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ACTIVE TRANSPORTATION UNDERPASS TRAIL CROSSINGS OF LESLIE STREET AND ST. JOHN'S SIDEROAD

The Transportation Services Committee recommends the adoption of the recommendations contained in the following report dated June 12, 2013, from the Commissioner of Transportation and Community Planning.

1. RECOMMENDATIONS

It is recommended that:

1. Council approve the principle of a 50/50 cost sharing arrangement, with the Town of Aurora, for the incremental cost of adding provisions for active transportation trail crossings at the following locations:
 - a) Leslie Street – 260 metres north of State Farm Way
 - b) Leslie Street – 380 metres north of St. John's Sideroad
 - c) St. John's Sideroad – 325 metres west of Leslie Street
2. Staff include an additional \$475,000 of funding for the Pedestrian and Cycling Municipal Partnership Program for consideration as part of the 2014 capital budget to fund the Region's share of the incremental costs of adding provisions for the three underpasses.

2. PURPOSE

This report provides information and recommendations to Council related to the Town of Aurora's request for a 50/50 funding arrangement with York Region for the design and construction of active transportation trail crossings of Leslie Street in the vicinity of St. John's Sideroad and of St. John's Sideroad, west of Leslie Street.

3. BACKGROUND

The Town of Aurora has requested that York Region partially fund, design and construct active transportation underpass trail crossings as part of the Leslie Street and St. John's Sideroad projects

In August 2009, the Town of Aurora submitted a letter requesting that York Region consider including pedestrian underpasses in the ongoing Class Environmental Assessment (EA) for Leslie Street and the ongoing detailed design for St. John's Sideroad.

An active transportation underpass trail crossing is typically a culvert or bridge structure constructed below the elevation of the pavement. The structure facilitates pedestrian and cyclist movements from one side of the right-of-way to the other without having to walk across the travelled portion of the roadway.

Four underpass trails were requested by the Town of Aurora located as follows:

- Leslie Street approximately 260 m north of State Farm Way
- Leslie Street approximately 130 m south of St. John's Sideroad
- Leslie Street approximately 380 m north of St. John's Sideroad
- St. John's Sideroad approximately 325 m west of Leslie Street

A map illustrating the location of each crossing is appended to this report (see *Attachment 1*).

York Region has two infrastructure projects underway in the vicinity of Leslie Street and St. John's Sideroad

The detailed design of Leslie Street between Wellington Street and Mulock Drive was initiated in October 2011 and the design has progressed to the 60% design level. The construction of this segment of Leslie Street is scheduled for 2015 in the current 10 Year Roads Construction Program.

The detailed design of St. John's Sideroad between Bayview Avenue and Highway 404 was initiated in December 2012 and the design is at the 30% design level. The construction of this segment of St. John's Sideroad is scheduled for 2016 in the current 10 Year Roads Construction Program.

Consultation with Town of Aurora staff regarding the proposed active transportation underpass trail crossings has been ongoing

Discussions with Town of Aurora staff have been ongoing since September 2009 with formal responses submitted to Town of Aurora staff on June 28, 2010 and August 30, 2010. The response letters suggested a number of potential underpass trail crossing options, identified other elements that should be considered when determining the appropriate underpass concept, and the approximate construction cost of each underpass. This information is discussed in greater detail in the following sections.

At their meeting on September 13, 2010, the Council of the Town of Aurora adopted General Committee Report No. IES10-043 recommending construction of the underpasses.

Senior Regional staff attended the September 13, 2010, meeting of the Council of the Town of Aurora. During this meeting staff agreed to defer the completion of the Leslie

Street Class EA Study until York Region's Transportation Services Committee had an opportunity to consider the Town of Aurora's request.

Council approved at-grade crossings as the preferred alternative

On February 17, 2011, Council adopted Transportation Services Committee, Clause 5 of Report No. 2, recommending the approval of at-grade pedestrian/cyclist crossings at Leslie Street and St. John's Sideroad as the preferred alternative for accommodating pedestrian and cyclist movements across the Regional corridors in this area.

Town of Aurora requested reconsideration of the Council approved recommendation if a 50/50 funding arrangement could be reached

Transportation Services Committee, at its meeting on June 13, 2012, received and referred to staff, a May 11, 2012 communication from the Town of Aurora referencing the following resolutions:

- THAT staff investigate funding alternatives and partnerships THAT Council receive Report I EST 1-055; and
- THAT Council support Option 2 - Underpasses just below grade as a reasonable solution to pedestrian access; and
- THAT Council approve the principle of a 50/50 funding arrangement with York Region based on an estimate of \$1.2M per underpass and subject to Regional approval; and
- THAT Council approve a 2012 budget of \$50,000 per crossing to accommodate 50 percent of the design costs to be completed and funded through York Region; and

The May 11, 2012 communication from the Town of Aurora is appended to this report (see *Attachment 2*).

This report is in response to the June 13, 2012 Transportation Services Committee referral of this communication from Town of Aurora to staff.

4. ANALYSIS AND OPTIONS

Grade separated crossings of Regional roads provide operational benefits to trail users

Active transportation underpass trail crossings provide improvements for both motorists and pedestrians/cyclists. Pedestrians and cyclists are able to cross the Regional right of way without delay or conflict with motor vehicles and are not required to ascend and descend the lengthy connecting ramps required to get them from the valley floor to road level.

Motorists will experience less delay with the elimination of mid-block at-grade crossings and reduced conflicts as the number of pedestrians/cyclists using the existing intersections will be reduced. These trails will provide a safe and efficient connection between a residential development of approximately 8000 people and employment lands with approximately 5000 potential jobs.

Active transportation underpass trail crossings of Regional roads can be provided through existing or proposed bridge structures, dedicated independent underpasses or by adding an active transportation culvert adjacent to a proposed drainage culvert

Generally speaking, there are three options for providing active transportation underpass trail crossings. Boardwalks can be installed under existing bridge structures, as was done most recently at the Tom Taylor trail crossing of Mulock Drive (Figure 1).



Figure 1 - Mulock Drive at Tom Taylor Trail (Newmarket)

Dedicated, independent underpasses (Figure 2) are also possible but are very costly to construct as a stand-alone project. The third option is to provide twinned culverts when an existing watercourse crossing is being replaced to provide an active transportation facility adjacent to the water crossing (Figure 3). The incremental cost of providing an additional culvert is substantially less than an independent culvert.



Figure 2 – Dedicated Grade Separated Pedestrian and Cyclist Crossing



Figure 3 – Twinned Culvert/Pedestrian and Cyclist Crossing

The previous cost estimates provided to the Town of Aurora which helped to support the recommendations of at-grade crossings as the preferred alternative for accommodating pedestrians were based on an estimated cost of approximately \$1,200,000 each for a dedicated independent underpass trail crossing. Further detail design work has revealed that the underpass trail crossings can be constructed for considerably less by using twinned culvert and/or modified bridge structure designs where existing culverts are being replaced.

The proposed active transportation underpass trail crossing on St. John's Sideroad west of Leslie Street can be accommodated by modifying the proposed bridge structure at minimal costs

As part of the detailed design for St. John's Sideroad it has been determined that the existing culvert, approximately 325 metres west of Leslie Street, will be replaced with a bridge structure in order to accommodate Lake Simcoe Regional Conservation Authority (LSRCA) requirements.

As part of the ongoing detailed design and construction process, York Region staff will ensure that the new structure is positioned to provide adequate head room for a future boardwalk (similar to Mulock Drive) to be installed above the high water line. The design will include minor adjustments that will help to facilitate the installation of the boardwalk in the future.

The proposed active transportation underpass trail crossing on Leslie Street, south of St. John's Sideroad would require a dedicated independent underpass as the existing drainage culvert does not require replacement

The existing 55 metre long culvert on Leslie Street south of St. John's Sideroad is in good condition and requires only a 4 metre extension to accommodate the new width of Leslie Street. As such, an active transportation underpass trail crossing at this location would require a dedicated independent underpass. The cost to install an underpass at this location is approximately \$1,200,000 as previously indicated in the February 17, 2011 Council Report.

Given the close proximity (130 metres) of the proposed trail to the existing signalized intersection of Leslie Street and St. John's Sideroad; that the Town of Aurora's Draft Trail Route Network and Aurora 2c Secondary plan both include a trail connection from the proposed culvert to the traffic control signals at St. John's Sideroad; and that the ramp required to get from water level to road level is approximately 120m in length, a stand alone culvert is not a cost effective solution and Region staff would not recommend any cost sharing under the Municipal Pedestrian and Cycling Partnership Policy for this project.

The proposed active transportation underpass trail crossing on Leslie Street, north of St. John's Sideroad and on Leslie Street north of State Farm Way can be accommodated during the replacement of the existing drainage culverts for a similar cost of providing new at grade crossings

Active transportation underpass trail crossing on Leslie Street, approximately 380 metres north of St. John's Sideroad and 260 metres north of State Farm Way can be accommodated during the replacement of the existing culvert crossings. Our detailed design consultant has prepared cost estimates to determine the incremental costs of adding an additional culvert to accommodate the active transportation trail. The total estimated cost for both crossings is \$950,000. If the culverts are not installed during this project and it is determined in the future that these crossings are required, the cost of installing dedicated independent underpasses at these locations will be approximately \$2,200,000.

As previously reported in the February 17, 2011 Council Report, the Regional costs for at grade crossings was estimated to be \$300,000. Not included in this estimate was the Town of Aurora's cost to bring the trail from the elevation of the water to the elevation of the road, a change of as much as 9m, which will require ramps up to 180 metres long. The estimated cost to the Town of Aurora for these ramps is \$350,000.

Link to key Council-approved plans

The 2011 to 2015 Strategic Plan identifies continuing to deliver and sustain critical infrastructure as a Strategic Priority Area. One of the indicators of success for this

objective is to increase non-automotive travel across the Region. The design and construction of the proposed active transportation underpasses will link a key residential development with commercial and employment lands in the Town of Aurora. These linkages are critical to promoting walking and cycling as viable transportation options for the community.

5. FINANCIAL IMPLICATIONS

The total incremental cost to provide two active transportation underpass trail crossings on Leslie Street and provisions for a future active transportation underpass on St. John's Sideroad is \$950,000

The incremental cost for an additional culvert on Leslie Street north of State Farm Way is \$400,000. The incremental cost for an additional culvert on Leslie Street north of St. John's Sideroad is \$550,000. Assuming a 50/50 cost sharing agreement, the Region and Town of Aurora would each pay \$475,000 to construct both active transportation underpasses. Table 1 summarizes the design and incremental construction cost estimates for each crossing. The Municipal Pedestrian and Cycling Partnership Program is funded 90 per cent from development charges and 10 per cent from the tax levy.

Table 1
Underpass Trail Crossing Cost Summary

Crossing	Incremental Construction Cost			Comment
	Region ¹	Aurora ²	Total	
Leslie Street – 260 metres north of State Farm Way	\$200,000	\$200,000	\$400,000	Proceed with twin tunnel for future trail connection by Aurora
Leslie Street – 380 metres north of St. John's Sideroad	275,000	275,000	550,000	Proceed with twin tunnel for future trail connection by Aurora
St. John's Sideroad – 325 metres west of Leslie Street	0	0	0	Proceed with modified bridge design for future trail connection by Aurora
Leslie Street – 130 metres south of St. John's Sideroad	0	0	0	Not recommended
TOTAL	\$475,000	\$475,000	\$950,000	

¹Funded through Municipal Partnership Program

²Not eligible for additional Partnership Program Funds

Staff recommend that additional funding for the Pedestrian and Cycling Municipal Partnership Program be included for consideration as part of the 2014 Capital Budget submission to cover the Regional portion of these costs.

6. LOCAL MUNICIPAL IMPACT

The Town of Aurora Council resolution from its November 1, 2011 approved the principle of a 50/50 cost sharing arrangement with York Region based on an estimate of \$1,200,000 per crossing. Town of Aurora has been requested to submit an application under the Pedestrian and Cycling Municipal Partnership Program which requires a funding commitment from Aurora Council for 50% of the costs of both crossings or \$475,000.

The recommended active transportation underpass trail crossings and connecting trails are included in Aurora's Trails Master plan and all connecting trails are included in the Ontario Municipal Board (OMB) approved Secondary plan for the Aurora 2C lands.

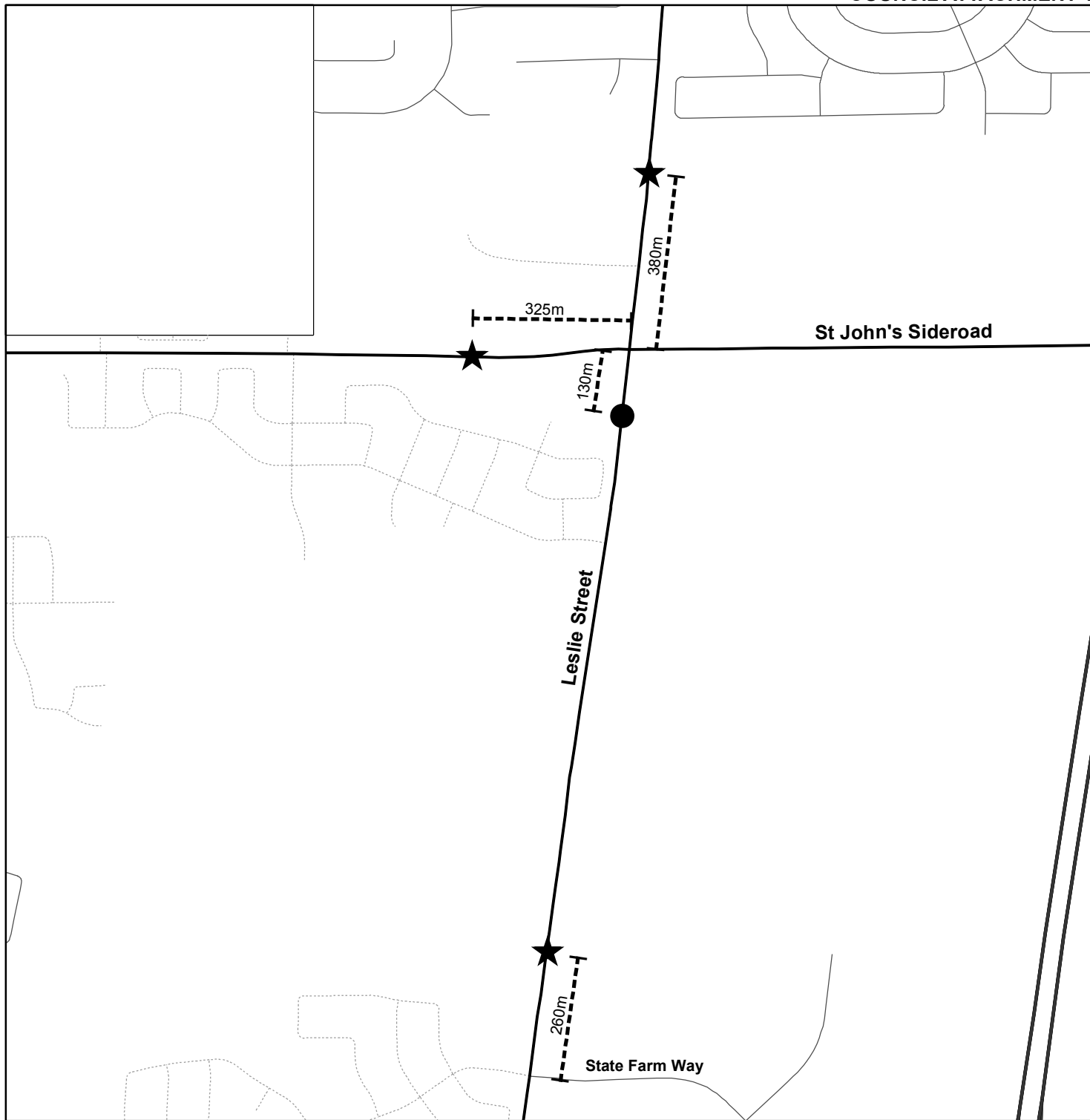
7. CONCLUSION

Based on the relatively low incremental costs and expected improvements in safety and efficiency, grade separated active transportation crossings have been identified as the preferred solution for trail crossings of Regional roadways.

For more information on this report, please contact Steven Kemp, Director, Traffic Management and ITS at Ext. 5226.

The Senior Management Group has reviewed this report.

(The two attachments referred to in this clause are attached to this report.)



Underpass Locations

Active Transportation Underpass Crossing
of Leslie Street and St. John's Sideroad
June 12, 2013

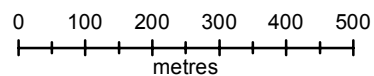


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TRANSPORTATION SERVICES

Legend

- Proposed Underpass ★
- Underpass Not Recommended ●
- Regional Road —





**REGION OF YORK
CLERK'S OFFICE**

FILE No. -

843



Office of the Clerk
John D. Leach
Director of Customer and
Legislative Services/Town Clerk
905-727-3123 ext. 4771
jleach@aurora.ca

Town of Aurora
100 John West Way, Box 1000
Aurora, ON L4G 6J1

May 11, 2012

C03-C11-32

Denis Kelly, Regional Clerk
Corporate Services Department
York Region Administration Building
17250 Yonge Street, 4th Floor
Newmarket, ON L3Y 6Z1

Dear Mr. Kelly:

Re: IES11-055 – Leslie Street and St. John's Sideroad Pedestrian Trail Crossings

Please be advised that this matter was considered by Council at its meeting held on November 8, 2011. In this regard, Council adopted the following resolution:

THAT Council receive report IES11-055; and

THAT Council support Option 2 - Underpasses just below grade as a reasonable solution to pedestrian access; and

THAT Council approve the principle of a 50/50 funding arrangement with York Region based on an estimate of \$1.2M per underpass and subject to Regional approval; and

THAT Council approve a 2012 budget of \$50,000 per crossing to accommodate 50 percent of the design costs to be completed and funded through York Region; and

THAT staff investigate funding alternatives and partnerships.



Enclosed is the staff report pertaining to this matter. Through inadvertence this was not formally communicated at the time.

Yours truly,



John D. Leach
Director of Customer and
Legislative Services/Town Clerk

JDL/pt

Copy: Director of Infrastructure and Environmental Services
Director of Parks and Recreation Services