

## Municipal Comparisons

Administration undertook a review of how other Canadian municipalities consider the need for emergency response when making growth and development decisions. Information was gathered through a questionnaire that was distributed to municipalities, along with follow-up calls to officials in the various municipalities. The results of these inquiries are summarized in the following table.

### **Building Code Relationship to Fire Department Response Times**

The Alberta Building Code 2014 (The Code) is the governing building code within the province of Alberta for construction of buildings. The Code is not meant to restrict where buildings can or cannot be built. The Code only dictates the construction of a building that is permitted by the municipality to be built. The Code, and all other provincial building codes, are based on the National Building Code. There is a provision in the National Building Code that requires construction of houses to be more robust in terms of fire protection with the Fire Department response time to a house would be more than 10 minutes. The fire department response is specified as being from the time a fire department is notified of a fire to the time the first apparatus capable of performing fire suppression operations arrives on site. It does not include the set up time for the fire department once they arrive on site. Other than in Ontario, all other provincial building codes use the 10 minute response time requirement specifically.

Ontario makes no reference to fire department response time for low density residential buildings and instead considers a fire department response to be inadequate “where there is no fire department or where a fire department is not organized, trained and equipped to meet the needs of the community. This means that if a house were to be built in an area where the fire department response was deemed inadequate, more robust fire protection would be required.

Many municipalities across Canada, use the National Fire Protection Agency standard 1710 (NFPA 1710) as a guideline to determine response time targets for their fire department and to assist the building authority to determine the construction requirements of new housing. However, Administration did not identify another municipality that uses response time targets to determine where a building can or cannot be built.

The targets listed in the table below are the targets established by the municipal fire department. There is no discussion within the table as to the performance of each fire department, only whether there is a target and whether the target influences growth decisions.

## Municipal Comparisons

| <b>Municipality</b> | <b>Target:<br/>First-in Unit<br/>90<sup>th</sup><br/>Percentile</b> | <b>Target: Full<br/>Response<br/>Force 90<sup>th</sup><br/>Percentile*</b> | <b>Mitigations/Best Practices</b>  | <b>Emergency response<br/>requirements for growth to occur</b>  | <b>Do emergency<br/>service response<br/>time goals impact<br/>growth decisions?</b>  |
|---------------------|---|--|--|---|---|
| Calgary             | 7:00  | 11:00  | Growth management analysis is conducted for greenfield development proposals for sufficient fire infrastructure. Fire takes part in the analysis.  | Access for emergency vehicles, adequate water supply for the fire load and locations of emergency service stations required to meet response targets are established and funded | Yes. If response targets cannot be met at the outset of development, interim servicing solutions must be considered.                          |
| Edmonton            | 7:00  | 11:00  | In situations where emergency response is greater than 10:00 for a first in unit, buildings are required to provide a greater degree of fire protection to prevent fire spread to adjacent properties                  | Emergency access and water supply must be in place  | No. Edmonton Fire reviews response time capability in the context of real and projected growth to assess the need and timing for new stations |
| Ottawa              | 5:00  | 13:24  | Ensure all areas are equipped to meet the needs of the Fire Department. The planning department takes matters of the fire service into account for location of a new hall when considering approval of new communities | City uses a shuttle service for water supply - deeming all areas as serviced  | No. The timing of construction of a new fire hall depends on the needs identified by fire service   |

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| Municipality | Target:<br>First-in Unit<br>90 <sup>th</sup><br>Percentile | Target: Full<br>Response<br>Force 90 <sup>th</sup><br>Percentile* | Mitigations/Best Practices   | Emergency response<br>requirements for growth to occur  | Do emergency<br>service response<br>time goals impact<br>growth decisions?  |
|--------------|--|---|--|---|---|
| Toronto      | 6:20   | 10:20   | Toronto has no greenfield or urban edge growth areas. The Fire Service is active in public education, fire prevention activities and research  | Toronto Fire Service is challenged by vertical growth, densification and congestion, requiring older stations to be identified for renovation or replacement. This results in capital budget impacts in response to growth decisions                          | No  |
| Kitchener    | 6:20   | 10:20   | Kitchener integrates risk analysis into the planning process to determine the level of fire protection services to be provided and considers alternatives to providing fire suppression services and emergency response. Introducing sprinkler systems is an example of managing the risks of a building | Kitchener both use a monitoring system that is connected directly to the fire department – reducing response time. Where distance and/or conditions dictate, mutual aid agreements allow for a neighbouring fire department to provide a more timely response | No  |
| Waterloo     | 6:20   | 10:20   | Waterloo is essentially built out. Stations are located in areas to maximize coverage. The Fire Master Plan is reviewed from time to time in an effort to provide effective and timely fire response.  | Waterloo uses a monitoring system that is connected directly to the fire department – reducing response time. Where distance and/or conditions dictate, mutual aid agreements allow for a neighbouring fire department to provide a more timely response      | For new greenfield development, fire response times are considered. If concerns exist, a fire response study is required prior to approval being granted. |

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## Municipal Comparisons

| Municipality  | Target: First-in Unit 90 <sup>th</sup> Percentile | Target: Full Response Force 90 <sup>th</sup> Percentile* | Mitigations/Best Practices   | Emergency response requirements for growth to occur   | Do emergency service response time goals impact growth decisions? |
|---------------|---|--|--|---|---|
| London        | 6:20  | 10:20  | The London Fire Department relocated two stations (2012-2014) to more strategic locations to cover expansion of the urban boundary | Growth does impact the service as the Department adjusts to maintain response times. The response model is based on the growth remaining within the urban growth boundary. Should growth go beyond there will be a need to review resources | No  |
| Winnipeg      | 10:00   | N/A  | All buildings are deemed to be within a 10 minute response time  | Ensure access routes for response are in place  | No  |
| Regina        | 7:00  | 10:20  | Older stations have been replaced to improve coverage in new areas   | Road network must be in place to service new growth   | No  |
| Saskatoon     | 6:20  | N/A  | No change in construction based on Fire response   | Sufficient water supply must be present before construction can occur   | No  |
| Red Deer      | N/A   | 10:00  | Red Deer relocated two fire halls in order to meet their target of full response within 10 minutes.                                | None identified   | No  |
| Lethbridge    | N/A   | 10:00  | Public education, Fire safety standards and code enforcement   | Projected Fire safety risks within the community are considered   | No  |
| Burnaby       | FD indicates all buildings are inside 10 minutes  | FD indicates all buildings are inside 10 minutes         | Mitigation required outside 10 minutes   | FD asks for sprinklers if outside 10 or if access is limited  | No  |
| Prince George | 8:00  | N/A  | Public education   | Four areas of the city are currently covered by four stations   | No  |

## Municipal Comparisons

| <b>Municipality</b>   | <b>Target: First-in Unit 90<sup>th</sup> Percentile</b>                         | <b>Target: Full Response Force 90<sup>th</sup> Percentile*</b> | <b>Mitigations/Best Practices</b>   | <b>Emergency response requirements for growth to occur</b>  | <b>Do emergency service response time goals impact growth decisions?</b>                     |
|---|---|--|---|---|--|
| Hamilton  | No specific reference to a response time value                                  | No specific reference to a response time value                 | At the initial development stage, property is identified for Fire halls                                       | Stations are typically built when new communities are half built out  | No   |
| Ontario Building Officials (leads the education and training of Ontario's municipal building officials) | The Ontario Building Code does not specifically reference a response time value | N/A  | Temporary measures are considered until new halls are built   | Services and access for emergency response must be in place   |  |
| BC Ministry of Municipal Affairs and Housing  | Created a bulletin on how to measure Fire Department response time              | N/A  | New development that is outside 10 minutes requires either sprinklers or an increase to the limiting distance | Local governments deal with determining new hall development on an individual basis. Some municipalities build a new hall a year or two after the start of development. | New developments are not rejected outright. Either increase building separation or sprinkler |

\*Full Response Force targets are defined as either having their full fire-fighting apparatus complement on site or as a minimum number of fire-fighters arriving on scene – both with water flowing

### Summary

The table above indicates that other Canadian provinces recognize that how a building is constructed depends on the fire department response time. This is established through their respective building codes. No jurisdiction surveyed bases growth decisions solely on whether a proposed

## **Municipal Comparisons**

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development falls within their fire response target. Basic community infrastructure is typically required in other jurisdictions (such as water supply, access/egress, and some form of emergency response).