

Toronto Fire Services Response Metrics

Date: May 24, 2017
To: Community Development and Recreation Committee
From: Fire Chief and General Manager, Fire Services
Wards: All

SUMMARY

Toronto Fire Services (TFS) is responding to a request from the Community Development and Recreation Committee to provide response time performance metrics from 2013 onwards for Fire Station areas 213 and 215. This report provides response metrics city-wide and at the ward level, which are the standard reporting methodologies for TFS, along with response time performance metrics specifically for fire station areas 213 and 215 as requested.

Response times form a key performance metric for TFS and are assessed regularly. TFS deploys 124 emergency response crews / trucks each day from 83 fire stations located throughout the City. Each emergency response crew / truck forms part of a city-wide response model whereby resources are deployed as required based on ongoing emergency incidents and the live-time assessment of coverage requirements. Since the implementation of the Dynamic Staging system in 2015, TFS resources are pre-positioned on a city-wide basis in order to maintain the most effective fire protection coverage at all times.

While each crew / truck is assigned to a particular fire station from a logistics perspective, every crew / truck is part of a city-wide deployment methodology. Accordingly, crews / trucks are not confined to a particular station area, ward, district or command and will be prepositioned and/or respond to emergency incidents throughout the City as needed.

In Ward 42, where fire station 213 is located, a five per cent improvement in first responding apparatus performance and a five per cent improvement in effective firefighting force response time performance has been achieved from 2013 through 2016. Likewise, in Ward 44, where fire station 215 is located, an eight per cent improvement in first responding apparatus performance and a five per cent improvement in effective firefighting force response time has been achieved from 2013 through 2016.

The TFS 2016 Annual Report has been expanded to include comprehensive response time metrics for each ward, with annual data being provided for each year from 2013 through 2016 inclusive.

The TFS 2016 Annual Report is currently being finalized and will be issued publicly once completed.

RECOMMENDATIONS

The Fire Chief and General Manager, Toronto Fire Services, recommends that:

1. The Community Development and Recreation Committee receive this report for information.

FINANCIAL IMPACT

There is no financial impact associated with the report. Time performance metrics are reported annually in Fire Rescue & Emergency Response Service Levels as part of the annual Operating Budget review, and in the TFS Annual Report.

The Deputy City Manager and Chief Financial Officer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

The Community Development and Recreation Committee requested the Fire Chief and General Manager, Fire Services to report back to the Committee on response times and metrics data from 2013 onwards for Fire Stations 213 and 215.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.CD20.7>

COMMENTS

As part of the 2014 Operating Budget process, the following four (4) front line emergency response crews / trucks were removed from service, effective April 21, 2014:

- Pumper 424 – 426 Runnymede Road (Ward 13)
- Pumper 215 – 5381 Lawrence Avenue East (Ward 44);
- Pumper 413 – 1549 Albion Road (Ward 1); and,
- Pumper 213 – 7 Lapsley Road (Ward 42)

Response times form a key performance metric for TFS and are analyzed regularly. TFS monitors, analyzes and reports on emergency response time performance in accordance with the National Fire Protection Association: Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations, and Special Operations to the Public by Career Fire Departments guidelines, referred to as NFPA 1710-2016.

As per NFPA 1710-2016, TFS reports on Total Response Time (TRT) and Effective Firefighting Force (EFF).

- Total Response Time is the overall time interval from call acknowledgement to the arrival of the first response unit at scene. The NFPA Benchmark is 6 minutes and 24 seconds, 90% of the time.
- Effective Firefighting Force is the overall response time for fire suppression events from call acknowledgement to the arrival of the initial full alarm assignment at the scene. The NFPA Benchmark is 10 minutes and 24 seconds, 90 per cent of the time.

In the 2015 Annual Report, TFS 2015 response time performance data was provided visually through a series of maps which depicted performance across the City. The TFS 2016 Annual Report has been expanded to include comprehensive response time metrics for each ward, with annual data being provided for each year from 2013 through 2016 inclusive. The TFS 2016 Annual Report is currently being finalized and will be issued publicly once completed.

Response time performance metrics city-wide and ward-by-ward are the most statistically valid measurement of response time performance as appropriately-sized data sets are available for the analysis and evaluation of TFS' operational performance. Calculating response time performance at the station area level is more susceptible to fluctuation and anomaly due to the smaller data set that exists at that level and is impacted by everyday incidents such as inclement weather, temporary road work and temporary road closures.

TFS deploys 124 emergency response crews / trucks each day from 83 fire stations located throughout the City. Each emergency response crew / truck forms part of a city-wide emergency response deployment model whereby resources are deployed as required based upon ongoing emergency incidents and the live-time assessment of coverage requirements.

Since the implementation of the Dynamic Staging system in 2015, TFS resources are pre-positioned and deployed on a city-wide basis in order to maintain the most effective fire protection coverage at all times.

2013 to 2016 Response Metrics City-Wide

City-wide improvements in TFS response time performance have been achieved as a result of the implementation of a number of technological and process enhancements. Most notably, significant improvements in emergency call processing times and the implementation of Dynamic Staging have driven overall performance improvements.

Table 1 provides a breakdown of city-wide response metrics from 2013 to 2016.

Table 1 - 2013 to 2016 Response Metrics City-Wide

City-Wide	2013	2014	2015	2016
Total Response Time	7:54 min	7:17 min	7:11 min	7:03 min
Total Response Time (% Compliance)	77%	80%	82%	83%
Effective Firefighting Force	11:02 min	10:53 min	10:49 min	10:47 min
Effective Firefighting Force (% Compliance)	86%	87%	88%	88%

Total Response Time (TRT)

- In 2013, the first responding crew arrived in 7 minutes and 54 seconds or less, 90 per cent of the time.
- The NFPA 1710-2016 benchmark of 6 minutes and 24 seconds was met 77 percent of the time.
- By year end 2016, TFS performance improved by 49 seconds, enabling overall TFS total response time performance to improve by 6 per cent.

Effective Firefighting Force (EFF)

- In 2013, TFS assembled the required effective firefighting force in 11 minutes and 2 seconds, 90 per cent of the time.
- The NFPA 1710-2016 benchmark of 10 minutes and 24 seconds was met 86 per cent of the time.
- By year end 2016, TFS performance improved by 15 seconds, enabling overall TFS effective firefighting force performance to improve by 2 per cent.

2013 to 2016 Response Metrics By Ward - Total Response Time

Detailed response metrics by ward for 2013 through 2016 are provided in Attachment 1. A summary for Wards 42 (where fire station 213 is located), 43 and 44 (where fire station 215 is located) are noted below.

Response times have generally improved over this period. For example, in Ward 43 Scarborough East, both TRT and EFF improved.

Total Response Time (TRT)

Ward 42 (fire station 213 is located in Ward 42)

- In 2013, the first responding crew arrived in 8 minutes and 29 seconds or less, 90 per cent of the time.
- The NFPA 1710-2016 benchmark of 6 minutes and 24 seconds was met 64 percent of the time.
- By year end 2016, Ward 42 performance improved by 43 seconds, resulting in a Ward 42 total response time performance improvement of 5 per cent.

Ward 43 (Located between Ward 42 and 44)

- In 2013, the first responding crew arrived in 8 minutes and 58 seconds or less, 90 per cent of the time.
- The NFPA 1710-2016 benchmark of 6 minutes and 24 seconds was met 65 percent of the time.
- By year end 2016, Ward 43 performance improved by 73 seconds, resulting in a Ward 43 total response time performance improvement of 6 per cent.

Ward 44 (fire station 215 is located in Ward 44)

- In 2013, the first responding crew arrived in 9 minutes and 05 seconds or less, 90 per cent of the time.
- The NFPA 1710-2016 benchmark of 6 minutes and 24 seconds was met 69 percent of the time.
- By year end 2016, Ward 43 performance improved by 84 seconds, resulting in a Ward 43 total response time performance improvement of 8 per cent.

2013 to 2016 Response Metrics By Ward - Effective Firefighting Force (EFF)

Effective Firefighting Force (EFF)

Ward 42 (fire station 213 is located in Ward 42)

- In 2013, an effective firefighting force was assembled in 12 minutes and 13 seconds or less, 90 per cent of the time.
- The NFPA 1710-2016 benchmark of 10 minutes and 24 seconds was met 78 percent of the time.
- By year end 2016, Ward 42 performance improved by 32 seconds, resulting in a Ward 42 effective firefighting force performance improvement of 5 percent.

Ward 43 (Located between Ward 42 and 44)

- In 2013, an effective firefighting force was assembled in 11 minutes and 04 seconds or less, 90 per cent of the time.
- The NFPA 1710-2016 benchmark of 10 minutes and 24 seconds was met 86 percent of the time.
- By year end 2016, Ward 43 performance improved by 6 seconds, resulting in a Ward 43 effective firefighting force performance remaining constant.

Ward 44 (fire station 215 is located in Ward 44)

- In 2013, an effective firefighting force was assembled in 12 minutes and 1 second or less, 90 per cent of the time.
- The NFPA 1710-2016 benchmark of 10 minutes and 24 seconds was met 77 percent of the time.
- By year end 2016, Ward 44 performance improved by 15 seconds, resulting in a Ward 44 effective firefighting force performance improvement of 5 per cent.

2013 to 2016 Response Metrics by Station Areas 213 and 215

As specifically requested, detailed response time metrics for both fire station areas 213 and 215, for 2013 through 2016 are provided in Attachment 2. A summary is provided below.

Total Response Time (TRT)

Station Area 213

- In 2013, the first responding crew arrived in 8 minutes and 38 seconds or less, 90 per cent of the time.
- The NFPA 1710-2016 benchmark of 6 minutes and 24 seconds was met 59 percent of the time.
- By year end 2016, Station area 213 performance improved by 34 seconds, resulting in a station area 213 total response time performance improvement of 2 per cent.

Station Area 215

- In 2013, the first responding crew arrived in 9 minutes and 23 seconds or less, 90 per cent of the time.
- The NFPA 1710-2016 benchmark of 6 minutes and 24 seconds was met 69 percent of the time.
- By year end 2016, Station area 215 performance improved by 95 seconds, resulting in a station area 215 total response time performance improvement of 7 per cent.

Effective Firefighting Force (EFF)

Station Area 213

- In 2013, the first responding crew arrived in 11 minutes and 10 seconds or less, 90 per cent of the time.
- The NFPA 1710-2016 benchmark of 10 minutes and 24 seconds was met 83 percent of the time.
- By year end 2016, Station area 213 performance decreased by 12 seconds.

Station Area 215

- In 2013, the first responding crew arrived in 14 minutes and 21 seconds or less, 90 per cent of the time.
- The NFPA 1710-2016 benchmark of 6 minutes and 24 seconds was met 74 percent of the time.
- By year end 2016, Station area 215 performance improved by 180 seconds.

Note: Performance at the station area level is subject to significant fluctuation and variance due to the small data set associated with this level of analysis.

Conclusion

Emergency response times, including both Total Response Time and Effective Firefighting Force Assemble times are key performance indicators for TFS.

Response time performance is assessed and monitored regularly by TFS. With the implementation of technological improvements in Communications and with the implementation of Dynamic Staging, TFS response time performance on a city-wide basis has improved since 2013.

TFS will continue to assess and report publicly on response time performance, including enhanced reporting which will be included in the 2016 TFS Annual Report.

CONTACT

Matthew Pegg
Fire Chief & General Manager
Toronto Fire Services
Matthew.Pegg@toronto.ca
416-338-9051

SIGNATURE



Matthew Pegg
Fire Chief & General Manager

ATTACHMENTS

Attachment 1 - 2013 to 2016 Response Metrics By Ward
Attachment 2 - 2013 to 2016 Response Metrics In Station Areas 213 and 215

Attachment 1 - 2013 to 2016 Response Metrics By Ward

Total Response Time (TRT) is the overall time interval from call acknowledgement to the arrival of the first response unit at scene. The NFPA Benchmark is 6 minutes and 24 seconds, 90 per cent of the time.

Effective Firefighting Force (EFF) is the overall response time for fire suppression events from call acknowledgement to the arrival of the initial full alarm assignment at the scene. The NFPA Benchmark is 10 minutes and 24 seconds, 90 per cent of the time.

Ward	Total Response (6:24)								Effective Firefighting Force (10:24)							
	2013		2014		2015		2016		2013		2014		2015		2016	
1	80%	07:26	77%	07:27	77%	07:26	82%	07:04	86%	11:05	81%	12:25	82%	11:58	80%	12:35
2	60%	09:16	61%	08:26	64%	08:22	67%	08:03	79%	11:38	76%	12:32	80%	11:40	83%	11:17
3	66%	08:59	72%	07:56	72%	07:54	75%	07:50	81%	11:53	85%	11:23	79%	12:08	87%	10:45
4	67%	09:00	74%	07:40	73%	07:37	76%	07:31	90%	10:21	88%	10:45	82%	11:26	89%	10:36
5	75%	08:05	81%	07:18	81%	07:23	83%	07:07	84%	11:28	87%	11:02	86%	10:43	87%	10:57
6	68%	08:25	68%	08:07	71%	08:03	74%	07:37	66%	12:49	66%	12:44	73%	12:05	77%	11:59
7	69%	08:41	72%	07:50	73%	07:47	73%	07:44	80%	11:32	81%	11:45	81%	11:30	83%	11:22
8	72%	07:54	74%	07:40	76%	07:31	77%	07:22	71%	12:37	69%	12:57	74%	12:09	64%	12:39
9	75%	07:59	78%	07:32	80%	07:18	83%	07:09	87%	11:12	86%	11:05	85%	11:12	91%	10:15
10	72%	09:06	76%	07:41	81%	07:23	81%	07:21	72%	12:56	67%	12:45	74%	12:09	76%	12:14
11	78%	07:44	83%	07:05	83%	07:07	84%	06:56	85%	11:01	88%	10:53	84%	11:03	86%	10:56
12	69%	08:27	74%	07:43	75%	07:44	77%	07:35	81%	11:18	84%	10:58	85%	11:28	87%	10:41
13	82%	07:48	87%	06:51	88%	06:39	90%	06:23	90%	10:26	89%	10:37	92%	09:57	94%	09:41
14	84%	07:21	86%	06:58	85%	07:04	88%	06:42	92%	09:51	94%	09:49	91%	10:01	91%	09:59
15	71%	08:46	76%	07:35	78%	07:29	81%	07:18	88%	11:01	90%	10:23	88%	10:39	93%	10:05

Ward	Total Response (6:24)								Effective Firefighting Force (10:24)							
	2013		2014		2015		2016		2013		2014		2015		2016	
16	72%	09:57	80%	07:31	82%	07:19	83%	07:17	81%	11:40	89%	10:36	90%	10:28	92%	09:53
17	81%	07:23	87%	06:41	89%	06:34	89%	06:28	92%	10:04	92%	09:49	94%	09:42	93%	09:39
18	90%	06:24	91%	06:12	91%	06:19	91%	06:16	96%	08:35	95%	08:51	93%	09:14	94%	08:50
19	85%	06:52	88%	06:41	87%	06:44	90%	06:23	94%	09:45	93%	09:33	95%	09:24	95%	09:22
20	92%	06:09	93%	06:05	93%	05:59	93%	06:03	94%	09:17	95%	09:26	95%	09:12	94%	09:19
21	80%	07:58	86%	06:51	88%	06:35	89%	06:32	87%	10:41	89%	10:35	92%	09:51	93%	10:03
22	82%	07:25	88%	06:35	89%	06:32	90%	06:23	86%	11:21	89%	10:36	90%	10:26	90%	10:24
23	70%	08:48	74%	07:36	78%	07:20	80%	07:18	84%	11:44	85%	11:10	87%	10:50	87%	11:17
24	75%	08:13	77%	07:23	77%	07:24	78%	07:26	77%	12:12	79%	11:58	77%	12:20	80%	11:59
25	66%	09:05	72%	07:42	73%	07:45	77%	07:30	77%	12:52	77%	11:54	78%	12:12	84%	11:07
26	67%	08:10	68%	07:35	68%	07:40	71%	07:30	81%	11:44	85%	11:26	83%	11:31	79%	11:49
27	94%	05:49	96%	05:37	96%	05:34	96%	05:28	97%	08:30	96%	08:49	97%	08:29	96%	08:41
28	92%	06:06	93%	06:05	94%	05:57	94%	05:48	96%	09:00	96%	09:09	96%	08:56	96%	08:58
29	83%	07:40	88%	06:41	90%	06:26	88%	06:45	92%	09:52	94%	09:21	92%	09:53	91%	10:04
30	87%	06:50	90%	06:25	90%	06:21	90%	06:26	93%	09:35	93%	09:33	94%	09:14	96%	09:05
31	72%	08:12	78%	07:15	80%	07:11	81%	07:05	92%	10:05	91%	10:14	91%	10:13	90%	10:24
32	83%	07:21	92%	06:14	92%	06:09	91%	06:15	93%	09:30	92%	10:03	94%	09:55	93%	09:28
33	76%	07:57	82%	07:13	81%	07:16	82%	07:03	69%	13:10	72%	12:03	75%	12:42	72%	12:04
34	69%	08:47	73%	07:45	71%	08:00	70%	07:49	72%	12:40	63%	13:12	69%	11:58	62%	12:32
35	74%	07:47	81%	07:02	87%	06:40	88%	06:33	86%	10:58	92%	10:09	88%	10:36	84%	11:07
36	69%	09:39	77%	07:17	81%	07:12	80%	07:10	80%	12:16	87%	10:48	85%	11:04	83%	11:08
37	77%	07:51	82%	07:03	87%	06:43	86%	06:44	82%	11:38	79%	11:40	81%	11:11	84%	11:05

Ward	Total Response (6:24)								Effective Firefighting Force (10:24)							
	2013		2014		2015		2016		2013		2014		2015		2016	
38	69%	08:28	75%	07:37	81%	07:11	81%	07:07	89%	10:37	90%	10:29	91%	10:21	87%	10:51
39	70%	07:43	75%	07:28	75%	07:36	72%	07:40	86%	10:58	82%	11:12	78%	11:26	80%	11:26
40	78%	07:41	81%	07:10	80%	07:14	82%	07:16	81%	11:26	81%	11:19	74%	12:06	73%	12:21
41	70%	08:07	74%	07:27	73%	07:32	74%	07:21	68%	13:05	69%	12:46	69%	12:04	70%	12:27
42	64%	08:29	62%	08:14	68%	07:55	69%	07:46	78%	12:13	75%	12:04	79%	12:30	83%	11:41
43	65%	08:58	66%	07:56	69%	07:47	71%	07:45	86%	11:04	84%	11:02	87%	10:40	86%	10:58
44	69%	09:05	71%	08:08	72%	07:51	77%	07:41	77%	12:01	84%	11:24	84%	11:12	82%	11:46

Attachment 2 - Response Metrics In Station Areas 213 and 215

Total Response Time (TRT) is the overall time interval from call acknowledgement to the arrival of the first response unit at scene. The NFPA Benchmark is 6 minutes and 24 seconds, 90 per cent of the time.

Effective Firefighting Force (EFF) is the overall response time for fire suppression events from call acknowledgement to the arrival of the initial full alarm assignment at the scene. The NFPA Benchmark is 10 minutes and 24 seconds, 90 per cent of the time.

	Station 213				Station 215			
	2013	2014	2015	2016	2013	2014	2015	2016
Total Response Time	08:38 min	08:25 min	08:02 min	08:04 min	09:23 min	07:49 min	07:54 min	07:48 min
Total Response Time (% Compliance)	59%	54%	60%	61%	69%	73%	69%	76%
Effective Firefighting Force	11:10 min	11:18 min	11:05 min	11:22 min	14:21 min	13:44 min	13:07 min	11:21 min
Effective Firefighting Force (% Compliance)	*	*	*	*	*	*	*	*

* Insufficient data set to accurately calculate annual percentage compliance at the Station area level