



**Subject:** Budget White Paper - Fire Service Medical Response Information

**Report Number:** FRS 23-01

Department: Fire and Emergency Services

Submitted by: Shane Caskanette, Fire Chief

Meeting Type: Council Meeting

Meeting Date: Monday, January 9, 2023

## **RECOMMENDATION**

THAT report FRS 23-01 Fire Service Medical Response Information Budget White Paper be received as information;

AND THAT Council direct the Fire Chief to provide the current level of tiered medical response services to the community in accordance with the Tiered Response Agreement between the Town of Tillsonburg and the County of Oxford Paramedic Services dated September 23, 2019.

## **BACKGROUND**

At the Council Budget Meeting on December 7, 2022, Council requested a White Paper Report from the Fire Chief regarding emergency medical alarm response times based on research from similar demographic municipalities.

## **DISCUSSION**

Fire service response to medical incidents is a complex issue with many factors for Council to consider. This report endeavors to inform Council about current circumstances, tiered response criteria, fire service deployment, training, comparable municipal comparators, stakeholder engagement, and real financial impact of tiered medical and to provide recommendations so Council can make an informed decision on tiered medical response.

## **Summary**

This report explores the complexities of tiered medical response and considers municipal comparison data to align and support the report recommendations.

Tillsonburg residents currently get very good value for their fire service tax dollars when compared to other similar communities.

Our current tiered response criteria aligns with our community's local needs and circumstances providing an appropriate balance between EMS redundancy, fiscal responsibility and efficiency while considering increasing demands on local EMS services.

Our firefighters are extremely proud and passionate about providing tiered medical service to our community. Firefighters increasingly arrive at medical emergencies and provide vital life saving services in advance of EMS ensuring another level of emergency medical services is available for life threatening emergencies in our growing and aging community.

These are the main rationale to support the recommendations to Council with respect to fire service response to tiered medical emergencies in our community.

### **Current Circumstances**

Tillsonburg is a growing urban population centre of 18,573 people within 19 km<sup>2</sup> and has a population density of 979 people per km<sup>2</sup>. Tillsonburg has an aging population with 29.3% of the population over the age of 65.

Tillsonburg has one fire station and one EMS station located proximal to each other central to the community.

Tillsonburg Fire Rescue Service enjoys a positive working relationship with Oxford County EMS and has a Tiered Response Agreement with Oxford County Paramedic Services which establishes response criteria for London Central Ambulance Communications Centre (CACC) to tier Tillsonburg Fire Rescue Services to respond to certain life threatening medical emergencies in the community.

The current Tillsonburg tiered response criteria is relatively narrow in scope including;

- Vital Signs Absent – No delay
- Choking – No delay
- Unconscious – EMS >10-minute delay

In October of 2022, the tiered response criteria were reviewed by the Fire Chief, Tillsonburg Firefighters Association, Oxford County EMS and CACC and amended to include a >10-minute delay by EMS condition for unconscious incidents to reduce responses where fire had limited patient interaction or impact on patient outcomes.

Previously, Tillsonburg Fire responded to all unconscious or decreased level of consciousness calls with no EMS delay resulting in increased calls with little patient interaction or impact to patient outcomes.

If a medical call is received by London CACC meeting the tiered response criteria Tillsonburg Fire Rescue Services would be notified and respond with a minimum of three (3) firefighters in the rescue truck to assist at the medical emergency. On average 8 firefighters respond to the station for medical calls.

Tiered Response Agreements are written agreements between fire services and EMS services. The local provincial CACC administers the response criteria at the direction of the local EMS provider. This process yields vast differences between tiered response criteria across Ontario which are difficult to compare across jurisdictional boundaries. Consequently, this report only compares tiered response criteria among Oxford County EMS and London CACC for statistical validity and reliability reasons.

**Comparison of Tiered Response Criteria and Calls in Oxford County**

Table # 1 below illustrates the different medical response criteria of the fire services in Oxford County. There are 29 medical response types or criteria a fire service can opt to respond with or without an EMS delay option for each response type.

**Table # 1**

Municipality	Total Calls	Total Medicals	% of Calls Medical	% Pop over 65	% of Tiered Criteria Response	% of Immediate Tiered Response Criteria	% of Delayed Medical Response Criteria
Woodstock	1358	424	31%	19.6	100%	28%	72%
<b>Tillsonburg</b>	<b>381</b>	<b>99</b>	<b>26%</b>	<b>29.3</b>	<b>10%</b>	<b>7%</b>	<b>3%</b>
Ingersoll	260	65	20%	17.1	10%	10%	0%
Norwich	229	45	20%	18.6	13%	10%	3%
Zorra	160	36	23%	18.1	69%	21%	48%
East-Zorra Tavistock	189	43	23%	20.4	66%	17%	49%
South-West Oxford	169	26	15%	16.6	79%	24%	55%
Blandford-Blenheim	289	44	15%	17.4	58%	10%	48%

Notes: Period Jan 01 – Nov 30 2022  
 29 total response criteria with or without delay options  
 Subjectivity in call typing incidents may skew data and results

Comparatively, Tillsonburg, Ingersoll and Norwich have the lowest or very conservative tiered response criteria with 10%, 10%, and 13% respectively of the total tiered criteria. East-Zorra Tavistock 66%, Zorra 69% and South-West Oxford at 79% have broader response criteria. Woodstock has the broadest response criteria of all fire services in Oxford County responding to 100% of the response criteria.

On average 22% of all fire incidents in Oxford County are medical with Tillsonburg is slightly above the County average at 26%. The slight increase may be attributed to a higher population or higher over 65 populations which may increase demand on EMS services but further analysis is required to verify. Percentage of population over 65 is listed in Table # 1 for reference only.

### **Fire Service Deployment**

Pursuant to the *Fire Protection and Prevention Act* (FPPA) each municipality must provide fire protection services in accordance with local needs and circumstances as determined by Council. Fire protection services is a defined term under the FPPA and includes response to medicals and other rescue related activities.

The National Fire Protection Association (NFPA) establishes industry standards and best practices for the organization and deployment of fire services. NFPA 1720 establishes organization and deployment standards for volunteer fire services and NFPA 1710 establishes standards for career fire services. Appendix "A" identifies cost variances attributed to differences in the volunteer and career fire service staffing models.

The basis for fire service staffing and deployment models are structured around response times and staffing requirements. Response time objectives and staffing requirements for a volunteer fire service i.e. Tillsonburg are based on critical fire ground tasks and staffing required to safely conduct operations on a low hazard 2-story 2000 sq./ft. single-family occupancy with no basement.

Tillsonburg is an urban centre and fire services monitors the following strategic performance objectives;

- Time to assemble 4 firefighters on scene for initial operations
- 15 firefighters in 9 minute 90% of the time
- Initiate fire attack in 2 minutes of arrival 90% of the time

These fire ground performance objectives result in strategically located fire stations, equipment and staffing resources being well positioned throughout the community for fire suppression response and compliment value added services like tiered medical, rescue and other desired response types.

It is imperative to have some degree of overlap in emergency service systems as both desirable and required to ensure resource availability for large or multiple simultaneous emergencies that may deplete available emergency resources in the community. As a community grows so to does the risk of more frequent multiple simultaneous events depleting available resources. Conversely, too much overlap or redundancy is

inefficient and costly. The goal is to find an appropriate balance between these two spectrums suitable to the community.

Tillsonburg firefighters increasingly arrive at medicals prior to Oxford County EMS and provide life saving first aid, CPR, O2 and defibrillation to our growing and aging community until EMS arrives. Increasing demand on EMS results in increase risks of zero availability hours, off load delays, large or multiple simultaneous calls that may further delay EMS response. During times of EMS delays its reassuring to the public that firefighters are trained and able to respond and help until EMS arrives. Our firefighters can and have saved lives in our community which is difficult to quantify financially.

### **Training**

Approximately thirty (30) firefighters participate in 8 hours of first aid training annually to maintain life saving skills and competencies required for medical response. Firefighters are trained in emergency first aid through a partnership with Oxford County EMS who provide medical oversight for O2, defibrillation and PPE, O2, defibrillator pads and other medical supplies for the tiered response program.

If firefighters did not respond to tired medical calls the training requirements would essentially remain the same to ensure compliance with Health and Safety requirements, certification requirements and to ensure appropriate level of first aid to our firefighters participating in low frequency high risk events that may be injured on the fire ground.

Additionally, first aid skills are valuable basic life skills for any first responders in the community coming across motor vehicle collisions, industrial accidents, and other medical related emergencies in our community on or off duty.

### **Comparable Municipalities and Fire Services**

The table in Appendix “A” draws comparisons between similar sized municipalities and fire services for statistical analysis purposes.

The sample comparison group was selected from Canada Census 2021 list of population centres in Ontario. Tillsonburg ranking of number (48) on the list of population centres was selected as the median for the data sample and the five population centres above and below were selected for statistical comparative analysis.

Ingersoll (62) on the list of population centre is 2/3<sup>rd</sup> the size of Tillsonburg but was specifically requested to be included in the comparative analysis of the White Paper Report for it’s proximity to Tillsonburg.

The data for the table was sourced from Canada Census 2021 data, municipal operating budget websites, and information was clarified or provided by municipal Fire Officials as required for comparison purposes.

Incident data was collected purposely for the period Jan 01, – Nov 30, 2022 as 2020 and 2021 data was skewed from COVID 19 impact to not valid or reliable enough for statistical analysis.

Fire communications data was removed from all data sources as most fire services contracted out fire communications services to ensure a more valid and reliable representation of emergency response cost centres for more accurate comparison between municipal fire services.

The analysis of the Municipal Fire Service Comparison Table in appendix “A” reveals the following;

- Tillsonburg’s cost per incident of \$3,675 is \$1,703 below the average cost per incident of \$5,378 of the comparison group.
- Tillsonburg medical calls represent 26% of total incident responses on par with the average of 27% of the comparison group.
- Tillsonburg cost per medical of \$363,780 is significantly below the comparison group average of \$1,454,113. This cost is calculated as cost per incident multiplied by number of medical incidents for comparative analysis measure only and does not reflect actual medical response costs across fire services.
- Tillsonburg has the lowest cost per km<sup>2</sup> of fire services at \$73,684 which is \$69,165 less than the average cost of \$142,849 per km<sup>2</sup> of the comparison group.
- Simcoe and Tillsonburg have the lowest number of full time staff at 2 and 2.5 respectively both significantly below the comparison group average.
- Simcoe and Tillsonburg population centres have the lowest full-time per 1000 population at 0.12 and 0.13 compared to the comparison group average of .71.
- Tillsonburg’s average cost per capita is the lowest of the comparison group at \$75 which is \$86 dollars less than the average cost per capita of \$161 of the comparison group.

In relative terms, Tillsonburg Fire Rescue Services cost per incident and cost per medical call are significantly below group average and the percentage of medicals calls at 26% aligns with comparison group average. Tillsonburg has one of the lowest number of full-time staff and the lowest cost per capita and cost per km<sup>2</sup> costs of the group indicating very good value for fire services tax dollars when compared to sample group.

## **CONSULTATION**

Extensive consultation was undertaken with the Tillsonburg Firefighters Association, Oxford County EMS, comparable sized fire services across Ontario as well as fire services in Oxford County to collect valid and reliable data for statistical analysis regarding fire service response to medical incidents for this report.

The consultation with the Firefighters Association regarding tiered medical response in Tillsonburg was both informative and very telling. The Firefighters Association members voiced immense support for the tiered response program in no uncertain terms. They provided their perspective on the history of tiered medical in Tillsonburg including lobbying Council in the past for the ability to provide tiered medical response to the community.

The Association was very proud and quick to point out how they provide cost effective tiered response with little to no cost to the tax payers through the current honorarium remuneration system. They voiced concerns and frustrations from the past about providing tiered medical services to an automatic aid area of Bayham but not their own community.

A few firefighters opt not to participate in tiered medical response for one reason or another, however the vast majority are very passionate about providing tiered medical in their community and the opportunity to make a difference, save lives, and assist EMS all in an effort to help the community. The support for tiered medical among our firefighters is obvious and a testament to their commitment, and dedication to delivering exceptional emergency services to our community.

## **FINANCIAL IMPACT/FUNDING SOURCE**

### **Wages Honorarium**

Firefighters are currently paid an annual honorarium of about \$7430 (1<sup>st</sup> Class) for all incidents attended. Regardless of the number or type of incident a firefighter responds to the cost for responding to incident remains the same regardless of tiered medical response.

### **Wages and Training**

Wages First Aid Training Cost      \$8,400

Training Costs Oxford EMS          \$2,100

These costs would be incurred regardless of tiered medical response.

**Medical Supplies**

Medical supplies are ordered and supplied through Oxford EMS at no cost.

**Vehicle Costs Estimates**

Diesel fuel costs and vehicle wear and tear costs on Rescue #3 for about 100 incidents annually projected at about 6 kilometers return per incident = \$7,000 – 10,000 annually.

Total Annual Program Costs \$7,000 – \$10,000.

**CORPORATE GOALS**

How does this report support the corporate goals identified in the Community Strategic Plan?

- Lifestyle and amenities
- Customer service, communication and engagement
- Business attraction, retention and expansion
- Community growth
- Connectivity and transportation
- Not Applicable

Does this report relate to a specific strategic direction or project identified in the Community Strategic Plan? Please indicate section number and/or any priority projects identified in the plan.

**Goal:** The Town of Tillsonburg will strive for excellence and accountability in government, providing effective and efficient services, information, and opportunities to shape municipal initiatives.

**Strategic Direction:** Position Tillsonburg as a leader in the municipal sector.

**Strategic Priority:** N/A

**ATTACHMENTS**

Appendix A – Comparison Table of Similar Municipalities and Fire Services

## Appendix “A”

### Comparison Table of Similar Municipalities and Fire Services

Population Centre / Census Ranking	Population	Population Density km <sup>2</sup>	Land Area km <sup>2</sup>	Population Centre % of Total Population	2022 Operating Budget	Full-time Staff	Total Medicals 2022	Total Incidents 2022	FT/1000 Population	% Medical Calls	Cost per Capita	Cost per Incident	Cost per Medical	Cost per square km <sup>2</sup>
Lindsay (43)*	22,367	1,436	16	28%	\$ 5,000,000	24	183	815	1.07	22%	\$224	\$6,135	\$1,122,699	\$ 312,500
Kawartha Lakes**	79,247	26	3034	100%	\$ 8,900,000	26	710	2419	0.33	29%	\$112	\$3,679	\$2,612,236	\$ 2,933
Owen Sound (44)	22,318	1,070	21	100%	\$ 5,500,000	31	447	712	1.39	63%	\$246	\$7,725	\$3,452,949	\$ 261,905
Brockville (45)	22,293	1,192	19	100%	\$ 6,500,000	34	268	948	1.53	28%	\$292	\$6,857	\$1,837,553	\$ 342,105
Wasaga Beach (46)	22,194	787	28	100%	\$ 3,900,000	23	1365	1846	1.04	74%	\$176	\$2,113	\$2,883,803	\$ 139,286
Cobourg (47)	19,830	1,274	16	100%	\$ 3,700,000	20	691	1234	1.01	56%	\$187	\$2,998	\$2,071,880	\$ 231,250
<b>Tillsonburg (48)</b>	<b>18,573</b>	<b>979</b>	<b>19</b>	<b>100%</b>	<b>\$ 1,400,000</b>	<b>2.5</b>	<b>99</b>	<b>381</b>	<b>0.13</b>	<b>26%</b>	<b>\$75</b>	<b>\$3,675</b>	<b>\$363,780</b>	<b>\$ 73,684</b>
Valley East (49)*	17,251	668	26	10%	\$ 3,000,000	18	48	339	1.04	14%	\$174	\$8,850	\$424,779	\$ 115,385
Greater Sudbury**	166,004	52	3186	100%	\$29,600,000	120	818	4659	0.72	18%	\$178	\$6,353	\$5,196,995	\$ 9,291
Pembroke (50)	16,571	949	17	100%	\$ 3,400,000	18	5	368	1.09	1%	\$205	\$9,239	\$46,196	\$ 200,000
Simcoe * (51)	16,121	977	17	24%	\$ 1,872,000	2	19	244	0.12	8%	\$116	\$7,672	\$145,770	\$ 110,118
Norfolk	67,490	42	1598	100%	\$ 7,800,000	8	176	893	0.12	20%	\$116	\$8,735	\$1,537,290	\$ 4,881
Strathroy (52)***	16,056	1,049	15	68%	\$ 1,400,000	3.4	0	705	0.21	0%	\$87	\$1,986	\$0	\$ 93,333
Strathroy-Caradoc	23,871	88	271	100%	\$ 2,000,000	5	30	1527	0.21	2%	\$84	\$1,310	\$39,293	\$ 7,380
Port Colborne (53)	15,441	1,162	13	100%	\$ 3,400,000	16	329	909	1.04	36%	\$220	\$3,740	\$1,230,583	\$ 261,538
Ingersoll (62)	13,607	1,319	10	100%	\$ 1,200,000	4	65	260	0.29	25%	\$88	\$4,615	\$300,000	\$ 120,000

Notes: Incident data for period Jan 01-Nov 30 2022 / Communications costs removed from all municipalities to accurately compare emergency response costs

\* Population centre fire service operated by Upper/Single Tier Municipality Broader Municipality/Fire Service data listed directly below

\*\* Area Rating i.e. population centre pays higher costs for fire services over less densely populated areas of municipality

\*\*\* Increasing full-time staff by 8 firefighters in July 2023