

TO: CHAIR AND MEMBERS
TRAFFIC SAFETY COMMITTEE

DATE: 2021 January 14

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

The City receives and reviews numerous requests for traffic safety improvements on an ongoing basis. In addition, intersection crash history and potential problem areas are monitored for possible traffic safety enhancements. Based on traffic engineering reviews, staff undertakes the necessary changes and updates Council of the more significant changes that may be of interest. Based on a recent review, changes have been identified for the intersection of Royal Oak Avenue and Laurel Street. The proposed safety improvements are presented herein as concerns have been raised by Ms. Jacqueline Chan, a nearby resident on Schou Street.

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:

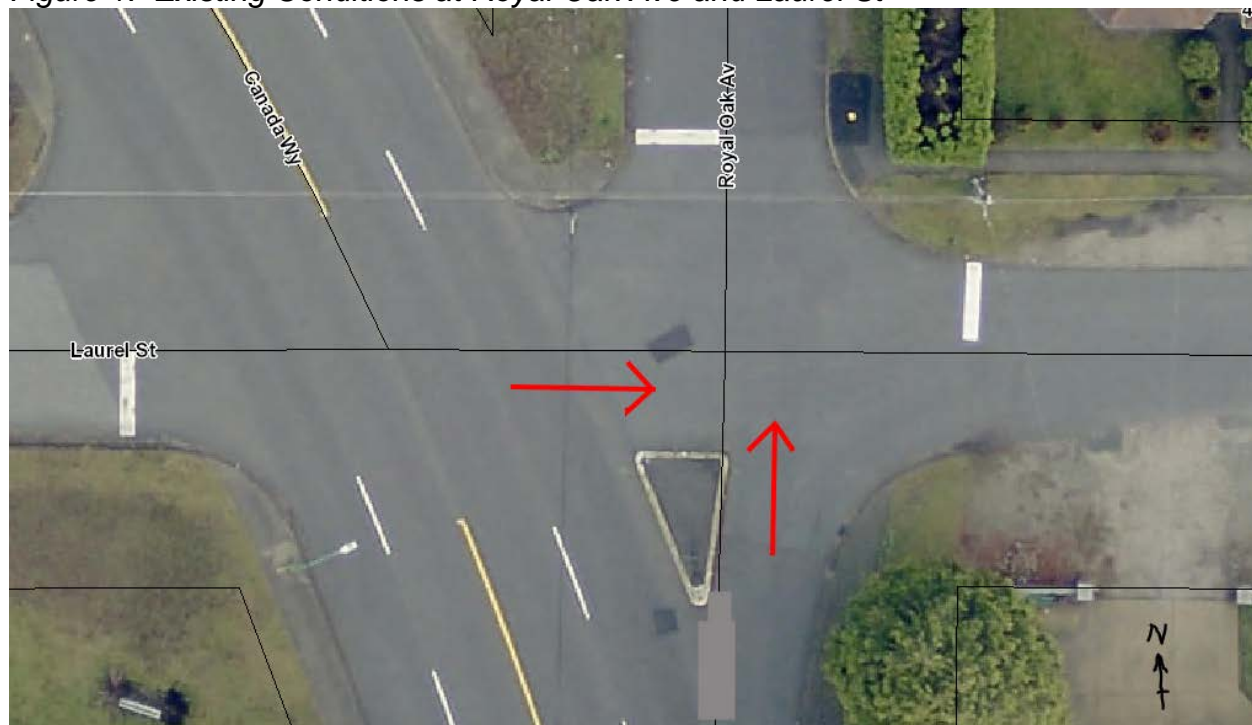
- A Safe Community
 - Transportation safety –
Make City streets, pathways, trails and sidewalks safer.

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 on average 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 and Laurel, 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 Ave and Laurel St

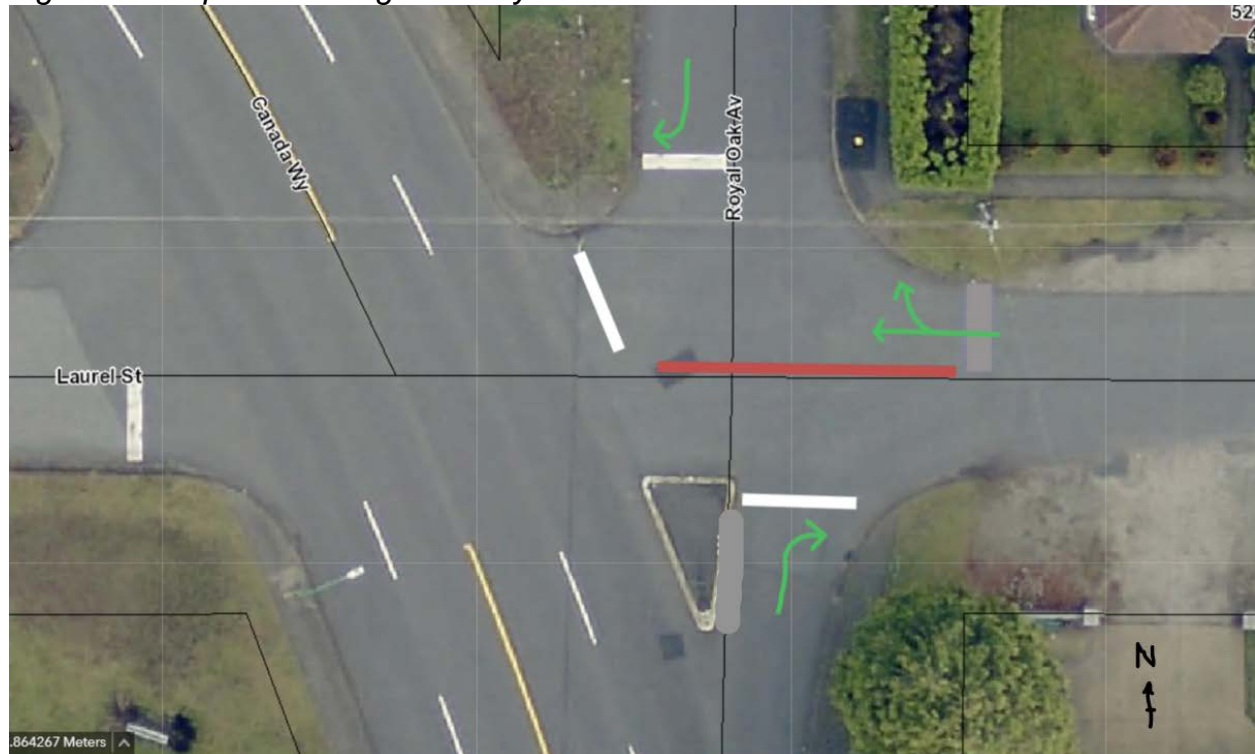


DISCUSSION

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 in Figure 2 below. 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 at Canada Way highlights the underlying problem. Westbound vehicles on Laurel 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 intersection, thus blocking north-south movements. Permitting north-south movements on Royal Oak would have a detrimental effect and could lead to crashes. Therefore it is recommended that north-south traffic flow on Royal Oak be restricted with a concrete barrier as shown in red in Figure 2, plus the removal of the first westbound stop sign on Laurel for vehicles approaching Royal Oak. 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.

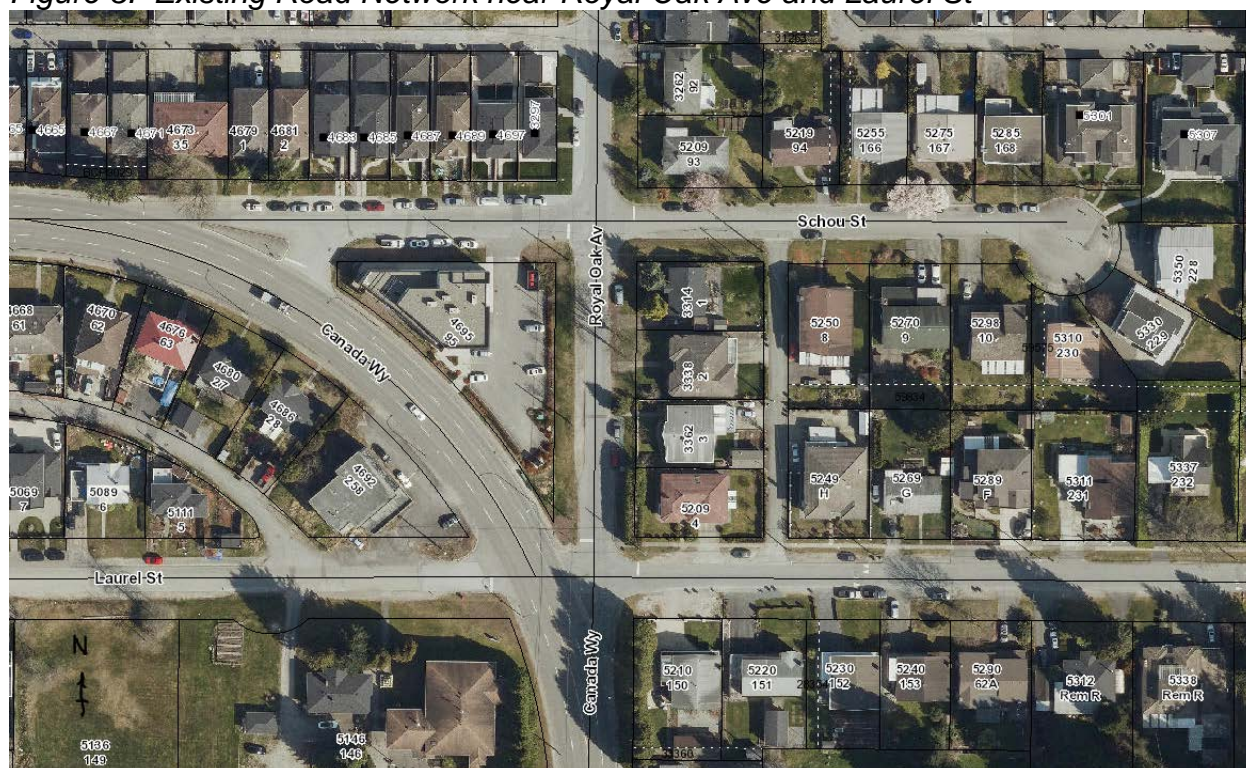
Figure 2: Proposed Changes at Royal Oak Ave and Laurel St



To: Traffic Safety Committee
From: Director Engineering
Re: Royal Oak Avenue and Laurel Street
2021 January 14 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 Ave and Laurel St



Concerns about the rerouting of traffic to Schou Street has been raised by a resident. Alternative plans were explored, but none have been found that would resolve the significant safety problem at the intersection of Royal Oak Avenue and Laurel Street. The resulting increased traffic on Schou Street is considered small with minimal impact to adjacent homes. Any resulting safety concerns can be reviewed and addressed if necessary.

To: Traffic Safety Committee
From: Director Engineering
Re: Royal Oak Avenue and Laurel Street
2021 January 14 Page 5

IMPLEMENTATION

Subject to Council endorsement, the recommended changes will be implemented as soon as possible with funding from the 2021 Engineering Operating Budget. Once installed, the changes will be monitored to assess the effectiveness of the measures. 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, which include 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.

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: City Manager
Director Public Safety and Community Services
Director of Planning and Building
RCMP – OIC Burnaby Detachment Chief Supt. Deanne Burleigh
Fire Chief – Chris Bowcock