



## Staff Report for Committee of the Whole Meeting

Date of Meeting: April 23, 2018

Report Number: SRPRS.18.085

Department: Planning and Regulatory Services  
Division: Development Engineering & Transportation

Subject: **SRPRS.18.085 – High Tech Road Active  
Transportation and Access Modification Study**

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### Purpose:

To update Council on the recommendations identified in the High Tech Road Active Transportation and Access Modification Study, and seek funding approval for the implementation of the recommended traffic operational and safety improvements on High Tech Road between Yonge Street and Red Maple Road.

### Recommendation(s):

- a) That Council receive the High Tech Road Active Transportation and Access Modifications Study by LEA Consulting Limited dated February 2018;
- b) That Chapter 1126, Schedule A (Speed Limits) of the Municipal Code be amended by adding the following to reduce the maximum posted speed limit on High Tech Road between Yonge Street and Red Maple Road from 50 km/h to 40 km/h:

Street	From	To
High Tech Road	Yonge Street	Red Maple Road

- c) That Council approve funding of up to \$14,000.00 from the Town-wide Engineering Development Charges Reserve Fund for the supply and installation of signage and pavement markings recommended in the High Tech Road Active Transportation and Access Modifications Study.

### Contact Person:

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## **Report Approval:**

**Submitted by:** Kelvin Kwan, Commissioner of Planning and Regulatory Services

**Approved by:** Neil Garbe, Chief Administrative Officer

All reports are electronically reviewed and/or approved by the Division Director, Treasurer (as required), Town Solicitor (as required), Commissioner, and Chief Administrative Officer. Details of the reports approval are attached.

## **Background:**

Council previously received staff report SRPRS.15.091 (attached as Appendix 1) which provided the findings and recommendations from the Red Maple Road and High Tech Road (RMHT) Operations Study completed by LEA Consulting Limited in May 2015. This RMHT Study made preliminary recommendations for the signalization of High Tech Road and the Silver City movie theater (Cinema) driveway east of Yonge Street to address traffic operational and safety concerns identified in the area.

However, at the time, staff had concerns with the signalization recommendation for a number of reasons including whether the signal was warranted, this signal's potential location on a six percent road gradient on High Tech Road, and the proximity of this signal (approximately 110m distance) to the existing Regional traffic signal on Yonge Street. As a result, Council endorsed staff's recommendation in SRPRS.15.091 to "request LEA Consulting to provide further detail with respect to a signalized intersection at High Tech Road and the Silver City movie theater driveway, and to further investigate other alternative options for this location".

LEA Consulting was further retained by the Town to complete this additional assessment. The objective of this Study was to update the findings and recommendations of the RMHT Operations Study with focus on the intersection at High Tech Road and the 30 High Tech Road/Silver City movie theater driveway and further investigate access modification options for this location. Part of the Study was to update the historical collision review and further assess the active transportation (pedestrian and cycling) crossing needs along High Tech Road. The resulting Active Transportation and Access Modification Study for High Tech Road between Yonge Street and Red Maple Road is attached as Appendix 2 for reference.

## **Active Transportation Assessment**

Through this additional active transportation assessment, it was determined that the existing pedestrian network provides a fair degree of connectivity between uses at 30 High Tech Road and the Cinema. The study area appears to have three predominant pedestrian routes between the two properties, including:

- the Yonge Street and High Tech Road intersection;
- mid-block at the High Tech Road and Cinema driveway; and
- Under the underpass of High Tech Road west of the CN Rail /GO train tracks.

Although a formalized control crossing facility is provided at the Yonge Street/High Tech Road intersection, which is only a short distance away at approximately 110 metres from 30 High Tech Road, fewer pedestrians were observed crossing here since the underpass and mid-block locations provide shorter, more direct, walking distances.

Based on the site observations and traffic surveys conducted by LEA Consulting, the majority of crossing activities were observed to take place at the underpass of High Tech Road west of the rail line.

Even though the uncontrolled mid-block crossing is the most direct and shortest route between 30 High Tech and the Cinema, a low number of pedestrians were observed crossing at this location since pedestrians were required to cross 4-lanes of busy traffic and also navigate turning movements in and out of the driveways.

Due to the low pedestrian crossing activities at mid-block, a pedestrian crossover (PXO) is currently not warranted at this location.

Similarly, the existing cycling network provides a fair degree of north/south connectivity between two properties since it shares the same route options as the pedestrian network. Based on the site observations, it was determined that the current cycling activity is low and the underpass location is a viable connection to serve the cyclists.

## **Traffic Operations Review**

The High Tech Road and 30 High Tech Road/Cinema driveway intersection is faced with operational constraints at the northbound and southbound approaches. Excessive delays were observed for the outbound left-turning and through vehicles at the northbound and southbound approaches during peak periods throughout the day. Drivers were relying on courtesy gaps to complete the southbound and northbound left turning and through movements.

The review found that a significant number of drivers use the underpass driveway adjacent to the rail line to travel between 30 High Tech Road and the Cinema. The underpass volumes were observed to be most intense during the weekday afternoon peak hours. This observation suggests that most drivers are aware of the underpass connection and prefer to use this connection versus crossing High Tech Road at the site driveways.

## **Collisions Review**

Collision reports received by the Town in the past 5 years, from 2013 to 2017, were reviewed and assessed. The assessment found that most of the accidents on High Tech Road between Yonge Street and Red Maple Road took place at the intersection of the High Tech Road and 30 High Tech Road/Cinema driveway. More than half of the collisions involved vehicles making a turning movement.

This could be an indicator that the delays in the northbound and southbound approaches may be creating more aggressive driving behavior in frustrated turning motorists which increases the probability of these incidents.

However, the analysis reveals that weather plays a significant contributing role in the number and type of collisions at this High Tech Road/Cinema access intersection, as more than 60% of the reported collisions at this location occurred during adverse weather conditions (i.e. rain or snow). These collision issues are likely further exacerbated because of the location of the driveways at the bottom of a 6 percent grade

on High Tech Road as well as the potential visibility issues at these driveways and for westbound traffic on High Tech Road resulting from the significant crest on the High Tech overpass combined with the posted speed limit.

## **Access Modification Options**

The High Tech Road Active Transportation and Access Modifications Study re-confirmed traffic operational and safety concerns at the intersection of High Tech Road and the 30 High Tech Road/Cinema driveway. Four access modification options were evaluated by the consultant to improve traffic operations, reduce safety concerns and enhance active transportation connectivity at the subject location. The options considered at the High Tech Road and Cinema driveway intersection were as follows:

- Option 1 – Speed Reduction, Signage and Pavement Markings
- Option 2A – Right-In, Right-Out (RIRO) movements permitted only for driveways
- Option 2B – Right-In, Right-Out (RIRO) movements permitted only for driveways, with the addition of a barrier to restrict pedestrian crossings
- Option 3 – Left-In, Right-In, Right-Out (LI, RIRO) movements permitted only for driveways
- Option 4 – full signalization of the intersection

Evaluation criteria were developed to assess each option. In general, the evaluation criteria included impact to traffic operations, active transportation connections, safety, cost and ability to implement.

Based on the evaluation, Option 1 received the highest score and is recommended as the immediate and short term solution to address the traffic operational and safety concerns in the area. Option 1 includes a speed limit reduction from 50 km/h to 40 km/h on High Tech Road between Yonge Street and Red Maple Road address westbound visibility issues by increasing driver reaction times for the westbound traffic on High Tech Road as well as motorists turning out of the driveway. As well, installation of way-finding signage instructing pedestrians to cross at Yonge Street or at the underpass is recommended. This option would also include adding pavement markings to create a separate southbound left-turn lane and southbound shared through-right turn lane in order to improve traffic operations and reduce delay and queuing at the southbound approach to the intersection thus reducing aggressive driver behaviour. This option is the least obtrusive as traffic patterns on High Tech Road and the site driveways remain unchanged. It is also recommended that the Town continue to monitor the incidence of collisions as well as mid-block crossing activity at the High Tech Road driveways to evaluate the effectiveness of this option. The functional design of Options 1 is illustrated in Study report (Appendix 2).

All the other options (Options 2, 3, and 4) are considered as potential long term solutions. Options 2 and 3 involve turning movement restrictions with physical modifications to the driveway approaches and/or introduction of a centre median island on High Tech Road. If Options 2 and 3 are feasible in the longer term, then it is

recommended that staff engage the land owners and stakeholders regarding the implementation of these options as it will involve limiting turning movements at the site driveways. These options may also trigger the need for a Municipal Class Environmental Assessment as they will have potential implications to the surrounding area by changing access and traffic activity on the privately owned lands as well as on Town and Regional intersections and roads.

Similarly, Option 4 with signalization of the access intersection is not recommended for implementation at this time. This option may be considered as a long term solution if all other options are exhausted, and will require coordination with York Region and area landowners. Given the driveway locations in proximity to Yonge Street and the grades on High Tech Road, implementation of a traffic signal system at this location would be challenging, and may actually create in more significant operational and safety issues along High Tech Road.

Therefore, it is recommended that Option 1 with the High Tech Road speed reduction, signage, wayfinding, and pavement marking improvements be implemented and that this location continue to be monitored on a regular basis from a traffic operation and collision perspective.

### **Financial/Staffing/Other Implications:**

The cost for implementing the necessary pavement markings and signage for Option 1 is estimated at \$14,000.00. As the recommendations help to guide pedestrians and cyclists to appropriate crossings and enhance the pedestrian environment while improve traffic operations, staff recommends that up to \$14,000.00 be funded from the Town-wide Engineering Development Charges Reserve Fund.

Any future implementation of Options 2, 3, and/or 4 will require staff to develop a business case through the normal capital projects budget process to secure funding for the design, construction, and any additional study of the preferred longer term option(s).

### **Relationship to the Strategic Plan:**

The recommendations of this report are consistent with the Town's Strategic Plan to enhance community safety. It leads to achieving the objectives to build "strong connections in Richmond Hill" and "providing better choices for Town residents". The recommendations meet Goal One of the Town's Strategic Plan of providing "stronger connections in Richmond Hill by improving the function of buildings, streets, and neighbourhoods".

### **Conclusion:**

Staff supports the recommendations contained in the High Tech Road Active Transportation and Access Modifications Study (February 2018) by LEA Consulting Limited to address the traffic operational and safety concerns on High Tech Road. The

recommended short term improvements identified as Option 1 include a speed limit reduction on High Tech Road between Yonge Street and Red Maple Road, way-finding signage for directing pedestrians, and pavement markings for driveway lane configuration changes. Staff will continue to monitor the incidence of collision and mid-block crossing activity to determine the effectiveness of the above mentioned improvements. While staff supports consideration of Options 2, 3, and 4 as longer term solutions, it is acknowledged that these options will require additional design work and may also trigger further or more formal study as they have potential access and traffic impacts on private land owners and the surrounding neighbourhood. Staff will engage land owners and stakeholders on High Tech Road as necessary regarding the implementation of these future options as they involve access restrictions at the site driveways.

## **Attachments:**

The following attached documents may include scanned images of appendixes, maps and photographs. If you require an alternative format please call contact person listed in this document.

- Appendix 1 – SRPRS.15.091
- Appendix 2 – High Tech Road Active Transportation and Access Modifications Study – February 2018



### **Report Approval Details**

Document Title:	SRPRS.18.085 - High Tech Road Active Transportation and Access Modification Study.docx
Attachments:	- Appendix 1 - Staff Report (SRPRS.15.091).pdf - Appendix 2 - High Tech Active Transportation and Access Modification Study.pdf
Final Approval Date:	Apr 16, 2018

This report and all of its attachments were approved and signed as outlined below:

**Dan Terzievski - Apr 16, 2018 - 10:37 AM**

**Kelvin Kwan - Apr 16, 2018 - 10:40 AM**

**David Dexter - Apr 16, 2018 - 11:03 AM**

**Neil Garbe - Apr 16, 2018 - 2:05 PM**