EXECUTIVE SUMMARY

Paramedics in the Regional Municipality of Durham are determinedly working to keep pace with community demand in the pre-hospital care setting. Workplace pressures continue to grow as evidenced by increasing call volumes and the front-line ambulance/ staffing shortages required to meet growing service requests. The following report intends to make critical data associated with ambulance operations in Durham more transparent to Regional Council. CUPE Local 1764 and its members appreciate your time in reviewing this operations update and are committed to cooperatively addressing these service challenges moving forward.

Research Highlights:

- **Ambulance Call Volume:** Durham Region Paramedics responded to 86,408 emergency calls last year. Call volume has risen on average, 7% per year over the last 5 years and has increased a total of 42% since the year 2014.

- **Staffing & Vehicle Hours:** Over the same time period (2014 – 2019), Total Vehicle Hours of Service have increased 7% and Total Paramedic Hours of Service have increased 12%. A 30% shortfall when compared to the increased work load placed on front-line paramedics.

- **Ambulance Coverage:** On a recurring basis, coverage levels in the Region drop to 1 or zero available ambulance unit to respond to community requests for service. A concerning situation whereby 683,600 residents over 2,523 square kilometers are left without an available paramedic transport unit (at times of peak stress, this can last 7 minutes). Routinely, the service operates with 2 to 6 available ambulances. This trend has increased 363% since last year alone.

- **Ambulance Enhancements:** The service was capable of deploying 23.2 transport ambulances in the year 2014. Fast forward to January 2020 – the service is capable of deploying 25.8 transport units. Vehicles adequately increased to reflect call volume growth should see a minimum of 32.8 transport units in the community – the fleet is currently 7 transport units short of this target.

- **Paramedic Injury & Illness (WSIB):** Paramedic absence as a result of WSIB claims cost the Region 1.29 million dollars in 2019 and 2,575 lost days of work. This can be primarily attributed to mental health related illness. Costs associated with WSIB claims are anticipated to continue increasing along with lost days of work and paramedic staffing shortages.

It is our position that to ensure appropriate action takes place, our elected members need to be made aware of evolving paramedic workplace conditions (in the form of this education piece). The Local has reviewed a number of operational recommendations that could be discussed to help mitigate such challenges and look forward to collaboratively addressing the current state of Regional Paramedic Services.

February 5th, 2020

Region of Durham Paramedic Services

2019 – 2020 Operational Analysis

CUPE·SCFP LOCAL 1764
1764-03 • 1764-04
PROUDLY SERVING RESIDENTS OF DURHAM REGION SINCE 1974

Region of Durham Paramedic Services (RDPS)

Operational Analysis – 2019/2020

Section I

Introduction & Purpose to Operations Analysis

Introduction

In an ongoing effort to ensure comprehensive reporting on Regional Paramedic Services matters, CUPE Local 1764 appreciates your time in reviewing this year's "*2019/2020 – Region of Durham Paramedic Services (RDPS), Operations Report*." The report outlines a number of RDPS' operations characteristics including: drivers of emergency call demand, current system pressures, resource supports, and service performance and results. The report also highlights ongoing efforts to address increased call demand, the system impacts of increased demand on RDPS' overall operations, and the evolving pressures that will continue to impact paramedic services in the coming years. The report utilizes consensus data, managerial statistics, Ministry of Health, and Region of Durham Freedom of Information statistics – all of which have been collected through appropriate working channels. Resulting data sets from this year's examination continue to uncover alarming trends as they relate to ambulance operations within this community. Day-to-day Regional ambulance availability is deteriorating as evidenced by a 363% increase year-over-year in code capacity status (less than six available transport ambulances to service the community), emergency response times have increased by 6% year-over-year and 17% since 2017, paramedic absence as a result of WSIB claims cost the service 1.29 million dollars in 2019 and 2,575 lost days of work, and emergency call volume has risen 42% since the year 2014. As referenced in this report, a number of positive efforts have been taken to help mitigate sources of pressure in the system, however continued investments in the form of staffing and capital assets are crucial components in ensuring operational stability and improved safety for all Regional stakeholders.

Purpose of Report

This report responds to three key objectives as identified by both front-line paramedic staff and the union representing paramedics in Durham Region, CUPE Local 1764:

- To make transparent, Region of Durham Paramedic Services data impacting operations and public safety.
- Ensure continuity of information sharing to all members of Regional Council.
- Encourage a collaborative approach amongst Regional stakeholders to address operational and community safety challenges as a result of such data sets.

Section II

Findings & Conclusions

Findings

Call Demand/ Volume

Paramedic Services call volume data can be observed in Figures 1, 2 and 3. In the last five years, call demand has increased over 42% (this is inclusive of deferrable, scheduled, prompt and urgent paramedic response types or codes 1-4). Demand for paramedic services over this same time frame continues to increase on average 7.27% each year. A managerial deployment plan change was initiated in August of 2018 in response to operational and labour concerns experienced by front-line paramedics (primarily that of increased work-load and occupational stress). This change has seen a reduction in code 8 (standby) ambulance calls. This has impacted total call volume through 2019 and is seen as a positive effort by RDPS to address rising demand pressures. This change however does not address nor impact increasing community requests for service, serving only to provide temporary reprieve for front-line staff. This deployment plan change has also significantly increased the services risk-profile. Ambulances must now travel greater distances when called upon and as a result, are taking longer to reach patients due in part to these changes.

Figure 1.

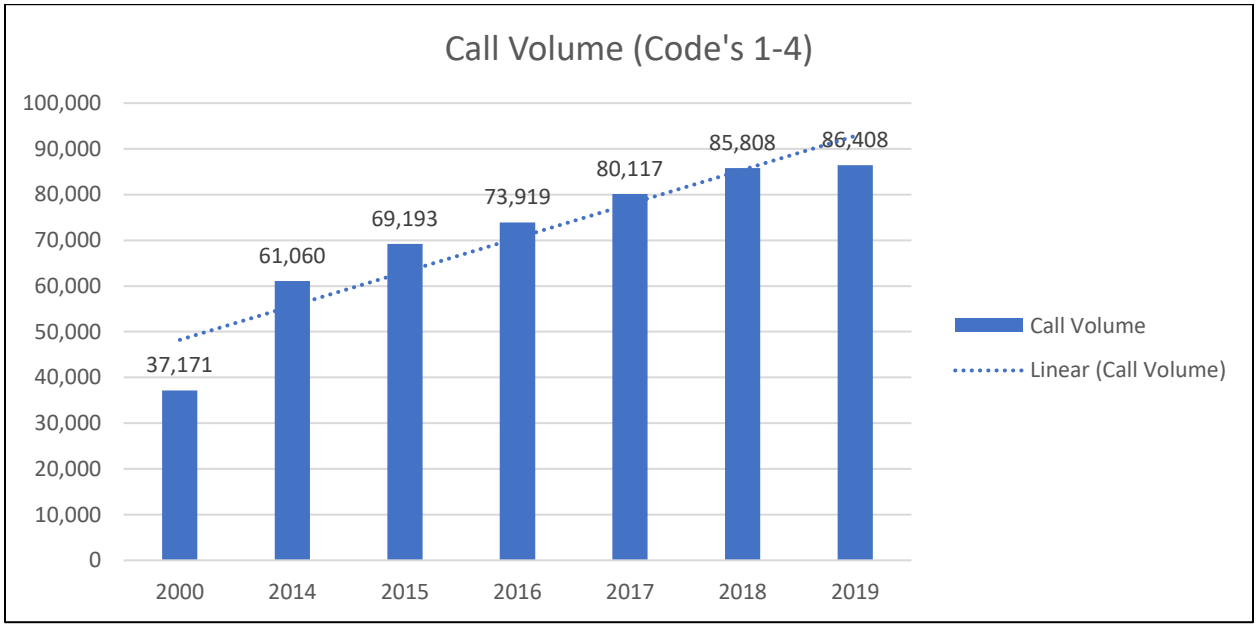


Figure 2.

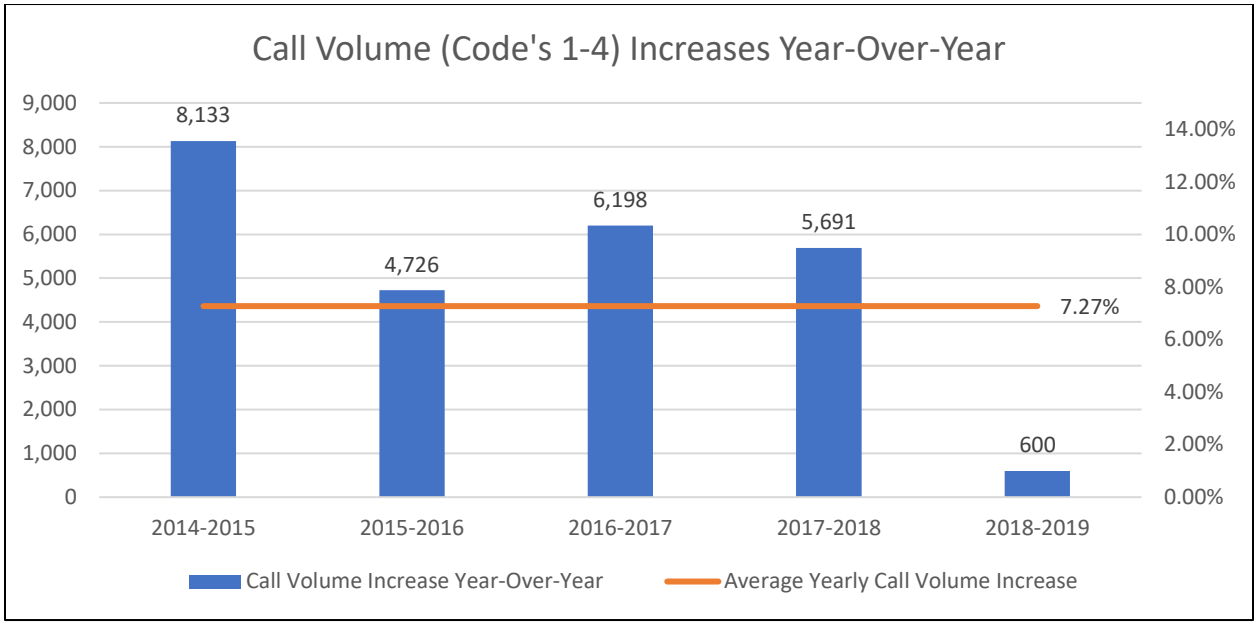
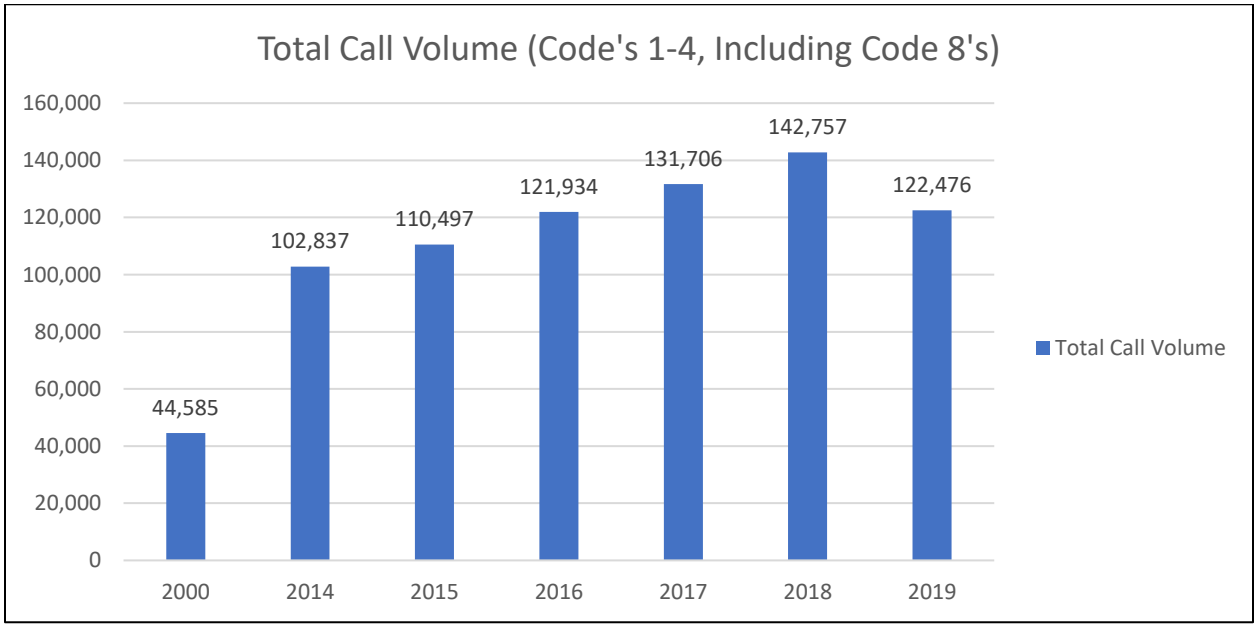


Figure 3.



Drivers of Emergency Call Demand

Demographic Profile

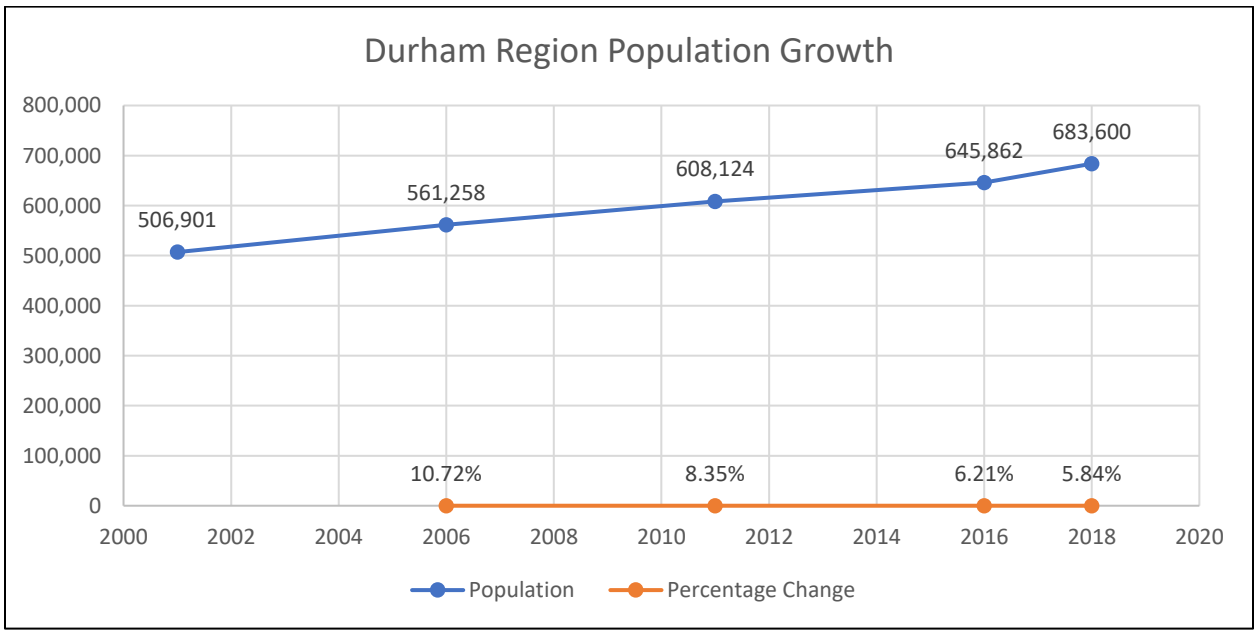
Regional demographics play a significant role in emergency call demand. Durham Regional Health Department "Population at a Glance 2018" data is used as a part of this reporting cycle. Planning for Durham purports that The Regional Municipality of Durham is one of the fastest growing regions in the world. Population is expected to grow to 1.2 million by the year 2041. Factors contributing to RDPS emergency call demand include:

- Rising Population
  - Figure 4 (below) shows the Durham Region population increased by 13% between 2008 and 2018, greater than the increase in Ontario of 11%.
  - RDPS emergency call volume growth is increasing at a rate greater than the Region's population growth. Through the years 2014 – 2018, average call volume growth is exceeding average population growth by 9% per annum.

- Aging Population
  - The aging of the population is apparent with growth occurring in ages 55 and older. In particular, seniors 90 years and older had the highest population growth in Durham Region with an overall increase of 114% from the year 2008 to 2018.
  - The incidence of ambulance utilization across the province rises exponentially after age 55, therefore this specific demand driver is expected to pose an increasing challenge moving forward.

- A widespread increase in the propensity of the population to utilize the 9-1-1 system.

Figure 4.



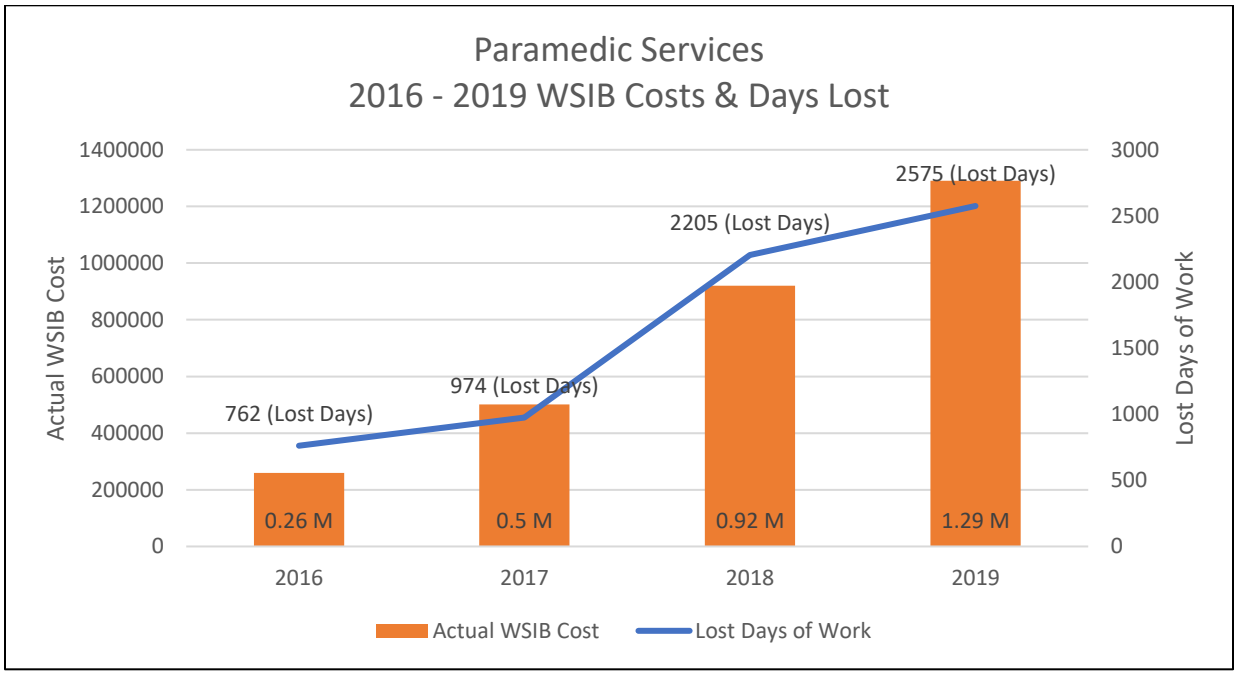
Additional System Pressures

WSIB Lost Days at Work & Associated Costs

Over the last 4 years, RDPS has continued to experience a steady increase in the number of work-related (WSIB), lost-time incidents of employee injury/illness – In 2019, the service incurred 2,575 lost days of work. This is an **increase of 238%** from 762 lost days of work in 2016. At the time of this writing, 17 paramedic staff were absent from the workplace due to WSIB-related injury/illness.

The increase in incidents of employees absent from the workplace, places greater pressure on the day-to-day staffing of ambulances and can increase the workload on all remaining front-line staff. This increase in workload can in turn create further lost time events as remaining staff may experience increases in occupational stress and decreased mental health resiliency. Costs associated with WSIB claims are also anticipated to continue increasing and active claims can date back several years and be adjudicated retroactively. In 2019, the service spent almost 1.3 million dollars managing these claims (a **397% increase** in cost since 2016 alone).

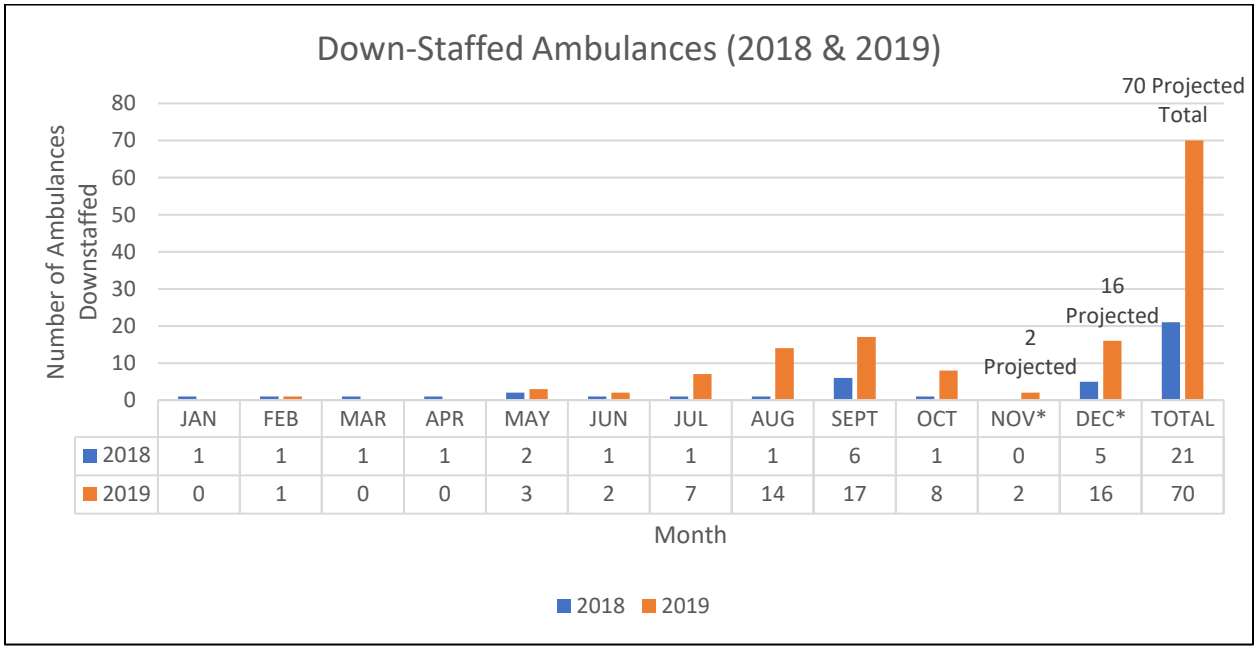
Figure 5. S. Hill (personal communication, January 22, 2020)



Down-Staffed Ambulances

RDPS' ability to maintain a full fleet of responding ambulances has a direct and pronounced impact on emergency response times and paramedic workload. Down-staffing (the temporary removal of an ambulance from the services fleet) requires remaining ambulance crews to travel greater distances to reach patients and increases crew's occupational workload over that period of time. Ensuring a full fleet relies primarily on adequate staffing levels and the health and availability of front-line paramedics to service these vehicles on a day-to-day basis. Paramedic illness/injury (WSIB, Incidental Sick, and other), the rotation of personnel out of RDPS and bargained collective agreement items (Vacation, Overtime, etc.) has resulted in the inability to adequately staff front-line vehicles. Paramedic absence from work has seen the service down-staff a projected 70 ambulances for the year 2019. This is a **233% increase** over last year alone.

Figure 6.



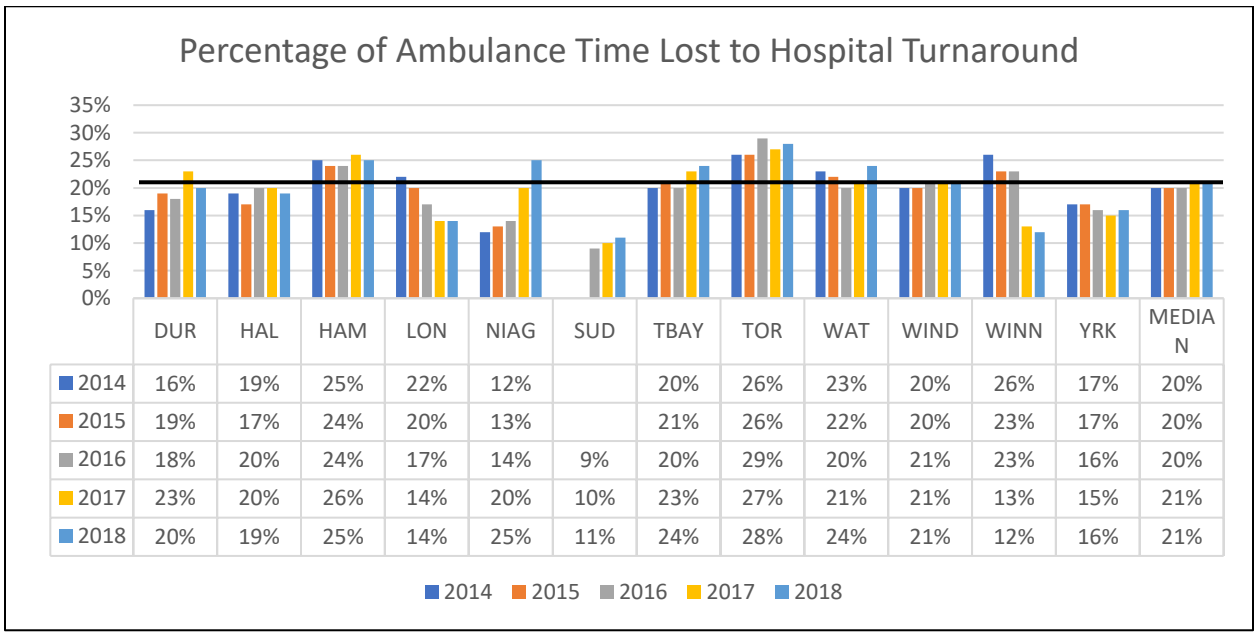
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV*	DEC*	TOTAL
2018	1	1	1	1	2	1	1	1	6	1	0	5	21
2019	0	1	0	0	3	2	7	14	17	8	2	16	70

Hospital Offload Delay

Generally, upon ambulance arrival into an Emergency Department, a triage nurse is provided a report on the paramedic crews patient status/ condition. The triage nurse in turn is responsible for determining if there is an appropriate and available bed within the department for that particular patient. If no bed is readily available, the paramedic crew must wait with their patient in the Emergency Department until there can be a transfer of care to the hospital staff (this transfer of care can occur is a variety of forms – an available bed, a designated offload nurse, changes in patient condition permitting offload into another area of the hospital, etc.).

RDPS "offload delay" statistics as compared to regional peers are demonstrated in Figure 7. Time spent in hospital includes the time it takes to transfer a patient, delays in transfer care due to lack of hospital resources (off-load delay), paperwork and other activities. This data set was collected via the Municipal Benchmarking Network Canada (MBNC) and incorporates median statistics for years 2014-2018 inclusive.

Figure 7.



	DUR	HAL	HAM	LON	NIAG	SUD	TBAY	TOR	WAT	WIND	WINN	YRK	MEDIAN
2014	16%	19%	25%	22%	12%		20%	26%	23%	20%	26%	17%	20%
2015	19%	17%	24%	20%	13%		21%	26%	22%	20%	23%	17%	20%
2016	18%	20%	24%	17%	14%	9%	20%	29%	20%	21%	23%	16%	20%
2017	23%	20%	26%	14%	20%	10%	23%	27%	21%	21%	13%	15%	21%
2018	20%	19%	25%	14%	25%	11%	24%	28%	24%	21%	12%	16%	21%

Summation of Figure 7.

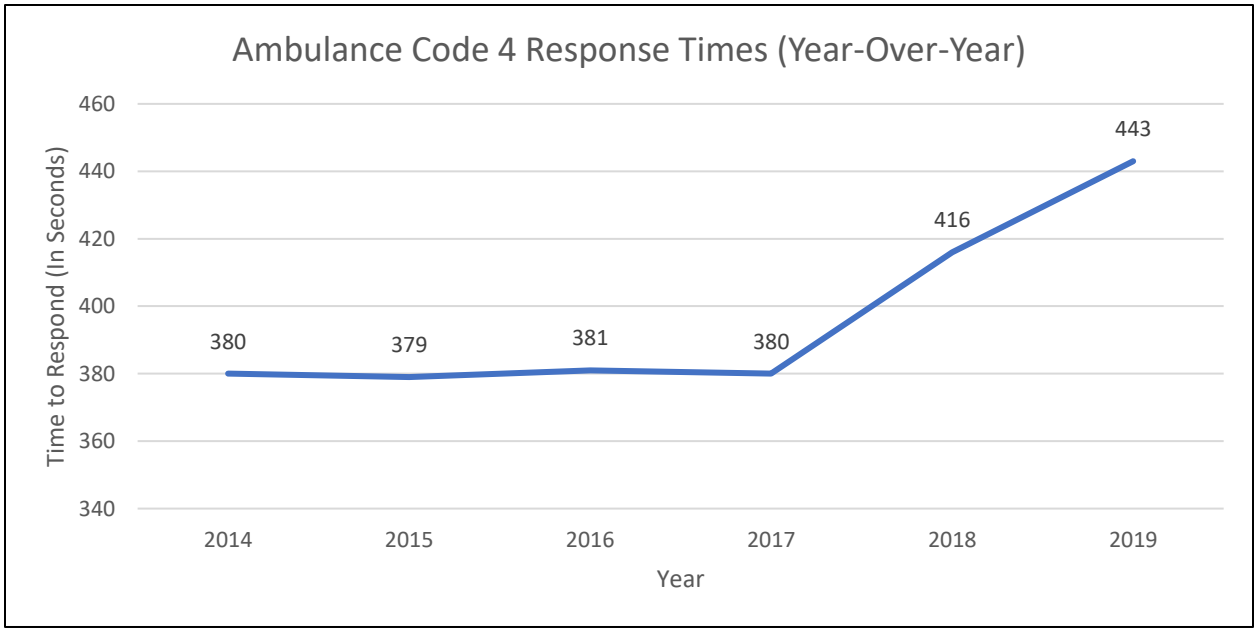
Time lost to hospital turnaround is compared above to 11 peer paramedic service providers in the table above. These peer services include: Durham, Halton, Hamilton, London, Niagara, Sudbury, Thunder Bay, Toronto, Waterloo, Windsor, Winnipeg and York. The horizontal black line identifies a regional median time loss value of 21% for the most recent 2018 reporting period. RDPS sits 1% ***below*** the regional median average, outperforming its peers with a 20% time-lost value. Routinely identified as a primary culprit of paramedic workload, it can be observed that the issue of offload delay is not unique to Durham Region (nor is the degree to which it impacts service as compared to its local peers).

Service Performance & Results

Response Time Performance

The timeliness of paramedic response to emergent (code 4) calls is the communities primary concern. Code 4 calls are those requests for service that are of the highest priority and refer to those situations posing an immediate threat to life or limb (i.e. – cardiac arrest, unconscious, shortness of breath, chest pain, etc.). Even with the Council approved addition of (1) twenty-four-hour ambulance to the road in 2019, RDPS response times continue to climb as a result of predictable call demand drivers. Managerial efforts to support front line paramedics and regulate workload have also likely contributed this increase in response time. Deployment plan intervention and the conversion of the Rapid-Response Program to fully-staffed transporting ambulances are key drivers in this respect. Both of these changes were necessary to combat unsustainable paramedic workload, however now result in ambulances needing to travel greater distances when called upon. Response time performance trends are expected to stay under pressure as a direct result of resource inefficiencies.

Figure 8.



Summation of Figure 8.

Paramedic response to code 4 (emergent) calls is seen above from 2014 through 2019. Response times remained flat through 2017, however have seen a notable increase over the last two years. Response to these priority calls have increased by 17% (or 63 seconds longer to reach a patient) since 2017.

Regional Ambulance Availability/ Unavailability Profile

Vital to service stability and community safety is the availability of land ambulances within the Region. EHS OSHAWA CACC collects data on such figures. These figures report on the number and duration of time ambulance coverage falls to specified levels. **"Capacity" coverage describes an event whereby (6) or less transport ambulances are available to service emergency calls. "Critical" coverage describes an event whereby (1) or less transport ambulance is available to service emergency calls.**

Data as it relates to "Capacity" and "Critical" coverage levels can be observed in Figure 9. It should be noted that capture of these triggers is likely grossly understated as EHS OSHAWA CACC works to manage accuracy challenges in utilizing this tracking software. Software at present date requires manual inputs (inputs only able to be executed by supervisory staff) in real-time. Based on EHS OSHAWA CACC workloads during times of increased volume, the necessity for manual vs. automatic trigger inputs, supervisory access privileges and operations policies that dictate emergency calls take precedence over tracking algorithms, there is a potential that "Capacity" and "Critical" coverage levels could be understated anywhere upwards of 3 times what is currently being recorded. These inconsistencies are reported in adjacent tables.

Statistics as they relate to the availability of regional land ambulance resources have been collected via Freedom of Information and Protection of Privacy Act request. Data sets have been reproduced from the Ministry of Health and Long-Term Care – Oshawa Central Ambulance Communications Centre (MOHLTC – EHS OSHAWA CACC) and amalgamated to capture real-time, operational figures.

Figure 9.

Trigger Type	*Start Date*	*Start Time*	*End Date*	*End Time*	*Time Elapsed*
Capacity	11/10/2018	22:31:01	12/10/2018	5:56:35	
Capacity	14/10/2018	22:47:25	14/10/2018	23:19:35	0:32:10
Critical	19/10/2018	14:42:43	19/10/2018	14:44:24	0:01:41
Capacity	26/10/2018	10:37:53	26/10/2018	11:20:41	0:42:48
Capacity	26/10/2018	11:24:09	26/10/2018	12:07:41	0:43:32
Capacity	27/10/2018	14:11:27	27/10/2018	14:32:53	0:21:26
Capacity	28/10/2018	22:55:42	28/10/2018	23:01:38	0:05:56
Capacity	28/10/2018	23:11:13	28/10/2018	23:25:25	0:14:12
Capacity	01/11/2018	22:12:14	01/11/2018	22:24:18	0:12:04
Capacity	05/11/2018	8:43:48	05/11/2018	8:44:15	0:00:27
Capacity	05/11/2018	8:49:27	05/11/2018	9:02:52	0:13:25
Capacity	05/11/2018	9:33:41	05/11/2018	9:58:47	0:25:06
Capacity	05/11/2018	10:04:07	05/11/2018	10:09:16	0:05:09
Capacity	05/11/2018	12:34:58	05/11/2018	12:48:52	0:13:54

Trigger Type	*Start Date*	*Start Time*	*End Date*	*End Time*	*Time Elapsed*
Critical	05/11/2018	21:05:12	05/11/2018	21:05:22	0:00:10
Capacity	05/11/2018	21:05:22	05/11/2018	22:02:42	0:57:20
Capacity	06/11/2018	13:32:45	06/11/2018	13:41:11	0:08:26
Capacity	06/11/2018	13:49:49	06/11/2018	14:20:37	0:30:48
Capacity	06/11/2018	15:17:32	06/11/2018	16:41:07	1:23:35
Capacity	09/11/2018	9:28:33	09/11/2018	9:38:32	0:09:59
Capacity	14/11/2018	12:33:38	14/11/2018	12:46:38	0:13:00
Capacity	15/11/2018	8:45:08	15/11/2018	9:05:05	0:19:57
Capacity	15/11/2018	11:59:01	15/11/2018	12:01:54	0:02:53
Critical	16/11/2018	13:10:22	16/11/2018	13:10:33	0:00:11
Critical	22/11/2018	10:31:01	22/11/2018	10:31:06	0:00:05
Capacity	23/11/2018	11:20:32	23/11/2018	11:45:23	0:24:51
Capacity	26/11/2018	12:22:37	26/11/2018	12:38:07	0:15:30
Capacity	28/11/2018	18:02:54	28/11/2018	18:14:26	0:11:32
Capacity	02/12/2018	12:44:16	02/12/2018	12:52:24	0:08:08
Capacity	03/12/2018	10:38:11	03/12/2018	10:43:52	0:05:41
Capacity	05/12/2018	11:07:20	05/12/2018	11:15:05	0:07:45
Capacity	05/12/2018	11:29:45	05/12/2018	11:39:17	0:09:32
Capacity	05/12/2018	13:18:27	05/12/2018	13:32:48	0:14:21
Capacity	05/12/2018	19:05:36	05/12/2018	21:58:58	2:53:22
Capacity	05/12/2018	22:53:48	06/12/2018	0:31:50	1:38:02
Capacity	10/12/2018	0:13:33	10/12/2018	5:21:23	
Capacity	10/12/2018	21:11:51	10/12/2018	21:53:15	0:41:24
Capacity	12/12/2018	8:10:30	12/12/2018	8:55:12	0:44:42
Capacity	13/12/2018	21:10:18	13/12/2018	23:18:19	2:08:01
Capacity	14/12/2018	20:26:27	15/12/2018	1:27:36	
Capacity	16/12/2018	15:35:55	16/12/2018	15:54:55	0:19:00
Capacity	18/12/2018	13:21:01	18/12/2018	13:49:31	0:28:30
Capacity	19/12/2018	1:09:10	19/12/2018	1:52:18	0:43:08
Capacity	26/12/2018	8:15:49	26/12/2018	8:52:14	0:36:25
Capacity	28/12/2018	8:41:19	28/12/2018	8:50:38	0:09:19
Capacity	28/12/2018	13:31:01	28/12/2018	14:02:33	0:31:32
Capacity	31/12/2018	11:08:41	31/12/2018	11:20:26	0:11:45
Capacity	31/12/2018	11:38:14	31/12/2018	12:14:52	0:36:38
Capacity	31/12/2018	22:47:59	31/12/2018	22:48:01	0:00:02

Trigger Type	*Start Date*	*Start Time*	*End Date*	*End Time*	*Time Elapsed*
Critical	31/12/2018	22:48:01	31/12/2018	23:39:43	0:51:42
Capacity	31/12/2018	23:39:43	02/01/2019	2:57:24	3:17:41
Capacity	02/01/2019	2:57:25	02/01/2019	3:46:38	0:49:13
Capacity	02/01/2019	23:44:08	03/01/2019	21:29:44	
Capacity	03/01/2019	21:29:45	04/01/2019	15:06:26	
Capacity	04/01/2019	15:19:47	04/01/2019	16:27:21	1:07:34
Capacity	14/01/2019	16:07:15	14/01/2019	16:44:34	0:37:19
Capacity	16/01/2019	18:54:55	16/01/2019	19:11:37	0:16:42
Capacity	17/01/2019	8:52:16	17/01/2019	9:23:46	0:31:30
Capacity	17/01/2019	10:19:21	17/01/2019	10:32:53	0:13:32
Capacity	17/01/2019	13:35:04	17/01/2019	15:21:43	1:46:39
Capacity	18/01/2019	13:39:45	18/01/2019	14:24:31	0:44:46
Capacity	18/01/2019	14:59:23	18/01/2019	15:13:04	0:13:41
Capacity	20/01/2019	12:47:19	20/01/2019	16:07:59	3:20:40
Capacity	23/01/2019	12:56:40	23/01/2019	13:13:45	0:17:05
Capacity	24/01/2019	10:16:38	24/01/2019	11:00:38	0:44:00
Capacity	24/01/2019	11:12:53	24/01/2019	11:56:26	0:43:33
Capacity	25/01/2019	8:49:22	25/01/2019	9:00:06	0:10:44
Capacity	26/01/2019	21:42:25	26/01/2019	22:14:47	0:32:22
Capacity	26/01/2019	22:16:08	27/01/2019	0:05:26	1:49:18
Capacity	01/02/2019	9:57:11	01/02/2019	10:04:06	0:06:55
Capacity	01/02/2019	10:08:53	01/02/2019	10:14:01	0:05:08
Capacity	01/02/2019	10:50:50	01/02/2019	11:45:02	0:54:12
Capacity	01/02/2019	12:13:52	01/02/2019	12:51:28	0:37:36
Capacity	01/02/2019	13:33:42	01/02/2019	13:36:33	0:02:51
Capacity	01/02/2019	14:12:13	01/02/2019	14:42:44	0:30:31
Capacity	02/02/2019	11:10:26	02/02/2019	12:13:45	1:03:19
Capacity	02/02/2019	23:33:14	03/02/2019	0:35:40	1:02:26
Capacity	04/02/2019	19:25:46	04/02/2019	20:34:25	1:08:39
Capacity	06/02/2019	13:15:18	07/02/2019	20:15:03	
Capacity	07/02/2019	20:15:05	07/02/2019	20:18:00	0:02:55
Capacity	07/02/2019	22:28:18	07/02/2019	22:44:12	0:15:54
Capacity	08/02/2019	23:43:43	09/02/2019	0:17:59	0:34:16
Critical	09/02/2019	12:24:32	09/02/2019	16:43:22	
Capacity	09/02/2019	23:28:41	09/02/2019	23:33:45	0:05:04
Capacity	10/02/2019	19:54:58	10/02/2019	19:58:24	0:03:26
Capacity	10/02/2019	19:58:42	10/02/2019	20:39:57	0:41:15

Trigger Type	*Start Date*	*Start Time*	*End Date*	*End Time*	*Time Elapsed*
Capacity	10/02/2019	21:17:52	10/02/2019	21:18:15	0:00:23
Capacity	10/02/2019	22:26:45	10/02/2019	22:53:57	0:27:12
Capacity	11/02/2019	12:41:19	11/02/2019	14:09:26	1:28:07
Capacity	11/02/2019	16:28:03	11/02/2019	17:53:00	1:24:57
Capacity	12/02/2019	11:52:47	15/02/2019	9:31:23	
Capacity	15/02/2019	21:03:29	15/02/2019	21:14:39	0:11:10
Capacity	15/02/2019	21:24:10	15/02/2019	21:36:32	0:12:22
Capacity	15/02/2019	22:01:44	15/02/2019	22:47:29	0:45:45
Critical	15/02/2019	22:47:29	15/02/2019	22:54:18	0:06:49
Capacity	15/02/2019	22:54:18	15/02/2019	23:12:29	0:18:11
Capacity	16/02/2019	9:30:51	16/02/2019	10:11:12	0:40:21
Capacity	17/02/2019	8:47:22	17/02/2019	9:39:36	0:52:14
Capacity	17/02/2019	12:43:15	18/02/2019	0:02:06	
Capacity	18/02/2019	0:02:08	18/02/2019	6:02:16	
Capacity	20/02/2019	16:56:55	20/02/2019	17:18:29	0:21:34
Capacity	22/02/2019	9:10:45	22/02/2019	9:58:23	0:47:38
Critical	22/02/2019	9:58:23	22/02/2019	10:03:46	0:05:23
Capacity	22/02/2019	10:03:46	22/02/2019	10:26:34	0:22:48
Capacity	22/02/2019	22:33:34	22/02/2019	23:48:53	1:15:19
Capacity	23/02/2019	22:31:15	23/02/2019	22:45:30	0:14:15
Capacity	23/02/2019	23:05:08	23/02/2019	23:34:24	0:29:16
Capacity	24/02/2019	12:31:08	24/02/2019	13:14:57	0:43:49
Critical	25/02/2019	0:14:28	25/02/2019	0:14:29	0:00:01
Capacity	25/02/2019	0:14:29	25/02/2019	1:40:36	1:26:07
Capacity	26/02/2019	21:45:49	26/02/2019	21:49:59	0:04:10
Capacity	26/02/2019	22:06:44	26/02/2019	22:22:17	0:15:33
Capacity	01/03/2019	0:12:30	01/03/2019	5:14:55	
Capacity	01/03/2019	8:30:54	01/03/2019	9:23:07	0:52:13
Capacity	01/03/2019	11:58:51	01/03/2019	22:55:35	
Capacity	01/03/2019	22:55:37	01/03/2019	23:39:14	0:43:37
Capacity	02/03/2019	18:52:25	02/03/2019	19:30:56	0:38:31
Capacity	03/03/2019	12:29:29	03/03/2019	12:40:51	0:11:22
Capacity	04/03/2019	8:56:12	04/03/2019	17:38:57	
Capacity	06/03/2019	12:12:06	06/03/2019	12:27:14	0:15:08
Capacity	07/03/2019	16:28:38	07/03/2019	16:56:46	0:28:08
Capacity	11/03/2019	15:34:01	11/03/2019	15:48:42	0:14:41
Capacity	11/03/2019	16:59:31	11/03/2019	17:09:27	0:09:56
Capacity	11/03/2019	17:09:44	11/03/2019	17:14:55	0:05:11

Trigger Type	*Start Date*	*Start Time*	*End Date*	*End Time*	*Time Elapsed*
Capacity	11/03/2019	20:04:48	11/03/2019	21:30:46	1:25:58
Capacity	11/03/2019	22:47:55	11/03/2019	23:44:40	0:56:45
Capacity	12/03/2019	15:48:29	12/03/2019	16:22:13	0:33:44
Capacity	12/03/2019	17:59:36	13/03/2019	12:56:38	
Critical	13/03/2019	12:56:38	13/03/2019	13:29:42	0:33:04
Capacity	13/03/2019	13:29:42	15/03/2019	10:36:42	
Capacity	15/03/2019	10:36:44	15/03/2019	12:12:42	1:35:58
Capacity	15/03/2019	13:49:40	16/03/2019	23:22:03	
Capacity	17/03/2019	1:26:23	17/03/2019	1:36:04	0:09:41
Capacity	17/03/2019	21:26:06	17/03/2019	21:40:37	0:14:31
Capacity	17/03/2019	22:00:57	17/03/2019	22:42:14	0:41:17
Capacity	18/03/2019	21:15:40	18/03/2019	22:36:46	1:21:06
Capacity	19/03/2019	9:53:53	19/03/2019	10:14:10	0:20:17
Capacity	20/03/2019	23:17:31	20/03/2019	23:18:23	0:00:52
Capacity	20/03/2019	23:36:02	21/03/2019	0:52:26	1:16:24
Capacity	21/03/2019	16:56:10	21/03/2019	17:48:17	0:52:07
Capacity	22/03/2019	9:16:54	22/03/2019	10:32:13	1:15:19
Capacity	22/03/2019	10:56:13	22/03/2019	11:34:53	0:38:40
Capacity	22/03/2019	12:03:57	22/03/2019	12:28:30	0:24:33
Capacity	22/03/2019	17:06:42	22/03/2019	18:20:47	1:14:05
Capacity	26/03/2019	22:36:15	26/03/2019	22:36:31	0:00:16
Critical	26/03/2019	22:36:31	26/03/2019	22:36:32	0:00:01
Capacity	26/03/2019	22:36:32	26/03/2019	22:43:12	0:06:40
Critical	26/03/2019	22:43:12	26/03/2019	22:45:20	0:02:08
Capacity	26/03/2019	22:45:20	29/03/2019	14:00:48	
Capacity	29/03/2019	22:56:33	29/03/2019	23:01:08	0:04:35
Capacity	30/03/2019	18:23:38	30/03/2019	18:51:01	0:27:23
Capacity	31/03/2019	0:57:08	31/03/2019	2:38:40	1:41:32
Capacity	31/03/2019	19:59:45	31/03/2019	21:01:08	1:01:23
Capacity	03/04/2019	12:21:38	03/04/2019	13:45:34	1:23:56
Capacity	03/04/2019	13:51:04	03/04/2019	14:26:05	0:35:01
Capacity	04/04/2019	10:54:17	04/04/2019	11:02:08	0:07:51
Capacity	06/04/2019	19:43:28	06/04/2019	19:43:30	0:00:02
Critical	06/04/2019	19:43:30	06/04/2019	19:43:34	0:00:04
Capacity	06/04/2019	19:43:34	08/04/2019	8:24:30	
Capacity	08/04/2019	12:57:52	08/04/2019	13:37:28	0:39:36
Capacity	08/04/2019	16:34:33	08/04/2019	17:17:17	0:42:44
Capacity	08/04/2019	19:50:21	08/04/2019	20:58:33	1:08:12

Trigger Type	*Start Date*	*Start Time*	*End Date*	*End Time*	*Time Elapsed*
Capacity	08/04/2019	22:30:31	08/04/2019	22:49:30	0:18:59
Capacity	12/04/2019	9:54:34	12/04/2019	10:08:22	0:13:48
Capacity	12/04/2019	13:16:26	12/04/2019	13:38:12	0:21:46
Capacity	12/04/2019	22:59:20	12/04/2019	23:33:39	0:34:19
Critical	12/04/2019	23:33:39	12/04/2019	23:37:14	0:03:35
Capacity	12/04/2019	23:37:14	13/04/2019	0:07:53	0:30:39
Capacity	13/04/2019	15:03:52	13/04/2019	17:20:53	2:17:01
Capacity	13/04/2019	17:29:02	13/04/2019	17:47:32	0:18:30
Capacity	13/04/2019	17:51:10	13/04/2019	18:12:32	0:21:22
Capacity	13/04/2019	22:38:49	16/04/2019	11:38:23	
Capacity	16/04/2019	11:38:25	16/04/2019	11:56:20	0:17:55
Capacity	16/04/2019	11:59:28	16/04/2019	12:40:13	0:40:45
Critical	16/04/2019	12:40:13	16/04/2019	12:40:42	0:00:29
Capacity	16/04/2019	12:40:42	16/04/2019	12:56:35	0:15:53
Capacity	20/04/2019	14:48:55	20/04/2019	14:51:45	0:02:50
Capacity	22/04/2019	22:41:35	22/04/2019	23:26:08	0:44:33
Capacity	25/04/2019	11:28:56	25/04/2019	11:43:00	0:14:04
Capacity	26/04/2019	21:02:14	26/04/2019	21:10:27	0:08:13
Capacity	26/04/2019	21:16:20	26/04/2019	21:22:45	0:06:25
Capacity	26/04/2019	21:31:55	26/04/2019	21:34:25	0:02:30
Capacity	27/04/2019	1:30:56	27/04/2019	22:59:14	
Capacity	27/04/2019	22:59:21	27/04/2019	23:48:55	0:49:34
Capacity	28/04/2019	21:10:48	28/04/2019	21:28:16	0:17:28
Capacity	28/04/2019	21:34:21	28/04/2019	21:41:31	0:07:10
Capacity	28/04/2019	22:10:00	28/04/2019	22:42:30	0:32:30
Capacity	01/05/2019	21:59:32	01/05/2019	22:56:01	0:56:29
Capacity	03/05/2019	2:16:07	03/05/2019	2:36:11	0:20:04
Capacity	09/05/2019	14:48:14	09/05/2019	15:48:43	1:00:29
Capacity	12/05/2019	23:28:56	12/05/2019	23:28:58	0:00:02
Critical	12/05/2019	23:28:58	12/05/2019	23:29:00	0:00:02
Capacity	12/05/2019	23:29:00	12/05/2019	23:37:26	0:08:26
Capacity	13/05/2019	1:16:55	13/05/2019	1:17:00	0:00:05
Capacity	13/05/2019	1:17:03	13/05/2019	1:50:00	0:32:57
Capacity	13/05/2019	10:32:49	13/05/2019	11:42:53	1:10:04
Capacity	16/05/2019	9:14:20	16/05/2019	9:14:22	0:00:02
Capacity	16/05/2019	9:21:23	16/05/2019	9:30:04	0:08:41
Capacity	19/05/2019	2:26:27	19/05/2019	2:47:25	0:20:58
Capacity	19/05/2019	3:13:29	19/05/2019	3:42:40	0:29:11

Trigger Type	*Start Date*	*Start Time*	*End Date*	*End Time*	*Time Elapsed*
Capacity	19/05/2019	3:52:19	19/05/2019	4:31:57	0:39:38
Capacity	21/05/2019	9:50:26	21/05/2019	9:59:35	0:09:09
Capacity	21/05/2019	11:31	21/05/2019	11:41:54	0:09:59
Capacity	22/05/2019	12:36:11	22/05/2019	13:02:30	0:26:19
Capacity	22/05/2019	23:28:31	23/05/2019	0:10:23	0:41:52
Capacity	25/05/2019	23:01:05	25/05/2019	23:09:27	0:08:22
Capacity	25/05/2019	23:12:20	25/05/2019	23:31:33	0:19:13
Capacity	26/05/2019	0:07:30	26/06/2019	0:31:42	0:24:12
Capacity	26/05/2019	0:38:29	26/05/2019	0:40:14	0:01:45
Capacity	26/05/2019	0:43:41	26/05/2019	0:54:02	0:10:21
Capacity	27/05/2019	22:41:16	28/05/2019	1:03:15	2:21:59
Capacity	29/05/2019	12:01:07	29/05/2019	13:03:02	1:01:55
Capacity	30/05/2019	21:45:11	30/05/2019	22:17:52	0:32:41
Capacity	01/06/2019	0:13:00	01/06/2019	0:42:15	0:29:15
Capacity	01/06/2019	20:43:30	01/06/2019	20:46:43	0:03:13
Capacity	01/06/2019	21:33:08	01/06/2019	21:47:27	0:14:19
Capacity	01/06/2019	23:15:41	02/06/2019	1:06:47	1:51:06
Capacity	02/06/2019	2:42:04	02/06/2019	3:17:09	0:35:05
Capacity	02/06/2019	14:47:02	02/06/2019	15:25:11	0:38:09
Capacity	03/06/2019	11:36:23	03/06/2019	12:32:26	0:56:03
Capacity	05/06/2019	22:35:11	05/06/2019	22:46:33	0:11:22
Capacity	05/06/2019	22:50:59	05/06/2019	22:56:16	0:05:17
Capacity	06/06/2019	22:18:52	06/06/2019	22:23:16	0:04:24
Capacity	06/06/2019	23:46:52	07/06/2019	0:26:59	0:40:07
Capacity	07/06/2019	1:14:10	07/06/2019	1:54:41	0:40:31
Capacity	09/06/2019	23:18:27	10/06/2019	0:15:01	0:56:34
Capacity	11/06/2019	14:34:29	11/06/2019	14:48:41	0:14:12
Capacity	12/06/2019	14:42:51	12/06/2019	14:45:44	0:02:53
Capacity	12/06/2019	15:50:53	12/06/2019	16:08:17	0:17:24
Capacity	12/06/2019	18:56:25	12/06/2019	23:32:22	4:35:57
Capacity	12/06/2019	23:32:29	13/06/2019	0:05:43	0:33:14
Capacity	14/06/2019	22:15:39	14/06/2019	22:20:01	0:04:22
Capacity	17/06/2019	11:18:27	17/06/2019	11:55:42	0:37:15
Capacity	17/06/2019	13:45:33	17/06/2019	16:59:35	3:14:02
Capacity	18/06/2019	10:53:00	18/06/2019	14:17:01	3:24:01
Capacity	24/06/2019	22:11:34	24/06/2019	23:10:56	0:59:22
Critical	24/06/2019	23:10:56	24/06/2019	23:18:24	0:07:28
Capacity	24/06/2019	23:18:24	24/06/2019	23:35:34	0:17:10

Trigger Type	*Start Date*	*Start Time*	*End Date*	*End Time*	*Time Elapsed*
Critical	24/06/2019	23:35:34	24/06/2019	23:47:43	0:12:09
Capacity	24/06/2019	23:47:43	25/06/2019	0:33:39	0:45:56
Capacity	25/06/2019	23:18:34	26/06/2019	0:54:18	1:35:44
Capacity	26/06/2019	21:37:10	26/06/2019	22:18:18	0:41:08
Capacity	26/06/2019	22:25:48	26/06/2019	22:30:48	0:05:00
Capacity	29/06/2019	19:39:17	29/06/2019	20:12:21	0:33:04
Capacity	30/06/2019	2:28:27	30/06/2019	2:57:24	0:28:57
Capacity	02/07/2019	12:18:27	02/07/2019	12:25:22	0:06:55
Capacity	02/07/2019	13:05:14	02/07/2019	14:05:08	0:59:54
Capacity	02/07/2019	14:06:12	02/07/2019	15:29:38	1:23:26
Capacity	04/07/2019	12:57:59	04/07/2019	13:17:23	0:19:24
Capacity	04/07/2019	21:46:15	04/07/2019	22:22:58	0:36:43
Capacity	04/07/2019	23:15:24	04/07/2019	23:56:07	0:40:43
Capacity	06/07/2019	12:56:34	06/07/2019	13:49:25	0:52:51
Capacity	07/07/2019	12:41:29	07/07/2019	13:57:04	1:15:35
Capacity	09/07/2019	14:36:15	09/07/2019	14:42:30	0:06:15
Capacity	09/07/2019	14:44:16	09/07/2019	15:16:19	0:32:03
Capacity	10/07/2019	17:32:42	10/07/2019	17:49:12	0:16:30
Capacity	10/07/2019	22:04:20	10/07/2019	22:38:43	0:34:23
Capacity	15/07/2019	11:35:37	15/07/2019	11:58:21	0:22:44
Capacity	19/07/2019	13:09:53	19/07/2019	14:15:46	1:05:53
Capacity	19/07/2019	23:37:53	19/07/2019	23:43:24	0:05:31
Capacity	21/07/2019	20:14:37	21/07/2019	20:15:21	0:00:44
Capacity	21/07/2019	21:16:47	21/07/2019	23:52:22	2:35:35
Capacity	30/07/2019	21:24:55	30/07/2019	21:25:15	0:00:20
Capacity	02/08/2019	22:06:40	02/08/2019	22:51:32	0:44:52
Capacity	14/08/2019	7:46:56	14/08/2019	8:05:47	0:18:51
Capacity	28/08/2019	12:23:34	28/08/2019	14:20:54	1:57:20
Capacity	02/09/2019	0:56:01	02/09/2019	1:49:57	0:53:56
Capacity	07/09/2019	13:32:16	07/09/2019	13:55:55	0:23:39
Capacity	11/09/2019	14:47:59	11/09/2019	16:44:21	1:56:22
Capacity	21/09/2019	21:22:17	21/09/2019	21:22:47	0:00:30
Capacity	21/09/2019	21:50:37	21/09/2019	22:10:39	0:20:02
Capacity	21/09/2019	23:31:32	21/09/2019	23:45:24	0:13:52
Capacity	21/09/2019	23:56:07	21/09/2019	23:59:41	0:03:34
Capacity	22/09/2019	0:50:29	22/09/2019	1:35:47	0:45:18
Capacity	22/09/2019	17:30:44	24/09/2019	13:35:55	
Capacity	24/09/2019	13:35:56	24/09/2019	13:36:57	0:01:01

Trigger Type	*Start Date*	*Start Time*	*End Date*	*End Time*	*Time Elapsed*
Capacity	24/09/2019	13:40:06	24/09/2019	14:51:56	1:11:50
Capacity	25/09/2019	23:15:41	25/09/2019	23:58:00	0:42:19
Critical	30/09/2019	19:13:17	30/09/2019	23:02:13	
Critical	01/10/2019	19:14:19	01/10/2019	22:07:37	
Critical	01/10/2019	22:11:06	02/10/2019	23:55:46	
Capacity	02/10/2019	23:55:46	03/10/2019	0:03:27	0:07:41
Critical	03/10/2019	0:03:27	03/10/2019	0:06:14	0:02:47
Capacity	03/10/2019	0:06:14	03/10/2019	0:57:31	0:51:17
Critical	05/10/2019	21:35:56	07/10/2019	5:36:06	
Capacity	09/10/2019	10:54:04	09/10/2019	11:02:51	0:08:47
Capacity	10/10/2019	12:00:49	10/10/2019	12:00:58	0:00:09
264	CAPACITY			AVERAGE TOTAL:	35 min, 25 sec
23	CRITICAL			AVERAGE CAPACITY:	37 min, 30 sec
287	TOTAL			AVERAGE CRITICAL:	07 min, 06 sec
				MEDIAN CAPACITY:	27 min, 45 sec
18	MIN. MISSED CAPACITY TRIGGERS			MEDIAN CRITICAL:	01 min, 55 sec
* Table does not include triggers lasting in excess of (5) hours in calculation of "capacity" averages/medians					
** Table does not include triggers lasting in excess of (1) hour in calculation of "critical" averages/medians					
*** Table reveals a minimum reported dispatch error rate of 13% in missing/abnormal values					

Summation of Figure 9.

Alarming ambulance availability trends continue to form on a year-over-year basis within the Region. These trends directly impact community safety and the likelihood of receiving timely prehospital medical care when called upon.

Capacity coverage (6 or fewer ambulances available in the region) occurred 264 times in 364 days. This is a **363% increase** from last year's reporting cycle. When triggered, this working condition lasts on average 37 minutes. During these situations, remaining transport vehicles (potentially 2 ambulances) are each therefore accountable to 114,000 residents over 420 square kilometers of coverage area.

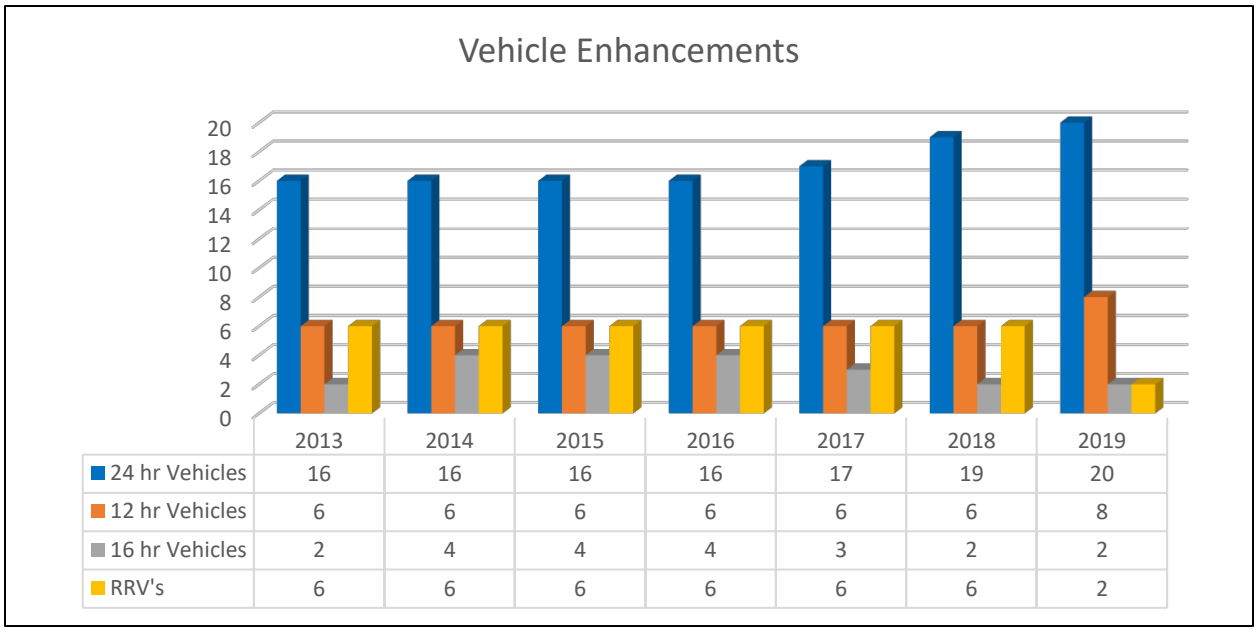
Critical coverage (1 or fewer ambulance available in the region) occurred 23 times in 364 days. When triggered, this working condition lasts on average 7 minutes and 6 seconds. This marker is down 26% from last year's reporting cycle. A disconcerting situation whereby one or zero resource is available to service 683,600 residents over 2,523 square kilometers.

Vehicle Enhancements & Support

Operations Profile

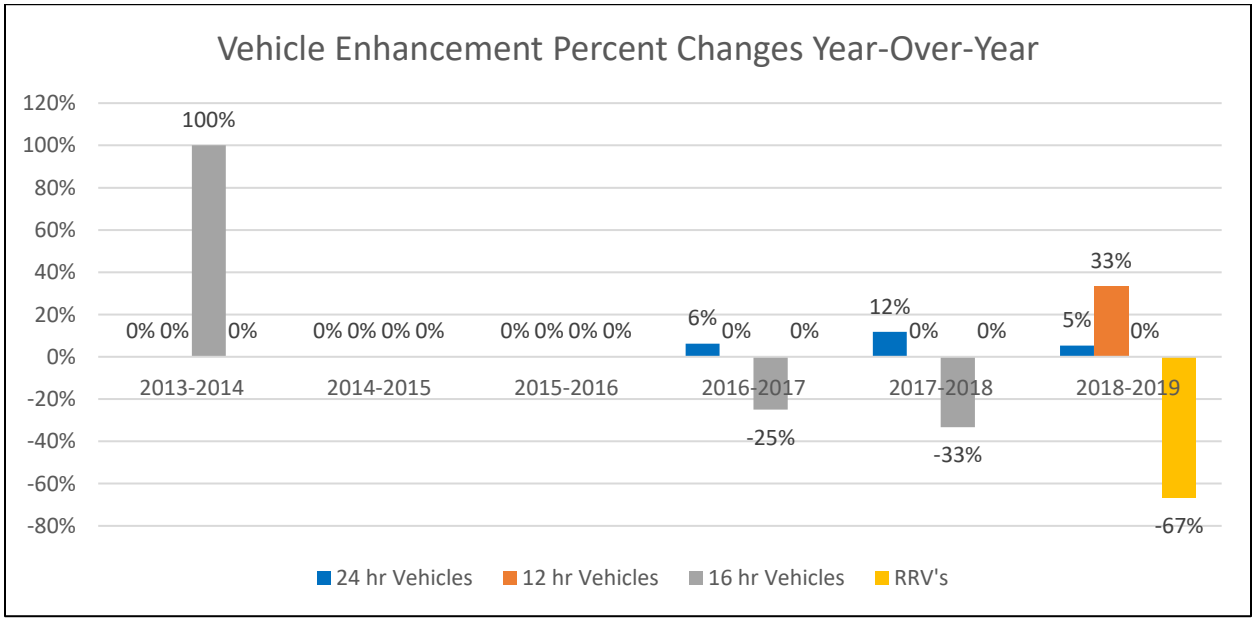
Yearly vehicle enhancements are shown in Figure 10 and Figure 11. RDPS utilizes 24-hour, 16-hour, 12-hr and Rapid Response Vehicles (RRV's) to provide ambulance coverage in the community. Increases to the number of resources within the Region have remained flat from 2013 through 2019. Over this six-year period, the total truck count has increased from 30 to 32 units. 24-hour and 12-hr vehicle enhancements have come at the elimination of 16-hr and RRV units.

Figure 10.



	2013	2014	2015	2016	2017	2018	2019
24 hr Vehicles	16	16	16	16	17	19	20
12 hr Vehicles	6	6	6	6	6	6	8
16 hr Vehicles	2	4	4	4	3	2	2
RRV's	6	6	6	6	6	6	2

Figure 11.



Operations Profile (Con't)

A "Units of Service" calculation provides a clearer picture of Total Vehicle Hours of Service and Total Paramedic Hours of Service in any given year. Resources can be deployed in a number of capacities as seen above in Figures 10 and 11. Hours of Service provides deeper insight as to the degree to which RDPS is actually addressing enhancements/staffing (as compared to call volume). Data for 2019 was collected via The Regional Municipality of Durham's, 2019 Business Plans and Budgets Release.

Figure 12.

Units of Service Calculation Table			
	2014	***2018***	***2019***
24 hr units	16	19	20
12 hr units	6	6	8
16 hr units	4	2	2
RRV (12 hr units)	6	6	2
Unit hours			
24	384	456	480
12	72	72	96
16	64	32	32
12	72	72	24
Unit hours in (1) day	592	632	632
Times (365) days per year			
24 hr units	140160	166440	175200
12 hr units	26280	26280	35040
16 hr units	23360	11680	11680
RRV (12 hr units)	26280	26280	8760
Total vehicle hours of service in (1) year	***216080***	***230680***	***230680***
Times (2) medics per truck (ex RRV's)			
24 hr units	280320	332880	350400
12 hr units	52560	52560	70080
16 hr units	46720	23360	23360
RRV (12 hr units)	26280	26280	8760
Total paramedic hours of service in (1) year	***405880***	***435080***	***452600***
Vehicle hours of service % Change (14-19)	6.76% Increase		
Paramedic hours of service % Change (14-19)	11.51% Increase		
Regional Call Volume Increase % (14-19)	***41.51% Increase***		

Summation of Figure 12.

Total Vehicle Hours of Service and Total Paramedic Hours of Service are compared to Total Call Volume in the table above. The critical takeaway is the degree to which these items have been managed over the last five years. Paramedic call volume in the Region of Durham has increased 42% from 2014 through 2019. Enhancements in the form of both vehicle hours and staffing do not adequately reflect this degree of call volume growth. Over the same five years, Total Vehicle Hours of Service have increased 7% and Total Paramedic Hours of Service have increased 12%. This rapidly rising gap continues to place pressure on front-line paramedics to meet increasing call demand.

Conclusion

Consistent with findings in *"2018/2019's – RDPS Operations Analysis,"* discouraging trends continue to form as they relate to the stability and safety of ambulance operations in the Regional Municipality of Durham. Key drivers of call demand including an aging demographic, growing population and an increased propensity to utilize the 9-1-1 system, continue to place pressure on paramedic services. Ambulance call volume growth has increased at an average rate of 7.27% per annum over the last five years. In contrast, Regional enhancements to ambulance staffing and vehicles have remained flat. Staffing over the same time period (2014 through 2019) has increased on average 2.3% per annum. This translates into per annum staffing hour shortfalls of 5% year-over-year when compared to call volume growth. Enhancements to front-line ambulances have suffered the same fate. As a measure of transport capacity (defined as one ambulance able to operate on a full 24-hour basis), the service was capable of deploying 23.2 transport ambulances in the year 2014. Fast forward to January 2020 – the service is currently capable of deploying 25.8 transport ambulances – the equivalent of 2.6 total units, six years later. To put this kind of ambulance shortage in perspective, simply compare Regional call volume growth against transport capacity growth. Since 2014, paramedic call volume has increased 42%. Ambulances adequately increased at the same rate to reflect paramedic workload in 2014 would currently require the deployment of 33 transport ambulances (all capable of operating on a 24-hour basis) – the Region at present day has the capability of deploying 26 transport units – **7 transport ambulances short**. This has placed an extreme amount of pressure on working paramedics to service a growing resource gap.

Additional system pressures including the increasing incidence of WSIB injury/ illness, the routine down-staffing of front-line ambulances, and offload-delay serve to compound the resource gap.

In the face of such a divergence between call volume and the appropriate number of front-line ambulances, continual efforts citing offload delay as the primary operations challenge is losing its effect. The data clearly demonstrates offload delay to be systemic in nature, equally experienced across a number of our service peers and unlikely to trend downward in the near term. Time lost to hospital turnaround in Durham Region currently outperforms the median peer average by 1%. Managerial consultation with local hospitals in Durham (regarding offload pressures) has been ongoing for a number of years and has yielded weak results. This data suggests efforts via peer services to rectify time lost in local hospitals continue to pose an equally difficult challenge. This by no means infers offload be ignored – on the contrary, municipalities across the province must continue to explore solutions that mitigate its effect on ambulance service in their communities. Initiatives including the Dedicated Offload Nurse (DON) program, liaising with hospitals to make process improvements and the deployment of supervisory staff to emergency departments to expedite patient handoffs are some of which are being utilized to combat this problem. What must occur however, is the conversation shift back to the primary drivers of the issue at hand – a rapidly growing gap between call volume and the resources required to service that demand.

More concerning than trend growth and enhancement statistics is that of the day-to-day availability of transport ambulances in the Region of Durham. On a recurring basis, this service encounters a condition whereby one or zero ambulances are available to service emergency calls. A troubling

situation whereby 683,600 residents over 2,523 square kilometers are left without an available paramedic transport unit (averaging over 7 minutes when triggered). Routinely this Region encounter situations whereby only 2 to 6 ambulances are available – a trend that has exploded **over 363% since just last year**. This has a direct impact on community safety and the likelihood of receiving timely prehospital medical care when called upon.

While CUPE Local 1764 applauds the additional front-line resources approved in the 2019 budget for the Region's Paramedic Services, the union feels strongly that there still remains a significant resource shortfall that has and will continue to affect community safety, paramedic mental health and the delivery of a critical public service. The Local appreciates your time and consideration as it relates to reviewing this *"Region of Durham, Paramedic Services – 2019/2020 Operational Analysis."* We will continue to provide updates in this format on a recurring basis to Council Members with the goal of ensuring Regional Paramedic Services matters are being appropriately reported on and addressed.

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