



Report to: General Committee

Date Report Authored: December 22, 2015

SUBJECT: Proposed All-way Stop Controls – Riverwalk Drive & Barter Street;
Riverwalk Drive & Fieldside Street; Fred McLaren Boulevard &
Stricker Avenue

PREPARED BY: Dan Ahir, Traffic Operations Technologist, ext. 2736
David Porretta, Manager (Acting), Business, Technical Services &
Traffic, ext. 2040

RECOMMENDATION:

- 1) That the report entitled “Proposed All-way Stop Control – Riverwalk Drive & Barter Street; Riverwalk Drive & Fieldside Street; Fred McLaren Boulevard & Stricker Avenue”, be received;
- 2) And that Schedule 12 of Traffic By-law 106-71, pertaining to compulsory stops, be amended to include all approaches to the intersection of Riverwalk Drive & Barter Street;
- 3) And that Schedule 12 of Traffic By-law 106-71, pertaining to compulsory stops, be amended to include all approaches to the intersection of Riverwalk Drive & Fieldside Street;
- 4) And that Schedule 12 of Traffic By-law 106-71, pertaining to compulsory stops, be amended to include all approaches to the intersection of Fred McLaren Boulevard & Stricker Avenue;
- 5) And that the Operations Department be directed to install the appropriate signs and pavement markings at the subject locations;
- 6) And that the cost of materials and installation for the traffic signs and pavement markings be funded from capital project # 15238 (Traffic Operational Improvements) in the amount of \$1,000;
- 7) And that York Region Police be requested to enforce the all-way stop controls upon installation of these stop signs and passing of the By-law;
- 8) And that staff be authorized and directed to do all things necessary to give effect to this resolution.

PURPOSE:

This report recommends implementing an all-way stop at the intersections of Riverwalk Drive & Barter Street, Riverwalk Drive & Fieldside Street and Fred McLaren Boulevard & Stricker Avenue, to improve intersection operations and address safety concerns.

BACKGROUND:

Operations staff received concerns from the local community regarding operational safety at the intersections of Riverwalk Drive at Barter Street, Riverwalk Drive at Fieldside Street and Fred McLaren Boulevard at Stricker Avenue

The intersection of Riverwalk Drive & Barter Street is located west of Box Grove By-pass and east of 9th Line. (see Attachment "A"). Riverwalk Dr is a residential collector road with an average daily traffic (ADT) volume of 1,890 vehicles near the subject intersection. Barter Street is a residential local road, with an ADT volume of 1,094 vehicles. David Suzuki Public School is located south of this intersection and contributes significant vehicular and pedestrian traffic at the intersection. Stop control at the intersection is currently assigned to Barter Street only, giving traffic on Riverwalk Drive the right-of-way.

The intersection of Riverwalk Drive & Fieldside Street is located west of Box Grove By-pass and east of 9th Line (see Attachment "A"). Fieldside Street is a residential collector road, with an ADT volume of 2,250 vehicles. Currently, stop control at the intersection is assigned to Fieldside Street only, giving traffic on Riverwalk Drive the right-of-way. David Suzuki Public School is located at the southeast corner of the intersection, contributing significant pedestrian traffic at the intersection.

The intersection of Fred McLaren Boulevard & Stricker Avenue is located south of Major Mackenzie Drive and north of Castlemore Avenue (see Attachment "B"). Fred McLaren Boulevard is a collector road with an ADT volume of 1,700 vehicles. Stricker Avenue is a local residential road, with an ADT volume of 1,340 vehicles. Currently, stop control at the intersection is assigned to Stricker Avenue only, giving traffic on Fred McLaren Boulevard the right-of-way. John McCrae Public School is located at the northeast corner of the intersection, contributing significant pedestrian traffic at the intersection.

DISCUSSION:

In response to community concerns, Operations Department conducted an all-way stop warrant analysis at the three subject intersections. An all-way stop control may be considered where provincial warrant guidelines are met, as outlined in the Ontario Traffic Manual. The warrant considers total vehicular volume and volume distribution between the "major" and "minor" approaches of the intersection during the busiest hour of the day.

All-way stop control is recommended at Riverwalk Drive & Barter Street to address traffic operational safety concerns.

In December 2015, the Operations Department conducted an all-way stop warrant analysis during the busiest one-hour period of a typical weekday at the intersection. The warrant analysis results are as follows:

Figure 1: Riverwalk Drive & Barter Street - All-way Stop Warrant Results

CRITERIA #1 Total Traffic Volume (All Approaches)			CRITERIA #2 Volume Assigned to "Minor" Street (Barter Street)		
Minimum Criteria	Recorded Value	Criteria Met?	Minimum Criteria (3-way)	Recorded Value	Criteria Met?
350	356	YES	25%	26%	YES

All-way stop control is warranted when both Criteria #1 and Criteria #2 are satisfied. As shown above, the intersection meets Provincial guidelines for all-way stop control. Therefore, Operations

Department recommends that an all-way stop control be provided. Once implemented, it is expected that the all-way stop control will improve intersection operations and pedestrian safety.

All-way stop control at Riverwalk Drive & Fieldside Street is not warranted.

In November 2015, the Operations Department conducted an all-way stop warrant analysis during the busiest one-hour period of a typical weekday at the intersection. The warrant analysis results are as follows:

Figure 2: Riverwalk Drive & Fieldside Street - All-way Stop Warrant Results

CRITERIA #1 Total Traffic Volume (All Approaches)			CRITERIA #2 Volume Assigned to "Minor" Street (Fieldside Street)		
Minimum Criteria	Recorded Value	Criteria Met?	Minimum Criteria (3-way)	Recorded Value	Criteria Met?
350	264	NO	25%	32%	YES

While Criteria #1 falls short the minimum criteria, Criteria #2 is satisfied.

All-way stop control at Fred McLaren Boulevard & Stricker Avenue is not warranted.

In October 2015, the Operations Department conducted an all-way stop warrant analysis during the busiest one-hour period of a typical weekday at the intersection. The warrant analysis results are as follows:

Figure 2: Fred McLaren Boulevard & Stricker Avenue - All-way Stop Warrant Results

CRITERIA #1 Total Traffic Volume (All Approaches)			CRITERIA #2 Volume Assigned to "Minor" Street (Stricker Avenue)		
Minimum Criteria	Recorded Value	Criteria Met?	Minimum Criteria (3-way)	Recorded Value	Criteria Met?
350	268	NO	25%	24%	NO

While Criteria #1 falls short the minimum criteria, Criteria #2 very close to satisfied.

All-way stop control is recommended at Riverwalk Drive & Fieldside Street and Fred McLaren Blvd & Stricker Avenue.

Although provincial warrant guidelines were not met for these two intersections, frequent conflicts between pedestrians and vehicles at the intersection are occurring. Multiple site investigations by City staff confirm that conflicts or "near misses" between vehicles and pedestrians is a common occurrence during peak travel periods. The high risk of pedestrian collisions at the intersection can be attributed to their proximity to David Suzuki Public School and John McCrae Public School. Observations confirmed that drivers and pedestrians are challenged with being able to discern when it is safe to enter the intersection due to the amount of activity occurring, resulting in poor decisions and slow responsiveness to hazardous situations.

The provision of an all-way stop at these intersections will regulate traffic control by requiring all vehicles to come to a complete stop and also give right-of-way to pedestrians that are crossing. It

will also address future traffic growth and associated impacts as a result of ongoing development in the surrounding community and promote safe and active transportation initiatives at the nearby schools.

FINANCIAL CONSIDERATIONS:

The cost of materials and installation for the traffic signs and pavement markings in the amount of \$1,000 has been included in the capital project # 15238 (Traffic Operational Improvements). On-going maintenance costs for this installation will be considered in the 2016 Operations Department operating budget.

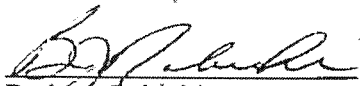
ALIGNMENT WITH STRATEGIC PRIORITIES:

This report aligns with the community safety component of Markham's transportation strategic priority.

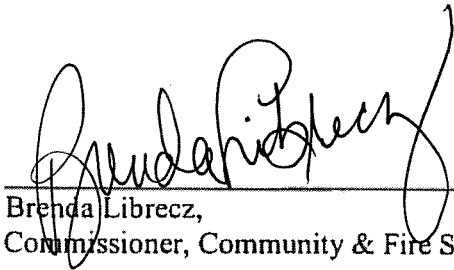
DEPARTMENTS CONSULTED AND AFFECTED:

Not applicable.

RECOMMENDED BY:



Barbara Rabicki,
Director, Operations



Brenda Librecz,
Commissioner, Community & Fire Services

ATTACHMENTS:

- Attachment "A" – Location Map, Riverwalk Dr & Barter St; Riverwalk Dr & Fieldside St
- Attachment "B" – Location Map, Fred McLaren Blvd & Stricker Ave
- Attachment "C" – All-way Stop Control By-Law Amendment