

Emergency Response Delays and Options for the Maple Road and 23 Avenue Extension

Recommendation

That the August 24, 2021, Urban Planning and Economy report UPE00402, be received for information.

Previous Council/Committee Action

At the February 8, 2021, City Council meeting, the following motion passed:

That Administration provide an information report outlining emergency response delays and options for the Maple Road and 23 Avenue extension or other options, including but not limited to funding alternatives, for secondary access improvements to ensure emergency response performance targets are met for the area. Information on a summary of the historical planning considerations, the emergency access response timelines and any impacts from CN/CP rail activity should also be outlined.

Executive Summary

The Maple Neighbourhood Structure Plan was approved by Council in 2010. It has since been developed to include a primary arterial access on Maple Road and a secondary access on Meridian Street. The ultimate build out of the area will see an arterial roadway connection at 23 Avenue as development proceeds. Both Maple Road and 23 Avenue cross a Canadian National (CN) Railway line to access the neighbourhood.

While there have been concerns raised regarding the delay to emergency vehicles caused by the presence of a train at these crossing locations, emergency response times are not significantly affected by the frequency, or extent of trains blocking roadway crossings. Administration has reviewed the previous planning approvals, the staging of the development, and the emergency response accesses and will continue to work with area developers for staged arterial roadway upgrades. Discussions were held with area developers, CN Railway representatives and the Province.

Report

Background

In 2003, the land south of Whitemud Drive and east of 17 Street was changed from "Business and Employment Area" to "Suburban Area" in the Municipal Development Plan and Meadows Area Structure Plan (Bylaws 13530 and 13531). Administration's report discussed the compatibility between the existing rail line and potential future residential development in the northeast portion of The Meadows and recommended support.

The Maple Neighbourhood Structure Plan (NSP) was adopted by City Council on April 12, 2010. NSPs set out the future vision for a neighbourhood and help guide land development, including land use, infrastructure and roadway design.

City Administration recommended that Council approve the Neighbourhood Structure Plan following a thorough planning analysis which involved reviewing the proposal for technical considerations, such as traffic impacts, and alignment to relevant City plans and policies. The technical review included input from internal departments, such as Edmonton Fire Rescue Services (EFRS), as well as CN Railway and utility agencies.

Neighbourhood Access

Temporary and emergency access routes are routinely used to meet City standards for traffic and emergency access accommodation as a neighbourhood develops. One of the development conditions for the Maple neighbourhood is that two points of access are required at all times.

Section 4.4.8 of the approved NSP provides the following direction with regards to access:

"The developer will provide for emergency access to Meridian Street with the first stage of development, and will undertake the maintenance of the emergency access as required until the secondary access at 23 Avenue is constructed."

and

"The timing of construction of the second crossing at 23 Avenue will be determined as neighbourhood development progresses and traffic demands warrant a permanent secondary access."

As outlined in Attachment 1, the first, main access point at Maple Road is on the north end of the neighbourhood. This is an arterial roadway currently constructed with one

travel lane in each direction and crosses the CN rail line. The second, temporary access point uses Meridian Street and is accessible from 23 Avenue (involving crossing the same CN rail line). Emergency access only is also available via northbound Anthony Henday (without crossing the tracks).

Fire Rescue Services is aware of the secondary access point to/from south of the Maple neighbourhood, however, it is much farther from the closest fire station and in the opposite direction of travel that would normally be taken, so it is infrequently used.

As the communities of Maple, Aster and Tamarack are further developed, upgrades to the second access route to Maple will be completed. Construction of the 23 Avenue arterial along a new alignment that ties into the 34 Avenue flyover and extension of Maple Road to 34 Avenue will ultimately replace the temporary Meridian Road access. The construction of this road is the responsibility of the area developers, and will be dependent on the pace of development of the adjacent neighbourhoods.

Arterial Roadway Construction and Upgrades

Maple Road is an arterial road. Arterial roadways are typically required to be constructed in stages to support the subdivision for each phase of development. The City requires developers to enter into a Servicing Agreement as a condition of subdivision approvals and before lots can be sold.

These Servicing Agreements outline the roadway construction and/or upgrades the developer must undertake to support public access and emergency access for that phase of development. Arterial construction costs in developing areas are shared by developers as per the Arterial Roads for Development Bylaw 14380.

The timing of subdivision applications and the subsequent Servicing Agreements are developer driven and are not dictated by the City. Once a developer signs a Servicing Agreement for roadway construction the developer typically has three years to complete construction. There is not yet a condition or servicing agreement in place to require the developer to construct the second permanent connection in Maple including the extension of 23 Avenue and Maple Road.

Should Council direct the use of City funds to front-end urban upgrades, this would require a Capital profile with funds to be recovered from the Arterial Roads for Development Bylaw 14380 after the construction is completed. This will result in a net tax levy increase or reprioritization of funds within the existing capital budget and is not usual business practice as it may set an unfavourable precedent, and is not recommended by Administration.

A concept level estimated cost of construction provided by an area developer is \$14 million +/- 25 percent (2 lanes of arterial road construction, including land purchase,

creek, rail, and utility crossings). The Meadows catchment basin is currently holding approximately \$10 million in trust with an additional \$4 million in pending Servicing Agreements. Using catchment funds for 23 Avenue extension will delay widening to 17 Street which is currently at the threshold volumes for widening to four lanes.

One of the challenges to the extension of 23 Avenue is assembling the land required for construction as road right-of-way. Developers dedicate land through the subdivision process and are compensated through the Arterial Roads for Development Bylaw 14380. Developers often need to purchase some of the land required from other private landowners in the area and these negotiations can take time to resolve. The alignment of 23 Avenue requires land from one private owner in addition to two active developers.

Other challenges to construction timelines of 23 Avenue include AltaLink crossing approval, CN Rail crossing approvals, environmental approvals of the creek crossing and provincial approval required for construction within the Transportation Utility Corridor.

Emergency Access and Response Times

Many factors can affect the response time of an emergency vehicle including traffic congestion, construction, weather and road conditions, as well as resourcing in responding to other calls for service. Over the last two years, there have been two events where EFRS first-responding units were delayed by a blocked rail crossing, representing about 2 percent of all emergency service calls to the Maple neighbourhood. Additional details and analysis are provided in Attachment 2.

Rail Operations

Full stoppages along this section would be rare and unplanned. These might occur due to engine failure or rail defect. In this instance, CN would split the train at the road crossing and work to remove the train from the road crossing.

In the event where a train is not moving and completely blocking access for emergency crews seeking access for large scale events, EFRS would contact them to move the train and clear the roadway crossing. According to the Federal Grade Crossing Regulations, "Railway companies cannot conduct regular railway operations or leave railway equipment blocking a public grade crossing for more than 5 minutes when drivers or pedestrians are waiting to cross, unless the railway equipment is continually moving in one direction. When emergency vehicles need to pass through, railway companies must take all measures to immediately clear the crossing."

Reviewing response data back to 1996, this procedure to clear a blocked crossing has only been implemented twice within the entire city of Edmonton.

Next Steps

Roadway upgrades are typically paid for and constructed by developers when developing land within the basins of the Arterial Roads For Development Bylaw 14380. Current emergency response times to the Maple neighbourhood are not significantly affected by the frequency, or extent of trains blocking roadway crossings.

Administration will:

- Maintain current levels of roadway maintenance to the secondary access route;
- Follow standard development processes. Continue requirements and negotiations with developers for staged urban arterial roadway upgrades with development approvals; and
- Continue monitoring emergency response times for alignment within targets.

Corporate Outcomes and Performance Management

Corporate Outcome(s): The City of Edmonton has sustainable and accessible infrastructure			
Outcome(s)	Measure(s)	Result(s)	Target(s)
The City of Edmonton has sustainable and accessible infrastructure	Edmontonians' Assessment: Well-Designed Attractive City (percent of survey respondents who agree/strongly agree)	53 percent (2017)	55 percent (2018) And increasing year over year

Attachments

1. Maple Area Map
2. Emergency Response Data Analysis

Others Reviewing this Report

- D. Croft, Acting Deputy City Manager, Financial and Corporate Services
- H. Rai, Acting Chief Financial Officer
- C. Owen, Deputy City Manager, Communications and Engagement
- G. Cebryk, Deputy City Manager, City Operations
- A. Laughlin, Deputy City Manager, Integrated Infrastructure Services
- R. Smyth, Deputy City Manager, Citizen Services
- K. Fallis-Howell, Acting City Solicitor