

Stakeholder Report

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Stakeholder Report: Analysis of Activity in CBDs for Roadwork Planning

This report was commissioned by Fulton Hogan to investigate if school holidays may be a more appropriate period to plan roadworks in city areas for the purpose of optimising roadworks decisions to reduce Health & Safety risks, minimise cost as a result of traffic management considerations in high traffic areas and limit overall disruption to city businesses.

This report aims to answer the following key questions:

1. Does it make sense to plan roadworks for school holidays in CBD areas?
2. Which days are best if roadworks must be completed during the day?
3. Are there any geographical differences between CBDs we must be aware of?

Data for this report was sourced from telecommunications data from Spark and Vodafone and publicly available information from Statistics NZ. A model was developed to estimate the number of people in each area for each date and time covered in the dataset. The resulting data was then graphed to look into patterns/trends to address the key questions.

Summary Of Results

The following illustrations (Figures 1-3) provide an estimate of the number of people in Auckland, Wellington, and Christchurch CBDs. These figures show the week of term time leading up to the School holidays and compare this with the first week of the school holiday period. From these figures we can examine how activity in CBDs changes across the days, weeks, and holiday vs. non-holiday periods which will allow us to answer the key questions relating to the goals of the project.

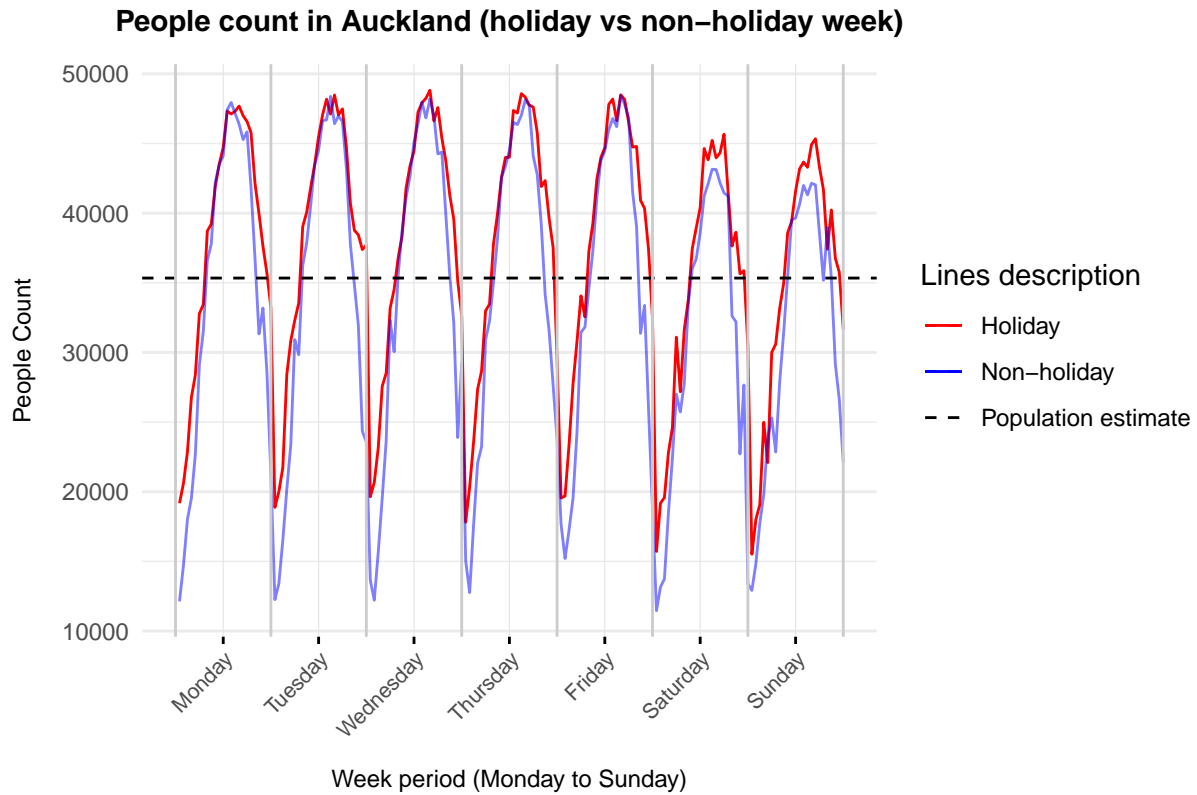


Figure 1. Comparison people count plot in Auckland CBD

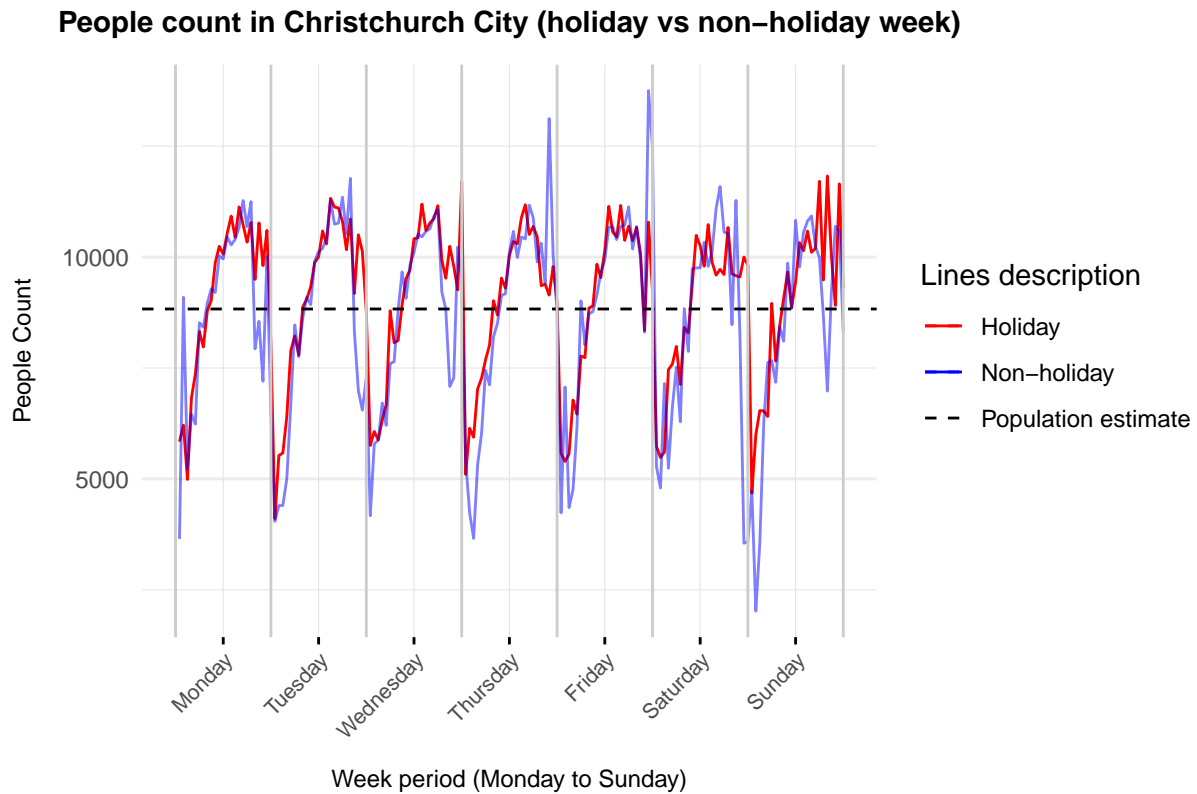


Figure 2. Comparison people count plot in Christchurch CBD

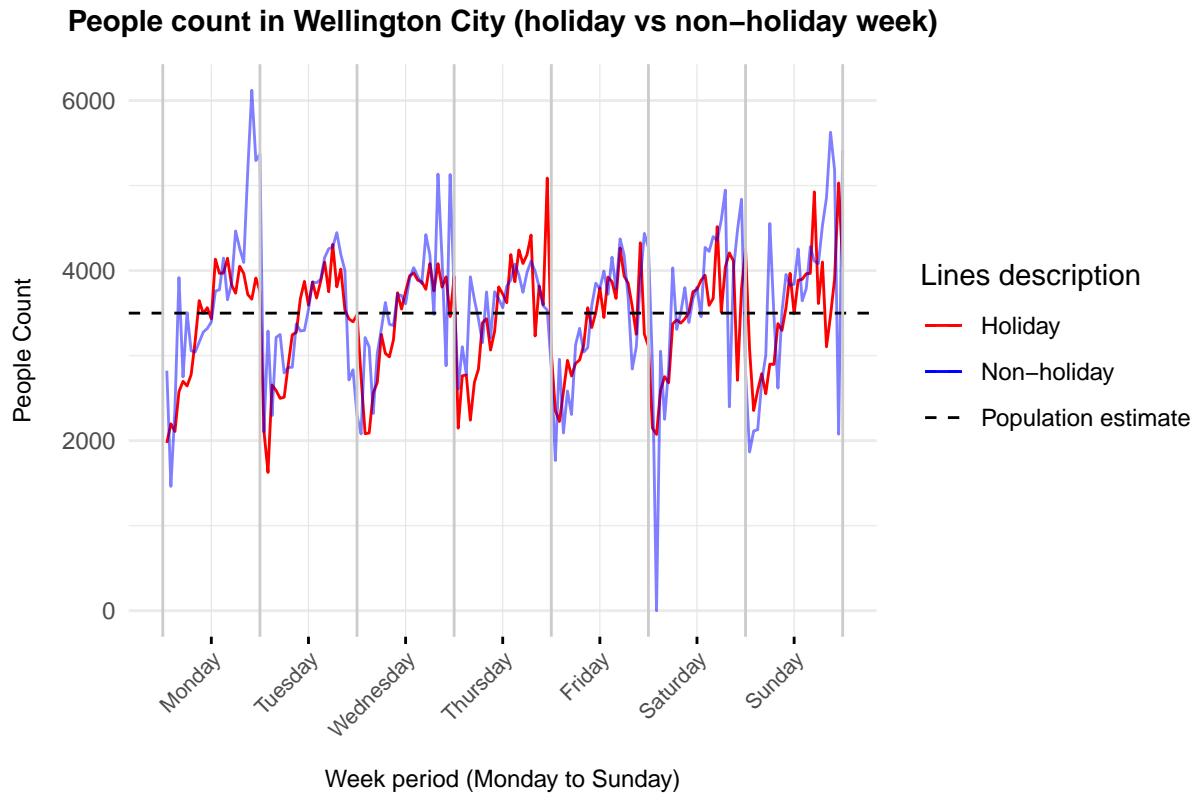


Figure 3. Comparison people count plot in Wellington CBD

1. Does it make sense to plan roadworks for school holidays in CBD areas?

During the daytime (roughly between 8 AM and 6 PM), the population count for holiday and non-holiday weeks is almost identical, with only minor variations. This indicates that daytime activity in all the CBDs remains quite stable regardless of whether or not it is a school holiday period. Activity increases in the middle of the days around lunch-time periods, and non-holiday weekends are slightly less busy than holiday weekends. From this data we can conclude that school holidays do not significantly influence the activity in CBDs and therefore this should not be a major consideration for planning road works in Auckland, Wellington or Christchurch.

2. Which days are best if roadworks must be completed during the day?

The most suitable and stable day for roadworks in Wellington is Monday to Wednesday during the holiday week as can be seen in the plot in Figure 2. In Auckland, the most suitable days are during non-holiday weekends as these days appear to have generated the lowest activity. Similarly, Christchurch experienced its least busy day in the CBD on the Saturday of the non-holiday weekend.

3. Are there any geographical differences between CBDs we must be aware of?

The CBDs as defined in this project have several key differences that may effect both the results of this analysis and the ability to perform roadworks on certain days. These differences include their size, the mode of transport people typically use in those areas, and the presence or absence of institutions such as Universities, Schools and Hospitals. These factors and their possible influence on result are discussed in more detail in the methods statement.

Conclusion

This report has demonstrated that school holidays do not significantly influence the activity in CBDs and therefore should not necessarily influence road works decisions. The data generated highlights specific days that may be preferable for planning road works and the data or methods provided alongside this report could be used as part of ongoing investigations to provide a more comprehensive analysis of this question.

Table 1: Table 1, Geographical areas for each CBD

No	Wellington CBD	Auckland CBD	Christchurch CBD
1	Wellington Central	Anzac Avenue	Christchurch Central
2		Auckland-University	Christchurch Central-East
3		Hobson Ridge Central	Christchurch Central-North
4		Hobson Ridge North	Christchurch Central-South
5		Hobson Ridge South	Christchurch Central-West
6		Karangahape East	Hagley Park
7		Quay Street-Customs Street	
8		Queen Street	
9		Shortland Street	
10		Symonds Street East	
11		Symonds Street North West	
12		Symonds Street West	
13		The Strand	
14		Victoria Park	
15		Wynyard-Viaduct	