



Town of Newmarket
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Queen Street Bridge (001) Load Restrictions Staff Report to Council

Report Number: 2022-46

Department(s): Engineering Services

Author(s): R. Grech, Manager, Capital Projects

Meeting Date: June 20, 2022

Recommendations

1. That the report entitled Queen Street Bridge (001) Load Restrictions dated June 20, 2022 be received; and,
2. That Traffic By-law 2011-24, Schedule VI be amended to include a 10 tonne load limit on the Queen Street Bridge (001) over the railroad track, exempting emergency service and road maintenance vehicles; and,
3. That Town Staff communicate the load restrictions to emergency services, school boards, Metrolinx, and other affected parties; and,
4. That Town Staff erect signs at appropriate locations, including the approaches to the bridge, to alert drivers of the load restriction in advance; and,
5. That Staff be authorized and directed to do all things necessary to give effect to this resolution.

Purpose

The purpose of this report is to implement a 10 tonne load restriction on the Queen Street Bridge (001), which crosses over the railway just east of Main Street. Please see Appendix A for a location map. Although the bridge is safe, the Town's Consulting Engineer and structural expert recommends the posting to prevent further deterioration of the bridge prior to its reconstruction in 2023.

Background

The Queen Street Bridge (001) was originally constructed in 1974 to provide pedestrian and vehicular access over the CN railway (now owned by Metrolinx), which is located just east of Main Street. In the year 2000, a major rehabilitation of the structure was undertaken to extend the life of the bridge.

The bridge has been regularly inspected as legislated by the Province (every 2 years), and is being maintained by the Town. Recently, those inspections have identified a current need for further work on the bridge to be completed. The Town is currently organizing utility relocations, and preparing design and tender documents for the full reconstruction of the bridge.

The timeline for construction works associated with the bridge is as follows:

Rogers Utility Relocation (Completed)	February-May 2022
Bell Utility Relocation	July 2022-March 2023
Structural Bridge Reconstruction	April 2023 – December 2023

Throughout the design process, the bridge is being regularly monitored by a structural specialist with our Consulting Engineers (Ainley Group) to ensure that it remains safe. In May of 2022, the Town's consultant noted that, while the bridge still remains safe, out of an abundance of caution, a load restriction of 10 tonnes should be posted in order to slow further deterioration of the structure. The load restriction will limit heavy loading on the bridge to ensure that it does not deteriorate too quickly prior to the structural reconstruction work being planned for 2023.

Discussion

While the bridge remains safe, a 10 tonne load limit is being recommended by the Town's Engineering Consultant in order to limit further deterioration of the bridge structure prior to reconstruction in 2023. The reduced loading is expected to slow the deterioration of the structure to ensure its continued safety until it is reconstructed.

Based on traffic counts completed by Town Staff, the load restriction will impact approximately 2% of the total daily traffic on the bridge. Vehicles that are above the 10 tonne limit include large, fully-loaded vehicles such as school buses, heavy construction vehicles, tractor trailers, fire trucks, snow plows, etc. It is expected that these vehicles will primarily be detoured to Davis Drive, except during emergencies.

It should be noted that, because the bridge is still safe and the load limit is being placed exclusively to prevent progressive deterioration, emergency and municipal service vehicles would be exempt from the load restriction in some circumstances. While the majority of service vehicles, such as police cars, ambulances, pickup trucks, etc. weight less than 10 tonnes, the exemption would allow larger emergency and municipal service vehicles, such as fire trucks, snow plows, and garbage trucks to continue to use the

bridge during emergent events, and to ensure that municipal service vehicles can have access via the bridge when needed. The Town will complete its consultations with these users to reduce the use of the bridge as much as possible during non-emergency situations, or where alternate routes are available.

In order to ensure adherence to the by-law, Town Staff would erect signage in the area surrounding the bridge and the approach intersections, and will contact impacted stakeholders to develop re-routing plans. These stakeholders include, but are not limited to York Region, Central York Fire Services, Metrolinx, Public and Catholic School Boards, and others.

The Town will continue to monitor the safety of the bridge at intervals recommended by the structural engineer until structural reconstruction work is initiated in 2023. This work involves the complete removal and replacement of the bridge structure, and will require a complete closure of the bridge to all traffic for upwards of 6 months. Town staff will be undertaking an extensive communication program and consultation on detour routes prior to the bridge closure, but the load restriction provides some opportunity to develop proper detour routes with impacted stakeholders and begin to transition traffic away from the bridge over the shorter term. Once the structural work is tendered, the Town will also work with the successful contractor to ensure proper detours and signage during the construction phase.

In order to introduce a load limit on the Queen Street Bridge (001), the Town's Traffic By-Law 2011-24 will need to be amended. The by-law speaks to load restrictions in Section 29, which then refers to Schedule VI for a list of the locations with load restrictions. Schedule VI would therefore need to be amended to include the 10 tonne load limit on the Queen Street Bridge (001).

Conclusion

It is recommended that a 10 tonne load limit be introduced within the Traffic By-Law 2011-24 for the Queen Street Bridge (001). Town Staff will erect signs and communicate the change with impacted stakeholders.

Business Plan and Strategic Plan Linkages

Well-planned and connected...strategically planning for the future to improve information, access and enhance travel to, from, and within Newmarket.

Consultation

There has been consultation with Public Works Services (PWS) regarding signage installation and traffic impacts. Impacted external stakeholders will be contacted upon implementation of the change to the by-law.

Human Resource Considerations

None.

Budget Impact

Funds for signage is available through existing program budgets.

Attachments

Appendix A – Bridge Location Plan

Approval

Rachel Prudhomme, M.Sc., P.Eng., Director, Engineering Services

Peter Noehammer, P.Eng., Commissioner, Development & Infrastructure Services

Contact

For more information or questions regarding this report, please contact Rob Grech, Manager, Capital Projects, by telephone at 905-895-5193 extension 2503, or by email at rgrech@newmarket.ca.