

341 West 19th Street
North Vancouver, BC V7M 1V6

December 1, 2020

North Vancouver City Council
141 West 14th Street
North Vancouver, BC V7M 1H9

Dear Mayor and Council,

There is growing concern regarding public safety at the intersection of Chesterfield Avenue and 17th Street. With rapidly increasing density and no matching upgrades in walkway infrastructure, diverging needs of pedestrians and drivers are coming to a head. Please accept this formal report regarding the subject of implementing a pedestrian-controlled crosswalk at the North end of the intersection.

The report begins by summarizing the issues facing the neighbourhood. Surveys were conducted to obtain an understanding of stakeholder's interactions with the intersection and to learn about any potential issues or endorsements of the intersection. The various stakeholders surveyed were a mixture of residents, drivers, and cyclists. There was an overwhelming sense of dissatisfaction and safety concerns towards the intersection reported from all types of stakeholders. These findings suggest an intervention is necessary to improve safety before a disaster occurs. The report ends with a list of recommendations including the implementation of a pedestrian-controlled crosswalk.

I am grateful for the opportunity to submit this report to Council as a public citizen. I would be happy to answer any questions or discuss this issue further. I can be reached by email at amaurer@student.ubc.ca or by phone at (604)-875-8892.

Sincerely,

Annie Maurer

Annie Maurer

**Implementing a Pedestrian Light at the
Intersection of Chesterfield and 17th in North
Vancouver**

for

Mayor Linda Buchanan
North Vancouver City Council
North Vancouver, BC

by

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Table of Contents

Abstract.....	iii
Introduction.....	1
Neighbourhood Background.....	1
Statement of Problem.....	1
The Proposed Solution.....	2
Scope.....	2
Methods.....	2
Data Section.....	3
Results.....	3
Analysis of Results.....	6
Conclusion.....	7
Summary of Findings.....	7
Interpretation of Findings.....	8
Limitations.....	8
Recommendations.....	9
Works Cited.....	10
Appendix A.....	11
Survey Questions.....	11

Table of Figures

Figure 1 Survey Question One.....	4
Figure 2 Survey Question Two.....	4
Figure 3 Survey Question Three.....	5
Figure 4 Survey Question Four.....	6

Abstract

It is becoming increasingly difficult to safely cross the intersection at Chesterfield Avenue and West 17th Street. Vehicles have limited vision of stop signs and many do not come to a complete stop at the intersection. This makes it difficult for pedestrians to cross the intersection safely. The area directly East and West of the main thoroughfare Lonsdale Avenue has seen drastic densification in recent years potentially adding to the increased volume of vehicle and foot traffic.

Stakeholders were surveyed to gather primary data on use and perceptions of the intersection. Pedestrians, neighbours, drivers, and cyclists were the stakeholders consulted in this report. Data collected shows an overwhelming sense of dissatisfaction with the intersection. Drivers are dissatisfied with the lines of sight when approaching the intersection. Pedestrians are dissatisfied with the safety concerns of cars not stopping completely at the designated lines. The report recommends that Council complete a thorough investigation into the safety concerns and consider implementing a pedestrian controlled, light-equipped, crosswalk.

Introduction

Neighbourhood Background

The central Lonsdale community in North Vancouver has seen unprecedented development in recent years. According to the 2014 Official Community Plan, by 2031 North Vancouver city will be a vibrant, dense, and prosperous place to live (Planning Department, 2014). To meet city densification goals, the primary locations that have seen drastic changes are the streets directly East and West of the main thoroughfare, Lonsdale Avenue. This has resulted in a two-block span consisting of predominantly multi-level residential buildings between Chesterfield Avenue and St. George's Avenue. These changes have brought an influx of multi-use traffic to the area consisting of pedestrians, cyclists and vehicles. There has not been a matching upgrade in pedestrian infrastructure.

Statement of Problem

Over the last three years while crossing the intersection at 17th and Chesterfield, there have been countless close calls where a vehicle has almost collided with a pedestrian. Chesterfield has become a busy thoroughfare for vehicles trying to bypass the vehicle restrictions on Lonsdale Avenue. There is also heavy foot traffic along 17th crossing Chesterfield. There is a high number of vehicles driving along Chesterfield that do not stop at the 4-way stop and it is only a matter of time before someone is seriously injured or killed (Queen's Printer, 1996).

The Proposed Solution

One potential solution to increase pedestrian safety is to install a pedestrian amber light crossing signal. Pedestrians would press a button before entering the crosswalk that initializes a large flashing light above the intersection. Instead of crossing the intersection while relying on cars to visually see you as a pedestrian, the light would provide an extra warning to vehicles and reduce the likelihood of collisions (Highway Safety Branch, 1996). The purpose of this investigation and formal report is to consult all stakeholders on this issue and present any findings to North Vancouver City Council. If the intersection in question is found to be a widespread issue among stakeholders, a safety upgrade that meets the needs of the current population will be advocated for.

Scope

To determine the best implementation strategy, the report investigates the following areas:

1. Who are the different users of this intersection and with what frequency?
2. What are pedestrians' experiences with using this intersection?
3. What is the accident history of the intersection?
4. Are there any current plans to address this issue?
5. What is the cost of implementation?
6. Which governing body would need to approve the project and oversee it?

Methods

This report employs the use of surveys and open-ended questions with area users to assess experiences with the intersection at Chesterfield and 17th. The surveys will gather both

quantitative and qualitative information to build a picture of the intersection and highlight any observed patterns. A variety of road users will participate in the surveys. Obtaining diversity in road users is essential to provide a well-balanced, holistic report to North Vancouver City Council.

Data Section

The data analyzed in this paper is from a community survey administered by Annie Maurer in November 2020. Survey data was collected voluntarily and anonymously. The survey had 18 participants with no participants being excluded from the survey. Participants were recruited in the area on foot. A mixture of participants was desired, so individuals on foot, on bikes, as well as individuals who exited cars were approached. Participants were not offered compensation for participating in the survey.

Results

The first question of the survey was to classify the participant into road user type. Participants were classified as pedestrians, vehicle drivers, cyclists or mixed users. The results of this question are depicted in figure one below. The majority of participants surveyed are pedestrians.

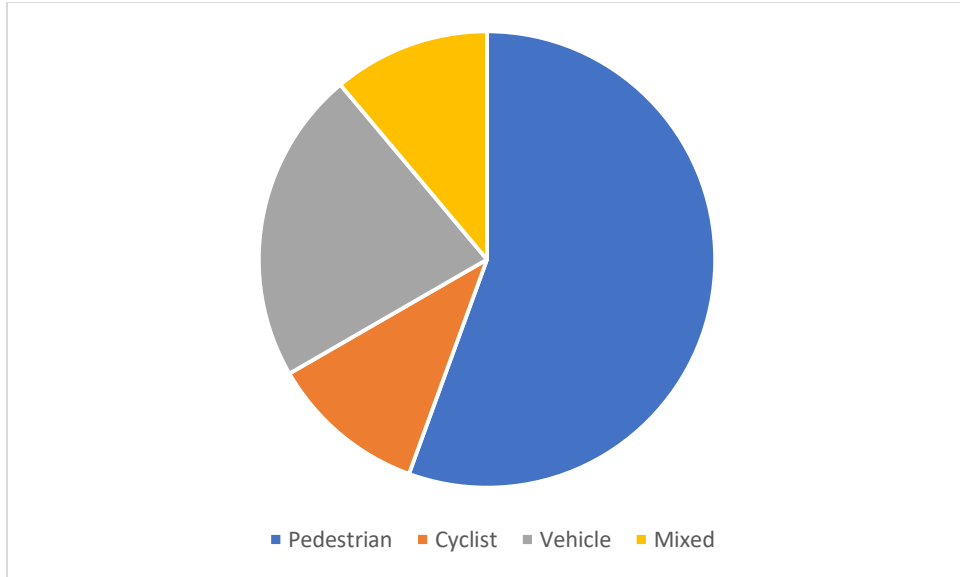


Figure 1: Survey question one

Question two asked participants to indicate how important it for them to have a quick route to their destination. Participants responded on a scale from 1 to 5 with 1 being not very important and 5 being very important. The results of this question are displayed in Figure 2.

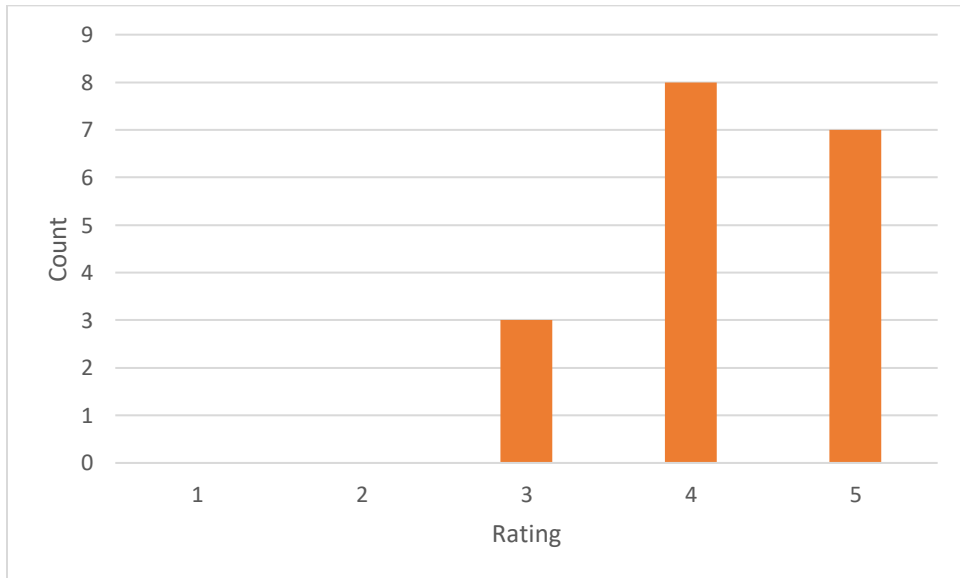


Figure 2: Survey question two

Question three asked participants to indicate how important it for them to have a safe route to their destination. Participants responded on the same 1 to 5 scale. The results of this question are displayed in Figure 3.

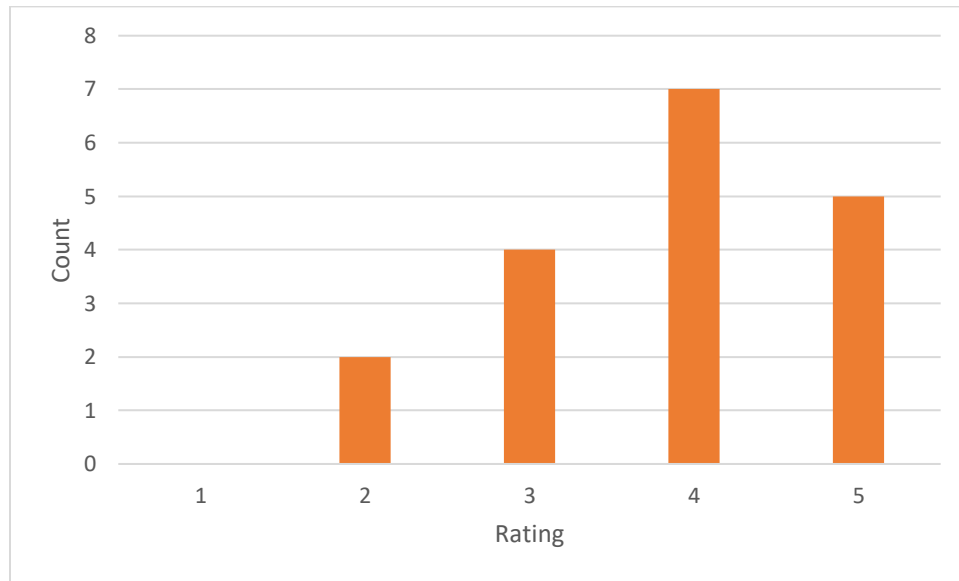


Figure 3: Survey question three

Question four asked participants to indicate how satisfied they are with the intersection. Participants responded on a scale from 1 to 5 with 1 being not very satisfied and 5 being very satisfied. The results of this question are displayed in Figure 4.

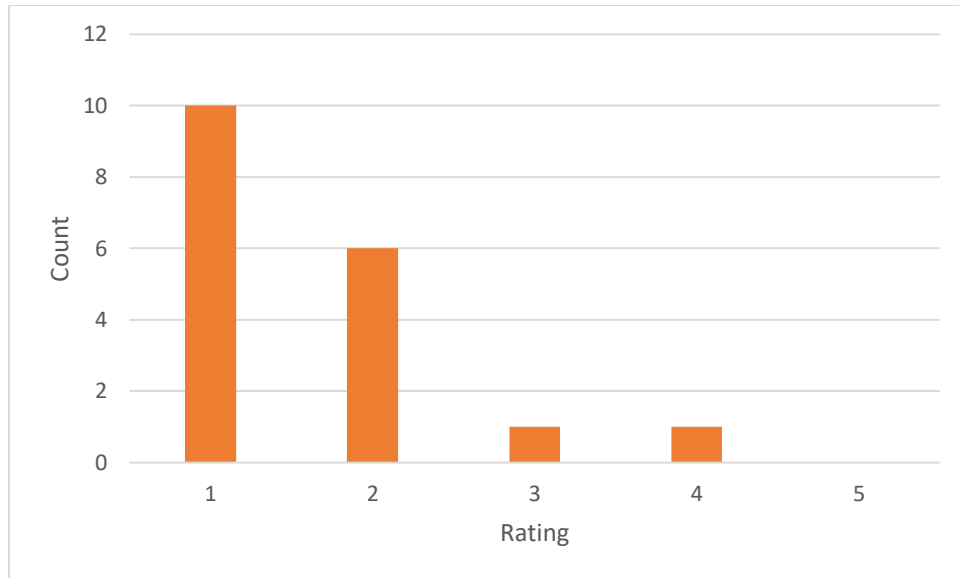


Figure 4: Survey question four

Questions five through twelve were open-ended questions aimed at obtaining a more holistic view of survey respondent's views and experiences. A wide range of answers were received, but they predominantly involved personal stories of negative experiences with the intersection. One unanticipated response was from a neighbour who expressed that the intersection brought community members together through the combined dislike toward the intersection.

Analysis of Results

The one respondent who did not want any intervention at the intersection openly communicated that they live right beside the intersection. They were concerned that the light from a pedestrian crosswalk would cause a distraction visible from their living and kitchen room. Light pollution and/or light distraction could be minimized by implementing an extension that protrudes from around the light reducing sideways visibility of the light.

Conclusion

Summary of Findings

There were a total of eighteen individuals that participated in the survey component of this report. Ten of these individuals are pedestrians, two are cyclists, four are drivers, and two are mixed-use. The two mixed-use individuals were on foot when surveyed but drove to the area by personal vehicle. Figures two and three show that having a quick route and a safe route to the destination are important to survey takers. Having a quick route was slightly more important than having a safe route, but both are important to participants.

Figure four shows that there is an overwhelming sense of dissatisfaction with the intersection. The source of this dissatisfaction became more apparent from the open-ended survey questions. All users, independent on mode of transportation, conveyed dissatisfaction. Pedestrians are primarily dissatisfied with the intersection because cars often do not come to a complete stop to allow the pedestrian to cross at the crosswalk. Drivers find the intersection not well marked and point out that the stop signs are slightly hidden by an inconveniently located shrub. One participant said the crosswalk lines are faded and presented that as a possible reason why cars do not come to a complete stop at the stop sign. The two cyclists surveyed responded to questions with mid-range answers rather than extremes. Neither cyclist conveyed a major flaw with the intersection.

Interpretation of Findings

Based on survey results, it can be established that there is a pressing and growing concern among road users regarding the intersection at Chesterfield Avenue and W 17th Street. Out of eighteen participants, sixteen reported the lowest or second-lowest satisfaction score. Route efficiency and safety are both important factors to survey respondents. Any proposed solution should be both safe and efficient. A solution should take the varying needs of road users into account and should be a reasonable compromise between competing needs. For example, if a pedestrian controlled light crosswalk is implemented, the time between pressing the button and having the 'go' signal should be quick, but not so quick as to slow down vehicle traffic significantly.

Limitations

There are a few limitations to this report that should be discussed. The initial plan for the data collection was to obtain a diverse set of individuals who represent the various stakeholders who use the intersection. This was harder to achieve in practice given that stopping cars is not in the scope of this report. Due to this, the viewpoint of drivers who drive straight through the intersection rather than stopping in the area was not obtained. These individuals might oppose the implementation of a pedestrian light to a greater degree. In future investigations, these viewpoints should be taken into account. As well, the Covid-19 pandemic is raging and it is less comfortable talking to people, even if briefly directing them to the online survey. Finally, readers should be aware that the sample size of survey participants is quite small at eighteen.

Recommendations

All six councillors and the mayor of North Vancouver City were elected based on their values, work ethic, and commitment to the city. All have done an excellent job at advocating for the community on a variety of issues that may be contentious. This report displays the sense of dissatisfaction with the intersection at Chesterfield and W 17th Street from a range of road users. It also highlights important factors to participants such as efficiency and safety. As density within the region continues to increase, problems with this intersection will only increase. Given the small sample size of the survey respondents, large inferences should not be made from this data. Rather, the results of this report should be used to budget for a thorough investigation and feasibility study for the implementation of a pedestrian controlled crosswalk. Action is desperately needed at this intersection now to prevent a catastrophe.

Works Cited

Highway Safety Branch (1996). *Pedestrian Crossing Control Manual for British Columbia*.

Ministry of Transportation and Highways, Victoria, Canada.

Planning Department (2014). *2014 Official Community Plan*. The Corporation of the City of

North Vancouver, North Vancouver, Canada.

Queen's Printer (1996). *Motor Vehicle Act*. The Province of British Columbia, Victoria, Canada.

Appendix A

Survey Questions

I am a third year undergraduate student at UBC engaged in a technical writing project. The purpose of this survey is to obtain primary data for an analysis and investigation that aims to provide recommendations for improving the safety and ease of crossing the intersection of Chesterfield Avenue and 17th Street. The final formal report will be addressed to Mayor Linda Buchanan and all six North Vancouver City councillors. The data gathered from this survey will serve the ultimate purpose of providing council recommendations for improved safety, efficiency, and accessibility of a rapidly growing area of the city. This survey contains a mixture of 11 open-ended and rating-style questions and it should take no more than 5 minutes of your time. Your responses are voluntary and anonymous. Thank you, I appreciate your generous participation in this effort.

1. Do you cross this intersection as a pedestrian, cyclist, motorist, or mixed?
2. Please indicate how important it is to have a quick route to your destination on a scale from 1 – 5 (1 not important, 5 very important)
3. Please indicate how important it is to have a safe route to your destination on a scale from 1 – 5 (1 not important, 5 very important)
4. Please indicate how satisfied you are with this intersection on a scale from 1 – 5 (1 not satisfied, 5 very satisfied)
5. How often do you cross this intersection? (open-ended)

6. Do you primarily use this route to get to work or for other personal missions? (open-ended)
7. Do you have any strong reactions, positive or negative, when crossing this intersection?
8. If your answer was yes to the previous question, do these strong reactions cause you to change the frequency with which you use this intersection? (open-ended)
9. If you have had positive experiences with crossing this intersection, what made the experience positive? (open-ended)
10. If you have had negative experiences with crossing this intersection, what made the experience negative? (open-ended)
11. Do you have any recommendations to improve your experience with crossing this intersection? (open-ended)
12. Is there anything else you would like to add about your experiences with this intersection? (open-ended)