TORONTO

STAFF REPORT
ACTION REQUIRED

A Consolidated TEMS and TFS Communications Centre

Date:	August 6, 2014
To:	Executive Committee
From:	City Manager and Deputy City Managers
Wards:	All
Reference Number:	

SUMMARY

Following the 2013 service efficiency study that reviewed Toronto Emergency Medical Service (TEMS) and Toronto Fire Service (TFS), the City Manager and Deputy City Managers, in consultation with the Chiefs of TEMS and TFS undertook further evaluation of a consolidated communications centre for the two services.

The conclusion is that consolidation can achieve cost savings while maintaining or improving dispatch, only if the necessary conditions are in place to move forward with this service delivery model. These conditions include required legislative and collective agreement amendments to allow employees in a consolidated communications centre to include City employees who are not firefighters. As well, given that the TEMS Communications Centre is 100 % funded by the Ministry of Health and Long-Term Care (MOHLTC), confirmation that MOHLTC will continue current and future funding in a consolidated delivery model, including for information technology support, is also required before moving forward with implementation.

Legislative and collective agreement amendments, and confirmation of continued current and future funding, are necessary conditions to move forward with a consolidated TEMS and TFS communications centre to ensure that it will achieve cost savings and maintain or improve service excellence based on current benchmarks. As a result, this report therefore recommends that City Council request the Province of Ontario to amend the *Fire Protection and Prevention Act, 1997* to remove the requirement that communications staff be firefighters and authorize the City Manager and Executive Director of Human Resources to pursue collective agreement amendments as first steps towards a TEMS and TFS consolidated communications centre.

This report also recommends that City Council authorize the City Manager, in collaboration with the Chief of TEMS, to consult with the MOHLTC for confirmation that they will continue to provide the necessary current and future funding in a consolidated model, including support for information technology. Lastly, this report recommends that City Council request that the Association of Municipalities (AMO) support the required legislative changes to the *Fire Protection and Prevention Act, 1997* and confirmation that current and future Provincial funding levels will be maintained in a consolidated communications centre model.

The City Manager and Deputy City Managers, in consultation with the Chiefs of TEMS and TFS, will bring forward a more detailed implementation plan in 2015, including required investments and projected savings when the necessary conditions are in place.

TEMS and TFS leverage resources, skills, and knowledge across a range of operational, administrative and technological areas and will continue to maximize resources through efficiencies and cooperative arrangements now and into the future. Given the service objectives of enhanced collaboration between TEMS and TFS, the City Manager will consolidate reporting of TEMS and TFS under one Deputy City Manager to further enhance coordination and efficiency of service between these two divisions.

RECOMMENDATIONS

The City Manager and Deputy City Managers recommend that:

1. City Council request the Province of Ontario to amend the *Fire Protection and Prevention Act, 1997* in order to remove the requirement that staff working in a consolidated TFS and TEMS communications centre are required to be firefighters;

2. City Council request the City Manager, in collaboration with the Chief of TEMS, to consult with the Province of Ontario, in particular the Ministry of Health and Long Term Care, to confirm that the Ministry of Health and Long Term Care will continue to provide required current and future funding levels including support for information technology;

3. City Council request the Association of Municipalities (AMO) to support the legislative amendments to the *Fire Protection and Prevention Act, 1997* and confirmation that current and future funding levels will be maintained by the Ministry of Health and Long Term Care as outlined in Recommendation 1 and 2 of this report;

4. City Council request the City Manager and Executive Director of Human Resources to pursue amendments to the collective agreement with Toronto Professional Firefighters Association (TPFFA), Local 3888 to permit the work in a consolidated TFS and TEMS communications centre to be performed by City employees who are not firefighters; and

5. City Council request the City Manager to bring forward an implementation plan in 2015 including required investments and projected savings for a consolidated communications centre.

Financial Impact

A consolidated communications centre for TEMS and TFS has the potential to achieve cost savings while still maintaining or improving dispatch if such a centre can be staffed by City employees who are not restricted to be firefighters.

Once the necessary legislative and collective agreement amendments are confirmed, the City Manager and Deputy City Managers will bring forward a detailed implementation plan in 2015, including required investments for technology, cross-training and facility and projected savings.

It should be noted that the 100% Provincial funding for the TEMS Communications Centre is only increased by 1% annually which does not cover inflationary costs. The City Manager, in collaboration with the Chief of TEMS, will continue to advocate with the Ministry of Health and Long Term Care that the Provincial funding for the TEMS Communications Centre cover the real costs including annual inflation.

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

DECISION HISTORY

At its meeting of July 16, 2013, City Council, in considering the report, *Results of the Service and Organizational Review of Toronto Emergency Medical Services and Toronto Fire Service,* authorized the City Manager, in consultation with the Chiefs of TEMS and TFS, to further evaluate a consolidated communications centre including other operational, technological and administrative opportunities and modifications so that Emergency Medical Services and Fire Services report to the same Deputy City Manager, and report back to the Executive Committee.

The report can be found at
http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.EX33.11.

ISSUE BACKGROUND

A number of reviews and studies undertaken over the past 15 years by City staff, third party consultants and the Auditor General have examined opportunities for continuous improvement across TEMS and TFS including administrative and operational efficiencies through cooperation and/or consolidation of functions.

These studies have led to the implementation of a range of efficiencies including co-

location of TEMS and TFS headquarters, co-location of training facilities and some stations; and shared services related to operations support, purchasing, inventory management, warehouse and procurement. A summary of these reviews and studies is attached as Appendix A.

Over the past several budget cycles, cost containment related to TEMS and TFS has been raised including opportunities to increase shared services or consolidate service delivery to ensure that the City is providing both optimal and cost effective emergency response and service delivery.

In 2011, as part of the City's Core Services Review, KPMG reviewed all City services, including TEMS and TFS, and put forward several opportunities including evaluating a consolidated delivery model for TEMS and TFS.

The City Manager launched a more in-depth service and organization review of TEMS and TFS in 2012 to identify and recommend opportunities, including service consolidation, that maintain the quality of these core municipal services while achieving efficiencies and economies of scale wherever possible. The review concluded that a consolidated delivery model would not yield material financial, operational or service benefits or improve patient outcomes and would require significant investment to implement and maintain. The review put forward a number of recommendations for improvements such as continuing collaboration, strengthening coordination and leveraging synergies to improve Toronto's emergency response delivery system, including the use of lean technologies to maximize operational performance. A summary of current collaborative initiatives and projects across TEMS and TFS is attached as Appendix B.

Although the review did not recommend that the City pursue a consolidated communications centre for TEMS and TFS due to a range of legislative and labour relations barriers, the City Manager and Deputy City Managers did not agree that these barriers were insurmountable and recommended additional due diligence be undertaken to explore this option further.

Following the recent service reviews, the recommendations reflected that TEMS and TFS should be organizationally linked to facilitate future collaboration initiatives. As a result, the City Manager will consolidate reporting of TEMS and TFS under one Deputy City Manager to further enhance collaboration and coordination of these two emergency services.

COMMENTS

1. Consolidation of TEMS and TFS Communications Centres

The evaluation of consolidating the TEMS and TFS communications centre has been undertaken considering a range of factors, risks and limitations related to existing legislation, labour relations and funding, and facility, technology and cross training requirements.

The two communications centres perform unique functions to support distinct service delivery. TEMS operates under a common organizational framework, technology, and design shared with all other emergency medical service providers across the Province of Ontario as mandated by the Government of Ontario. TFS operates as an emergency response model that varies from municipality to municipality. A detailed overview of the two communications centres is attached as Appendix C.

The evaluation concluded that a consolidated model will likely yield cost savings while maintaining service excellence as long as key objectives can be realized and that barriers and risks are addressed prior to moving forward with the implementation of a new dispatch and call taking delivery model.

The key objectives include ensuring that service levels and quality are not compromised, labour costs are maintained or reduced, current and future provincial funding continues and investments and start-up costs related to facility, technology and training provide a return on investment over the medium and longer term.

The necessary conditions that need to be addressed for a successful integrated model include:

- confirming current and future provincial funding will continue in a consolidated TEMS and TFS model, including for technology support;
- amending provincial legislation to remove the requirement that TFS dispatch staff must be firefighters; and
- amending the collective agreement with TPFFA, Local 3888 to enable the work in a consolidated communications centre to be performed by staff who are not firefighters;

Once the required legislative and collective agreement changes have been effected and MOHLTC have confirmed that current and future funding levels will be continued, the City Manager will complete more detailed analysis and cost estimates for facility, technology and training investments required to move forward with implementation as well as projected cost savings over the medium and longer-term.

A summary of the necessary conditions for a consolidated communications centre is included below as well as a preliminary assessment of facility, technology and training requirements.

A. Confirm Provincial Funding

The Ontario Ministry of Health and Long Term Care (MOHLTC) funds 100% of the costs associated with operating the TEMS Central Ambulance Communications Centre (CACC). TEMS negotiates funding increases each year, which have resulted in a 1% annual increase over the last several years with very little room to meet any demand increase for emergency medical services. The City funds 100% of the costs associated with operating the TFS communications centre.

A consolidated communications centre for TEMS and TFS will require a re-negotiated performance agreement with the MOHLTC and confirmation that current and future provincial funding will not be at risk.

This report therefore recommends that the City Manager, in consultation with the Chief of TEMS, secure a commitment from the MOHLTC that they will continue to provide the necessary current and future funding in a consolidated TEMS and TFS communications centre, including for information technology costs which are currently 100% funded by the Province for TEMS.

B. Remove the Requirement for TFS Communications Centre Staff to be Firefighters

Consolidating the communications centres will bring two unions, the Canadian Union of Public Employees (CUPE), Local 79, and the Toronto Professional Firefighters Association (TPFFA), Local 3888, together into one centre. The unions have significantly different collective agreement provisions pertaining to hours of work, wage rates and benefits, normal retirement age (65 vs. 60), contracting out, displacement and redeployment of staff.

Currently, the *Fire Prevention and Protection Act, 1997* requires that staff in the TFS communications centre be firefighters. As well, the City's collective agreement with TPFFA, Local 3888 stipulates that work done in the TFS communications centre cannot be performed by another City employee who is not covered by the collective agreement or a non-City employee. This requirement will be cost prohibitive in a consolidated model due to higher labour, benefit and pension costs for firefighters compared to other City staff, as well as TPFFA, Local 3888 collective agreement provisions related to scheduling, hours of work, and displacement and redeployment.

To realize efficiencies, a consolidated communications centre requires that at a minimum, fire call taking and dispatch services be conducted by all staff working in the centre and that those staff not be restricted to firefighters only.

As a first step, this report recommends that City Council request the Province of Ontario to amend the *Fire Protection and Prevention Act, 2007* to remove the requirement that TFS Communications Centre staff be firefighters. The report also recommends that the City Manager and Executive Director of Human Resources be requested to pursue collective agreement amendments with TPFFA, Local 3888 to ensure staff in the consolidated centre not be restricted to firefighters.

It should be noted that the Association of Municipalities has not yet been consulted about the proposed legislative changes and discussions with the Province of Ontario have not yet been initiated.

C. Maintain and Improve Service Quality

The TEMS Communications Centre is an Accredited Centre of Excellence with the International Academies of Emergency Dispatch—a designation accorded to only 138 other centres worldwide—and must be re-accredited every three years. Accreditation establishes the TEMS Communications Centre as having achieved and being able to maintain an internationally benchmarked, high standard of triage and patient care delivered by Emergency Medical Dispatchers (EMDs). It assures callers and patients that they are receiving the most appropriate care and ambulance response in each situation and that all calls for emergency medical services will continue to be answered and managed with the same consistent, efficient and effective level of quality. The accreditation process has dedicated TEMS staff assigned to Quality Improvement/Quality Assurance.

TFS is moving forward with accreditation through the Centre for Public Safety Excellence. The Accreditation Program, administered by the Commission of Fire Accreditation International (CFAI), enables emergency response providers to use an accreditation process to set goals, develop strategic action plans and continuously evaluate and improve services provided to the public. The accreditation process involves self-examination of performance across 10 categories, 44 criteria and 253 key performance indicators (KPIs), with the assessment confirmed by peer reviewing departments. The 2014 Fire Master Plan, currently being developed, will inform the accreditation process.

One of the objectives of consolidating the Communications Centres must be to maintain or improve the quality of the communications services currently delivered by TEMS and TFS. To ensure TFS and TEMS continue to deliver a similar or better level of service excellence in a consolidated model, effective cross-training will be critical to ensure that staff can support both functions as well as they are delivered now. Staffing levels will also need to be sufficient so that accreditation standards can be met for both TEMS and TFS. A consolidated communications centre will also be required to successfully pass the MOHLTC Ambulance Communications Centre provincial audit every three years.

Service excellence and continued accreditation will be built into the development and implementation plan of a consolidated communications centre.

D. Preliminary Analysis of Required Investments

1) Technology

TEMS and TFS operate with two different Computer Aided Dispatch (CAD) systems.

The TEMS CAD system is fully funded by the MOHLTC and compatible with all other Ontario municipal EMS services. The Province requires that CAD information sharing be seamless in MOHLTC's network of EMS communications centres across the province. TEMS supports its own hardware and has a number of customized software programs to meet TEMS specific requirements. The MOHLTC fully funds City information technology positions that support the TEMS CAD platform. The City fully funds information technology staff that support the TFS CAD platform.

Evaluation of the two different CAD systems confirms that the systems are not compatible and a new integrated technology platform will need to be developed that is sufficiently flexible to meet the needs of both services. Further analysis will be undertaken to identify the system requirements for an integrated platform, including initial capital investment and ongoing capital and operating maintenance costs. Discussions with the Province will also be initiated to obtain their agreement for the City to utilize an alternate CAD system and explore a co-investment approach for any integrated system.

2) Cross-Training

Both TEMS and TFS provide unique frontline services that require specialized and dedicated up front and ongoing training. A consolidated communications centre will require an effective and comprehensive cross-training program for dispatch and call-taking functions that takes into consideration:

- differences in staff qualifications;
- in-take training;
- varied operational methods and business processes;
- continuing education and certification requirements; and
- maintaining skill sets by discipline.

It is anticipated that an up-front investment in cross-training will be required to implement a consolidated communications centre and a program will be developed, including costing, through the development of a more detailed implementation plan.

3) Facility

In order to consolidate the TEMS and TFS communications centres, physical infrastructure will be required to accommodate both operations. The current communications centres incorporate capacity and datacentre design that house technology platforms and services; redundant electrical generator and uninterrupted power supply system, and redundant heating, ventilation, and air-conditioning (HVAC) systems that meet current service level requirements to maintain uninterrupted operation of critical systems; back-up 9-1-1 communications centre capabilities to maintain uninterrupted service delivery; and training facilities with technology and audio-visual capacity. A consolidated centre would need to meet these functions as well as have sufficient floor space to accommodate the combined dispatch services.

As a next step, a detailed building and site assessment will be completed including costing for renovations at the existing facility and a new build to estimate facility related costs and determine the most cost effective and efficient option.

2. Next Steps

The City Manager, in collaboration with the Chiefs of TEMS and TFS, will pursue the necessary legislative amendments with the Province of Ontario, amendments to the TPFFA, Local 3888 collective agreement and will consult with the MOHLTC for confirmation that they will continue to provide the necessary current and future funding in a consolidated model, including support for information technology.

Once the necessary conditions are secured, the City Manager will bring forward a more detailed implementation plan, including required investments and projected savings for a consolidated communications centre for TEMS and TFS.

The City Manager will also consolidate reporting of TEMS and TFS under one Deputy City Manager to further enhance collaboration and coordination of these two emergency services.

ATTACHMENTS

Appendix A - Summary of Reviews and Studies
Appendix B – Summary of Collaboration Initiatives
Appendix C – Summary of Communications Centres

CONTACT

Paul Raftis
Chief/General Manager, Toronto Emergency Medical Services
Phone: 416-397-9240 Email: praftis@toronto.ca

Jim Sales
Chief/General Manager, Toronto Fire Services
416-338-9051 Email: jsales@toronto.ca

Fiona Murray
Director, Strategic and Corporate Policy
Phone: 416-397-5214 Email: fmurray@toronto.ca

SIGNATURE

Joseph P. Pennachetti	Brenda Patterson	John Livey
City Manager	Deputy City Manager	Deputy City Manager

Appendix A

Summary of Reviews and Studies

1. 1998/1999 – TFS and EMS Integration Review (part of Toronto Transition Team's 'Who Does What' Review for the amalgamation of the City of Toronto)

This review was a significant evaluation of the previous Metro Ambulance and the newly amalgamated six fire departments, to identify opportunities for efficiencies including amalgamation. The report recommendations resulted in co-locating TEMS and TFS headquarters at 4330 Dufferin Street. Other operational support areas were also examined (fleet, materials management, payroll, financial services, and human resources) and a collaborative model was implemented and remains in place today.

2. 1999 – TFS and EMS Facilities Study - KPMG

This review examined the business and facility needs of both services including possible sharing of facilities and fleet maintenance activities. The study focused primarily on TFS and the optimum location of its stations for response time and deployment purposes. Many of the study's recommendations have been implemented, including co-location of some EMS and TFS stations and co-locating the training academies in the same building.

3. Operational Reviews in 2004/2005 (EMS) and 2006 (TFS) – Auditor General

The review of EMS' Operational Support Section focused largely on stores, asset and inventory management, purchasing practices, IT, and a number of other support functions and activities. Recommendations to improve internal practices and controls were put forward and have been implemented.

The Operational Review of TFS focused primarily on purchasing. Recommendations to improve purchasing practices primarily in the Fire Prevention and Mechanical divisions were put forward and have been implemented.

4. 2004/2005 – Fleet Review Study – Auditor General

Both TEMS and TFS were examined as part of this two-phase corporate review. The review looked at opportunities for standardization and possible centralization of city-wide fleet functions. Recommendations were put forward to streamline corporate fleet operations and recognized the fleet operations of both EMS and TFS as organizationally unique.

5. 2005 – EMS/TFS Efficiency Review

This review, conducted jointly by both Divisions, looked at the revenue and fleet areas of TEMS and TFS, and was part of a corporate mitigation and planning strategy in preparation for the 2006 budget.

A number of opportunities were identified within each Division to achieve efficiencies including for example EMS vehicle sales tax exemption and recovery of false alarm costs.

6. 2006/2007 – Corporate Stores/Warehouse Rationalization Review - PSTG

As recommended by the Auditor General, a corporate-wide review of corporate stores and warehouse rationalization was undertaken by third party consultants. The review looked at opportunities for standardization and centralization of common corporate stores management and purchasing activities. TEMS served as a 'pilot' Division for a peer best practice assessment. While the consultant identified areas for improvement in corporate facilities management, no recommendations were put forward specific to EMS' facilities operations.

Improvements to purchasing processes were implemented including a vehicle parts contract consolidation program to leverage bulk purchasing across the City organization with one supplier, improved inventory control systems in TFS and purchasing support to TFS for common goods.

7. 2008 – Administration and Management Internal Support Functions Review - DPRA

This review focused on assessing potential efficiencies in the administrative and management internal support functions and resulted in the elimination of four (4) positions and a manager position created to oversee administrative and finance functions for both Divisions.

8. 2011 – Service Efficiency Study for City of Toronto Fleet Services – Western Management Consultants

This study reviewed the City's fleet services including potential consolidation of fleet services across divisions and agencies. The review recognized the unique nature of the City's fleet particularly related to emergency services, TEMS, TFS and Toronto Police and put forward longer-term consolidation options.

A corporate Fleet Management Steering Committee, including TEMS and TFS, has been established for divisions and agencies managing their own fleets in order to address common challenges, leverage bulk purchasing where possible and realize other efficiencies.

With respect to fleet purchases, EMS' ambulance vehicles are specialized patient transport units regulated by the Ministry of Health and Long-Term Care (MOHLTC) and must be fully compliant with Ontario Provincial Land Ambulance and Emergency Response Vehicle Standards (per the *Ambulance Act* of Ontario). TEMS does, however, take advantage of corporate fleet contracts when purchasing vehicles that are for generic, non-emergency response use.

Appendix B

Summary of Collaborative Initiatives

1. Tiered Response Committee

TEMS and TFS have been working together with Toronto Police Services for more than a decade to provide coordinated joint responses to emergency medical calls. The Toronto Tiered Response agreement outlines processes and guidelines for immediate response of each emergency service agency for medical assistance, and authorizes the activation of a tiered response to those response determinants identified by the CACC within the Medical Priority Dispatch System (MPDS) requiring a tiered response. The Tiered Response Committee reviews and analyzes information to ensure changes to the Tiered Response system are evidence based and patient focused.

The Tiered Response Committee is supported by an expert panel of emergency physicians (including the medical directors for both TEMS and TFS). The Committee meets quarterly to deal with any issues that arise and to ensure the best possible response to the residents of Toronto.

2. Joint (Toronto) Radio Infrastructure Project (TRIP)

The TRIP is a corporate initiative involving three Programs: TEMS, TFS and Toronto Police Services. This project represents a unique and effective partnership among the City's three emergency services with the modernization of the City's public safety voice radio system infrastructure.

TRIP was approved as part of the City's 2008 capital budget as it was determined that the existing system is approaching the end of its supported lifecycle. After 2012, system maintenance has no availability for replacement components. This is a significant risk for the City's most critical emergency notification system. Any outage will impact first responders' ability to deliver services to the public.

The status of the TRIP project is reported on annual basis to the Budget Committee including project management costs and infrastructure issues.

3. Facilities

In addition to the specific projects noted above, both Divisions continue to participate in the Facilities Transformation Project in order to achieve cross-divisional efficiencies in the operation and maintenance of City facilities.

TFS has transferred its capital budget funding and planning to the Facilities Management division as of 2012, and the transfer of budget, staff and responsibility for TEMS facilities is expected to be completed in 2014.

TEMS and TFS currently use the same building for their primary communications centres (4330 Dufferin Street), and 703 Don Mills Road houses both TEMS and TFS back-up

communications centres. Toronto Police also uses 4330 Dufferin as the site for their back-up communications centre.

4. Emergency Management

While performing separate functions, Toronto's emergency services also continue to work closely in an integrated and coordinated way to plan and execute large-scale events (e.g., Papal Visit, G8/G20, Pan-Am/ParaPan-Am Games) as well as to respond to city-wide emergencies such as the 2013 Flooding and 2013 Ice Storm by supporting each other in their different roles.

All three emergency services are integrated as multi-agency teams including Toronto's Heavy Urban Search and Rescue Team (HUSAR), and the Chemical, Biological, Radiological and Nuclear (CBRN) Unit to ensure the community receives the highest quality of emergency care in large or complex and dangerous events.

5. Lean-Type Process Improvement

As part of the recommendations from the July 2013 report *Results of the Service and Organizational Review of Toronto Emergency Medical Services and Toronto Fire Services* adopted by City Council, both TEMS and TFS are embarking on a Lean Six Sigma-type process in 2014. Lean Six Sigma is a powerful, proven method of improving business efficiency and effectiveness and will be of benefit to TEMS in identifying solutions to reduce hospital delays that contribute to paramedic wait times, as well as to TFS in achieving the CFAI accreditation.

6. Emergency Call - Software, Processes and Procedures

TEMS has extensive experience utilizing emergency call prioritization and triaging tools, quality assurance programming and staff training and education using the Medical Priority Dispatch System (MPDS) licensed by Priority Dispatch Corporation.

Priority Dispatch Corporation provides similar programming and licences for police and fire emergency call triage and response. MPDS is used in over 3000 emergency services worldwide and is considered an industry best practice.

TFS is presently meeting industry best-practice benchmarks for call-taking and dispatch, and as part of ongoing quality management and accreditation processes will continue to examine "best-fit" technologies. There are excellent opportunities to learn from TEMS with regard to the use and effectiveness of Priority Dispatch Systems. However, under consolidation, given that TFS does not currently use this tool, wholesale implementation would require significant investment. Thus collaboration and practice sharing is the more cost-effective option for collaboration in this instance.

7. Staff Scheduling and System Optimization

TEMS and TFS are both involved in a larger corporate initiative to develop the specifications for a new scheduling application to standardize the time and attendance reporting system, including scheduling, of staff. Given the 24/7 emergency nature of both businesses, and the varying shift patterns, it is likely that a similar solution will be viable for both operations over the longer term. This is a good example of cross-corporate efficiency and resource leverage that benefits both TEMS and TFS.

As TFS moves into the implementation phase of ongoing system optimization, the experience of TEMS in these areas will be an asset. TFS will be implementing the use of a dynamic staging, predictive modeling, pre-emptive traffic controls approach to the placement of fire resources and apparatus. This could improve response times and decrease equipment requirements by helping to predict fire response demand and deploy resources accordingly.

8. Station Alerting Systems

TEMS' station-based alerting system, called *Locution*, allows multiple emergency vehicles to be simultaneously dispatched without direct person-to-person contact. In 2010, TEMS implemented this program for its own environment to expedite emergency response.

TFS is currently deploying a new fire station alerting tool provided by Motorola; the fire station alerting (FSA) project has been purchased and is being completed in 2014 as a component of the Toronto Radio Infrastructure Project (TRIP), and has benefitted from a number of economies of scale and efficiencies due to being a component of the TRIP project that was described earlier.

9. Unit Selection Software

TEMS uses a unit selection software application, called *Optima Assign*, which provides recommendations to the Emergency Medical Dispatcher (EMD) on assigning the most appropriate ambulance to an emergency call. The business rules that are inputted into the software are user-built and can be applied to other applications. TEMS has implemented the program for its own environment.

TFS is moving towards a system for resource deployment referred to as *dynamic staging*, utilizing technology to recommend the proactive positioning of resources to respond as effectively and quickly as possible to emergencies. TFS is currently undertaking the purchasing process to select the technologies which are most complementary to the full suite of systems currently utilized by the Division.

TFS will benefit from the knowledge and experience TEMS has with the use of system analytics, given their experience with dynamic staging technology.

Appendix C

Summary of Communications Centres

A. Overview of the TEMS Communications Centre

Governance

The *Ambulance Act, R.S.O., 1990, c. A 19,* and its associated Regulations and Standards govern the delivery of ambulance services in Ontario. The *Act* stipulates the responsibilities of municipalities, the authority of the Base Hospital, the certification requirements of operators, and the powers, duties and obligations of ambulance service providers.

The *Ambulance Act* and Ontario Regulation 257/00, as well as all standards incorporated by reference under the Regulation, also stipulate that the operator must have an agreement (Performance Agreement) with the Ministry of Health and Long Term Care (MOHLTC), made under the *Act*. The Performance Agreement is entered into between the Province and the City and includes all schedules and amending agreements. The Performance Agreement contains a Program Description, which states that the City shall provide services and meet operational requirements or ensure they are met in accordance with the *Act*, the Regulation, the Manual of Practice and the Performance Agreement.

A principle of the design of the Ontario EMS system is "seamlessness", meaning that municipal boundaries are transparent to the dispatch process in emergency calls. All EMS services in Ontario are considered to be automatic participants in the pool of province-wide resources made available in the event of major incidents occurring in other Ontario communities. Resource requests are passed through the EMS dispatch centres, through the provincial Emergency Operations Centre, and through direct contact between command officers.

Province-wide EMS communications infrastructure ensures that every ambulance in Ontario is instantly able to communicate directly on the trunk radio talk groups of every other EMS service when they enter another service's coverage area to provide mutual aid. Inter-site trunk group console patch capabilities extend the range of such intercommunications beyond the local site coverage areas as needed.

Funding

The Province provides 100% of the funds to operate the Toronto Central Ambulance Communications Centre in accordance with the *Ambulance Act*, the Regulation, the Performance Agreement and the Manual of Practice. The Performance Agreement requires the City to carry out the program in accordance with the terms and conditions of the Performance Agreement, use the funds only for the purpose of carrying out the program and spend the funds only in accordance with the budget.

No changes can be made to the program description, timelines and/or budget without the prior written consent of the Province.

The City applies to the Province for funds to carry out the program, i.e., a grant funding budget request submission. The funds must be managed consistent with the *Ambulance Act*, the Regulation, the Performance Agreement and the Manual of Practice. The City must ensure that the funds are not loaned to or used by others unless outlined in the Performance Agreement or without the Province's approval. The City must also maintain financial records, submit annual financial statements to the Province at the end of each fiscal year and ensure that the financial statements are prepared and audited each year by a licensed public accountant. The City must also maintain all records for inspection or investigation of the expenditure of funds and provide disclosure of any information requested by the Province.

In 2014, the City approved an operating budget $24.7 million for the Communications Centre. The 2014-2015 funding agreement between the City of Toronto and the MOHLTC remains subject to negotiation.

Staffing

The scope of the program as outlined in the Performance Agreement includes the provision of a Central Ambulance Communications Centre staffing complement as approved by the Province. It requires one or more qualified Central Ambulance Communications Centre manager and/or supervisor to ensure 24-hours-per-day and 7-days-per-week on-site supervision. It also requires ambulance communications services to be available 24 hours per day, 7 days per week, in English and French. The employment and retention of qualified ambulance communications officers (emergency medical dispatchers) staff must be in accordance with the provisions of the *Ambulance Act*, the Manual of Practice and the Performance Agreement. The triage tool (Advanced Medical Priority Dispatch System) used by emergency medical dispatchers to prioritize emergency calls is also approved by the Province.

Currently, there are 125 full-time equivalent staff in the Communications Centre. Preliminary analysis by the third party consultant who performed the City Manager's service efficiency study of TEMS and TFS found that the TEMS communications centre was understaffed. In July 2013, City Council requested the City Manager and the Chief, TEMS to consult with the MOHLTC to increase the level of staff and funding required for the TEMS Communications Centre. TEMS has been negotiating for improved communications centre staffing to meet its increasing emergency medical call demand. Emergency patient transports continue to rise between 4% and 5% annually and, between 2003 and 2013, TEMS is transporting 56,000 more emergency patients to hospital each year. This demand continues to be driven by the city's aging and growing population.

Standards / Performance / Service Quality

The City is required to provide a quality assurance program that is approved by the Province. The quality assurance program must measure the maintenance of service quality and the improvement of overall service, specifically in call receiving, dispatch of appropriate vehicles, deployment of fleet, service coverage in the catchment area (the city of Toronto) and management and operation of the Central Ambulance Communications Centre.

The management and operation of the Central Ambulance Communications Centre must meet the requirements of the *Ambulance Act*, the Regulation, the Manual of Practice and the Performance Agreement. The City must also conduct regular reviews of calls and provide quarterly performance reports and summaries of quality assurance processes, findings and follow-up actions.

Technology

The Performance Agreement stipulates that the City shall ensure that the Central Ambulance Communications Centre meets operational requirements that are seamless and integrated with broader Emergency Health Services system. There is one computer-aided dispatch (CAD) platform used by the Province for ambulance services and it is used by the City. TEMS has built additional applications and interfaces onto the CAD to support high performance service delivery in a large metropolitan city. The technology used by TEMS is regarded as an industry leading best practice. The maintenance and support of CAD and IT applications are provided by TEMS staff and are funded within the Central Ambulance Communications Centre Budget (100%). This is unique to TEMS as all other Central Ambulance Communications Centres in the Province are maintained and supported by IT staff employed by the Province and not the municipality.

Training

The Province requires that emergency medical dispatchers complete a communications officer training program and emergency communications examination approved by the Province. Emergency medical dispatchers must also have certifications in first-aid and cardiopulmonary resuscitation (CPR) training. CPR must be recertified every 24 months and first-aid recertified every three years. The Province also requires an emergency medical dispatcher to certify once every three years, or sooner, if it determines necessary.

Toronto EMS' provides extensive training for its emergency medical dispatchers, both initial and ongoing. New emergency medical dispatchers are first trained on Call Receiving for a minimum of 80-hours in the classroom and then a minimum of 120-hours live "on the floor", one-on-one with a mentor. The employee must demonstrate competence in the Call Receiving function and may require additional shifts to achieve this. Once an employee is successful in Call Receiving, they progress to Quadrant Dispatch training. This involves 40 hours of classroom training followed by 240 hours live "on the floor" training, one-on-one with a mentor.

In addition, Toronto EMS' emergency medical dispatchers must be re-certified every two years to maintain their Advanced Emergency Medical Dispatch certification. This certification requires a minimum of 12 hours of Continuing Dispatch Education per year and successful completion of a two-hour written exam.

Further, the emergency medical dispatchers require ongoing system training related to protocol upgrades, policy changes and software updates, totalling approximately 10 hours per year.

Total initial training is approximately 480 to 500 hours. Ongoing annual training is approximately 22 hours.

Audit / Accreditation

The certification requirements for Toronto's Central Ambulance Communications Centre include a mandatory audit and re-certification by the Ministry of Health and Long-Term Care every three years, through a comprehensive evaluation, inspection, and reporting process. The Performance Agreement also states that, at any time, the Province can conduct a review of the Toronto Central Ambulance Communications Centre including, but not limited to, its management and operation and the provision of its services. Toronto CACC has successfully completed two audits/reviews since this requirement came into effect.

The Central Ambulance Communications Centre triages incoming emergency calls using the International Academies of Emergency Dispatch's (IAED) Medical Priority Dispatch System (MPDS). MPDS is a medically-based and approved call triage protocol, used to determine the severity of a caller's medical emergency and to provide immediate dispatch life support assistance. MPDS is an industry standard in over 3500 EMS communications centres world-wide. Toronto EMS uses the results of the MPDS call triage to help determine the most appropriate EMS response.

Toronto's Central Ambulance Communications Centre has been awarded the 'Centre of Excellence' Accreditation (ACE) from the International Academies of Emergency Dispatch. Accreditation establishes the Toronto centre as having achieved an internationally benchmarked, standard of excellence in patient care delivered by emergency medical dispatchers. It assures callers and patients that they are receiving the most appropriate care and medical response for their emergency and ensures that all calls for emergency medical services will be answered and managed consistently and effectively with the highest level of quality.

The IAED is a professional organization based in Salt Lake City, Utah. Their mandate is to promote excellence in emergency dispatch, and it accomplishes this by accrediting communications centres that apply MPDS and achieve the established standards. Toronto is one of 138 accredited centres worldwide. The maintenance of accreditation requires the random review of approximately 2% or 400 emergency calls per month in Toronto.

Response Time Performance

Toronto EMS must comply with the requirements of the *Ambulance Act* regarding Response Time Performance Plans. This part of the *Act* requires a land ambulance communications service, such as Toronto EMS to meet a combined, call receiving and dispatch, time of 120 seconds (2 minutes) for patients experiencing a sudden cardiac arrest and for patients categorized as Canadian Triage and Acuity Scale 1 (CTAS 1). *CTAS* Level *1* patients are those suffering a life-threatening emergency. Response times for less acute patients are set by the service. The CTAS categorization attempts to accurately define patients' needs for timely care and to allow hospital emergency departments to evaluate the patient's acuity level, resource needs and performance.

The response time standard for an ambulance communications centre is defined by the *Act* as "the time measured from the time a request is received to the time a notice is given respecting that request". Operationally, this is known as the time between T0 to T2.

B. Overview of the TFS Communications Centre

Governance

The *Fire Protection and Prevention Act, 1997* (FPPA) governs the delivery of fire protection, suppression, and prevention services, and fire inspections to enforce the FPPA and O.Reg. 213/07 (the "Fire Code"). Under the FPPA, municipalities are required to establish a program to provide public education with respect to fire safety, certain components of fire prevention (including, fire prevention inspections, smoke alarm programs, home escape planning services, delivery of public education materials and programs, a risk assessment of the community's fire safety), and such other fire protection services as the municipality determines may be necessary in accordance with its needs and circumstances.

The FPPA also sets out the role and powers of the Ontario Fire Marshall, appointed by the Province of Ontario to administer the FPPA, the Fire Code, and provincial emergency systems involving fire services; to conduct fire investigations; and to provide support to fire departments through guidelines and professional development.

In Ontario, the Office of the Fire Marshall is the provincial certifying body for firefighters and other fire department personnel. Municipal fire departments are required to submit an annual compliance report to the Office of the Fire Marshall with respect to meeting the minimum standards of the FPPA.

TFS is established under Toronto Municipal Code Chapter 79, Fire Services which broadly sets out the responsibilities and authorities of the Fire Chief and Deputy Fire Chief, outlines general duties and responsibilities and powers related to fire suppression and other types of rescues and emergencies.

Funding

The City of Toronto fully funds the TFS Communications Centre as a service element of Toronto Fire Services. Of the $410m 2014 TFS Net Operating Budget, communications and operational support (which includes the TFS Communications Centre) makes up $10.2m.

The 2014 TFS Capital Budget includes funding for improved communication and alerting systems, including a predictive fire response model and live GPS repeater devices. Both are anticipated to be completed in 2014, and will improve response times to emergency calls and consequently improve the city's fire insurance rating.

No part of the TFS Communications Centre budget is directly supported by transfers or agreements with other governments. There may, however, be opportunities for TFS to explore revenue generation through providing fire dispatch services to other municipalities, or through providing services such as alarm monitoring.

Staffing

As the City's only all-hazards response agency, TFS is tasked with mitigating emergency incidents of various scales and circumstances while ensuring reduced risk to residents, life, and property, based on being prepared to react to emergency incidents within National Fire Prevention Association (NFPA) timeframes and standards.

TFS is the 5th largest fire service in North America and the largest in Canada. Composed of 3184 staff, the division operates on a four platoon system of 24 shifts, while support unit shifts that are adapted for their particular role.

The TFS Communications Division has 75 staff. Each of the Communications Centre's four platoons works 42 hours per week, providing 24/7 coverage. Each platoon is made up of a District Chief, 2 Captains, and 15 dispatchers.

Standards/Performance/Service Quality

TFS works to meet or exceed industry standards and best practices, including the Ontario Fire Service Standards, Ontario Firefighter Standards, and National Fire Prevention Association (NFPA) Standards related to fire operations, staffing complement, geographic station coverage, communications systems, public education, and health and safety.

TFS publishes an annual report which includes quantitative NFPA-recognized metrics for Communications Division performance. TFS sets aggressive year-over-year targets for improving these metrics.

Technology

TFS Communications utilizes an industry-leading computer aided dispatch (CAD) system implemented with high availability and redundant design elements across both the primary and back-up Communications Centres. The system includes automated interfaces to EMS CAD, an advanced Fire Station Alerting platform, and a mobile wireless system.

The TFS CAD system is supported 24/7 by local 3888 staff. This means that support is not impacted by labour disruptions associated with other bargaining units.

Training

TFS Emergency Communications Staff receive 12 weeks of emergency call-taking, call-dispatching, and on-shift mentorship at the start of their tenure with TFS. Training includes orientation to various partner agency dispatch and communications sections (examples include EMS, Police, and the Billy Bishop Toronto City Airport).

Training and education related to technology changes, policy changes, accreditation, quality management, and other required competencies and job knowledge are usually scheduled for on-shift delivery, and are provided on an on-going basis.

Audit/Accreditation

TFS Communications has a rigorous quality management program, led by the Division Chief of Communications and the Executive Officer of Quality Assurance. The program includes officer-led performance review and peer reviews. Comprehensive program augmentation in 2013 has led to key NFPA performance benchmarks being met by TFS for the first time.

TFS Communications is also undertaking the addition of a number of new benchmarks for training, performance, accuracy, succession planning, and other service level and organizational components. This program is under development.

TFS is currently working towards Commission on Fire Accreditation International (CFAI) accreditation, generally regarded as an industry best practice quality management and continuous improvement program for the fire service. CFAI accreditation is a comprehensive self-assessment and evaluation model that enables fire services to examine past, current and future service levels and internal performance and compare them to industry best practices. The process leads to improved service delivery and is peer reviewed by a panel comprised of other fire service professionals. CFAI fire services must undergo re-accreditation every five years.

Response Time Performance

Alarm handling time, or "Dispatch Time", is the key performance indicator for TFS Communications. Defined by the NFPA 1221 Standard, the benchmark for TFS is to

process emergency calls (as measured from the time the 911 call is received by the centre until the time appropriate fire units are dispatched to respond) within 60 seconds, at least 90% of the time.

Following the implementation of a series of quality management strategies, TFS is currently meeting this challenging standard in 2014, for the first time in department history.