



Ontario

Office of the Fire Marshal

Public Fire Safety Guidelines

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Conducting a simplified risk assessment (SRA) of the community is the precursor to determining the most appropriate programs and activities to deliver to the public.

It is also an integral component of the Municipal Fire Protection Information Survey (MFPISS).

To assist municipal officials in completing an SRA, the OFM has created a Sample Simplified Risk assessment for the TOWN OF ANYWHERE.

The purpose of the sample document is to provide guidance as to the type and scope of information one would expect to see in an appropriately completed SRA and to ensure that maximum benefit is derived through the completion of the "Priority Setting Worksheet".

It is extremely important the SRA be completed as intended to ensure that all risks and targets be appropriately analysed and all available options can be identified and considered.

This will ensure the most appropriate programs and activities required to address these risks will be selected, on a priority basis, and incorporated into an implementation plan.



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Purpose:

Municipalities have a legislated responsibility under the Fire Protection and Prevention Act (FPPA) to provide public education with respect to fire safety and certain components of fire prevention. Conducting a simplified risk assessment is the first step towards compliance with these requirements and is intended to identify information required by a municipality to make informed decisions about the programs and activities necessary to effectively manage the community fire risk based upon local needs and circumstances.

In general terms, needs and circumstances relate to a municipality's economic situation, geography, population, building profiles and service delivery system, e.g., volunteer fire department.

Simplified Risk Assessment:

Conducting a simplified risk assessment is a practical information gathering and analysing exercise intended to create a community fire profile that will aid in identifying appropriate programs or activities that can be implemented to effectively address the community's fire safety needs.

The simplified risk assessment is designed to serve the needs of smaller municipalities and should also be used as a first step (basic foundation) for larger municipalities that face more complex fire safety challenges within their communities. It is recommended that larger municipalities then apply the OFM Fire Prevention Effectiveness Model to develop a more comprehensive fire profile and to identify and address their public education and fire prevention needs. Reference can be made to Public Fire Safety Guideline 04-39-12 for further details.

As a minimum requirement, a community fire safety program must include:

- a simplified risk assessment
- a smoke alarm program
- distribution of fire safety education materials, and
- participating in inspections upon complaint or when requested to assist with Fire Code compliance.

Refer to PFSG 04-40-12 in respect of public education and fire prevention services.

As each community is different, the simplified risk assessment and ensuing fire concern profile will assist in identifying the degree to which these activities are required in accordance with local needs and circumstances. The simplified risk assessment is made up of the following components:

- demographic profile
- building stock profile
- local and provincial fire loss profiles
- information analysis and evaluation
- priority setting for compliance
- implementing solutions

The following information, sample templates and worksheets may be used to help compile and analyse the data gathered for the simplified risk assessment.

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DATA COLLECTION COMPONENT**DEMOGRAPHIC PROFILE**

It is important to examine local demographic data to determine the following:

- population makeup, based on age groupings
- vulnerable individuals or occupancies
- cultural differences such as language and customs
- seasonal population shifts in tourist areas such as cottages, mobile homes, trailer parks, student influx in university/college locales
- Other considerations specific to certain municipalities

You may be able to obtain data about your population from your local planning office or town clerk. Other excellent sources of information include: Statistics Canada www.statscan.ca (800) 263-1136; Municipal Financial Information Return www.oraweb.mah.gov.on.ca; and Financial Demographic Information www.fin.gov.on.ca.

It may be helpful to obtain provincial demographic data at the same time so you can compare your local data with provincial data.

Demographic Profile

Ages of Population	#	% of Total Population
0-14	8,900	24.1
15-65	14,200	38.4
65 and over	13,900	37.5
Total Population	37,000	100.0

Vulnerable groups / individuals (e.g., non-ambulatory) List of applicable occupancies: Hospital (1), Nursing Homes (2), Homes for Special Care (2) Residential Care Facilities (5) Total number of individuals: 490	Population fluctuation (e.g., tourism, student) 37,000 to 56, 000 Provide descriptions: Influx of tourists (summer) and students (school year) Identify occupancy types: Cottages, campgrounds, trailer parks, student housing
Barriers to Public Education Do cultural / language barriers to public education exist in you your community? Yes Provide details: Large number of residents use language other than English as their first language, in the home. Candles widely used in-home religious ceremonies.	



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Information Analysis and Evaluation

The data collected must be examined, evaluated and analysed for the purpose of identifying potential fire risks (community fire profile) within the community. The development of a community profile and the identification of priorities serve as the basis for selecting activities in the areas of public education and fire prevention, based upon local needs and circumstances.

Demographic Profile Commentary
In narrative form, provide brief synopsis of profile on data gathered.
The Town of Anywhere's population of 37,000 is significantly higher during the summer months, and to a lesser degree, during the school year. Our profile indicates that seniors and children make up over 60% of our population, before considering seasonal fluctuations, and that there is a fairly high proportion of single-parent families. A large number of vulnerable occupants reside in a variety of residential and health care facilities. There is seasonal population fluctuations related to cottagers, campers, trailer parks and community college students. There is also a large ethnic population that uses languages other than English in their homes.

Demographic Profile Concerns
In point form, list your community's potential fire concerns relating to demographics.
e.g., <i>high seniors population</i> <i>large percentage of population not using English as their first language</i> <i>non-ambulatory or otherwise vulnerable occupants</i> <i>large number of seasonal cottagers</i> • Both seniors and children at highest risk from fire (large numbers of each) • Student housing may not be fire-safe • Customs and languages of ethnic population pose barriers to public education effectiveness • Tourists and cottagers may not have high levels of fire safety awareness.



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BUILDING STOCK PROFILE

This profile should identify the various types and numbers of buildings and occupancies in the community. It is important to identify high-risk occupancies and those that, if damaged or destroyed in a fire, would have a devastating impact on the community. This type of information is intended to provide a detailed inventory of the overall potential structure and property related fire risks within the community. It is best to collect building stock data that can be closely categorised in accordance with the Standard Incident Report property classification system. (The Standard Incident Report property classification system corresponds closely with the Ontario Building Code classification system.)

Occupancy Classification		# of Occupancies
Group A	Assembly	23
Group B	Institutional	10
Group C	Single family	7215
	Multi-unit residential	136
	Hotel / Motel	14
	Mobile Homes & Trailers	161
	Other	412
Groups D & E	Commercial	87
Group F	Industrial	7
Other occupancies not classified in OBC such as farm buildings.		14
Totals		8069

Total # of mixed occupancy buildings	29
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Information Analysis and Evaluation

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Building Stock Profile Commentary
In narrative form, provide brief synopsis of profile on data gathered.
The majority of the Town's buildings (other than single-family dwelling units) were constructed prior to the first OBC (1975), with the downtown core being over 100 years old.
3 manufacturing industries provide the bulk of the Town's employment and there are 29 buildings in the downtown core that are commercial/residential mixes.
Most of the institutional buildings are rather old. The majority of residential housing is single-family, but there are some low-rise and high-rise buildings as well as numerous accessory apartments for student housing.

Building Stock Profile Concerns
In point form, list your community's potential fire concerns relating to building stock.
<i>e.g., potential for large economic or job loss</i> <i>unsprinklered institutional or care facilities</i> <i>old downtown core</i> <i>poor spatial separation of buildings</i> <i>large quantity of mixed use buildings, i.e., residential above mercantile</i>
• Potential for large economic or job loss (3 major employers) • Most institutional or care facilities are not sprinklered and are of combustible construction • Old downtown core, effective fire separations questionable and poor spatial separation of buildings • Numerous buildings subject of OFC retrofit requirements • Numerous cottages and trailers on very narrow lots • Student housing may not comply with retrofit.



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MUNICIPAL FIRE LOSS PROFILE

When conducting a simplified risk assessment of the community, it is important to recognise the value in reviewing the community's past fire experience and its relationship with provincial averages. Information about the type of occupancies most susceptible to fire and, in some cases, the public's attitude toward fire can be identified from a review of this data.

Fire deaths and injuries are important components of a simplified risk assessment. However, most municipalities do not experience fire fatalities on a regular basis, so local records do not always permit an effective analysis. In these cases, provincial statistics can assist in determining the types of occupancies that fire deaths most commonly occur in, the most vulnerable age groups affected, and the status of smoke alarms in these occurrences. The provincial profile is provided in the Provincial Fire Loss Profile section.

Municipal Fire Deaths and Injuries								
Occupancy Classification		2002		2003		2004		Total Deaths + Injuries (2002-2004)
		Deaths	Injuries	Deaths	Injuries	Deaths	Injuries	
Group A	Assembly	0	2	0	0	0	0	2
Group B	Institutional	0	0	0	2	0	0	2
Group C	Residential	0	12	1	9	0	11	33
Groups D & E	Commercial	0	0	0	0	0	0	0
Group F	Industrial	0	1	0	2	0	0	3
Mobile Homes & Trailers		0	1	0	2	0	2	5
Other								
Total Deaths / Injuries		0	16	1	15	0	13	45

Municipal Property Dollar Loss								
Occupancy Classification		2002		2003		2004		% of Total Dollar Loss (2002-2004)
		# of Fires	\$	# of Fires	\$	# of Fires	\$	
Group A	Assembly	5	107,000	1	26,000	2	73,500	4.3
Group B	Institutional	0	0	2	168,000	0	0	3.5
Group C	Residential	13	650,000	12	841,000	15	1,769,000	67.4
Groups D & E	Commercial	2	46,000	3	29,000	4	116,000	3.9
Group F	Industrial	1	421,000	2	176,000	1	83,000	14
Mobile Homes & Trailers		3	37,000	5	61,000	6	200,000	6.2
Other		16	13,000	12	12,000	14	8,700	0.7
Total Dollar Loss			1,274,000		1,313,000		2,250,200	100

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Information Analysis and Evaluation

The data collected must be examined, evaluated and analysed for the purpose of identifying potential fire risks (community fire profile) within the community. The development of a community profile and the identification of priorities serve as the basis for selecting activities in the areas of public education and fire prevention, based upon local needs and circumstances.

Municipal Fire Loss Profile Commentary

In narrative form, provide brief synopsis of profile on data gathered.

Fire losses have been constant, with the exception of one large \$ loss fire in 2004 (executive summer home). The majority of fire occurrences and dollar losses have taken place in residential dwelling units. An analysis of fire causes suggests that careless cooking; smoking materials and alcohol have played a significant role in these fires. Cottage, trailer and student housing fires have also been a factor. Two industrial fires resulted in relatively low \$ loss but caused significant business interruption.

Municipal Fire Loss Profile Concerns

In point form, list your community's potential fire concerns relating to municipal fire loss experience.

*e.g., history of large dollar loss fires in commercial areas
emerging trend towards increasing fire losses and injuries in residential occupancies
death and injury experience that is disproportionately higher than the provincial average*

- Although residential \$ losses have declined, fire incidents have not
- Large number of fire injuries associated with residential fires
- Fires in industrial occupancies have caused significant economic loss through plant shut-downs and short-term layoffs
- Recreational facility fires are occurring at a rate disproportional to other residential occupancies
- Higher dollar losses and injury rates in homes without working smoke alarms



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PROVINCIAL FIRE LOSS PROFILE

The OFM undertook a 10-year review of fire losses in Ontario, spanning the years 1985 to 1994. The aim of the review was to define the fire problem in Ontario, thereby assisting the fire service to focus its efforts in areas that should have the greatest impact on fire losses.

The review analysed over 150,000 structure fires and 1,400 fire deaths and indicated that over 92% of all fire deaths occurred in residential occupancies. Further analysis created the following four profiles as the most likely fire fatality scenarios.

Scenario 1		
Results in the greatest number of deaths, involves the ignition of upholstered furniture by smoking articles. The fire begins in the living area at night while the victims are either asleep or impaired. These fires also claim the lives of young children living with adults.	Property Type:	Residential
	Area of Fire Origin:	Living area
	Ignition Source:	Lit smoking articles, matches or lighters
	Object First Ignited:	Upholstered furniture, other objects
	Time of Occurrence:	Night
	Victims:	Asleep or impaired adults, children living with adults

Scenario 2		
Also takes place while victims are either asleep or impaired. In this scenario, however, bedding in the sleeping areas is initially ignited. Children living with adults are also victims of these fires.	Property Type:	Residential
	Area of Fire Origin:	Sleeping area
	Ignition Source:	Smoking articles, lighters, matches
	Object First Ignited:	Bedding, other objects
	Time of Occurrence:	Night
	Victims:	Adults asleep or impaired, children living with adults

Scenario 3		
The fire starts in the kitchen, where cooking equipment ignites cooking oil. Unlike the average non-fatal cooking fire, this fire occurs at night while an adult victim either falls asleep or is impaired. Children living with adults depicted in this scenario also become victims of these fires.	Property Type:	Residential
	Area of Fire Origin:	Kitchen
	Ignition Source:	Cooking equipment
	Object First Ignited:	Flammable liquid, other objects
	Time of Occurrence:	Night
	Victims:	Asleep or impaired adults, children living with adults



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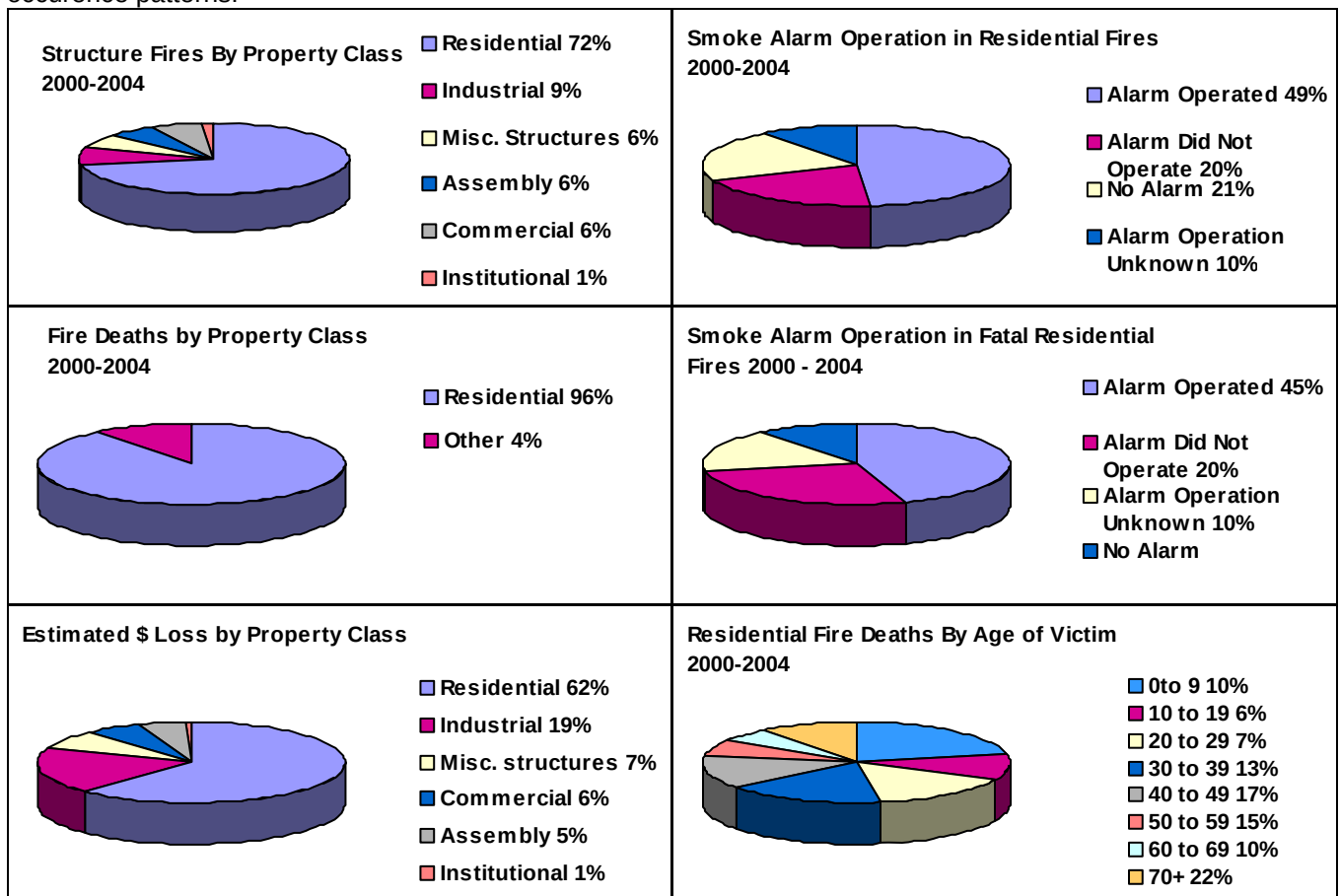
Scenario 4		
This scenario is specific to adults aged 65 and over. An older adult, who may be disabled, ignites personal clothing with either cooking equipment or smoking articles. This victim is unable to extinguish the flames and normally dies as a result of burn complications.	Property Type:	Residential
	Victims:	Ages 65+
	Object Ignited:	Clothing, fabric
	Ignition Source:	Cooking equipment/smoking articles, lighters or matches



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The following pie charts, created from a more recent 4-year study, provide significant evidence of fire risk and occurrence patterns.



Municipalities are encouraged to compare these provincial statistics with their local fire loss statistics and profile. In the event that the municipal statistics do not provide sufficient information to determine public education and fire prevention needs and priorities, it is recommended that the provincial data form the basis for the selection and implementation of local programming and fire safety activities.

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PRIORITY SETTING FOR COMPLIANCE

Reviewing information from your demographic, building stock and municipal fire loss profiles, list in order of priority your fire safety concerns. As local needs and circumstances will vary, no community will have the same profile. Thus it is possible that your priorities may focus more on one or two of the three profiles. For instance, you may find that your top priorities relate to building stock and not demographics.

Priority Setting Worksheet					
Priority	Status		Effectiveness, Goals/Objectives		
Fire Safety Priority List in order of priority	Current fire prevention / public education programs that address the fire safety priority		Existing programs adequately address the fire safety priority & ensure compliance with minimum FPPA requirements?		
			If No, how would you reallocate resources and/or implement additional fire prevention or public education program / activities?		
	Fire Prevention (inspection) Activities	Public Education Activities	Y/N	Fire Prevention (Inspection) Activities	Public Education Activities
1) Residential Fires	None	Fire Prevention Week Open House Fire Safety Brochures PSA's	N	Home Inspection Program	Older and Wiser Alarmed for Life Kitchen Care
2) Student Housing (Accessory apartments)	Inspection upon request/complaint	General fire safety information	N	Establish registration/inspection process	Home fire safety information blitz in affected areas
3) Language Barriers	None	English fire safety information	N	None	Produce fire safety literature in appropriate languages
4) Vulnerable Occupants and Seniors	Inspections upon request/complaint	General fire safety information	N	9.4 Retrofit inspections, routine inspections Fire Safety plan review and enforcement	Older and Wiser. Fire safety training for employees of care and treatment facilities
5) Old downtown core/mixed occupancies	Inspections upon request/complaint	General fire safety information	N	9.5 Retrofit inspections Routine Inspections	Fire safety information blitz.



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Implementing Your Worksheet: Selecting and Implementing Options

After carefully considering all data and associated factors, identify the target fire risk, select the program, priority, resources needed to appropriately address the needs. Develop an implementation strategy that will address the community fire risk(s) based on local needs and circumstances.

During the analysis process, it will also be necessary to assess the suitability of current programs and to ensure that minimum services required under the FPPA are provided. As a minimum, every municipality must ensure that there is:

- a suitable smoke alarm program implemented within the community including home escape planning,
- an appropriate method implemented for distributing public fire safety information within the community, and
- an inspection program suitable for responding to complaints and requests for assistance to comply with the Ontario Fire Code.

A general rule in the decision making process may involve identifying programs that **must** be done, programs that **should** be done and programs that **could** be done. The resources section of your information will play a major role in the "should" and "could" portions of your program planning.

Once the community risk(s) have been identified and prioritised, while at the same time taking into consideration resources and other factors, an implementation strategy would be developed. The strategy would involve:

- council approval of activities
- resource allocation
- assignment of responsibilities
- development of program operational guidelines
- ongoing program assessment

Codes, Standards, and Best Practices

Codes, Standards, and Best Practices resources available to assist in establishing local policy on this assessment are listed below. All are available at <http://www.ofm.gov.on.ca>. Please feel free to copy and distribute this document. We ask that the document not be altered in any way, that the Office of the Fire Marshal be credited and that the documents be used for non-commercial purposes only.

See also the following Public Fire Safety Guidelines:

01-02-01	Comprehensive Fire Safety Effectiveness Model
02-02-12 & 03	Fire Risk Assessment
02-03-01	Economic Circumstances
04-12-13	Core Services
04-40-12 & 03	Selection of Appropriate Fire Prevention Programs
04-40A-12	Simplified Risk Assessment
04-45-12	Fire Prevention Policy
04-56-12	Use of Fire Related Statistics