

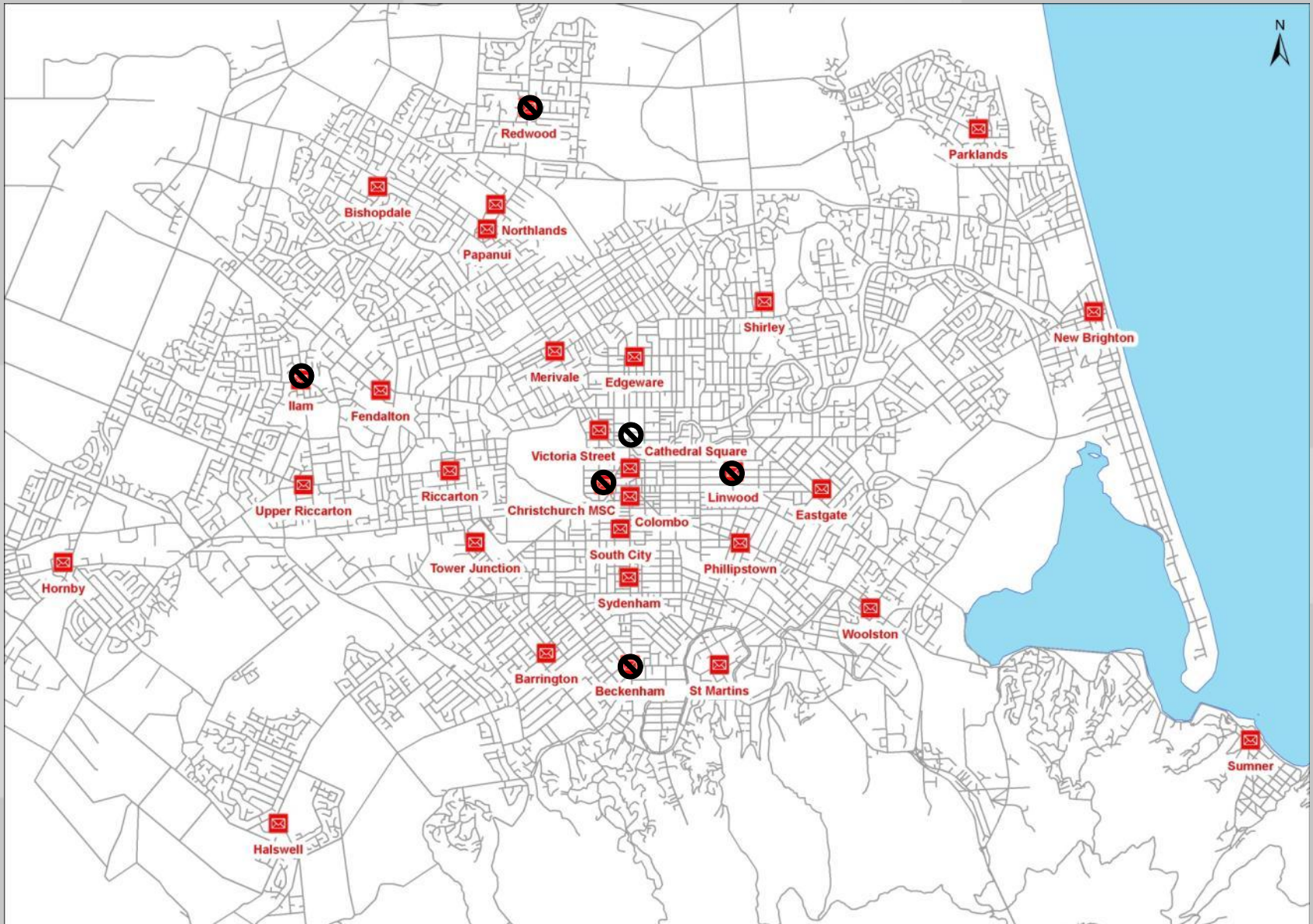
# QUANTIFYING THE SOCIAL AND TRANSPORTATION IMPACTS OF LAND USE CHANGE

*Peter Rose BE(Hons) GIPENZ  
Graduate Transportation Engineer  
Abley Transportation Consultants*

# INTRODUCTION

1. Background
2. Removal of a Post Shop
  - Redwood
  - Linwood
3. Conclusions

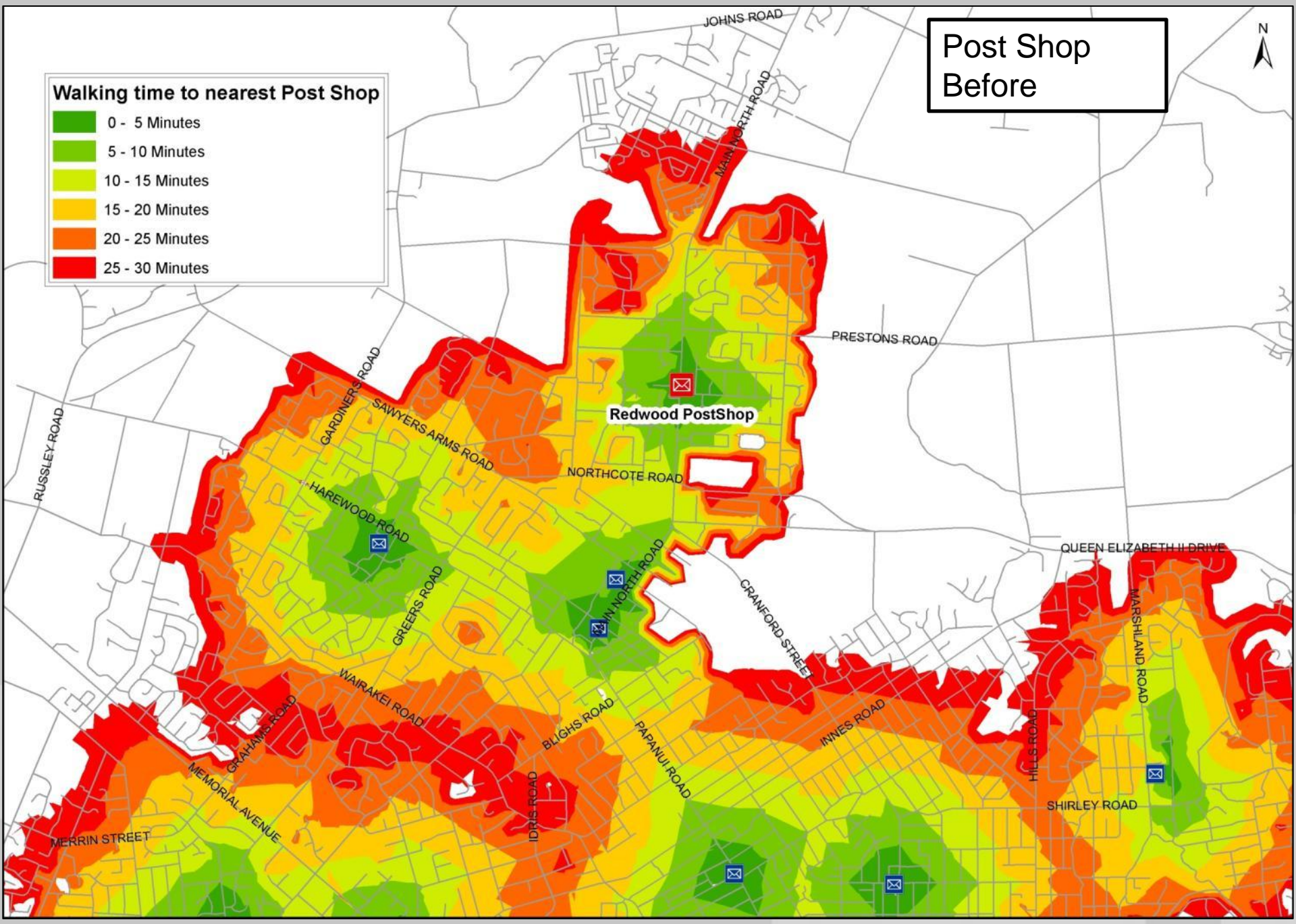
# BACKGROUND



# Is this justified?



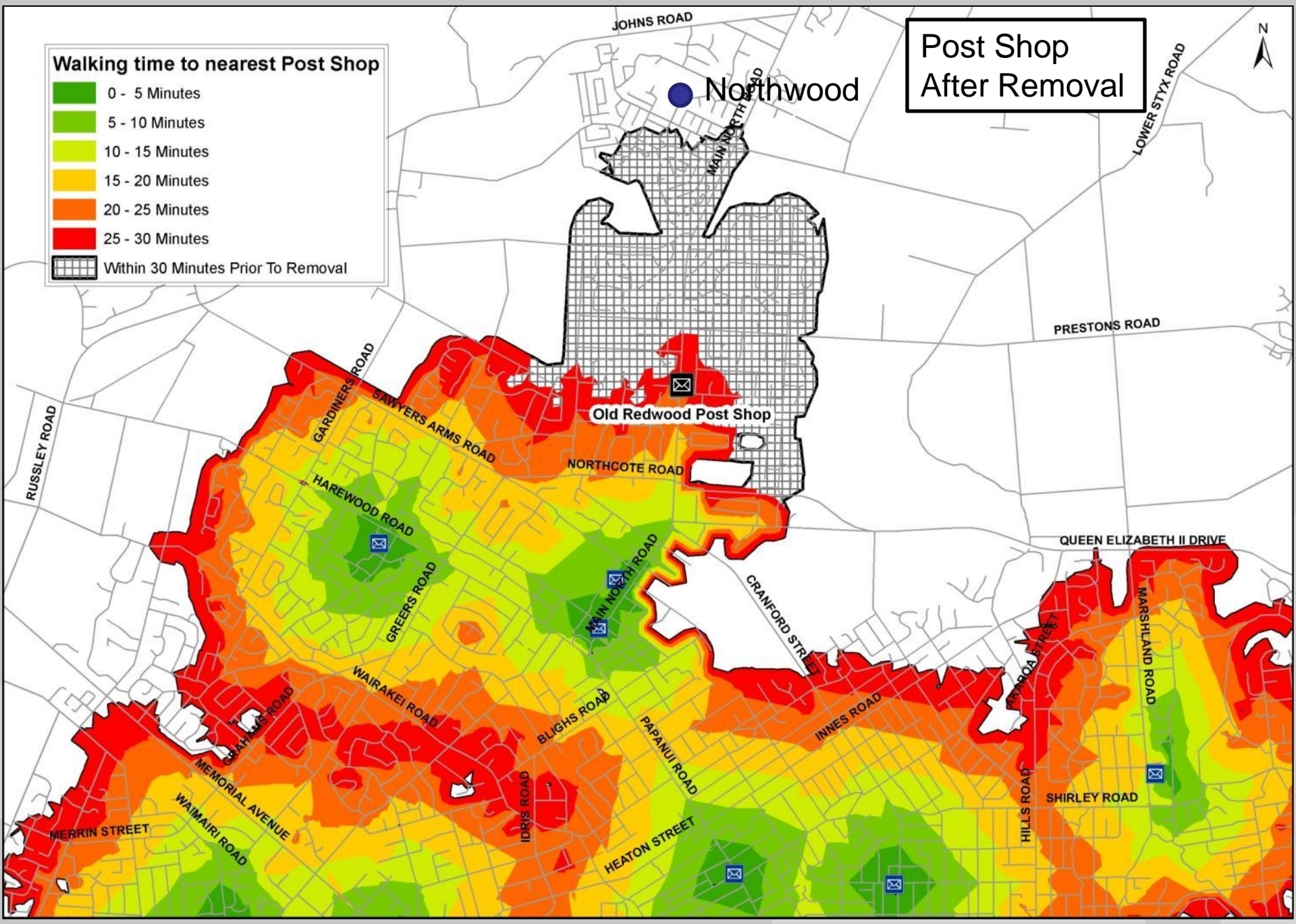
# Post Shop Before

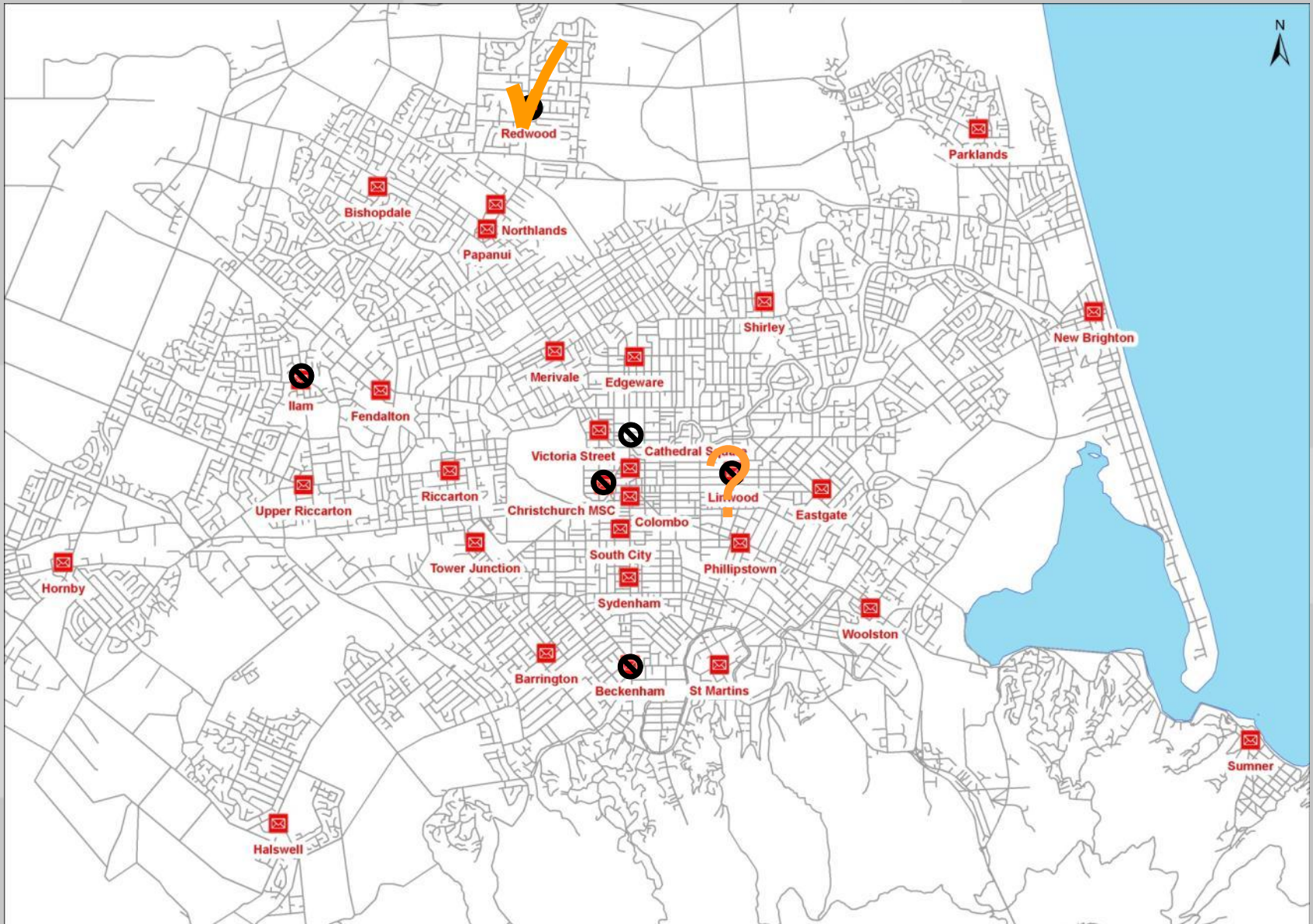


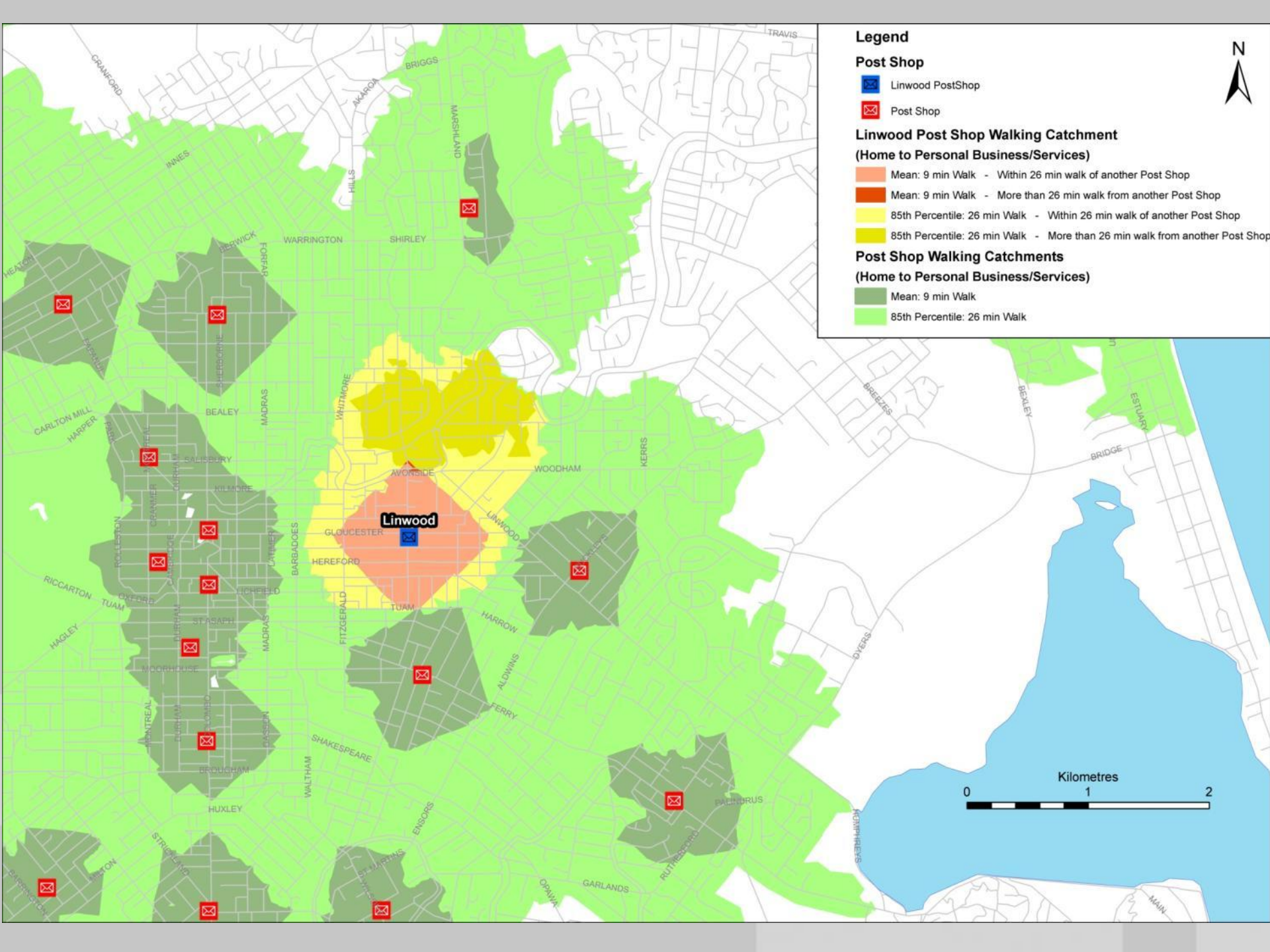
**Walking time to nearest Post Shop**



Post Shop  
After Removal











**Legend**



**Post Shop**

-  Linwood PostShop
-  Post Shop

**Linwood Post Shop Walking Catchment  
(Home to Personal Business/Services)**

-  Mean: 9 min Walk - Within 26 min walk of another Post Shop
-  Mean: 9 min Walk - More than 26 min walk from another Post Shop
-  85th Percentile: 26 min Walk - Within 26 min walk of another Post Shop
-  85th Percentile: 26 min Walk - More than 26 min walk from another Post Shop

**Post Shop Walking Catchments  
(Home to Personal Business/Services)**

-  Mean: 9 min Walk
-  85th Percentile: 26 min Walk





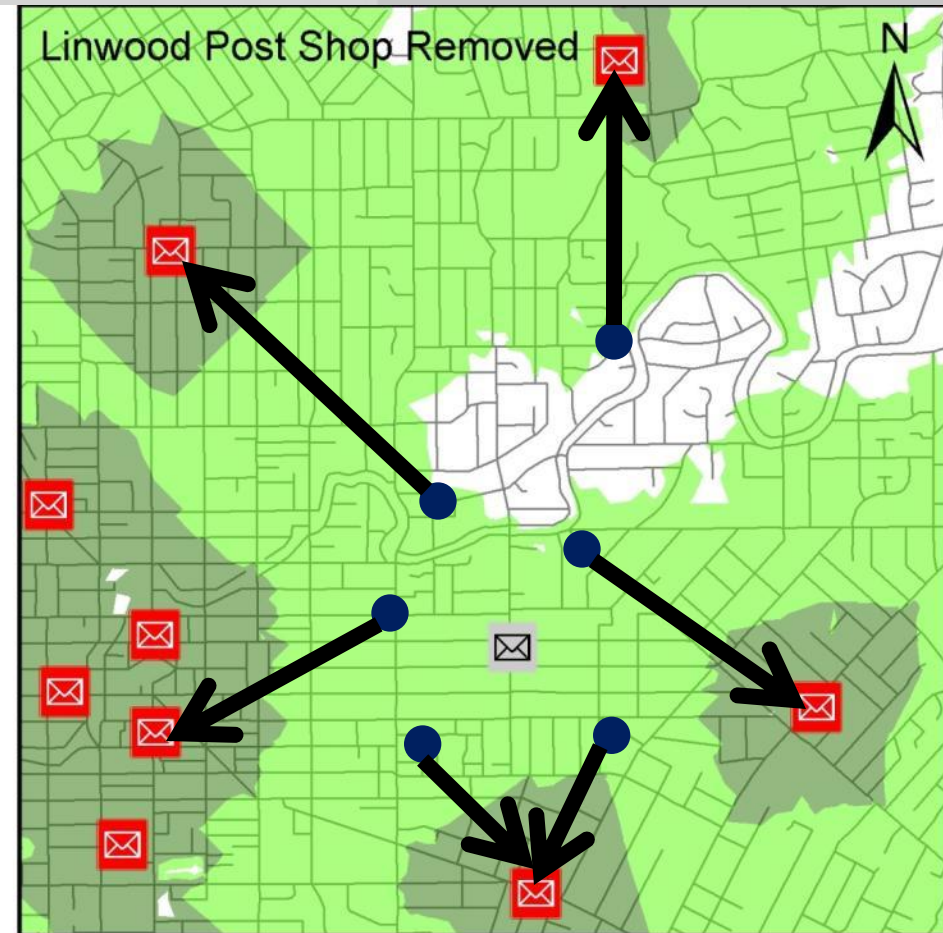
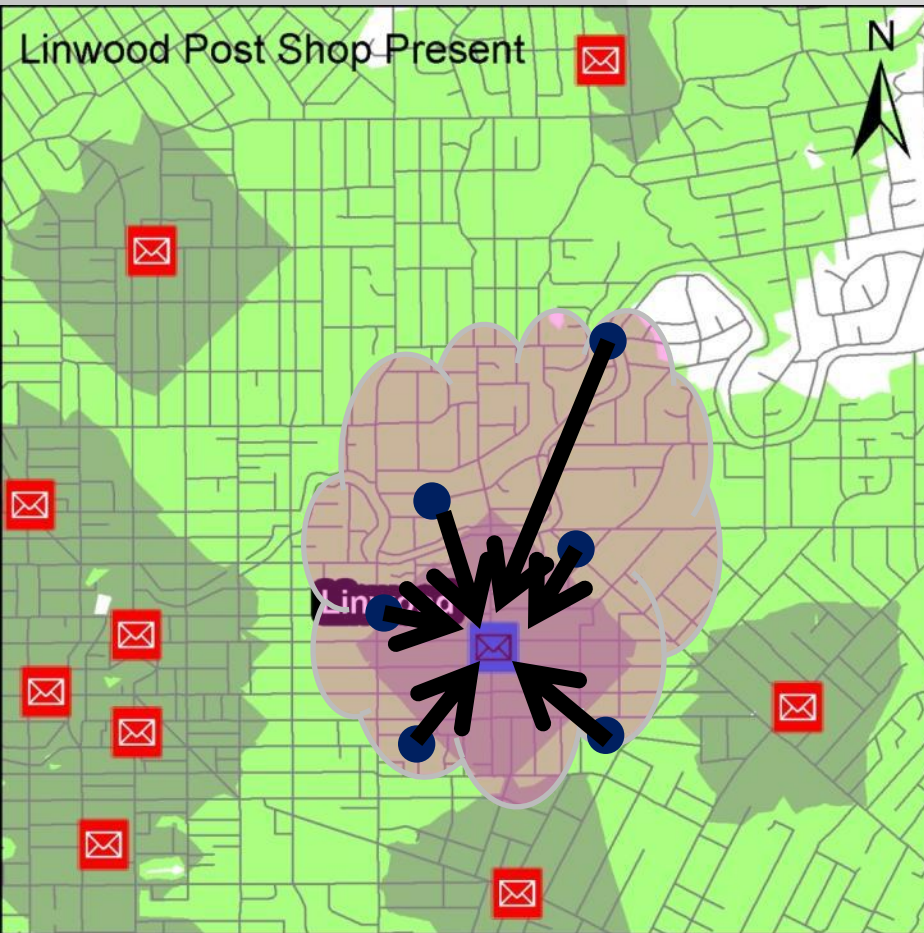
# THE AFFECTED COMMUNITY

- 11,000 people will be disadvantaged
  - 1,100 elderly,
  - 950 on a sickness or invalids benefit.
- 4,890 households will be disadvantaged
  - 900 (18%) do not have access to a car;
  - 47% have access to the internet;

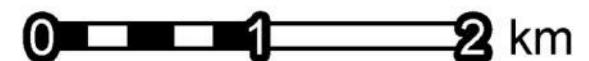
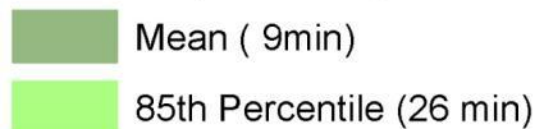
# THE AFFECTED COMMUNITY

- 2,650 people now have to walk more than 26 minutes to their nearest post shop;
  - 340 are elderly (Aged 65+),
  - 200 are on a sickness or invalids benefit.
  
- 1,170 households now have to walk more than 26 minutes to their nearest post shop;
  - 200 don't have access to a car,
  - 500 do not have access to the internet.

# TRIP LENGTH MODELLING



Post Shop Walking Catchments



# TRANSPORTATION EFFECTS

- 72% who currently walk are expected to switch to another mode of transportation;
  - For those that continue to walk
    - An additional 640 hours per annum will be spent walking.
  - For those that probably change to a motorised form
    - An extra 12,000 vehicle trips per annum,
    - Generates an additional 3 tonnes of CO<sub>2</sub> per annum

# CONCLUSIONS

*Was this justified?*



# CONCLUSIONS

## Redwood

- Even with the planned relocation to Northwood 1800 fewer people within 15 minutes walk to their nearest post shop

## Linwood

- 72% who currently walk expected to switch mode of transportation;
- 12,000 extra vehicle trips per annum,
- An additional 3 tonnes of CO<sub>2</sub> per annum

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