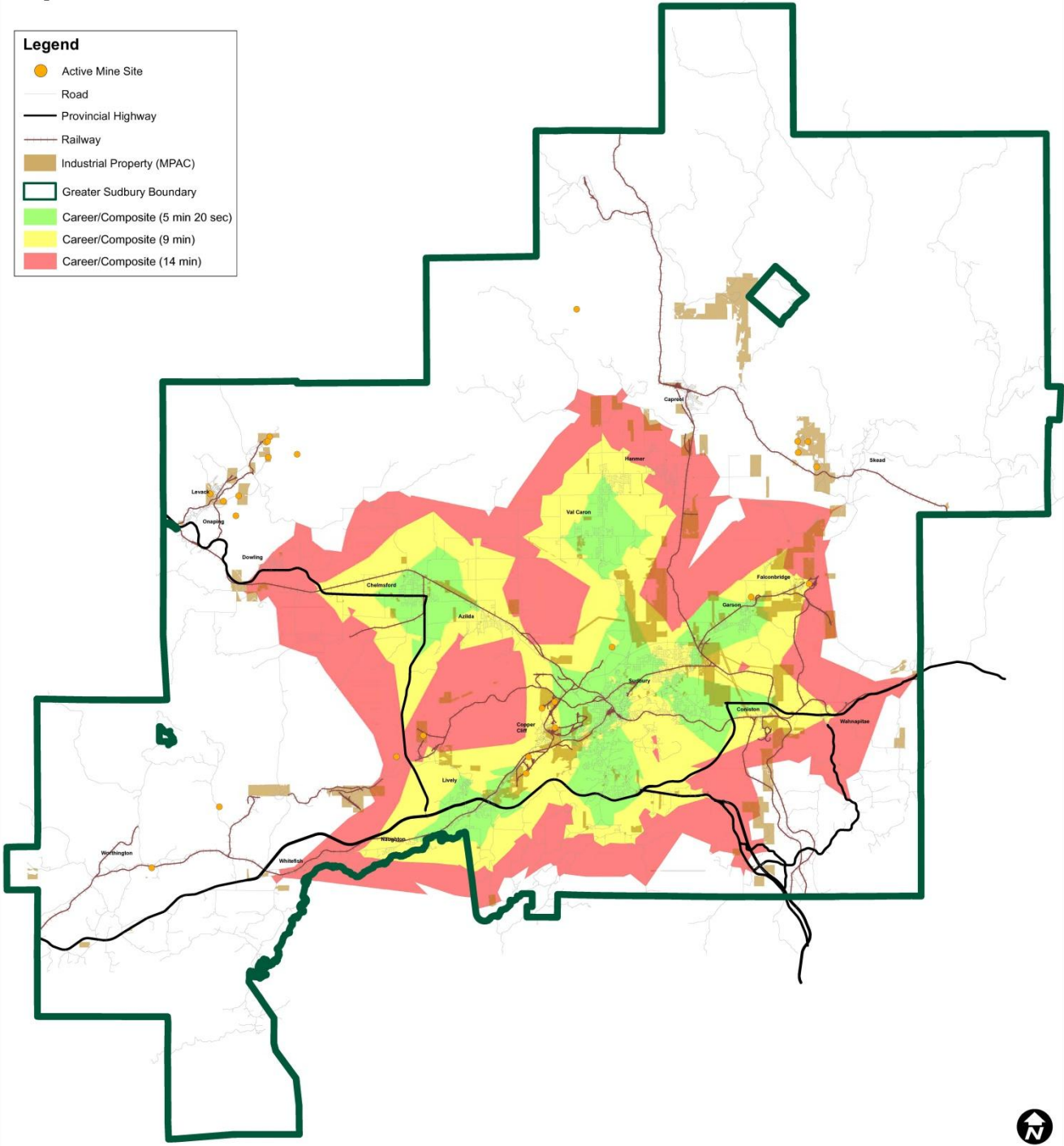
City of Greater Sudbury

Optimized Hazardous Material (HazMat) Response Operations and Technical Level



Legend

- Active Mine Site
- Road
- Provincial Highway
- Railway
- Industrial Property (MPAC)
- Greater Sudbury Boundary
- Career/Composite (5 min 20 sec)
- Career/Composite (9 min)
- Career/Composite (14 min)



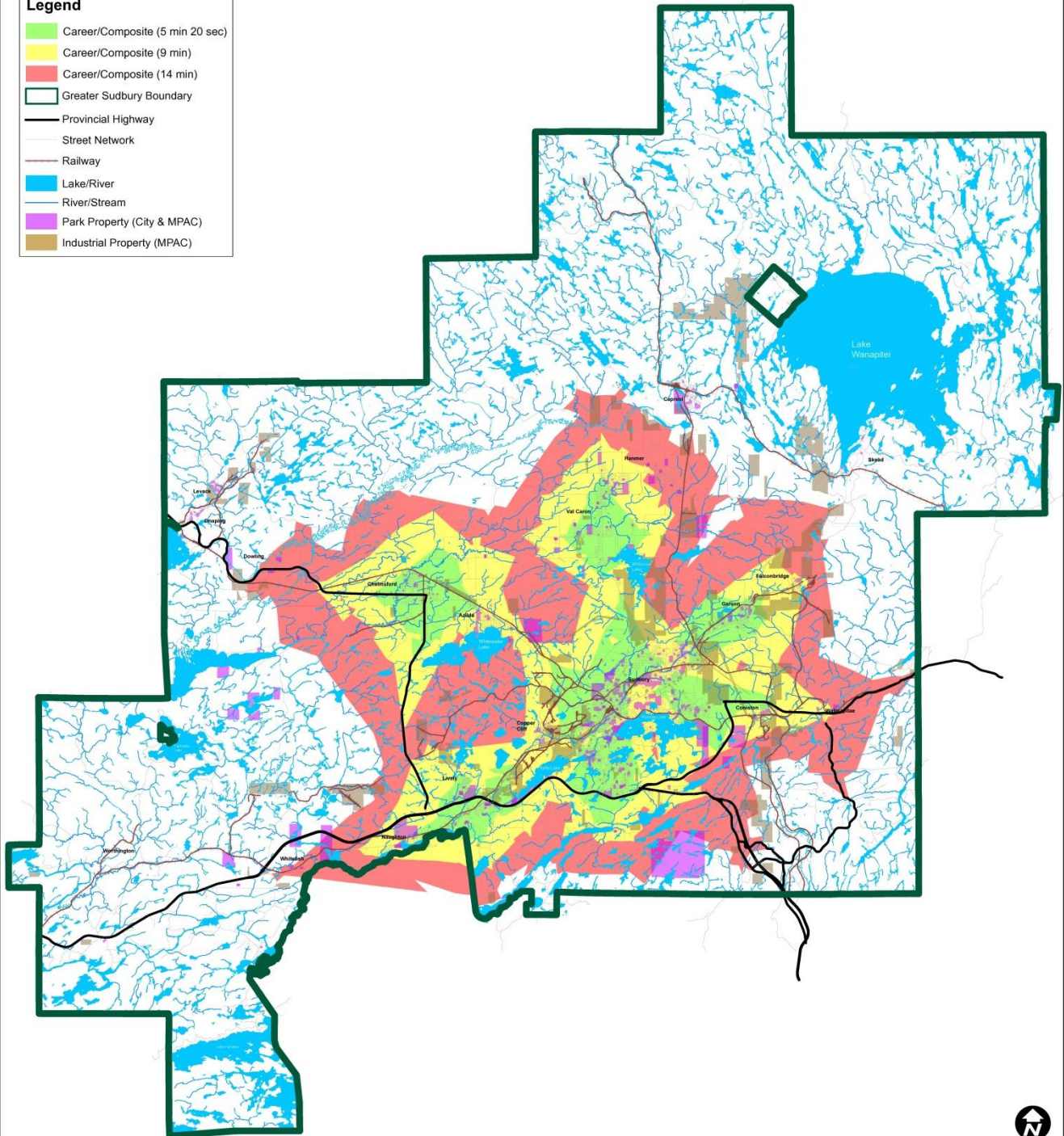
City of Greater Sudbury

Optimized Technical Rescue Response



Legend

- Career/Composite (5 min 20 sec)
- Career/Composite (9 min)
- Career/Composite (14 min)
- Greater Sudbury Boundary
- Provincial Highway
- Street Network
- Railway
- Lake/River
- River/Stream
- Park Property (City & MPAC)
- Industrial Property (MPAC)



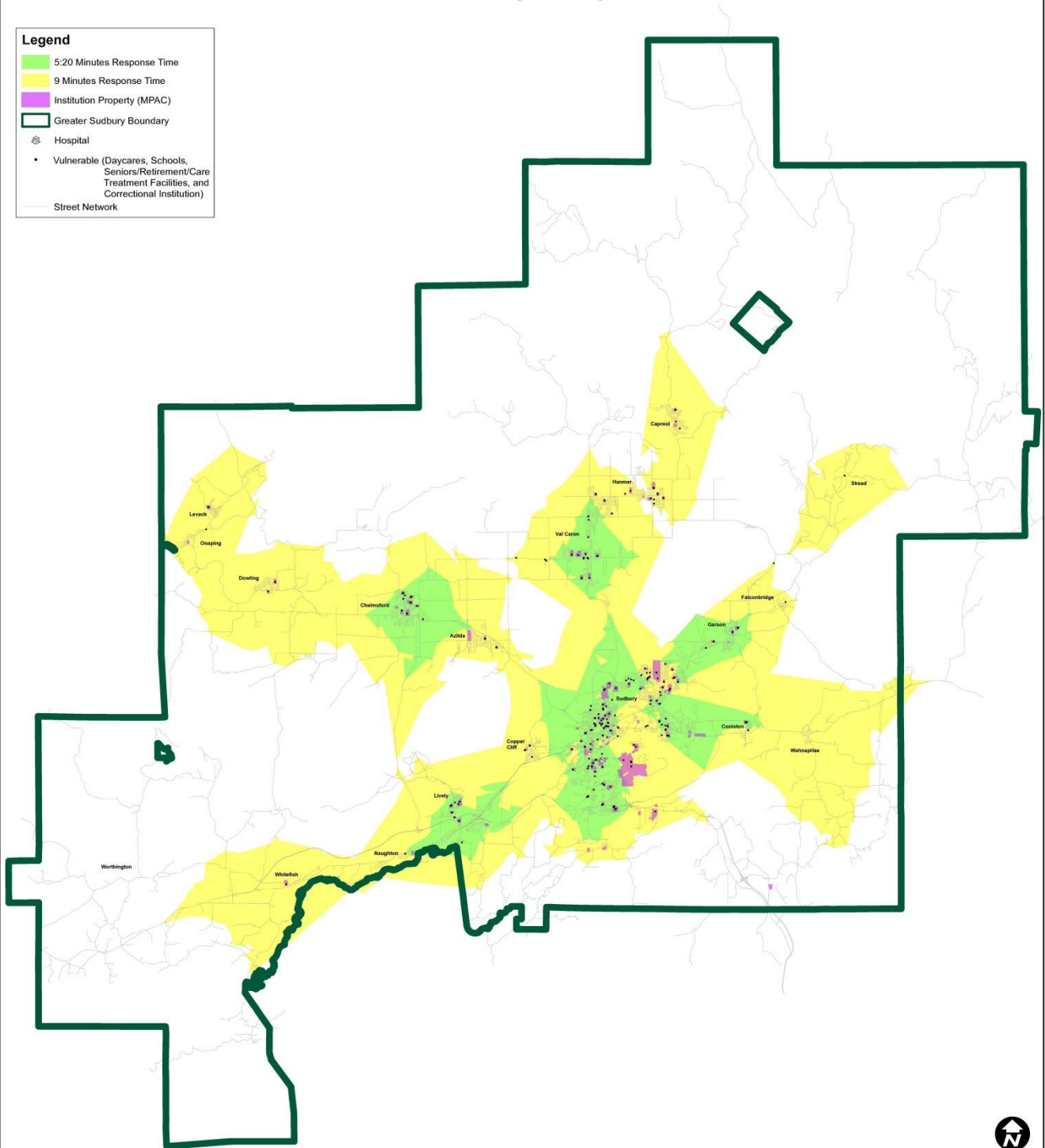
City of Greater Sudbury

Optimized Fire Medical Tiered Response (MTR)



Legend

- 5:20 Minutes Response Time
- 9 Minutes Response Time
- Institution Property (MPAC)
- Greater Sudbury Boundary
- Hospital
- Vulnerable (Daycares, Schools, Seniors/Retirement/Care Treatment Facilities, and Correctional Institution)
- Street Network





Tables (T)



MUNICIPAL
PROPERTY
ASSESSMENT
CORPORATION

Greater Sudbury Assessment Summary

Municipality Tax Class	2015 Roll for Tax Year	2016 Roll for Tax Year
	2016 (2012 CVA)	2016 (2016 CVA)
Commercial		
C Commercial	1,399,729,833	1,598,401,318
D Office Building	127,120,810	139,780,270
G Parking Lot	10,862,910	13,691,100
S Shopping Centre	353,796,560	456,589,090
Sub-total	1,891,510,113	2,208,461,778
Exempt		
E Exempt	1,273,514,630	1,526,552,576
Farm		
F Farm	15,938,900	31,823,700
Industrial		
I Industrial	206,007,440	221,858,800
L Large Industrial	247,686,426	133,194,700
Sub-total	453,693,866	355,053,500
Landfills		
H Landfills	-	1,054,600
Managed Forest		
T Managed Forest	10,318,900	11,840,400
Multi-Residential		
M Multi-Residential	689,441,900	666,511,000
New Commercial		
X New Construction Commercial	180,823,410	220,714,930
Y New Construction Office Building	293,500	291,000
Z New Construction Shopping Centre	51,079,930	60,461,370
Sub-total	232,196,840	281,467,300
New Industrial		
J New Construction Industrial	40,124,300	46,626,100
K New Construction Large Industrial	20,401,450	14,170,700
Sub-total	60,525,750	60,796,800
New Multi-Residential		
N New Multi-Residential	73,893,000	80,228,400
Pipeline		
P Pipeline	49,792,000	56,430,000
Residential		
R Residential	13,672,233,185	14,344,757,111
Total	\$ 18,423,059,084	\$ 19,624,977,165

BLS Skills	Medications	Year	Delegated Skills	Year
Patient Assessment	Acetylsalicylic Acid (PO)	2000	PCP Autonomous Intravenous	2016
Emergency Patient Care	Acetaminophen (PO)	2014	Supraglottic Airway (King-LT)	2009
Patient Immobilization	Dextrose D50W (IV)	2016	CPAP application	2010
Basic Trauma Life Support	Dimenhydrinate (IV, IM)	IV 2016	Capnometry (ETCO2)	2009
		IM 2011		
Neonatal Resuscitation Program	Diphenhydramine (IV, IM)	IV 2016	pulse oximetry monitoring	2000
		IM 2011		
Oxygen Therapy	Epinephrine (IM, NEB)	2000 IM	Manual defibrillation	2014
		2002 NEB		
Pulse Oximetry	Glucagon (IM)	2000	12-Lead ECG aquisition	2010
			STEMI interpretation	2016
Assess and Recognize obs emergencies	Glucose (PO)	2000	PCP Termination of Resuscitation	2009
Delivery of the neonate	Ibuprofen (PO)	2014	emergency disconnect of home dialysis	2016
	Ketorolac (IV, IM)	IV 2016	Emergency Child Birth	2017
	Naloxone (IM)	2015	Deep suctioning	2017
	Oxygen (100%)	2000	Adult Analgesia	2015
	Salbutamol (MDI, NEB, BVM)	2000	Oral and nasal pharyngeal airway	2000
	0.9% Normal Saline (IV)	2016	Oral and nasal pharyngeal suctioning	2000
			Positive pressure ventilation with BVM	2000
			Fluid Bolus	2016

	Medications	Year	Delegated Skills	Year
Patient Assessment	acetylsalicylic acid (PO)	2000	orotracheal and nasotracheal intubation	2000
Emergency Patient Care	Dimenhydrinate (IM, IV, IO)	2007	laryngoscopy - removal of foreign body obstruction using MacGill forceps	2000
Patient Immobilization	Diphenhydramine (PO, IM, IV, IO)	2007	needle thoracostomy	2000
Basic Trauma Life Support	Epinephrine 1: 1000 (IV, IM, IO, ETT, NEB)	2000	synchronized cardioversion	2000
	Epinephrine 1:10 000 (IV, IO)			
Neonatal Resuscitation Program	Glucagon (IM)	2000	external transcutaneous cardiac pacing	2000
Oxygen Therapy	glucose gel (PO)	2000	Treatment of Cardiac emergencies ACLS	2000
Pulse Oximetry	Acetaminophen (PO)	2014	IV Therapy	2000
Assess and Recognize obs emergencies	Ketorolac (IM, IV, IO)	2014	Intra Osseous IV Cannulation Pediatric	2000
			Intra Osseous IV Cannulation Adult	2013
Delivery of the neonate	Ibuprofen (PO)	2014	Supraglottic Airway (King-LT)	2009
	nitroglycerine spray (SL)	2000	CPAP application	2010
	Salbutamol (MDI, Neb, BVM)	2000	Capnometry (ETCO2)	2000
	Naloxone (IV, IM, SC)	2000	pulse oximetry monitoring	2000
	Dextrose D50W (IV, IO)	2000	12-Lead ECG application and STEMI interpretation	2010
	Dextrose D25W (IV, IO)			
	Dextrose D10W (IV, IO)			
	Adenosine (IV, IO)	2000	emergency disconnect of home dialysis	2014
	Atropine (IV, ETT, IO)	2000	Emergency Child Birth	2017
			ACP Termination of Resuscitation	2000
	Diazepam (IV, IM)	2000	Endotracheal suction	2000
	Dopamine, (IV, IO)	2000	Pediatric Pain Directive	2013

BLS Skills	Medications	Year	Delegated Skills	Year
Delivery of the neonate cont'd	Fentanyl (IV)	2000	Central Venous Access Device	2000
	Lidocaine,(IV, IO, ETT)	2000	Hyperkalemia Medical Directive	2015
	Lidocaine spray 10 mg (oral)			
	Morphine (IV, IM, IO)	2000	Adrenal Crisis	2017
	Midazolam IV, IO, IM)	2000	Manual Defibrillation	2000
	Sodium Bicarbonate (IV, IO)	2000	Deep Suctioning	2017
	Calcium Gluconate (IV, IO)	2015	Oral and nasal pharyngeal suctioning	2000
	Xylometaxoline HCL (Otrivin) (Nasal)	2000	Positive pressure ventilation with BVM	2000
	Oxygen (100%)	2000	Fluid Bolus	2000
	0.9% Normal Saline (IV, IO, CVAD)	2000	Valsalva manœuvre	2000

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Incidents in Response Area	Incidents in District Area		Training by Curriculum Topic		Training by Payroll Hours		Training by Payroll Hours		Training by Payroll Hours Attended		Training by Payroll Hours Attended	
	Total	Percentage	Attended	Total	Percentage	Paid Training Attended	Unpaid Training Attended	Total Attended	Total Offered	Percentage Paid Training	Percentage Unpaid Training	Percentage Total Training
0	12	0.00%	1	22	4.50%	2	44	4.50%	7.00	9.72%	0.00%	4.86%
4	12	33.30%	6	22	27.20%	9	44	20.40%	15.00	20.83%	0.00%	10.42%
1	12	8.30%	3	22	13.60%	13	44	29.50%	25.00	34.72%	0.00%	17.36%
4	12	33.30%	6	22	27.20%	18	44	40.90%	32.00	44.44%	0.00%	23.22%
3	12	25.00%	17	22	54.50%	24	44	54.50%	32.00	44.44%	1.99%	23.87%
5	12	41.60%	9	22	40.90%	22	44	50.00%	32.00	35.00	4.17%	24.31%
6	12	50.00%	13	22	59.00%	31	44	70.40%	43.00	45.38%	4.17%	26.88%
7	12	58.30%	8	22	36.30%	37	44	84.00%	46.00	63.64%	9.72%	38.61%
8	12	66.60%	12	22	54.50%	37	44	84.00%	49.00	68.05%	6.94%	37.50%
4	12	33.30%	7	22	31.80%	36	44	81.80%	47.00	65.28%	18.06%	41.67%
4	36	11.10%	5	54	9.20%	6	16	37.50%	14.00	77.78%	0.00%	38.89%
9	36	25.00%	12	54	22.20%	6	16	37.50%	14.00	77.78%	5.56%	38.89%
7	19	36	26	54	48.10%	7	16	43.70%	13.00	72.22%	11.11%	22.83%
13	87	14.90%	27	169	15.30%	11	60	18.30%	20.00	27.18%	0.00%	13.89%
5	87	5.70%	9	169	5.30%	12	60	20.00%	19.00	21.00	2.78%	14.58%
15	36	41.60%	18	54	33.30%	10	16	62.50%	18.00	100.00%	0.00%	61.11%
6	87	6.80%	15	169	8.80%	17	60	28.30%	33.00	45.83%	0.00%	22.92%
18	87	20.60%	31	169	18.30%	15	60	25.00%	34.00	44.44%	2.78%	23.61%
15	87	17.20%	36	169	21.30%	19	60	31.60%	39.00	44.44%	9.72%	27.06%
5	87	5.70%	17	169	10.00%	20	60	33.30%	38.00	52.78%	2.78%	27.78%
20	87	22.90%	45	169	26.60%	19	60	31.60%	38.00	52.78%	8.33%	30.56%
15	87	17.20%	36	169	21.30%	22	55	40.00%	44.00	61.11%	1.39%	31.25%
34	87	39.00%	62	169	36.60%	25	60	41.60%	42.00	58.33%	5.56%	31.94%
68	87	78.10%	121	169	71.50%	30	60	50.00%	46.00	76.67%	1.39%	32.50%
53	87	60.90%	101	169	59.70%	33	60	55.00%	53.00	78.61%	8.33%	40.97%
45	87	51.70%	80	169	47.90%	29	60	48.30%	62.00	80.58%	5.56%	43.06%
36	87	41.50%	75	169	44.30%	34	60	56.60%	65.00	88.33%	6.94%	45.18%
48	87	55.10%	53	169	56.20%	45	60	75.00%	81.00	93.08%	19.44%	59.25%
2	15	13.30%	2	21	9.50%	3	13	23.00%	6.00	33.33%	0.00%	16.67%
14	64	21.80%	24	84	28.50%	10	55	18.10%	25.00	34.72%	0.00%	17.36%
4	64	6.20%	5	84	5.90%	13	55	23.60%	26.00	34.72%	1.39%	18.06%
17	64	26.50%	26	84	30.30%	13	55	23.60%	34.00	45.83%	1.39%	23.61%
14	64	21.80%	20	84	23.80%	17	55	30.90%	35.00	48.61%	0.00%	24.31%
5	64	7.80%	6	84	7.10%	23	55	40.00%	49.00	68.06%	0.00%	34.03%
20	64	31.20%	28	84	33.30%	22	55	41.80%	46.00	63.64%	5.56%	34.72%
34	64	53.10%	50	84	59.50%	27	55	49.00%	55.00	76.36%	9.72%	43.06%
19	64	29.60%	28	84	33.30%	30	55	54.50%	61.00	84.72%	2.78%	43.75%
52	64	81.20%	75	84	89.20%	36	55	65.00%	55.00	76.36%	2.78%	43.31%
18	64	28.10%	26	84	30.90%	36	55	65.00%	61.00	84.72%	18.06%	51.39%
20	64	31.20%	32	84	38.00%	36	55	65.00%	70.00	80.00	13.89%	55.56%
30	64	46.80%	44	84	52.30%	44	55	80.00%	17.00	91.00	23.61%	63.19%
10	64	15.60%	17	84	20.20%	45	55	81.80%	74.00	95.00	34.72%	65.97%
39	64	60.90%	61	84	72.60%	47	55	85.40%	72.00	115.00	59.72%	79.86%
10	47	21.20%	14	68	20.50%	9	76	11.80%	20.00	20.00	0.00%	13.89%
17	47	36.10%	21	68	30.80%	19	76	25.00%	31.00	36.00	6.94%	25.00%
6	11	54.50%	9	15	60.00%	15	17	88.20%	21.00	116.67%	83.33%	100.00%
8	47	17.00%	12	68	17.60%	19	76	25.00%	35.00	38.00	48.61%	26.39%
21	47	44.60%	30	68	44.10%	21	76	27.60%	36.00	43.00	50.00%	29.86%
15	47	31.90%	22	68	32.30%	25	76	32.80%	45.00	45.00	62.50%	31.25%
9	47	19.10%	13	68	19.10%	31	76	40.70%	53.00	73.61%	1.39%	37.50%
23	47	48.90%	35	68	51.40%	31	76	46.00%	48.00	59.50	15.97%	41.33%
7	47	14.80%	9	68	13.20%	35	76	46.00%	63.00	87.50%	5.56%	45.59%
29	47	61.70%	44	68	64.70%	33	76	43.40%	69.00	79.17%	17.36%	48.28%
34	47	72.30%	48	68	70.30%	36	76	47.30%	64.00	70.50	88.89%	48.89%
17	47	36.10%	34	68	50.00%	45	76	59.20%	78.00	75.00%	53.33%	54.17%
32	47	68.00%	50	68	73.50%	35	76	46.00%	60.00	79.50	27.06%	55.21%
28	47	59.50%	45	68	66.10%	38	76	50.00%	60.00	83.33%	30.56%	56.94%
19	47	40.40%	28	68	41.10%	50	76	65.70%	60.00	93.00	45.83%	64.58%
1	1	100.00%	7	15	46.60%	9	17	52.90%	18.00	100.00%	33.33%	66.67%
6	13	46.10%	17	68	25.00%	17	78	21.70%	36.50	36.50	0.00%	25.35%
10	13	76.90%	32	68	47.00%	29	78	37.10%	46.00	63.89%	4.17%	34.03%
8	13	61.50%	43	68	63.20%	32	78	41.1%	53.00	58.00	73.61%	40.26%
11	88	12.50%	25	145	17.20%	9	52	17.30%	21.00	29.17%	0.00%	14.58%
14	88	15.90%	25	145	17.20%	10	52	19.20%	24.00	33.33%	0.00%	16.67%
40	88	45.40%	65	145	44.80%	10	52	19.20%	24.00	31.94%	1.39%	16.67%
11	88	12.50%	15	145	10.30%	11	52	21.10%	25.00	34.72%	0.00%	17.36%
27	88	30.60%	34	145	23.40%	15	52	28.80%	31.00	43.06%	0.00%	21.58%
11	88	12.50%	23	145	15.80%	19	52	36.50%	42.00	56.94%	1.39%	29.17%
18	88	20.40%	30	145	20.60%	19	52	36.50%	42.00	58.33%	0.00%	29.17%

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Incidents in Response Area		Incidents in District Area		Training by Curriculum Topic		Training by Payroll Hours		Training by Payroll Hours		Training by Payroll Hours Attended		Training by Payroll Hours Attended	
Attended	Total	Attended	Total	Attended	Total	Percentage	Percentage	Paid Training Attended	Unpaid Training Attended	Total Attended	Total Offered	Percentage Paid Training	Percentage Unpaid Training
34	88	53	145	19	52	36.50%	42.00	42.00	1.00	42.00	42.00	58.33%	0.00%
27	88	37	145	25	52	25.50%	49.00	49.00	1.00	48.00%	50.00	68.06%	1.39%
54	88	67	145	32	52	48.00%	50.00	50.00	1.00	48.00%	50.00	72.22%	2.78%
27	88	64.70%	87	145	25	48.00%	52.00	52.00	1.00	48.00%	54.00	72.22%	2.78%
41	88	46.50%	66	145	52	51.90%	50.00	50.00	5.00	59.00	59.00	75.00%	6.94%
39	88	44.50%	62	145	28	53.80%	42.70%	56.00	4.00	60.00	60.00	77.76%	5.56%
30	88	34.00%	46	145	32	57.60%	63.00	64.00	1.00	64.00	64.00	87.50%	44.44%
50	88	56.80%	89	145	52	61.50%	65.00	65.00	1.00	65.00	66.00	90.26%	1.39%
20	88	22.70%	32	145	32	63.40%	64.00	64.00	5.00	69.00	69.00	88.69%	6.94%
51	88	57.90%	98	145	52	73.00%	70.00	70.00	5.00	75.00	75.00	97.22%	6.94%
33	88	37.50%	72	145	52	55.10%	74.00	74.00	10.00	84.00	84.00	102.88%	13.89%
26	88	29.50%	122	145	52	60.70%	74.00	74.00	17.00	91.00	91.00	102.88%	13.89%
10	125	8.00%	13	130	6	8.60%	16.00	16.00		16.00	16.00	22.22%	0.00%
6	125	4.80%	7	130	10	14.70%	18.00	18.00		18.00	18.00	25.00%	0.00%
21	125	16.80%	35	130	23	33.80%	21.00	21.00	3.00	24.00	24.00	29.17%	4.17%
10	125	8.00%	19	130	10	14.70%	20.00	20.00	2.00	23.00	23.00	29.17%	4.17%
9	125	7.20%	12	130	6	8.60%	23.50%	32.00	2.00	32.00	32.00	41.67%	2.22%
14	125	11.20%	23	130	17	23.90%	32.00	32.00	2.00	34.50	34.50	45.14%	2.78%
44	125	35.20%	67	130	20	29.40%	41.00	41.00	0.50	41.50	41.50	56.94%	0.69%
28	125	22.40%	49	130	22	32.30%	46.00	46.00		46.00	46.00	65.89%	0.00%
64	125	51.20%	92	130	48	68.60%	37.00	37.00	9.00	46.00	46.00	51.39%	31.94%
23	125	18.40%	42	130	19	27.30%	44.00	44.00	3.00	47.00	47.00	61.11%	4.17%
39	125	31.20%	59	130	25	36.70%	57.50	58.50	1.00	58.50	58.50	79.86%	1.39%
27	125	21.60%	47	130	27	39.70%	69.00	69.00	7.50	65.00	65.00	79.86%	10.42%
34	125	27.20%	50	130	30	44.10%	60.00	66.50	6.50	66.50	66.50	83.33%	9.03%
25	125	20.00%	36	130	18.50%	44.10%	58.00	12.00	12.00	70.00	70.00	80.56%	16.67%
80	125	64.00%	115	130	60.50%	48.50%	59.00	13.00	13.00	72.00	72.00	81.94%	18.06%
68	125	70.40%	144	130	75.70%	47.00%	64.00	8.50	8.50	72.50	72.50	88.69%	11.81%
71	125	56.80%	99	130	52.10%	54.40%	69.00	10.00	10.00	79.00	79.00	95.83%	54.86%
10	125	8.00%	110	130	57.80%	57.30%	69.00	11.00	11.00	80.00	80.00	95.83%	15.26%
74	125	59.20%	113	130	59.40%	50.00%	65.00	17.00	17.00	82.00	82.00	90.28%	56.94%
53	125	42.40%	80	130	42.10%	68.00	65.00	16.50	16.50	84.50	84.50	94.44%	22.92%
63	125	50.40%	86	130	45.20%	52.90%	65.00	19.50	19.50	84.50	84.50	90.28%	58.68%
72	125	57.60%	103	130	52.20%	61.70%	72.00	14.00	14.00	86.00	86.00	100.00%	19.44%
16	108	2.00%	12	146	7	8.20%	21.00	21.00		21.00	21.00	29.17%	0.00%
10	108	1.80%	29	146	14	19.80%	38.00	38.00	8.50	38.50	38.50	53.47%	26.74%
10	108	2.00%	14	146	5	9.50%	27.00	34.00	8.50	42.50	42.50	47.22%	11.81%
48	108	44.40%	61	146	15	25.40%	44.00	44.00		44.00	44.00	61.11%	0.00%
7	108	6.40%	13	146	8.90%	33.80%	48.00	1.00	1.00	49.00	49.00	66.67%	1.39%
16	108	14.80%	29	146	19.80%	27.30%	51.00	6.50	6.50	57.50	57.50	70.83%	39.93%
23	108	23.10%	40	146	27.30%	35.50%	60.00			60.00	60.00	83.33%	0.00%
12	108	11.10%	18	146	12.30%	35.50%	60.00	4.50	4.50	64.50	64.50	85.42%	44.79%
19	108	17.50%	28	146	19.10%	40.60%	61.50	7.00	7.00	71.00	71.00	95.42%	49.31%
57	108	52.70%	78	146	53.40%	54.20%	57.00	20.00	20.00	77.00	77.00	79.17%	53.47%
103	108	95.30%	132	146	90.40%	88.10%	66.00	68.50	68.50	134.50	134.50	91.67%	95.14%
1	1	100.00%	8	81	9.80%	2.30%	9.00			9.00	9.00	12.50%	0.25%
0	1	0.00%	1	81	1.20%	7.30%	15.00	3.00	3.00	18.00	18.00	20.83%	4.17%
0	1	0.00%	2	81	2.40%	4.40%	19.00			19.00	19.00	26.39%	0.00%
0	1	0.00%	2	81	2.40%	8.80%	21.00	3.00	3.00	24.00	24.00	29.17%	4.17%
0	1	0.00%	4	81	4.90%	13.20%	33.00			33.00	33.00	45.83%	0.00%
0	1	100.00%	6	81	7.40%	2.90%	36.00	6.00	6.00	36.00	36.00	50.00%	0.00%
0	1	0.00%	1	81	1.20%	2.90%	42.00			42.00	42.00	58.33%	0.00%
0	1	0.00%	39	81	48.10%	13.10%	36.00	6.00	6.00	42.00	42.00	50.00%	8.53%
0	52	0.00%	0	69	0.00%	0.00%	18.00			18.00	18.00	25.00%	0.00%
3	52	5.70%	4	69	5.70%	13.60%	23.00			23.00	23.00	31.94%	0.00%
7	52	13.40%	9	69	13.00%	19.60%	44.00			44.00	44.00	61.81%	5.95%
24	52	46.10%	29	69	42.00%	33.90%	49.50	4.00	4.00	48.50	48.50	68.06%	6.94%
12	52	23.00%	14	69	20.20%	39.20%	49.00	5.00	5.00	54.00	54.00	69.44%	38.19%
32	52	61.50%	38	69	55.00%	42.80%	52.00	4.50	4.50	56.50	56.50	72.22%	6.25%
24	52	46.10%	28	69	40.50%	48.20%	56.50	1.00	1.00	57.50	57.50	78.47%	1.39%
32	52	61.50%	38	69	55.00%	48.20%	56.50	5.00	5.00	61.50	61.50	78.47%	6.94%
11	52	21.10%	14	69	20.20%	50.00%	56.50	9.00	9.00	65.50	65.50	77.78%	12.50%
34	52	65.30%	40	69	57.90%	57.10%	56.00	5.00	5.00	65.00	65.00	91.67%	45.14%
0	52	0.00%	1	69	1.40%	67.80%	66.00	10.00	10.00	76.00	76.00	91.67%	52.78%
49	52	94.20%	61	69	88.40%	91.00%	73.00	30.50	30.50	103.50	103.50	42.36%	71.88%
0	28	0.00%	0	54	0.00%	0.00%	2.00			2.00	2.00	6.11%	0.00%
0	6	0.00%	3	12	23.00%	33.30%	11.00			11.00	11.00	61.11%	0.00%
0	28	0.00%	18	54	33.30%	6.50%	17.00	3.00	3.00	17.00	17.00	23.61%	11.81%
0	6	0.00%	6	12	50.00%	4.12	33.00	15.00	15.00	16.00	16.00	83.33%	50.00%
2	28	7.10%	24	54	44.40%	26.00%	31.00	1.00	1.00	32.00	32.00	43.06%	22.22%
2	28	7.10%	13	54	24.00%	21.70%	35.00	3.00	3.00	38.00	38.00	48.61%	26.58%

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Incidents in Response Area		Incidents in District Area		Training by Curriculum Topic		Training by Payroll Hours		Training by Payroll Hours Attended		Training by Payroll Hours Attended		Training by Payroll Hours Attended		
Attended	Total	Attended	Total	Attended	Total	Percentage	Total	Paid Training Attended	Unpaid Training Attended	Total Attended	Total Offered	Percentage Paid Training	Percentage Unpaid Training	
5	11	33	49	26	43	60.40%	59.00	59.00	0.00%	59.00	59.00	81.94%	0.00%	
4	11	36.50%	49	28.50%	43	60.40%	56.50	6.00	62.50	62.50	78.47%	8.33%	43.40%	
5	11	43.40%	25	49	51.00%	24	43	55.80%	62.50	62.50	62.50	82.64%	4.17%	48.40%
6	11	36.50%	22	49	44.80%	28	43	65.10%	66.50	66.50	66.50	92.36%	0.00%	46.18%
7	11	63.60%	37	49	75.50%	32	43	74.40%	68.00	68.00	68.00	94.44%	0.00%	47.23%
0	2	0.00%	0	1	0.00%	5	8	62.50%	65.50	71.50	71.50	90.97%	8.33%	49.65%
4	15	26.60%	5	15	33.30%	13	26	50.00%	36.00	39.00	39.00	50.00%	0.00%	41.67%
9	15	60.00%	9	15	60.00%	12	26	46.10%	42.00	42.00	42.00	58.33%	0.00%	27.08%
1	15	33.30%	1	15	33.30%	13	26	50.00%	38.50	44.50	44.50	53.47%	8.33%	30.60%
1	15	6.60%	1	15	6.60%	14	26	53.80%	42.00	45.00	45.00	58.33%	4.17%	31.55%
6	15	40.00%	6	15	40.00%	17	26	65.30%	41.00	50.00	50.00	61.11%	8.33%	34.72%
10	15	66.60%	11	15	73.30%	21	26	80.70%	56.50	56.50	56.50	78.47%	0.00%	39.28%
5	15	33.30%	5	15	33.30%	20	26	76.90%	60.00	60.00	60.00	83.33%	0.00%	41.67%
10	15	66.60%	11	15	73.30%	21	26	80.70%	57.00	63.00	63.00	79.17%	8.33%	48.75%
6	15	40.00%	6	15	40.00%	23	26	88.40%	62.50	65.50	65.50	86.81%	4.17%	45.49%
0	11	0.00%	0	16	0.00%	3	7	42.80%	9.00	9.00	9.00	50.00%	0.00%	25.00%
7	43	16.20%	10	57	17.50%	4	28	14.20%	12.00	12.00	12.00	16.67%	0.00%	8.33%
3	43	6.90%	3	57	5.20%	6	28	21.40%	18.00	18.00	18.00	25.00%	0.00%	12.50%
4	11	36.50%	5	16	31.20%	6	7	85.70%	18.00	18.00	18.00	25.00%	0.00%	12.50%
15	43	34.80%	18	57	31.50%	12	28	42.80%	35.00	35.00	35.00	48.61%	0.00%	24.31%
13	43	30.20%	19	57	33.30%	16	28	57.10%	51.00	51.00	51.00	70.83%	0.00%	35.42%
10	43	23.20%	14	57	24.50%	18	28	64.20%	56.00	56.00	56.00	70.83%	6.98%	38.89%
21	43	48.80%	28	57	49.10%	18	28	64.20%	57.00	57.00	57.00	79.17%	0.00%	39.58%
16	43	37.20%	20	57	35.00%	21	28	75.00%	60.00	63.00	63.00	83.33%	4.17%	48.75%
26	43	60.40%	33	57	57.80%	21	28	75.00%	66.00	69.00	69.00	91.67%	4.17%	47.92%
12	43	27.90%	17	57	29.80%	23	28	82.10%	66.00	72.00	72.00	91.67%	8.33%	50.00%
39	43	90.60%	49	57	85.90%	23	28	82.10%	69.00	72.00	72.00	95.83%	4.17%	50.00%
25	43	58.10%	32	57	56.10%	24	28	85.70%	72.00	75.00	75.00	100.00%	4.17%	52.08%
32	43	74.40%	43	57	75.40%	22	28	78.50%	69.00	75.00	75.00	95.83%	8.33%	52.08%
33	43	76.70%	42	57	73.60%	23	28	82.10%	75.00	78.00	78.00	104.17%	4.17%	54.17%
39	43	90.60%	50	57	87.70%	24	28	85.70%	72.00	79.00	79.00	100.00%	9.73%	54.66%
2	31	6.40%	5	47	10.60%	2	23	8.60%	6.00	6.00	6.00	8.33%	0.00%	4.17%
11	31	35.40%	13	47	27.60%	2	23	8.60%	6.00	6.00	6.00	8.33%	0.00%	4.17%
3	31	9.60%	5	47	10.60%	3	23	12.00%	7.00	7.00	7.00	9.72%	0.00%	4.88%
6	31	19.30%	11	47	23.40%	3	25	12.00%	12.00	12.00	12.00	16.67%	0.00%	8.33%
5	31	16.10%	6	47	12.70%	5	25	20.00%	15.00	15.00	15.00	20.83%	0.00%	10.42%
4	7	57.10%	5	13	38.40%	6	7	85.70%	18.00	18.00	18.00	100.00%	0.00%	50.00%
5	7	71.40%	6	13	46.10%	6	7	85.70%	18.00	18.00	18.00	100.00%	0.00%	50.00%
0	31	0.00%	0	47	0.00%	9	25	36.00%	30.00	30.00	30.00	41.67%	0.00%	20.83%
1	31	3.20%	1	47	2.10%	11	25	44.00%	36.00	36.00	36.00	50.00%	0.00%	25.00%
10	31	32.20%	14	47	29.70%	12	25	48.00%	39.00	39.00	39.00	54.17%	0.00%	27.08%
16	31	51.60%	21	47	44.60%	12	25	48.00%	39.00	39.00	39.00	54.17%	0.00%	27.08%
14	31	45.10%	18	47	38.20%	14	25	56.00%	45.00	45.00	45.00	62.50%	0.00%	31.25%
18	31	58.00%	20	47	42.50%	15	25	60.00%	48.00	48.00	48.00	66.67%	0.00%	33.33%
19	31	61.20%	26	47	55.30%	15	25	60.00%	45.00	48.00	48.00	62.50%	4.17%	33.33%
9	31	29.00%	10	47	21.20%	16	25	64.00%	51.00	51.00	51.00	70.83%	0.00%	35.42%
31	31	29.00%	12	47	25.50%	17	25	68.00%	54.00	54.00	54.00	75.00%	0.00%	37.50%
28	31	90.30%	35	47	74.40%	24	25	96.00%	72.00	76.00	76.00	100.00%	5.96%	52.78%

Training by Payroll Hours Attended calculates the percentage of paid and total training attended against the paid and total available training hours.
72 paid hours and 144 total hours.

Training by Payroll Hours measures the number of hours a firefighter attended for Paid Training/Unpaid Training and provides a total of those hours

Training by Curriculum Topic measures the number of training topics a firefighter attended against the total number of training topics delivered in their assigned station.

Incidents in Response Area measures the number of incidents a firefighter attended in their assigned station against the total number of incidents the station was dispatched to in it's

Incidents in District Area measures the number of incidents a firefighter attended in their assigned district against the total number of incidents the station was dispatched to in it's

90th Percentile

Total Training	56.46%
Paid Training	96.11%
Unpaid Training	23.61%
Training Curriculum	77.22%
Incidents in District	62.71%
Incidents in Response Area	64.94%

90th Percentile means 90 percent of all volunteers achieved at / or below the value stated. *For example, if the value is 56.46%, then 90% of all volunteers achieved at / or below 56.46%*

Average

Total Training	37.31%
Paid Training	66.23%
Unpaid Training	8.83%
Training Curriculum	44.81%
Incidents in District	35.74%
Incidents in Response Area	34.49%

Average is the average for each category . *For example, the average of total training is 37.31%*

Mean Average
minus top 5% and bottom 5%

Total Training	36.80%
Paid Training	66.87%
Unpaid Training	6.92%
Training Curriculum	44.62%
Incidents in District	35.03%
Incidents in Response Area	33.29%

Mean Average minus top 5% and bottom 5% is the average for each category with the lowest 5% and the highest 5% removed when sorted lowest to highest. *For example, out of 260 rows the bottom 13 scoring and the top 13 scoring rows have been removed then the remaining rows averaged*

Attendance 60%

Attendance 60.00%
 Number of VFF's 6.00
 Percent of VFF's 2.31%

Attendance 50%

Attendance 50.00%
 Number of VFF's 34.00
 Percent of VFF's 13.08%

Attendance 40%

Attendance 40.00%
 Number of VFF's 73.00
 Percent of VFF's 28.08%

Attendance 30%

Attendance 30.00%
 Number of VFF's 124.00
 Percent of VFF's 47.69%

Attendance 20%

Attendance 20.00%
 Number of VFF's 183.00
 Percent of VFF's 70.38%

Attendance % gives the number of volunteer firefighters that achieve the percentage shown in both incident attendance and total training. The percent of total volunteer firefighters this represents is shown as well.
For example, at a 60% attendance requirement, 6 volunteer firefighters meet this threshold and this represents 2.31% of all volunteer firefighters.

Attendance = Productivity

Average Attendance Value Chart is a visual description of Volunteer Firefighter combined average attendance at incidents and training. Shown are the 90% and 60% attendance thresholds and the average number of Volunteer Firefighters (VFF) who achieve at or below the threshold.

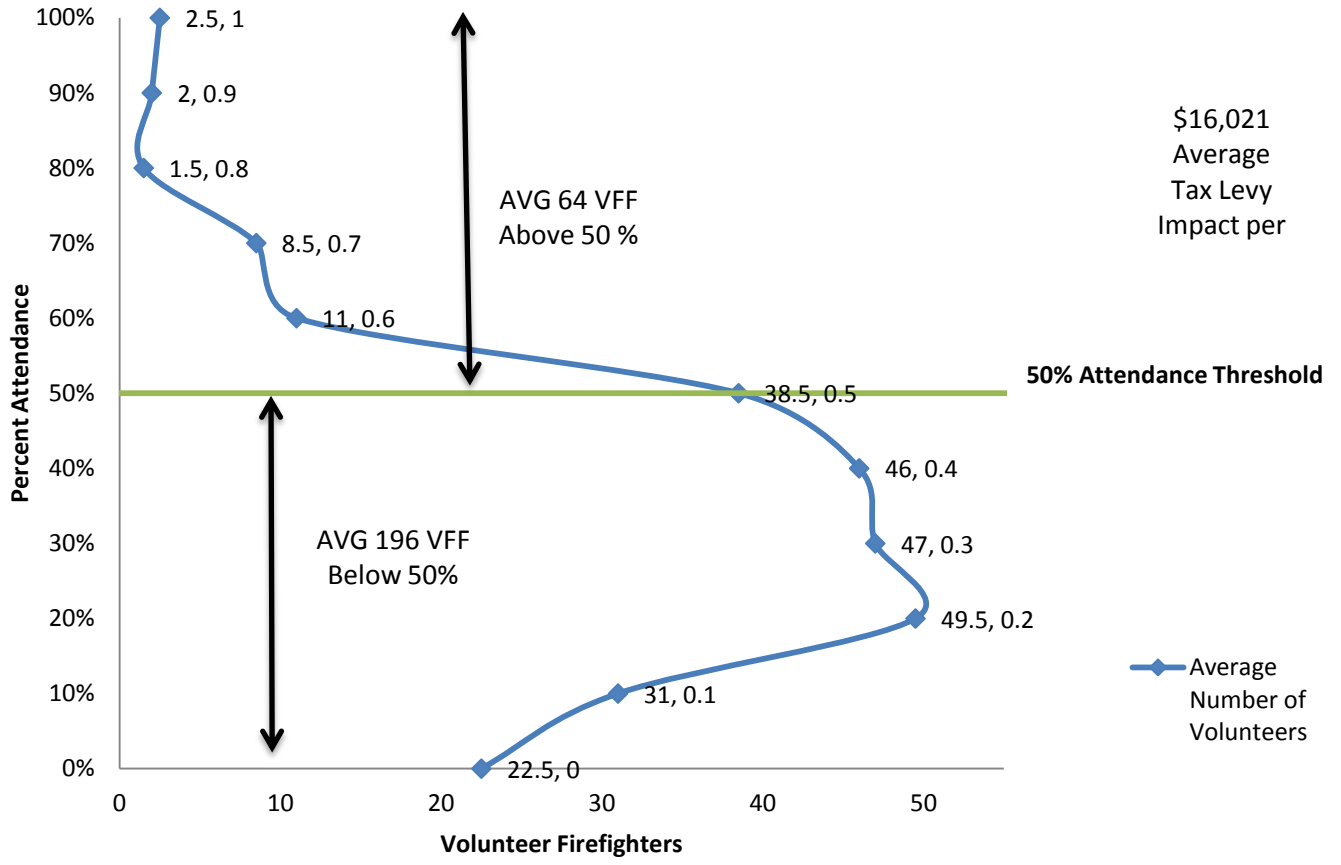
Average cost on the tax levy per Volunteer Firefighter is \$16,021. This cost includes all resources such as - wages / equipment / vehicles / stations

*For example, at \$16,021
 For 350 Volunteer Firefighters the budget is \$5,608,373
 For 260 Volunteer Firefighters the actual is \$4,166,240*

*If 26 VFF's achieve above 60% the cost is \$416,624
 If 234 VFF's achieve below 60% the cost of the lost productivity is \$3,749,616*

90% Normal Attendance Threshold is calculated as follows [288 working days - (12 paid vacation days + 18 sick days) / 288]

Average Attendance Value Chart



Attendance = Productivity

Average Attendance Value Chart is a visual description of Volunteer Firefighter combined average attendance at incidents and training. Shown are the 90% and 60% attendance thresholds and the average number of Volunteer Firefighters (VFF) who achieve at or below the threshold.

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Additional Annual Cost to Meet Attendance Threshold (per 16FF)

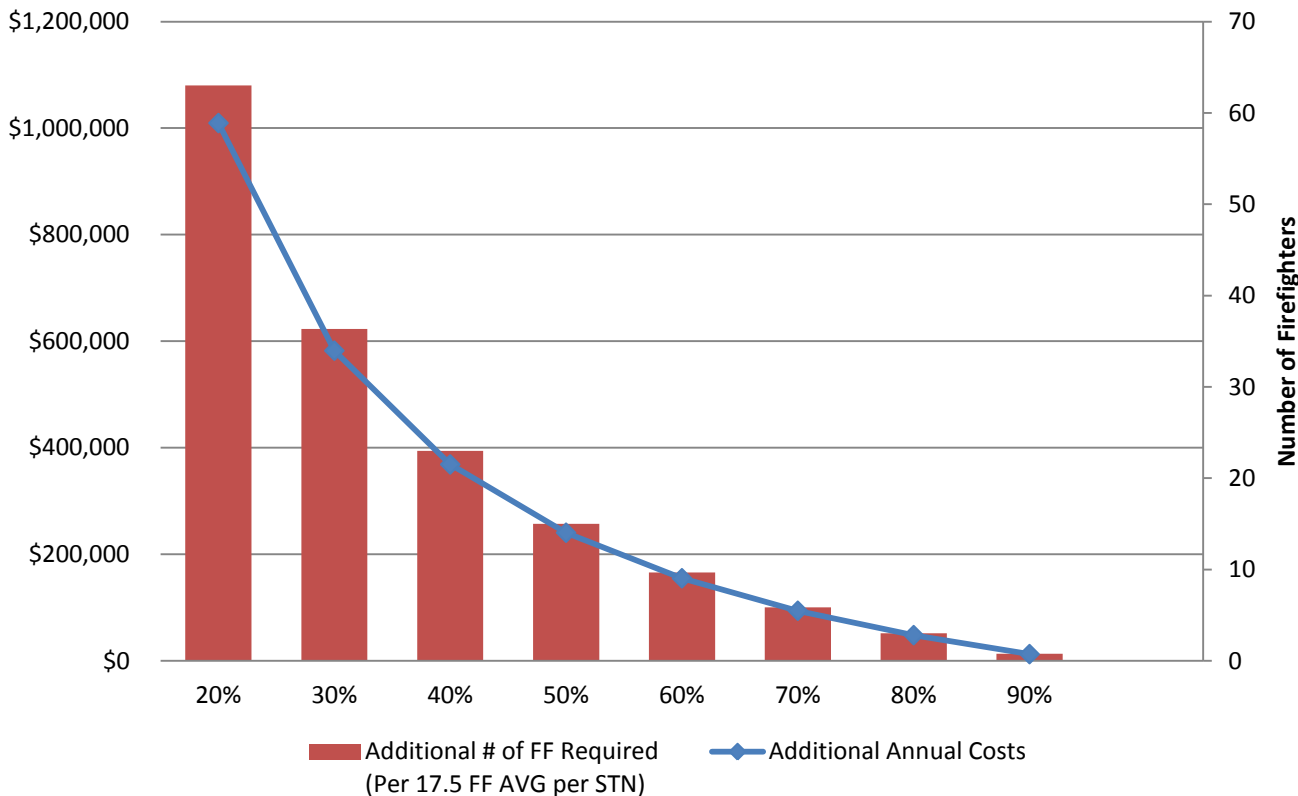
Average Percentage of Attendance (Training & Incidents)	Number of FF needed to meet minimum response capability (per 16 FF)	Additional # of FF Required (per 16 FF)	Total Additional Annual Costs to Meet Attendance Threshold (per 16 FF)	Total Number of Additional Volunteers (all stations)	Total Additional Costs (all stations)	Total Number of Additional Career (all stations)
20	80	64	\$ 1,025,531	1280	\$ 20,510,621	149
30	53	37	\$ 598,226	747	\$ 11,964,529	87
40	40	24	\$ 384,574	480	\$ 7,691,483	56
50	32	16	\$ 256,383	320	\$ 5,127,655	37
60	27	11	\$ 170,922	213	\$ 3,418,437	25
70	23	7	\$ 109,878	137	\$ 2,197,567	16
80	20	4	\$ 64,096	80	\$ 1,281,914	9
90	18	2	\$ 28,487	36	\$ 569,739	4
100	16	0	\$ -	0	\$ -	0

- 16 - Minimum number of FF needed to meet minimum response capability
- \$5,608,373 - Total annual cost for volunteer services
- \$16,024 - Average cost per volunteer
- 20 - Total number of volunteer stations
- \$137,198 - Average cost per career firefighters

Additional Annual Costs to Meet Attendance Threshold is a visual description of the additional costs to meet the minimum response requirement of 16 Firefighters per incident.

For example, at a 20% attendance threshold there is \$1,001,495 required to staff 63 additional Volunteer Firefighters in order to achieve a minimum of 16 Firefighters attending at an incident.

Additional Firefighters Required is calculated as follows $[(16 / \text{Average Percent of Attendance}) - 17]$ 17 is the budgeted average number of Volunteer Firefighters per station.



2016 First Truck Response Times

Fire Beat	Percent response Less than or equal 6 MIN	Percent response Less than or equal 9 MIN	Percent response Greater than 9 MIN	First Arriving Truck Average # FF
1 – Van Horne	62.00%	74.60%	25.40%	4.0
2 – Minnow Lake	71.20%	90.60%	9.40%	4.0
3 – New Sudbury	70.70%	86.90%	13.10%	4.0
4 – Long Lake	63.20%	82.50%	17.50%	4.0
AVERAGE	66.78%	83.65%	16.35%	4.0
5 – Copper Cliff	29.70%	62.90%	37.10%	2.6
6 – Waters	11.00%	36.70%	63.30%	3.4
7 – Lively	28.00%	68.50%	31.50%	3.3
8 – Whitefish	4.10%	14.30%	85.70%	3.1
9 – Beaver Lake	0.00%	12.40%	87.60%	1.4
10 – Azilda	8.90%	45.10%	54.90%	3.3
11 – Chelmsford	12.80%	50.90%	49.10%	4.7
12 – Dowling	26.20%	56.20%	43.80%	2.2
13 – Vermillion	0.00%	0.00%	100.00%	1.4
14 – Levack	14.10%	49.70%	50.30%	3.1
15 – Val Caron	52.30%	77.40%	22.60%	2.3
16 – Val Therese	59.40%	81.50%	18.50%	2.4
17 – Hanmer	38.40%	75.60%	24.40%	2.2
18 – Capreol	28.00%	68.60%	31.40%	2.6
20 – Garson	23.70%	74.00%	26.00%	3.6
21 – Falconbridge	41.60%	83.10%	16.90%	2.6
22 – Skead	23.20%	46.60%	53.40%	1.8
23 – Coniston	38.60%	77.00%	23.00%	3.3
24 – Wahnapiatae	19.90%	63.20%	36.80%	2.8
AVERAGE	24.21%	54.93%	45.07%	2.7

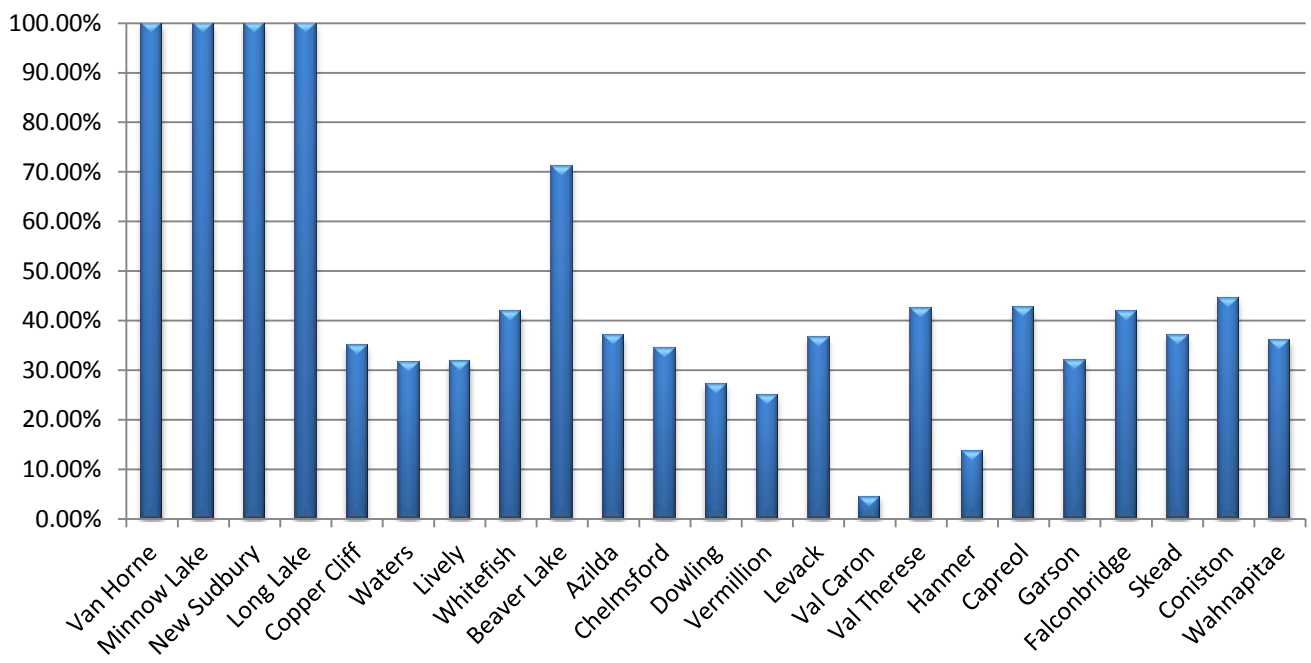
Firefighter Attendance Summary

	Station	# of calls	# of Firefighters	Average Incident Attendance (Station)	Average Incident Attendance (District)	Average Paid Training Attendance	Average Unpaid Training Attendance	Average Overall Training
1	Van Horne*	1569	47	100.00%	100.00%	100.00%	n/a	100.00%
2	Minnow Lake*	377	16	100.00%	100.00%	100.00%	n/a	100.00%
3	New Sudbury*	610	16	100.00%	100.00%	100.00%	n/a	100.00%
4	Long Lake*	590	16	100.00%	100.00%	100.00%	n/a	100.00%
5	Copper Cliff	12	10	34.97%	34.95%	45.14%	4.44%	24.79%
6	Waters	87	18	31.53%	30.88%	63.35%	6.33%	33.68%
7	Lively	64	15	31.67%	35.67%	69.91%	12.87%	41.39%
8	Whitefish	47	15	41.74%	43.66%	71.30%	19.35%	45.32%
9	Beaver Lake	13	4	71.13%	45.45%	72.05%	11.11%	41.58%
10	Azilda	88	18	37.02%	37.54%	67.13%	4.09%	35.61%
11	Chelmsford	125	22	34.47%	34.43%	67.96%	9.97%	38.97%
12	Dowling	108	11	27.14%	28.22%	68.31%	14.96%	41.64%
13	Vermillion	1	8	25.00%	9.68%	36.63%	2.08%	19.36%
14	Levack	52	12	36.49%	33.28%	68.75%	9.34%	39.05%
15	Val Caron	28	11	4.52%	31.55%	57.70%	6.00%	31.85%
16	Val Therese**	385	13	42.42%	44.43%	58.17%	10.95%	34.56%
17	Hanmer	29	14	13.59%	31.31%	58.53%	11.01%	34.77%
18	Capreol	45	16	42.51%	37.68%	82.47%	10.20%	46.33%
20	Garson	118	18	31.97%	32.47%	78.90%	19.95%	49.42%
21	Falconbridge	11	10	41.77%	50.36%	76.53%	2.08%	39.31%
22	Skead	15	11	36.94%	39.37%	69.76%	3.41%	36.58%
23	Coniston	43	16	44.52%	43.35%	71.79%	3.39%	37.59%
24	Wahnapiatae	31	18	35.95%	30.18%	53.55%	0.54%	27.04%
	Total	4448	355					
			Average (all stations)	46.32%	46.72%	71.21%	8.53%	47.78%
			Average (volunteer stations)	35.02%	35.50%	65.15%	8.53%	36.78%

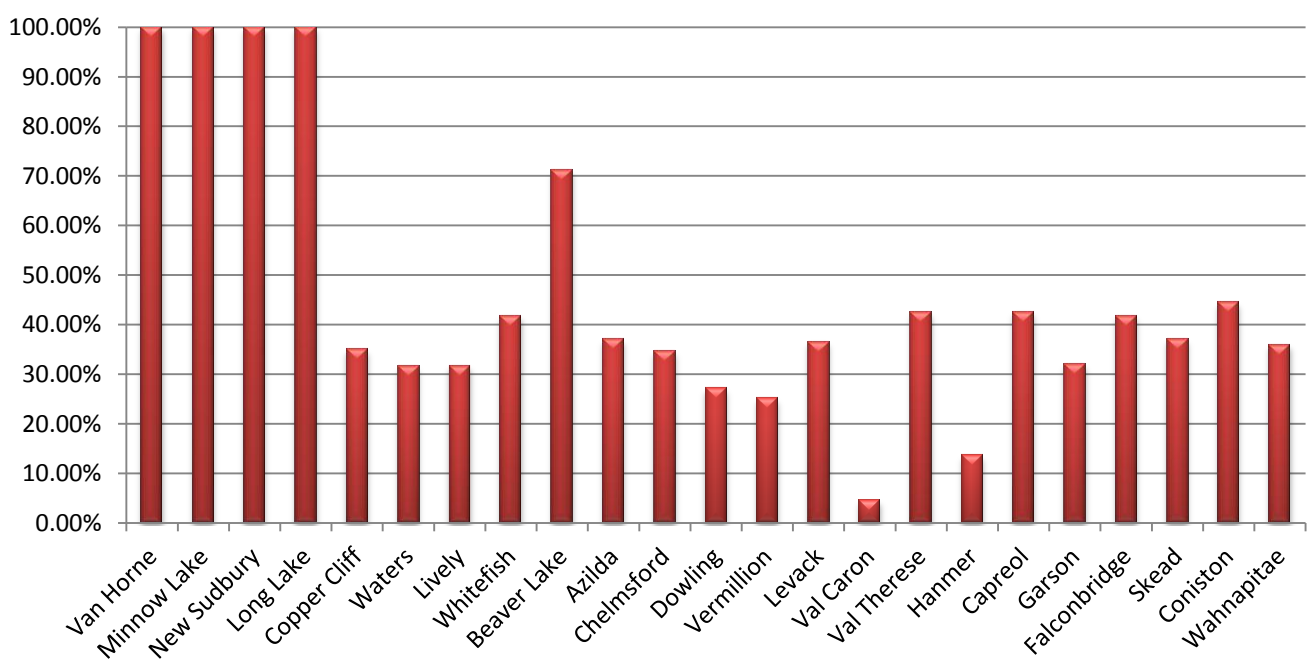
*Career station

** Composite station

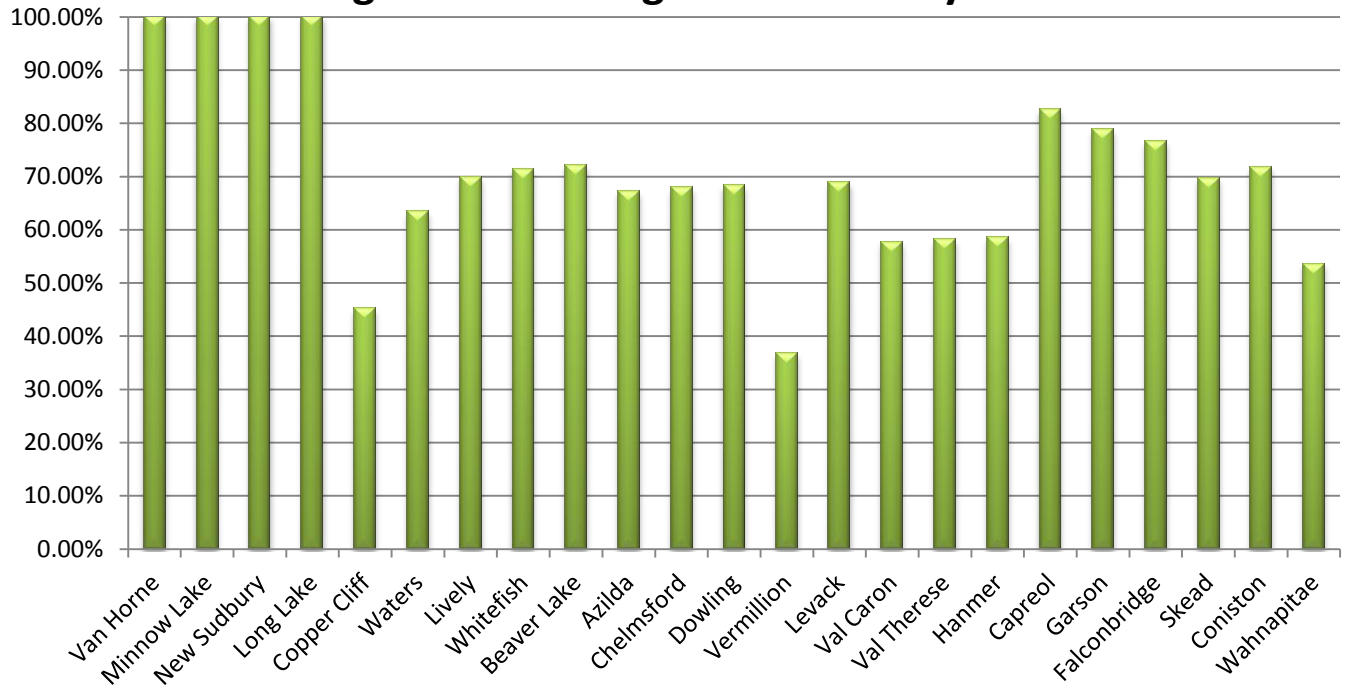
Average Fire Beat Incident Attendance by Station



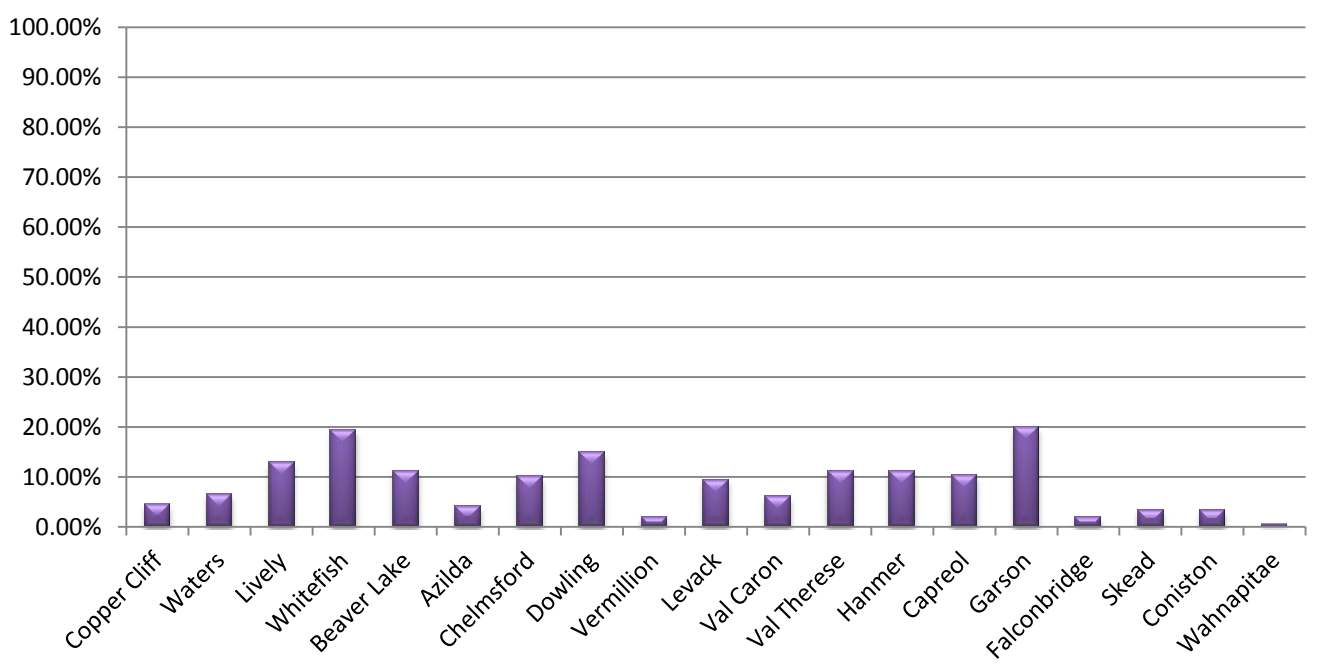
Average District Incident Attendance by Station



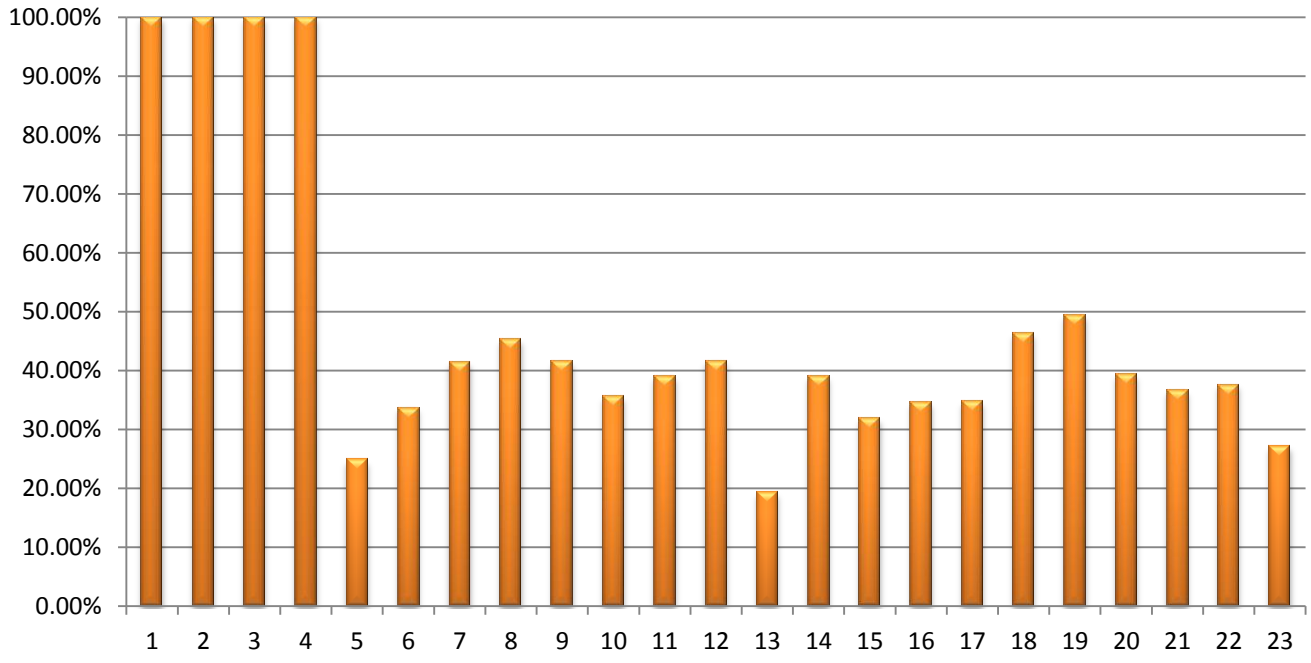
Average Paid Training Attendance by Station



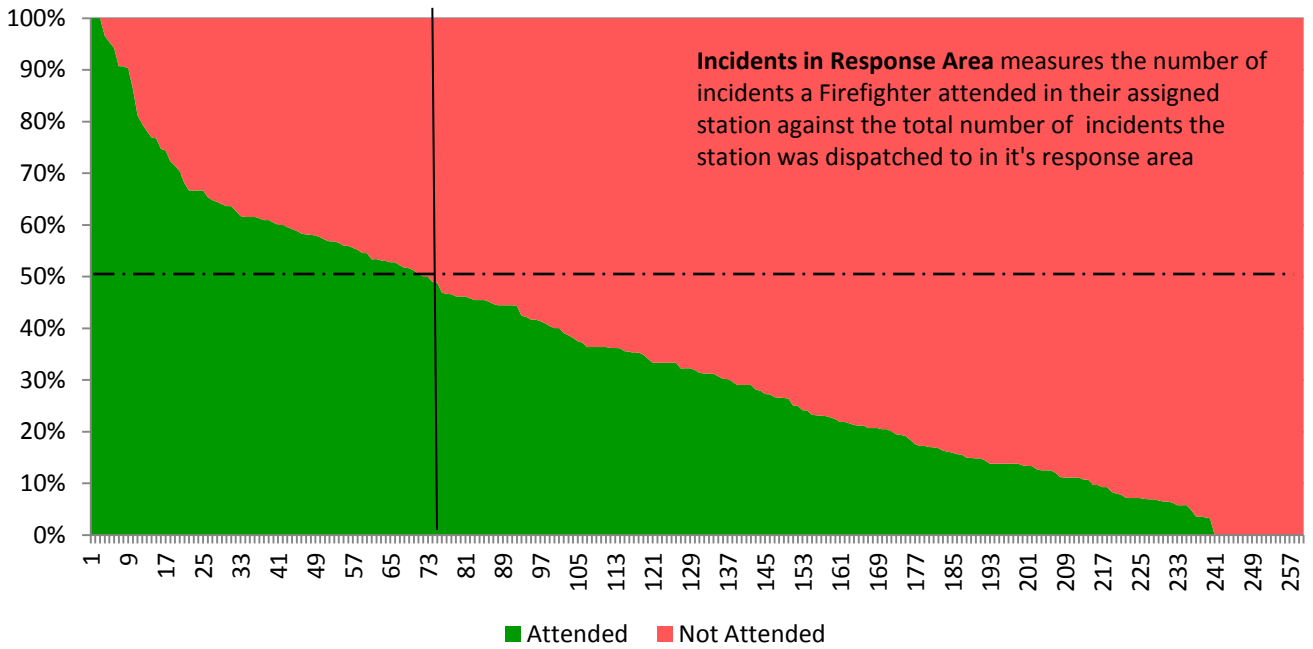
Average Unpaid Training Attendance



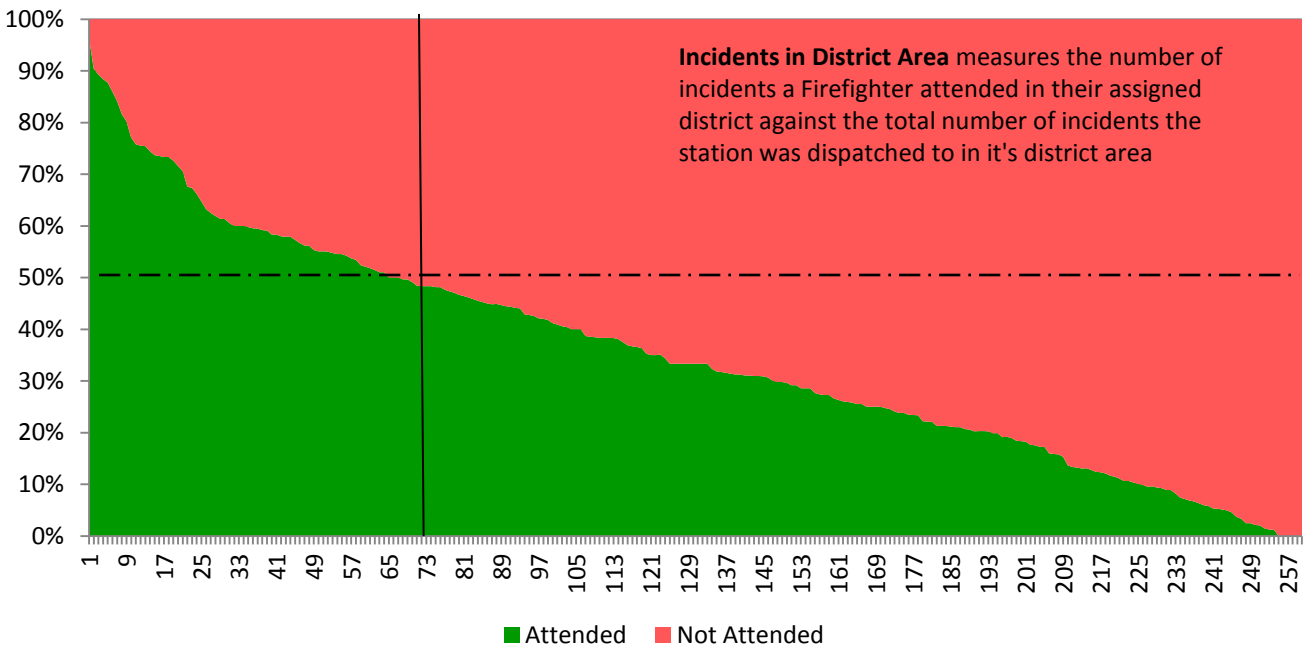
Average Overall Training Attendance by Station



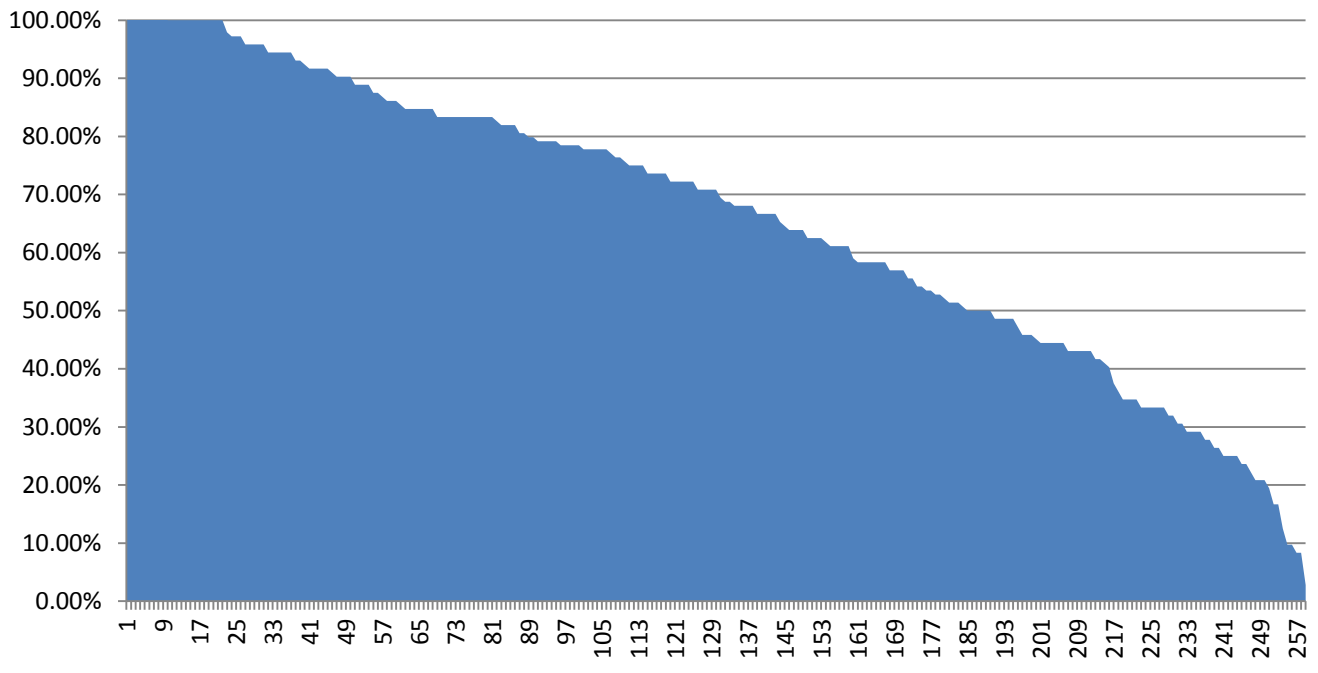
Incident Attendance in Response Area



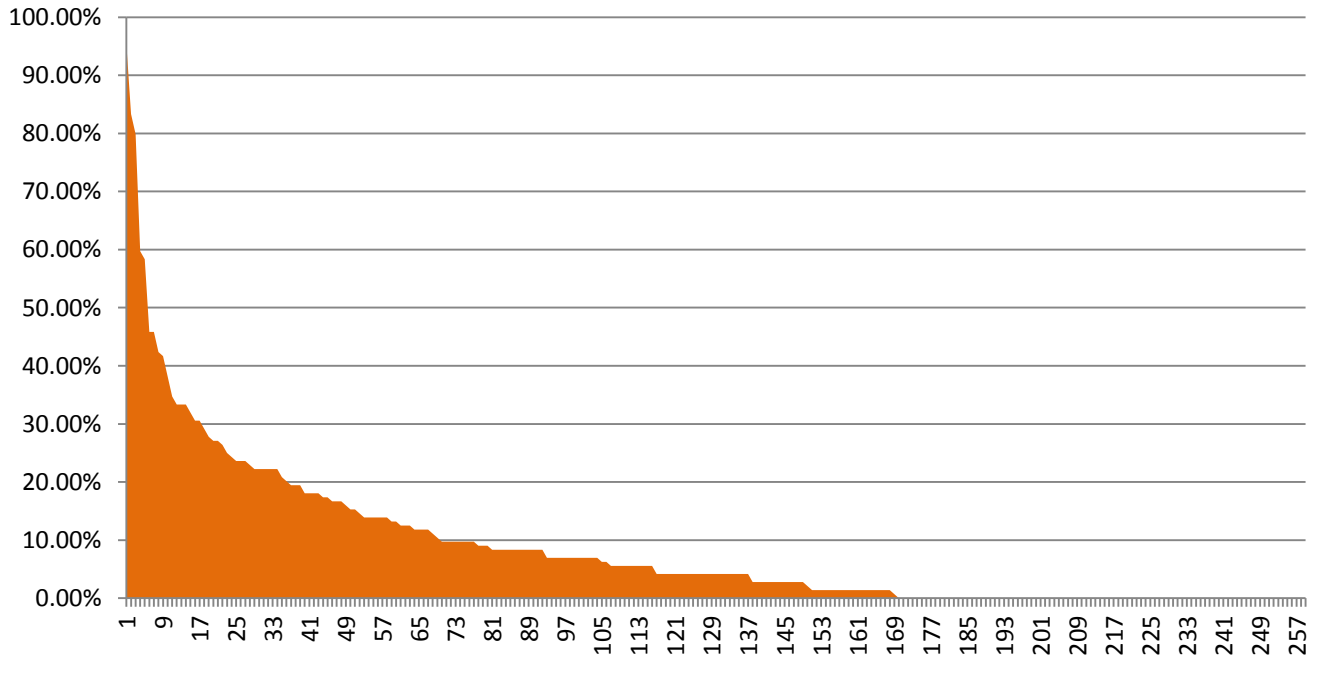
Incident Attendance in District Area



Volunteer Firefighter Paid Training Attendance



Volunteer Firefighter Unpaid Training Attendance



Fire Optimization Study

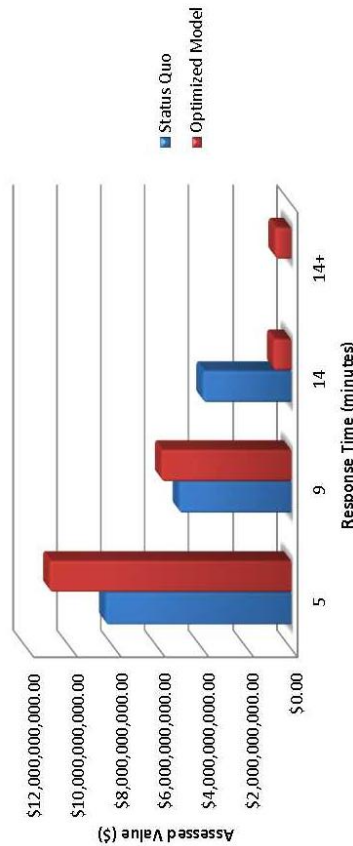
Fire Protection Coverage by Drive time (reaction time), Fire Protection Type, and Optimization Options (Status Quo, 6A, 6C)

Fire Response Times	5:20		9:00		14:00		Coverage beyond 14 minutes		Total Coverage	
	% properties covered	\$ Assessed Value	% properties covered	\$ Assessed Value	% properties covered	\$ Assessed Value	% properties covered	\$ Assessed Value	% properties covered	\$ Assessed Value
Status Quo										
Career	35%	\$ 7,487,885,102.00	13%	\$ 2,940,199,260.00	0%	\$ 2,283,322,500.00	0%	\$ -	61%	\$ 12,711,406,862.00
Composite	5%	\$ 849,823,700.00	7%	\$ 1,052,303,667.00	2%	\$ 385,476,200.00	0%	\$ -	15%	\$ 2,287,603,567.00
Volunteer	1%	\$ 85,491,900.00	8%	\$ 1,080,308,500.00	9%	\$ 1,322,024,400.00	0%	\$ -	18%	\$ 2,487,824,800.00
Beyond 14 minutes	0%	\$ -	0%	\$ -	0%	\$ -	6%	\$ 936,422,600.00	6%	\$ 936,422,600.00
Total	42%	\$8,423,200,702.00	27%	\$5,072,811,427.00	25%	\$3,990,823,100.00	6%	\$936,422,600.00	100%	\$18,423,257,829.00
Optimized Model										
Career/Composite	53%	\$ 10,985,206,224.00	27%	\$ 4,646,109,405.00	3%	\$ 544,176,600.00	0%	\$ -	83%	\$ 16,175,492,229.00
Volunteer	0%	\$ -	10%	\$ 1,237,745,000.00	2%	\$ 272,164,400.00	0%	\$ -	12%	\$ 1,509,909,400.00
Beyond 14 minutes	0%	\$ -	0%	\$ -	0%	\$ -	5%	\$ 737,856,200.00	5%	\$ 737,856,200.00
Total	53%	\$10,985,206,224.00	37%	\$5,883,854,405.00	5%	\$816,341,000.00	5%	\$737,856,200.00	100%	\$18,423,257,829.00

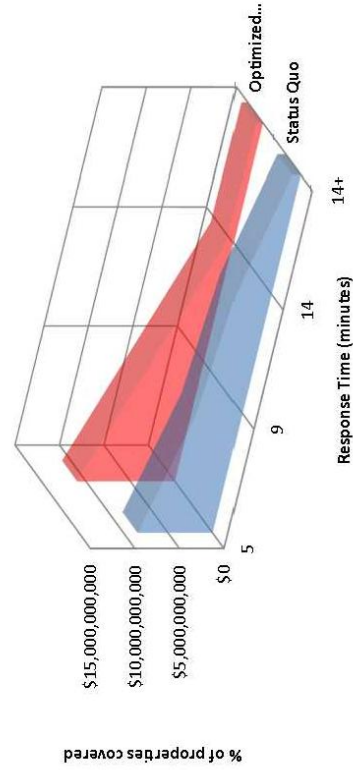
Source: Drive time and options: Data compiled from the Geographic Information Systems Section (Planning Services), Fire Services, City of Greater Sudbury
 Assessed Value: Real Property Tax Analytics (RPTA), as of August 3, 2016

2-Nov-16

Assessed Value by Fire Protection Type and Response Time



Assessed Value Covered by Fire Protection Type and Response Time



	Greater Sudbury	Thunder Bay	Barrie	Burlington	Chatham-Kent	Hamilton	Kingston	London*	Mississauga	Niagara Falls	Ottawa	Richmond Hill	Windsor
Population (2016 Census)	161,531	107,909	141,434	183,314	101,047	536,917	123,798	383,822	721,999	88,071	934,243	195,022	217,188
Land Area (sq. km)	3,227	329	77	186	2,458	1,117	451	421	292	210	2,790	101	146
Population Density/per sq. km	50	328	1,428	987	41	481	274	420	247	420	335	101	1,484
Private Dwellings (2016 Census)	75,029	50,388	54,227	77,595	46,103	227,918	59,977	175,558	248,469	37,265	395,985	66,465	97,777
Assessment Value of Community (2015 Roll For)	18,423,059,084	10,051,683,101	17,751,974,919	36,496,958,692	11,754,219,209	66,098,654,968	17,220,386,872	42,720,473,933	143,237,342,101	10,669,766,440	117,274,440,926	45,077,459,945	16,626,357,049
Commercial Assessment	1,891,510,113	1,359,443,177	2,503,294,984	4,580,640,513	862,643,254	5,661,361,141	2,231,543,006	4,281,770,546	25,121,448,169	2,477,973,204	25,054,629,518	3,580,721,294	2,523,221,726
Industrial Assessment	453,693,866	128,639,106	336,399,663	985,927,237	124,782,030	1,082,527,718	158,890,185	409,619,701	5,298,110,827	102,076,929	1,377,247,364	605,504,331	518,622,895
Staffing													
Fire Chief	1	1	1	1	1	1	1	1	1	1	1	1	1
Deputy Chief	2	2	3	2	3	8	3	3	4	2	8	2	3
Prevention	9	8	8	9	4	24	8	20	40	8	39	9	12
Training	3	3	5	3	1	7	4	6	9	3	13	3	3
Suppression - Full Time Career	108	132	144	172	65	468	120	340	616	116	864	140	259
Suppression - Volunteer	350	-	342	65	270	270	151	-	-	104	517	-	-
Administration	5	5	5	5	3	7	3	3	12	3	22	3	8
Communications (FT)	-	-	12	9	13	10	10	12	18	5	24	13	12
Mechanical	2	2	-	3	-	12	3	7	13	-	5	1	5
# of Emergency Responses (2014 / 2013*)	4,305	7870*	7,960	7,092	2,504	26,352	n/a	6,850	23,394	n/a	n/a	4,936	5,394
Number of Stations	24	8	5	8	19	27	10	14	20	6	45	6	7
Core Services													
Hazardous Materials (HazMat)	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Water Rescue	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ice Rescue	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Urban Search and Rescue (USAR)	no	no	no	no	no	no	no	no	no	no	no	no	no
Fire Suppression	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Confined Space Rescue	no	Yes	Yes	Yes	no	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
High Angle Rescue	no	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Auto Extrication	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Emergency Medical Responses	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vehicles													
Pumper	24	11	8	8	22	23	25	14	30		47	6	9
Tankers	10	1	1	1	16	11	6	3	1	1	27	3	3
CAFS System	-	3	-	-	-	-	-	-	-	-	-	-	-
Elevating Device	5	2	4	4	7	9	4	7	10		21	3	4
Rescue Unit	12	2	1	3	19	5	4	1	11		8	2	1
HazMat	1	2	1	1	1	2	4	1	1		1	1	2
Mobile Command Post	1	1	1	1	2	1	2	-	1		1	1	1
Rehab	-	-	-	1	-	-	-	-	2		-	-	-
Density													
Career firefighters per capita	1,496	562	982	1,066	1,564	1,147	1,032	1,129	1,171	759	1,081	1,393	859
Career Firefighter by geography	29.9	1.7	3.8	0.5	2.4	2.4	3.8	1.2	0.5	1.8	3.2	0.7	0.6
All Firefighters by geography	7.05	1.71	0.53	0.78	6.04	1.51	1.66	1.24	0.47	0.95	2.02	0.72	0.56
Career firefighter by dwellings	695	262	377	422	709	487	500	516	403	321	458	475	378
Career firefighter to MPAC Assessment	\$ 170,583,880	\$ 52,249,391	\$ 123,347,034	\$ 212,191,620	\$ 180,834,142	\$ 141,236,442	\$ 143,503,224	\$ 125,648,453	\$ 232,528,153	\$ 91,980,745	\$ 135,734,307	\$ 321,981,857	\$ 64,566,630

*Source - Office of the Fire Marshal and Emergency Management Community Profile
 *Kerawatha Lakes provides 95% of fire suppression (remaining 5% provided by Bracebridge, Scugog, Twp of Selwyn)
 London Fire Department provides 96% of fire suppression (remaining provided by Central Elgin)

Station	Station Characteristics				Staffing				Costs						Fire Underwriters Survey (FUS) Rating					
	Station #	Location		# of Calls (2016)	Admin	Career	Volunteer			2016 Total Operating Costs	Total Est. Capital Replacement Costs	Presumptive Legislation Liability Recommended Annual Contribution to Reserve (funded and unfunded)	Cost to Maintain Stations (unfunded)	Total Annual Cost	2016 Average Cost per call	Dwelling Protection Grade (DPG)			Public Fire Protection Classification (PFFC)	
		Address	Fire District				Age	Budget	Actual							2016 First Call District Incident Attendance	2016 Training Attendance	Single Residential in Hydrant Area (HRA)		Single Residential Non Hydrant Area (SPA)
Van Horne	1	193 Van Horne Street Sudbury, ON	1	41	1,569	-	47	-	100%	100%	6,602,546	3,295,788	145,256	2,237,000	7,061,204	4,500	1	4	4	N/A
Minnow Lake	2	144 Second Avenue Sudbury, ON	1	33	377	-	16	-	100%	100%	2,282,117	1,102,303	50,207	695,000	2,431,270	6,449	1	4	4	N/A
New Sudbury	3	1190 Leon Street Sudbury, ON	1	42	610	-	16	-	100%	100%	2,282,118	2,163,410	50,207	780,000	2,498,721	4,096	1	4	4	N/A
Long Lake	4	2069 Long Lake Road Sudbury, ON	1	39	590	-	16	-	100%	100%	2,282,118	3,082,203	50,207	1,014,000	2,573,154	4,361	1	4	4	N/A
Copper Cliff	5	7 Serpentine Copper Cliff, ON	1	43	12	-	16	10	35.0%	45.1%	48,591	1,234,917	45,318	739,000	236,173	19,681	3A	4	5	N/A
Waters	6	25 Black Lake Road Lively, ON	2	47	87	-	20	18	30.9%	63.3%	83,182	1,700,275	56,647	947,000	328,635	3,777	3A	4	5	N/A
Lively	7	229 Ninth Street Lively, ON	2	66	64	-	18	15	35.7%	69.9%	75,230	719,506	50,982	367,000	202,597	3,166	3A	4	5	N/A
Whitefish	8	4895 Municipal Road Whitefish, ON	2	37	47	-	20	15	43.7%	71.3%	83,182	1,570,752	56,647	931,000	319,887	6,806	3A	3B	5	N/A
Beaver Lake	9	7535 Highway 17 Worthington, ON	2	39	13	-	10	4	45.5%	72.0%	42,238	754,760	28,323	528,000	165,062	12,697	N/A	4	N/A	9
Azilda	10	239 Montee Principale Azilda, ON	3	46	88	-	18	18	37.5%	67.1%	76,404	1,219,588	50,982	253,339	220,210	2,502	3A	3B	5	N/A
Chelmsford	11	3400 Highway 144 Chelmsford, ON	3	46	125	-	20	22	34.4%	68.0%	84,479	2,281,370	56,647	834,000	350,939	2,808	3A	3B	5	N/A
Dowling	12	65 Highway 144 Dowling, ON	3	46	108	-	20	11	28.2%	68.3%	84,483	1,289,042	56,647	792,000	291,633	2,700	3A	3B	5	N/A
Vermillion	13	2214 Vermillion Lake Road Chelmsford, ON	3	42	1	-	10	8	9.7%	36.6%	42,888	476,091	28,323	413,000	138,805	138,805	N/A	4	N/A	9
Levack	14	50 Mickel Street Levack, ON	3	45	52	-	20	13	33.3%	68.8%	84,782	1,072,877	56,647	700,000	270,712	5,206	3A	4	5	N/A
Val Caron	15	3064 Leduc Street Val Caron, ON	4	31	28	-	18	11	31.5%	57.7%	76,941	898,189	50,982	740,000	251,549	8,984	3A	3B	5	N/A
Val Therese	16	4200 Highway 69H Val Therese, ON	4	23	385	-	9	13	44.4%	58.2%	1,349,853	3,022,461	80,583	776,000	1,657,619	4,306	2	4	4	N/A
Hammer	17	4680 Lafontaine Street Hammer, ON	4	58	29	-	18	14	31.3%	58.5%	76,941	947,663	50,982	555,000	235,799	8,131	3A	3B	4	N/A
Capreol	18	65 Railway Street Capreol, ON	4	34	45	-	20	16	37.7%	82.5%	93,450	1,462,338	56,647	881,000	319,134	7,092	3A	4	5	N/A
Garson	20	206 Church Street Garson, ON	5	61	118	-	20	18	32.5%	78.9%	69,535	1,479,995	56,647	872,000	295,235	2,502	3A	4	4	N/A
Falconbridge	21	21 Edison Road Falconbridge, ON	5	39	11	-	16	10	50.4%	76.5%	56,064	924,605	45,318	506,000	203,099	18,464	5	5	7P	N/A
Skead	22	22 MacLennan Drive Skead, ON	5	36	15	-	20	11	39.4%	69.8%	69,834	888,791	56,647	528,000	228,348	15,223	N/A	4	N/A	9
Coniston	23	7 Second Avenue Coniston, ON	5	31	43	-	20	16	43.4%	71.8%	69,531	917,646	56,647	495,000	226,354	5,264	3A	4	6	N/A
Wahnapiitae	24	162 Hill Street Wahnapiitae, ON	5	40	31	-	18	18	30.2%	53.5%	62,951	942,428	50,982	498,000	215,814	6,962	3A	4	5	N/A
Red Deer Lake	25	566 Red Deer Lake Road Wahnapiitae, ON	5	41	0	-	10	0	n/a	n/a	35,414	302,701	28,323	337,000	114,089	n/a				

Occupancy	Building Code Occupancy	Total number of Occupancies (#)	Lines of Insurance	Hours per Initial (H)	Total Hours (T) (#xH=T)	Frequency (F) (1=annual) (0.5=every 2 yrs) (0.33=every 3 yrs)	Total Inspection Days (TD) TxF/7	Total Person Years (TPY) TD/168	Number of Inspections if Risk Matrix Followed
Assembly Occupancies (General, >150 Licensed and >300)	A	268	Commercial	1.0	268.0	1.0	38.3	0.2	268.0
Assembly >150	A	20	Commercial	2.0	40.0	1.0	5.7	0.0	20.0
Assembly >300	A	15	Commercial	3.5	52.5	1.0	7.5	0.0	15.0
Night Clubs	A2	10	Commercial	2.0	20.0	2.0	5.7	0.0	20.0
Elementary Schools	A2	87	Commercial	3.0	261.0	1.0	37.3	0.2	87.0
High Schools	A2	10	Commercial	4.0	40.0	1.0	5.7	0.0	10.0
Daycares	A2	78	Commercial	3.0	234.0	1.0	33.4	0.2	78.0
Hospitals	B2	3	Commercial	80.0	240.0	0.5	17.1	0.1	1.5
B1	B1	3	Commercial	4.0	12.0	1.0	1.7	0.0	3.0
B2	B2	57	Commercial	3.0	171.0	1.0	24.4	0.1	57.0
B3	B3	51	Commercial	2.5	127.5	1.0	18.2	0.1	51.0
Rooming Houses/Group homes	B3	37	Commercial	2.0	74.0	1.0	10.6	0.1	37.0
Residential Mid Rise - up to and including 6 storeys	C	196	Commercial	2.0	392.0	0.5	28.0	0.2	98.0
Residential High Rise - Higher than 6 storeys	C	20	Commercial	4.0	80.0	0.5	5.7	0.0	10.0
Hotel, High	C	0	Commercial	5.0	0.0	1.0	0.0	0.0	0.0
Hotel, Mid	C	42	Commercial	4.0	168.0	1.0	24.0	0.1	42.0
Business, Personal Services and Mercantile	D/E	327	Commercial	1.0	327.0	0.3	14.0	0.1	98.1
High Hazard Industrial Occupancies	F1	608	Commercial	4.0	2432.0	1.0	347.4	2.1	608.0
Medium Hazard Industrial Occupancies	F2	87	Commercial	3.0	261.0	0.5	18.6	0.1	43.5
Low Hazard Industrial Occupancies	F3	85	Commercial	2.0	170.0	0.5	12.1	0.1	42.5

Call Volume Projections by Station

Station	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	Annual	Total Over Period
Levack	455	495	488	486	514	503	511	520	529	538	547	556	565	575	585	1,699%	16%
Chelmsford	1,303	1,449	1,358	1,480	1,550	1,596	1,651	1,708	1,766	1,827	1,890	1,955	2,022	2,092	2,164	3,444%	36%
Valley East	1,585	1,630	1,660	1,816	1,860	1,890	1,946	2,004	2,064	2,125	2,189	2,254	2,321	2,390	2,461	2,988%	30%
Capreol	329	365	403	414	386	447	470	495	521	548	577	607	639	673	708	5,244%	58%
Lively	1,035	1,167	1,193	1,278	1,281	1,315	1,369	1,424	1,482	1,543	1,605	1,671	1,739	1,810	1,883	4,077%	43%
Long Lake	5,387	5,448	5,186	5,243	5,382	6,039	6,155	6,273	6,394	6,517	6,642	6,770	6,900	7,033	7,168	1,922%	19%
Van Horne	6,525	6,658	7,036	6,631	7,144	6,862	6,920	6,978	7,037	7,096	7,156	7,216	7,277	7,339	7,400	0,844%	8%
New Sudbury	2,723	2,681	3,080	3,140	3,177	3,167	3,248	3,331	3,415	3,503	3,592	3,683	3,777	3,874	3,972	2,555%	25%
Garson	1,521	1,342	1,174	1,791	1,774	1,590	1,602	1,614	1,626	1,638	1,650	1,662	1,674	1,687	1,699	0,744%	7%
Minnow Lake	1,739	1,936	2,131	2,224	2,220	2,137	2,212	2,289	2,369	2,452	2,537	2,626	2,718	2,813	2,911	3,499%	36%
All Stations	22,602	25,171	23,709	24,503	25,288	25,546	26,084	26,636	27,203	27,786	28,385	29,001	29,633	30,283	30,952	2,166%	21%

*****Projections based on Service Response Zones, out of Area Responses not included

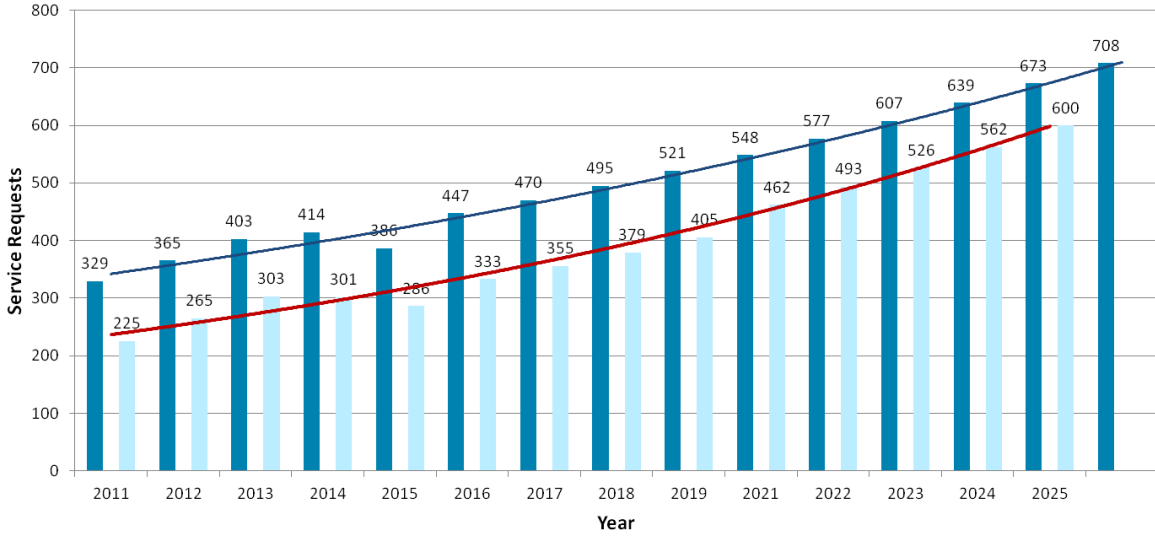
High Priority Volume by Station Response Area

Station	Total	Growth Rate				High Priority Service Requests				Projected Code 4 Volumes									
		Code 1	Code 2	Code 3	Code 4	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Levack	1.7%	2.1%	-10.9%	-5.8%	4.1%	312	350	355	378	358	398	414	432	450	488	508	529	551	573
Chelmsford	3.4%	3.6%	29.7%	-1.3%	951	1,046	1,021	1,131	1,136	1,213	1,263	1,315	1,370	1,486	1,547	1,611	1,678	1,747	
Valley East	3.0%	5.1%	18.1%	0.2%	1,161	1,232	1,248	1,323	1,424	1,424	1,393	1,436	1,480	1,526	1,621	1,671	1,723	1,776	1,831
Capreol	5.2%	23.2%	0.0%	0.0%	225	265	307	301	286	333	355	379	405	462	493	526	562	600	
Lively	4.1%	-0.4%	5.1%	1.7%	705	825	877	955	946	950	998	1,049	1,103	1,218	1,280	1,345	1,414	1,486	
Long Lake	1.9%	-7.2%	17.2%	0.8%	1,964	2,191	2,334	2,423	2,426	2,601	2,726	2,856	2,993	3,287	3,445	3,610	3,783	3,964	
Van Horne	0.8%	-4.0%	3.1%	-4.0%	4,225	4,595	4,989	4,808	5,089	5,062	5,217	5,376	5,541	5,885	6,065	6,250	6,441	6,638	
New Sudbury	2.5%	8.5%	18.8%	-1.2%	1,856	1,878	2,166	2,227	2,176	2,198	2,261	2,325	2,392	2,531	2,603	2,677	2,754	2,833	
Garson	0.7%	16.8%	20.0%	-16.7%	624	653	652	956	819	616	615	613	613	612	609	608	607	605	604
Minnow Lake	3.5%	-11.8%	19.1%	-0.1%	1,144	1,362	1,527	1,535	1,522	1,528	1,604	1,683	1,766	1,945	2,041	2,142	2,248	2,359	
All Stations	2.1%	-5.6%	17.0%	-2.9%	13,167	14,397	15,472	16,037	16,132	16,292	16,881	17,491	18,123	19,456	20,159	20,887	21,642	22,424	

Total Call Volume Projections by Station Response Area

Station	Actual Volumes (All)				Projected Volumes (All)				Avg Growth/yr	Over Projection Period							
	2011	2012	2013	2014	2015	2016	2017	2018			2019	2020	2021	2022	2023	2024	
Levack	455	495	488	486	514	503	511	520	529	538	547	556	565	575	585	1.69%	16%
Chelmsford	1,303	1,449	1,358	1,480	1,550	1,596	1,651	1,708	1,766	1,827	1,890	1,955	2,022	2,092	2,164	3.44%	36%
Valley East	1,585	1,630	1,660	1,816	1,860	1,890	1,946	2,004	2,064	2,125	2,189	2,254	2,321	2,390	2,461	2.98%	30%
Capreol	329	365	403	414	386	447	470	495	521	548	577	607	639	673	708	5.24%	58%
Lively	1,035	1,167	1,193	1,278	1,281	1,315	1,369	1,424	1,482	1,543	1,605	1,671	1,739	1,810	1,883	4.07%	43%
Long Lake	5,387	5,448	5,186	5,243	5,382	6,039	6,155	6,273	6,394	6,517	6,642	6,770	6,900	7,033	7,168	1.92%	19%
Van Horne	6,525	6,658	7,036	6,631	7,144	6,862	6,920	6,978	7,037	7,096	7,156	7,216	7,277	7,339	7,400	0.84%	8%
New Sudbury	2,723	2,681	3,080	3,140	3,177	3,167	3,248	3,331	3,415	3,503	3,592	3,683	3,777	3,874	3,972	2.55%	25%
Garson	1,521	1,342	1,174	1,791	1,774	1,590	1,602	1,614	1,626	1,638	1,650	1,662	1,674	1,687	1,699	0.74%	7%
Minnow Lake	1,739	1,936	2,131	2,224	2,220	2,137	2,212	2,289	2,369	2,452	2,537	2,626	2,718	2,813	2,911	3.49%	36%
All Stations	22,602	23,171	23,709	24,503	25,288	25,546	26,084	26,636	27,203	27,786	28,385	29,001	29,633	30,283	30,952	2.16%	21%

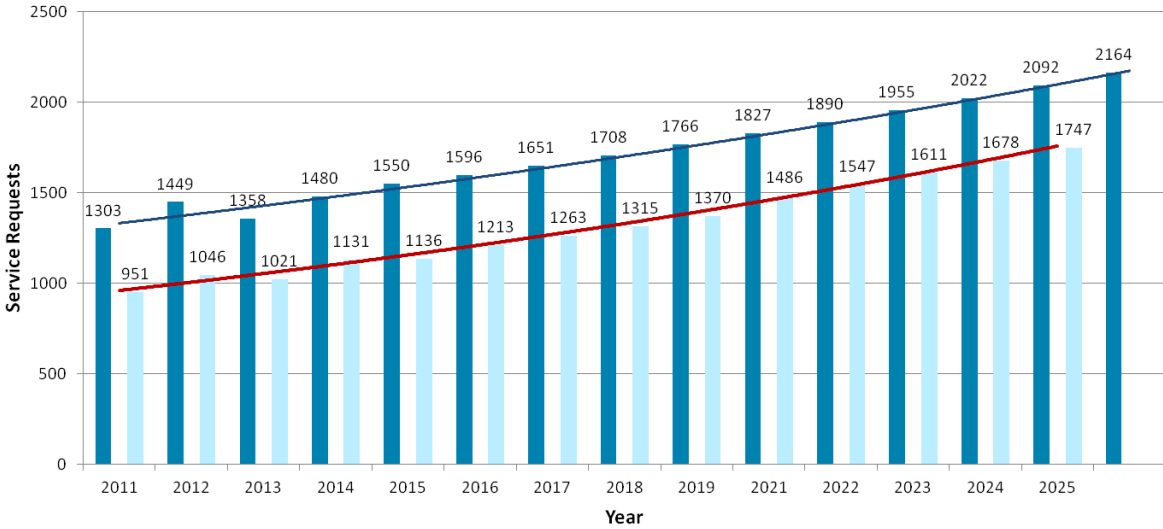
Capreol Station Response Area
Call Volume and Projections



■ All Calls
■ High Priority Service Requests

Increase over Projection Period
Total Number of Service Requests: 58%
High Priority Requests: 80%

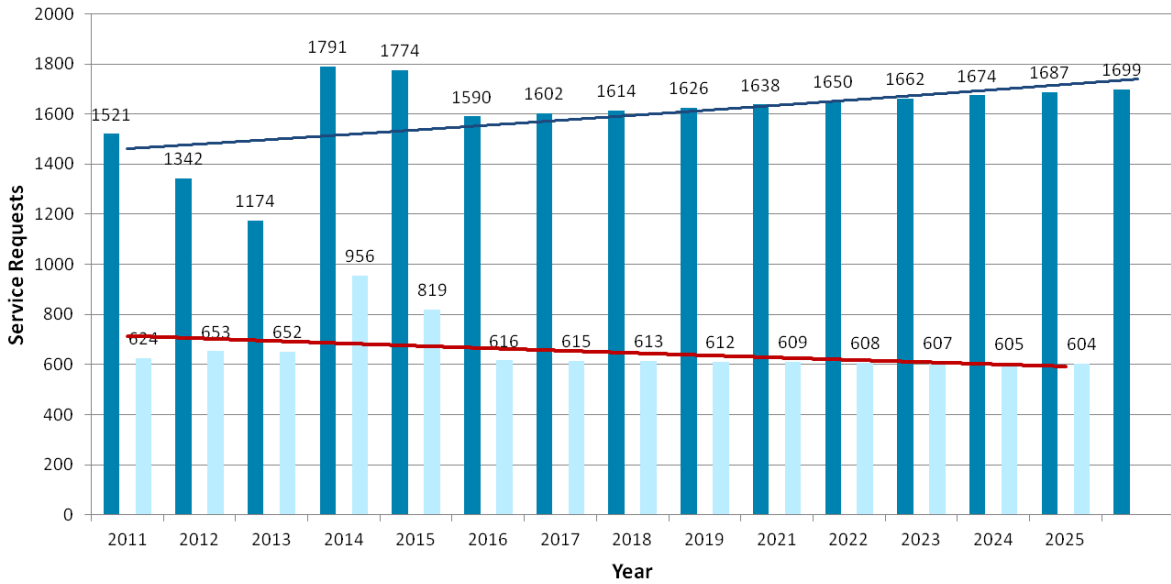
Chelmsford Station Response Area
Call Volume and Projections



■ All Calls
■ High Priority Service Requests

Increase over Projection Period
Total Number of Service Requests: 36%
High Priority Requests: 44%

Garson Station Response Area
Call Volume and Projections



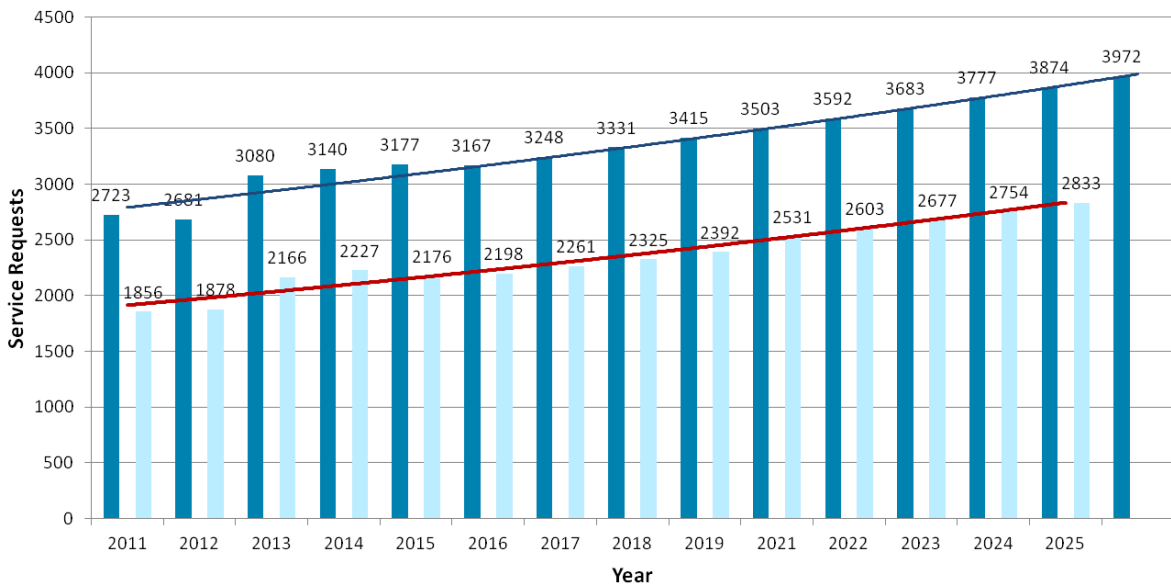
- All Calls
- High Priority Service Requests

Increase over Projection Period

Total Number of Service Requests: 7%

High Priority Requests: -2%

Leon Station Response Area
Call Volume and Projections



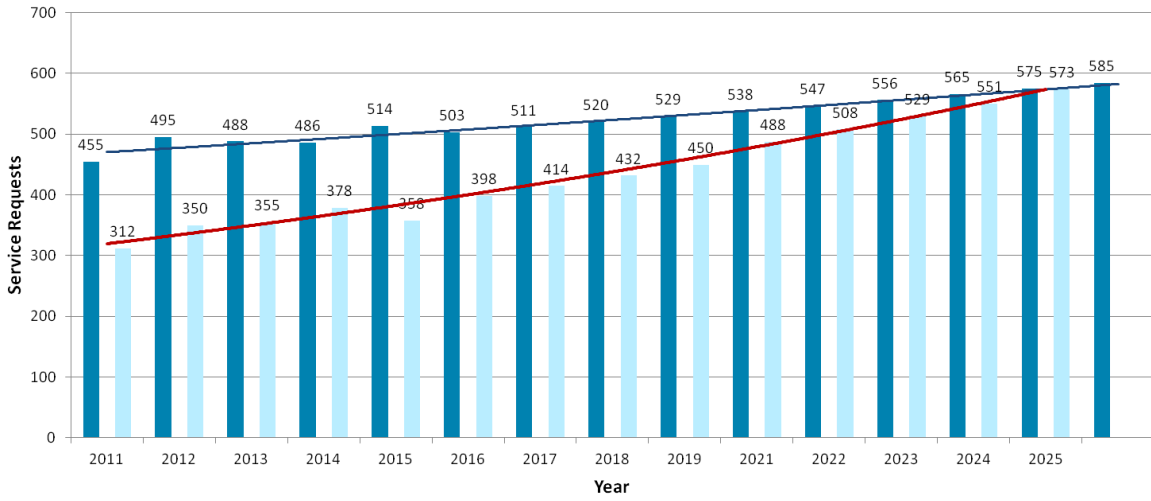
- All Calls
- High Priority Service Requests

Increase over Projection Period

Total Number of Service Requests: 25%

High Priority Requests: 29%

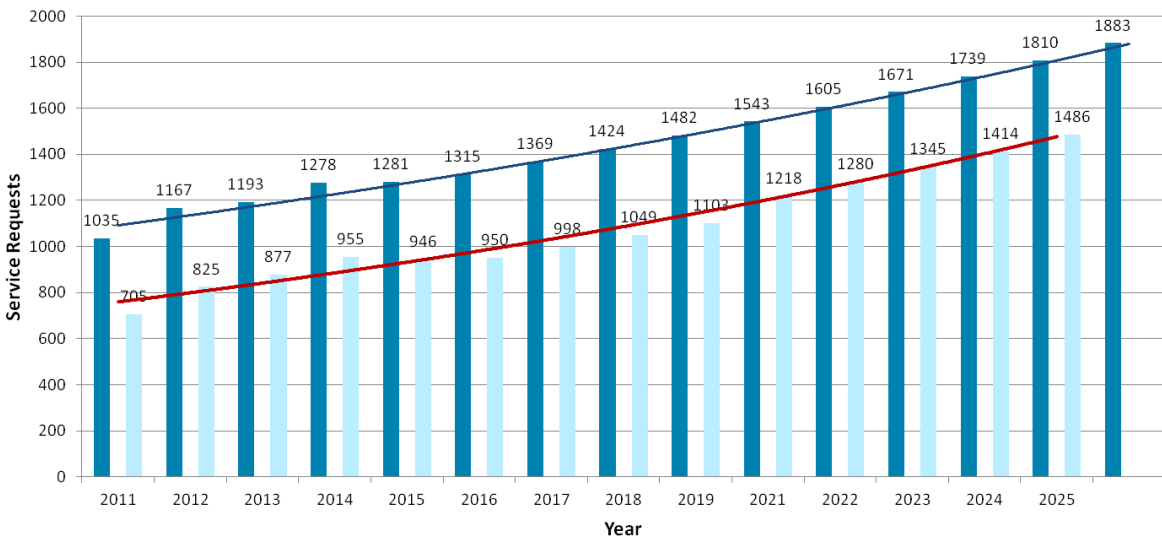
Levack Station Response Area
Call Volume and Projections



■ All Calls
■ High Priority Service Requests

Increase over Projection Period
Total Number of Service Requests: 16%
High Priority Requests: 44%

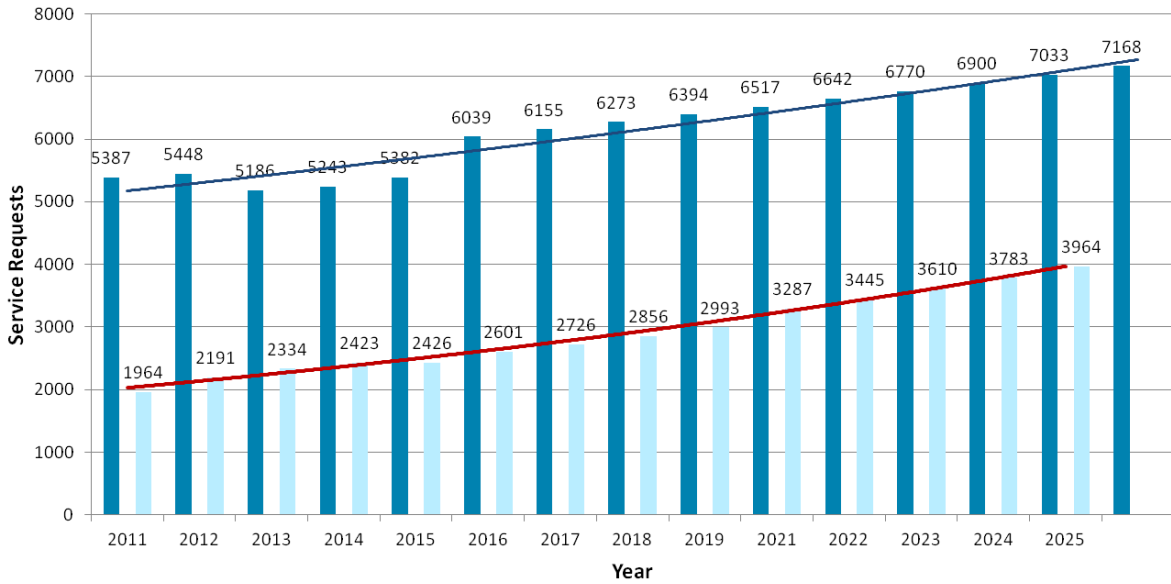
Lively Station Response Area
Call Volume and Projections



■ All Calls
■ High Priority Service Requests

Increase over Projection Period
Total Number of Service Requests: 43%
High Priority Requests: 56%

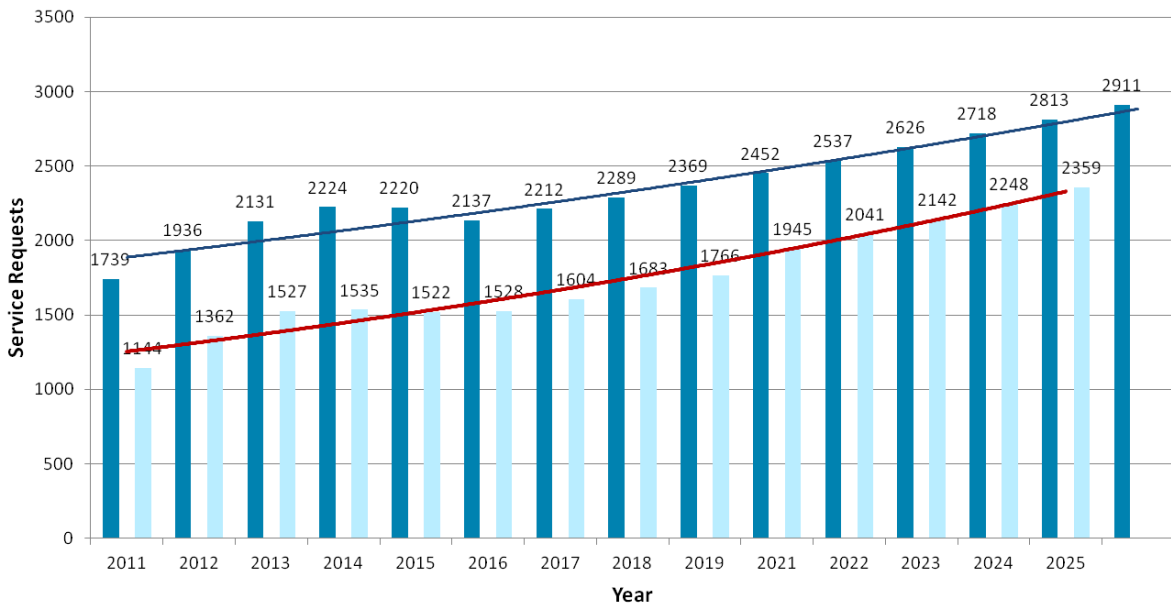
Long Lake Station Response Area
Call Volume and Projections



■ All Calls
■ High Priority Service Requests

Increase over Projection Period
Total Number of Service Requests: 19%
High Priority Requests: 52%

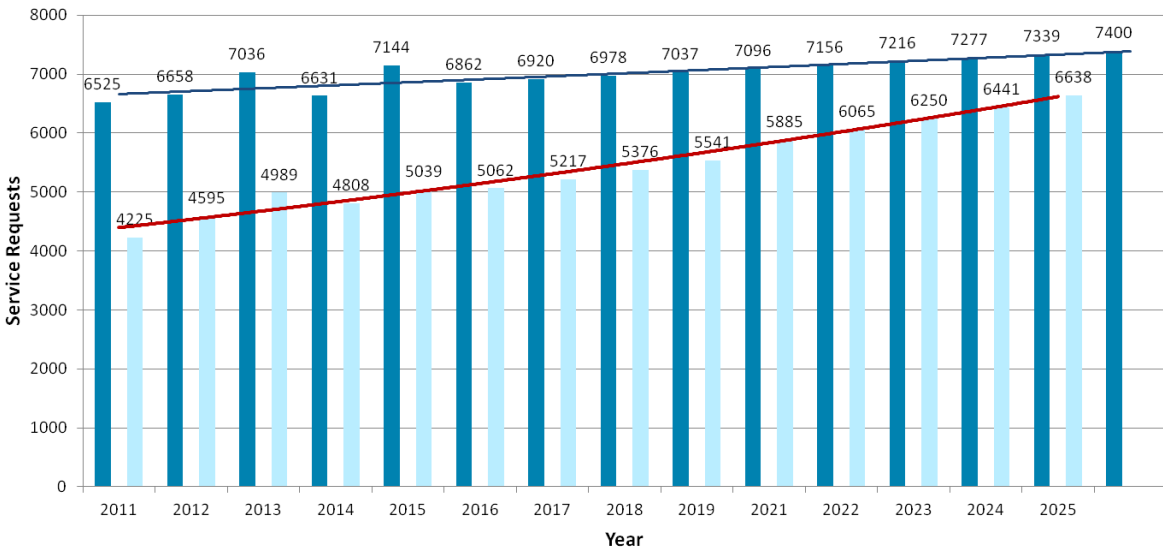
Minnow Lake Station Response Area
Call Volume and Projections



■ All Calls
■ High Priority Service Requests

Increase over Projection Period
Total Number of Service Requests: 36%
High Priority Requests: 54%

Van Horne Station Response Area
Call Volume and Projections



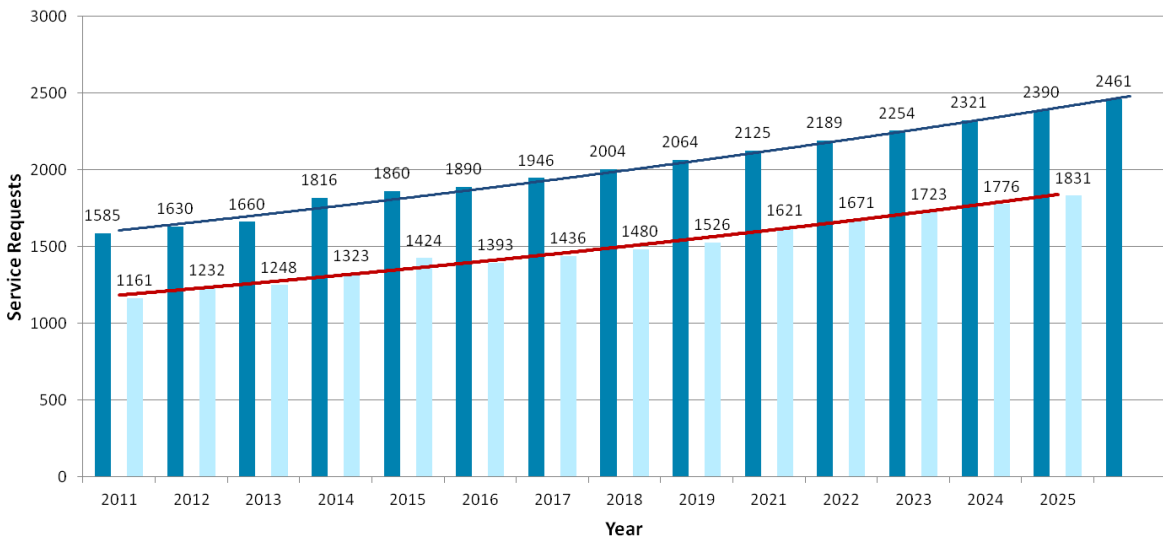
- All Calls
- High Priority Service Requests

Increase over Projection Period

Total Number of Service Requests: 8%

High Priority Requests: 31%

Valley East Station Response Area
Call Volume and Projections



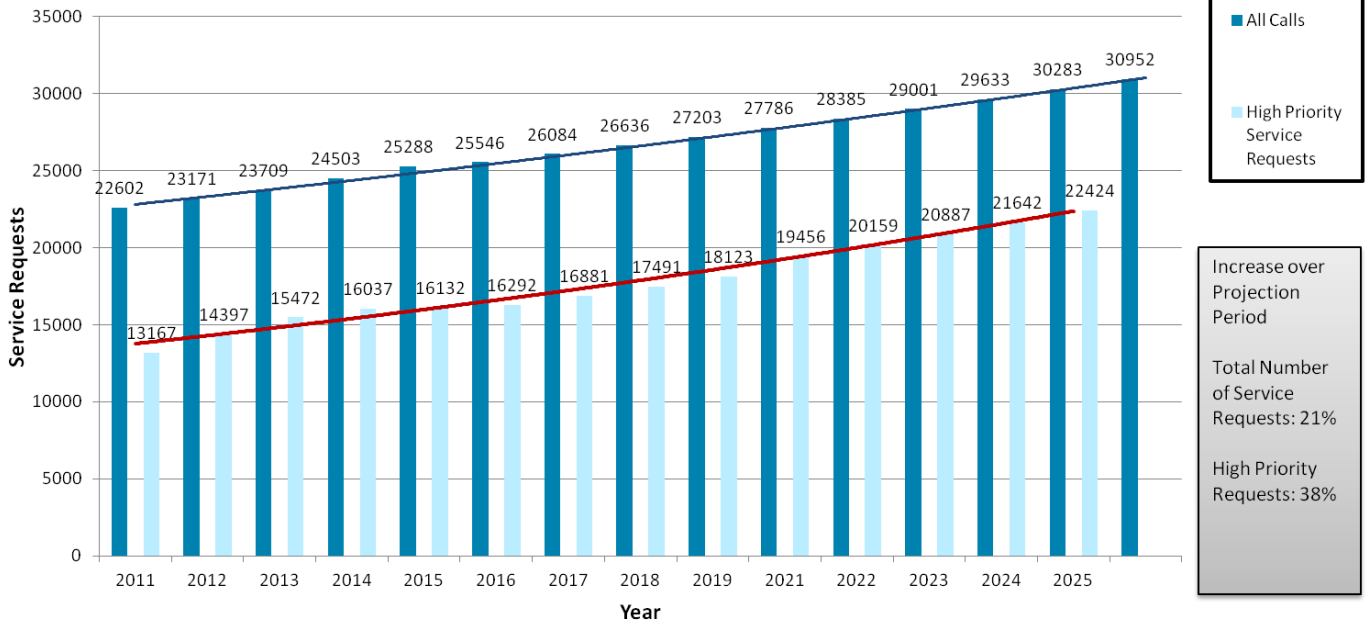
- All Calls
- High Priority Service Requests

Increase over Projection Period

Total Number of Service Requests: 30%

High Priority Requests: 31%

Greater Sudbury Paramedic Services
Call Volume and Projections





Financial Analysis (F)

Emergency Services

2016 Annual Budget

Net Total	35,448,187
Revenues	(11,931,268)
Provincial Grants & Subsidies	(10,698,366)
User Fees	(494,340)
Contribution from Reserve and Capital	(219,041)
Other Revenues	(519,521)
Expenses	47,379,456
Salaries & Benefits	37,119,912
Debt Repayment	100,091
Materials - Operating Expenses	3,163,621
Energy Costs	1,057,650
Prof Development & Training	159,125
Purchased/Contract Services	789,010
Rent and Financial Expenses	0
Grants - Transfer Payments	20,000
Contr to Reserve and Capital	2,670,351
Internal Recoveries	2,299,695

Source: Monthly Cost Centre Report (as of March 2016)

Paramedic Services	2016 Annual Budget
Net Total	10,145,374
Revenues	(11,133,958)
Provincial Grants & Subsidies	(10,698,366)
User Fees	(11,723)
Other Revenues	(423,869)
Expenses	21,279,333
Salaries & Benefits	15,938,953
Materials - Operating Expenses	1,424,098
Energy Costs	336,846
Prof Development & Training	71,528
Purchased/Contract Services	413,824
Contribution to Reserve and Capital	961,105
Internal Recoveries	2,132,978

Source: Monthly Cost Centre Report (as of March 2016)

Fire Services	2016 Annual Budget
Net Total	24,344,468
Revenues	(392,920)
User Fees	(224,818)
Contribution from Reserve and Capital	(118,950)
Other Revenues	(49,152)
Expenses	24,737,388
Salaries & Benefits	19,818,396
Materials - Operating Expenses	1,316,335
Energy Costs	410,368
Prof Development & Training	59,660
Purchased/Contract Services	160,436
Contr to Reserve and Capital	1,255,918
Internal Recoveries	1,716,275

Source: Monthly Cost Centre Report (as of March 2016)

Emergency Services - Building Stock Summary
Based on 2013 - 2014 Condition Reports
Prepared by CCI Group

Station	Location	Year	Must (10)	Critical (9)	Urgent (8)	Essential (7)	Necessary (6)	Highly Desirable (5)	Strategic (4)	Enhancement (3)	Aesthetic (2)	Deferrable (1)	Total Per Year	
06 - Waters / Walden	25 Black Lake Road	2014			1,000	18,000	63,000	5,000		35,000			6,000	
		2015		70,000				122,000						308,000
		2016						107,000		25,000				132,000
		2017		35,000				60,000						95,000
		2018												0
		2019				135,000	1,000	30,000				10,000		176,000
		2020						20,000		2,000				22,000
		2021												0
		2022		40,000		67,000		37,000		64,000				208,000
		2023												0
07 - Lively	229 Ninth Line	2014					5,000						5,000	
		2015		35,000		21,000	10,000	108,000	30,000					204,000
		2016												0
		2017					3,000	8,000						11,000
		2018								1,000				1,000
		2019				16,000		11,000		33,000		8,000		52,000
		2020												16,000
		2021												0
		2022				39,000		8,000		31,000				78,000
		2023												0
08 - Whitefish	4895 Municipal Road 55	2014											0	
		2015		45,000		103,000	28,000	259,000	34,000		6,000			475,000
		2016		25,000				19,000		8,000				52,000
		2017												0
		2018												0
		2019				5,000	1,000							6,000
		2020												0
		2021						48,000				4,000		52,000
		2022				89,000		143,000		54,000				286,000
		2023				60,000								60,000
09 - Beaver Lake	7535 HWY 17 West	2014											17,000	
		2015		45,000		101,000	23,000	126,000	29,000		6,000			330,000
		2016		25,000				5,000						30,000
		2017							40,000					40,000
		2018												0
		2019				42,000	1,000	4,000	40,000					87,000
		2020												0
		2021						6,000				4,000		10,000
		2022						2,000		12,000				14,000
		2023												0
11 - Chelmsford	3400 HWY 144	2014					6,000		26,000				39,000	
		2015				51,000	57,000	68,000	4,000					180,000
		2016											25,000	25,000
		2017											15,000	15,000
		2018												0
		2019					1,000			15,000				16,000
		2020				45,000	15,000	60,000	199,000					319,000
		2021						60,000	10,000			8,000		78,000
		2022												0
		2023				69,000		35,000	58,000					162,000

Emergency Services - Building Stock Summary
Based on 2013 - 2014 Condition Reports
Prepared by CCI Group

Station	Location	Year	Must (10)	Critical (9)	Urgent (8)	Essential (7)	Necessary (6)	Highly Desirable (5)	Strategic (4)	Enhancement (3)	Aesthetic (2)	Deferrable (1)	Total Per Year		
12 - Dowling	65 Main Street	2014		45,000		84,000	15,000		42,000				186,000		
		2015				35,000		95,000	66,000	35,000	6,000		237,000		
		2016						50,000	10,000				25,000	85,000	
		2017						50,000	9,000					59,000	
		2018						12,000	5,000					17,000	
		2019					30,000	1,000		68,000				99,000	
		2020												0	
		2021							23,000			4,000			27,000
		2022							2,000	47,000					64,000
		2023						13,000		5,000					18,000
13 - Vermillion Lake	2214 Vermillion Lake Road	2014				9,000	2,000		13,000				24,000		
		2015		45,000		25,000		42,000	56,000	12,000	6,000			186,000	
		2016						25,000						25,000	
		2017							10,000					10,000	
		2018					13,000	3,000		47,000				63,000	
		2019						1,000		17,000				18,000	
		2020												0	
		2021							19,000			4,000			23,000
		2022					1,000	2,000	5,000	48,000					56,000
		2023								8,000					8,000
14 - Levack	50 Nickel Street	2014				5,000	6,000						11,000		
		2015		45,000		71,000	91,000	105,000	91,000			10,000		413,000	
		2016		25,000		19,000		40,000	28,000					112,000	
		2017						40,000	5,000					45,000	
		2018							2,000					2,000	
		2019					2,000	1,000	9,000					12,000	
		2020							12,000					12,000	
		2021					30,000		6,000	5,000		4,000		45,000	
		2022						4,000		44,000				48,000	
		2023												0	
15 - Val Caron	3064 Leduc Street	2014				5,000	3,000		3,000				11,000		
		2015				100,000	1,000	54,000	81,000	3,000		6,000		245,000	
		2016		25,000				35,000	73,000					133,000	
		2017						35,000	40,000					75,000	
		2018						1,000						1,000	
		2019					3,000			35,000				38,000	
		2020							37,000				25,000	62,000	
		2021												0	
		2022							5,000	100,000			10,000		115,000
		2023					5,000	5,000		50,000					60,000
16 - Val Therese	4200 HWY 69 North	2014				5,000	2,000						7,000		
		2015				50,000	3,000	86,000	134,000	5,000		23,000		301,000	
		2016		25,000				50,000	20,000					95,000	
		2017						50,000	29,000					82,000	
		2018						1,000	55,000			20,000		76,000	
		2019												0	
		2020												0	
		2021												0	
		2022					5,000	5,000	25,000	110,000			20,000		165,000
		2023								50,000					50,000

Emergency Services - Building Stock Summary
Based on 2013 - 2014 Condition Reports
Prepared by CCI Group

Station	Location	Year	Must (10)	Critical (9)	Urgent (8)	Essential (7)	Necessary (6)	Highly Desirable (5)	Strategic (4)	Enhancement (3)	Aesthetic (2)	Deferrable (1)	Total Per Year		
17 - Hammer	4680 Lafontaine Street	2014				20,000	36,000		5,000				61,000		
		2015		45,000			15,000	56,000	161,000				25,000	305,000	
		2016		25,000		50,000				25,000					100,000
		2017												0	
		2018												0	
		2019					1,000							1,000	
		2020												0	
		2021								13,000					13,000
		2022					1,000	9,000		20,000				15,000	45,000
		2023								30,000					30,000
18 - Capreol	65 Railway Street	2014				52,000	4,000							56,000	
		2015		70,000		80,000	17,000	89,000	213,000		3,000			472,000	
		2016		25,000										75,000	
		2017						50,000						50,000	
		2018						50,000		5,000				55,000	
		2019				20,000	1,000	4,000		3,000				28,000	
		2020												0	
		2021				8,000								8,000	
		2022				18,000	4,000			38,000				24,000	
		2023						4,000		45,000				45,000	
20 - Garson	206 Church Street	2014											1,000	5,000	
		2015				50,000	26,000	87,000	77,000		25,000	6,000		271,000	
		2016				30,000		25,000	43,000					98,000	
		2017						175,000						210,000	
		2018					20,000		10,000		5,000			35,000	
		2019					1,000	9,000						10,000	
		2020												0	
		2021										4,000		4,000	
		2022				31,000	5,000	15,000		142,000				193,000	
		2023				6,000		5,000		35,000				46,000	
21 - Falconbridge	21 Edison Road	2014				12,000			2,000					20,000	
		2015		45,000		5,000	25,000	56,000	36,000		10,000		6,000	182,000	
		2016				40,000		68,000		38,000				161,000	
		2017						42,000						42,000	
		2018												0	
		2019				6,000	11,000		25,000					42,000	
		2020												0	
		2021					2,000	3,000		10,000		5,000		20,000	
		2022												0	
		2023				6,000		5,000		23,000				5,000	39,000
22 - Skead	20 Macdellan Drive	2014				17,000	5,000		2,000					30,000	
		2015		45,000		6,000	9,000	52,000	30,000		10,000		5,000	157,000	
		2016				40,000		81,000		33,000		10,000		164,000	
		2017												0	
		2018												0	
		2019				25,000	11,000		62,000					98,000	
		2020												0	
		2021					2,000	3,000		10,000			5,000	20,000	
		2022												0	
		2023				1,000		20,000		33,000			5,000	59,000	

Emergency Services - Building Stock Summary
Based on 2013 - 2014 Condition Reports
Prepared by CCI Group

Station	Location	Year	Must (10)	Critical (9)	Urgent (8)	Essential (7)	Necessary (6)	Highly Desirable (5)	Strategic (4)	Enhancement (3)	Aesthetic (2)	Deferrable (1)	Total Per Year	
ES - HQ	239 Montee Principale (CLELC)	2014				84,000	197,000	58,800	53,000				392,800	
		2015		60,000		84,000	197,000	58,800	53,000					452,800
		2016				84,000	197,000	58,800	53,000					392,800
		2017				84,000	197,000	58,800	53,000					392,800
		2018				84,000	197,000	58,800	53,000					392,800
		2019		25,000		92,000	20,000	114,800	27,000					278,800
		2020				92,000	20,000	114,800	27,000					253,800
		2021				92,000	20,000	114,800	27,000					253,800
		2022				92,000	20,000	114,800	27,000					253,800
		2023				92,000	20,000	114,800	27,000					253,800
TOTAL COST PER RISK FACTOR			0	1,791,000	16,000	4,392,500	2,325,000	6,469,500	4,807,000	1,43,000	223,000	316,000	20,483,000	

LEGEND:

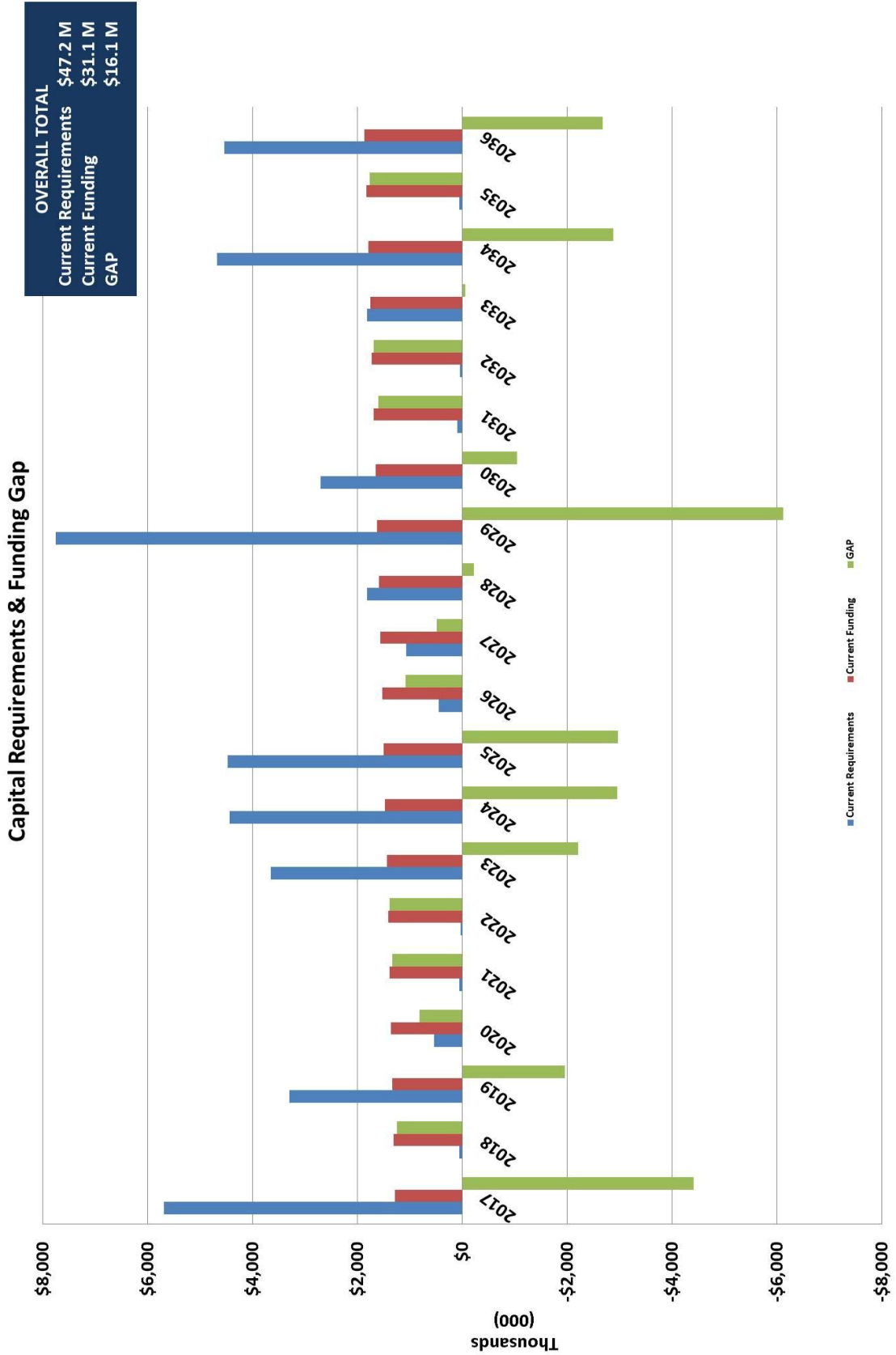
- Must (10)** Fire Safety, Life, OHS, address dangerous situations
- Critical (9)** Legislated, health & welfare
- Urgent (8)** Items that threaten the operation of the facility/shutdown, loss of service etc.
- Essential (7)** Projects that are not urgent but cannot be postponed due to building integrity
- Necessary (6)** Barrier free access related items and commitments from previous years as warranted as public need
- Highly Desirable (5)** Energy conservation, projects for external funding is available
- Strategic (4)** Items that are worn out, are of high maintenance cost and requires replacement to prevent costly further repair
- Enhancement (3)** Modification, addition, renovation to improve operational needs of facility
- Aesthetic (2)** Items that are aesthetic nature (painting, landscaping, asphalt)
- Deferrable (1)** Items that are in working order but have surpassed their useful life expectancy.

Current Capital Equipment Renewal Requirements			
Year	Current Requirements	Current Funding	GAP
2017	\$5,691,481	\$1,281,036	(\$4,410,444)
2018	\$61,994	\$1,306,657	\$1,244,663
2019	\$3,295,531	\$1,332,790	(\$1,962,741)
2020	\$541,889	\$1,359,446	\$817,557
2021	\$54,514	\$1,386,635	\$1,332,121
2022	\$31,635	\$1,414,368	\$1,382,733
2023	\$3,651,112	\$1,442,655	(\$2,208,457)
2024	\$4,432,367	\$1,471,508	(\$2,960,859)
2025	\$4,470,043	\$1,500,938	(\$2,969,104)
2026	\$445,376	\$1,530,957	\$1,085,581
2027	\$1,074,360	\$1,561,576	\$487,216
2028	\$1,820,088	\$1,592,808	(\$227,281)
2029	\$7,751,210	\$1,624,664	(\$6,126,546)
2030	\$2,698,195	\$1,657,157	(\$1,041,038)
2031	\$89,605	\$1,690,300	\$1,600,695
2032	\$39,518	\$1,724,106	\$1,684,588
2033	\$1,820,960	\$1,758,588	(\$62,372)
2034	\$4,675,606	\$1,793,760	(\$2,881,846)
2035	\$62,565	\$1,829,635	\$1,767,070
2036	\$4,543,009	\$1,866,228	(\$2,676,781)
TOTAL	\$47,251,059	\$31,125,814	(\$16,125,245)

*Includes inflation and replacement cycle(s)

Current Capital Inventory By Category

Category	Quantity	Sum of Current Estimated Replacement Cost
Communication Equipment	1401	2,512,966
Personal Protective Equipment (PPE)	3427	1,458,793
Vehicle	24	635,448
Vehicle - Front Line	77	28,247,265
Grand Total	6994	36,295,293



	Station	Station #	Age (2016)	TOTAL
Emergency Services	Van Horne	1	41	\$8,301,956
Emergency Services	Minnow Lake	2	33	\$7,178,230
Emergency Services	New Sudbury	3	42	\$5,970,877
Emergency Services	Long Lake	4	39	\$6,770,923
Fire - Only	Copper Cliff	5	43	\$4,125,443
Emergency Services	Waters	6	47	\$4,157,558
Fire - Only	Lively	7	66	\$3,334,940
Fire - Only	Whitefish	8	37	\$5,077,578
Fire - Only	Beaver Lake	9	39	\$4,513,562
Fire - Only	Azilda	10	46	\$253,339
Fire - Only	Chelmsford	11	46	\$3,469,671
Paramedic - Only	Chelmsford		46	\$0
Fire - Only	Dowling	12	46	\$3,334,940
Fire - Only	Vermillion	13	42	\$5,082,721
Emergency Services	Levack	14	45	\$5,242,086
Fire - Only	Val Caron	15	31	\$5,409,721
Emergency Services	Val Therese	16	23	\$8,558,868
Fire - Only	Hanmer	17	58	\$3,334,940
Fire - Only	Capreol	18	34	\$4,535,598
Paramedic - Only	Capreol		34	\$1,532,319
Emergency Services	Garson	20	61	\$4,076,038
Fire - Only	Falconbridge	21	39	\$3,334,940
Fire - Only	Skead	22	36	\$4,253,198
Fire - Only	Coniston	23	31	\$3,334,940
Fire - Only	Wahnapiatae	24	40	\$4,229,198
Fire - Only	Red Deer Lake	25	41	\$3,334,940
Emergency Services	New Headquarters		46	\$22,232,932
TOTAL			44	\$134,981,452
Debt Financing @ 3.5% over 30 years				\$7,302,387

Assumptions:

	Area needed (sq ft)		
	Fire	Paramedic	Total
Van Horne	11,000	4,300	15,300
Career	11,000	2,000	13,000
Composite	13,000	2,000	15,000
Volunteer	9,000	2,000	11,000
Paramedic - Stand Alone	3,600		3,600
Head Quarters	30,000	30,000	60,000

Station maintenance costs applied to any building that will not be replaced within 5 years

Annual increase for construction rates = 2.0% per year

Construction rate of \$350 per square foot as provided by Real Estate Division. Includes estimates for architectural and engineering fees.

STATUS QUO FINANCIAL SUMMARY BY STATION																
Asset	STAFFING			OPERATING BUDGET				CAPITAL				STATIONS			PRESUMPTIVE LEGISLATION	
	Admin	Career	Volunteer	Total	2016 Operating Costs (Salaries & Benefits)	2016 Operating Costs (Other Costs)	Annual Debt Financing (New Builds)	2016 Total Operating Costs (annual)	Number of Front-Line Vehicles (Includes Boats/Trailers)	Estimated Capital Replacement Costs Front-Line Vehicles / Trailers)	Estimated Capital Replacement Costs Equipment & Non-Front-Line Vehicles	Total Estimated Capital Replacement Costs	Age	UNFUNDED Total Cost to Maintain Stations	Recommended Annual Contribution to Reserve (\$2.20 per \$100 for Fire)	Total Annual Costs
Van Horne Stn 1	47			47	\$6,602,546	\$0	\$0	\$6,602,546	5	\$2,582,736	\$713,052	\$3,295,788	41	\$2,237,000	\$145,256	\$7,061,204
Mimow Lake Stn 2	16			16	\$2,282,117	\$0	\$0	\$2,282,117	1	\$862,788	\$239,535	\$1,102,303	33	\$895,000	\$50,207	\$2,431,270
New Sudbury Stn 3	16			16	\$2,282,118	\$0	\$0	\$2,282,118	3	\$1,884,541	\$278,869	\$2,163,410	42	\$780,000	\$50,207	\$2,498,721
Long Lake Stn 4	16			16	\$2,282,118	\$0	\$0	\$2,282,118	2	\$2,750,452	\$31,751	\$3,082,203	39	\$1,014,000	\$50,207	\$2,573,154
Copper Cliff Stn 5	16			16	\$447,751	\$3,840	\$0	\$451,591	2	\$1,033,432	\$201,486	\$1,234,917	43	\$739,000	\$45,318	\$2,361,173
Waters Stn 6 - can't sell	20			20	\$78,751	\$4,431	\$0	\$83,182	3	\$1,351,484	\$348,791	\$1,700,275	47	\$947,000	\$56,647	\$2,836,535
Lively Stn 7	18			18	\$70,877	\$4,353	\$0	\$75,230	2	\$487,228	\$230,278	\$719,506	66	\$867,000	\$50,982	\$2,021,557
Whitetail Stn 8	20			20	\$78,751	\$4,431	\$0	\$83,182	4	\$1,313,287	\$257,465	\$1,570,752	37	\$931,000	\$56,647	\$2,573,887
Beaver Lake Stn 9	10			10	\$39,376	\$2,862	\$0	\$42,238	2	\$626,300	\$128,461	\$754,760	39	\$528,000	\$28,323	\$1,051,082
Azilda Stn 10 - can't sell	18			18	\$72,047	\$4,357	\$0	\$76,404	4	\$874,843	\$344,745	\$1,219,588	46	\$253,339	\$50,982	\$2,202,210
Chelmsford Stn 11	20			20	\$80,052	\$4,427	\$0	\$84,479	6	\$1,954,404	\$326,966	\$2,281,370	46	\$834,000	\$56,647	\$350,939
Dowling Stn 12	20			20	\$80,052	\$4,431	\$0	\$84,483	4	\$1,032,700	\$256,343	\$1,289,042	46	\$792,000	\$56,647	\$291,633
Vermillion Stn 13	10			10	\$40,026	\$2,862	\$0	\$42,888	1	\$351,115	\$124,977	\$476,091	42	\$413,000	\$28,323	\$138,805
Lewack Stn 14	20			20	\$80,052	\$4,730	\$0	\$84,782	2	\$805,201	\$267,676	\$1,072,877	45	\$700,000	\$56,647	\$2,707,712
Val Caron Stn 15	18			18	\$72,588	\$4,353	\$0	\$76,941	2	\$888,477	\$209,712	\$1,098,189	31	\$740,000	\$50,982	\$2,511,549
Val Therese Stn 16	9	18	27	54	\$1,345,936	\$4,357	\$0	\$1,350,293	5	\$2,479,604	\$542,857	\$3,022,461	23	\$776,000	\$80,583	\$1,657,619
Hammer Stn 17	18			18	\$72,588	\$4,353	\$0	\$76,941	2	\$738,556	\$209,106	\$947,663	58	\$555,000	\$50,982	\$2,357,799
Capresol Stn 18	20			20	\$89,022	\$4,428	\$0	\$93,450	5	\$1,212,098	\$260,240	\$1,472,338	34	\$881,000	\$56,647	\$3,191,134
Galson Stn 20	20			20	\$65,104	\$4,431	\$0	\$69,535	4	\$1,111,901	\$368,094	\$1,479,995	61	\$872,000	\$56,647	\$2,995,235
Falconbridge Stn 21	16			16	\$52,084	\$3,980	\$0	\$56,064	2	\$720,587	\$204,039	\$924,626	39	\$508,000	\$45,318	\$2,033,099
Sked Stn 22	20			20	\$65,104	\$4,730	\$0	\$69,834	3	\$647,952	\$240,839	\$888,791	36	\$528,000	\$56,647	\$2,283,348
Comston Stn 23	20			20	\$65,104	\$4,427	\$0	\$69,531	2	\$687,080	\$230,566	\$917,646	31	\$495,000	\$56,647	\$2,263,354
Wainapipae Stn 24	18			18	\$58,594	\$4,357	\$0	\$62,951	2	\$724,580	\$217,848	\$942,428	40	\$498,000	\$50,982	\$2,151,814
Red Deer Lake Stn 25	10			10	\$32,552	\$2,862	\$0	\$35,414	1	\$168,367	\$134,334	\$302,701	41	\$337,000	\$28,323	\$1,141,089
New HQ									0	\$0	\$0	\$0		\$0	\$0	\$0
Base Costs	21	4	25	50	\$3,787,528	\$4,442,071	\$0	\$8,229,597	3	\$1,155,593	\$1,390,000	\$2,545,593	46	\$3,064,661	\$83,304	\$7,460,841
Paramedic Services				122	\$1,938,953	\$5,793,579	\$0	\$7,732,532							\$223,198	\$10,368,573
GM's Office				5	\$618,048	\$618,048	\$0	\$1,236,096							\$0	\$0
Lionel E. Lalonde Centre (CIEC)				5	\$533,157	\$272,032	\$0	\$805,189							\$0	\$261,125
Emergency Management				2	\$211,359	\$485,862	\$0	\$697,221							\$0	\$897,221
Total	21	108	350	613	\$37,120,914	\$1,672,729	\$0	\$38,793,643	73	\$28,247,265	\$8,048,028	\$36,295,293	44	\$2,048,000	\$1,623,300	\$39,623,301

NOTES:

- 1) Current contribution to WSIB reserve is \$2.2K as per Finance. The challenge is that the calculations for volunteers are based on current budget but doesn't take into consideration that volunteer benefits would be based on a 1st Class
- 2) New build debt repayment 3.5% financing rate over a 25-30 repayment schedule • Based on Infrastructure Ontario rates
- 3) New build construction rate estimated between \$275-\$350 per square foot. The higher amount takes into consideration potential architectural/engineering fees (as per Real Estate Division)

OPTIMIZED MODEL FINANCIAL SUMMARY BY STATION

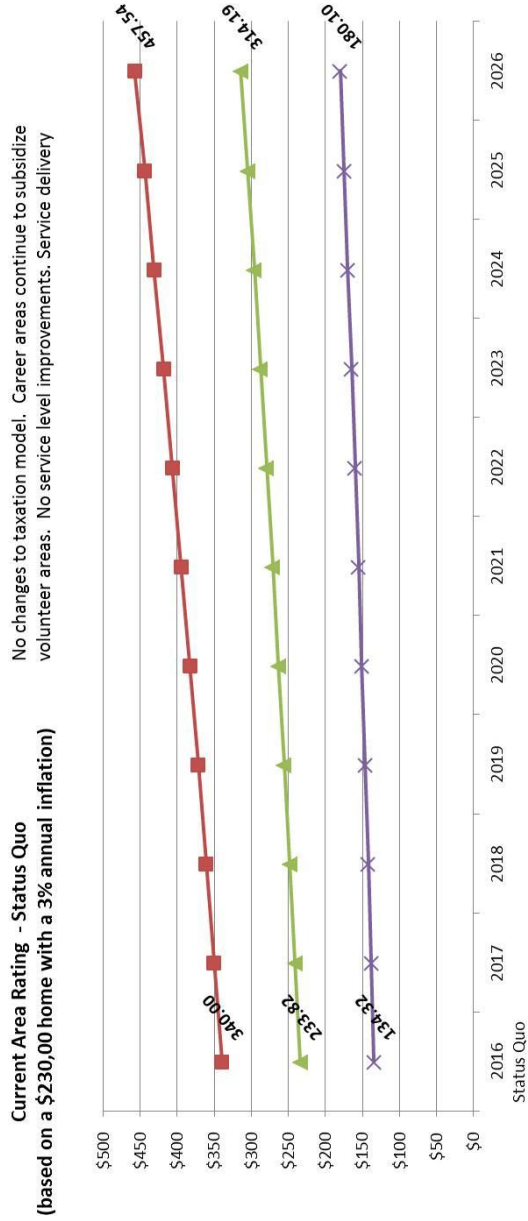
Asset	STAFFING			OPERATING BUDGET				CAPITAL				STATIONS		PRESUMPTIVE LEGISLATION	Total Annual Costs
	Admin	Career	Volunteer	Total	2016 Operating Costs (Salaries & Benefits)	2016 Operating Costs (Other Costs)	Annual Debt Financing (New Builds)	2016 Total Operating Costs (annual)	Number of Front-Line Vehicles (Includes Boats / Trailers)	Estimated Capital Replacement Costs Front-Line Vehicles (Includes Boats / Trailers)	Estimated Capital Replacement Costs Equipment & Non Front-Line Vehicles	Total Estimated Capital Replacement Costs	Cost to Build (debt financing)	Recommended Annual Contribution to Reserve (\$2.20 per \$1.00 for Fire)	
Van Horne Stn 1		36		36	\$5,057,269	\$0	\$220,510	\$5,277,779	3	\$2,286,385	\$751,568	\$3,037,954	\$4,076,038	\$111,260	\$5,556,891
Minnow Lake Stn 2		18		18	\$2,567,383	\$0	\$132,908	\$2,700,291	4	\$1,232,966	\$383,775	\$1,616,741	\$4,913,478	\$56,482	\$2,846,099
New Sudbury Stn 3		18		18	\$2,567,383	\$0	\$183,151	\$2,750,534	4	\$1,283,429	\$365,024	\$1,648,453	\$6,770,923	\$56,482	\$2,898,091
Long Lake Stn 4		18		18	\$2,567,383	\$0	\$183,151	\$2,750,534	4	\$1,283,429	\$365,024	\$1,648,453	\$6,770,923	\$56,482	\$2,898,091
Copper Cliff Stn 5		18		18	\$2,567,383	\$0	\$183,151	\$2,750,534	4	\$1,283,429	\$365,024	\$1,648,453	\$6,770,923	\$56,482	\$2,898,091
Waters Stn 6 - can't sell		18	10	28	\$2,606,759	\$1,243	\$156,422	\$2,764,424	5	\$1,730,453	\$541,011	\$2,271,464	\$5,782,786	\$84,805	\$2,974,729
Lively Stn 7		15		15	\$59,063	\$4,430	\$279,804	\$343,297	2	\$1,125,694	\$248,933	\$1,374,626	\$5,172,059	\$42,485	\$461,723
Beaver Lake Stn 9		0		0	\$0	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0	\$0
Azilda Stn 10 - can't sell		0		0	\$0	\$0	\$0	\$0	0	\$0	\$0	\$0	\$0	\$0	\$0
Chelmsford Stn 11		18	10	28	\$2,607,409	\$1,243	\$159,551	\$2,768,203	5	\$1,920,129	\$566,632	\$2,486,761	\$5,898,441	\$84,805	\$2,990,400
Dowling Stn 12		15	15	30	\$60,939	\$4,430	\$184,026	\$248,495	2	\$87,926	\$248,606	\$1,136,531	\$3,401,639	\$42,485	\$553,772
Vermillion Stn 13		10		10	\$40,026	\$4,730	\$141,797	\$186,553	1	\$62,420	\$225,526	\$847,730	\$5,242,086	\$28,323	\$61,716
Levack Stn 14		18	10	28	\$2,825,795	\$1,169	\$162,742	\$2,989,665	5	\$2,221,845	\$620,719	\$2,842,564	\$6,016,410	\$84,805	\$3,031,518
Val Therese Stn 16		15		15	\$60,939	\$4,353	\$110,255	\$175,098	2	\$738,556	\$224,578	\$963,135	\$4,076,038	\$42,485	\$270,796
Hammer Stn 17		15		15	\$66,767	\$4,428	\$145,713	\$216,908	3	\$1,122,166	\$255,816	\$1,377,983	\$5,386,886	\$42,485	\$395,519
Capreol Stn 18		18	10	28	\$2,599,935	\$1,243	\$150,348	\$2,751,526	3	\$1,304,052	\$537,247	\$1,841,299	\$5,558,233	\$84,805	\$2,938,076
Carson Stn 20		10		10	\$32,552	\$4,730	\$230,095	\$267,377	3	\$647,952	\$207,220	\$855,172	\$4,253,198	\$28,323	\$42,950
Falcombridge Stn 21		15		15	\$60,939	\$4,353	\$110,255	\$175,098	2	\$738,556	\$224,578	\$963,135	\$4,076,038	\$42,485	\$270,796
Sked Stn 22		10	10	20	\$32,552	\$4,730	\$230,095	\$267,377	3	\$647,952	\$207,220	\$855,172	\$4,253,198	\$28,323	\$42,950
Comiston Stn 23		15		15	\$60,939	\$4,353	\$110,255	\$175,098	2	\$738,556	\$224,578	\$963,135	\$4,076,038	\$42,485	\$270,796
Wainapitae Stn 24		15		15	\$48,828	\$4,356	\$228,796	\$281,980	2	\$783,112	\$233,356	\$1,016,468	\$4,229,198	\$42,485	\$380,625
Red Deer Lake Stn 25		18		18	\$2,567,383	\$0	\$605,392	\$3,172,775	3	\$2,822,464	\$412,869	\$3,235,333	\$11,116,466	\$56,482	\$3,403,971
New HQ		25	4	29	\$4,362,513	\$5,383,740	\$0	\$9,746,253	1	\$7,822	\$1,078,027	\$1,085,849	\$83,304	\$7,789,354	
Base Costs		124		124	\$16,059,146	\$5,748,369	\$2,104,086	\$14,414,863					\$14,070,481	\$231,151	\$11,646,014
Paramedic Services		6		6	\$797,473	\$0	\$0	\$797,473							\$0
GM's Office		5		5	\$533,157	\$250,501	\$0	\$282,656							\$282,656
Lionel E. Lalonde Centre (LELC)		2		2	\$211,959	\$509,187	\$0	\$720,546							\$720,546
Emergency Management		25	166	135	\$45,530,689	\$1,367,003	\$5,191,593	\$48,855,220	48	\$20,739,155	\$6,898,907	\$27,638,062	\$95,964,357	\$1,203,456	\$49,485,445

NOTES:
 1) Current contribution to WRIB reserve is \$252K as per Finance. The challenge is that the calculations for volunteers are based on current budget but doesn't take into consideration that volunteer benefits
 2) New build debt repayment 3.5% financing rate over a 25 - 30 repayment schedule * based on Infrastructure Ontario rates
 3) New build construction rate estimated between \$275-\$350 per square foot. The higher amount takes into consideration potential architectural/engineering fees (as per Real Estate Division)

Fire Services Area Rated Taxation
Based on the 2016 Average Home Assessment Value of \$230,000 and the 2016 Tax Rates

Time Frame	STATUS QUO						OPTIONS								
	Current Area Rated - Status Quo *with 3% annual inflation		Current Area Rated Taxation *resource utilization with 3% annual inflation		Current Area Rated Taxation *flat rate with 3% annual inflation		Status Quo - Fully Funded inflation (Softened)		Status Quo - Fully Funded inflation (Softened)		Status Quo - Fully Funded * flat rate with 3% annual inflation (Softened)		Optimized * flat rate with 3% annual inflation (Softened)		
	Career	Composite	Volunteer	Career	Composite	Volunteer	Career	Composite	Volunteer	Career	Composite	Volunteer	Career	Composite	Volunteer
2016	340.00	233.82	134.32	340.00	233.82	134.32	340.00	233.82	134.32	340.00	233.82	134.32	340.00	233.82	134.32
2017	350.66	240.80	138.03	297.97	249.48	243.47	342.80	254.36	190.75	342.70	257.76	178.16	352.91	267.99	188.39
2018	361.18	248.02	142.17	306.91	256.96	250.78	345.60	274.90	247.18	345.40	281.69	221.99	365.82	302.15	242.45
2019	372.02	255.46	146.43	316.12	264.67	258.30	348.40	295.44	303.62	348.10	305.63	265.83	378.72	336.32	296.52
2020	383.18	263.13	150.83	325.60	272.61	266.05	351.20	315.98	360.05	350.80	329.56	309.66	391.63	370.48	350.58
2021	394.68	271.02	155.35	335.37	280.79	274.03	355.69	332.94	372.51	357.75	357.75	357.75	385.72	385.72	385.72
2022	406.52	279.15	160.01	345.43	289.21	282.25	370.19	352.02	402.24	377.24	377.24	377.24	411.32	411.32	411.32
2023	418.71	287.53	164.81	355.79	297.89	290.72	385.12	372.29	432.86	397.31	397.31	397.31	437.68	437.68	437.68
2024	431.27	296.15	169.76	366.47	306.82	299.44	400.50	393.17	464.39	417.98	417.98	417.98	464.83	464.83	464.83
2025	444.21	305.04	174.85	377.46	316.03	308.42	416.34	414.68	498.87	438.28	438.28	438.28	492.80	492.80	492.80
2026	457.54	314.19	180.10	388.78	325.51	317.68	432.66	436.83	530.33	461.21	461.21	461.21	521.60	521.60	521.60
Overall Increase (over 10 years)	\$117.54	\$80.37	\$45.78	\$48.78	\$91.69	\$183.36	\$92.66	\$203.01	\$396.01	\$121.21	\$227.39	\$326.89	\$181.60	\$287.78	\$387.28
Per Year	\$11.75	\$8.04	\$4.58	\$4.88	\$9.17	\$18.34	\$9.27	\$20.30	\$39.60	\$12.12	\$22.74	\$32.69	\$18.16	\$28.78	\$38.73
Per Day	\$0.03	\$0.02	\$0.01	\$0.01	\$0.03	\$0.05	\$0.03	\$0.06	\$0.11	\$0.03	\$0.06	\$0.09	\$0.05	\$0.08	\$0.11
	0.0322	0.0220188	0.012541	0.01337	0.0251203	0.05023497	0	0.02539	0.05561925	0.03320764	0.06229805	0.08955832	0.049754	0.07884424	0.106104512

Time Frame	STATUS QUO						OPTIONS								
	Current Area Rated - Status Quo *with 3% annual inflation		Current Area Rated Taxation *resource utilization with 3% annual inflation		Current Area Rated Taxation *flat rate with 3% annual inflation		Status Quo - Fully Funded inflation (Softened)		Status Quo - Fully Funded inflation (Softened)		Status Quo - Fully Funded * flat rate with 3% annual inflation (Softened)		Optimized * flat rate with 3% annual inflation (Softened)		
	Career	Composite	Volunteer	Career	Composite	Volunteer	Career	Composite	Volunteer	Career	Composite	Volunteer	Career	Composite	Volunteer
2016	147.83	101.66	58.40	147.83	101.66	58.40	147.83	101.66	58.40	147.83	101.66	58.40	147.83	101.66	58.40
2017	152.46	104.70	60.01	129.55	108.47	105.86	149.04	110.59	82.94	149.00	112.07	77.45	153.44	116.52	81.91
2018	157.04	107.84	61.81	135.44	111.72	109.03	150.26	119.52	107.47	150.17	122.47	96.52	159.05	131.37	105.41
2019	161.75	111.07	63.67	137.44	115.07	112.30	151.48	128.45	132.01	151.35	132.88	115.58	164.66	146.23	128.92
2020	166.60	114.40	65.58	141.57	118.53	115.67	152.70	137.38	156.54	152.52	143.29	134.64	170.27	161.08	152.43
2021	171.60	117.84	67.54	145.81	122.08	119.14	154.65	144.50	161.96	155.55	155.55	155.55	167.71	167.71	167.71
2022	176.75	121.37	69.57	150.19	125.74	122.72	160.95	153.05	174.89	162.02	162.02	162.02	178.83	178.83	178.83
2023	182.05	125.01	71.66	154.69	129.52	126.40	167.44	161.87	188.20	172.74	172.74	172.74	190.29	190.29	190.29
2024	187.51	128.76	73.81	159.33	133.40	130.19	174.13	170.94	201.91	181.73	181.73	181.73	202.10	202.10	202.10
2025	193.14	132.62	76.02	164.11	137.40	134.10	181.02	180.30	216.03	190.99	190.99	190.99	214.26	214.26	214.26
2026	198.93	136.60	78.30	169.04	141.53	138.12	188.11	189.93	230.58	200.53	200.53	200.53	226.78	226.78	226.78

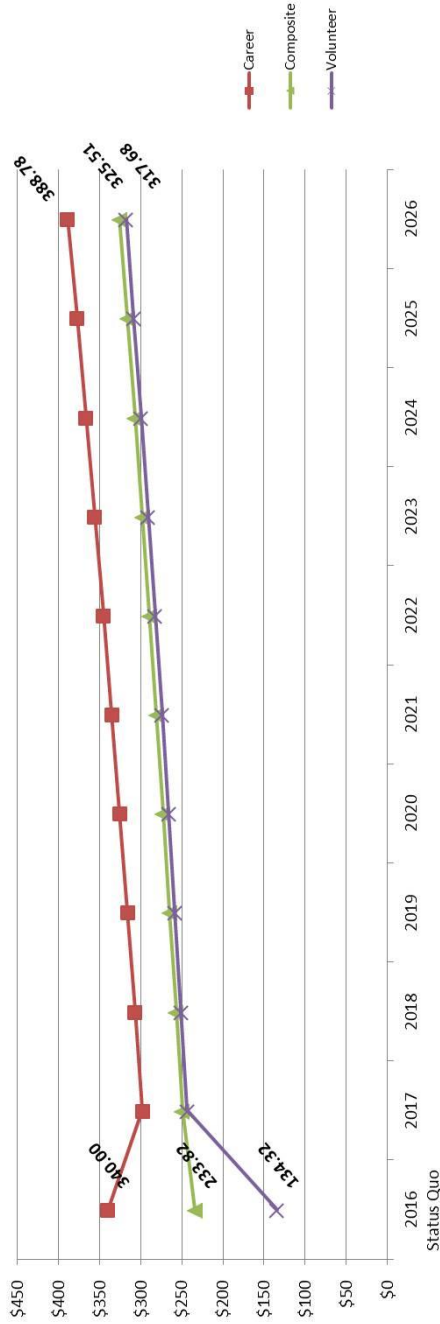


Career
 Total increase over the next ten years is **\$117.54**
 Annual increase is **\$11.75** per year for the next ten years
 Which equals **\$0.03** per day

Composite
 Total increase over the next ten years is **\$80.37**
 Annual increase is **\$8.04** per year for the next ten years
 Which equals **\$0.02** per day

Volunteer
 Total increase over the next ten years is **\$45.78**
 Annual increase is **\$4.58** per year for the next ten years
 Which equals **\$0.01** per day

Current Area Rating - Utilization
 Tax model reflects actual resources used by each area (career, composite and volunteer). No service level improvements. Service (based on a \$230,000 home with a 3% annual inflation)



Career
 Total increase over the next ten years is **\$48.78**
 Annual increase is **\$4.88** per year for the next ten years
 Which equals **\$0.01** per day

Composite
 Total increase over the next ten years is **\$91.69**
 Annual increase is **\$9.17** per year for the next ten years
 Which equals **\$0.03** per day

Volunteer
 Total increase over the next ten years is **\$183.36**
 Annual increase is **\$18.34** per year for the next ten years
 Which equals **\$0.05** per day

Status Quo Fully Funded – Resource Utilization
 (based on a \$230,00 home with a 3% annual inflation)
 Tax model reflects actual resources used by each area (career, composite and volunteer). No service level improvements. Current



Career

Total increase over the next ten years is **\$92.66**
 Annual increase is **\$9.27** per year for the next ten years
 Which equals **\$0.03** per day

Composite

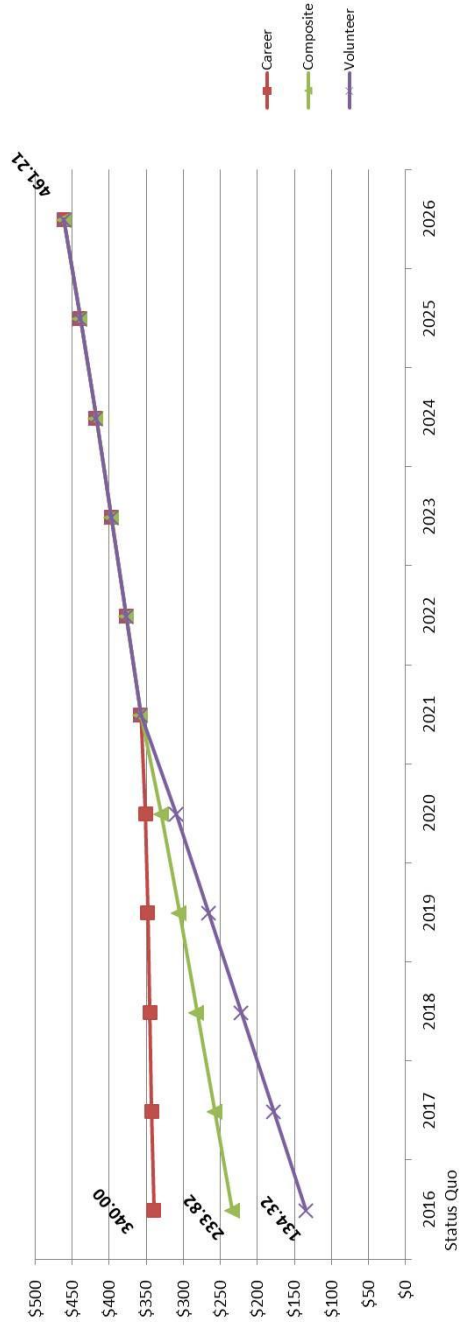
Total increase over the next ten years is **\$203.01**
 Annual increase is **\$20.30** per year for the next ten years
 Which equals **\$0.06** per day

Volunteer

Total increase over the next ten years is **\$396.01**
 Annual increase is **\$39.60** per year for the next ten years
 Which equals **\$0.11** per day

Tax model reflects all taxpayers paying equally for the cost of Fire Services (same tax model as Police and Paramedic Services). No service level

Status Quo Fully Funded - Flat Rate (based on a \$230,000 home with a 3% annual inflation)

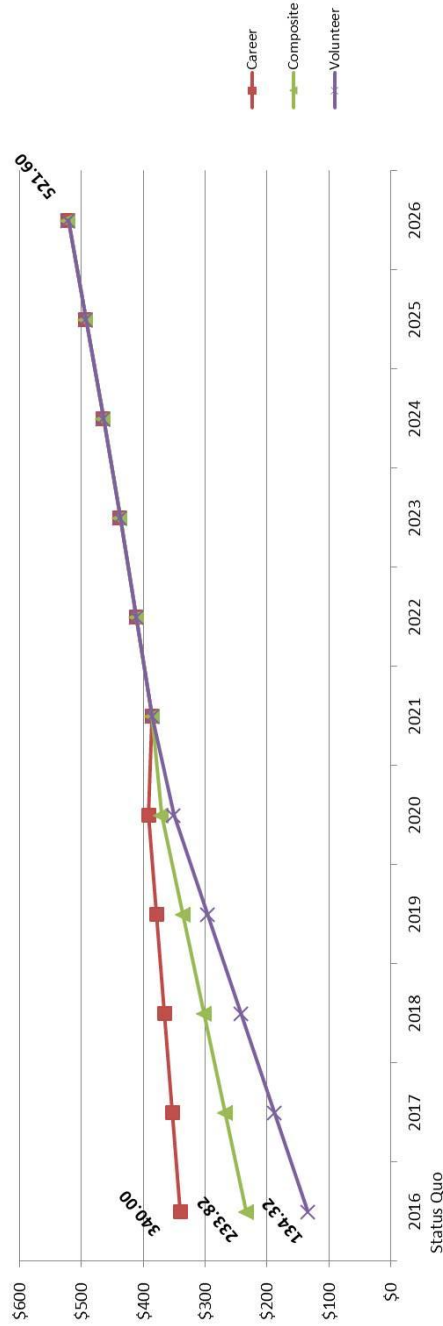


Career
 Total increase over the next ten years is **\$121.21**
 Annual increase is **\$12.12** per year for the next ten years
 Which equals **\$0.03** per day

Composite
 Total increase over the next ten years is **\$227.39**
 Annual increase is **\$22.74** per year for the next ten years
 Which equals **\$0.06** per day

Volunteer
 Total increase over the next ten years is **\$326.89**
 Annual increase is **\$32.69** per year for the next ten years
 Which equals **\$0.09** per day

Optimized - Flat Rate
 Tax model reflects all taxpayers paying equally for the cost of an optimized Fire Service (same tax model as Police and Paramedic Services). Represents (based on a \$230,000 home with a 3% annual inflation)



Career

Total increase over the next ten years is **\$181.60**
 Annual increase is **\$18.16** per year for the next ten years
 Which equals **\$0.05** per day

Composite

Total increase over the next ten years is **\$287.78**
 Annual increase is **\$28.78** per year for the next ten years
 Which equals **\$0.08** per day

Volunteer

Total increase over the next ten years is **\$387.28**
 Annual increase is **\$38.73** per year for the next ten years
 Which equals **\$0.11** per day

Summary - Pre & Post Optimization Analysis

Staffing - Budget (based on 2016 staffing levels):

	Status Quo	Status Quo (Fully Funded)	Optimized	Impact	Notes
General Manager's Office					
Lionel E Lalonde Centre (CLELC)					
Emergency Management					
Fire Services					
Administration:					
Prevention	5	5	6	1	Generalist * plus 5 year contract Project Management position
Public Safety	5	5	5	0	
Training	2	2	2	0	
Fleet & Apparatus					
Suppression - Platoon Chiefs	5	5	6	1	Office Clerk
Suppression - Career	8	8	10	2	Prevention Officers
Suppression - Volunteer	1	1	2	1	Public Education Officer
Sub-Total	4	4	4	0	
	3	3	3	0	
	4	4	4	0	
	104	104	162	58	
	350	350	135	(215)	
	479	479	326	(153)	
Paramedic Services					
Administration	7	7	8	1	Scheduler
Logistics	2	2	2	0	
Professional Standards	4	4	4	0	
Training	2	2	2	0	
Equipment Vehicle Technicians	6	6	7	1	Equipment Vehicle Technician
Platoon Superintendents	4	4	4	0	
Paramedics - ACP	50	50	50	0	
Paramedics - PCP	47	47	47	0	
Sub-Total	122	122	124	2	
Paramedic Part-Time Staffing (crew hours)	50,027	50,027	50,027	0	* Representing 40 Part-Time Staff
Total Staffing	613	613	463	(150)	

Summary -- Pre & Post Optimization Analysis

	Status Quo	Status Quo (Fully Funded)	Optimized	Impact	Notes
Operating Budget (based on 2016 approved budget):					
General Manager's Office					
Revenues:					
Provincial Grants & Subsidies	\$0	\$0	\$0	\$0	
User Fees	\$0	\$0	\$0	\$0	
Other Revenues	\$0	\$0	\$0	\$0	
Total Revenue	\$0	\$0	\$0	\$0	
Expenses:					
Salaries & Benefits	\$618,048	\$618,048	\$797,473	\$179,425	1 FTE * Generalist (NU 9/3) * plus 5 year Project Manager contract (NU 11/3)
Materials - Operating Expenses	\$65,672	\$65,672	\$65,672	\$0	
Energy Costs	\$0	\$0	\$0	\$0	
Purchased/Contract Services	\$0	\$0	\$0	\$0	
Debt Costs / Insurance & Taxes	\$0	\$0	\$0	\$0	
Grants - Transfer Payments	\$0	\$0	\$0	\$0	
Contr to Reserve and Capital	\$0	\$0	\$0	\$0	
Internal Recoveries	(\$683,720)	(\$683,720)	(\$863,145)	(\$179,425)	
Total Expenses	(\$0)	(\$0)	(\$0)	(\$0)	
Net Total	(\$0)	(\$0)	(\$0)	(\$0)	
Lionel E Lalonde Centre (CLELC)					
Revenues:					
Provincial Grants & Subsidies	\$0	\$0	\$0	\$0	
User Fees	(\$257,799)	(\$257,799)	(\$257,799)	\$0	
Contribution From Reserves	(\$100,091)	(\$100,091)	(\$100,091)	\$0	
Other Revenues	(\$40,000)	(\$40,000)	(\$40,000)	\$0	
Total Revenue	(\$397,890)	(\$397,890)	(\$397,890)	\$0	
Expenses:					
Salaries & Benefits	\$533,157	\$533,157	\$533,157	\$0	
Materials - Operating Expenses	\$231,137	\$231,137	\$231,137	\$0	
Energy Costs	\$310,023	\$310,023	\$310,023	\$0	
Purchased/Contract Services	\$202,750	\$202,750	\$202,750	\$0	
Debt Costs / Insurance & Taxes	\$100,091	\$100,091	\$100,091	\$0	
Grants - Transfer Payments	\$0	\$0	\$0	\$0	
Contr to Reserve and Capital	\$442,281	\$442,281	\$442,281	\$0	
Internal Recoveries	(\$1,160,424)	(\$1,160,424)	(\$1,138,893)	\$21,531	Cost recovery for additional positions in GM's Office
Total Expenses	\$659,015	\$680,546	\$682,656	\$21,531	
Net Total	\$261,125	\$261,125	\$282,656	\$21,531	

Summary - Pre & Post Optimization Analysis

	Status Quo	Status Quo (Fully Funded)	Optimized	Impact	Notes
Emergency Management					
Revenues:					
Provincial Grants & Subsidies	\$0	\$0	\$0	\$0	
User Fees	\$0	\$0	\$0	\$0	
Other Revenues	(\$6,500)	(\$6,500)	(\$6,500)	\$0	
Total Revenue	(\$6,500)	(\$6,500)	(\$6,500)	\$0	
Expenses:					
Salaries & Benefits	\$211,359	\$211,359	\$211,359	\$0	
Materials - Operating Expenses	\$154,316	\$154,316	\$154,316	\$0	
Energy Costs	\$413	\$413	\$413	\$0	
Purchased/Contract Services	\$12,000	\$12,000	\$12,000	\$0	
Debt Costs / Insurance & Taxes	\$0	\$0	\$0	\$0	
Grants - Transfer Payments	\$20,000	\$20,000	\$20,000	\$0	
Contr. to Reserve and Capital	\$11,047	\$11,047	\$11,047	\$0	
Internal Recoveries	\$294,586	\$294,586	\$317,911	\$23,325	
Total Expenses	\$703,721	\$703,721	\$727,046	\$23,325	
Net Total	\$697,221	\$697,221	\$720,546	\$23,325	Cost recovery for additional positions in GM's Office

Summary - Pre & Post Optimization Analysis

	Status Quo	Status Quo (Fully Funded)	Optimized	Impact	Notes
Fire Services					
Revenues:					
Provincial Grants & Subsidies	\$0	\$0	\$0	\$0	
User Fees	(\$224,820)	(\$224,820)	(\$224,820)	(\$0)	
Contribution From Reserves	(\$118,950)	(\$118,950)	(\$118,950)	\$0	
Other Revenues	(\$49,152)	(\$49,152)	(\$49,152)	\$0	
Total Revenue	(\$392,922)	(\$392,922)	(\$392,922)	\$0	
Expenses:					
Salaries & Benefits	\$19,819,396	\$19,819,396	\$27,929,554	\$8,110,158	Add: * 58 Career FF * 2 x Prevention Officer (FIR 11/1) * 1 x Public Education Officer (FIR 11/1) * 1 x Office Clerk (FIR 14/1) Less: * 215 x Volunteers
Materials - Operating Expenses	\$1,313,100	\$1,313,100	\$1,295,294	(\$17,806)	
Equipment Costs	\$49,894	\$49,894	\$49,894	\$0	
Energy Costs	\$410,369	\$410,369	\$272,912	(\$137,457)	
Purchased/Contract Services	\$160,436	\$160,436	\$147,936	(\$12,500)	
Debt Costs / Insurance & Taxes	\$13,000	\$5,271,682	\$3,100,508	(\$2,171,174)	Status Quo - Fully Funded = \$5,258,682 Optimized = \$3,087,508
Grants - Transfer Payments	\$0	\$0	\$0	\$0	
Contr to Reserve - Presumptive Legislation	\$0	\$1,147,376	\$719,579	(\$427,797)	Status Quo - Fully Funded Add'l \$756K to eliminate the capital gap for vehicles & major equipment plus \$250K for future building capital needs.
Contr to Reserve and Capital	\$1,255,918	\$2,262,657	\$1,777,057	(\$485,600)	Optimized: Add'l \$271K to eliminate the capital gap for vehicles & major equipment plus \$250K for future building capital needs
Internal Recoveries	\$1,715,275	\$1,715,275	\$1,537,345	(\$177,930)	Reduction in rent allocation for space used at CLELC plus cost recovery for additional positions in GM's Office
Total Expenses	\$24,737,388	\$32,150,186	\$36,830,079	\$4,679,893	
Net Total	\$24,344,467	\$31,757,264	\$36,437,156	\$4,679,892	

Summary - Pre & Post Optimization Analysis

	Status Quo	Status Quo (Fully Funded)	Optimized	Impact	Notes
Paramedic Services					
Revenues:					
Provincial Grants & Subsidies	(\$10,698,366)	(\$11,555,322)	(\$11,414,863)	\$140,459	50/50 provincial funding
User Fees	(\$11,723)	(\$11,723)	(\$11,723)	\$0	
Other Revenues	(\$423,869)	(\$423,869)	(\$423,869)	\$0	
Total Revenue	(\$11,133,958)	(\$11,990,914)	(\$11,850,455)	\$140,459	
Expenses:					
Salaries & Benefits	\$15,938,953	\$15,938,953	\$16,059,146	\$120,193	2 FTE's * Scheduler (NU 6/3) * Equipment Vehicle Technician (NW 5/3)
Materials - Operating Expenses	\$1,424,098	\$1,424,098	\$1,424,098	\$0	
Energy Costs	\$336,846	\$336,846	\$336,846	\$0	
Prof Development & Training	\$71,528	\$71,528	\$71,528	\$0	
Purchased/Contract Services	\$413,824	\$413,824	\$413,824	\$0	
Debt Costs / Insurance & Taxes	\$0	\$2,043,705	\$2,104,086	\$60,381	Status Quo - Fully Funded = \$2,043,705 Optimized = \$2,104,086
Grants - Transfer Payments	\$0	\$0	\$0	\$0	
Contr to Reserve - Presumptive Legislation	\$0	\$223,198	\$231,151	\$7,953	
Contr to Reserve and Capital	\$961,105	\$961,105	\$961,105	\$0	
Internal Recoveries	\$2,132,978	\$2,132,978	\$1,663,534	(\$469,444)	Reduction in rent allocation for space used at CLELC plus cost recovery for additional positions in GM's Office
Total Expenses	\$21,279,333	\$23,546,236	\$23,265,318	(\$280,917)	
Net Total	\$10,145,374	\$11,555,322	\$11,414,863	(\$140,459)	
Total Operating Budget	\$35,448,187	\$44,270,932	\$48,855,220	\$4,584,289	

Summary - Pre & Post Optimization Analysis

	Status Quo	Status Quo (Fully Funded)	Optimized	Impact	Notes
Front-Line Vehicles:					
Engine - Commercial	14	14	3	(11)	
Engine - Custom	13	13	16	3	
Tanker	11	11	11	0	
Support - Rehab Units	11	11	2	(9)	
Ladder (Aerial)	4	4	2	(2)	
Support - Bush Trucks	11	11	6	(5)	
Boat & Trailer	6	6	7	1	
Hazmat Unit	1	1	1	0	
Rescue Units	2	2	0	(2)	
Total Front-Line Vehicles	73	73	48	(25)	
Capital - Vehicles & Major Equipment:					
Estimated Replacement Costs - Front-Line Vehicles (includes boats & trailers)	\$28,247,265	\$28,247,265	\$20,739,155	(\$7,508,110)	* Based on a 20 year life cycle for Vehicles & 10 year life cycle for Boats / Trailers
Estimated Replacement Costs - Major Equipment & Non Front-Line Vehicles	\$8,048,028	\$8,048,028	\$6,898,907	(\$1,149,121)	* Based on life cycles of 15, 10 and/or 5 years depending on the type of equipment and legislative requirements.
Total Capital - Vehicles & Equipment (reduction in overall value of assets)	\$36,295,293	\$36,295,293	\$27,638,062	(\$8,657,231)	
Capital Gap (2017 - 2036):					
Estimated Capital Requirements	\$47,251,059	\$47,251,059	\$36,159,614	(\$11,091,445)	
Estimated Capital Funding	\$31,125,814	\$47,251,249	\$36,159,873	(\$11,091,375)	
Total Capital Gap (cost avoidance)	(\$16,125,245)	\$189	\$259	\$70	

Summary - Pre & Post Optimization Analysis

	Status Quo	Status Quo (Fully Funded)	Optimized	Impact	Notes
Stations:					
Emergency Services Stations	8	8	9	1	Co-habitation stations (shared with Fire & Paramedic Services)
Fire Station - Stand Alone	16	16	5	(11)	Moving out of Chelmsford & Capreol and building 2 new posting stations (Downtown & New Sudbury)
Paramedic Stations - Stand-Alone	2	2	2	0	Moving out of Azilda and building a new HQ at Lasalle & Notre Dame
Headquarters	1	1	1	0	
Total Stations	27	27	17	(10)	
Station Costs:					
Cost to Build / Renovate	\$0	\$134,981,452	\$95,964,357	(\$39,017,094)	* Repayment included in Operating Budget - Internal Debt Financing option @ 3.5% over 30 years
Market Assessments - Sale of Buildings	\$0	\$0	(\$3,278,000)	(\$3,278,000)	** Doesn't include land acquisitions
Total Station Costs:	\$0	\$134,981,452	\$92,686,357	(\$42,295,094)	* Due to the condition of the Red Deer Lake station - no market assessment available Doesn't include any land acquisitions

		Station	Station #	Age	TOTAL
Fire - Only	Move - Build	Van Horne	1	0	\$3,516,038
Paramedic - Only	Build	Downtown		0	\$1,593,360
Emergency Services	Move - Build	Minnow Lake	2	0	\$4,638,478
Emergency Services	Close (move to New HQ)	New Sudbury	3	0	
Paramedic - Only	Build	New Sudbury		0	\$1,360,655
Emergency Services	Renovate	Long Lake	4	39	\$6,770,923
Fire - Only	Close	Copper Cliff	5	0	
Emergency Services	Build	Waters	6	0	\$5,782,786
Fire - Only	Close	Lively	7	0	
Fire - Only	Renovate	Whitefish	8	37	\$5,172,059
Fire - Only	Close	Beaver Lake	9	0	
Fire - Only	Re-Purpose	Azilda	10	46	\$0
Emergency Services	Move - Build	Chelmsford	11	0	\$5,413,441
Fire - Only	Renovate	Dowling	12	46	\$3,401,639
Fire - Only	Close	Vermillion	13	0	
Emergency Services	Renovate	Levack	14	45	\$5,242,086
Emergency Services	Move - Build	Val Caron	15	0	\$5,803,410
Emergency Services	Close	Val Therese	16	0	
Emergency Services	Move - Build	Hanmer	17	0	\$3,926,038
Emergency Services	Renovate	Capreol	18	34	\$5,386,886
Paramedic - Only	Re-Purpose	Capreol		34	\$0
Emergency Services	Move - Build	Garson	20	0	\$5,408,233
Fire - Only	Close	Falconbridge	21	0	
Fire - Only	Renovate	Skead	22	36	\$4,253,198
Fire - Only	Close	Coniston	23	0	
Fire - Only	Renovate	Wahnapiatae	24	40	\$4,229,198
Fire - Only	Close	Red Deer Lake	25	0	\$0
Emergency Services	Build	New Headquarters		0	\$22,232,932
Total Cost to Build / Renovate Stations					\$95,964,357
Sale of Buildings					(\$3,278,000)
Net Cost to Build / Renovate Stations					\$92,686,357
Debt Financing @ 3.5% over 30 years					\$5,191,594

Assumptions:

Estimated Square Footage

	Fire	Paramedic	Total
Van Horne	11,000	4,300	15,300
Career	11,000	2,000	13,000
Composite	13,000	2,000	15,000
Volunteer	9,000	2,000	11,000
Paramedic - Stand Alone	3,600		3,600
Head Quarters	30,000	30,000	60,000

Station maintenance costs applied to any building that will not be replaced within 5 years

Annual increase for construction rates = 2.0% per year

Construction rate of \$350 per square foot as provided by Real Estate Division. Includes estimates for architectural and engineering fees.

Building Replacement
Estimated Amortization Schedules

Purchase Price \$ 95,964,357 30 Years
 Payment (Annual) \$ 5,191,594
 Interest Rate 3.5%

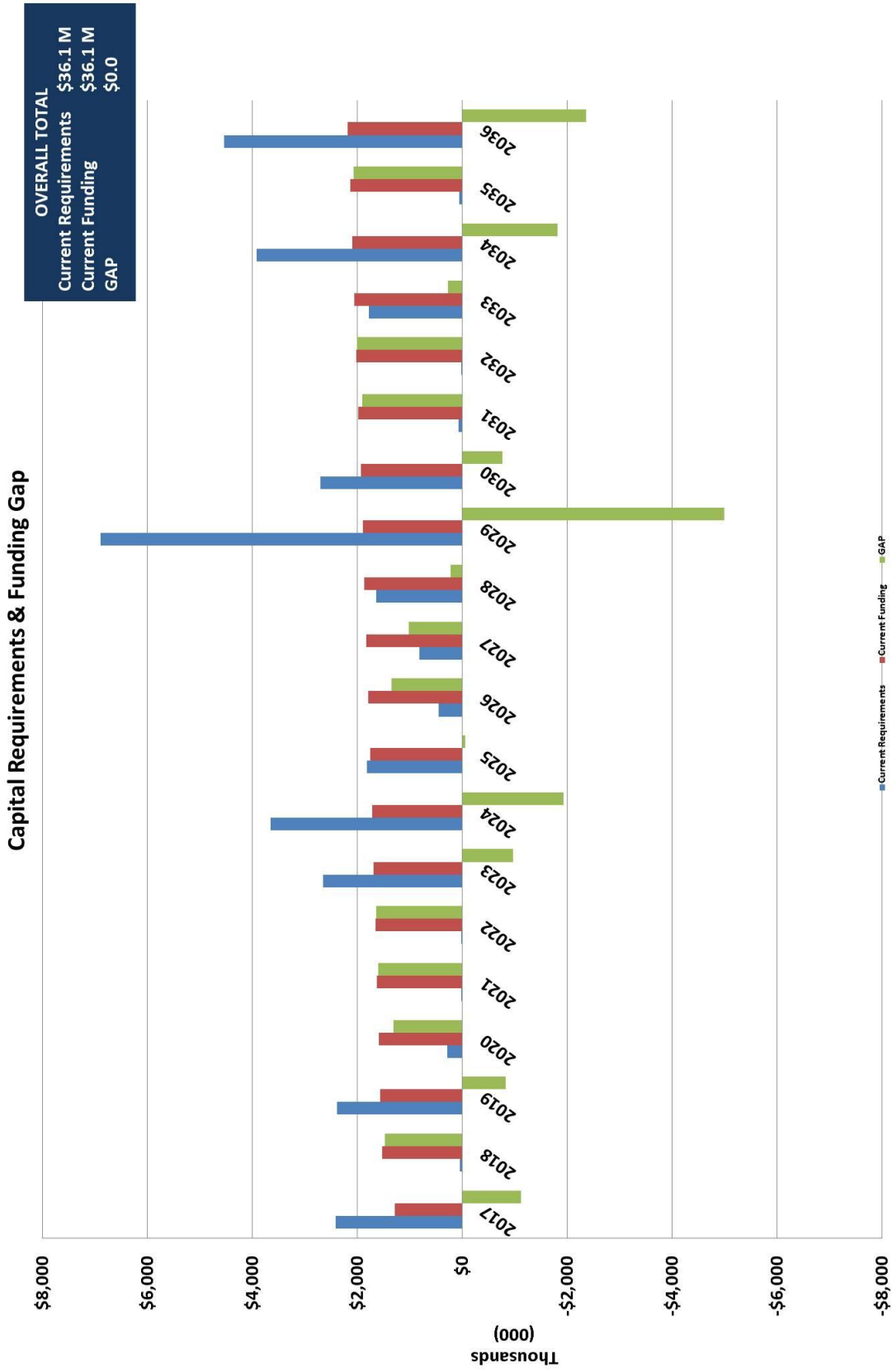
Date	Remaining Principal	Payment	Interest	Principal
31-Dec-17	95,964,357	5,191,594	3,320,367	1,871,227
31-Dec-18	94,093,130	5,191,594	3,255,622	1,935,971
31-Dec-19	92,157,158	5,191,594	3,188,638	2,002,956
31-Dec-20	90,154,202	5,191,594	3,119,335	2,072,258
31-Dec-21	88,081,944	5,191,594	3,047,635	2,143,959
31-Dec-22	85,937,986	5,191,594	2,973,454	2,218,139
31-Dec-23	83,719,846	5,191,594	2,896,707	2,294,887
31-Dec-24	81,424,959	5,191,594	2,817,304	2,374,290
31-Dec-25	79,050,669	5,191,594	2,735,153	2,456,441
31-Dec-26	76,594,228	5,191,594	2,650,160	2,541,433
31-Dec-27	74,052,795	5,191,594	2,562,227	2,629,367
31-Dec-28	71,423,428	5,191,594	2,471,251	2,720,343
31-Dec-29	68,703,084	5,191,594	2,377,127	2,814,467
31-Dec-30	65,888,617	5,191,594	2,279,746	2,911,848
31-Dec-31	62,976,770	5,191,594	2,178,996	3,012,598
31-Dec-32	59,964,172	5,191,594	2,074,760	3,116,833
31-Dec-33	56,847,339	5,191,594	1,966,918	3,224,676
31-Dec-34	53,622,663	5,191,594	1,855,344	3,336,250
31-Dec-35	50,286,413	5,191,594	1,739,910	3,451,684
31-Dec-36	46,834,729	5,191,594	1,620,482	3,571,112
31-Dec-37	43,263,617	5,191,594	1,496,921	3,694,673
31-Dec-38	39,568,945	5,191,594	1,369,085	3,822,508
31-Dec-39	35,746,436	5,191,594	1,236,827	3,954,767
31-Dec-40	31,791,669	5,191,594	1,099,992	4,091,602
31-Dec-41	27,700,067	5,191,594	958,422	4,233,171
31-Dec-42	23,466,896	5,191,594	811,955	4,379,639
31-Dec-43	19,087,257	5,191,594	660,419	4,531,175
31-Dec-44	14,556,082	5,191,594	503,640	4,687,953
31-Dec-45	9,868,128	5,191,594	341,437	4,850,157
31-Dec-46	5,017,972	5,191,594	173,622	5,017,972
TOTAL		155,747,813	59,783,456	95,964,357

Optimized Model Capital Equipment Requirements

Year	Current Requirements	Current Funding	GAP
2017	\$2,408,303	\$1,281,036	(\$1,127,267)
2018	\$47,599	\$1,527,057	\$1,479,458
2019	\$2,382,944	\$1,557,598	(\$825,345)
2020	\$278,914	\$1,588,750	\$1,309,836
2021	\$23,306	\$1,620,525	\$1,597,220
2022	\$9,366	\$1,652,936	\$1,643,570
2023	\$2,657,715	\$1,685,994	(\$971,720)
2024	\$3,653,457	\$1,719,714	(\$1,933,743)
2025	\$1,811,550	\$1,754,109	(\$57,441)
2026	\$445,376	\$1,789,191	\$1,343,814
2027	\$811,870	\$1,824,975	\$1,013,105
2028	\$1,642,394	\$1,861,474	\$219,081
2029	\$6,901,046	\$1,898,704	(\$5,002,342)
2030	\$2,702,798	\$1,936,678	(\$766,120)
2031	\$69,358	\$1,975,411	\$1,906,053
2032	\$11,700	\$2,014,919	\$2,003,220
2033	\$1,783,430	\$2,055,218	\$271,788
2034	\$3,912,914	\$2,096,322	(\$1,816,592)
2035	\$62,565	\$2,138,249	\$2,075,683
2036	\$4,543,009	\$2,181,014	(\$2,361,996)
TOTAL	\$36,159,614	\$36,159,873	\$259

Optimized Capital Inventory By Category

Category	Quantity	Sum of Estimated Replacement Cost
Communication	1013	\$1,901,896
Equipment	1819	\$3,274,128
Personal Protective Equipment (PPE)	2353	\$1,087,435
Vehicle	24	\$635,448
Vehicle - Front Line	56	\$20,739,155
Grand Total	5265	\$27,638,062





Reports & Documents (R)



Fire Underwriters Survey
A SERVICE TO INSURERS AND MUNICIPALITIES

c/o SCM Opta Information Intelligence

April 8th, 2016

Greater Sudbury Fire Services
239 Montee Principale, Unit 5
Azilda, ON
P0M 1B0

Attention: Trevor Bain, Fire Chief

Fire Underwriters Survey – Corporation of the City of Greater Sudbury

Fire Underwriters Survey is a national organization that represents more than 90 percent of the private sector and casualty insurers in Canada. Fire Underwriters Survey provides data to program subscribers regarding public fire protection for fire insurance statistical and underwriting evaluation.

Fire Underwriters Survey conducted an assessment for each area of the fire defenses primarily for fire insurance grading and classification purposes. The following letter provides a brief description of the grading process.

The Public Fire Protection Classification (PFPC) is a numerical grading system scaled from 1 to 10 that is used by Commercial Lines¹ insurers. Class 1 represents the highest grading possible and Class 10 represents an unrecognized level of fire protection, or fire protection beyond 5 km by road travel distance from the nearest responding fire station. The PFPC grading system evaluates the ability of a community's fire protection programs to prevent and control major fires that may occur in multi-family residential, commercial, industrial, institutional buildings, and course of construction developments.

Fire Underwriters Survey also assigns a second grade for fire protection. The second grading system, entitled Dwelling Protection Grade (DPG), assesses the protection available for small buildings such as single-family dwellings and is used by Personal Lines² insurers.

The DPG is a numerical grading system scaled from 1 to 5. One (1) is the highest grading possible and five (5) indicates little or no fire protection is present; Class 5 also represents fire protection beyond 8 km by road travel distance. This grading reflects the ability of a community to handle fires in small buildings such as single family dwellings and semi-detached dwellings.

We are pleased to inform that our analysis of the City of Greater Sudbury that our fire insurance classification assessment is complete. The following two tables outline past and present Public Fire Protection Classifications and the Dwelling Protection Grades attributed to the City of Greater Sudbury.

¹ Commercial Lines: A distinction marking property and liability coverage written for business or entrepreneurial interests (includes institutional, industrial, multi-family residential and all buildings other than detached dwellings that are designated single-family residential or duplex) as opposed to Personal Lines.

² Personal Lines: Insurance covering the liability and property damage exposures of private individuals and their households as opposed to Commercial Lines. Typically includes all detached dwellings that are designated single family residential or duplex.

<p>Western Canada 3999 Henning Drive Burnaby, BC V5C 6P9 1 (800) 665-5661</p>	<p>Ontario 175 Commerce Valley Drive West Markham, ON L3T 7P6 1 (800) 268-8080</p>	<p>Quebec 1611 Cremazie Boulevard East Montreal, QC H2M 2P2 1 (800) 263-5361</p>	<p>Atlantic Canada 238 Brownlow Avenue, Suite 300 Dartmouth, NS B3B 1Y2 1 (800) 639-4528</p>
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Table 1 – Public Fire Protection Classification (PFPC) Updates for the City of Greater Sudbury

SUB DISTRICT(S) and (contract protection areas)	PFPC Previous	PFPC 2016	COMMENTS
Sudbury Fire Station 1 (H.P.A)	4	4	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall.
Minnow Lake Fire Station 2 (H.P.A)	4	4	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall.
New Sudbury Fire Station 3 (H.P.A)	4	4	Fire Hall Protected – Commercial Lines insured properties within 5km of a fire hall but not within 150 m of a hydrant.
Long Lake Fire Station 4 (H.P.A)	4	4	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall.
Copper Cliff Fire Station 5 (H.P.A)	5	5	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall
Waters Fire Station 6 (H.P.A)	6	5	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall
Lively Fire Station 7 (H.P.A)	6	5	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall
Whitefish Fire Station 8 (H.P.A)	6	5	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall
Beaver Lake Fire Station 9 (F.P.A)	9	9	Fire Hall Protected – Commercial Lines insured properties within 5km of a fire hall but not within 150 m of a hydrant.
Azilda Fire Station 10 (H.P.A)	6	5	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall.
Chelmsford Fire Station 11 (H.P.A)	6	5	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall.
Dowling Fire Station 12 (H.P.A)	6	5	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall.
Vermillion Lake Fire Station 13 (F.P.A)	9	9	Fire Hall Protected – Commercial Lines insured properties within 5km of a fire hall but not within 150 m of a hydrant.
Levack Fire Station 14 (H.P.A)	5	5	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall
Val Caron Fire Station 15	6	5	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall
Val Therese Fire Station 16 (H.P.A)	6	4	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall
Hanmer Fire Station 17 (H.P.A)	6	4	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall
Capreol Fire Station 18 (H.P.A)	6	5	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall
Garson Fire Station 20 (H.P.A)	6	4	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall
Falconbridge Fire Station 21 (H.P.A)	4	7P	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall
Skead Fire Station 22 (F.P.A)	9	9	Fire Hall Protected – Commercial Lines insured properties within 5km of a fire hall but not within 150 m of a hydrant.

Western Canada 3999 Henning Drive Burnaby, BC V5C 6P9 1 (800) 665-5661	Ontario 175 Commerce Valley Drive West Markham, ON L3T 7P6 1 (800) 268-8080	Quebec 1611 Cremazie Boulevard East Montreal, QC H2M 2P2 1 (800) 263-5361	Atlantic Canada 238 Brownlow Avenue, Suite 300 Dartmouth, NS B3B 1Y2 1 (800) 639-4528
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c/o SCM Opta Information Intelligence

Coniston Fire Station 23 (H.P.A)	6	6	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall
Wahnapitae Fire Station 24 (H.P.A)	6	5	Hydrant Protected – Commercial Lines insured properties within 150m of a hydrant and within 5 road km of a fire hall
Fire Hall Protected Area	9	9	Fire Hall Protected – Commercial Lines insured properties within 5km of a fire hall but not within 150 m of a hydrant.
Rest	10	10	Rest – Commercial Lines insured property beyond 5 km by road of a fire hall.

Table 2 – Dwelling Protection Grade (DPG) Updates for the City of Greater Sudbury

SUB DISTRICT(S) and (contract protection areas)	DPG Previous	DPG 2016	COMMENTS
Sudbury Fire Station 1 (H.P.A)	1	1	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Sudbury Fire Station 1 (F.P.A)	3B	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Minnow Lake Fire Station 2 (H.P.A)	1	1	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Minnow Lake Fire Station 2 (F.P.A)	4	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
New Sudbury Fire Station 3 (H.P.A)	1	1	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
New Sudbury Fire Station 3 (F.P.A)	4	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Long Lake Fire Station 4 (H.P.A)	3A	1	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Long Lake Fire Station 4 (F.P.A)	N/A	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Copper Cliff Fire Station 5 (H.P.A)	3A	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall
Copper Cliff Fire Station 5 (F.P.A)	N/A	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Waters Fire Station 6 (H.P.A)	N/A	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall
Waters Fire Station 6 (F.P.A)	N/A	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Lively Fire Station 7 (H.P.A)	3A	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall
Lively Fire Station 7 (F.P.A)	4	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Whitefish Fire Station 8 (H.P.A)	3A	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall
Whitefish Fire Station 8 (F.P.A)	3B	3B	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Beaver Lake Fire Station 9 (F.P.A)	4	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.

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Fire Underwriters Survey

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Azilda Fire Station 10 (H.P.A)	2	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall
Azilda Fire Station 10 (F.P.A)	3B	3B	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Chelmsford Fire Station 11 (H.P.A)	2	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall
Chelmsford Fire Station 11 (F.P.A)	3B	3B	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Dowling Fire Station 12 (H.P.A)	3A	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall
Dowling Fire Station 12 (F.P.A)	3B	3B	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Vermillion Lake Fire Station 13 (F.P.A)	4	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Levack Fire Station 14 (H.P.A)	2	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Levack Fire Station 14 (F.P.A)	4	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Val Caron Fire Station 15 (H.P.A)	3A	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Val Caron Fire Station 15 (F.P.A)	3B	3B	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Val Therese Fire Station 16 (H.P.A)	2	2	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Val Therese Fire Station 16 (F.P.A)	3B	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Hanmer Fire Station 17 (H.P.A)	3A	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Hanmer Fire Station 17 (F.P.A)	3B	3B	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Capreol Fire Station 18 (H.P.A)	3A	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Capreol Fire Station 18 (F.P.A)	3B	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Garson Fire Station 20 (H.P.A)	3A	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Garson Fire Station 20 (F.P.A)	4	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Falconbridge Fire Station 21 (H.P.A)	3A	5	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Falconbridge Fire Station 21 (F.P.A)	4	5	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Skead Fire Station 22 (F.P.A)	4	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Coniston Fire Station 23 (H.P.A)	3A	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.

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Coniston Fire Station 23 (F.P.A)	4	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Wahnapitae Fire Station 24 (H.P.A)	3A	3A	Hydrant Protected – Personal Lines insured properties within 300m of a Fire Hydrant and within 8 road km of a fire hall.
Wahnapitae Fire Station 24 (F.P.A)	4	4	Fire Hall Protected – Personal Lines insured properties within 8 km of a fire hall but not within 300m of a hydrant.
Rest	5	5	Unprotected – Personal Lines insured properties further than 8 km by road of a fire hall.

As indicated in the table above, there are numerous stations that have received downgrades. Stations were downgrades are present reflect deficiencies within the fire insurance grading of Greater Sudbury, as it relates to Volunteer Rosters below 15 firefighters, and apparatus with a service life of over 20 years. Supporting documentation has been provided within the Appendices of this letter to assist the community in restoring their fire insurance classifications back to previous grades, should there be interest in doing so.

Please note that this letter is private and confidential. The underlying data of this report has been developed for fire insurance grading and classification purposes. This letter may be used by the stakeholders to assist in planning the future direction of fire protection services for the City of Greater Sudbury.

Please contact our office if there are any questions or comments regarding the intent or content found throughout this letter.

Robert Aguiar
 Senior Public Fire Protection Specialist
 Fire Underwriters Survey

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Appendix A

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TECHNICAL BULLETIN

FIRE UNDERWRITERS SURVEY™

A Service to Insurers and Municipalities

FIRE UNDERWRITERS SURVEY RECOMMENDED FREQUENCY OF FIRE PREVENTION INSPECTIONS

The frequency of fire prevention inspections for all occupancies should be specifically appropriate for the level of fire risk within the occupancy. The frequency of inspections will vary from one occupancy to another depending on:

1. Type of occupancy.
2. Occupant load.
3. Function.
4. Grade of hazard

As the fire risk increases, the frequency of inspections should also be increased.

The following table is a minimum frequency guideline for major occupancy classifications from the National Building Code of Canada.

<i>Group - Division National Building Code</i> Occupancy	Minimum Inspection Frequency
A-1	6 months
A-2	6 months
A-3	6 months
A-4	6 months
B-1	6 months
B-2	6 months
C	6 months
D	12 months
E	12 months
F-1	3 months
F-2	6 months
F-3	6 months

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Sample Customized Frequency Schedule

<i>Group - Division National Building Code Occupancy</i>	<i>Inspection Frequency</i>	<i>Group - Division National Building Code Occupancy</i>	<i>Inspection Frequency</i>
A-1 Movie Theaters Theaters	6 months 6 months	C Apartments Boarding Houses Hotels (Unsprinklered) Hotels (Sprinklered) Lodging Houses Motels Residential Schools	6 months 6 months 2 months 4 months 6 months 6 months 6 months
A-2 Bowling Alleys Churches Non-Residential Clubs Community Halls Dance Halls Exhibition Halls Gymnasiums Libraries Licensed Beverage Premises (Unsprinklered) Licensed Beverage Premises (Sprinklered) Museums Restaurants Schools Daycares Undertaker Premises	6 months 6 months 6 months 6 months 6 months 6 months 6 months 6 months 2 months 4 months 6 months 6 months 6 months 4 months 6 months 6 months	D Banks Barbers/Hairdressers Beauty Parlours Dental Offices Self-Services Laundries Medical Offices Offices Radio Stations Appliance Service/Rentals	12 months 12 months 12 months 12 months 12 months 12 months 12 months 12 months
A-3 Arenas Rinks Indoor Pools	6 months 6 months 6 months	E Department Stores Shops Stores Supermarkets	12 months 12 months 12 months 12 months
A-4 Stadiums	6 months	F-1 Feed Mills Spray Paint Booths	3 months 3 months
B-1 Jails Police Stations	6 months 6 months	F-2 Warehouses, Service Stations	12 months
B-2 Children's Custodial Homes Hospitals Nursing Homes	2 months 2 months 4months	F-3 Storage Garages, Medical Labs	12 months

For further information regarding frequency of fire prevention inspections for fire insurance grading purposes, please contact a Fire Underwriters Survey office.

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Appendix B

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TECHNICAL BULLETIN

FIRE UNDERWRITERS SURVEY™

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Insurance Grading Recognition of Used or Rebuilt Fire Apparatus

The performance ability and overall acceptability of older apparatus has been debated between municipal administrations, the public fire service and many others for years. Fire Underwriters Survey (FUS) has reviewed experiences across Canada and in other countries and has developed a standard for acceptance of apparatus as the apparatus becomes less reliable with age and use.

The public fire service is unique compared to other emergency services in that fire apparatus vehicles are not continuously in use. However, when in use, the apparatus is subject to considerable mechanical stress due to the nature of its function. This stress does not normally manifest itself on the exterior of the equipment. It is effectively masked in most departments by a higher standard of aesthetic care and maintenance. Lack of replacement parts further complicates long term use of apparatus. Truck and pump manufacturers maintain a parts inventory for each model year for a finite time. After that period, obtaining necessary parts may be difficult. This parts shortage is particularly acute with fire apparatus due to the narrow market for these devices.

Fire Underwriters Survey lengthy experience in evaluating fire apparatus indicates that apparatus should be designed to an acceptable standard. The standard that is accepted throughout Canada by Fire Underwriters Survey is the Underwriters' Laboratories of Canada (ULC) Standard S515 (most updated version) titled, "Automobile Fire Fighting Apparatus," which was adopted as a National Standard of Canada in September 2004. Alternatively, NFPA 1901, the Standard for Automotive Fire Apparatus (most updated version) is also accepted by Fire Underwriters Survey with respect to apparatus design. Fire apparatus should be built by recognized manufacturers and tested by a suitably accredited third party.

Fire apparatus should respond to first alarms for the first fifteen years of service. During this period it has reasonably been shown that apparatus effectively responds and performs as designed without failure at least 95% of the time. For the next five years, it should be held in reserve status for use at major fires or used as a temporary replacement for out-of-service first line apparatus. Apparatus should be retired from service at twenty years of age. Present practice indicates the recommended service periods and protocols are usually followed by the first purchaser. However, at the end of that period, the apparatus is either traded in on new apparatus or sold to another fire department. At this juncture, the unit may have one or more faults which preclude effective use for emergency service. These deficiencies include:

- a. Inadequate braking system
- b. Slow pick-up and acceleration
- c. Structurally weakened chassis due to constant load bearing and/or overloading
- d. Pump wear

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FUS has modified its application of the age requirement for used or rebuilt apparatus. Due to municipal budget constraints within small communities we have continued to recognize apparatus over twenty years of age, provided the truck successfully meets the recommended annual tests and has been deemed to be in excellent mechanical condition. The specified service tests are outlined below under the heading “Recommended Service Tests for Used or Modified Fire Apparatus”. Testing and apparatus maintenance should only be completed by a technician who is certified to an appropriate level in accordance with NFPA 1071, *Standard for Emergency Vehicle Technician Professional Qualifications*.

Insurance grading recognition may be extended for a limited period of time if we receive documentation verifying that the apparatus has successfully passed the specified tests. If the apparatus does not pass the required tests or experiences long periods of “downtime” we may request the municipal authority to replace the equipment with new or newer apparatus. If replacement does not occur, fire insurance grading recognition may be revoked for the specific apparatus which may adversely affect the fire insurance grades of the community. This can also affect the rates of insurance for property owners throughout the community.

Table 1 Service Schedule for Fire Apparatus For Fire Insurance Grading Purposes

Apparatus Age	Major Cities ³	Medium Sized Cities ⁴	Small Communities ⁵ and Rural Centres
0 – 15 Years	First Line Duty	First Line Duty	First Line Duty
16 – 20 Years	Reserve	2 nd Line Duty	First Line Duty
20 – 25 Years ¹	No Credit in Grading	No Credit in Grading <i>or</i> Reserve ²	No Credit in Grading <i>or</i> 2 nd Line Duty ²
26 – 29 Years ¹	No Credit in Grading	No Credit in Grading <i>or</i> Reserve ²	No Credit in Grading <i>or</i> Reserve ²
30 Years +	No Credit in Grading	No Credit in Grading	No Credit in Grading

¹ All listed fire apparatus 20 years of age and older are required to be service tested by recognized testing agency on an annual basis to be eligible for grading recognition. (NFPA 1071)

² Exceptions to age status may be considered in a small to medium sized communities and rural centres conditionally, when apparatus condition is acceptable and apparatus successfully passes required testing.

³ Major Cities are defined as an incorporated or unincorporated community that has:

- a populated area (or multiple areas) with a density of at least 400 people per square kilometre; AND
- a total population of 100,000 or greater.

⁴ Medium Communities are defined as an incorporated or unincorporated community that has:

- a populated area (or multiple areas) with a density of at least 200 people per square kilometre; AND/OR
- a total population of 1,000 or greater.

⁵ Small Communities are defined as an incorporated or unincorporated community that has:

- no populated areas with densities that exceed 200 people per square kilometre; AND
- does not have a total population in excess of 1,000.

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Table 2 Frequency of Listed Fire Apparatus Acceptance and Service Tests

	Frequency of Test					
	@ Time of Purchase New or Used	Annual Basis	@ 15 Years	@ 20 Years See Note 4	20 to 25 Years (annually)	After Extensive Repairs See Note 5
Recommended For Fire Insurance Purposes	Acceptance Test if new; Service Test if used & < 20 Years	Service Test	Acceptance Test	Acceptance Test	Acceptance Test	Acceptance or Service Test depending on extent of repair
Required For Fire Insurance Purposes	Acceptance Test if new; Service Test if used & < 20 Years	No Test Required	No Test Required	Acceptance Test	Acceptance Test	Acceptance or Service Test depending on extent of repair
Factor in FUS Grading	Yes	Yes	Yes	Yes	Yes	Yes
Required By Listing Agency	Acceptance Test	No	No	No	N/A	Acceptance Test
Required By NFPA See Note 6	Acceptance Test	Annual Service Test	Annual Service Test	Annual Service Test	Annual Service Test	Service Test

Note 1: See: 'Service Tests for Used or Rebuilt Fire Apparatus' for description of applicable tests

Note 2: Acceptance Tests consist of 60 minute capacity and 30 minute pressure tests

Note 3: Service Tests consist of 20 minute capacity test and 10 minute pressure test in addition to other listed tests

Note 4: Apparatus exceeding 20 years of age may not be considered to be eligible for insurance grading purposes regardless of testing. Application must be made in writing to Fire Underwriters Survey for an extension of the grade-able life of the apparatus.

Note 5: Testing after extensive repairs should occur regardless of apparatus age within reason.

Note 6: Acceptance Tests: See NFPA 1901, Standard for Automotive Fire Apparatus

Service Tests: See NFPA 1911, Standard for Service Tests of Fire Pump Systems on Fire Apparatus, Article 5.1

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SERVICE TESTS FOR USED OR MODIFIED FIRE APPARATUS

The intent of this document is to ensure that all used or modified fire apparatus, equipped with a pump or used for tanker service, essentially meet the requirements of Underwriters' Laboratories of Canada (ULC) "Standard for Automobile Fire Fighting Apparatus" S515-04 or subsequent (current) editions of the Standard. Full adherence with the following specified tests is recommended when purchasing used apparatus.

Weight Tests

Load Balance Test:

When fully laden (including a 460kg (1000 lbs) personnel weight, full fuel and water tanks, specified load of hose and miscellaneous equipment), the vehicle shall have a load balance of 22% to 50% of total vehicle mass on the front axle and 50% to 78% of this mass on the rear axle.

Distribution of mass of 33% and 67% respectively on the front and rear axles is preferable for a vehicle having dual rear tires or tandem rear axles.

For a vehicle having tandem rear axles and dual tires on each axle, a loading of between 18% and 25% on the front axle with the balance of mass on the rear axles is permissible.

Road Tests

Acceleration Tests:

2.1.1) From a standing start, the apparatus shall attain a true speed of 55 km/h (35 mph) within 25 seconds for Pumpers carrying up to 3,150 litres (700 gallons) of water.

For apparatus carrying in excess of 3,150 litres (700 gallons) or apparatus equipped with aerial ladders or elevating platforms, a true speed of 55 km/h (35 mph) in 30 seconds should be attained.

2.1.2) The vehicle should attain a top speed of at least 80 km/h (50mph).

Braking Test:

The service brakes shall be capable of bringing the fully laden apparatus to a complete stop from an initial speed of 30 km/h (20 mph) in a distance not exceeding 9 metres (30 feet) by actual measurement. The test should be conducted on a dry, hard surfaced road that is free of loose material, oil and grease.

Pump Performance Tests

Hydrostatic Test

Recent evidence of hydrostatic testing of the pump for 10 minutes at a minimum pressure of 3,400 kPa (500 psi). APPLICABLE TO NEW OR REBUILT PUMPS ONLY (see 3.3).

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Priming and Suction Capability Tests

Vacuum Test:

The pump priming device, with a capped suction at least 6 metres (20 feet) long, shall develop -75 kPa (22 inches of mercury) at altitudes up to 300 metres (1000 feet) and hold the vacuum with a drop of not in excess of 34 kPa (10 inches of mercury) in 10 minutes.

For every 300 metres (1000 feet) of elevation, the required vacuum shall be reduced 3.4 kPa (1 inch mercury).

The primer shall not be used after the 10-minute test period has been started. The test shall be made with discharge outlets uncapped.

Suction Capability Test:

The pump (in parallel or series) when dry, shall be capable of taking suction and discharging water with a lift of not more than 3 metres (10 feet) through 6 metres (20 feet) of suction hose of appropriate size, in not more than 30 seconds and not over 45 seconds for 6000 L/min (1320 Igpm) or larger capacity pumps. Where front or rear suction is provided on midship pumps, an additional 10 seconds priming time will be allowed. The test shall be conducted with all discharge caps removed.

Pump Performance

Capacity Test:

Consists of drafting water (preferably with a 10 feet lift) and pumping the rated capacity at 1000 kPa (150 psi) net pump pressure for a continuous period of at least 1 hour.

Pressure Test:

Under the same conditions as in 3.3.1 above pumping 50% of the rated capacity at 1700 kPa (250 psi) net pump pressure for at least ½ hour

For additional information on the above noted tests and test procedures, the following documents provide useful data:

- Underwriters Laboratories of Canada (ULC) publication titled S515 Standard for Automobile Fire Fighting Apparatus, latest edition.
- Fire Underwriters Survey (FUS) publication titled Fire Stream Tables and Testing Data latest edition.

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- International Fire Service Training Association (IFSTA) publication titled Fire Department Pumping Apparatus, latest edition.
- National Fire Protection Association (NFPA) 1901 Standard for Automotive Fire Apparatus, latest edition.
- National Fire Protection Association (NFPA) 1911 Standard for the Inspection, Maintenance, Testing, and Retirement of In-Service Automotive Fire Apparatus, latest edition.
- National Fire Protection Association (NFPA) 1912 Standard for Fire Apparatus Refurbishing, latest edition.

For further information regarding the acceptability of emergency apparatus for fire insurance grading purposes, please contact:

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Appendix C

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TECHNICAL BULLETIN

FIRE UNDERWRITERS SURVEY™

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LADDERS AND AERIALS: WHEN ARE THEY REQUIRED OR NEEDED?

Numerous standards are used to determine the need for aerial apparatus and ladder equipment within communities. This type of apparatus is typically needed to provide a reasonable level of response within a community when buildings of an increased risk profile (fire) are permitted to be constructed within the community.

Please find the following information regarding the requirements for aerial apparatus/ladder companies from the Fire Underwriters Survey Classification Standard for Public Fire Protection.

Fire Underwriters Survey

Ladder/Service company operations are normally intended to provide primary property protection operations such as:

- 1.) Forcible entry;
- 2.) Utility shut-off;
- 3.) Ladder placement;
- 4.) Ventilation;
- 5.) Salvage and Overhaul;
- 6.) Lighting.

Response areas with five (5) buildings that are three (3) stories or 10.7 meters (35 feet) or more in height, or districts that have a Basic Fire Flow greater than 15,000 LPM (3,300 IGPM), or any combination of these criteria, should have a ladder company. The height of all buildings in the community, including those protected by automatic sprinklers, is considered when determining the number of needed ladder companies. When no individual response area/district alone needs a ladder company, at least one ladder company is needed if the sum of buildings in the fire protection area meets the above criteria.

The needed length of an aerial ladder, an elevating platform and an elevating stream device shall be determined by the height of the tallest building in the ladder/service district (fire protection area) used to determine the need for a ladder company. One storey normally equals at least 3 meters (10 feet). Building setback is not to be considered in the height determination. An allowance is built into the ladder design for normal access. The maximum height needed for grading purposes shall be 30.5 meters

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Exception: When the height of the tallest building is 15.2 meters (50 feet) or less no credit shall be given for an aerial ladder, elevating platform or elevating stream device that has a length less than 15.2 meters (50 feet). This provision is necessary to ensure that the water stream from an elevating stream device has additional "reach" for large area, low height buildings, and the aerial ladder or elevating platform may be extended to compensate for possible topographical conditions that may exist. See Fire Underwriters Survey - Table of Effective Response (attached). Furthermore, please find the following information regarding communities' need for aerial apparatus/ladder companies within the National Fire Protection Association.

NFPA

Response Capabilities: The fire department should be prepared to provide the necessary response of apparatus, equipment and staffing to control the anticipated routine fire load for its community.

NFPA Fire Protection Handbook, 20th Edition cites the following apparatus response for each designated condition:

HIGH-HAZARD OCCUPANCIES (schools, hospitals, nursing homes, explosive plants, refineries, high-rise buildings, and other high-risk or large fire potential occupancies):

*At least four pumpers, **two ladder trucks** (or combination apparatus with equivalent capabilities), two chief officers, and other specialized apparatus as may be needed to cope with the combustibles involved; not fewer than 24 firefighters and two chief officers.*

MEDIUM-HAZARD OCCUPANCIES (apartments, offices, mercantile and industrial occupancies not normally requiring extensive rescue or firefighting forces):

*At least three pumpers, **one ladder truck** (or combination apparatus with equivalent capabilities), one chief officer, and other specialized apparatus as may be needed or available; not fewer than 16 firefighters and one chief officer.*

LOW-HAZARD OCCUPANCIES (one-, two-, or three-family dwellings and scattered small businesses and industrial occupancies):

*At least two pumpers, **one ladder truck** (or combination apparatus with equivalent capabilities), one chief officer, and other specialized apparatus as may be needed or available; not fewer than 12 firefighters and one chief officer.*

In addition to the previous references, the following excerpt from the 2006 Ontario Building Code is also important to consider when selecting the appropriate level of fire department response capacity and building design requirements with regard to built-in protection levels (passive and active fire protection systems).

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Excerpt: National Building Code 2006

A-3 Application of Part 3.

In applying the requirements of this Part, it is intended that they be applied with discretion to buildings of unusual configuration that do not clearly conform to the specific requirements, or to buildings in which processes are carried out which make compliance with particular requirements in this Part impracticable. The definition of “building” as it applies to this Code is general and encompasses most structures, including those which would not normally be considered as buildings in the layman's sense. This occurs more often in industrial uses, particularly those involving manufacturing facilities and equipment that require specialized design that may make it impracticable to follow the specific requirements of this Part. Steel mills, aluminum plants, refining, power generation and liquid storage facilities are examples. A water tank or an oil refinery, for example, has no floor area, so it is obvious that requirements for exits from floor areas would not apply. Requirements for structural fire protection in large steel mills and pulp and paper mills, particularly in certain portions, may not be practicable to achieve in terms of the construction normally used and the operations for which the space is to be used. In other portions of the same building, however, it may be quite reasonable to require that the provisions of this Part be applied (e.g., the office portions). Similarly, areas of industrial occupancy which may be occupied only periodically by service staff, such as equipment penthouses, normally would not need to have the same type of exit facility as floor areas occupied on a continuing basis. It is expected that judgment will be exercised in evaluating the application of a requirement in those cases when extenuating circumstances require special consideration, provided the occupants' safety is not endangered.

The provisions in this Part for fire protection features installed in buildings are intended to provide a minimum acceptable level of public safety. It is intended that all fire protection features of a building, whether required or not, will be designed in conformance with good fire protection engineering practice and will meet the appropriate installation requirements in relevant standards. Good design is necessary to ensure that the level of public safety established by the Code requirements will not be reduced by a voluntary installation.

Firefighting Assumptions

The requirements of this Part are based on the assumption that firefighting capabilities are available in the event of a fire emergency. These firefighting capabilities may take the form of a paid or volunteer public fire department or in some cases a private fire brigade. If these firefighting capabilities are not available, additional fire safety measures may be required.

Firefighting capability can vary from municipality to municipality. Generally, larger municipalities have greater firefighting capability than smaller ones. Similarly, older, well established municipalities may have better firefighting facilities than newly formed or rapidly growing ones. The level of municipal fire protection considered to be adequate will normally depend on both

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the size of the municipality (i.e., the number of buildings to be protected) and the size of buildings within that municipality. Since larger buildings tend to be located in larger municipalities, they are generally, but not always, favoured with a higher level of municipal protection.

Although it is reasonable to consider that some level of municipal firefighting capability was assumed in developing the fire safety provisions in Part 3, this was not done on a consistent or defined basis. The requirements in the Code, while developed in the light of commonly prevailing municipal fire protection levels, do not attempt to relate the size of building to the level of municipal protection. **The responsibility for controlling the maximum size of building to be permitted in a municipality in relation to local firefighting capability rests with the municipality. If a proposed building is too large, either in terms of floor area or building height, to receive reasonable protection from the municipal fire department, fire protection requirements in addition to those prescribed in this Code, may be necessary to compensate for this deficiency.** Automatic sprinkler protection may be one option to be considered.

The municipality may, in light of its firefighting capability, elect to introduce zoning restrictions to ensure that the maximum building size is related to available municipal fire protection facilities. This is, by necessity, a somewhat arbitrary decision and should be made in consultation with the local firefighting service, who should have an appreciation of their capability to fight fires.

The requirements of Subsection 3.2.3 are intended to prevent fire spread from thermal radiation assuming there is adequate firefighting available. It has been found that periods of from 10 to 30 minutes usually elapse between the outbreak of fire in a building that is not protected with an automatic sprinkler system and the attainment of high radiation levels. During this period, the specified spatial separations should prove adequate to inhibit ignition of an exposed building face or the interior of an adjacent building by radiation. Subsequently, however, reduction of the fire intensity by firefighting and the protective wetting of the exposed building face will often be necessary as supplementary measures to inhibit fire spread.

In the case of a building that is sprinklered throughout, the automatic sprinkler system should control the fire to an extent that radiation to neighboring buildings should be minimal. Although there will be some radiation effect on a sprinklered building from a fire in a neighboring building, the internal sprinkler system should control any fires that might be ignited in the building and thereby minimize the possibility of the fire spreading into the exposed building. NFPA 80A, "Protection of Buildings from Exterior Fire Exposures," provides additional information on the possibility of fire spread at building exteriors.

The water supply requirements for fire protection installations depend on the requirements of any automatic sprinkler installations and also on the number of fire streams that may be needed at any fire, having regard to the length of time the streams will have to be used. Both these factors are largely influenced by the conditions at the building to be equipped, and the quantity and pressure of water needed for the protection of both the interior and exterior of the building must be ascertained before the water supply is decided upon. Acceptable water supplies may be a

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c/o SCM Opta Information Intelligence

public waterworks system that has adequate pressure and discharge capacity, automatic fire pumps, pressure tanks, manually controlled fire pumps in combination with pressure tanks, gravity tanks, and manually controlled fire pumps operated by remote control devices at each hose station.

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Appendix D

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PERSONAL LINES

Dwelling Protection Grade Terms Of Reference

Dwelling Protection Grade 1: Career, Fully Protected

DPG 1 is an indicator to insurers that the response to typical fires in single family residences (detached dwellings) located within 8 kilometres by road from the responding fire station will be a superior level of response from a career or composite fire department with reasonable staffing and with recognized water supplies.

This grade is an indicator to insurers that the responding fire department is very well established and has a sufficient number of career fire fighters such that the initial response to fires will consistently include a minimum of 3 career fire fighters (on-duty) and the fire chief (or other career officer). Response times for DPG 1 fire stations are expected to be good due to the typically short turn-out times and consistent availability of career fire fighters.

This grade is also an indicator that the water supply system is well-designed, reliable and will provide a favourable amount of water for fire suppression activities at fires in single family residences located within 300 metres (one hose lay) of a recognized fire hydrant.

Dwelling Protection Grade 2: Composite, Fully Protected

DPG 2 is an indicator to insurers that the response to fires in single family residences within 8 kilometres by road from the responding fire station will be an intermediate level of response from a primarily volunteer fire department with limited staffing and with recognized water supplies.

This grade is an indicator to insurers that responding fire department is well established and is likely a composite of career members and volunteers. The department has a sufficient number of career fire fighters such that the initial response will include a minimum of 1 career fire fighter (on-duty), a career fire chief (may be off-duty) and a minimum of 15 volunteers (or off-shift fire fighters). Response times for DPG 2 fire stations are expected to be somewhat delayed due to the unpredictability of turn-out times and varying availability of volunteers, however significantly superior to an all volunteer response.

This grade is also an indicator that the water supply system is well-designed, reliable and will provide a reasonable amount of water for fire suppression activities in single family residences located within 300 metres (one hose lay) of a recognized fire hydrant.



Dwelling Protection Grade 3A: Volunteer, Fully Protected

DPG 3A is an indicator to insurers that the response to fires in single family residences within 8 kilometres by road from the responding fire station will be a minimum level of response from a primarily volunteer fire department with recognized water supplies.

DPG 3A is an indicator to insurers that the fire department is recognized for fire insurance grading purposes and that the fire department roster has the minimum number of volunteers who are equipped and trained to provide a reasonable minimum response in a timely manner to typical fires in single family residences (detached dwellings) located within 8 kilometres by road of the responding fire station and located within 300 metres (one hose lay) of a recognized fire hydrant. Response times for DPG 3A fire stations are expected to be somewhat delayed due to the unpredictability of turn-out times and varying availability of volunteers.

This grade also indicates to insurers that the water supply system is recognized for fire insurance grading purposes and is maintained and reasonably reliable for use in fire suppression activities.

Dwelling Protection Grades 3B: Volunteer, Standard Shuttle, Semi-Protected (aka. Firehall Protected)

DPG 3B is an indicator to insurers that the response to fires in single family residences within 8 kilometres by road from the responding fire station will be a minimum level of response from a primarily volunteer fire department without recognized water supplies.

DPG 3B is an indicator to insurers that the fire department is recognized for fire insurance grading purposes and that the fire department is adequately manned, equipped and trained to provide a reasonable minimum response in a timely manner to typical fires in single family residences (detached dwellings) located within 8 kilometres by road of the responding fire station. Response times for DPG 3B fire stations are expected to be somewhat delayed due to the unpredictability of turn-out times and varying availability of volunteers.

This grade also indicates to insurers that there is NOT a recognized water supply system, however the fire department has adequate resources to utilize the "Specified Shuttle Service" when responding to fires. This grade typically requires the use of a pumper and mobile water supply apparatus together to provide limited quantities of water to the fire scene and may or may not be adequate to extinguish typical fires.



Dwelling Protection Grades 3B-S: Superior Tanker Shuttle Service Accredited

Superior Tanker Shuttle Service Accreditation indicates to insurers that the accredited fire hall has adequate equipment and resources to provide the minimum amount of water required for fire insurance grading purposes. The minimum amount of water required is 200 l/gpm (one hose stream) and is the same flow rate required as a minimum for fire hydrants.

For a risk to be considered as STSS protected, the risk must lie within 8 kilometres by road of the responding fire station and within 5 kilometres by road of a recognized alternative water supply point.

This accreditation is an equivalency to the minimum requirements for hydrant protection as set out by the insurance industry and the Fire Underwriters Survey.

It is important to note that providing the minimum of one hose stream (200 l/gpm) is not necessarily adequate for effective fire fighting, however it is the lowest rate of water delivery that is recognized for fire insurance grading. Communities should be encouraged to develop water supplies that provide required fire flows as calculated using the method specified in the Fire Underwriters Survey "Water Supply for Public Fire Protection"

Dwelling Protection Grades 3B-L: Large Diameter Hose Lay Accredited

Large Diameter Hose Lay Accreditation indicates to insurers that the accredited fire hall carries the appropriate equipment and has incorporated specialized procedures to allow extended coverage from recognized fire hydrants to a distance of 600 metres (two hose lays) from hydrants. This procedure involves relay pumping and large diameter hose. To be accredited the fire department must demonstrate that it can continuously deliver service within the same allotted time for set up as per normal hydrant operations.

For a risk to be considered as LDHL protected, the risk must lie within 8 kilometres by road of the responding fire station and within 600 metres (two hose lays) of a recognized fire hydrant.

This accreditation is an equivalency to the minimum requirements for hydrant protection as set out by the insurance industry and the Fire Underwriters Survey.

Dwelling Protection Grade 4: Volunteer, Limited Protection (Semi or Unprotected)

DPG 4 is an indicator to insurers that the fire department is recognized for fire insurance grading purposes however there are serious deficiencies in at least one significant area of fire protection that prohibit the delivery of a minimum level of response to typical fires in single family residences (detached dwellings) located within 8 kilometres by road of the responding fire station.

DPG 4 is normally given to communities with only one piece of apparatus (ex. a pumper) and no recognized water supplies. Without a second piece of apparatus (ex. mobile water supply), such a fire department will not be able to shuttle water to the fire scene. DPG 4 is also given to communities "borrowing" fire protection service from an adjacent community with a DPG 3B, and to communities who generally qualify for DPG 3B, but have one major deficiency.



Dwelling Protection Grade 5: Unprotected

DPG 5 is an indicator to insurers that there is no fire protection or that the fire protective service levels do not meet the minimum fire insurance grading standards.

Note: *In some areas of Canada, Dwelling Protection Grades from 6 through 10 are used. This is carried over from previous editions of the Fire Insurance Grading Index and will be phased out. In all cases, the Dwelling Protection Grades from 6 through 10 have identical definitions to those from 1 through 5:*

Dwelling Protection Grade1	=	Dwelling Protection Grade 6
Dwelling Protection Grade2	=	Dwelling Protection Grade 7
Dwelling Protection Grade3A	=	Dwelling Protection Grade 8C
Dwelling Protection Grade3B	=	Dwelling Protection Grade 8D
Dwelling Protection Grade4	=	Dwelling Protection Grade 9
Dwelling Protection Grade5	=	Dwelling Protection Grade 10*

DPG 10 is represented as DPG 0 in the grading index.

Dwelling Location - Note 1

Hydrant protection is not credited owing to a weak water supply or the failure to meet grading minimums. In addition to water supply limitations, deficiencies may exist in the fire department.

Dwelling Location - Note 2

Denotes those locations with fire protection grades 5 or 0, other than those receiving borrowed fire department service, that have sufficient water supply to receive creditable hydrant protection but, the fire department deficiencies preclude giving a protected grade.

Dwelling Location - Note 3

Hydrant protected area is situated further than 8 kilometres by road from the responding fire department.

Auditor General Risk Assessment Summary – Paramedic Services

		Risk Subject	Unmitigated Risk (/16)	Mitigated Risk (/16)	Mitigated Risk Evolving Paramedic Opportunities (/16)	Optimized Risk (/16)
Reputation	R1	Old ambulances may result in breakdowns and incidents	14	0.9	0.9	0.9
	R2	The city is not engaging the residents sufficiently to identify their service level expectations	14	3.5	3.5	2.9
	R3	Response to Coroner's report may be inadequate	14	4.2	3.4	3.4
	R4	Emergency response capability may be inadequate	16	4.0	3.6	3.2
	R5	Paramedic service levels do not meet the expectations of the public	14	3.5	3.5	2.9
	R6	Paramedic Association lobbies against proposal to rationalize services	9	3.2	3.2	3.2
	R7	Failure to deliver or implement reasonable optimization plan	9	1.4	1.4	1.4
	R8	HAZMat response capability may be inadequate	9	5.1	5.1	3.8
Operational	O1A	Paramedic stations are in wrong locations (Headquarters)	16	9.0	9.0	2.7
	O1B	Paramedic stations are in wrong locations (In-town posts)	12	6.8	6.8	2.4
	O1C	Paramedic stations are in wrong locations (Satellite posts)	12	6.8	6.8	2.4
	O2	Paramedic stations lack essential functionality	12	7.7	7.7	2.8
	O3	Turnover of senior staff	9	1.8	1.8	1.8
	O4	Death of a staff member in the workplace	16	0.8	0.8	0.8
	O5	Serious staff injuries occur while providing services	16	1.0	1.0	1.0
	O6	Insufficient management capacity to administer and manage staff effectively	12	4.3	4.3	3.5
	O7	Labor management and bargaining processes are inadequate to ensure sustainability	12	3.6	3.6	3.6
	O8	Excessive calls transferred to Paramedic Services from Ministry	12	4.3	3.5	3.5
	O9	Ineffective/inefficient deployment of staff in response to calls for service	16	4.8	3.7	3.7

****Information provided in this report relies on professional judgment and speculative assessments about potential effects if the risks identified here are realized.**

		Risk Subject	Unmitigated Risk (/16)	Mitigated Risk (/16)	Mitigated Risk Evolving Paramedic Opportunities (/16)	Optimized Risk (/16)
Operational	O10A	Service agreements with other EMS providers cause overlaps/gaps- City and area with MTR (Includes city, Capreol, Levack and Dowling)	12	3.0	3.0	2.6
	O10B	Service agreements with other EMS providers cause overlaps/gaps- City and area without MTR (excludes city, Capreol, Levack and Dowling)	16	4.0	4.0	3.2
	O11A	Emergency service providers are not coordinated effectively	12	2.4	2.4	2.4
	O11B	Serious staff and/or citizen injuries while enroute to the scene	16	3.2	3.2	3.2
	O12	Workforce planning processes are inadequate to ensure sustainability	12	3.0	3.0	3.0
	O13	Communications Systems fail	12	3.6	3.6	3.6
	O14	Information systems are inadequate to manage resources efficiently and effectively	12	2.4	2.4	2.4
	O15	Information systems are inadequate to identify, assess and mitigate risks effectively	12	2.4	2.4	2.4
	O16	Equipment failures compromise the effectiveness of services	16	0.8	0.8	0.8
	O17	Fleet may fail and compromise service delivery	14	0.9	0.9	0.9
	O18	Building deficiencies may compromise service delivery	10.5	5.1	5.1	3.9
Financial	F1	Paramedic services are not sustainable/affordable	16	2.6	2.6	2.6
	F2	OT costs are not being managed effectively	8	2.4	2.4	2.4
	F3	Labour costs are not sustainable/affordable	12	1.9	1.9	1.9
	F4	Equipment costs not sustainable/affordable	12	2.4	2.4	2.4
	F5	Training costs not being managed effectively	12	1.3	1.3	1.3
	F6	Purchases are not competitive/economical	8	1.2	1.2	1.2
	F7	Opportunities for cost recovery are not pursued effectively	12	1.3	1.3	1.3

****Information provided in this report relies on professional judgment and speculative assessments about potential effects if the risks identified here are realized.**

		Risk Subject	Unmitigated Risk (/16)	Mitigated Risk (/16)	Mitigated Risk Evolving Paramedic Opportunities (/16)	Optimized Risk (/16)
Financial	F8	Education and training not leveraged sufficiently to reduce Paramedic risk	12	1.9	1.9	1.9
	F9	Opportunities to share services and costs not pursued effectively	8	3.4	3.4	3.4
	F10	Unsustainable costs incurred from unrealistic expectations of public	8	2.0	2.0	2.0
	F11	The investment in fleet has been insufficient for effective Paramedic services	12	1.5	1.5	1.5
	F12	The investment in buildings has been insufficient for effective Paramedic services	12	1.5	1.5	1.5
	F13	Lack of effective asset management systems compromises budget decisions	12	3.6	3.6	3.0
	F14	Lack of effective LT financial planning processes in CGS compromises capital budget decisions	12	3.6	3.6	3.0
	F15	Ethical breaches in workplace by Paramedic Staff	12	1.1	1.1	1.1
	F16	Wasteful spending by Paramedic staff	12	0.1	0.1	0.1
	F17	Facilities costs are not sustainable/affordable	12	3.6	3.6	3.0
F18	Financial impact of Paramedic Headquarters in wrong location	14	9.0	9.0	2.7	
Legislative	L1	Presumptive legislation imposes unaffordable costs	12	3.0	3.0	2.6
	L2	New legislation imposes additional costs what are unaffordable	9	2.7	2.7	2.7
	L3	Other emergency providers downloading responsibilities	9	3.2	3.2	3.2
	L4	Opportunities to minimize overlaps with other providers not pursued	12	2.4	2.3	2.3
	L5	Lawsuits form failure to adequately provide Paramedic Services	16	3.2	3.2	2.7
	L6	Non-compliance with City policies	8	2.0	2.0	2.0

****Information provided in this report relies on professional judgment and speculative assessments about potential effects if the risks identified here are realized.**

Auditor General Risk Assessment Summary - Fire Services

	Risk	Unmitigated Risk (/16)	Mitigated Risk (/16)	Optimized Model Risk (/16)	
Reputation	R1	Old trucks may result in breakdowns and incidents	10.5	8.5	3.8
	R2	Volunteer response is inconsistent, and may compromise service	12.0	10.8	4.9
	R3	Response to coroner's report may be inadequate	9.0	6.5	3.7
	R4	Fire Prevention and Education Services are inadequate	10.5	8.5	3.8
	R5	Fire response capability may be inadequate	11.3	4.8	1.2
	R6	Medical response capability may be inadequate	7.5	5.4	2.4
	R7	Technical Rescue (Water rescue, Trench Rescue, Confined Space Rescue) response capability may be inadequate	10.5	8.5	3.8
	R8	HAZMat response capability may be inadequate	11.3	10.2	2.5
	R9	Fire Service levels do not meet the expectations of the public	10.5	7.6	3.4
	R10	Fire association(s) lobbies against proposals to rationalize services	8.8	6.3	4.0
	R11	Failure to deliver or implement reasonable optimization plan	6.0	6.0	6.0
	R12	The City is not engaging the residents sufficiently to identify their service level expectations	6.0	6.0	6.0
	R13	Disaster Events	7.5	6.1	1.5
O1	Fire stations are in wrong locations	15.0	13.5	2.2	
O2	Fire stations lack essential functionality	14.0	12.6	2.0	
O3	Volunteer staff are ineffective in terms of skills (training, knowledge and experience)	10.5	9.5	4.3	
O4	Volunteer staff response is unreliable	12.0	10.8	4.9	
O5	Insufficient management capacity to administrator and manage staff effectively	6.0	6.0	6.0	

****Information provided in this report relies on professional judgment and speculative assessments about potential effects if the risks identified here are realized.**

		Risk	Unmitigated Risk (/16)	Mitigated Risk (/16)	Optimized Model Risk (/16)
Operational	O6	Old fleet is discounted by Fire Underwriters making insurance unaffordable for rural residents	4.0	4.0	4.0
	O7	24 hour shift creates potential liabilities from tired staff at the scene of an emergency incident.	9.0	7.3	7.3
	O8	Excessive calls transferred to Fire Services from Ministry	5.0	5.0	5.0
	O9	Ineffective/inefficient deployment of FT staff in response to calls for service	6.0	6.0	6.0
	O10	Service agreements with other EMS providers cause overlaps/gaps	9.0	7.3	3.3
	O11	Emergency service providers are not coordinated effectively	6.0	6.0	6.0
	O12	Serious staff and/or citizen injuries occur while enroute to the scene	11.3	9.1	4.1
	O13	Communication systems fail	6.0	6.0	6.0
	O14	Information systems security can be compromised	6.0	6.0	6.0
	O15	Workforce planning processes are inadequate to ensure sustainability	6.0	6.0	6.0
	O16	Labour management and bargaining processes are inadequate to ensure sustainability	7.5	7.5	7.5
	O17	Information systems are inadequate to manage resources efficiently and effectively	10.0	5.6	4.6
	O18	Information systems are inadequate to identify, assess and mitigate risks effectively	10.0	5.6	4.6
	O19	Turnover of senior staff	6.0	6.0	6.0
	O20	Death of a staff members in workplace	10.6	8.6	6.9
	O21	Operational equipment (non-fleet) may fail and compromise service delivery	9.0	7.3	3.3
	O22	Fleet may fail and compromise service delivery	10.5	8.5	3.8
	O23	Building deficiencies may compromise service delivery	9.0	8.1	3.6
	O24	24 hour shift creates potential liabilities from tired staff en route to an emergency incident.	8.8	7.1	7.1

****Information provided in this report relies on professional judgment and speculative assessments about potential effects if the risks identified here are realized.**

		Risk	Unmitigated Risk (/16)	Mitigated Risk (/16)	Optimized Model Risk (/16)
Financial	F1	Fire services are not sustainable/affordable	10.5	9.5	9.5
	F2	OT costs are not being managed effectively	6.0	6.0	6.0
	F3	Labour costs are not sustainable/affordable	9.8	8.8	8.8
	F4	Equipment costs not sustainable/affordable	6.3	6.3	5.1
	F5	Training costs not being managed effectively	6.0	6.0	6.0
	F6	Purchases are not competitive/economical	6.0	6.0	6.0
	F7	Opportunities for cost recovery are not pursued effectively	6.0	6.0	6.0
	F8	Education and training not leveraged sufficiently to reduce fire risks	7.5	7.5	6.1
	F9	Opportunities to share services and costs not pursued effectively	7.0	7.0	5.7
	F10	Unsustainable costs incurred from unrealistic expectations of public	6.0	6.0	2.7
	F11	The investment in fleet has been insufficient for effective fire services	14.0	11.3	5.1
	F12	The investment in buildings has been insufficient for effective fire services	15.0	12.2	3.0
	F13	Lack of effective asset management systems compromises budget decisions	10.5	8.5	4.8
	F14	Lack of effective LT financial planning processes in CGS compromises capital budget decisions	10.5	8.5	4.8
	F15	Ethical breaches in workplace by Fire staff	6.0	6.0	6.0
	F16	Wasteful spending by Fire staff	6.0	6.0	6.0
	L1	Presumptive legislation imposes unaffordable costs	9.0	7.3	4.7
	L2	Arbitration process imposes unsustainable costs on the City	9.0	8.1	8.1
	L3	New legislation imposes additional costs that are unaffordable	6.0	6.0	6.0

****Information provided in this report relies on professional judgment and speculative assessments about potential effects if the risks identified here are realized.**

		Risk	Unmitigated Risk (/16)	Mitigated Risk (/16)	Optimized Model Risk (/16)
Legislative	L4	By-laws are not enforced effectively	6.0	6.0	6.0
	L5	Other emergency providers downloading responsibilities	7.5	7.5	7.5
	L6	Opportunities to minimize overlaps with other providers not pursued	7.5	7.5	6.1
	L7	Lawsuit from failure to adequately provide adequate fire suppression	9.0	8.1	3.6
	L8	Lawsuit from failure to adequately provide fire protection services	9.0	8.1	3.6
	L9	Non-compliance with City policies	6.0	6.0	6.0

****Information provided in this report relies on professional judgment and speculative assessments about potential effects if the risks identified here are realized.**

BY-LAW 2012 -146**A BY-LAW OF THE CITY OF GREATER SUDBURY TO ESTABLISH
AND REGULATE THE CITY OF GREATER SUDBURY
FIRE SERVICES**

WHEREAS the *Municipal Act, 2001*, S.O. 2001 Chapter 25, as amended, provides that a municipality has the capacity, rights, powers and privileges of a natural person for the purpose of exercising its authority under the Act;

AND WHEREAS the *Fire Protection and Prevention Act, 1997*, S.O., c.4 as amended, allows the council of every municipality to enact a by-law to establish and regulate a fire department;

**NOW THEREFORE THE COUNCIL OF THE CITY OF GREATER SUDBURY
HEREBY ENACTS AS FOLLOWS:**

Definitions

1. In this by-law, unless the context otherwise requires.

"Act" means the *Fire Protection and Prevention Act, 1997*, S.O. 1997, c. 4, as may be amended from time to time, and includes any successor legislation, and any and all regulations made under that statute, including the Ontario Fire Code;

"Approved" means approved by the Council of the City of Greater Sudbury;

"CAO" means the person appointed by Council to act as the Chief Administrative Officer for the City and includes his or her authorized designate;

"Chief, Emergency Services" means the person appointed by Council to act as the Chief of Emergency Services for the City and includes his or her authorized designate;

“Chief Fire Official” shall mean the Municipal Fire Chief or a member or members of the Fire Service appointed by the Municipal Fire Chief under the Act or a person appointed by the Fire Marshal under Act;

“City” means the municipal corporation of the City of Greater Sudbury or the geographical area, as the context requires;

“Collective Agreement” means an agreement between the City and the full-time Firefighters’ Association made under the provisions of the Act and includes any amendments thereto;

“Core Services” including Specialty Rescue Services means those Fire Protection Services which the Fire Service is to provide as directed by Council identified in Schedule D1;

“Confined Space” means any space that has limited or restricted means for entry or exit and that is not designed for human occupancy, and includes without limitation, a tank, vessel, silo, storage bin, hopper, vault, trench, excavation and pit;

“Council” means the elected Council of the City;

“Deputy Fire Chief” means a person appointed by Council as a Deputy Fire Chief and includes his or her authorized designate;

“Fire Aid Protection Agreement “ means assistance provided pursuant to an agreement under which the City agrees to provide an initial response to fires, rescues and emergencies that may occur in a part of another municipality where a fire

department in the City is capable of responding more quickly than any fire department situated in the other municipality; or the City agrees to provide a supplemental response to fires, rescues and emergencies that may occur in a part of another municipality where a fire department in the City is capable of providing the quickest supplemental response to fires, rescues and emergencies occurring in the part of another municipality;

“Fire Beats” means the pre-determined geographic response boundary assigned to a specific fire station as set out in Schedule C;

“Fire Chief” means the person appointed by Council to act as Fire Chief for the City in accordance with the Act;

“Fire Coordinator” means the person appointed by the Fire Marshal, under the authority of the Act to coordinate the mutual aid plan, or the person appointed by the Fire Marshal to act in the absence of the Fire Coordinator;

“Fire Services” means the City of Greater Sudbury Fire Services;

“Firefighter’s Association” means Local 527 of the International Association of Firefighters (IAFF);

“Fire Protection Agreement” is a contract between the City and one or more other municipalities, agencies, individuals, or a company that clearly defines the responsibilities, terms, conditions, and all other aspects of the fire services purchased, provided and/or required;

“Fire Protection Services” means Core Services and Specialty Rescue Services which includes fire suppression, fire prevention, fire safety education, communications and support services, training of persons involved in the provision of fire protection services, rescue and emergency services and the delivery of all those services as directed by Council identified in Schedule "D1";

“Limited Services” means a standard of Fire Protection Services significantly differentiating from the norm as a result of extenuating circumstances, such as environmental factors, obstructions, remote and/or island properties, private road ways, lanes and drives;

“Member” means any person employed in or appointed to the Fire Services and assigned to undertake Fire Protection Services, and includes Officers, full time and Volunteer Firefighters but does not include administrative support staff;

“Mutual Aid” means a program to provide/receive assistance in the case of a major emergency in a municipality, community or area where resources in a municipality, community or area have been depleted, but does not include Fire Aid;

“Officer” means any Member with the rank of lieutenant, captain or higher;

“Section” means a section of the Fire Services reporting to a Deputy Fire Chief, and allocated responsibility for performance of a particular function, and includes Administration, Emergency Operations, Fleet Services, Training, Fire Prevention, Public Education and includes such other Sections as may be Approved from time to time;

“Specialty Rescue Services” shall mean rescue response in a situation of ice/water rescue; auto extrication; hazardous materials response and together with Core Services form part of Fire Protection Services as directed by Council identified in Schedule D1;

“Volunteer Accord” means the working agreement governing Volunteer Firefighters and includes any amendments thereto; and

“Volunteer Firefighter” means a member who provides Fire Protection Services for or on behalf of the Fire Service, under the direction of the Fire Chief, either voluntarily or for a nominal consideration, honorarium, training or activity allowance.

General Authority

2.-(1) The Fire Services is hereby continued under the name of “City of Greater Sudbury Fire Services”, a Division within the Emergency Services Department of the City. The Fire Chief shall continue as the head of the Fire Services.

(2) The Fire Services shall provide Fire Protection Services within the City, subject to such conditions and limitations as may be Approved or result from budgetary constraints or be imposed by another By-law of the City.

(3) In addition to the Fire Chief, the Fire Services shall consist of Deputy Fire Chief(s) and such number of other members as may be deemed necessary by Council and employed or appointed by the City, and shall be structured as illustrated in the Organizational Chart, as defined and amendable by the Chief of Emergency Services, Schedule “A”, forming part of this By-law.

- (4) The Chief Emergency Services, with the prior written approval of the CAO, may reorganize or eliminate Sections or establish other Sections or may do any or all of these matters or any combination thereof as may be required to ensure the proper administration and operation of the Fire Service.
- (5) The Fire Services shall be organized into Sections such as Administration, Emergency Operations, Fleet Services, Training, Fire Prevention and Public Education.
- (6) The mandate, vision and primary goals of the Fire Services shall be those contained in Schedule "B", forming part of this By-law.
- (7) The Fire Services shall provide twenty-four fire stations, each staffed by career firefighters, volunteer firefighters or a composite of both in conformance with the approved Fire Beats and Fire Station Map, Schedule "C", forming part of this By-law.
- (8) The Fire Services shall respond to requests for assistance and emergencies in conformance with the Approved Core Services and Specialty Rescue Services in accordance with the levels set forth in Schedule "D1", forming part of this By-law.
- (9) Nothing in this by-law will restrict the Fire Service to providing only Core Services or limit the provision of Fire Protection Services.
- (10) The provisions of this By-law are subject to the provisions of the Act and all other applicable federal and provincial legislation, City By-laws and the provisions of the Collective Agreement and the Volunteer Accord.

Chief, Emergency Services

3.-(1) The Chief, Emergency Services, is the person responsible to Council, reporting through the CAO for the proper administration and operation of the Emergency Services Department, including the Fire Services.

(2) In the event of the absence or incapacity of the Fire Chief and each Deputy Fire Chief, the Chief, Emergency Services may designate a senior officer on duty, any other member of the Fire Services or Emergency Services Department and in doing so shall have all the powers and may perform all the duties of the Fire Chief.

Fire Chief

4.-(1) The Chief, Emergency Services shall be responsible to recommend to Council for appointment by By-law, a person to act as Fire Chief and one or more persons to act as a Deputy Fire Chief in the absence or incapacity of the Fire Chief.

(2) The Fire Chief shall exercise all powers and duties mandated by the Act, any other applicable legislation and City By-laws, including but not limited to:

- (a) duties assigned as an Assistants to the Fire Marshal as designated under the Act ;
- (b) duties assigned as the Chief Fire Official as appointed under the Act;
- (c) appointing a member or members of the Fire Services as Chief Fire Official;
- (d) enforcing compliance with the Fire Code made under the Act;
- (e) duties assigned as the Fire Coordinator; and

- (f) entering into such Fire Protection Agreements that may be referred to as Fire Aid Protection or Mutual Aid Agreements as referenced in By-law 2009-80.
- (3) The Fire Chief is the person ultimately responsible to Council, reporting through the Chief, Emergency Services and the CAO for the proper administration and operation of the Fire Services including the delivery of Fire Protection Services and the proper management of the Fire Services in accordance with the Act and this By-law.
- (4) The Fire Chief shall ensure all proper measures for prevention, control and suppression of fires, the protection and saving of life and property and emergency management are taken.
- (5) The Fire Chief shall ensure that all proper measures for life safety education and fire prevention are taken.
- (6) The Fire Chief shall:
 - (a) ensure standards for delivery of Fire Protection Services are contained in the departmental standard operating procedures, guidelines and documentation;
 - (b) develop such standard operating procedures and guidelines, general orders and departmental rules as necessary to implement the approved policies and to ensure the appropriate care and protection of all Fire Services personnel and equipment; and

- (c) ensure that the Fire Services' procedures, guidelines, orders and rules do not conflict with the provisions of any applicable by-law, statute or regulation.
- (7) The Fire Chief shall submit to the Chief, Emergency Services for review and Approval, proposed changes to the delivery of Core Services or Specialty Rescue Services as set out on Schedule D, as and when required for the efficient and effective delivery of Fire Prevention Services.
- (8) The Fire Chief shall periodically review all policies, guidelines, orders, rules and operating procedures of the Fire Services and make such changes as may be required.
- (9) The Fire Chief shall be responsible to prepare and submit to the Chief, Emergency Services the Fire Services' annual budget for Approval and to prepare such reports as are requested by the Chief, Emergency Services, CAO or Council.
- (10) The Fire Chief shall prepare and submit to the Chief, Emergency Services an annual report to be presented to Council in each following calendar year. The annual report shall include but not be limited to:
 - (a) overview of the Fire Services' goals;
 - (b) description of the organization;
 - (c) Fire Protection Services provided;
 - (d) level of service to be provided; and
 - (e) supporting statistical data.

(11) The Fire Chief shall enforce all municipal by-laws respecting fire protection and emergency measures.

(12) The Fire Chief shall, subject to the terms and conditions of the Collective Agreement or Volunteer Accord, reprimand, or suspend any member for infraction of any provisions of this by law, policies, general orders and departmental rules that, in the opinion of the Fire Chief would be detrimental to discipline or the efficiency of the Fire Services.

(13) The Fire Chief may delegate the performance of any one or more of his or her functions under this By-law to one or more persons from time to time as the occasion requires and may impose conditions upon such delegation and may revoke any such delegation. The Fire Chief may continue to exercise authority granted hereunder despite any such delegation.

(14) Each Section of the Fire Services is the responsibility of the Fire Chief and is under the direction of the Fire Chief or a Member designated by the Fire Chief. Designated Members shall report to the Fire Chief on Sections and activities under their supervision and shall carry out all orders of the Fire Chief.

Deputy Fire Chief(s)

5.-(1) The Fire Chief shall recommend to the Chief, Emergency Services, such persons as may be required to serve as Deputy Fire Chiefs in accordance with the Organizational Chart attached as Schedule A, for consideration by the Chief, Emergency Services and recommendation for Approval.

(2) Each Deputy Fire Chief appointed by By-law shall be responsible to the Fire Chief for the proper administration and operation of each Section assigned to him to her in accordance with the Organizational Chart attached as Schedule A, for the Members assigned to each such Section and shall report to the Fire Chief with respect to all matters regarding each Section under his or her control. A Deputy Fire Chief shall follow the Orders of the Fire Chief.

(3) In the absence or incapacity of the Fire Chief, Deputy Fire Chief(s) as determined by the Chief, Emergency Services shall have all the powers and may perform the duties of the Fire Chief.

Members

6.-(1) Every person appointed as a Member of the Fire Services to provide Fire Protection Services shall be on probation for a period of 12 months, during which period the probationary Member shall be evaluated and take such special training and examination as may be required by the Fire Chief.

(2) The Fire Chief may dismiss without recourse, any probationary Member appointed to provide Fire Protection Services who fails any evaluation, any special training or examination required by the Fire Chief or who the Fire Chief, in his or her sole discretion, deems to be unsuitable for the duties of a Member.

(2) The expenses incurred by such necessary actions under 7(1)(b) or (c) may be recovered in the manner provided through the *Municipal Act, 2001* and the Act.

Calls Outside of the City

8.-(1) The Fire Services shall not respond to a call with respect to a fire or emergency outside the limits of the City except with respect to a fire or emergency:

- (a) that, in the opinion of the Fire Chief, threatens property in the City or property situated outside the City that is owned or occupied by the City;
- (b) In a municipality with which an agreement has been entered into to provide Fire Protection Services which may include a Fire Aid Protection agreement or a Mutual Aid agreement;
- (c) on property with respect to which an agreement, which may include a Fire Protection agreement, has been entered into with any person or corporation or agency to provide Fire Protection Services;
- (d) at the discretion of the Fire Chief, in a municipality authorized to participate in any county, district or regional mutual aid plan established by a Fire Co-Ordinator appointed by the Fire Marshal pursuant to the Act or any other similar reciprocal plan or program on property beyond the City;
or
- (e) at the discretion of the Fire Chief when immediate action is necessary to preserve life or property and the appropriate department is notified to respond and assume command or establish alternative measures, acceptable to the Fire Chief.

(3) The Fire Chief may designate a Member to act in the place of an Officer in the Fire Service during such Officer's absence, and such Member, when so acting, has all of the powers and shall perform all duties of the Officer replaced.

(4) Council shall determine working conditions and remuneration for all persons who are firefighters defined in Part IX of the Act in accordance with the provisions of Part IX of the Act.

(5) If a medical specialist finds a Member is physically unfit to perform assigned duties and such condition is attributed to, and a result of employment in the Fire Services, the Fire Chief may assign the Member to other duties within the Fire Services.

(6) Volunteer Firefighters shall be entitled to receive the Approved remuneration in accordance with the Volunteer Accord.

Fires and Emergencies

7.-(1) Proper measures for the prevention, control and extinguishment of fires and the protection of life and property, shall be taken by the Fire Services and may include:

- (a) suppressing any fire by extinguishing it and may enter private property if it is necessary to do so;
- (b) pulling down or demolishing any building or structure to prevent the spread of fire; or
- (c) any other necessary actions such as boarding up or barricading of buildings or property to guard against fire or other danger, risk or accident; when unable to contact the property owner and

(2) The Fire Chief shall inform Council of the delivery of any Fire Protection Services outside the City pursuant to this Section 8, within a reasonable time thereafter.

(3) Nothing in Section 8 shall impose a duty on the Fire Services to respond to a fire or emergency outside of the limits of the City.

Levels of Service

9.-(1) Despite Subsection 2(8) and Schedule "D1", the Core Services and Specialty Rescue Services forming part of Fire Protection Services may be delivered as Limited Services where the Fire Chief determines that it is necessary in the circumstances, for reasons such as the reliance on Volunteer Firefighters, the topographic and geographic configuration of the City, the level and amount of equipment available to the Fire Services and budgetary constraints.

(2) The City of Greater Sudbury accepts no liability for the delay or inability to supply the services set out in Schedule "D1" of this by-law due to the provision of its Approved Fire Protection Services as Limited Services or due to the existence of unsafe conditions encountered en route, impeded access to property, and/or environmental factors/constraints.

Refusal to Leave

10. No person shall refuse to leave the vicinity of a fire when directed to do so by a Member present at the fire or by the Greater Sudbury Police Services.

Conduct At Fires

11.-(1) During a fire or emergency incident, the Fire Services shall have the authority to set and establish scene limits and/or boundaries. During the time the Fire Services are present at the site, during the time after the fire has been extinguished and until the Fire Services has removed its apparatus and equipment and rendered the location and vicinity safe from fire or other hazards, no person shall, either on foot or with a vehicle of any kind, enter or remain upon or within:

- (a) the portion of any street or lane upon which the site of the fire abuts or upon any street or lane for a distance of fifteen (15) metres on each side of the property damaged by fire or;
- (b) any additional street or lane or part of a street or any additional limits in the vicinity of the fire as may be prescribed by the Fire Chief or the next ranking officer present at the fire or emergency incident.

(2) The provisions of Paragraph 11(1)(a) shall not apply to a person who resides in a dwelling on any street or lane or within any prescribed additional limit or to any person so authorized to enter or remain by an Officer of the Fire Services or by a Greater Sudbury Police Services officer.

Recovery of Costs – Additional Expenses

12.-(1) The Fire Chief may require occupancy owners or persons within or outside the City to pay costs or fees for fire and emergency response or other administrative services provided to them. Invoicing for response services or recovery of fees will be conducted in accordance with the City's Miscellaneous User Fees By-law.

(2) If as a result of a Fire Services' response to a fire or emergency incident, the Fire Chief determines that it is necessary to incur additional expenses to; retain a private contractor, rent special equipment not normally carried on a fire apparatus or use more materials than are carried on a fire apparatus in order to suppress or extinguish a fire, preserve property, prevent a fire from spreading, control and eliminate an emergency, carry out or prevent damage to equipment owned by or contracted to the City, assist in or otherwise conduct fire cause investigation or determination or otherwise carry out the duties and functions of the Fire Service and/or to generally make "safe" an incident or property, the owner of the property requiring or causing the need for those additional expenses shall be charged the full costs to provide the additional service including all applicable taxes. Property shall mean personal and real property.

Penalty

13.-(1) Any person who violates Section 10 or 11 of this By-law is, upon conviction, guilty of an offence and shall be liable to a fine, subject to the provisions of the *Provincial Offences Act*, R.S.O. 1990, c. P.33, as amended.

Interpretation

14.-(1) Whenever this By-law refers to a person or thing with reference to gender or the gender neutral, the intention is to read the By-law with the gender applicable to the circumstances.

(2) References to items in the plural include the singular, as applicable.

(3) The words "include", "including" and "includes" are not to be read as limiting the phrases or descriptions that precede them.

- (4) Headings are inserted for ease of reference only and are not to be used as interpretation aids.
- (5) Specific references to laws in the By-law are printed in italic font and are meant to refer to the current laws applicable with the Province of Ontario as at the time the By-law was enacted, as they are amended from time to time.
- (6) Any reference to periods of time, stated in numbers of days, shall be deemed applicable on the first business day after a Sunday or Statutory holiday if the expiration of the time period occurs on a Sunday or Statutory holiday.
- (7) The obligations imposed by this By-law are in addition to obligations otherwise imposed by law or contract.

Severability / Conflict

15.-(1) If any section, subsection, part or parts of this By-law is declared by any court of law to be bad, illegal or ultra vires, such section, subsection, part or parts shall be deemed to be severable and all parts hereof are declared to be separate and independent and enacted as such.

(2) Nothing in this By-law relieves any person from complying with any provision of any Federal or Provincial legislation or any other By-law of the City.

Short Title

16. This By-law may be referred to as the "Fire Services By-law".

Schedules

17. The following schedule is incorporated into and forms a part of this By-law:

Schedule "A" Organizational Chart - Fire Services

Schedule "B"	Mandate of the Fire Services
Schedule "C"	Fire Beats and Stations
Schedule "D1"	Core Services and Delivery Areas – Services Available
Schedule "D2"	Core Services and Delivery Areas – Services NOT Available

Repeals

18. By-law 2010-16 of the City of Greater Sudbury and all amendments thereto are hereby repealed.


Conflicts

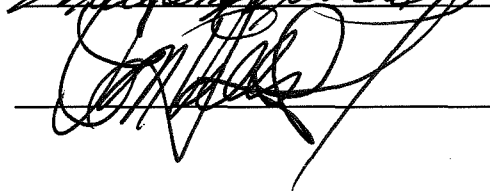
19. Where a provision of this By-law conflicts with the provisions of another By-law in force in the City, the provision that establishes the higher standard to protect the health, safety and welfare of the general public shall prevail.

Enactment

20. This By-law shall come into force and take effect immediately upon the final passing thereof.

READ AND PASSED IN OPEN COUNCIL this 10th day of July, 2012.

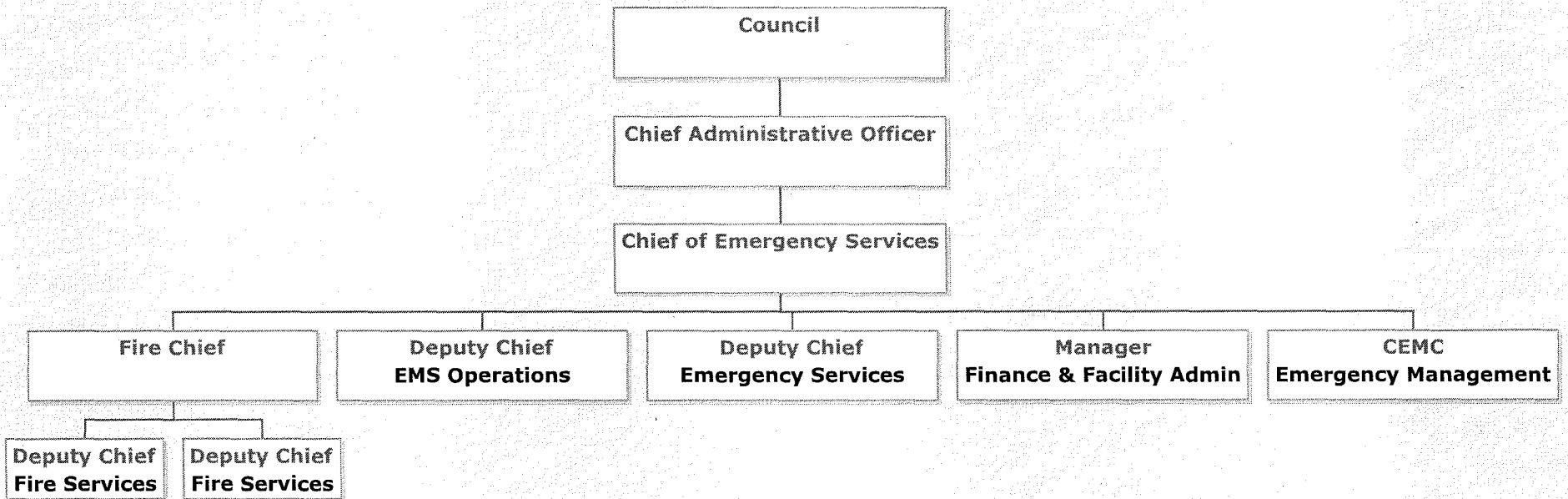

 _____ Mayor


 _____ Clerk

SCHEDULE "A" TO BY-LAW 2012-146

Fire Regulating By-Law

(Emergency Services Governance Structure - For illustration purposes only)



Schedule "B" TO BY-LAW 2012-146

Mandate of the Fire Services

The mandate of the Greater Sudbury Fire Services is to provide fire protection services and emergency response, public fire and life safety education and fire prevention initiatives to protect the lives and property of the citizens, businesses and visitors to the City of Greater Sudbury

Vision

The vision of the Greater Sudbury Fire Services is to be a well planned, well trained and a well equipped emergency response agency where the safety and well being of all involved in any emergency response is paramount.

Primary Goals of the Fire Services

The primary goals of the Fire Services;

- Provide appropriate public fire and life safety education and other fire prevention programs and measures as legislated by the *Fire Protection and Prevention Act*,
- Provide exceptional training to its members through well planned programs followed by appropriate testing and documentation,
- Provide effective, timely and adequately staffed emergency response and assistance as appropriate to the needs and circumstances of the municipality and as required by the *Fire Protection and Prevention Act, 1997* and other applicable legislation.

SCHEDULE C TO BY-LAW 2012-146

Fire Beats and Fire Stations

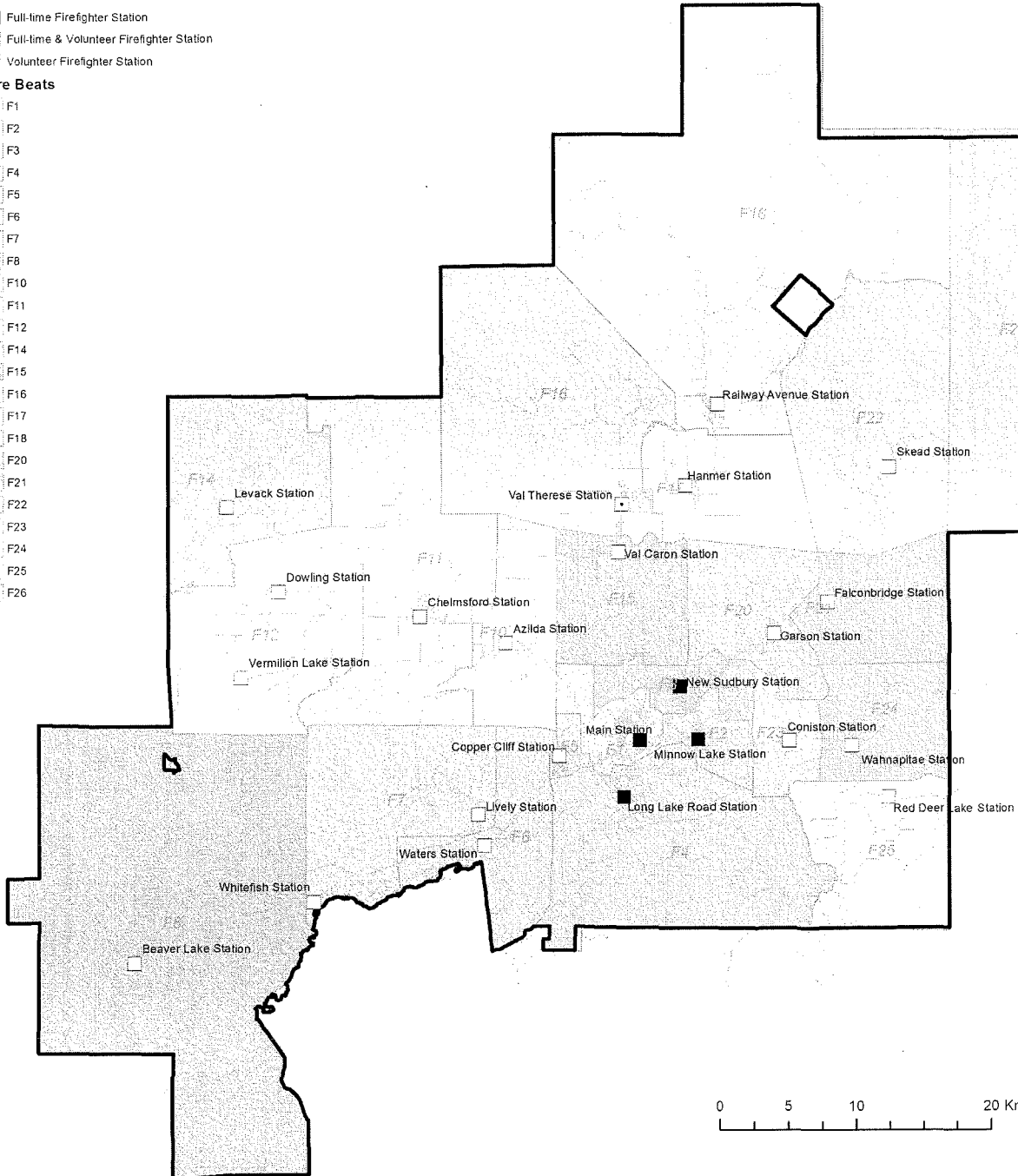


Legend

- Full-time Firefighter Station
- ◻ Full-time & Volunteer Firefighter Station
- ◻ Volunteer Firefighter Station

Fire Beats

- ◻ F1
- ◻ F2
- ◻ F3
- ◻ F4
- ◻ F5
- ◻ F6
- ◻ F7
- ◻ F8
- ◻ F10
- ◻ F11
- ◻ F12
- ◻ F14
- ◻ F15
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- ◻ F17
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- ◻ F26





Emergency Services

Fire Services — Services at a glance

**Fire Services Division
Station Location and
Services Available
(as of March 2012)**

Intervention												Prevention							
Suppression – Structure & Vehicle	Suppression – Wild lands	Suppression – Tanker Shuttle	Rescue – Low Angle **	Rescue – Aerial Ladder	Rescue – Vehicle Extrication **	Rescue – Water (Shore Based) **	Rescue – Water (Marine Unit) **	Rescue – Ice & Cold Water **	Rescue – Swift Water **	Medical – First Responder	HAZMAT – Awareness Level **	Inspection	Fire Regulation Enforcement	Investigation – Regulatory Compliance	Investigation – Origin & Cause	Permitting – Fire Regulation Only	Public Fire Extinguisher Training	Youth Arson Prevention	Public Awareness & Education

No.	Location	Suppression – Structure & Vehicle	Suppression – Wild lands	Suppression – Tanker Shuttle	Rescue – Low Angle **	Rescue – Aerial Ladder	Rescue – Vehicle Extrication **	Rescue – Water (Shore Based) **	Rescue – Water (Marine Unit) **	Rescue – Ice & Cold Water **	Rescue – Swift Water **	Medical – First Responder	HAZMAT – Awareness Level **	Inspection	Fire Regulation Enforcement	Investigation – Regulatory Compliance	Investigation – Origin & Cause	Permitting – Fire Regulation Only	Public Fire Extinguisher Training	Youth Arson Prevention	Public Awareness & Education	
1	Van Horne	■	■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
2	Minnow Lake	■	■		■			■					■	■			■					■
3	Leon (New Sudbury)	■	■		■			■				■	■	■			■					■
4	Long Lake	■	■	■	■			■				■	■	■			■					■
5	Copper Cliff	□	□		□			□					□	□			□					□
6	Waters	□	□		□	□	□	□					□	□			□					□
7	Lively	□	□		□			□					□	□			□					□
8	Whitefish	□	□	□	□		□	□					□	□			□					□
9	Beaver Lake	□		□	□			□					□	□			□					□
10	Azilda	□	□		□			□	□				□	□			□					□
11	Chelmsford	□	□	□	□	□		□					□	□			□					□
12	Dowling	□	□	□	□			□				□	□	□			□					□
13	Vermillion	□	□		□			□					□	□			□					□
14	Levack	□	□		□			□				□	□	□			□					□
15	Val Caron	□	□	□	□			□					□	□			□					□
16	Val Therese	■	■		□		■	■				■	■	■	■		■				■	■
17	Hanmer	□		□	□			□					□	□			□					□
18	Capreol	□	□		□		□	□				□	□	□			□					□
20	Garson	□	□		□		□	□					□	□			□					□
21	Falconbridge	□	□	□	□	□		□					□	□			□					□
22	Skead	□	□		□			□	□				□	□			□					□
23	Coniston	□	□		□			□					□	□			□					□
24	Wahnapiatae	□		□	□		□	□					□	□			□					□
25	Red Deer	□	□		□			□					□	□			□					□

Legend

- Station staffed by full-time Firefighters.
- Station staffed by full-time Firefighters & Volunteer Firefighters. Response time is subject to crew availability. Typical additional travel time is 10 minutes minimum.
- Station staffed by Volunteer Firefighters. Response time is subject to crew availability. Typical additional travel time is 10 minutes minimum.
- ** Denotes "Specialty Rescue Service"

Schedule "D1" TO BY-LAW 2012-146

(Part 2 of 5)

Fire Suppression	
Structure	<p>Extinguishment of fire involving residential structures and commercial structures. Fire suppression shall be delivered in both an offensive and defensive mode and shall include search and rescue operations, forcible entry, ventilation, protecting exposures, salvage and overhaul as appropriate, in accordance with the CGS Fire Service's level of training, standard operating guidelines and Occupational Health and Safety Guidelines.</p> <p><i>Note: Excluding Remote Structures (defined below)</i></p>
Vehicle	<p>Extinguishment of fire involving private and commercial vehicles.</p>
Wild Lands	<p>Extinguishment fire occurring in a area in which development is essentially non-existent, except for roads, railroads, power lines, and similar transportation facilities. Structures, if any, are widely scattered. Typical fire types include grass fires, bush fires, and forest fires.</p>
Remote Structure	<p>Extinguishment of fire involving residential or recreational properties not serviced by roads maintained by the Greater City of Sudbury, or not serviced by highway, regional, or county roads maintained by the Province of Ontario. Typical remote structures include: structures on islands such as remote camps/cottages that are only reachable by boat, structures accessible only by private roads, structures accessible only by air (float plane, helicopter).</p>
Tanker Shuttle	<p>Provision of an alternative water source for fire suppression where hydrants are not available.</p> <p><i>Note: Not accredited by the insurance underwriters authority.</i></p>

Medical Aid	
First Responder	<p>Medical assistance to the first responder level. Typical interventions include: cardiopulmonary resuscitation (CPR), automated external defibrillator, spinal and bone fracture immobilization, and administration of oxygen: as per the latest Emergency Services Agreement.</p> <p><i>Note: Interventions complement and do not replace advanced medical care provided by Emergency Medical Services (EMS)</i></p>

Schedule "D1" TO BY-LAW NO. 2012-146

(Part 3 of 5)

Rescue	
Low Angle	Rescue of persons from areas where terrain has a slope angle from 15 to 35 degrees.
Steep Angle	Rescue of persons from areas where terrain has a slope angle from 35 to 60 degrees.
High Angle	Rescue of persons from areas where terrain has a slope angle of 60 degrees and higher where: rescuers are totally dependent upon specialized climbing/abseiling equipment, or rescuers use ropes exclusively to keep from falling or to gain access to and egress from the rescue location.
Vehicle Extrication	Rescue of persons trapped in a vehicle through the use of specialized equipment and techniques including hand tools, air bags, and heavy hydraulic tools as required.
Aerial Ladder	Rescue of persons trapped on an elevated platform or structure to maximum elevation of eight stories (approximately 80ft). <i>Note: Actual effective operating height depends on proximity of equipment to structure, and ground conditions.</i>
Extrication Industrial & Farm Equipment	Rescue of persons from farm equipment or extrication from industrial machinery through the use of specialized equipment and techniques.
Confined Space	Rescue from locations or vessels that have limited or restricted means of entry or exit. Typical confined spaces include; above or below ground tanks, sewer systems, pipes, sumps and wells.
Trench	Rescue from a collapsed ditch, or excavation (trench) involving specialized equipment and shoring techniques required for extrication.
Water Shore Based - Level 1	Rescue of persons from water by reaching or throwing rescue lines. (No water entry).
Water Surface - Level 2	Rescue of persons from the surface of the water through the use of a rescue boat.
Swift Water - Level 2	Rescue of persons from water courses with any current greater than 0.5 m/sec (1 knot).
Ice & Cold Water	Rescue of persons in water that is below 21°C (70°F) including use of shoreline techniques and rescue boats.

Schedule "D1" TO BY-LAW 2012-146

(Part 4 of 5)

Hazardous Materials – (HazMat)	
Awareness (Level 1)	Personnel trained and able to: recognize, isolate, implement protection protocols, and notify the appropriate response team and/or agency. Personnel are also trained to provide limited emergency decontamination of persons exposed to hazard.
Operations (Level 2)	In addition to Level 1: Personnel trained and equipped to be able to take defensive actions to contain the spread of the hazardous material.
Technician (Level 3)	In addition to Level 2: Personnel trained and equipped to be able to take remove Identify, remove, pack, transport, or dispose of hazardous materials.

Inspection, Enforcement & Investigation	
Inspection	<p>The fire inspection program ensures compliance with legislated life safety and property preservation standards as per the Ontario Fire Code.</p> <p>Fire inspections are completed for all commercial and multi-residential buildings. Single family residential inspection also occurs upon request by owner of if there is a complaint related to a potential violation of the Ontario Fire Code. The inspections ensure that the appropriate fire safety equipment and fire and life safety conditions are maintained.</p>
Fire Regulation Enforcement	Enforcement action is taken in the form of a formal citation (ticket) to ensure compliance with the Ontario Fire Protection and Prevention Act. Enforcement can include prosecution under the Act.
Investigation – Regulatory Compliance	Investigation regarding possible infringement of the Ontario Fire Protection and Prevention Act that are not a result of an incident. These investigations are typically a result of a concern being raised by the public or other partner agency.
Investigation – Cause & Origin	<p>Investigation and analysis of fire-related incidents to determine the cause of the incident and the origin of any resulting fire.</p> <p>Note: Investigations are conducted in collaboration with other agencies such the Ontario Fire Marshal and Police as required.</p>

Schedule "D1" TO BY-LAW 2012-146

(Part 5 of 5)

Prevention & Permitting	
Public Fire Extinguisher Training	Public training on the proper use of fire extinguishers.
Youth Arson Prevention	Intervention with youth who have or may been involved with a fire related incident.
Public Awareness & Education	<p>Fire and life safety information and public education programs shall be administered in accordance with the FPPA, 1997 and policies of the Fire Prevention Section.</p> <p>A residential home fire safety and smoke alarm awareness program is provided by the Fire Prevention and Suppression Sections.</p>
Plan Review & Permitting	<p>Review of proposed construction plans and/or installation of appliances that fall within the Ontario Building & Fire Code regulations.</p> <p>Issuance of burn permits as required by exiting by-laws and Ontario Fire Code.</p> <p><i>Note: Construction related permits are issued via the Building Controls department.</i></p>

Emergency Dispatch & Communications	
Fire Dispatch Services	<p>Fire calls are dispatched by the Greater Sudbury Police Services Communications Centre, which also serves as the 9-1-1 Public Safety Answering Point and handles communications and dispatch for the City's Police Services. Fire dispatch services are governed by an agreement that was enacted prior to the Greater City's amalgamation (circa 1998/99).</p>

Schedule "D2" TO BY-LAW 2012-146

Fire Services – Services Not Available

The accompanying Table and Definitions identifies a number of Fire Protection Services that would be considered a higher level of service currently being provided in specific areas. These higher level, specific services require additional training, equipment/resources and the supporting procedures/guidelines and budgets. As a result these services are not available at this time.



Emergency Services

Fire Services – Services not available	
Intervention	Prevention
Suppression	
*Remote Structure	
Rescue	
Steep Angle	All Prevention Services required by regulation or typically offered are available.
High Angle	
Confined Space	
Elevator	
Trench	
Underwater	
Industrial & Farm Equipment	
HazMat	
Operations Level	
Technician Level	

Notes:

* Residential or recreational properties not serviced by roads maintained by the Greater City of Sudbury, or not serviced by highway, regional, or county roads maintained by the Province of Ontario.

Fire Suppression	
Remote Structure	Extinguishment of fire involving residential or recreational properties not serviced by roads maintained by the Greater City of Sudbury, or not serviced by highway, regional, or county roads maintained by the Province of Ontario. Typical remote structures include: structures on islands such as remote camps/cottages that are only reachable by boat, structures accessible only by private roads, structures accessible only by air (float plane, helicopter).

Public Engagement

In February and March 2017, the Fire and Paramedic Services Optimization team held several employee and public information sessions. Residents and employees were invited to attend and learn about current service levels and challenges, and a summary of the proposed Fire and Paramedic Services Optimization plan. All sessions included a presentation followed by a Question and Answer period.

Three employee sessions were held, open to all emergency service staff; eight public information sessions were also held across the community.

A total of approximately 1,039 residents, staff and Councillors attended the public information sessions where the Fire and Paramedic Optimization staff team listened and responded to approximately 391 questions and comments. Many of these meetings included repeat participants, in particular, a large number of volunteer firefighters. In some cases the staff in the audience outnumbered residents from the community.

As a result of these questions and comments, several common themes emerged, as noted below. It was clear that the future and current role of volunteers, how stations closures and re-locations will affect service levels and insurance, and the impact on property taxes were of the most concern to residents.

1. Volunteers (44 questions/comments)
2. Costs (39 questions/comments)
3. Infrastructure (21 questions/comments)
4. Career Firefighters (20 questions/comments)
5. Stations (20 questions/comments)
6. Report/Plan (19 questions/comments)
7. Call volume (17 questions/comments)
8. Paramedic Services (17 questions/comments)
9. Property taxes (17 questions/comments)
10. Service levels (16 questions/comments)
11. Volunteer Training (12 questions/comments)
12. Volunteer Recruitment (10 questions/comments)
13. Insurance (10 questions/comments)

Other themes included equipment, technical training, use of technology, From Home Response, Amalgamation, railways, Post Traumatic Stress Disorder (PTSD), risk and other.

Proposed Fire and Paramedic Optimization Plan - Public Sessions

March 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	27	28	1	2	3	4
	6:30-8:30 Kinsmen Hall Lively	COUNCIL	6:30-8:30 Colonial Inn Coniston CANCELED due to snowstorm			
5	6	7	8	9	10	11
	6:30-8:30 Dowling Leisure Centre Dowling (Montpellier)	COUNCIL	6:30-8:30 Centennial Arena Hanmer Lapierre/Kirwan/ Jakubo	6:30-8:30 Falconbridge Community Centre Falconbridge		
12	13	14	15	16	17	18
	6:30-8:30 St. Andrews Place Sudbury Core	6:30-8:30 Dr. Edgar Leclair CC Azilda	6:30-8:30 Wahnapitae CC Wahnapitae	6:30-8:30 TM Davies CC Lively		
19	20	21	22	23	24	25
		Special Council Meeting Update				
26	27	28	29	30		



City of Greater Sudbury
April 2016