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## **Toronto Fire Services: Operational Service Delivery Model**

Date: September 8, 2021

**To:** Economic and Community Development Committee **From:** Acting Fire Chief and General Manager - Emergency Management, Toronto Fire Services

Wards: All

#### SUMMARY

This report responds to a request from City Council for the Fire Chief and General Manager - Emergency Management, Toronto Fire Services to provide recommendations for service level enhancements to its service delivery. Toronto Fire Services (TFS) provides all hazard emergency response to Toronto's 2.9 million residents and the millions of visitors to the city each year. TFS measures and reports emergency response performance based on time interval targets set by the National Fire Protection Association (NFPA) 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations to the public by Career Fire Departments.

Working in the largest, most vertical and diverse city in the country, TFS has the responsibility to be nimble in the delivery of fire protection services to meet changing needs and mitigate emerging challenges. In the coming years, TFS anticipates seeing increasing challenges that will impact service delivery. Population growth, the increasing vertical density, the development of the city's transit/subway network, and the nature of fires are all changing the firefighting landscape that TFS firefighters manage on a daily basis. The service is forecasting incident volumes of approximately 140,000 by 2025. In order to meet challenges associated with growth and the corresponding complexity of incidents, TFS requires additional staffing and resources to maintain appropriate levels of fire protection services.

TFS is working on a number of initiatives to improve current and future service delivery and response time performance city-wide. This includes a number of Neighbourhood Improvement Areas that have higher service demands. Some of the initiatives TFS has implemented include new technologies and equipment, adjusting response protocols based on risk, balancing resource distribution, and supporting staff with the hiring of a part time employee assistance counselor to mitigate the rising number of staff absences due to occupational stress injuries. This report recommends the inclusion of four additional initiatives that require increased operating and/or capital funding over the next four years starting in the 2022 and future Budget processes. The initiatives include continuing supports for staff mental health with the creation of a contract for occupational therapy to assist with return to work and converting the existing part time employee assistance counselor to full time; increasing staff complement for recruitment and outreach initiatives to assist TFS in better reflecting the community it serves; converting four temporary positions in the Staff Services division to full time to assist in managing the total staffing complement of more than 3,000 employees, and implementing new technologies at all stations to assist with turnout time performance. Additionally, as TFS has experienced challenges in its state of good repair for its fleet, a new financing model to better meet the needs of the service is in development to be brought forward through the 2022 Budget process.

At its meeting on January 5, 2021, the Economic and Community Development Committee directed TFS to evaluate the Operations staffing model and report on any additional required staffing resources to maintain adequate service as part of this service delivery review. TFS evaluated the staffing within its Operations division. TFS continues to identify new ways to keep vacancies as low as possible. To accomplish this, TFS has launched the largest recruit class in its history in 2021, and plans to continue with similar sized classes into 2022. The Operations complement has changed minimally in the last twenty years as demand for service, increasing legislative changes, and Toronto's population continues to increase. After evaluating the staffing model against the pressures currently on the complement, staff are recommending a solution that would provide the greatest opportunity to have the entire frontline fleet, staffed with four firefighters, in service. This recommendation requires an increase in Operations staffing of 156 Full Time Employees (FTEs) to be requested over the next four years through future Budget processes beginning in 2023. This, in conjunction with the current recruitment strategies, would put TFS in a better position to staff its 124 crews on a daily basis. The total annualized operating cost of increasing the complement by 156 FTEs is approximately \$27,749,195.

#### RECOMMENDATIONS

The Acting Fire Chief and General Manager - Emergency Management, Toronto Fire Services recommends that:

1. City Council direct the Fire Chief and General Manager - Emergency Management, Toronto Fire Services to bring forward business cases through the 2022 and future Budget processes on the following:

a. The necessary frontline firefighter staffing and supervision, and associated uniforms and Personal Protective Equipment, to address staffing and performance concerns with the hiring of 156 new operational firefighters (Full Time Employees) from 2023 to 2025 at a total cumulative operating cost of approximately \$27,749,195;

b. Funding for the Toronto Fire Services Post Traumatic Stress Injury and Suicide Prevention Program at a full year cost of \$201,499;

c. The conversion of four temporary Staff Services positions into permanent full-time positions at a full year cost of \$471,827;

d. The addition of three Full Time Employees for recruitment and outreach efforts to support the recruitment of diverse candidates at a full year cost of \$476,835;

e. Capital funding of \$130,000 for the implementation of digital displays in all stations; and

f. Anticipated fleet requirements over the 10-year capital planning period, reflecting 2022 and future year cash flow to support multi-year vehicle procurements utilizing eligible capital funding sources.

## FINANCIAL IMPACT

There are no 2021 immediate financial implications from adopting the recommendation outlined in this report.

Toronto Fire Services will include funding required to implement these recommendations in the 2022 Operating and Capital Budget Submission and future budget years for consideration as part of the ongoing Budget review process.

The estimated cumulative financial impact of implementing all of the recommendations of this report are outlined in Table 1.

	2022	2023	2024	2025	Total	
Operating						
156 new Operations firefighter positions		3,393,862	9,525,025	14,830,308	27,749,195	
Post Traumatic Injury and Suicide prevention Program	201,499				201,499	
Conversion of four temporary staff coordinator positions to permanent	471,827				471,827	

Table 1: Estimated	cumulative	financial i	impact for a	Il recommendations
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	2022	2023	2024	2025	Total	
Three new recruitment and outreach positions	476,835				476,835	
Total Operating	1,150,161	3,393,862	9,525,025	14,830,308	28,899,356	
Total new Full Time Employees	8	52	52	52	164	
Capital						
Digital Displays	130,000				130,000	
Total Capital	130,000				130,000	
Total Operating and Capital Funding Requirements	1,280,161	3,393,862	9,525,025	14,830,308	29,029,356	

Note: The costs noted above are estimates and will be presented in the 2022 Operating Budget Submission to reflect the position start dates. Capital costs outlined currently exclude fleet requirements.

These operating budget costs are associated with 156 additional operational firefighters; the conversion of a part time position to full time for the TFS employee assistance counselor; creating a contract for occupational therapy to support staff returning to work; the conversion of four temporary staff coordinator positions to permanent FTEs; and three new FTEs for recruitment and outreach. In total, this represents 164 new FTE positions for TFS.

TFS, in conjunction with Corporate Finance, is developing a financing model and capital asset management plan that will ensure the future state of good repair for all vehicles in the TFS fleet. The request for this will be included in the 2022 Budget process.

The implementation of the recommendations will also have a one-time impact on the TFS capital budget of \$130,000, resulting from the installation costs of the digital display technology for all TFS stations.

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial implications as identified in the Financial Impact section.

## EQUITY IMPACT STATEMENT

Improving Fire Service response times in communities with vulnerable populations and equity-deserving groups, including low income households and racialized groups which are identified as having a higher representation in the city's identified neighbourhood improvement areas (NIAs) and emerging neighbourhoods, increases the probability of reducing the risk to life and damage to property during fire emergencies.

The recommendations outlined in this report, including the Operations staffing complement increase and associated improvements to TFS response, would have a positive equity impact on equity-deserving groups that live in Toronto's identified NIAs and emerging neighbourhoods. TFS has identified through an equity analysis that NIAs in Toronto, on average, have a higher number of both emergency events and fire events than the average Toronto neighbourhood. TFS' ability to have a fully staffed fleet and mitigate the number of crews out of service will help TFS improve response performance in neighbourhoods identified as having response times below the city average; including a high proportion of NIAs. TFS continues to identify opportunities to improve service delivery in these neighbourhoods including balancing resource distribution across the city daily.

#### **DECISION HISTORY**

At its meeting on January 5, 2021, the Economic and Community Development Committee requested the Fire Chief and General Manager, Toronto Fire Services to consider any potential staffing issues, as part of the overall service delivery enhancements review and report on any future staffing resources required to ensure adequate service levels in Toronto Fire Services. http://app.toronto.ca/tmmis/viewAgendaltemHistory.do?item=2021.EC19.7

At its meeting on September 30-October 3, 2020, City Council directed the Fire Chief and General Manager, Toronto Fire Services to report back to City Council through the Economic and Community Development Committee in advance of the commencement of the 2022 budget process with recommended strategies as a result of the Toronto Fire Services Transformation Plan and Commission on Fire Accreditation International related review initiatives to enhance overall service delivery and address emerging and forecasted risks and needs of the growing City.

http://app.toronto.ca/tmmis/viewAgendaltemHistory.do?item=2020.EC15.4

At its meeting on October 2-3, 2019, City Council directed the Fire Chief and General Manager, Toronto Fire Services to report back to City Council in advance of the 2021 budget process with recommended strategies, as a result of the Toronto Fire Services Transformation Plan and Commission on Fire Accreditation International related review initiatives, to enhance overall service delivery and address emerging and forecasted risks and needs of the growing City.

http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2019.EC7.1

On March 7, 2019, as part of the 2019 Operating and Capital budget process, City Council requested that the Fire Chief and General Manager Toronto Fire Services

report back to the Economic and Community Development Committee ahead of the 2020 budget process, on opportunities to develop strategies to enhance overall service delivery, including but not limited to effective and efficient staff deployment within the constraints of the Council Approved Budget.

http://app.toronto.ca/tmmis/viewAgendaltemHistory.do?item=2019.EX2.5

At its meeting on July 16, 2013, City Council adopted EX33.11 Results of the Service and Organizational Review of Toronto Emergency Medical Services and Toronto Fire Services and directed the Fire Chief and General Manager, Fire Services to move forward with the fire accreditation process.

http://app.toronto.ca/tmmis/viewAgendaltemHistory.do?item=2013.EX33.11

## COMMENTS

In 2019, Toronto Fire Services (TFS) was requested by City Council to report back with recommendations to improve its service delivery within the Council approved budget. Over the summer of 2019, TFS launched the first Operational Deployment Review (ODR) since amalgamation to review all aspects related to the Operations Division including, but not limited to staffing, attribute distribution, apparatus location, Technical Operations, Chemical, Biological, Radiological, Nuclear and Explosive (CBRNE) and Hazardous Materials. As this review covered every area of the Operations Division, TFS reported back to the Economic and Community Development Committee (ECDC) and requested to defer the report ahead of the 2021 budget process to provide time to complete the ODR and include any findings in the review. As a result of COVID-19 and numerous staff redeployments, the report was delayed again in 2020. In January 2021, ECDC requested that as part of this review, TFS examine any potential staffing impacts and report back with any required recommendations to ensure adequate staffing for service delivery.

## **Updates on Implemented Service Enhancements**

## **Commission on Fire Accreditation International (CFAI)**

In 2013, City Council directed the Fire Chief and General Manager, Toronto Fire Services to move forward with actions to achieve fire accreditation. This process was advanced through the TFS Transformation Plan and the work as a result of Commission on Fire Accreditation International (CFAI) accreditation now serves as the TFS guiding document. In March 2019, TFS earned accredited agency status from CFAI; confirming TFS' commitment to continuously monitoring and improving performance, evaluating results against industry best practices and delivering fire protection services that meet the needs of Toronto. The City of Toronto is the largest city in North America with an accredited fire service. A number of recommendations were provided to TFS to continue to improve its performance and have driven a number of changes since 2019 including the start of the Operations Deployment Review. Recommendations specific to Operations made by CFAI are outlined in Appendix A, and include further work on critical tasking of calls, reviewing calls for specific types of apparatus and improving training programs. TFS successfully completed its second annual compliance report for accreditation in April 2021.

### **Operations Deployment Review (ODR)**

Many of the recommendations made by CFAI were assigned to the ODR committees for further evaluation with the goal of identifying solutions to improve the efficiency and effectiveness of fire and rescue service delivery for Toronto residents and improving public and firefighter safety. While COVID-19 delayed the work of the ODR, the first series of recommendations were implemented in January 2021 with additional recommendations to be phased in through 2022. TFS will continue to monitor the impact of the first implementation. Updates on these recommendations are outlined in Appendix A; including redistributing apparatus to balance performance based on changing call volumes in different areas of the city and adjusting the response to certain types of calls based on historic data for those calls. The changes expected for 2022 thus far include adjusting the distribution of attributes for certain technical rescue types, and realigning aerial apparatus across the city. In addition, further redistribution of response times, specifically in Neighbourhood Improvement Areas and Emerging Neighbourhoods.

## **Current state of Toronto Fire Services**

TFS has a Council approved complement of 3,191 Full Time Employees (FTE). The Operations division represents 84% of the total TFS workforce. Toronto has a diverse landscape including both urban and natural environments, below grade (subway system and the PATH) and above grade (high-rise residential and the Scarborough Bluffs), and a waterfront extending across the entire city. The Operations division is responsible for the delivery of all hazard emergency response services on this landscape to Toronto's 2.9 million residents and millions of additional visitors through the 83 stations located across the city. These services include but are not limited to; fire rescue and suppression, pre-hospital care as determined by the medical tiered response committee, auto extrication, technical rescue (structural collapse, high angle rescue, and crane rescue) and Hazardous Materials and CBRNE responses. It is supported by a number of internal facing divisions.

Toronto Fire Services has adopted a Results Based Accountability (RBA) approach to reporting its service delivery. This approach looks at service from three lenses; how much are we doing, how well we are doing it, and is anyone better off because of it.

#### How much are we doing?

Leading into 2020, TFS had consistently experienced a growth in call volumes year over year. Figure 1 illustrates the total incident volumes from 2016-2020. In 2020, TFS operations crews responded to 124,540 calls for emergency service. COVID-19 had an impact on the 2020 call volumes, with TFS seeing 7% fewer calls for service over the previous year. As Toronto continues to recover from COVID-19, TFS is beginning to see daily call volumes nearing pre-COVID levels.



Figure 1: TFS Emergency service (event) volumes 2016-2020

The COVID-19 pandemic also shifted the volume of certain incident types, for example, TFS saw a 16% increase in fire incidents through 2020 compared to 2019 as shown in Figure 2.



Figure 2: TFS Fire Incident Volumes 2016-2020 (Fires, Explosions and no Loss Outdoor Fires)

#### How well is Toronto Fire Services doing?

TFS measures and reports its operational performance based on time interval targets set by National Fire Protection Association (NFPA) 1710 Standard for the Organization and Deployment of Fire Suppression Operations, Emergency Medical Operations and Special Operations to the public by Career Fire Departments. Total Response Time (from the time we receive the emergency call to the time the first or initial deployment crews arrive on scene) is broken down to three components: Call Processing, Turnout and Travel. Further definitions for each of these components is provided in Attachment 1. Table 2 shows TFS' performance for meeting the time interval objectives. TFS exceeds the call processing performance objective, however is not achieving the performance objectives for the other time intervals.

All Call Types	2016	2017	2018	2019	2020
Call Processing Time goal achieved 1:04	95%	96%	95%	96%	95%
Turnout Time goal achieved 1:20	50%	50%	46%	51%	50%
Travel Time goal achieved 4:00	75%	76%	76%	72%	70%
Total Response Time for First-In Crew (TRT) goal achieved 6:24	83%	83%	82%	81%	79%
Total Response Time for Effective Firefighting (EFF) goal achieved 10:24	90%	90%	88%	87%	88%

Table 2: TFS Performance to NFPA 1710 Time interval targets (2016-2020)

#### Is anyone better off?

The final RBA question examines who is better off because of the work being done. The main fire response outcome is the percentage of fires contained to room of origin. This success is based on several factors including number of staff resources, their response time, and early notification as a result of present and working detection devices. When a fire is contained to the room of origin there is a higher likelihood of rescue and less likelihood of negative outcomes (property damage, civilian or firefighter injury).

In 2020, 90.5% of residential structure fires which had a working smoke alarm present were contained to room of origin as shown in Figure 3. Fires with a working smoke alarm were isolated as they show the impact of the crew's performance on this outcome, as a fire can grow for minutes before being discovered if there are no working alarms in place. TFS needs to get enough staff on scene in the shortest amount of time possible to stop fire growth, increase life safety, and decrease property damage.



Figure 3: Percent of residential structure fires with working smoke alarms present that were contained to room of origin 2016-2020.

## **Future State**

In upcoming years, TFS anticipates several internal and external challenges that will have an impact on service delivery. Population growth, increasing vertical density, the continued development of the city's transit/subway network, and the nature of fires are all changing the firefighting landscape that TFS firefighters must manage on a daily basis. Working in the largest, most vertical and diverse city in the country, TFS has the responsibility to be agile in the delivery of fire protection services to meet changing needs and mitigate emerging challenges.

#### Population growth

Toronto continues to grow with both new residents and an expanding skyline. The population of Toronto is estimated to grow to 3,650,000 by 2051 based on provincial projections<sup>1</sup>. Increasing population will drive TFS call volumes, and incident volumes are projected to increase over the next five years, as shown in Figure 4. By 2025, TFS anticipates a call volume of approximately 140,000 a year, an increase of 13% from current volumes which poses a challenge to maintaining response performance.





#### City Development and Vertical Growth

Safely and effectively fighting fires in high-rise buildings requires additional resources on scene compared to a fire in a single-family residence<sup>2</sup>. Additionally, high angle rescues such as those conducted on cranes or high-rise buildings are both demanding and complex, requiring considerable resources. Maintaining appropriate emergency response times in an increasingly vertical city is a significant challenge for TFS.

High-rise buildings have changed the way TFS firefighters respond to emergencies. While TFS performance is measured from call to arrival at the address, high-rises also have a reflex time; the time it takes from arrival at the address to arriving at the fire floor. TFS, after arriving at the subject address, on average requires 5-6 additional minutes to

<sup>1</sup> Ontario. (2020). A Place to Grow (The Growth Plan). https://www.ontario.ca/document/growth-plan-greater-golden-horseshoe/schedules.

<sup>2</sup> J.D. Averill, L. Moore-Merrell, R.T. Ranellone Jr, C. Weinschenk, N. Taylor, R. Goldstein, R. Santos, D. Wissoker, K.A. Notarianni. Report on High-Rise Fireground field experiments, NIST Technical Note 1797. https://nvlpubs.nist.gov/nistpubs/TechnicalNotes/NIST.TN.1797.pdf

ascend to the location of the emergency incident. The Ontario Fire Marshal and NFPA 1710 provide guidance for departments outlining the staffing levels and tasks required for high-rise firefighting operations recognizing the need for increased resources for high-rise fires because of the many tasks that need to be completed at the same time<sup>3</sup>. Having the recommended number of firefighters on scene decreases the life safety risk to both occupants and firefighters and the amount of property damage<sup>4</sup>. High-rise buildings represented 43.1% of all residential structure fires TFS responded to in 2020, and more than half (55.6%) of the City's fire fatalities. With more and more residents living in a vertical landscape, the demand for TFS resources to address the unique challenges that high-rise buildings pose for emergency responders will continue to grow.

Toronto is a vertical city, ranked the tallest city in Canada and third tallest in North America by the Council on Tall Buildings and Urban Habitat<sup>5</sup>. Toronto's Economic Bulletin reports Toronto as one of the top cities in North America by the number of major buildings under construction including multiple buildings over 80 stories<sup>6</sup>. This pattern of growth is expected to continue with the 2021 Development Pipeline noting that "Toronto continues to experience strong growth and development" and tracking over 503,000 residential units proposed from 2016-2020<sup>7</sup>.

TFS continues to ensure preparedness for incidents in high-rise buildings with enhanced resources including two high-rise apparatus with specialty equipment and teams, and articulating aerial trucks. An example of this is TFS' recent transition to industry best practice larger diameter hose (65mm) as part of high-rise firefighting to meet the water flow requirements for quicker extinguishment of fires. The increased weight of this larger diameter hose requires the dispatch of additional staff to effectively maneuver and advance the hose during high-rise fire operations.

#### Changes in the fires being fought

One of the driving forces for fire services to focus on improving performance is the change in fire dynamics showing how arriving seconds earlier can change outcomes. Fires have changed, and the way that TFS responds to them similarly has changed. Industry wide research confirms, because of the synthetic materials and plastics used in our homes,<sup>8</sup> the time to conduct rescues and mitigate property damage has decreased over the last number of decades from 30 minutes to now less than 10 minutes.

<sup>3</sup> Ontario Fire Marshal. (January 2011). Operational Planning; an Official Guide to Matching Resource Deployment and Risk.

http://www.mcscs.jus.gov.on.ca/english/FireMarshal/FireServiceResources/PublicFireSafetyGuidelines/04 -08-10.html

<sup>4</sup> J.D. Averill, L. Moore-Merrell, R.T. Ranellone Jr, C. Weinschenk, N. Taylor, R. Goldstein, R. Santos, D. Wissoker, K.A. Notarianni. Report on High-Rise Fireground field experiments, NIST Technical Note 1797. https://nvlpubs.nist.gov/nistpubs/TechnicalNotes/NIST.TN.1797.pdf

<sup>5</sup> Council on Tall Buildings and Urban Habitat. https://www.skyscrapercenter.com/city/toronto

<sup>6</sup> Toronto Economic Bulletin- June 2021 (July 9 2021).

<sup>7</sup> City Planning. 2021 Development Pipeline. (June 2021).

https://www.toronto.ca/legdocs/mmis/2021/ph/bgrd/backgroundfile-168148.pdf

<sup>8</sup> Kerber, Stephan. 2014. Analysis of Changing Residential Fire Dynamics and its Implications on Firefighter Operational Timeframes (Reissued). Underwriters Laboratory.

https://www.fstaresearch.org/resource/?FstarId=11513; M. Zammarano, MS. Hoehler, JR. Shields, AL. Thompson, I. Kim, IT. Leventon and MF. Bundy, Full-Scale Experiments to Demonstrate Flammability

#### Staffing

TFS continues to face staffing challenges that reduce the number of in-service crews available for response. In 2020, TFS averaged approximately 10 apparatus out of service (OOS) daily as a result of these challenges including increasing WSIB absences, recent issues with vacancies and other unplanned absences. This problem has been compounded in 2021 because of COVID-19 related impacts. As of July 31 2021, OOS has risen to an average of 12 trucks per day. A deeper analysis of the staffing concerns and considerations is outlined in the next section.

#### TFS Fleet

TFS manages its own fleet of heavy fire apparatus. This includes the proactive maintenance and repair best practices to utilize vehicles to the end of their effective lifecycle. The capital budget provided a standard funding envelope of \$7.2 million dollars for the replacement of vehicles. This was determined in 2004 but not achieved until 2018, and now does not reflect the costs associated with vehicles that TFS purchases. To resolve this, TFS in conjunction with Corporate Finance, is developing a financing model and capital asset management plan that will ensure the future state of good repair for all vehicles in the TFS fleet. This is recommended to be brought forward through the 2022 Budget process as part of the 10 year capital plan. Beginning in 2022, TFS staff will be working towards multi-year contracts to ensure vehicle replacement occurs on a more predictable basis given the 12-18 month build time. This will mitigate the risk for TFS and allow successful vendors to be aware of future vehicle needs.

## **TFS Response Time Performance Projections**

TFS is projecting a continued downward trend in performance for First-in Crew Total Response time (TRT) and total response time for Effective Firefighting Force (EFF) in 2021. Increasing population, the growing complexity of calls amongst other challenges will drive performance down if TFS continues with the status quo. TFS is identifying and implementing solutions to address the gap between TFS current performance and the NFPA performance target, many of which are outlined in this report.

TRT and EFF response times are broken into three time intervals: call processing, turnout, and travel. By reviewing performance in smaller intervals, TFS can identify the areas of performance concern, and actions for improvement. These are outlined below, along with targeted actions TFS is taking to turn the curve.

#### Call Processing

Call processing is the time from when an emergency call is answered to the time that the dispatchers notify a vehicle to attend. TFS performance for call processing has consistently been above the NFPA target of 64 seconds, with 2020 performance of 95% of calls meeting the NFPA target. This was possible because of a number of technology advances, and enhanced processes in the communications centre. TFS continues to explore additional opportunities for improvements.

Risk of Residential Upholstered Furniture and Mitigation Using Barrier Fabric, NIST Technical Note 2129, Nation. https://nvlpubs.nist.gov/nistpubs/TechnicalNotes/NIST.TN.2129.pdf

#### Turnout

Turnout is the time from the initial notification for the crew to when the truck heads out of the station to the emergency location. TFS performance over the last five years has consistently fallen short of the NFPA target, with TFS only meeting the standard 50% of events in 2020. There are several variables that can impact how fast the crew can leave the station, for example: the layout of a station can add unavoidable seconds travelling through the station to reach the apparatus. TFS actively considers the effect of station layout on turnout time when designing new fire stations and when renovating existing facilities. Additionally, there is a level of human behaviour that impacts this performance. TFS is committed to turning the curve to improve turnout times, and has been investigating and implementing solutions since 2017.

TFS has two ongoing initiatives to improve turnout times when responding from stations. 1) A pre-alerting system has been implemented in all stations as of November 2020. This system provides a few extra seconds of notification while the call is still being processed. 2) Along with pre-alerting, TFS has also introduced a process and behavioural change initiative. Turnout times that are outside of the target are automatically flagged for review and performance management measures are implemented. The pre-alerting and turnout time monitoring will be reviewed after one year to assess the overall impact to Total Response Times.

After a successful pilot period in 2019, TFS is working to introduce turnout displays to all stations. The monitors placed in station bays provide crews with elapsed time from start of notification. While not responding to alarms, these displays are used to provide turnout time results as well as additional information for the station crew's situational awareness. Most stations in the pilot saw improved turnout time performance and crews had positive feedback. The implementation has a one-time capital cost of \$130,000 for the equipment and installation costs which is recommended to be brought forward in the 2022 capital budget process.

#### Travel Time

Travel time is the time when the apparatus and crew leave the station on their way to the emergency to their arrival on scene. The target travel time is four minutes as per NFPA 1710 standard and is the largest portion of Total Response Time. TFS travel time performance has been on a decline over the last five years with a 2020 achievement of the NPFA target for 70% of events. As Toronto continues to grow, there are a number of factors TFS crews will have to continue to contend with that impact travel time performance which TFS acknowledges are a reality of being a major metropolitan city.

A key method to reduce response travel time is through driving familiarity. Route familiarity reduces driving errors, improves wayfinding and situational awareness of road conditions within the communities. To improve and maintain optimal route familiarity, crews will drive through their districts and run areas to ensure they are familiar with changes that may be occurring, such as long term lane or street closures for construction. It allows crews to identify new routes ahead of an emergency that might occur in the area so that they can plan around the closure.

For the past few years, TFS has been in conversations with Transportation Services on Traffic Pre-Emption. Emergency Vehicle Pre-emption (EVP) involves the timing of traffic

lights so that they can assist emergency vehicles and the travel time on their way to emergencies. This project remains ongoing and TFS will continue to be an active participant.

## **Existing efforts to Improve Service Delivery**

Continuous improvement is a core driver for TFS and many new opportunities to improve service delivery within the existing operating budget have already been identified. While some factors that impact TFS performance are out of staff control (i.e. extreme weather events) there are a number of ways TFS has worked to turn the performance curve internally.

CFAI recommendations from TFS accreditation in 2019 have driven a number of changes to service delivery for TFS. Specific recommendations made by CFAI to the Operations division are provided in Appendix A, and include further work on critical tasking of calls, reviewing calls for specific types of apparatus and improving training programs.

The Operations Deployment Review actioned some of the identified recommendations from CFAI. While COVID-19 delayed the work of these committees, the first series of recommendations were implemented in January 2021 with more expected in 2022. A status update on the first recommendations is outlined in Appendix A.

TFS has also initiated improvement processes for interventions in performance. Some of these initiatives are highlighted in the previous section and below with further details provided in Appendix B.

- Data Analytics informs decision making at all levels to evaluate proactive opportunities to improve service and flag areas of concern to start a review process to identify a solution.
- New station locations are developed through predictive analysis to determine where there is need based on service demand and performance in order to distribute service equitably across the city.
- After Action Review Process was created for use after major incidents to identify opportunities for continuous improvement in policies and processes.
- TFS hired a part-time employee assistance counselor to provide short term counselling and referrals to external resources in support of staff mental wellbeing.

## **Operational Staffing at TFS**

As part of the review for operational efficiencies, TFS was requested by ECDC in January 2021 to include an examination of its staffing levels to identify and address any concerns that would affect future fire suppression service delivery of TFS. TFS is currently dealing with a staffing absence equivalent to approximately 10% of front line Operations staffing. This includes absences related to vacancies and the substantive challenges resulting from COVID-19, as well as LTD, WSIB, and pregnancy and parental leave. TFS is working to reduce the number of vacant positions by hiring the largest class in its history of 96 recruits who will graduate in November 2021 and two similar sized classes are planned for 2022.

#### **Current Staffing complement**

Toronto Fire Services formed from six separate departments at amalgamation and there have been few changes to the complement through budget processes. TFS complement has increased by 3.87% while the population of Toronto, during the same period, increased by approximately 10%. While the model used for staffing has not had significant changes since amalgamation, there have been a number of new pressures, specifically new legislated requirements related to WSIB and Parental leave.

#### Out of service crews

The TFS Operations deployment model is based on a structure that removes crews from service to match the staffing level for the day. TFS continually monitors the number of crews out of service and makes adjustments to ensure an equitable distribution of staff across Toronto. On average in 2020, TFS had 10 crews out of service every day; a number that has been increasing in recent years. With fewer crews in-service, there are also challenges with having crews available for training, re-inspection support or preincident planning programs. TFS mitigates risk on a daily basis by balancing apparatus against risk and creating capacity within the system through the critical tasking work completed by the Operations Deployment Review. However, continued increase in service demand and complexity of calls will make it more challenging to maintain response performance.

#### **Planned absences**

Vacations, as with all city positions, are part of the scheduling process. TFS has to balance the vacation schedules of over 2,700 operational staff to maintain trucks in service. Vacation and lieu entitlements are factored into the daily staffing requirements. Vacation entitlements and selection processes are set in the collective agreement. During the last round of bargaining, the City and the TPFFA were able to achieve an agreement for more equal distribution of vacation throughout the year.

#### **Unplanned absences**

#### WSIB

Under the Provincial Workplace Safety and Insurance Act (1997), there are specific illnesses and injuries identified as having a stronger link to the workplace and workplace exposures for firefighters including Post Traumatic Stress Disorder (PTSD). Since 2015, the number of WSIB-approved hours of off-duty time for TFS Operations staff, has increased by 320%. The number is expected to continue to increase in the future as the impact of occupational stress injuries, traumatic mental stress and PTSD incidents continue to increase. As of August 2021, TFS has 85 FTEs out of the workplace as a result of WSIB-approved illness and injury, compared to 23 in 2015.

In 2020, WSIB injury/illness accounted for 21% of all unplanned absence hours. While some injuries might result in an absence of one or two shifts until they are cleared for active duty, there are other injuries which can take much longer.

#### Long Term Disability (LTD)

The division has negotiated the ability to hire back for absences created as a result of staff going off on LTD but it is not an immediate solution to the vacancy created. An employee must be off for six months before their absence qualifies as LTD at which point TFS can replace the FTE in the complement. On average, it takes TFS 18 months to replace that staff position in the complement. In 2020, LTD absences accounted for 15% of all unplanned absence hours experienced by the Operations Division. As of August 2021, TFS has 49 Operations staff on LTD.

#### Sick time/ill dependent days

As with all city divisions, TFS experiences unplanned absences due to staff illness and ill dependent days. Staff who call in sick are not replaced with other staff on overtime. As an unplanned absence, it has an impact on the number of firefighters available to staff frontline apparatus. TFS actively monitors these absences and acts in accordance with the attendance management program awarded by an arbitrator in the collective agreement.

The onset of COVID-19 in March 2020 created a new element to the TFS sick absence category as TFS has had staff required to quarantine for a period of time due to exposure, or illness as a result of the COVID-19 virus. During 2020, COVID-19 quarantine absences accounted for 7% of all unplanned absences. As society continues to navigate a post COVID-19 world, the potential for a future pandemic to negatively impact the staffing complement, as COVID-19 has, and SARS prior, remains top of mind.

#### Pregnancy Leave and Parental Leave

Pregnancy and Parental leaves are legislated requirements and staff are eligible for up to 63 weeks of parental leave. Parental leave was first introduced in 2003, and both leaves changed in 2017 where previously employees were only eligible for 37 weeks. The number of staff off on Pregnancy and Parental leaves has grown significantly in the past three years since the legislation changed, with the number of absence hours increasing by 99% between 2018 and 2020.

#### Retirements

Based on a three-year average, TFS experiences approximately 112 retirements annually in the Operations division. In order to meet demand, TFS typically holds multiple recruit classes per year to keep vacancies related to retirements low and minimize disruption to service levels. In the past five years TFS has closely watched the retirement eligibility. In 2021, approximately 22.8% of Operations staff are eligible to retire. Additionally, the five year analysis shows that 35% of the operational workforce will become eligible to retire within the next five years. Ensuring that TFS manages vacancies is important to preventing a future staffing concern. COVID-19 has prevented TFS from keeping up with permanent vacancies and as of August 16, TFS has 72 vacancies that need to be filled. It is expected that the backlog in hiring will not be completely addressed until the end of 2022.

## **Staffing solution**

Recognizing the ongoing staffing challenges that TFS is managing, and will continue to manage into the future, and the corresponding negative impact on response performance resulted in this re-evaluation of the staffing model. Staff are the core resource for providing emergency services to the residents of Toronto. In 2021, as part of the staffing analysis, a review of the formula for how many staff are required for a single crew to operate with four staff every day of the year was conducted. This accounted for various planned and unplanned absences experienced by TFS throughout the year.

The new calculation estimates 22 staff per apparatus are needed to ensure a crew of four staff is available for all shifts. This is in alignment with the changes TFS has seen over the years in external factors influencing absences in the workplace such as WSIB and parental leave and consideration of absences outside of the crew that have an impact on the staffing.

TFS evaluated the performance projections for having all frontline crews (124) in service daily and the required staffing to do so. There are other projects TFS has implemented with anticipated performance impacts which are discussed in this report and outlined in Appendix B, but for the purposes of these options, the number of crews in service was the main factor for service delivery performance.

#### Resources required for full frontline complement in service

The performance estimates with having 124 crews in service is approximately 83% TRT in 2022 and 82% TRT by 2025. At this in-service crew level, EFF is estimated to be at 89% in 2022 and 88% by 2025. This option illustrates how increasing call volumes will continue to have an impact on TFS performance and will require increasing resources to meet demand.

The estimated required staffing to keep 124 crews in service is 156 FTEs above existing complement. The operating costs associated with the net new FTEs is approximately \$27,749,195. Based on hiring and training cycles, the addition of 156 staff will take approximately three years.

Staff are recommending this solution, with an increase of 156 net new FTEs over three years. TFS, if approved, will begin requesting approximately 52 new Operations FTEs as part of future budget submissions beginning in 2023. Due to current backlog in vacancies and capacity limitations within the training unit, requests for net new operational staff will not occur in 2022.

#### New Resources: TFS Identified needs for Support Services

TFS has implemented a number of initiatives in the last few years to improve operations service delivery, it has reached the current capacity for changes within the existing approved budget. There are a number of initiatives that build off of existing ones that would require additional inputs of resources in order to see further results.

Supporting the Post Traumatic Stress Injury and Suicide Prevention Program TFS has implemented supports to prevent occupational stress injuries (OSI) including PTSD as part of its PTSD Prevention Plan, a requirement under the Supporting Ontario's First Responders Act (Bill 163). This includes Road to Mental Readiness (R2MR) resiliency training, policy changes to minimize secondary exposures, quarterly support group meetings to create social connection and minimize isolation for employees with an OSI and the addition of a part-time Employee Assistance Counselor to the TFS support team in conjunction with Corporate Employee Health and Rehabilitation.

TFS has identified two areas that would assist with staff returning to the workplace that require additional funding to be requested through the 2022 budget process. Converting the current part time TFS Employee Assistance Counselor to full time, will allow TFS to more fully utilize their skill set and provide access to the supports to more staff. Currently this position is available to TFS staff half of the week. Additionally, TFS has identified a need to build out the return to work resources for staff working to come back after an OSI. Contracting an Occupational Therapist to assist with Return to Work and Accommodation for employees with an OSI will allow for a more integrated and consistent approach with the intent to return employees safer and quicker. The full year cost of these initiatives is \$201,499.

#### Supporting Outreach and Recruitment

TFS works closely with divisional partner People, Equity and Human Rights, to manage hiring processes that see upwards of a 1,000 applicants per year. TFS is continually working to ensure that its actions support the goals of the City's strategic workforce plan of having "engaged, diverse, high-performing, adaptive and productive employees to meet our current and future needs." Recognizing that TFS will be recommending the hiring of 156 net new employees, on top of the existing annual need for approximately 100 new staff due to retirements, there is a significant opportunity for TFS to market itself as the employer of choice for all including equity-deserving groups. TFS has worked with People and Equity's Talent Acquisition unit and identified a need for further dedicated resources. Currently TFS has only one FTE for recruitment and outreach efforts. The addition of three new positions will round out the TFS Recruitment and outreach unit to work more effectively with the People and Equity team. A full time team will allow TFS to host regular information sessions and conduct proactive engagement with Toronto communities to market firefighting as a career to those who may not see themselves currently reflected in the career. The three positions would be requested through the 2022 budget process at a full year cost of \$476,835.

#### Staff Services

To support the management of staffing issues, TFS has a Staff Services division with one permanent FTE and four temporary Staff Services coordinators. The division reviews and resolves issues related to return to work, modified duties, investigations, discipline matters and grievances. TFS is recommending that the temporary positions be converted to permanent positions through the 2022 budget process at a full year cost of \$471,827. The temporary coordinator positions were added in 2017 and 2018 after it was recognized that the workload associated with staff issues for TFS was not manageable by one person. The addition of the four temporary positions has allowed the division to more proactively manage issues related to human resources and labour relations. With the recommended addition of a further 156 FTEs, ensuring the Staff Services division has permanent staffing is important to support the division in meeting its mandate and deliver timely service to meet current demand.

## **Conclusion/Next Steps**

TFS strives to deliver world class performance to the residents of Toronto, and has identified a number of challenges that the service will be facing in the coming years. A growing population and increasingly vertical cityscape bring a host of new complexities that the service needs to prepare for. The actions taken thus far include achieving international accreditation, beginning the ODR, and implementing initiatives targeting service delivery performance.

TFS anticipates challenges as pressures associated with a growing population and vertical development see increased volume and complexity of incidents over the next five years and beyond. Additionally, TFS faces increasing pressures associated with Operations staffing and has identified a recommended staffing solution that would increase the Operations complement by 156 FTEs to support keeping more front-line crews in service.

TFS has outlined current initiatives being implemented within its existing budget to improve service delivery for its Operations division. Additional initiatives and resources beyond the current existing budget of TFS are being recommended to further positively influence service delivery for consideration during the 2022 and future budget processes alongside city priorities. TFS will continue to monitor performance and the effect of the recommended interventions to assess their impact and any potential future needs for the Fire Service will be brought forward to City Council.

## CONTACT

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#### SIGNATURE

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#### ATTACHMENTS

Appendix A - TFS initiatives: CFAI and Operations Deployment Review Appendix B - Implemented Initiatives to Address Operational Challenges Attachment 1 - NFPA Time Target Definitions