



## **Administrative Report**

### **Office of the Chief, Essex-Windsor EMS**

**To:** Warden McNamara and Members of Essex County Council

**From:** Bruce Krauter  
Chief, Essex-Windsor Emergency Medical Services

**Date:** Wednesday, October 06, 2021

**Subject:** Essex Windsor EMS 2020-2021 Response Experience and Service Delivery Impacts

**Report #:** 2021-1006-EMS-R007-BK

---

#### **Purpose**

To provide Essex County Council with background and information on ambulance call response experience and activity across the Essex-Windsor region for the period of January 2020 to September 2021. The information will include call volume, response times, resource utilization, ambulance offload delays and other items of impact to the service delivery of EMS.

#### **Background**

Call response data is reviewed utilizing the Interdev Technologies iMedic electronic Patient Care Record (ePCR) analytics platform. The ePCR is the document that records all relevant patient care, response and transportation data for all EMS responses. By applying this tool, the operations of EWEMS are continually measured, reviewed and adjusted to maintain the best performance possible.

Other open data sources are utilized to determine projections and impacts to the services, such as the Windsor Essex County Health Unit, Critical Care Services Ontario and Ministry of Health Data Bases. [The Essex Windsor EMS, ORH Ten-year Master Plan](#) (Received by County Council November 6, 2019) is reviewed and referenced as a guiding document for additional consideration.

Analysis of all data sources provides context, an understanding and utilizes reliable aspects for future projections and expectations. Combining all sources of information allows EWEMS and the County of Essex to plan and prepare for any informed decision-making processes that result in service delivery changes, alterations or enhancements.

In review of all data over the past 2 years, COVID-19 and the associated impacts must be considered and understood. The effects of COVID may have realized improved offload times, improved resource utilization and some response times improvement in 2020. But as we move through the pandemic in 2021 and with lockdowns ceasing and people beginning to move about, we must be cognizant that the healthcare system is still addressing the collateral damage of COVID, such as healthcare backlogs, decreased capacity within the hospitals, rates of infection and other anomalies or pressures not experienced in the early waves.

## **Discussion**

### **Call Volume**

---

Essex Windsor EMS (EWEMS) continually monitors and evaluates call volumes (Appendix I). Call volume dictates resource utilization and determines the needs, deployment and requirements of EWEMS. It is projected that overall call volume (Code 1-4) will increase 1.89% in 2021 as compared to 2020. Conversely, 2020 call volume decreased 5.44% as compared to 2019. The five (5) year annual average increase of call volume, Code 1-4, is projected to be 2.6%. This is consistent with the guidance of the ORH Ten Year Master Plan.

The chart below indicates the call volume experience and five year (2017-2021(P)) average annual volume increase, by Municipality.

<b>Municipality</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021(P)</b>	<b>5 yr. avg *</b>
<b>Amherstburg</b>	2,439	2,799	2,681	2,474	2,584	3.18%
<b>Essex</b>	2,505	2,842	2,417	2,503	2,494	2.25%
<b>Kingsville</b>	2,365	2,659	2,789	2,369	2,768	4.80%
<b>Lakeshore</b>	3,097	3,762	3,389	3,007	3,057	2.40%
<b>LaSalle</b>	2,572	2,887	2,729	2,640	2,720	3.50%
<b>Leamington</b>	3,709	4,070	4,120	4,070	3,688	1.60%
<b>Tecumseh</b>	3,549	3,870	3,524	3,267	3,232	0.43%
<b>Windsor</b>	39,430	44,041	42,260	39,726	38,686	2.87%
<b>Essex County</b>	20,236	22,889	21,649	20,330	20,543	2.60%

*Refer to Appendix 1 for Municipal charts of volume experience.*

*(\*5 year average percentages in original report, published on Oct. 1, 2021 were corrected on Oct 6, 2021.)*

## **Response Times**

---

Response times are measured in various formats and utilizing various formulas. EWEMS is bound by the Land Ambulance Response Time Standard to report response times on a regional basis and to develop a plan. The Response Time Standard specifies the following in target minutes of arrival and percentage amount of times meeting the target:

- Sudden Cardiac Arrest at patient’s side in 6 minutes – 55%
- CTAS 1 within 8 minutes – 75%

The CTAS levels targets are determined by the County of Essex:

- CTAS 2 within 10 minutes – 90%
- CTAS 3 within 12 minutes – 90%
- CTAS 4 within 14 minutes – 90%
- CTAS 5 within 14 minutes – 90%

This Standard was developed in 2012 and the EWEMS Response Time Plan is revisited annually and posted on the MoH website. Due to COVID in both 2020 and 2021, the Targets have been difficult to meet for various reasons. With the increased amount of time for personal protective equipment (PPE) application upon arrival at scenes, cleaning of equipment post call, the decreased capacity at hospitals and the fluctuation, or unpredictability of call volume, response times have been under pressure.

The following chart reflects the EWEMS Land Ambulance Response Time Performance over the course of five (5) years (2017-2021YTD):

<b>CTAS</b>	<b>Time Min.</b>	<b>Target</b>	<b>2017 Actual</b>	<b>2018 Actual</b>	<b>2019 Actual</b>	<b>2020 Actual</b>	<b>2021 (P)</b>
<b>Sudden Cardiac Arrest</b>	6	55%	59%	63%	62%	53%	50%
<b>CTAS 1</b>	8	75%	75%	80%	77%	75%	68%
<b>CTAS 2</b>	10	90%	84%	86%	85%	83%	83%
<b>CTAS 3</b>	12	90%	87%	87%	87%	85%	88%
<b>CTAS 4</b>	14	90%	91%	90%	91%	90%	86%
<b>CTAS 5</b>	14	90%	90%	90%	90%	90%	86%

2021 has seen the greatest impact across all sectors of the plan. For the life threatening (Sudden Cardiac Arrest and CTAS) the targets have not been met. There are numerous factors attributing to this outcome, one being hospital capacity and ambulance off load delays.

EWEMS continues its partnership with local emergency services, such as Fire Services and the utilization of Tiered Response Agreements. This partnership is crucial in life or limb responses, ensuring that an emergency service is within minutes to respond when EMS is delayed in providing lifesaving interventions.

Another measurement of response time is the average response time of an EMS resource, to a particular subset of requests for service. The following indicates the average response time, by municipal pickup. The factors for the response times are:

- Emergency response and transport (lights and siren),
- CTAS 1 or 2 transport condition to hospital
- Destination Acute Care facility in Windsor or Chatham

<b>Average Response Time Mins</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021 YTD</b>
<b>Amherstburg</b>	10.3	9.2	7.2	8.1	8.3
<b>Essex</b>	9.4	9.6	9.8	9.9	10.5
<b>Kingsville</b>	8.8	9.0	8.5	9.8	10.3
<b>Lakeshore</b>	9.5	9.5	9.1	9.2	10.1
<b>LaSalle</b>	7.9	7.9	8.2	8.2	8.3
<b>Leamington</b>	6.4	6.2	6.1	6.7	7.4
<b>Tecumseh</b>	7.4	6.9	6.9	7.1	7.5
<b>Windsor</b>	6.2	6.0	6.1	6.5	6.6

## Ambulance Offload Delays

Ambulance Offload Delays (AOD) (Appendix II) have been an issue for well over a decade but since 2018, EWEMS, Windsor Regional Hospital, Erie Shores Health Care and Ontario Health have been striving to manage, mitigate and reduce ambulance offload delays. The frequency of AOD have been reducing year over year since 2018.

As COVID enveloped the region in 2020, we saw a reduction of both the number and the duration of the offload delays. This experience had not occurred since 2014. The chart below indicates the Total AOD Count per year, Total Off Load Hours per year and the Average Off Load Hours /day.

	<b>Total AOD Count</b>	<b>Total OL Hrs/Yr</b>	<b>Avg OL Hrs/day</b>
<b>2013</b>	37,259	8,742.65	23.95
<b>2014</b>	37,590	12,665.67	34.70
<b>2015</b>	37,999	16,510.07	45.23
<b>2016</b>	39,261	19,343.02	52.99
<b>2017</b>	40,781	25,942.53	71.08
<b>2018</b>	41,352	28,206.52	77.28
<b>2019</b>	40,618	24,983.15	68.45
<b>2020</b>	37,817	22,063.90	60.45
<b>2021(P)</b>	39,363	26,006.00	71.25

Between 2018 and 2019 we had reduced AOD total hours per year by 11%. In 2020, this reduction continued at 11% but this is mostly attributed to the decrease in call volume and decrease of emergency department visits, because of COVID. It is projected, that in 2021, AOD hours will increase by 17.9% from our low in 2020.

This AOD increase can be attributed to numerous factors, including but not limited to:

- Decreased capacity within the hospitals, due to COVID
- Increased call volume for low or non-urgent calls, both by EMS and by walk-in traffic to the emergency departments
- The implementation of a new digital charting platform at all three acute care hospitals, resulting in slower processing times.
- Backlog of Primary Care services for the community as a whole

Essex Windsor EMS, Windsor Regional Hospital, Erie Shores Hospital and the Central Ambulance Communication Centre (CACC) continue strategies to mitigate and reduce offload delays. There are daily huddles in which senior management of all organizations discuss the daily pressures, impacts, anticipated hurdles and plans to move or flow patients across the region.

Diversion protocols are implemented sooner, other regions are consulted (Chatham-Kent) and hospital bed capacities are understood by all. Bi-monthly meetings between Ontario Health, the acute care hospitals, CACC, local police services and other impacted organizations are held to review the prior weeks experience and develop high level strategies, with a goal to reduce and mitigate ambulance offload delays and the objective to ensure EMS is able to respond when requested for those life or limb requests.

## **Ten Year Master Plan Recommendation Implementation**

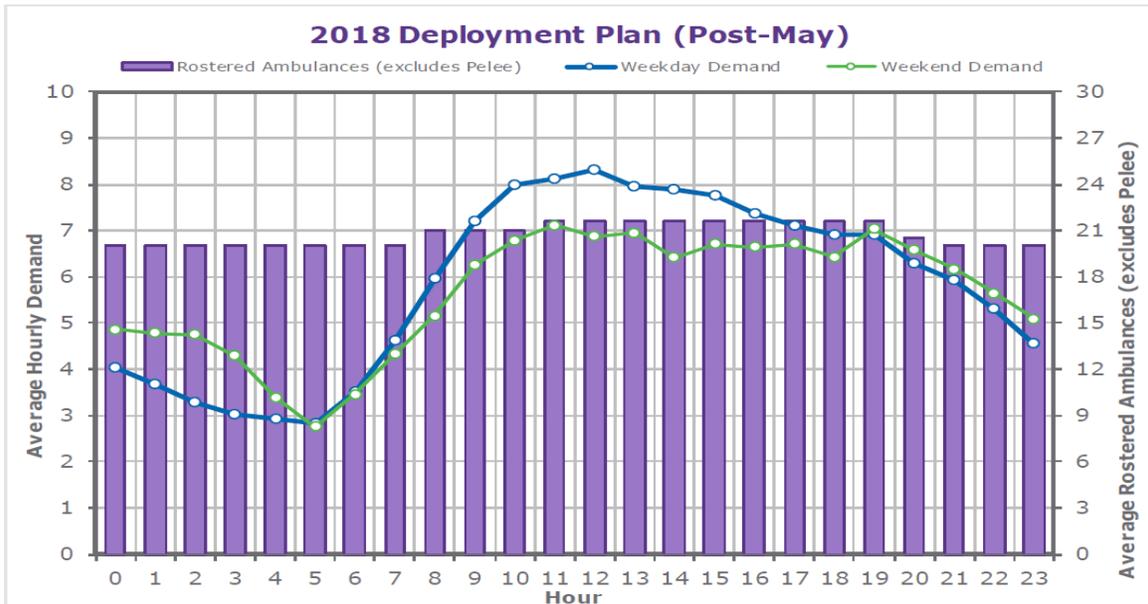
As per the [ORH Ten Year Master Plan](#), EWEMS continue to utilize the report as a “guiding document for the development decisions to be made on an annual basis”. Within the “Plan” there are numerous recommendations that were identified to be put into place over the course of the 10 years, to create an efficient operation and to ensure service levels are maintained, if not improved.

The Plan identified some keys items to be placed into effect and which have been actioned. Over the course of the past 2 years, some items were able to be actioned due to unforeseen positive opportunities. An example is the funding from the Ministry of Long-Term Care (MLTC) to enhance the Vulnerable Patient Navigator program and providing the Community Paramedic for Long Term Care Program. This program provided for two (2) full time paramedics to assess, guide and assist those patients and care givers waiting in home for long term care placement. This adheres to the objectives of VPN, in providing the right care, in the right place and at the right time. This program reduces the usage and need for both EMS and ED visits.

The MLTC funding, 100% over four (4) years, provides for two full time paramedics, a full time Captain for oversight and clinical direction, a full-time clerk and associated capital assets. This funding and opportunity allowed for a Master Plan recommendation to be fulfilled prior to the date of 2024.

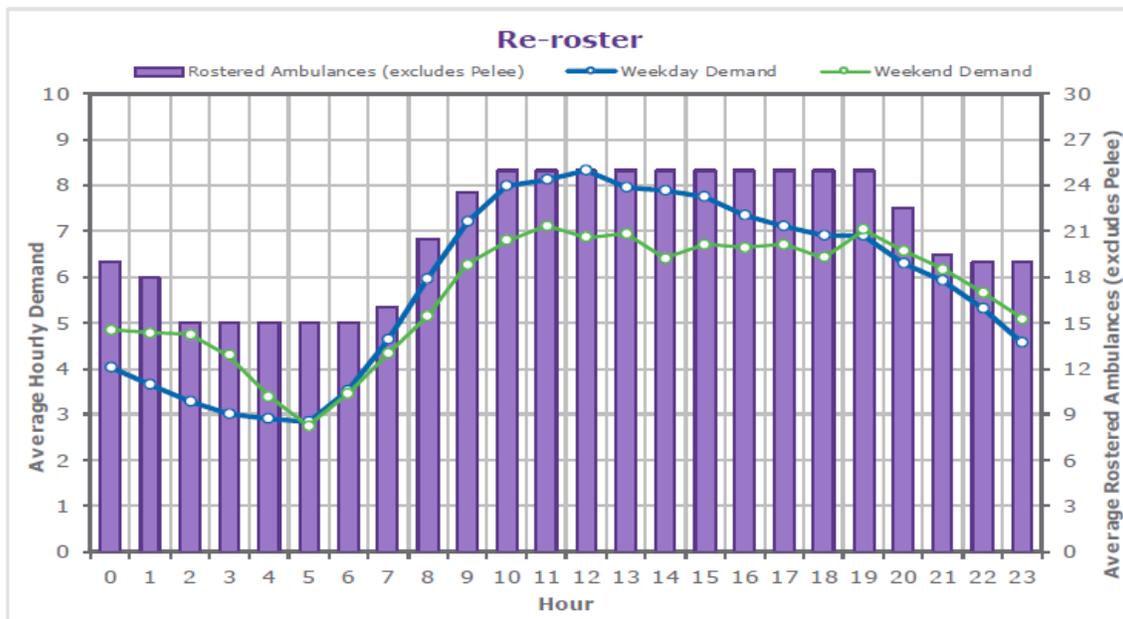
Another opportunity arose with the purchase of land for the Kingsville Station. The relocation of the Kingsville Station was recommended for 2024 within the plan. The purchase will allow the County of Essex to prepare, plan and budget for a future build on the Kingsville site and follow the guidance of the Master Plan.

An item which was tabled in late 2019 and planned to be implemented in early 2020 was the re-rostering of the paramedic schedule. The historic schedule and deployment of paramedics was somewhat flat. The graph below reflects how ORH found the utilization of resources in 2018:



In this graph, it is clearly defined that during the night time periods there was an underutilization of resources, (midnight to 0700) and during the daytime periods there was an overutilization of resources (0900 to 1600). The over utilization meant that the calls received outnumbered the resources available.

ORH recommended the re-rostering of the staffing pattern to meet the demand of the resource and suggested this would improve response times, ambulance coverage to the entire region and maintain efficient use of resources. PRH recommended as follows:



As indicated, the recommendation aligned better with both the day time and night time demand, as well the weekly and weekend demand.

The plan suggested the re-roster be put into place in 2019, but as COVID entered the reality, the decision was made to suspend implementation of a new schedule. Over the course of a year, a new schedule was developed, utilizing the aspects recommended by ORH and the current schedule. Feedback was received from the paramedics, schedulers, support staff and management. In May 2021 the new re-rostered schedule was put into place. The re-rostering involved moving ambulance staff hours from nights and placing them onto the day shift. There were also some movement of Early Response Hours to achieve the recommendations of the Master Plan.

One item that ORH did not assume in the drafting of the Master Plan and the re-rostering was the worldwide pandemic and COVID-19. The vast amount of implications, changes, anomalies and unpredictability of the pandemic has affected the changes made that no one could predict or contemplate. Utilizing historical data and attempting to predict now is difficult, if not impossible. But, as we work through the various waves, changes and impacts, it is assumed the service will return to a state of predictability, stability and return to what ORH suggested.

## **Conclusion**

---

The past two years of EWEMS experience have been challenging, ever changing and nothing experienced before. Call volumes appear to be maintaining historical growth of the 2-3% range. Response times have been affected by COVID in a negative fashion but appear to be on the rebound on the average. Ambulance Offload Delays have increased but due to unforeseen pressures that are a result of COVID and the pandemic. EWEMS has maintained its focus throughout the last two years. Following the guidelines within the Master Plan and adjusting to provide a safe, effective and efficient service.

To say that EWEMS has not been affected by COVID-19, would be false. To say that the impacts of service delivery were brought on solely by changes within the EMS system are also false. To say that EWEMS is planning, changing, altering course based on clear evidence, historical data and experience is true. Charting the course and navigating COVID-19 has not been easy and we have the journey to continue. EWEMS is preparing the 2022 Budget proposal and addressing any future needs during the budget cycle and beyond with the intent to have an effective and efficient service well into the future.

## Financial Implications

There are no financial implications within this report

## Recommendation

That Essex County Council receive Report number 2021-1006-EMS-R007-BK regarding the Essex Windsor EMS 2020-2021 Response Experience and Service Delivery Impacts.

Respectfully Submitted

*Bruce Krauter*

Bruce Krauter, Chief, Essex-Windsor Emergency Medical Services

Concurred With,

*Mike Galloway*

Mike Galloway, Chief Administrative Officer

Appendix Number	Title
I	2021-1006-EMS-R007-BK Call Volume
II	2021-1006-EMS-R007-BK Ambulance Offload Delay
III	Link to the <a href="#">ORH 10 Year Master Plan</a>