

Clause No. 13 in Report No. 7 of Committee of the Whole was adopted, without amendment, by the Council of The Regional Municipality of York at its meeting held on April 17, 2014.

**13**  
**REQUEST FOR NEW TRAFFIC CONTROL SIGNALS**  
**CITY OF MARKHAM**

**Committee of the Whole recommends adoption of the following recommendations contained in the report dated March 20, 2014 from the Commissioner of Transportation and Community Planning:**

**1. RECOMMENDATIONS**

It is recommended that:

1. Traffic control signals not be installed at this time at the intersection of Box Grove Bypass (Y.R. 69) and Riverwalk Drive.
2. Traffic control signals not be installed at this time at the intersection of Donald Cousens Parkway (Y.R. 48) and Delray Drive.
3. The Regional Clerk forward this report to the Clerk of the City of Markham.

**2. PURPOSE**

This report is in response to City of Markham's Council resolutions (*Attachment 1*) requesting the Region to re-evaluate the need for traffic control signals for Box Grove Bypass at Riverwalk Drive and Donald Cousens Parkway at Delray Drive.

### 3. BACKGROUND

#### **On October 17, 2002, Council adopted the Traffic Control Signal Warrant Policy for the installation of traffic control signals**

York Region's policy for the installation of a traffic control signal is based on a series of guidelines established by the Ministry of Transportation and those approved by Council on October 17, 2002. The traffic control signal warrant analysis considers traffic volumes on the major and minor roads for the highest eight hours of a weekday, peak hour delays for minor road traffic, pedestrian volumes and a three-year collision history. Table 1 summarizes the traffic control signal warrant analysis.

**Table 1**  
Traffic Control Signal Warrant Analysis

| <b>Warrant Component</b>                      | <b>Threshold</b> |
|---|------------------|
| 1. Total Volume                               | 100%             |
| 2. Total Minor Road Volume                    | 100%             |
| Combination 1 + 2                             | 80%              |
| *Municipal Warrant 1 and 2                    | 70%              |
| Left Turn and Right Angle Collision Frequency | 15               |
| *Peak Hour Delay                              | 4 hrs            |

\* York Region's traffic control signal warrant consists of additional warrant components to increase the opportunity for an intersection to justify the installation of a traffic control signal.

The Ministry of Transportation guidelines indicate that an intersection meets the warrant conditions for traffic control signals when two of the warrant components are at or above 80 per cent compliant, or one component is 100 per cent compliant. Warrant 1 of the criterion accounts for the total amount of traffic using an intersection and Warrant 2 of the criterion accounts for the delay to side street traffic.

The Region's Traffic Control Signal Warrant Policy also stipulates that a local municipality can pay for the installation of unwarranted traffic control signals provided (Warrant 1 and 2) are satisfied by at least 70 per cent, and all installation and ongoing maintenance costs are incurred by the local municipality until traffic control signals become warranted.

**On February 19, 2014, City of Markham Council requested staff to re-evaluate the need for traffic control signals**

At their meeting on February 11, 2014, City of Markham Council adopted a recommendation requesting Regional staff to re-evaluate the intersections of Box Grove Bypass at Riverwalk Drive, and Donald Cousens Parkway at Delray Drive (*Attachment 1*) to determine if traffic control signals are justified based on York Region's Traffic Control Signal Warrant Policy.

**4. ANALYSIS AND OPTIONS**

**Traffic control signals are not justified at Box Grove Bypass and Riverwalk Drive**

The intersection of Box Grove Bypass and Riverwalk Drive is a cross-type intersection with stop-control on Riverwalk Drive. Box Grove Bypass, in this vicinity, is a four-lane urban roadway with a posted speed limit of 60 km/h. This road section carries approximately 10,000 vehicles daily and accommodates school children walking to David Suzuki Public School located southerly on Riverwalk Drive. In addition, the collision experience does not identify a pattern of collisions preventable with the installation of a traffic control signal. A location plan of the intersection is outlined in *Attachment 2*.

On September 18, 2013, Regional staff conducted a traffic and pedestrian count during the highest eight hours of the weekday at Box Grove Bypass and Riverwalk Drive. A total of 32 pedestrians and 89 left turning (critical movement) vehicles were counted. The counts were used to conduct a traffic control signal warrant analysis. Table 2 summarizes the results.

**Table 2**  
Box Grove Bypass and Riverwalk Drive  
Traffic Control Signal Warrant Analysis

| Warrant Component                           | Warranted | Compliance | Threshold |
|---|-----------|------------|-----------|
| 1. Total Volume                             | No        | 68%        | 100%      |
| 2. Total Minor Road Volume                  | No        | 54%        | 100%      |
| Combination 1 + 2                           | No        | 54%        | 80%       |
| *Municipal Warrant 1 & 2                    | No        | 54%        | 70%       |
| Left Turn & Right Angle Collision Frequency | No        | 0          | 15        |
| *Peak Hour Delay                            | No        | 0.5 hrs    | 4 hrs     |

\* York Region's traffic control signal warrant consists of additional warrant components to increase the opportunity for an intersection to justify the installation of a traffic control signal.

### **Traffic control signals are not justified at Donald Cousens Parkway and Delray Drive**

The intersection of Donald Cousens Parkway and Delray Drive is a cross-type intersection with stop control on Delray Drive. Donald Cousens Parkway in this vicinity is a two-lane urban roadway with a posted speed limit of 70 km/h. This road section carries approximately 15,000 vehicles daily and accommodates school children walking to Sam Chapman Public School located southerly on Delray Drive. No collisions occurred in the previous three years that would have been preventable with the installation of a traffic control signal. A location plan of the intersection is outlined in *Attachment 3*.

On April 23, 2013, Regional staff conducted a traffic and pedestrian count during the highest eight hours of the weekday at Donald Cousens Parkway and Delray Drive. A total of one pedestrian was counted during the highest eight hours of the weekday. The intersection count was used to conduct a traffic control signal warrant analysis which is summarized in Table 3.

**Table 3**  
Donald Cousens Parkway and Delray Drive  
Traffic Control Signal Warrant Analysis

| <b>Warrant Component</b>                    | <b>Warranted</b> | <b>Compliance</b> | <b>Threshold</b> |
|---|------------------|-------------------|------------------|
| 1. Total Volume                             | No               | 64%               | 100%             |
| 2. Total Minor Road Volume                  | No               | 72%               | 100%             |
| Combination 1 + 2                           | No               | 64%               | 80%              |
| *Municipal Warrant 1 & 2                    | No               | 64%               | 70%              |
| Left Turn & Right Angle Collision Frequency | No               | 0                 | 15               |
| *Peak Hour Delay                            | No               | 0.5 hrs           | 4 hrs            |

\* York Region's traffic control signal warrant consists of additional warrant components to increase the opportunity for an intersection to justify the installation of a traffic control signal.

Traffic control signals are warranted when two of the warrant components are at or above 80 per cent compliant, or one component is 100 per cent compliant, or if 15 or more collisions, that can be prevented by traffic controls signals, occurred over a three-year period. None of these warrant criteria are satisfied at the intersections of Box Grove Bypass and Riverwalk Drive and Donald Cousens Parkway and Delray Drive.

### **Installing unwarranted signals will increase overall delay and rear-end type collisions**

Installing traffic control signals at a location that does not meet the traffic control signal warrant will result in a reduction in overall intersection safety and increased traffic delay. Specifically, the installation of traffic control signals increases the occurrences of certain types of collisions. Rear-end collisions on major streets; for example, can increase by as much as 60 per cent after the installation of traffic control signals. Additionally, the average delay to side street traffic is often substantially increased during periods of the day outside of peak hours – a likely outcome in this instance.

### **Motorists currently experience less than 15 seconds of delay turning left from the side street**

Regional staff conducted a left-turn delay study at both intersections to determine the length of time in which motorists wait until being able to turn left (critical movement) from the minor street onto the major street.

On December 4, 2013 between 8:15 a.m. and 9:15 a.m. at the intersection of Box Grove Bypass and Riverwalk Drive, the study identified 79 left turning vehicles in the morning peak hour, a maximum of three vehicles queued and an average delay of 11 seconds per vehicle on Box Grove Bypass. Motorists are currently experiencing less delay at this intersection in comparison to a signalized condition.

On November 7, 2013 between 7 a.m. and 9 a.m. at the intersection of Donald Cousens Parkway and Delray Drive, the study identified 89 left turning vehicles in the morning peak hour, a maximum of five vehicles queued and an average delay of 21 seconds per vehicle. Motorists are currently experiencing less delay at this intersection in comparison to a signalized condition.

At signalized intersections, left turning motorists on the minor street experience 65 to 80 seconds of delay. As such, installing traffic control signals at these intersections will considerably increase delay for all users on both the major and minor street.

### **Increase in delays at unwarranted signals causes driver frustration and ultimately, non-compliance with traffic control signals**

The increased delay as noted above can result in driver frustration and non-compliance with the traffic control signal indications. To avoid these safety concerns, York Region's policy is to install traffic control signals only if the warrant criteria are met. In accordance with York Region's current policy, the intersections of Box Grove Bypass at Rivewalk Drive and Donald Cousens Parkway at Delray Drive do not satisfy the traffic control signal warrants, therefore, traffic control signals are not recommended at this time.

### **Link to key Council-approved plans**

This report supports Vision 2051 which is responding to the needs of our residents, promoting safety on York Region roads through effective policing, education and sensitive design.

## **5. FINANCIAL IMPLICATIONS**

The cost to review the feasibility of installing traffic control signals at the intersections of Box Grove Bypass at Riverwalk Drive and Donald Cousens Parkway at Delray Drive was approximately \$2,500 and was included in the 2013 Transportation and Community Planning Operating Budget.

## **6. LOCAL MUNICIPAL IMPACT**

Regional staff will continue to work with City of Markham staff to identify the need for traffic control measures across the City.

## **7. CONCLUSION**

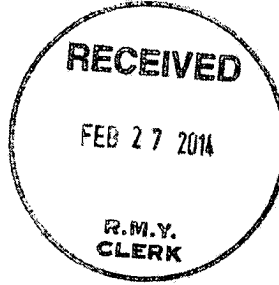
This report is in response to City of Markham's Council resolution requesting staff to re-evaluate the need for traffic control signals for Box Grove Bypass at Riverwalk Drive and Donald Cousens Parkway at Delray Drive.

City of Markham staff recognize these intersections do not meet technical warrant criteria provided by Regional staff. This assessment includes all criteria as per the Region's Traffic Signal Warrant Policy. As such, Regional staff does not recommend traffic signals at this time. Regional staff will continue to monitor these intersections for changes in traffic patterns and pedestrian movements.

For more information on this report, please contact Steven Kemp, Director, Traffic Management and Intelligent Transportation Systems at ext. 75226.

The Senior Management Group has reviewed this report.

*Attachments (3)*



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February 20, 2014

Mr. Denis Kelly  
Regional Clerk  
Regional Municipality of York  
17250 Yonge St.  
Newmarket, On L3Y 6Z1

**RE: REQUEST FOR TRAFFIC SIGNALS -  
BOX GROVE BYPASS AND  
RIVERWALK DRIVE (5.12)**

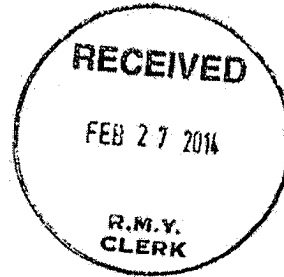
Dear Mr. Kelly:

This will confirm that at a meeting held on February 11, 2014, Council of the City of Markham adopted the following resolution:

- “1) That the report entitled “Request for Traffic Signals – Box Grove Bypass & Riverwalk Drive” be received; and,
- 2) That York Region staff be requested to evaluate the intersection to determine if traffic signals are justified, based on York Region’s Traffic Signal Warrant policy and recognizing the needs of pedestrians; and,
- 3) That York Region staff be requested to report back to City Council by April 2, 2014 regarding the results and recommendations; and,
- 4) That the letter dated November 18, 2013 from Ashma Mohamed, be received; and further,
- 5) That Staff be authorized and directed to do all things necessary to give effect to this resolution.”

If you have any questions, please contact David Porretta, Traffic Operations Supervisor, at 905-477-7000 ext. 2040.

Yours sincerely,



February 19, 2014

Mr. Denis Kelly  
Regional Clerk  
Regional Municipality of York  
17250 Yonge St.  
Newmarket, On L3Y 6Z1

P46

**RE: REQUEST FOR TRAFFIC SIGNALS -  
DONALD COUSENS PARKWAY AND  
DELRAY DRIVE (5.12)**

Dear Mr. Kelly:

This will confirm that at a meeting held on , Council of the City of Markham adopted the following resolution:

- “1) That the report entitled “Request for Traffic Signals – Donald Cousens Parkway & Delray Drive” be received; and,
- 2) That York Region staff be requested to evaluate the intersection to determine if traffic signals are justified, based on York Region’s Traffic Signal Warrant policy and recognizing the needs of pedestrians; and,
- 3) That York Region staff be requested to report back to City Council regarding the results and recommendations; and further,
- 4) That Staff be authorized and directed to do all things necessary to give effect to this resolution.”

If you have any questions, please contact David Porretta, Traffic Operations Supervisor, at 905-477-7000 ext. 2040.

Yours sincerely,

Kimberley Kitteringham  
City Clerk





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### Traffic Control Signals City of Markham

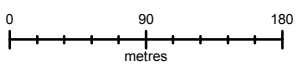
Box Grove Bypass at Riverwalk Drive  
April 3, 2014



Box Grove Bypass at Riverwalk Drive 



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# Traffic Control Signals City of Markham

## Donald Cousens Parkway at Delray Drive April 3, 2014



Donald Cousens Parkway  
at Delray Drive 



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