

TO: CHAIR AND MEMBERS
TRAFFIC SAFETY COMMITTEE

DATE: 2021 March 01

FROM: DIRECTOR ENGINEERING

FILE: 38000 20
Ref: Traffic Safety

SUBJECT: ROYAL OAK AVENUE AND LAUREL STREET

PURPOSE: To recommend safety improvements at the intersection of Royal Oak Avenue and Laurel Street.

RECOMMENDATIONS:

1. **THAT** the Committee recommend that Council endorse modifications to the intersection of Royal Oak Avenue and Laurel Street as outlined in this report to address traffic safety issues.
2. **THAT** the Committee recommend that Council send a copy of this report to Ms. Jacqueline Chan for information.

REPORT

INTRODUCTION

On 2021 January 27, the Traffic Safety Committee heard from and received correspondence from Ms. Jacqueline Chan regarding safety concerns on Schou Street and Royal Oak Avenue. Concerns raised from Ms. Chan was a result of proposed changes at Royal Oak Avenue and Laurel Street. The corresponding staff report was discussed and was referred back to staff for further review. This report provides additional information in response to concerns raised.

POLICY

Traffic safety initiatives are aligned with the City of Burnaby Corporate Strategic Plan by supporting the following goal and sub-goal of the plan:

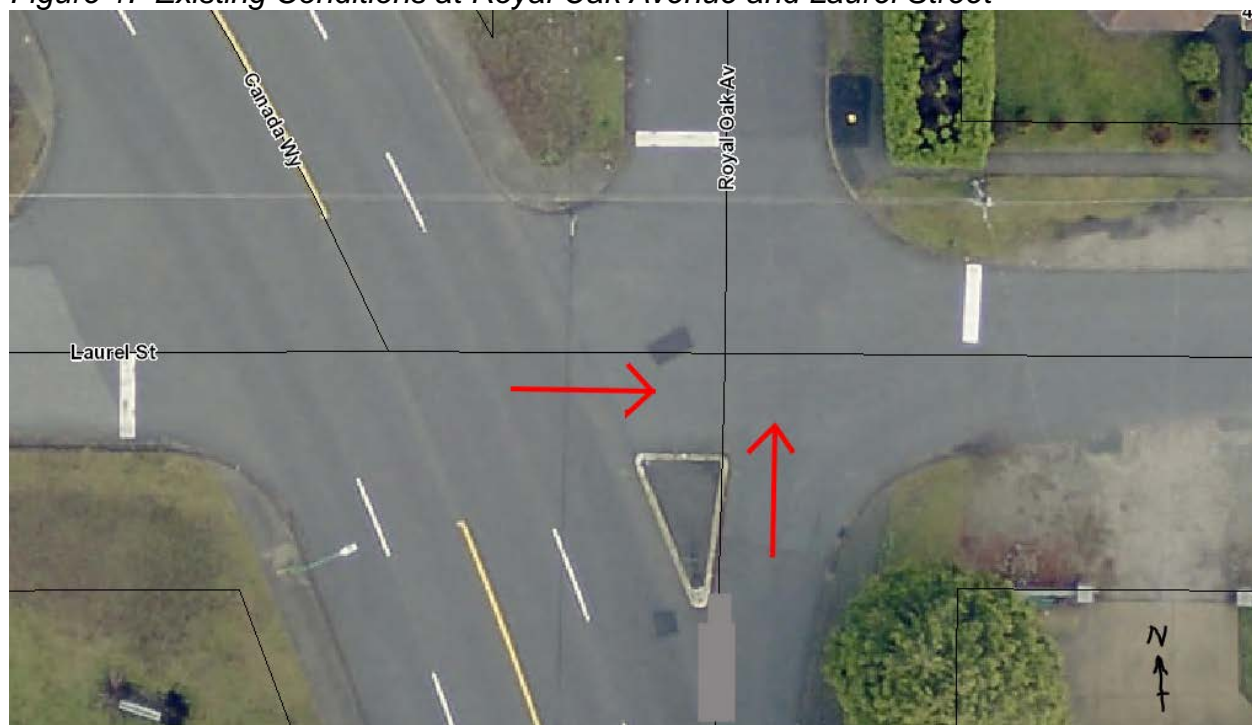
- A Safe Community
 - Transportation safety –
Make City streets, pathways, trails and sidewalks safer.

BACKGROUND

A traffic engineering review has been completed for the intersection of Royal Oak Avenue and Laurel Street due to concerns brought forward from the RCMP. A review of data from ICBC showed that the number of crashes at the intersection has increased over the years averaging about 8 crashes per year between 2015 and 2019, with 10 crashes in 2019. In the previous 5 years (2010 - 2014) there were an average of 5 crashes per year. Two-way traffic volumes along Laurel Street are higher than Royal Oak Avenue with approximately 160 vehicles in the peak hour. These volumes are within a normal range expected for a local street. The increasing number of crashes over the years may be attributable to some increases in traffic volumes and population growth, but the unusual geometry of this intersection has been identified as the key factor.

The intersection's geometry is unusual because of its very close proximity to the intersection of Canada Way and Laurel Street immediately to the west. This proximity may cause confusion for drivers. At the intersection of Royal Oak Avenue and Laurel Street, presently there are only stop signs on the north leg and on the east leg as depicted in Figure 1 by the stop bar lines. There are no stop controls on the west or south legs and, as a result, the right-of-way for vehicles is unclear. The red arrows below show the conflicting movements. Another problem is that westbound vehicles along Laurel Street do not have a stop sign just prior to entering Canada Way.

Figure 1: Existing Conditions at Royal Oak Avenue and Laurel Street

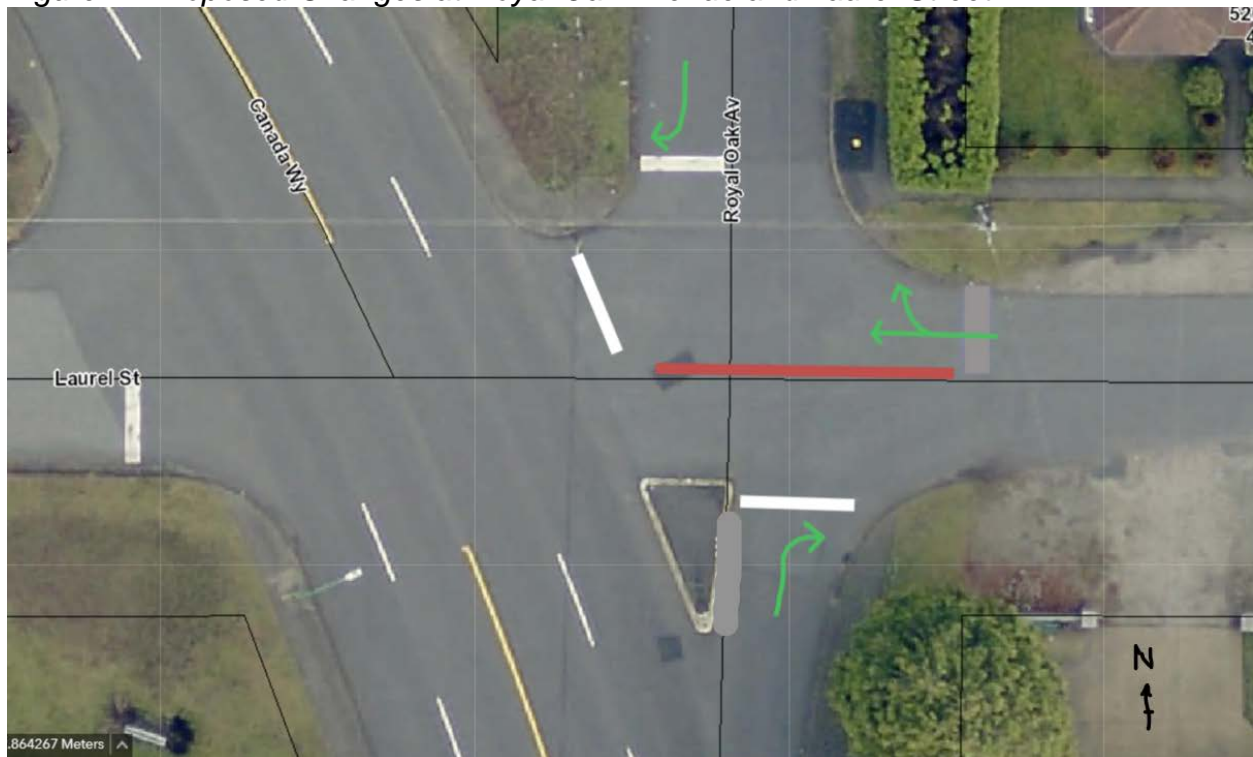


DISCUSSION

An obvious solution to the problem described above is the addition of two stop signs; one for northbound vehicles on Royal Oak travelling north towards Laurel, and one for westbound vehicles travelling along Laurel Street approaching Canada Way. These are represented by the additional stop bar lines shown below in Figure 2. The right-of-way is then only given to eastbound motorists arriving from Canada Way.

Unfortunately, the addition of the required stop sign for westbound vehicles on Laurel Street at Canada Way highlights the underlying problem. Westbound vehicles on Laurel Street would be faced with two successive stop signs 15 metres apart with the second stop sign forcing them to stop in the middle of the Royal Oak Avenue intersection, thus blocking north-south movements. Permitting north-south movements on Royal Oak Avenue would have a detrimental effect and could lead to crashes. Therefore it is recommended that north-south traffic flow on Royal Oak Avenue be restricted with a concrete barrier as shown in red in Figure 2, plus the removal of the first westbound stop sign on Laurel Street for vehicles approaching Royal Oak Avenue. This would eliminate all conflicting movements and avoid two stop signs in a row for westbound vehicles. The green arrows in Figure 2 show the traffic movements that will be maintained. Access to and from Canada Way will remain unchanged.

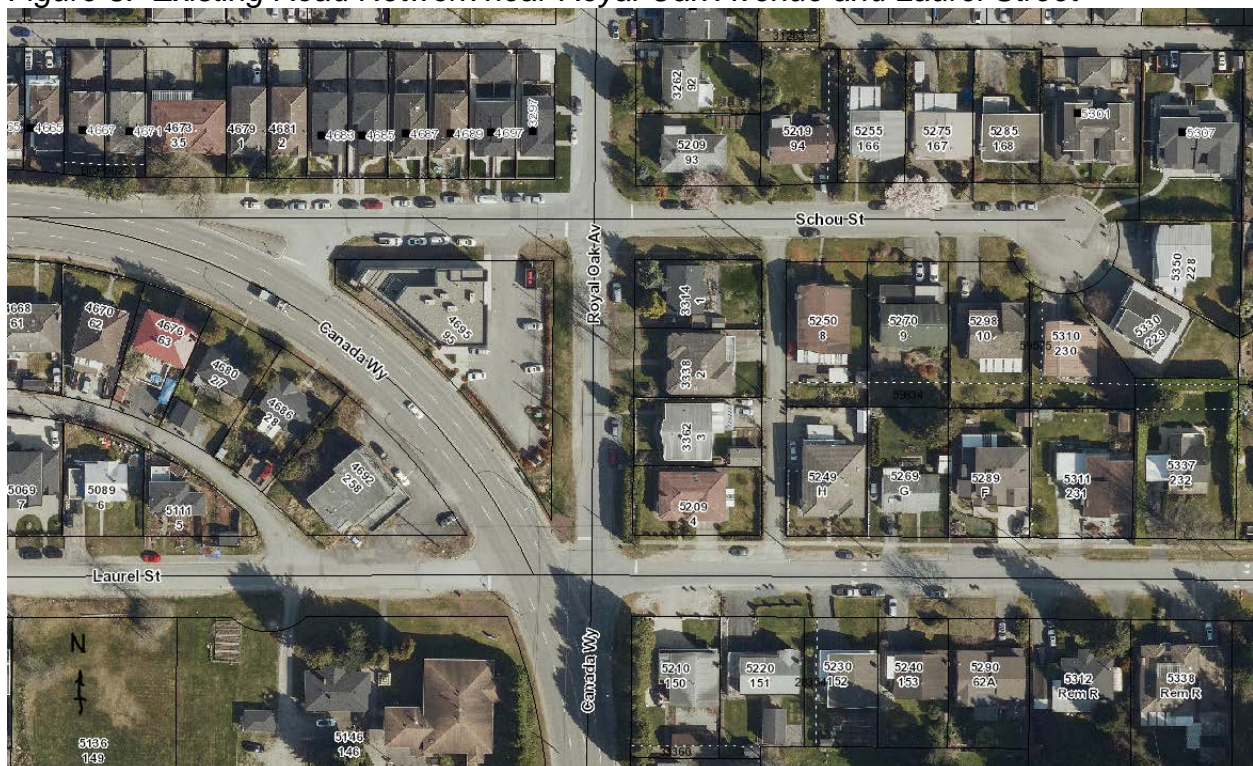
Figure 2: Proposed Changes at Royal Oak Avenue and Laurel Street



To: Chair & Members Traffic Safety Committee
From: Director Engineering
Re: Royal Oak Avenue and Laurel Street
2021 March 01 Page 4

The recommended changes will have a relatively modest impact on traffic patterns in the area. Specifically, northbound traffic along Royal Oak Avenue would be rerouted to Schou Street, one block north of Laurel Street. Figure 3 below shows the surrounding road network for reference. It is estimated that approximately 55 vehicles will be rerouted to Schou Street in the peak hour based on 2019 traffic counts collected prior to the current pandemic conditions. This change is not considered significant nor unsafe and can be accommodated at the intersection of Canada Way and Schou Street. No other traffic safety concerns were identified in the area. To enhance conditions, the existing yield sign for westbound traffic on Schou Street at Canada Way could be replaced with a stop sign.

Figure 3: Existing Road Network near Royal Oak Avenue and Laurel Street



Response to Concerns Raised

Concerns about the rerouting of traffic to Schou Street has been raised by Ms. Jacqueline Chan to the Traffic Safety Committee meeting on 2021 January 27. Ms. Chan requested that alternatives to the proposed changes be considered to alleviate the traffic impacts to her block along the 4600 block Canada Way (Schou Street).

Staff has completed a thorough review of alternatives and the proposed changes best resolves the traffic safety concern while minimizing traffic disruption to the community. Various reconfigurations of the intersection of Royal Oak Avenue and Laurel Street to enhance safety were explored but all were found to be more disruptive to the community than the one proposed. New traffic signals were also considered along Canada Way, but they did not address the safety concern at Royal Oak Avenue and Laurel Street.

To: Chair & Members Traffic Safety Committee
From: Director Engineering
Re: Royal Oak Avenue and Laurel Street
2021 March 01 Page 5

Safety concerns along Schou Street between Canada Way and Laurel Street were reviewed in response to concerns raised. Field observations during the weekday pm peak period showed that speeds along the block were well below 50 km/h, with a maximum of 41 km/h, primarily due to the short block length. A review of crash data from ICBC did not reveal any concerns, and none were found involving vehicles turning right from northbound Canada Way to eastbound Schou Street. While the sharper right turn introduces some unavoidable limitations on visibility, it has helped to reduce the speed of vehicles negotiating the turn and poses no concerns at this time. Additional pavement markings will be provided at the intersection to better guide vehicle movements. Lastly, traffic volumes were found to be normal for a local street and the modest increase due to the proposed changes should not have any measurable impact. Increases in future traffic volumes due to increasing density in the neighbourhood is also minimal. The neighbourhood to the north increased by about 35 units between 2011 and 2019 as cited by Ms. Chan. No major redevelopments are forecasted. Overall, Schou Street by all accounts is operating safely. Any unforeseen traffic concerns can be reviewed and addressed in the future if necessary.

Requests to increase access into the neighbourhood through roadway changes along Wayburne Drive north of Canada Way is well beyond the scope of the proposed changes and will have no effect on enhancing the safety at the intersection of Royal Oak and Laurel Street. Changes along Wayburne Drive may in fact have a detrimental traffic impact on the overall community, such as increasing shortcutting traffic, and is not recommended at this time.

IMPLEMENTATION

Subject to Council endorsement, the recommended changes will be implemented as soon as possible with funding from the 2021 Engineering Operating Budget. The proposed concrete barriers are considered an interim measure until the surrounding streets are upgraded to a final standard with concrete curbs, gutters, sidewalks, and streetlights in a future capital project. Residents within one block of the intersection will be advised of the changes prior to implementation.

CONCLUSIONS

A traffic engineering review was completed for the intersection of Royal Oak Avenue and Laurel Street that identified an increase in crashes over the last 10 years. Mitigation measures are recommended to address this, including changes to the stop controls and the installation of a concrete barrier to restrict north-south traffic flow on Royal Oak Avenue. Subject to Council endorsement, the changes will be implemented as soon as possible and monitored for performance.

To: Chair & Members Traffic Safety Committee
From: Director Engineering
Re: Royal Oak Avenue and Laurel Street
2021 March 01 Page 6

It is recommended that a copy of this report be sent to Ms. Jacqueline Chan for information.



Leon A. Gous, P. Eng., MBA
DIRECTOR ENGINEERING

DL/ac

Copied to: Acting City Manager
Director Public Safety and Community Services
Director Planning and Building
Director Corporate Services
RCMP – Acting OIC Burnaby Detachment Supt. Graham de la Gorgendiere
Fire Chief – Chris Bowcock