

Goreway Drive Capacity Review Assessment Table (Between 170m North of Humberwest Parkway and Cottrelle Blvd – Approximately 2.1 km)

Revised: October 28, 2020

**Assumptions:** Scope of project for Goreway Drive between 170m North of Humberwest Parkway and Cottrelle Boulevard are as follows: (170m N of Humberwest Parkway to Yorkland Boulevard - 4 lanes widening/ Yorkland Boulevard to Cottrelle Boulevard is under review). Subject to future monitoring, staff would consider the option of dead end Goreway Drive south of Cottrelle Boulevard. This option require amendment to an already approved Class Environmental Assessment, additional technical studies, extensive public and stakeholder consultation to assess the impact. Staff would report back to Council for approval if this is a feasible option to proceed with.

OPTION	RECOMMENDATION	ASSUMPTIONS	SCHEDULE	COSTS (Full road segment)	BENEFITS	RISKS AND CHALLENGES	NOTES
<p><b>1 – Widen from 2 lanes rural to 4 lanes urban as per the Transportation Master Plan (TMP) &amp; Environmental Assessment (EA):</b></p> <ul style="list-style-type: none"><li>3.5m curb lane;</li><li>3.3m passing lane;</li><li>3.3m turning lanes;</li><li>5m center turning left turn lanes;</li><li>3 m MUP both sides;</li><li>1 m concrete splash pad;</li><li>2 m -5.5m wide Boulevard;</li><li>Widen and fill the valley approximately 6 m for the widened portion;</li><li>Grade to be raised approximately 2 m to mitigate flood;</li><li>Fence to prevent deer crossing;</li><li>Rehabilitate existing structure id#1 in 6-10 years from today;</li></ul>	<ul style="list-style-type: none"><li>The segment between 170m North of Humberwest Parkway and Cottrelle Boulevard will be 4 lane;</li><li>Multi-use path (MUP) on both sides;</li><li>The boulevard to accommodate trees, kill strip, MUP and utilities;</li><li>Fence to prevent deer crossing;</li><li>Structure id #2 (S of Cottrelle Blvd) are recommended to be replaced;</li><li>Structure id #1(N of Yorkland) are recommended to be extended or widened;</li><li>Existing structure id#1 is recommended to be rehabilitated at the same time of widening to save cost as the structure is originally constructed in 1995;</li></ul>	<ul style="list-style-type: none"><li>Compensation to be agreed with MECP for red side dace (endangered species);</li><li>Standard Boulevard;</li><li>No significant development in the area for the long term based on land use;</li><li>The structure id #1 is in fair to good condition with some area of minor repair needed under the deck. The parapet and railing do not comply to current standard;</li><li>Mechanically stabilized slopes (earth retaining wall) to minimize the road platform and impact to environment, regulated area by TRCA/MECP;</li></ul>	<ul style="list-style-type: none"><li>Design and Permit approval completion – spring 2024;</li><li>Construction start - spring 2024;</li><li>Construction completion – end of 2027;</li></ul>	<ul style="list-style-type: none"><li>Total project approximate cost - <b>\$32.5 million (M) (\$30.875 M DC, \$1.625 M TAX)</b> includes design, CA, construction, property cost, utility relocation cost, structure widening/replacement, preloading with fill in the valley to construct road platform for widening, raise the road to mitigate the 100 year flood, TRCA and MECP compensation</li></ul>	<ul style="list-style-type: none"><li>Results in full access of right of way (ROW) with Active Transportation (AT) facilities on both sides, landscape on the boulevard;</li><li>Connects to construction of future recreational trail undertaken by TRCA/City joint project</li><li>Mitigates flooding from the 100 year storm by raising the existing road approximately 2m high at id#2 structure (S of Cottrelle Boulevard)</li><li>It is cheaper to rehabilitate the existing structure while widening id#1</li></ul>	<ul style="list-style-type: none"><li>Road to be closed approximately 6 months during construction</li><li>Significant utility relocation including overhead hydro approx. <b>\$3.3 M</b></li><li>Inconvenience to residents in the area</li><li>Largest capital expenditure but 95% DC funded</li><li>Longest time to complete due to preloading of fill in the valley, soil consolidation and compaction</li><li>Significant impact to environment and living habitat especially red side dace which is endangered species</li><li>Extensive permits required from Ministry of Environment and Conservation Parks (MECP) &amp; Toronto Region Conservation parks (TRCA) which would have significant cost and time to the project;</li></ul>	<ul style="list-style-type: none"><li>Significant impact to the environment especially existing wetlands, existing watercourses and Claireville conservation land and regulated area by TRCA/MECP;</li><li>Significant Capital cost;</li><li>Significantly high Utility relocation cost;</li></ul>

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<p><b>2 – The following are the improvements:</b></p> <p><b>Four lane widening between Humberwest and Yorkland and two lanes between Yorkland and Cottrelle (urban)</b></p> <ul style="list-style-type: none"><li>3.5m curb lane;</li><li>3.3m passing lane;</li><li>3.3m turning lanes;</li><li>4m centre turning left turn lanes;</li><li>3m MUP both sides;</li><li>1m concrete splash pads on both sides;</li><li>1m -5.5m wide Boulevard;</li><li>Partially widen and fill the valley approximately 4 m for the widened portion;</li><li>Grade to be raised approximately 2 m at id#2 watercourse crossing (S of Cottrelle Boulevard);</li><li>Fence to prevent deer crossing;</li><li>Rehabilitate existing structure id#1 in 6-10 years from today;</li></ul>	<ul style="list-style-type: none"><li>The segment between 170m North of Humberwest Parkway and Yorkland Boulevard will be 4 lane;</li><li>The segment between Yorkland Boulevard and 440m N of Yorkland Boulevard will be 2 lane and centre turning left turn lane;</li><li>The segment between 440m Yorkland Boulevard and Cottrelle Boulevard will be 2 lane;</li><li>MUP on both sides;</li><li>The boulevard to accommodate trees, kill strip, MUP and utilities;</li><li>Fence is recommended to install deer crossing;</li><li>Structure id #2 (S of Cottrelle Blvd) are recommended to be replaced;</li><li>Structure id #1(N of Yorkland) are recommended to be extended or widened;</li><li>Existing structure id#1 is recommended to be rehabilitated at the same time of widening to save cost as the structure is originally constructed in 1995;</li></ul>	<ul style="list-style-type: none"><li>Compensation to be agreed with MECP for red side dace (endangered species) impact and TRCA for loss of natural habitat at regulated areas;</li><li>Standard Boulevard with road platform;</li><li>No significant development in the area for the long term;</li><li>The structure id #1 is in fair to good condition with some area minor repair. The parapet and railing do not comply to current standard;</li><li>Mechanically stabilized slopes (earth retaining wall) to minimize the road platform and impact to environment, regulated area by TRCA/MECP;</li></ul>	<ul style="list-style-type: none"><li>Design and Permit approval completion – spring 2024;</li><li>Construction start - spring 2024;</li><li>Construction completion – end of 2027;</li></ul>	<ul style="list-style-type: none"><li>Total project approximate cost - <b>\$26.5 M (\$7 M DC, \$19.5 M TAX)</b> includes design, CA, construction, property cost, utility relocation cost, structure widening/replacement, preloading with fill in the valley to construct road platform for two lane and boulevard to accommodate MUP, utilities and landscape, raise the road to mitigate 100 year flood, TRCA and MECP compensation</li></ul>	<ul style="list-style-type: none"><li>Lower Capital cost compared to option 1 but 73.5% of the cost is tax;</li><li>Saves close to <b>\$1 M</b> in utility relocations cost compared to option 1;</li><li>Connects to future recreational trail construction undertaken by TRCA/City joint project at Goreway Drive;</li><li>Results in full access ROW with MUP on both sides with landscape on the boulevard;</li><li>Marginally operating over capacity the analysis concluded that there is no strong inclination to widen this corridor to 4 lanes;</li><li>Mitigates flooding from 100 year storm by raising the existing road approximately 2m high</li><li>It is cheaper to rehabilitate the existing structure id#1 while constructing for partial widening to accommodate MUP, utilities and landscape;</li></ul>	<ul style="list-style-type: none"><li>Road to be closed approximately 3 months during construction;</li><li>Potential savings on some aerial utility relocation but significant underground utilities to be relocated estimated at <b>\$2.2 M</b>;</li><li>Inconvenience to traffic in the area but shorter schedule of approximately 3 months;</li><li>Permits required from MECP &amp; TRCA which would be moderate cost and time to the project. Still have to widen platform to accommodate MUP and boulevard for utilities and landscape improvements.</li></ul>	<ul style="list-style-type: none"><li>Significant cost for the tax funding;</li><li>Impact to the environment especially existing wetlands, existing watercourses and Claireville conservation land and regulated area by TRCA/MECP;</li><li>High Utility relocation cost;</li></ul>

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<p><b>3 – The following are the improvements:</b></p> <p><b>Four lane widening between Humberwest and Yorkland and two lanes between Yorkland and Cottrelle (rural)</b></p> <ul style="list-style-type: none"><li>• The existing profile would be maintained;</li><li>• 3.5m wide lanes;</li><li>• 4m centre turning left turn lanes;</li><li>• 0.5m wide rounding and install guide rail;</li><li>• Buffered shoulder - 0.5m wide buffer and 1.5m wide paved shoulder;</li><li>• 3m wide multi-use path (MUP)</li><li>• Rehabilitate existing structures id#1 &amp; id#2 in 6-10 years from today;</li></ul>	<ul style="list-style-type: none"><li>• The segment between 170m North of Humberwest Parkway and Yorkland Boulevard will be 4 lanes with MUP on both sides;</li><li>• The segment between Yorkland Boulevard and 440m N of Yorkland Boulevard will be 2 lane and centre turning left turn lane with buffered paved shoulder on both sides;</li><li>• Resurfacing existing road from 440m N of Yorkland Boulevard to Cottrelle Boulevard with buffered paved shoulder on both sides;</li><li>• Implement signage to caution public to use at their own risk at the id#2 crossing where there is potential risk of 100 year flood;</li><li>• Periodic maintenance require to clean debris during 100 year flood event at id#2 crossing;</li><li>• Existing structures (id#1 and id#2) are recommended to be rehabilitated in future (6- 10 years from today) as it is originally constructed in the following years: id#1 – 1995 and id#2 - 1940;</li><li>• Recommended to reduce posted speed from 70km/h to 60km/h. A separate report to be submitted to seek Council approval for posted speed reduction at a later stage after the construction completion;</li></ul>	<ul style="list-style-type: none"><li>• Minimum road platform width available in the range of (13m – 17m);</li><li>• Utility relocations are required for the widening from 170m North of Humberwest Parkway to 440m North of Yorkland Boulevard;</li><li>• All Utilities especially Hydro pole are not required to be relocated from 440m North of Yorkland Boulevard to Cottrelle Boulevard;</li><li>• No significant development in the area for the long term based on land use;</li><li>• MUP on both sides between 170m N of Humberwest Parkway and Yorkland Boulevard;</li><li>• Limited space available on certain locations, buffered shoulder is recommended instead of MUP or sidewalk between Yorkland Boulevard and Cottrelle Boulevard;</li><li>• Reduce the posted speed from 70km/hr to 60km/hr. A separate report to be submitted to seek Council approval for posted speed reduction at a later stage after the construction completion;</li></ul>	<ul style="list-style-type: none"><li>• Design and Permit approval completion –end of 2022;</li><li>• Construction start - spring 2023;</li><li>• Construction completion – end of 2023;</li></ul>	<ul style="list-style-type: none"><li>• Total project cost of <b>\$10.5 M (\$6 M DC, \$4.5 M TAX)</b> Includes design, CA, construction property cost, utility relocation cost and TRCA/MECP permit requirement cost;</li><li>• Rehabilitation cost (6-10 years from today) of two structures id #1 &amp; id#2 is <b>\$2 M</b> (100% tax) Includes, design, CA and construction;</li></ul>	<ul style="list-style-type: none"><li>• Lowest Capital cost compared to option 1 &amp; 2 but 43% of cost is tax;</li><li>• All utilities especially Hydro pole are not required to be relocated from 440m North of Yorkland Boulevard to Cottrelle Boulevard and therefore cost savings;</li><li>• Routine Infrastructure Work permit is required from TRCA and a minor alteration permit and or approval is required from MECP (min. harm to natural environment);</li><li>• Marginally operating over capacity, the analysis concluded that there is no strong inclination to widen the corridor to 4 lanes from Yorkland Boulevard to Cottrelle Boulevard;</li><li>• Not proposed to raise profile of road at id#2 crossing due to significant cost but implement signage cautioning on the flood prone area for public to use at their own risk;</li><li>• Minimal disruption to area traffic (only few weeks);</li><li>• The existing structures (id#1 &amp; id#2) are in fair to good condition and recommended to rehabilitate in future (6-10 years from today);</li><li>• Reduce the posted speed from 70km/hr to 60km/hr. A separate report to be submitted to seek Council approval for posted speed reduction at a later stage after the construction completion;</li><li>• Preferred solution with a least impact to environment, utilities and cost;</li></ul>	<ul style="list-style-type: none"><li>• There are only limited space available on most locations for the road cross-section, therefore recommended buffered paved shoulder;</li><li>• Does not mitigate flooding from 100 year storm at id#2 crossing;</li><li>• Implement signage to caution public on the flood prone area to use at their own risk;</li><li>• Periodic maintenance require to clean debris during major flood event;</li><li>• Future recreational trail undertaken by TRCA/City joint project east of Goreway may have limited space for connection;</li><li>• No consistent road width along Goreway Drive;</li><li>• Routine Infrastructure Work Permit is required from TRCA and a minor alteration permit and or approval is required from MECP (minimum harm to natural environment);</li></ul>	<ul style="list-style-type: none"><li>• Limited space at most locations of east and west boulevard, only buffered shoulder is recommended instead of MUP or sidewalk between Yorkland Boulevard and Cottrelle Boulevard;</li><li>• Potential flood risk for 100 year storm event at a structure id#2 crossing;</li><li>• Signage are required to mitigate flood risk at id#2 crossing;</li><li>• Periodic maintenance require to clean debris during major flood event at id#2 crossing;</li></ul>