



STAFF REPORT ACTION REQUIRED

Results of the Fire Insurance Grades Study

Date:	November 20, 2013
To:	Community Development and Recreation Committee
From:	Fire Chief and General Manager
Wards:	All
Reference Number:	p:\2013\ClusterB\FIR\cd130033

SUMMARY

This report responds to Council's request for the Fire Chief and General Manager, Toronto Fire Services (TFS) to report to the Community Development and Recreation Committee on what would be required to move the commercial and residential fire rating to the same level as single family homes.

The Fire Underwriters' Survey (FUS) results of 2012 determined the Public Fire Protection Classification (PFPC) of the City of Toronto to be a Class 4, representing a downgrade from Class 3 as determined in the 2002 survey. The change from PFPC Class 3 to Class 4 would adversely affect insurance rates.

To prevent the change in PFPC, the City of Toronto requested a grace period of twelve months to implement measures of improved fire protection capacity, fire prevention measures and risk reduction measures that would address the classification change.

TFS requested FUS review opportunities for improving the City of Toronto PFPC from Class 4 to Class 3, from Class 3 to Class 2, and from Class 2 to Class 1. In October 2013, FUS provided a final report addressing the potential changes in the PFPC and provided options to facilitate the improvement in the PFPC which include the use of additional fire fighters assigned to fire fighting apparatus and the distribution and type of fire fighting apparatus, enhancements to the Fire Prevention Division with increased scheduled annual fire prevention inspections, increased pre-incident planning, and, enhanced response systems and emergency communications.

TFS has reviewed the options and associated costs as outlined by FUS. TFS strategies to improve the City of Toronto PFPC are outlined in this report

RECOMMENDATIONS

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

1. City Council approve TFS strategies to improve the Public Fire Protection Classification:
 - a. From Class 4 to Class 3.
 - b. From Class 3 to Class 2.

Financial Impact

There are no immediate financial implications associated with this report in Fire Services' 2013 Approved Operating Budget. Resource requirements for improvements in 2014 are proposed in the 2014 Fire Services' Capital and Operating Budgets. Resource requirements identified for future years will be included in Fire Services' future budget submissions.

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

DECISION HISTORY

At its meeting on January 15 and 16, 2013, City Council approved the 2013 Capital and Operating Budgets. Motion 256 of Council requested the Fire Chief/General Manager, Toronto Fire Services to report to the Community Development and Recreation Committee on what would be required to move the commercial and residential fire rating to the same level as single family homes. The motion can be found at:

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2013.EX27.1>

ISSUE BACKGROUND

The Fire Underwriters' Survey (FUS) publishes the fire insurance grades in the Canadian Fire Insurance Grading Index which is used by insurers across Canada in determining insurance rates. The Public Fire Protection Classification (PFPC) is a numerical grading system scaled from 1 to 10 used for property and liability coverage for commercial, institutional or multi-residential buildings. Class 1 represents the highest grading possible and Class 10 indicates that little or no fire protection is in place.

Credit ranges for the PFPC are outlined in Table 1 – PFPC Credit Score.

Table 1 - PFPC Credit Score

Overall PFPC	Credit Range Per PFPC Grade
1	90.00 – 100.00
2	80.00 – 89.99
3	70.00 – 79.99
4	60.00 – 69.99
5	50.00 – 59.99
6	40.00 – 49.99
7	30.00 – 39.99
8	20.00 – 29.99
9	10.00 – 19.99
10	0.00 – 9.99

A Dwelling Protection Grade (DPG) reflects the ability of a community to handle fires in small buildings such as single family residential or duplexes. The DPG is a numerical grading system scaled from 1 to 5, where 1 is the highest grading possible. The FUS results of 2012 determined DPG of 1 has been maintained for the City of Toronto. However, the PFPC was determined to be a Class 4, representing a downgrade from Class 3 as determined in the 2002 survey. The City of Toronto's Class 4 rating was based on a score of 67.00 credits. The change from PFPC Class 3 to Class 4 would adversely affect insurance rates. As projected by FUS, premium rate increases are \$15,236,724 per year.

To prevent the change in PFPC, the City of Toronto requested a grace period of twelve months to implement measures of improved fire protection capacity, fire prevention measures and risk reduction measures that would address the classification change.

COMMENTS

As directed by City Council, TFS requested FUS review opportunities for improving the City of Toronto PFPC from Class 4 to Class 3, from Class 3 to Class 2, and from Class 2 to Class 1. Improvements in the PFPC ensure that adequate public fire safety is maintained in the City of Toronto. Further, improvements in the PFPC can save commercial or multi-residential building owners from \$15 million to \$22 million annually in insurance premium costs.

In October 2013, FUS provided a final report addressing the potential changes in the PFPC including benchmarks and options to facilitate improvement in the PFPC. The options are in four general categories as discussed below. Options 2 and 3 which deal with enhancements to fire prevention activities and pre-incident planning, are further subdivided and the impact on the grading is based on the investment and the direct outcome. TFS is recommending a combination of Options 2, 3 and 4 to maintain a PFPC 3 rating and improve to a PFPC 2 rating by 2017.

Options as to Improve the PFPC

1. The use of additional fire fighters assigned to fire fighting apparatus and the distribution and type of fire fighting apparatus

This option considers potential impacts on the PFPC if TFS purchased ten additional apparatus and staffed each with a crew of five personnel. The new apparatus would be additional support to apparatus currently in specific stations. FUS estimates capital costs in this area of \$9 million and operational costs of \$24 million. The impact on the City's grading is less than one point, yielding a score of 68.1. Given the cost of this option and the minimal impact of the additional vehicles, this is not a viable consideration at this time.

In considering this option it is evident that staffing levels will impact the PFPC. TFS has a total of 128 heavy apparatus available to respond to incidents. On average, four or five vehicles may be taken out of service daily for several reasons including gapping, mechanical maintenance, scheduled and unscheduled absences, and personnel on Long Term Disability. TFS manages the staffing of apparatus on a daily basis to ensure appropriate response to incidents and has initiated several approaches to mitigate this concern, ensure vehicle availability as well as even coverage of resources.

FUS has taken the daily reduction of vehicles into consideration when calculating the PFPC. Any increase in the number of vehicles taken out of service will negatively impact the PFPC.

2. Enhancements to the Fire Prevention Division with increased scheduled annual fire prevention inspections

This option considers the total number of occupancies within the City required to be inspected. According to FUS, there are approximately 318,000 properties considered in this category. Routine inspections conducted every six months or annually yield the greatest impact on the PFPC. In 2012, TFS completed approximately 58,500 inspections. At current staffing levels, required inspections will be completed once every five to six years. Additional Fire Prevention staff will facilitate a routine inspection program.

FUS estimates capital costs in this area of \$4 million to \$11 million and operational costs of \$6 million to \$19 million depending on the number of staff hired. Impact on the grading ranges from 1.51 to 8.64 points.

3. Increased pre-incident planning

Improvements to the pre-incident planning program can also impact the PFPC significantly with extensive documentation of site plans and floor plans, the integration of plans with dispatch protocols, and easily accessible hard copies for

emergency reference. A viable pre-incident planning program includes the completion of pre-incident plans for 80 percent of buildings.

In this option, FUS estimates the impact on grading to range from 0.00 points to 4.83 points depending on the sophistication of the pre-incident planning program and the total percentage of buildings with pre-incident plans.

4. Enhanced response systems and emergency communications

Improvements in emergency communication and alerting systems, and the use of response technologies such as predictive modelling, dynamic staging and fire pre-emption signalling is a viable option in improving the PFPC. Communication improvements can impact the grading up to 2.85 points.

TFS has reviewed the options and associated costs as outlined by FUS and TFS strategies to improve the City of Toronto PFPC are outlined below. TFS is recommending a combination of Options 2, 3 and 4 to maintain a PFPC 3 rating and improve to a PFPC 2 rating by 2017. It is important to note that along with insurance premium savings, improvements in the City's PFPC are an important measure of the effective, efficient and safe delivery of TFS emergency response. Further, improvements are in line with the framework for the delivery of fire protection services in Ontario as outlined in the Fire Protection and Prevention Act, 1997 (FPPA). The "three lines of defence" for the delivery of fire protection services in Ontario include Public Education, Fire Prevention Inspection and Fire Code Enforcement, and Emergency Response.

Improve PFPC from Class 4 to Class 3

To prevent the change in PFPA from Class 3 to Class 4, the City of Toronto requested a grace period of twelve months to implement measures of improved fire protection capacity, fire prevention measures and risk reduction measures that would address the classification change and yield a significant impact on the PFPC.

TFS has hired fifteen Fire Inspectors to increase the number and rate of inspections. A risk based awareness program has been implemented to enhance knowledge of residential and commercial buildings and ensure there are no obstacles that would prevent a timely and effective fire response. This program is the first phase of a formal risk based pre-incident planning process. Operations fire fighters will continue to be involved in the pre-planning process.

TFS is in the process of hiring four Fire Investigators who will be responsible for gathering information to determine origin, cause and circumstances of fires and explosions. This information will then be utilized to review and improve fire protection services. TFS has also commenced the process of securing technologies to implement dynamic staging, predictive modelling and the use of fire pre-emption technology.

Further, in the 2014 Fire Services' Operating budget, TFS proposes to add twenty-five Fire Prevention Officers. The Capital budget will include expenditures to secure the

required technology. As well, as FUS has taken the daily reduction of vehicles into consideration when calculating the PFPC, any increase in the number of vehicles taken out of service will negatively impact the PFPC.

Annual insurance premium cost savings to commercial or multi-residential building owners across the City are estimated at \$15 million per year.

Improve PFPC from Class 3 to Class 2

The frequency of inspections can be significantly enhanced with the hiring of an additional seventy-five Fire Inspectors over the period of 2015 to 2017. Increased investment in Pre-Incident Planning, and continued technical improvements, is expected to yield a significant impact on the PFPC.

FUS has taken the daily reduction of vehicles into consideration when calculating the PFPC. Reducing the number of vehicles taken out of service will improve the PFPC. Further, it is anticipated that by implementing options related to enhanced inspection frequency, improved incident planning, and communication improvements, the City of Toronto can achieve a PFPC of 2 by 2017.

Annual insurance premium cost savings to commercial or multi-residential building owners across the City are estimated at \$7.4 million per year.

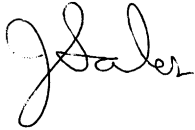
Improve PFPC from Class 2 to Class 1

The PFPC Class 1 indicates a fire fighting staff meeting specific National Fire Protection Association (NFPA) criteria, an effective fire fighter promotion system based on the selection of the most suitable candidates, well maintained and equipped front line apparatus and dynamic staging of vehicles to minimize response times. The grading also includes meeting performance benchmarks of NFPA. Routine risk based inspections, conducted every six months are also benchmarks of the Class 1.

However, the calculated fire insurance grade is not solely within the control of fire services. Other divisions and levels of government involvement are required to facilitate changes to minimize fire risk in all buildings, such as additional requirements for sprinklers, smaller allowances for wood frame construction, more stringent fire codes and building codes. As such, despite annual insurance premium cost savings to commercial or multi-residential building owners across the City of an estimated \$4.8 million per year, the Class 1 is not considered a viable option

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ATTACHMENTS

Appendix A: Fire Underwriters' Survey – City of Toronto Improving Fire Insurance Grades Study 2013