Report to: Development Services Committee Meeting Date: November 12, 2019

SUBJECT: Intersection Improvement at George St. / Washington St. / Robinson St. / Joseph St. (Ward 4)

PREPARED BY: Loy Cheah, Sr. Manager, Transportation
David Porretta, Manager, Traffic Engineering

RECOMMENDATION:

1) That the report entitled "Intersection Improvement at George St. / Washington St. / Robinson St. / Joseph St. (Ward 4)" be received; and

2) That a Stop Control for southbound traffic on George Street be endorsed; and

3) That Schedule 12 of Traffic By-law 106-71, pertaining to compulsory stops, be amended to include the north approach of the subject intersection; and

4) That the Operations Department be directed to install the appropriate signs and pavement markings at the subject location; and

5) That the cost of materials and installation for the traffic signs and pavement markings in the amount of $500, be funded from capital project # 083-5350-19050-005 'Traffic Operational Improvements'; and

6) That York Region Police be requested to enforce the all-way stop control upon installation of the stop signs and passing of the By-law amendment; and further

7) That staff be authorized and directed to do all things necessary to give effect to this resolution.

PURPOSE:
This report summarizes the existing operating conditions at the subject intersection, and recommends implementing an all-way stop control to provide as a solution to address traffic operational issues.

BACKGROUND:
At the General Committee meeting on October 7, 2019, staff was requested to provide information regarding the above intersection and to see if this intersection improvement project can be added to the 2020 Budget.

The subject intersection is located in Markham Village in Ward 4, one block east of Main Street Markham and two blocks north of Highway 7. The Robinson-Joseph-Church corridor provides east/west movement through Markham Village and access to both Main Street Markham and 9th Line. The George-Washington corridor provides north/south movements and is used as a relief route for traffic on Main Street Markham, particularly during the AM and PM peak periods.

The subject intersection has an atypical design that may cause confusion for some drivers. There is a lack of pedestrian amenities at the intersection. Over the years, staff has incorporated advisory signage and pavement markings to improve the operations of this intersection.

OPTIONS/ DISCUSSION:

Existing Intersection Geometry

An illustration of the existing intersection configuration can be found in Attachment "A". The intersection was configured in the late 1970s with the intent to consolidate multiple east/west and north/south road alignments into one large intersection.

While the intersection does not meet current Engineering design standards, it has many characteristics, such as narrow road and boulevard widths, which are consistent with other local street characteristics in Markham Village and heritage areas.

Sidewalks are present on at least one side of each street approaching the intersection, which was the minimum requirements for minor collector roads at the time of construction. The intersection is not currently equipped with any pedestrian crossings or marked crosswalks and does not meet pedestrian accessibility (AODA) guidelines.

Existing Traffic Operations

All approaches have a stop control except for the north approach to the intersection (Southbound George Street) which operates under free-flow condition, while all other approaches have a stop control. The intersection is currently operating with minimal traffic delays. In the morning period, the predominant traffic flow at the intersection is southbound on George/Washington and westbound on Robinson, toward Main Street Markham. In the afternoon period, the peak traffic flow is reversed, with northbound and eastbound traffic being the predominant movements through the intersection.

Since 2012, there have been three reported collisions at the intersection (two in 2012 and one in 2013). While this is a low rate of collisions, they were all right angle (T-bone) collisions, indicating that eastbound drivers did not yield to southbound traffic, which has the right of way.

Signage at the intersection is present for eastbound traffic indicating that southbound traffic does not stop, however this is not a typical traffic control method.

Improvement to Traffic Operations

To address the traffic operational issues at the intersection, staff recommends the installation of Stop Control for southbound traffic on George Street. This improvement effectively changes the intersection control to an all-way stop condition (see Attachment "B"). This change will address the right angle (T-bone) collisions mentioned earlier as all traffic has to stop before entering the intersection. This will also allow a more balanced flow of traffic for the minor directions, i.e. more gaps for east-west movements. This option does not change the intersection geometry.

However, should Committee wish to change the intersection geometry to meet current engineering standard, this will require reconstruction of the intersection (see Attachment "C"). Design of the reconfiguration will take about 8-10 months, including procurement of a consultant. Furthermore, the reconstruction will take one construction season. A high-level cost estimate for the intersection reconstruction including detailed design will be approximately $2.8 million. Up to 35% could be funded from Development Charges with the balance from tax funding.

FINANCIAL CONSIDERATIONS
The cost of materials and implementation of the recommended all-way stop control is in the amount of $500, and can be funded from capital project #19050 "Traffic Operational Improvements". On-going maintenance costs will be managed within the Operations Department's existing operating budget; therefore, there is no incremental impact to the operating budget. There is no incremental life cycle impact.

HUMAN RESOURCES CONSIDERATIONS
Not applicable.

ALIGNMENT WITH STRATEGIC PRIORITIES:
The recommendation is intended to improve the safe and efficient movement of vehicles through our transportation network, and to enhance safety of all road users. Therefore, the recommendations align with the City's Strategic Plan goal of a "Safe & Sustainable Community".

BUSINESS UNITS CONSULTED AND AFFECTED:
Not applicable.

RECOMMENDED BY:

Brian Lee, P.Eng.
Director, Engineering

Arvin Prasad, MPA, RPP, MCIP
Commissioner, Development Services

ATTACHMENTS:
Attachment "A" – Existing Intersection Configuration
Attachment "B" – Recommended All-way Stop Control
Attachment "C" – Intersection Reconstruction
Attachment "D" – By-law Amendment