

TO: CHAIR AND MEMBERS
TRAFFIC SAFETY COMMITTEE

DATE: 2015 April 27

FROM: DIRECTOR ENGINEERING

FILE: 38000 20
Reference: Traffic Safety

SUBJECT: KINGSWAY BETWEEN EDMONDS AND 14TH AVE

PURPOSE: To recommend the conversion of a pedestrian signal to a full traffic signal at Kingsway/14th Ave and the installation of a new pedestrian signal at Kingsway/16th Ave.

RECOMMENDATIONS:

1. **THAT** the Committee recommend to Council that the existing pedestrian signal at Kingsway and 14th Ave be converted from a pedestrian signal to full traffic signal at an estimated cost of \$140,000 funded from the 2015 Capital Budget (Traffic Signals EMF.0041)
2. **THAT** the Committee recommend to Council that a new pedestrian signal be installed at Kingsway and 16th Ave at an estimated cost of \$220,000 funded from the 2015 Capital Budget (Traffic Signals EMF.0041)
3. **THAT** a copy of this report be sent to the Eastburn Junior Youth Group c/op Ms. Mina Rohani, Apt 216, 7040 Arcola St, Burnaby, BC, V5E 1H6.

REPORT

1.0 INTRODUCTION

On 2014 March 04, the Traffic Safety Committee received a delegation from the Eastburn Junior Youth Group regarding their safety concerns along Kingsway between Edmonds St and 14th Ave. The delegation was concerned about the difficulty for pedestrians to cross Kingsway, a busy arterial street, and requested the installation of a crosswalk to deter jaywalking and to help pedestrians cross safely, especially for people with disabilities or strollers. The group conducted an informal survey of just over 100 nearby residents and found that a strong majority were supportive of a new crosswalk between 16th and 19th Avenue. The concerns of the delegation were referred to staff for review.

2.0 BACKGROUND

Kingsway is classified as a primary arterial road in Burnaby carrying an estimated 25,000 + vehicles per day east of Edmonds St. The section between Edmonds St and 14th Ave is a four lane roadway with two lanes in each direction (see Figure 1). It is intersected by several local streets, most as a stop controlled T-intersection, except 16th Ave which is stop controlled for both north and south bound traffic. The Hubert St connection to Kingsway was recently closed off as part of a multiple dwelling development on the south side of Kingsway. The intersection of Kingsway and Edmonds (a major collector street) is the busiest with a full traffic signal and left turn bays in all directions. It is also where Kingsway widens to three lanes in each direction. The intersection of Kingsway and 14th Ave (a local collector street) is controlled by an existing pedestrian signal. Transit buses run along Kingsway as well as the south leg of 14th Ave.

As part of ICBC's Road Improvement Program, the City in partnership with ICBC completed a comprehensive pedestrian safety review of Kingsway between Edmonds and 14th Ave (the study corridor). The review included data collection, field observations, collision and traffic operations analysis, consideration of surrounding land uses and future redevelopments, and pedestrian crossing patterns. The review was completed earlier this year and a brief summary of the findings and recommendations are presented below.

3.0 REVIEW AND EVALUATION

A total of 417 collisions were identified along the study corridor for the five year period between 2009 and 2013. The highest number of collisions (249) was found at the Edmonds St intersection, followed by 89 at the 14th Avenue intersection. Of all the stop controlled intersections, 16th Avenue had the highest number of collisions at 36. All other stop controlled intersections had less than 17 collisions over the same five year period. While the relative number of collisions at each intersection was not unexpected based on the volume of traffic, the proportion of collisions resulting in a casualty was almost twice as high at the 16th Avenue intersection compared to the provincial average for a 2-way stop controlled intersection. Also, there were no fatal collisions reported along the study corridor during the same time period.

The top three type of collisions were found to be rear-end (48%), sideswipe (21%) and pedestrian related (7%). A high proportion of rear-end collisions is common along major corridors like Kingsway with fewer stop controls. Typical contributing factors include following too closely or driving without due care and attention. Of all the pedestrian related collisions, about 68% resulted in a casualty and 32% resulted in property damage only. Most of the pedestrian related collisions (65%) occurred at the intersection of Kingsway and Edmonds, and the most dominant contributing factor was jaywalking at 55%.

Intersection performance analysis was conducted at four intersections (Edmonds St, 19th Ave, 16th Ave, and 14th Ave) and all were found to be operating at acceptable conditions overall (Level of Service D or better) with some vehicle delays and queues during peak periods.

Some individual movements were found to be operating poorly due to significant delays during the weekday pm peak hour, including the eastbound left turn movement at Edmonds St , and the northbound and southbound movements at 16th Ave. The long vehicle delays at 16th Ave are mainly due to high traffic volumes along Kingsway.

A traffic signal warrant analysis was completed at 14th Ave, 16th Ave, and 19th Ave to determine the stability of a traffic signal at each intersection. The analysis considered the volume of pedestrians and vehicles, roadway configuration, speed limits, and other site specific considerations such as the proportion of heavy vehicles, proximity to schools, and other nearby traffic signals. It was determined that a full traffic signal at the intersection of both 14th Ave and 16th Ave would be warranted to help facilitate both pedestrian and vehicular movements. The relatively low traffic volumes at 19th Ave do not warrant a traffic signal at this time, but with the redevelopment of the former Value Village site at the northeast corner of Kingsway and Edmonds, this may change in the future.

Pedestrian crossings within the study corridor were found to be highest at the Edmonds St intersection, followed by 14th Avenue. Both intersections have some commercial uses and nearby bus stops. A fair number of pedestrians were also found crossing Kingsway between 16th and 19th Ave, many of them midblock. Contributing factors include the multi-family residential land uses on both the north and south side of Kingsway, and the lack of a nearby traffic signal or crosswalk. Interestingly, the existing bus stops near 14th Ave and 19th Avenue were not a significant factor because those bus stops are only used during the very early morning hours when Skytrain is not in operation. Figure 2 shows the surrounding land uses and observed weekday pedestrian volumes during the am, noon, and pm peak periods.

Figure 3 shows the nearby community amenities and bike routes within a five and ten minute walk from the intersections of Kingsway and 16th. It demonstrates the potential role of 16th Avenue in providing a north-south walking connection through the community and helps to reaffirm the desirability of installing a new traffic signal at that intersection.

Overall, the study recommends that the existing pedestrian signal at Kingsway and 14th Ave be converted to a full traffic signal to improve safety by reducing the number of collisions. This change would also facilitate vehicular access to and from the neighbourhood. This growing demand is demonstrated by some vehicle drivers on 14th Ave getting out of their vehicles to activate the pedestrian signal. The change would also help transit buses in turning right from northbound 14th Ave to eastbound Kingsway, and is consistent with the designation of 14th Ave as a Local Collector.

While a full traffic signal is also warranted at Kingsway and 16th Ave, only a pedestrian signal is recommended at this time. This will help to maintain the local street classification of 16th Ave by not attracting additional traffic. The vehicular demands in the neighbourhood may be sufficiently accommodated by the full traffic signal recommended at Kingsway and 14th Ave. The pedestrian signal at 16th Ave should help to reduce midblock crossings, improve pedestrian safety, and reduce intersection collisions; however, it will need to be monitored for any future upgrades.

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Re: Kingsway between Edmonds and 14th Ave
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The study also recommends a number of other associated improvements such as changes to pavement markings, trimming of foliage along the corridor to improve sightlines, managing parking near intersections and pursuing left turn bays as opportunities arise.

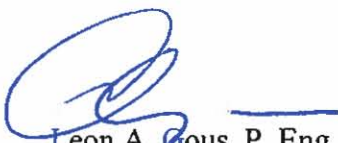
4.0 ECONOMIC EVALUATION

The study completed an economic evaluation of the recommended improvements to determine the potential for ICBC funding based on the cost savings from a reduction in collisions. The upgrading of the existing pedestrian signal at Kingsway and 14th Ave to a full signal is anticipated to reduce annual collisions by up to 20% and provide an annual collision cost savings of about \$55,000. Similarly, a new pedestrian signal at Kingsway and 16th Ave is anticipated to reduce annual collisions by up to 15% and provide an annual collision cost savings of about \$30,000. The findings suggest that ICBC's Road Improvement Program could contribute approximately \$85,000 towards the cost of both signals.

5.0 CONCLUSIONS

A pedestrian safety review was completed in partnership with ICBC to address concerns about pedestrian crossings along Kingsway between Edmonds and 14th Ave. The review recommended the upgrading of the existing pedestrian signal at Kingsway and 14th Ave to a full signal to improve safety. It also recommends the installation of a new pedestrian signal at Kingsway and 16th Ave to facilitate pedestrian crossings. Both signals are estimated to cost \$360,000 in total and funding is available in the 2015 Capital Budget (Traffic Signals EMF.0041). Funding contributions from ICBC's Road Improvement Program will also be sought to help offset costs to the City. Installation of both signals is anticipated to be completed by the end of the year. A number of other associated minor improvements will also be completed this year as recommended by the study. This includes additional pavement markings, trimming of foliage and managing parking near intersections.

It is also recommended that a copy of this report be sent to the Eastburn Junior Youth Group for information.



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

DL:ac
Attachment

Copied to: City Manager
Director Planning and Building
Director of Finance

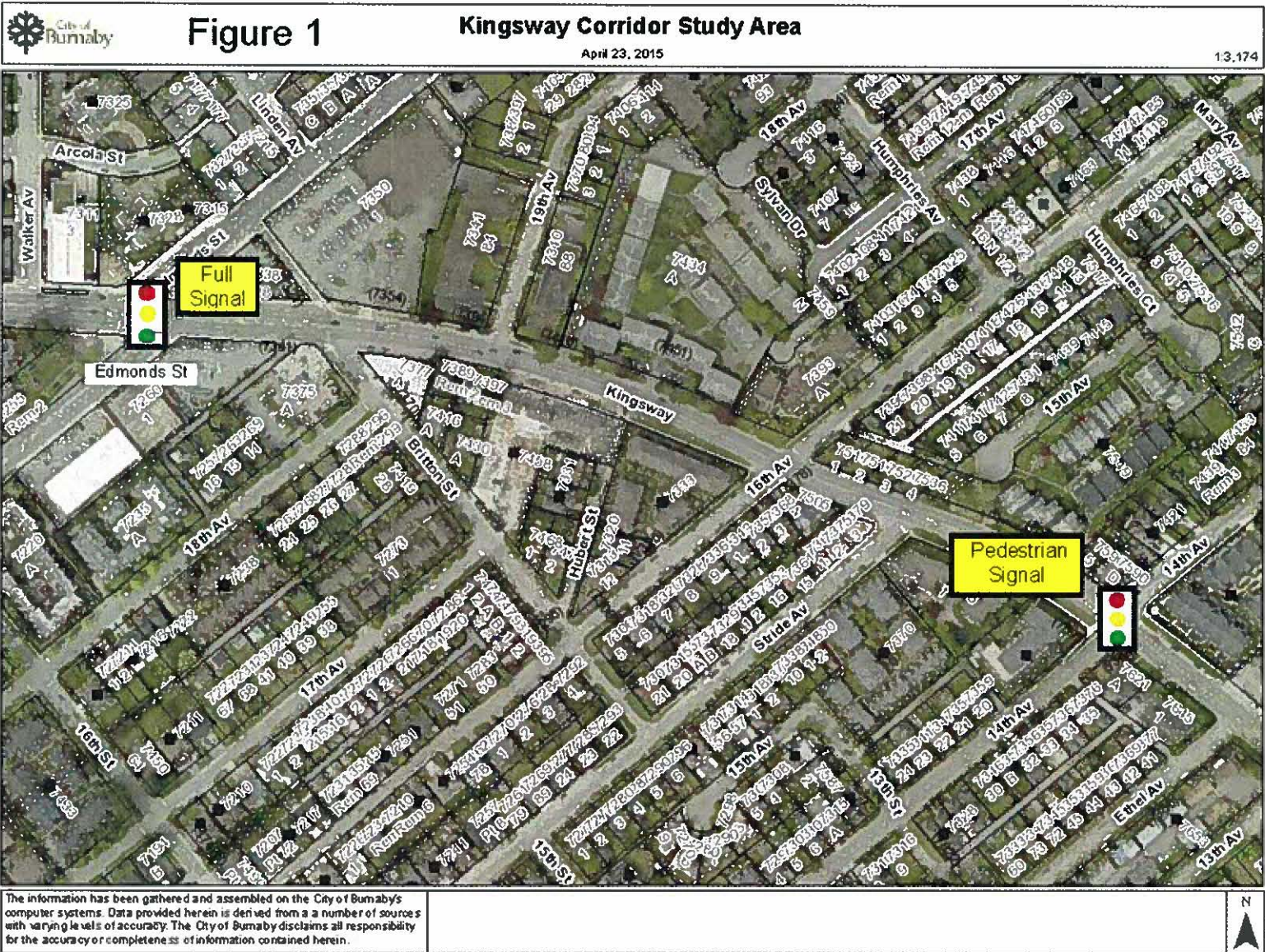


Figure 1 – Kingsway Corridor Study Area

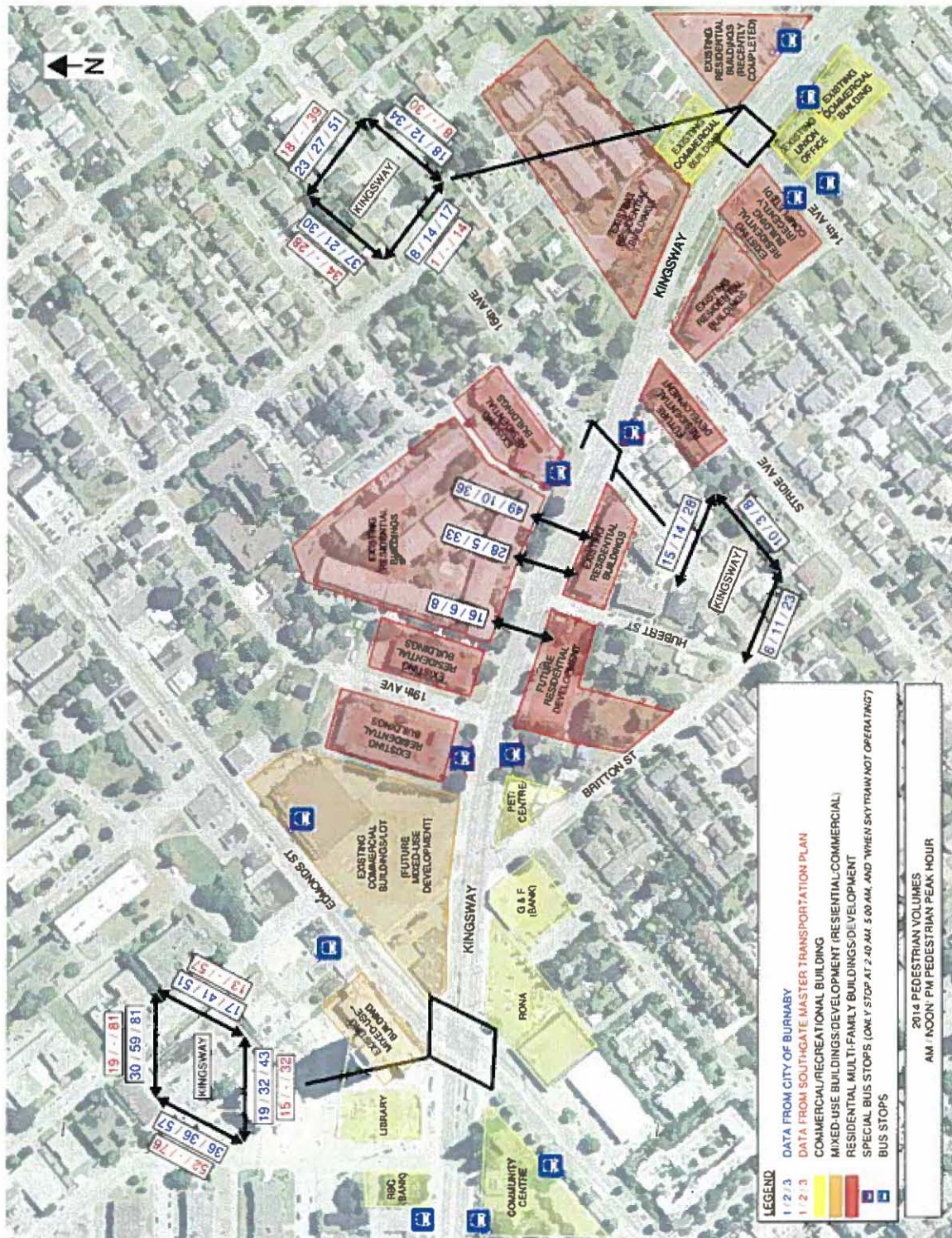


Figure 2 – Land Uses and Pedestrian Volumes along the Study Corridor

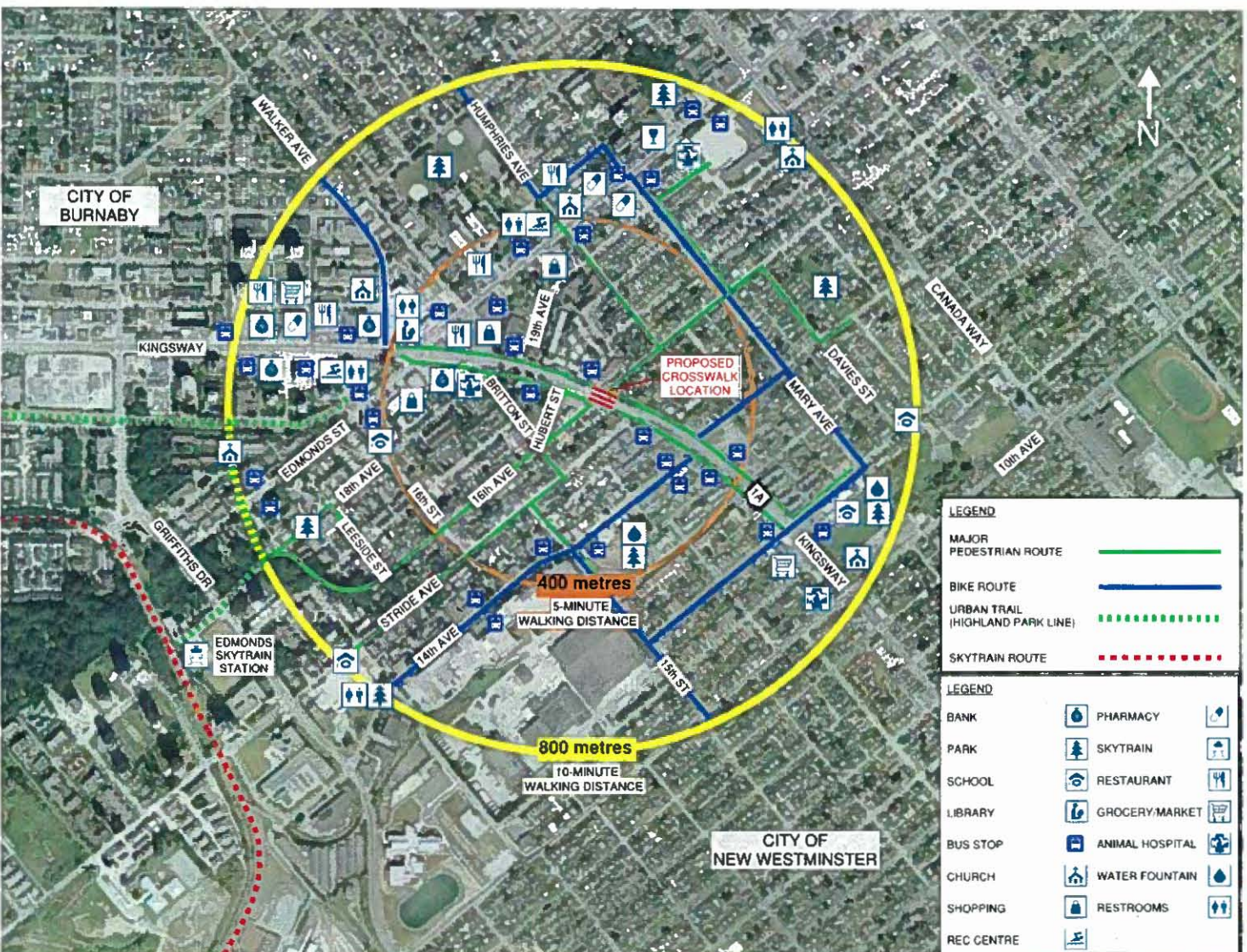


Figure 3 – Amenities and Pedestrian/Bike Routes near the Study Corridor