

17 May, 2018

The Engagement Team,
Public Information and Participation Unit,
Christchurch City Council
P O Box 73016,
Christchurch 8154

Email; ann.campbell@ccc.govt.nz

**PROPOSED RE-ORGANISATION OF TRAFFIC IN ST. ALBANS
INCLUDING CRANFORD STREET CLEARWAY & THREE LANING OF BARBADOES
AND MADRAS STREETS**

We, the undersigned, make the following submission in respect for consideration into the proposed "Downstream Effects Management Plan" that Council is developing as a result of the Northern Corridor motorway discharging onto Cranford Street.

Initial concerns are as follows;

- 1 The feedback is to develop the "Downstream Effects Management Plan" according to the brochure, so what is that for? Does that mean the decision has already been made and now it is a case of convincing the residents of Barbadoes Street to put up with the effects? We note that that late last year the traffic light pole received an extra stub to the top of it as if in anticipation of some change. It now appears rather coincidental but we can now understand what that change probably is and therefore believe you have already made the decisions and this feedback is purely going through the motions because you have to.

It is obvious that there is only one plan with no alternatives being put to the public. Feedback from the public information sessions are that while it is stated no decisions have been made, the one plan is strongly defended by Council staff leaving a very definite impression of things being "fait d'complete" even if no "political" decisions have been made. If this is the case then this is very disappointing as the whole consultation process is therefore a waste of time.

- 2 The brochure is totally unclear as to what is proposed apart from three laning, loss of parking, and unspecified changes to intersections, it is even confusing between whether the three laning will work as a clearway or is permanent.
- 3 Barbadoes Street has retail businesses, much at Edgeware Road corner rebuilt since the earthquake so not dead and dying. Retailing like this needs parking in both directions. Does the parking both sides of the road disappear under the proposals or is the three laning not continuous.
- 4 Barbadoes Street has 2 bus routes running through it, so how is this being handled, or are those routes destined to disappear from the street? The current route 100 bus turns into Edgeware Road and already has some difficulty with that. How is that going to be addressed? If at peak time the bus stops and blocks the inner lane while taking on or off of passengers that surely the inner lane is of limited value.

- 5 The area between Edgware and Bealey is zoned for higher density housing which also attracts more on street carparking. If all this parking is to be only on one side of the street it will not cope, either in terms of parking numbers (based on overnight parking now), or in make it more difficult to get out of properties on the west side and create difficulties in finding places to put rubbish bins once a week for collection.
- 6 Access to the park is compromised by having to cross two lanes in one direction, so summer morning jogs in the park or walking the dogs for those on the east side is compromised. Likewise on the western sides during the evening peak and the similar approach of three laning taken on Madras/Forfar.
- 7 Double lanes are inherently dangerous as you can't always see what is coming up the inside or along the outside if one lane is full of traffic and someone leaves a gap for you to access.
It is many a day that you can drive down the one way part of Barbadoes and find most traffic in only one lane. Christchurch drivers do tend to get into the lane they need early so most go in the right lane for right turns further down the street. The left lane is then often clear of traffic. So what theory is being followed here that will mean both lanes get equally used ? If both lanes don't get used evenly is there any point to creating the second lane ?
- 8 The current peak load traffic is from 6am to 9am. Traffic feeds into Barbadoes from both directions off Warrington so one could assume that some of the Marshlands Road traffic comes across now and uses Barbadoes. It certainly did for the many months that there were closures on Hills Road and North Parade and the street coped. To three lane Barbadoes for a morning peak only seems to be a complete overkill and a one sided traffic solution instead of a holistic community based solution. The amount of permanent disruption to the neighbourhood nor potential costs seem warranted for a peak of only a couple of hours a day that we have currently anyway.
- 9 The city needs people living closer to the city in denser established neighbourhoods and St Albans is part of that. To run very linear high density route through it is not going to help the quality of community life. This suburb not only looks to the city as a direction to go but also east/west along streets like Edgware Road. After the earthquakes this street was closed for a couple of years and now has become a more minor road. The traffic lights all default to the north/south streets and the green cycle for the east/west streets are short. In the evenings you often have to sit and wait for no-one while the lights go through their long phase north/south cycle. Then there is the shambles at Edgware village where the lights were introduced with the cycleway. Coming east the lights are so positioned only one car can stop on the red, any other cars behind immediately block Trafalgar Street. You also get Colombo Street traffic coming out and expecting to go straight into Trafalgar northbound in one movement, a manoeuvre that has caused minor accidents. According to the local community newspaper those changes are not complete and further changes are being contemplated by Council. It is easier to walk sometimes ! The volume of traffic on Edgware does not appear to have reached anything like pre-earthquake levels and some of this can be put down to the inconvenience the traffic signalling has created. Once you three lane both Barbadoes and Madras/Forfar this traffic signalling issue presumably will just get worse, not just in

peak times but all day. Seems you have the coffin out already for this part of St Albans, you now want to nail it shut too !

- 10 One of the advantages of a flat city with a grid structure of streets is there are always alternative to travel through to get around. Traffic has more chance of dispersing quickly.

Look at other major NZ centres where motorways take traffic into the CBD and there is nowhere else to go when there is a problem so congestion is really easy to create. This proposal seems to direct the new motorway traffic into single routes and therefore work completely against natural advantages of the city and will just give us the congestions others have to put up with to make us the same. Silly really !

Discussion;

As the street currently is configured, it does appear to have capacity for a reasonable amount of traffic. Even during the period when Hills Road closed, it was seldom that traffic built up extended from Bealey through to Edgware. The ability of the street to cope appears to have more to do with the signalling at the Bealey/Barbadoes intersection. From the lay person and resident perspective, there does seem to be capacity to cope with more traffic in Barbadoes Street without the need for change, on the basis that while there is a peak volume, it is not overly congested. On what basis has it been determined there is a need for another lane ?

The retail area at Barbadoes / Edgware has a number of "destination" businesses that are unique to this corner and they rely on people having close and hassle free parking. Add to that mix the higher suburban density and on street parking it uses the demand currently will exceed what will be there if it is halved and down one side only.

We are somewhat fortunate that the peak time is only in the morning, the evening peak volume uses Madras/Forfar, so we are not talking of a continuous 24 hour volume of traffic, we are talking between 2 to 4 hours at most.

Berwick/Warrington seem to us to be the weak link in the process. The brochure has Cranford as a clearway so 2 lanes for the peak flow direction and then over to Barbadoes /Madras/Forfar for the continuation of the peak flow two lanes. Making the transition along Berwick/Warrington may not be quite as simple. This will need also to be two laned in the appropriate direction or it has the potential to become a bottleneck. Keeping Berwick/Warrington single laned makes changing Barbadoes /Madras/Forfar less relevant or appropriate.

The alternative to Berwick/Warrington is to let the clearway continue down Sherborne Street to Bealey Ave. The connection can then be made to get across to the arterial one way routes into the CBD proper, namely Barbadoes/Madras and Durham/Montreal. Again, from the lay perspective, it would seem a simpler prospect to have traffic transitioning east/west on Bealey which has 3 active lanes in each direction and cope with the peak flows through management of the traffic signalling system. This was during the 1990's through to 2004 the route of State Highway no 74. Previous to this it was part of State Highway no 1. It has therefore always been seen as a main route. This seems a logical option to reinstate and seems a less disruptive and less costly exercise that transitioning at Berwick/Warrington. We note that Sherborne has a significant number of motels having originated from the time it was classified a state highway and therefore has less medium density housing so parking

issues are less than on Barbadoes or Madras. We suggest it will be the least affected of the three alternative streets for being impacted by a clearway option.

While having a link to the one way CBD street system from the motorway and hence using Barbadoes/Madras/Forfar, we note there is no similar route on the western side of the suburb. A link through Rutland and Springfield for similar connection to the one way streets of Durham and Montreal doesn't appear. In fact Rutland Street is shown as a potential speed reduction street which we read as meaning reducing traffic to side streets.

The lack of a western option, and Sherborne not figuring in the proposal, but a clear indication that you want to move the traffic east is going to impact on the Edgeware Village retailing. It is not unknown for people to stop in the village on their way home. The retailer, both at Edgeware Village and on Barbadoes rely on traffic through the area for their customers. This proposal appears to want to reduce the traffic near Edgeware Village and in Barbadoes limit on-street parking, both which need to be considered as adverse and unacceptable effects.

Barbadoes Street still has tram tracks, buried just below the surface of the current roadway. These tracks act as a wonderful transmitter of vibrations and this was highlighted when they were cut through when drainage works were carried out along Edgeware Road post earthquake. Immediately, the number of vibration and shaking of our properties reduced dependent on which side of Edgeware Road one is and where the current pothole/crack is in the road surface. Our properties shake and windows rattle every time a bus or truck hit one of the road surface defects regardless of whether that defect is by our property or whether it is some distance away. If Council wants to significantly increase traffic volumes down the street to the extent you have to create a permanent additional lane, then you should also remove the old buried tram rails to mitigate the potential for damage to built structures down the street from amplified vibrations.

Suggestions;

Our preference for process are as follows;

- A Leave Barbadoes and Madras/Forfar as currently configured and monitor traffic volumes across the suburb after 2020 to determine whether the traffic gets distributed across a number of potential routes and whether the increase is actual greater than the street can cope with. This option has less adverse impact for residents, retailers, bus services, and general access across the suburb.
- B Start with a clearway in both Cranford and Sherborne streets to Bealey Ave as these roads should have capacity to cope.
- C Create an equal prime route in the western part of St Albans to link up Durham/Montreal streets in similar fashion with suggestion D
- D Should capacity get to a point that an extra lane is justified for Barbadoes and Madras/Forfar, a clearway option is the second preference. This will effect only some residents (notably those parking on the street and not necessarily using their vehicle during the day or not getting up before the clearway come into effect) and some retailers like the dairy's that open and do service some of the incoming people with supplies of drinks, cigarettes or snack foods. A disadvantage is the bus routes as a

stopped bus will then render the inner lane unusable for a period. The risk with this is that it is then not additional volume we will need to cope with, but higher speeds as people weave between lanes to make sure they don't get caught behind the bus and have to wait. Because this option applies for only a few hours, we do have the chance to work around it by changing routines and being accommodating because it is only for a short period.

- E Permanent three laning is the worst of the options, on the grounds of the effects to residential in terms of parking, and to retailers on the same grounds. From a ratepayers perspective, it appears to be the most expensive option to implement and then it is only for a morning peak which seems overkill.
- F Proposal to install traffic signals along Warrington Street are supported. These intersections have congestion issues, but we do have options of alternative routes by using Edward Ave in either direction to circumvent. However, they are for us to know and not for everyone to use otherwise the problem just gets shifted. Therefore traffic signal control is a better option.
- G We also would like to see existing lights favour the east/west direction in normal daytime and evening hours, and only have longer north/south sequences during those hours when peak flows are expected.

We look further to continuing consultation on the issues of traffic and community in this area,

Your's faithfully

Jayesh Jeram
Barbadoes Foodstore

[REDACTED]

S Greer
Donut Boutique

[REDACTED]

Sarah Freeborn
The Blueberry Kitchen

[REDACTED]

Eleanor Burgess
Georgies Wig Shop

[REDACTED]

Peter Davey
Ambrose Heal Furniture

[Redacted]
[Redacted]
[Redacted]
[Redacted]

Tracey Geerin
TG Hairdressing Ltd

Paul van Herpt
Van Herpt Architects Ltd

[Redacted]

Tim Clyne
Etcetera

[Redacted]
[Redacted]

Tessa Read

[Redacted]

Nicholas Wogan

[Redacted]

Konrad Lilley
KSJ Investments Ltd

[Redacted]

D Fleck

[Redacted]
[Redacted]

Coralie Donaldson

[Redacted]

Rachel Core
Business owner, Total Reality

[Redacted]



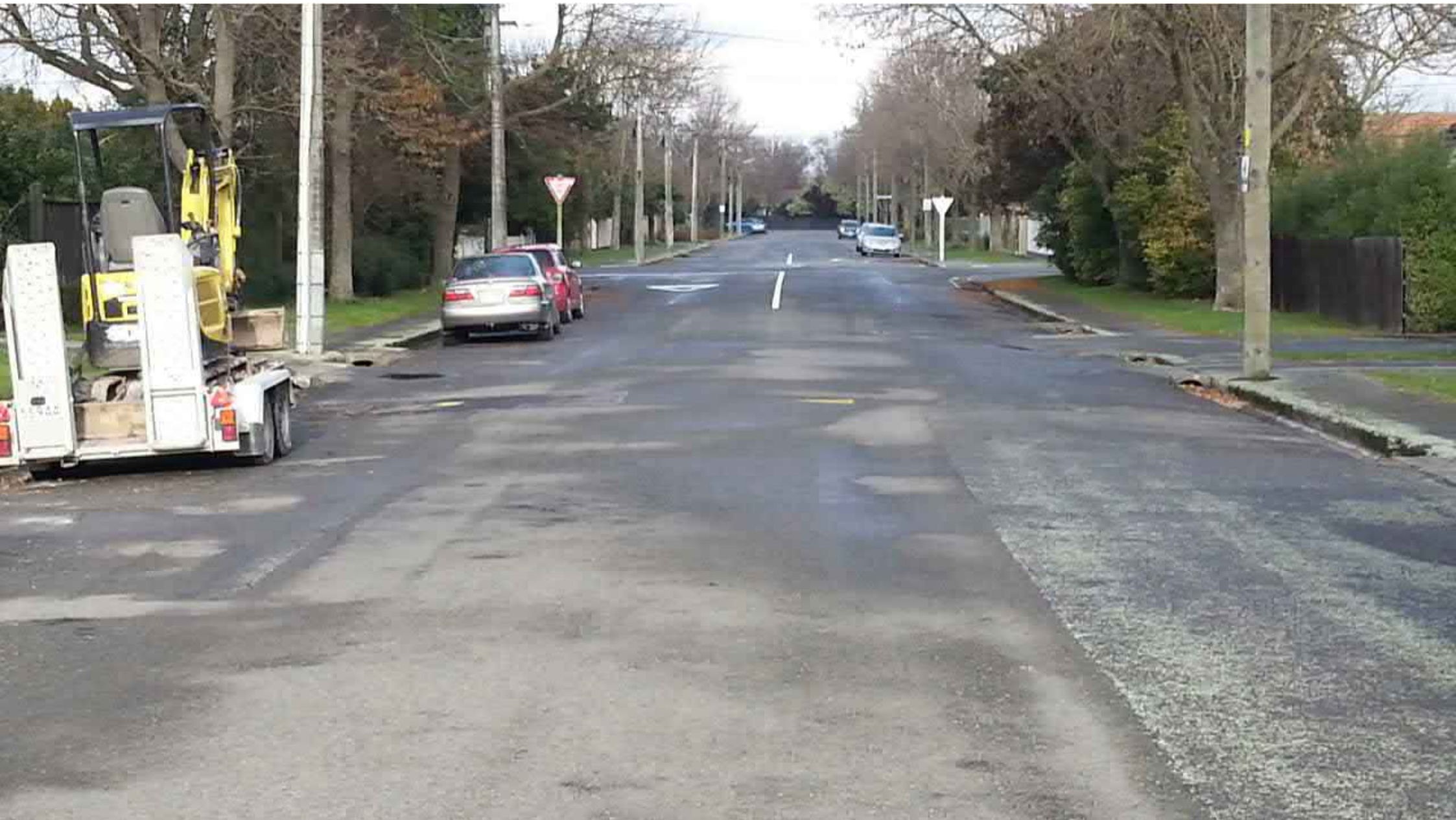
Submission #15476



Submission #15476



Submission #16089



Submission #16210 1.-Jameson-Ave-narrow-and-poor-rd-surface



Submission #16210 2.-Mcfaddens-east-of-Cranford-st-wider-than-jameson-ave-poor-rd-surface



Submission #16210 3.-Weston-Rd-west-of-Cranford-St-smooth-rd-surface



Submission #16210 4.-Weston-Rd-east-of-Cranford-St-poor-rd-surface



Submission #16210 5.-Knowles-Street-west-of-Cranford-st-smooth-rd-surface



Submission #16210 6.-Knowles-Street-east-of-Cranford-St-poor-rd-surface

Here are 200 people in 177 cars



without cars



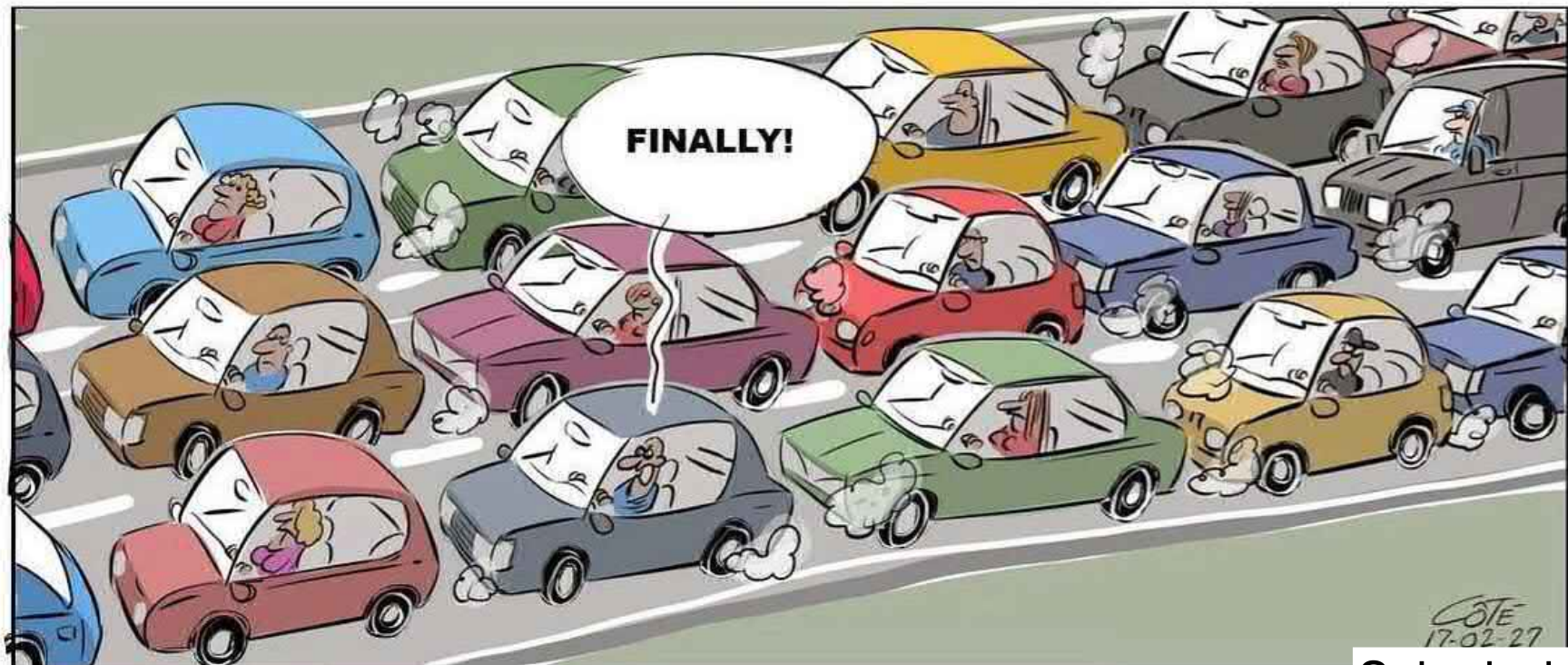
on 3 buses

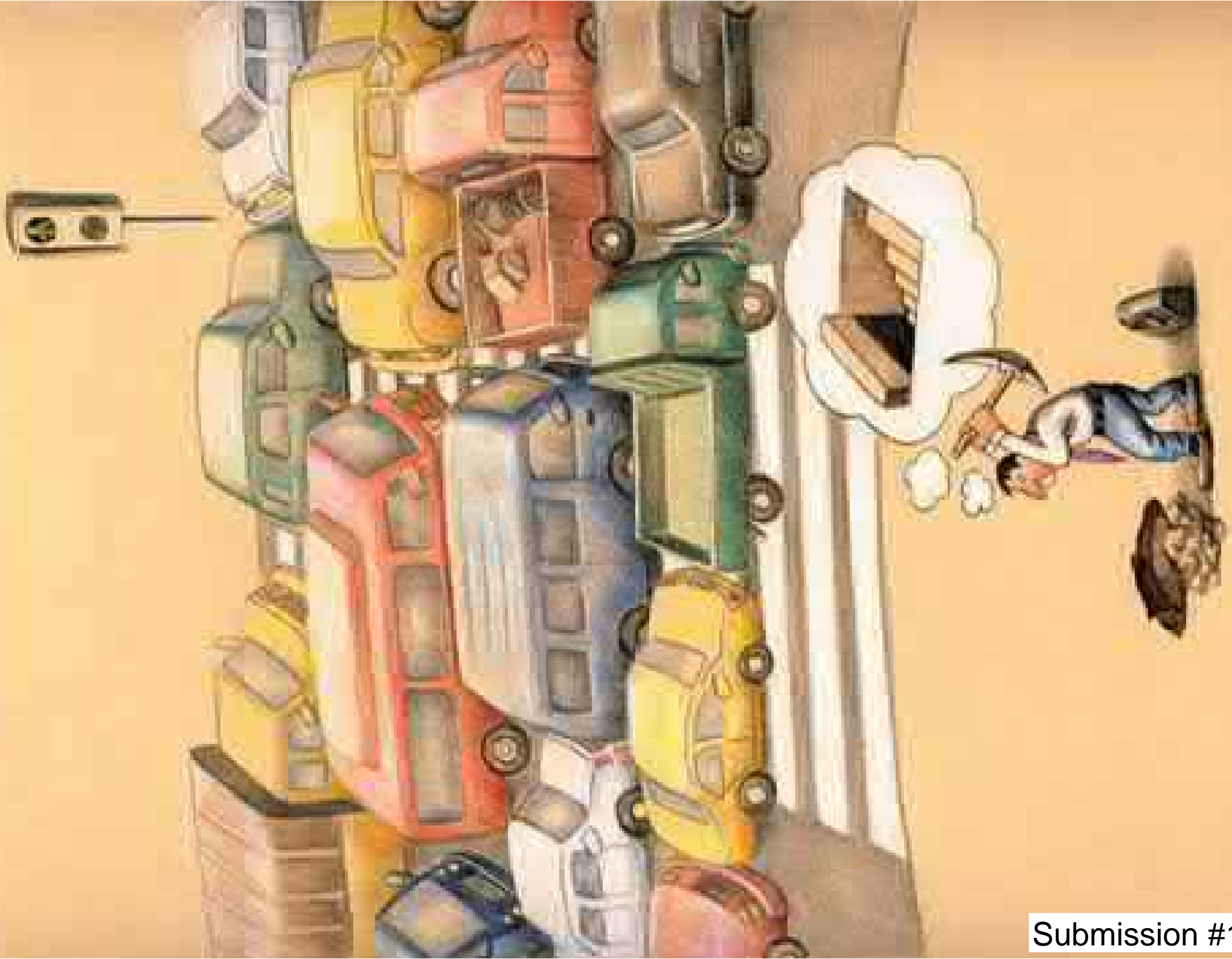


on bikes



Submission #16227 200-people-in-177-cars





Submission #16227

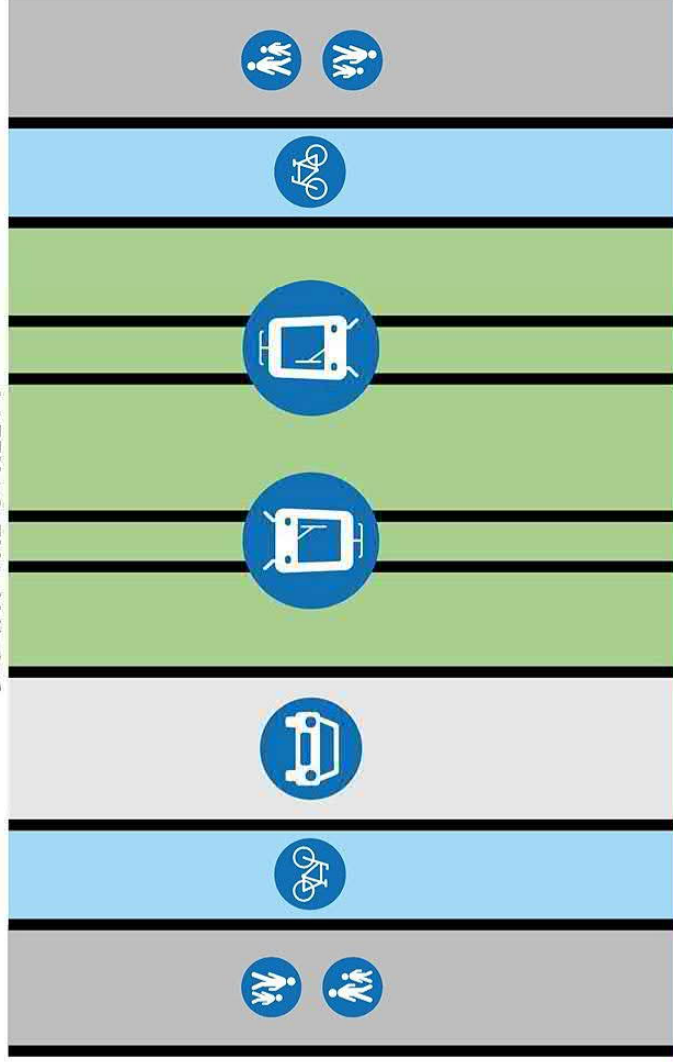


Submission #16227

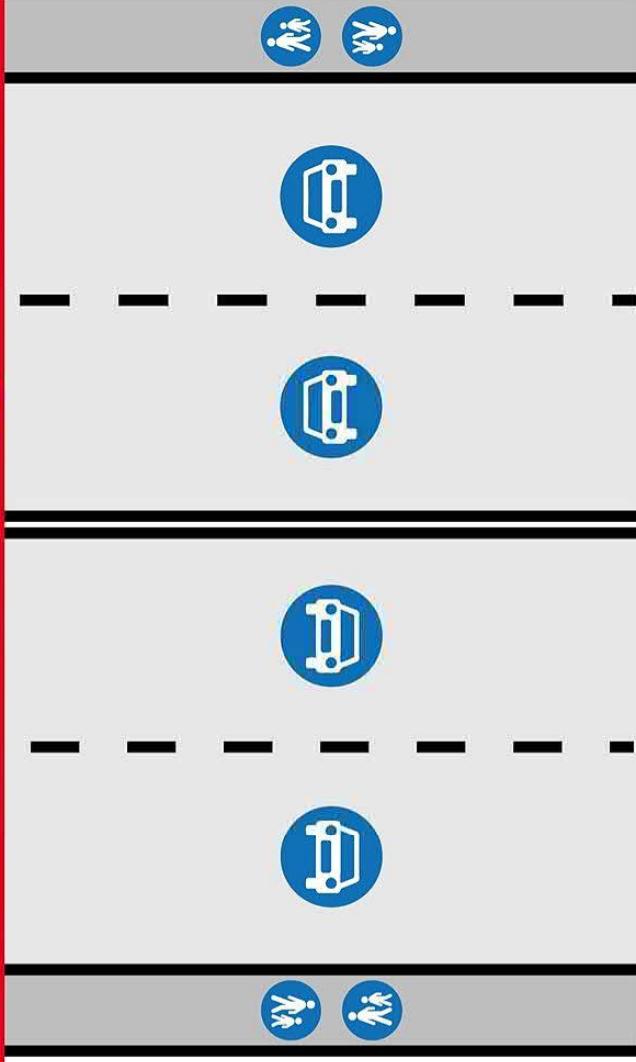
Benefits of a Bicycle



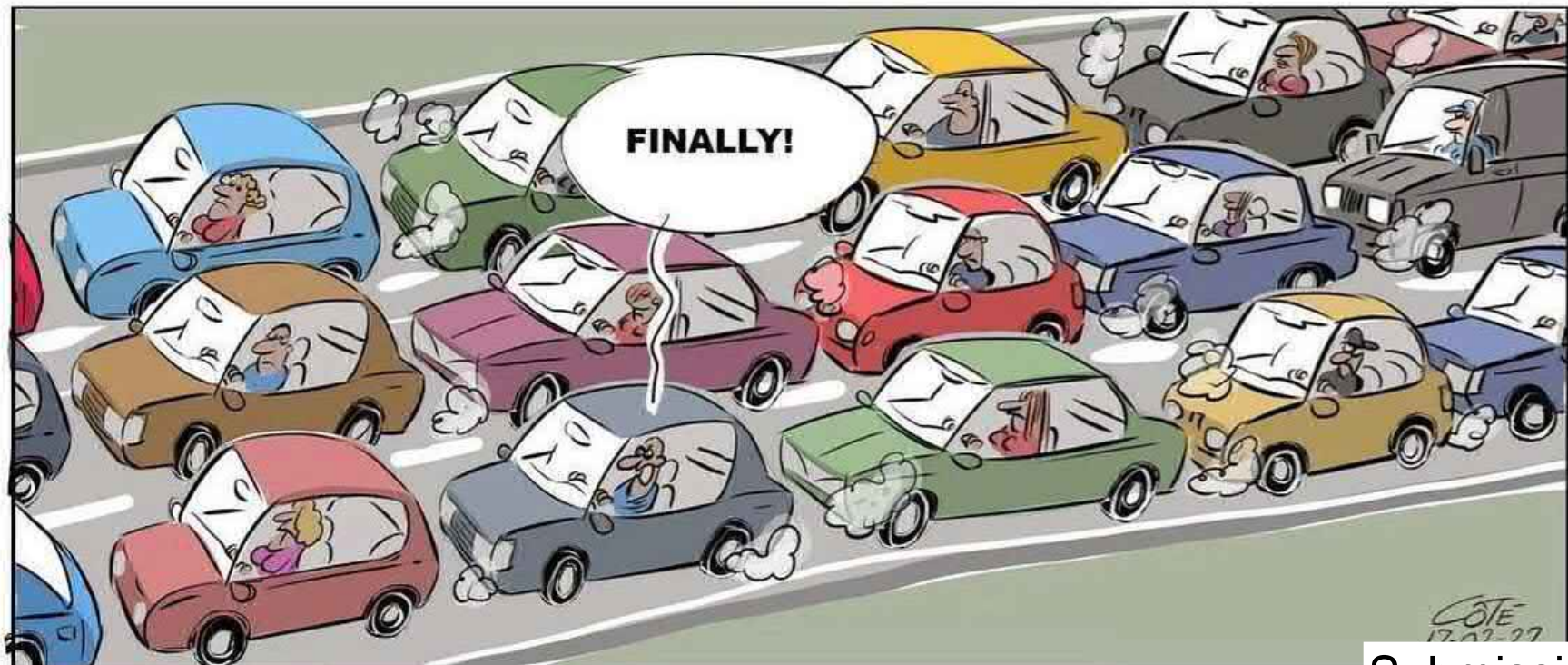
21ST CENTURY
HOW MANY
PEOPLE
CAN WE MOVE
DOWN THE STREET?



CHANGE THE QUESTION



20TH CENTURY
HOW MANY
CARS
CAN WE MOVE
DOWN THE STREET?



Here are 200 people in 177 cars



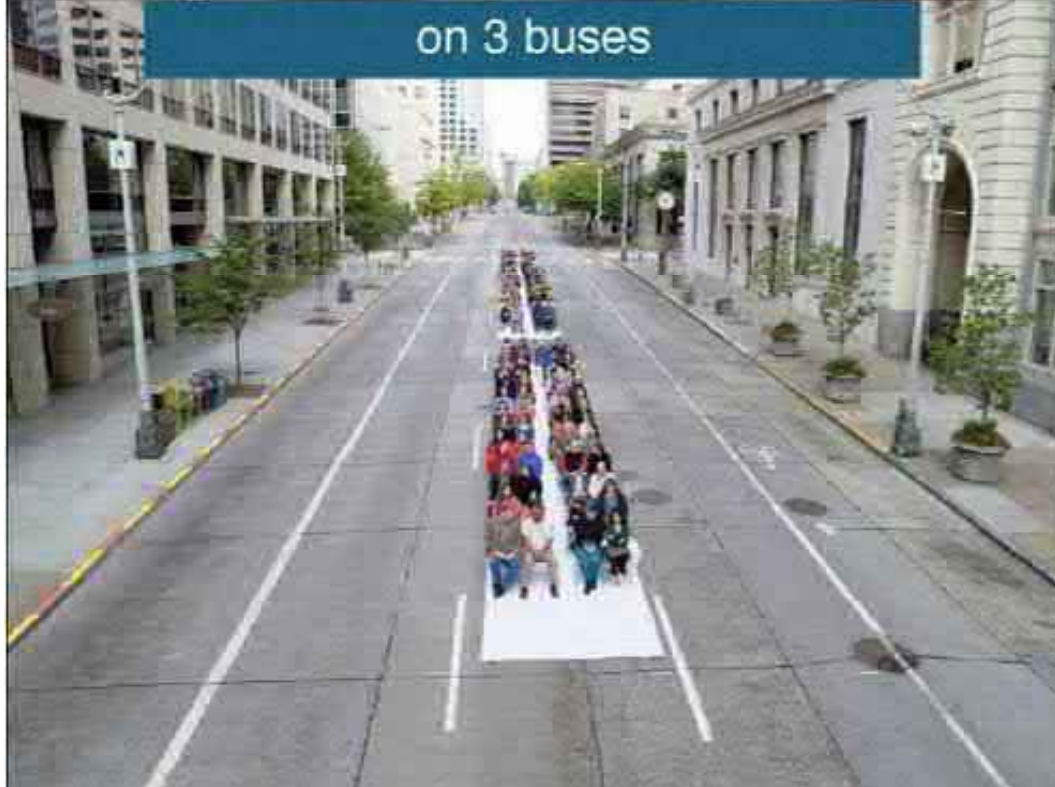
on bikes



Images of downtown
Seattle's 2nd Avenue

From the International
Sustainability Institute's
Commuter Toolkit poster

on 3 buses



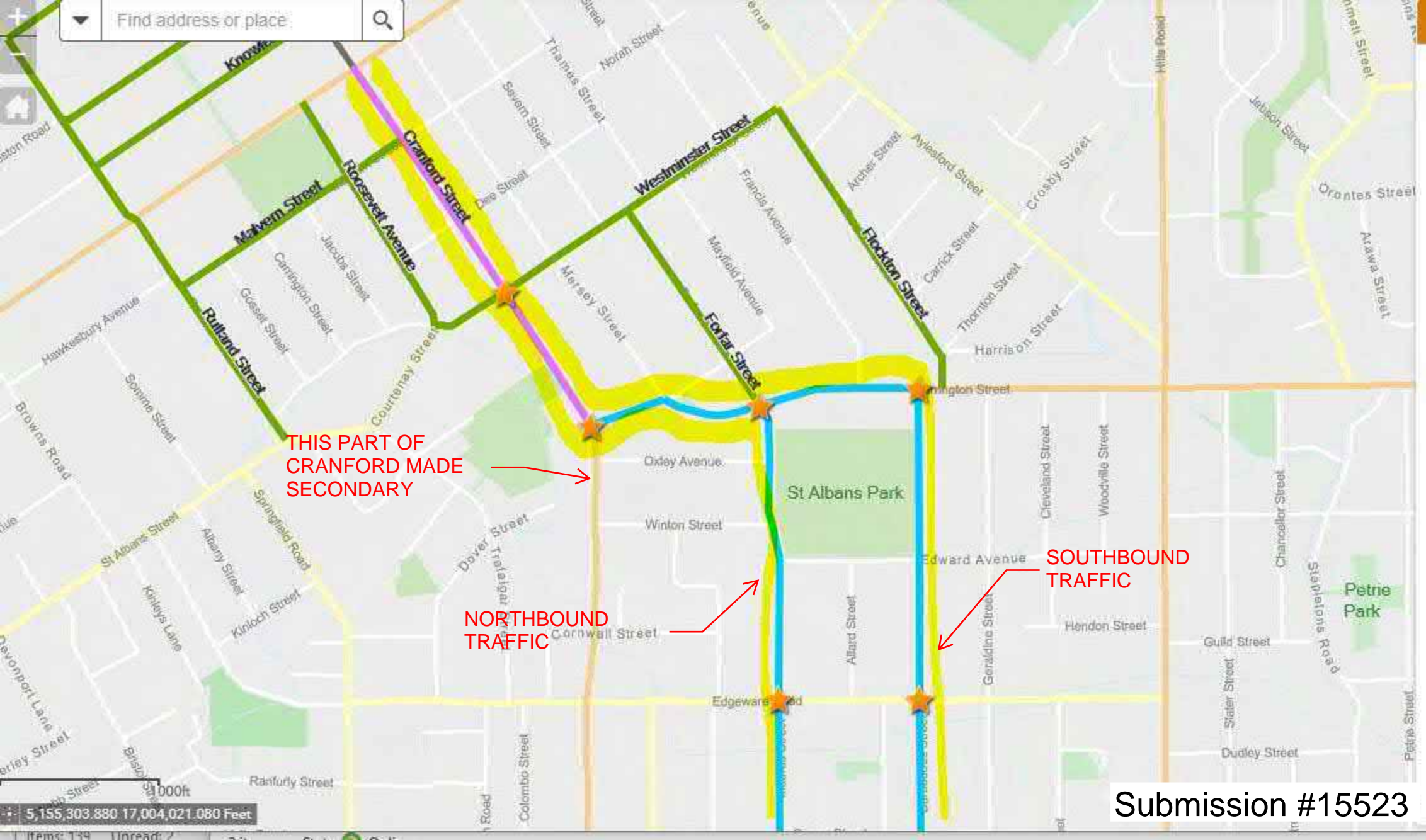
on 1 light rail train



Submission #16234



Find address or place



THIS PART OF CRANFORD MADE SECONDARY

NORTHBOUND TRAFFIC

SOUTHBOUND TRAFFIC

Proposed changes to Cranford Street and the surrounding area

Comments from Martin Pinkham

The current proposal for the Christchurch Northern Corridor (CNC) terminating at Cranford Street is symptomatic of the appalling transportation planning undertaken by the Christchurch City Council, Environment Canterbury and NZTA over the last 30 years.

The decision to uplift the designation for the Northern Arterial in the 1990s was unbelievably short sighted and irresponsible. The intention that the Northern Arterial should meet up with Madras / Barbadoes Streets had been signalled for many years, and its uplifting signalled to the community that such a link would never be needed.

But here we are now, only 20 years later, with the growth in traffic that was inevitable, and given that the Northern Arterial has been remained designated and being implemented through the CNC project, there has been no credible plan to link the Northern Arterial to Bealey Avenue/ Barbadoes / Madras. It has been gutless of the CCC to ignore this issue up to now, as it obvious that the current proposals will have a very limited life.

However, there is still an opportunity to resurrect a proper linkage from the Northern Arterial to Barbaodoes / Madras using Berwick Street and Warrington Street.

It is imperative that Cranford Street be widened to a minimum of 30m to allow for 4 lanes of cars, 2 busways and 2 shared paths, providing a proper functioning link to Madras Street and Barbadoes Street. Berwick Street and Warrington Street should be upgraded to 4 lanes of cars and 2 shared paths. Under this proposal the Forfar / Warrington and Barbadoes intersections would require major upgrading to ensure a streamlined flow from Cranford Street to Barbadoes and Forfar.

Early project outlines for the CNC showed 2 busways, see below, and it makes sense that these connect to Cranford Street, Bealey Avenue and down Manchester Street.



The 2008 Parsons Brinckerhoff report prepared for Ecan strongly recommended that Christchurch implement of Bus Rapid Transit network and this CNC / Cranford project presents an one off opportunity to implement a major component of that strategy.

The adoption of electric buses, such as those below, together with strategically placed Park and Ride facilities in North Christchurch and Waimakariri, would radically change the transportation mode for many commuters and provide a much longer life for the current CNC projects.



The piecemeal, incremental approach to transport planning in Christchurch will not result in the paradigm shift from private motor cars to a good quality public transport network that is accepted as being necessary. Woeful public transport infrastructure and just tinkering is just hoping whereas a clear vision for the future of public transport is needed.

For far.

Flacker Street

Warrington

Lights: ↑ ↑

Lights ↓ ↓

One-way
Two lane

One way
Two lane

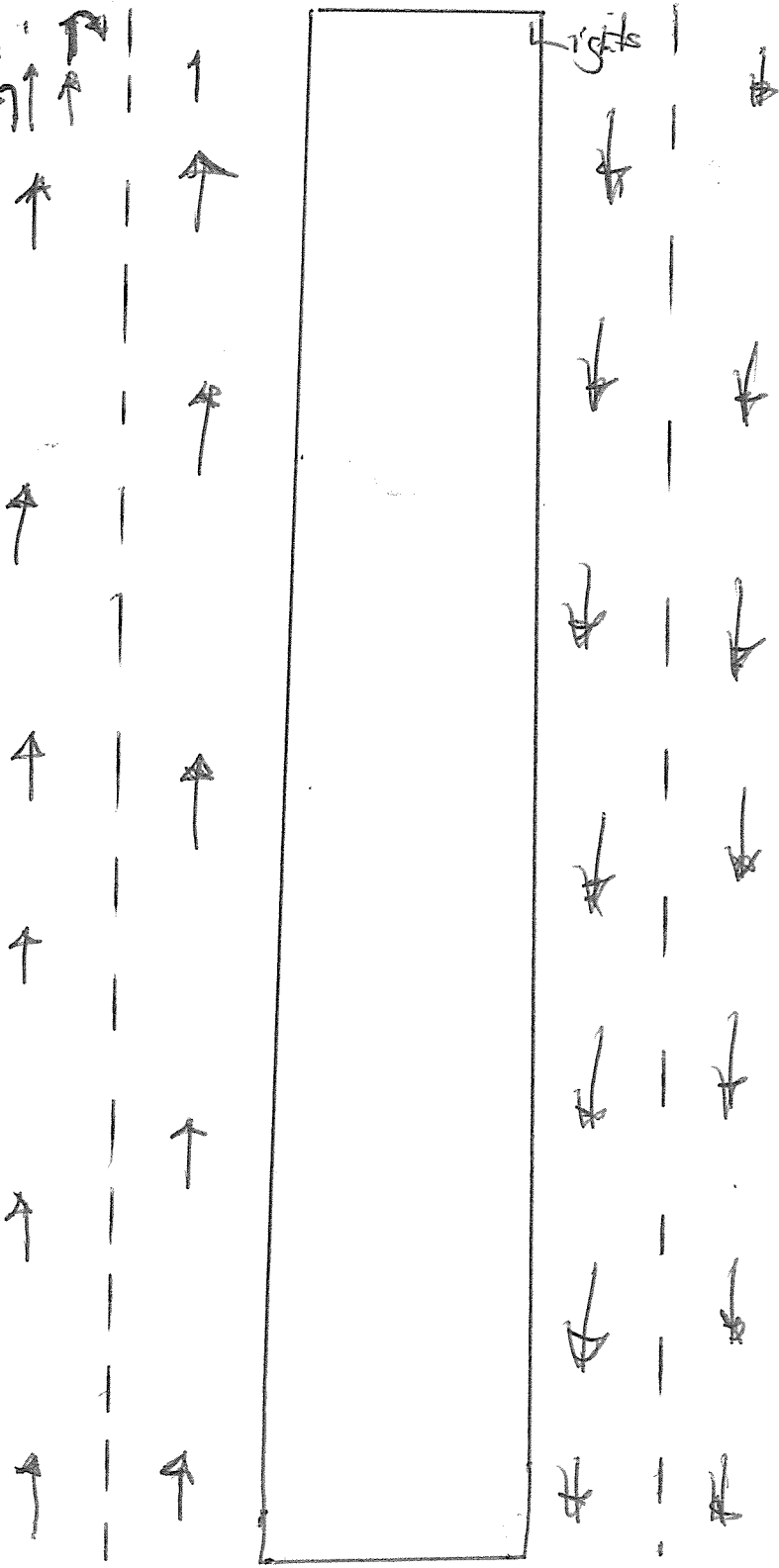
* Pro's *

- links onto existing one-way

- No need to worry about off street parking.

- Safer for pedestrians (children)

- Minimal cost to make changes.



Submission #15821

Bealey Avenue

existing one way ↑ ↑ Madras ↑

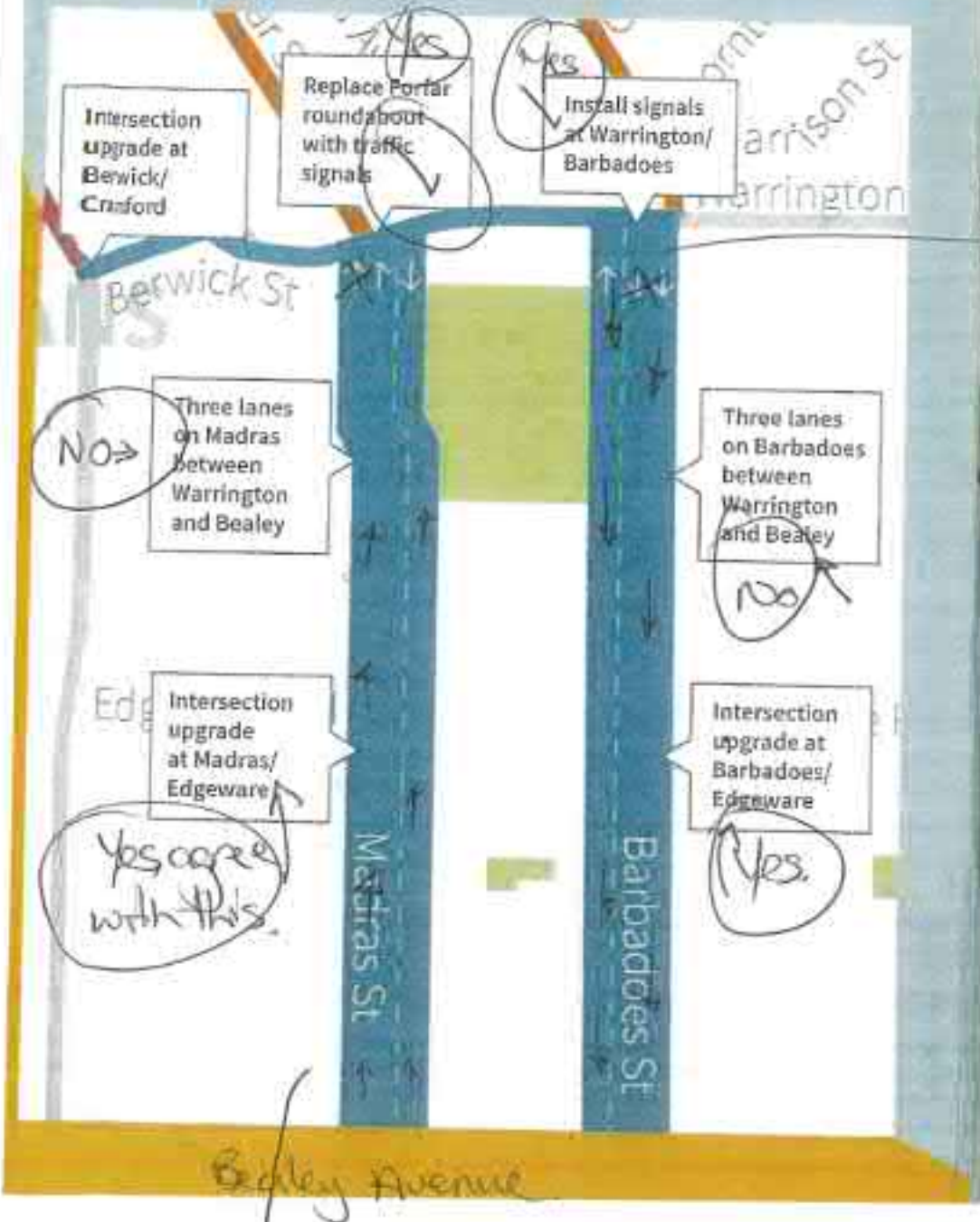
Barbadoes ↓ ↓

One way { existing Two lane

Forfar

Cranford Street

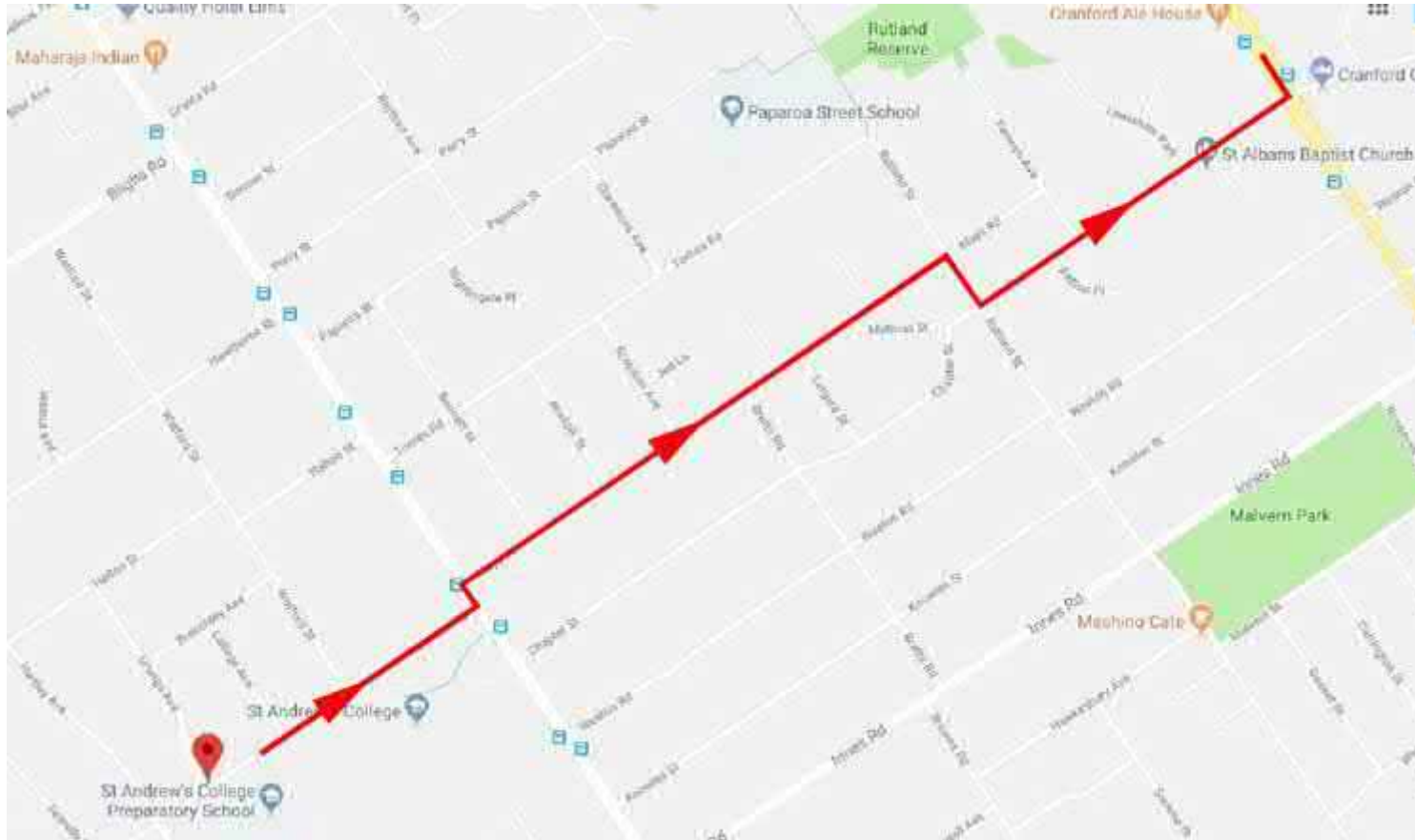
Section of Madras/Fordar Street and Barbadoes Street between Warrington Street and Bealey Avenue would be three-laned within the existing corridor resulting in some loss of parking. The intersections in the area would need to be upgraded to support this change as shown in the map below.



Make Barbadoes Street one way into town, heading south, two lanes linking onto existing two lane from Bealey Ave.

Make Madras Street one way out of town heading north two lane continuation of existing one way

When installing lights, please put right hand turning arrows in, we do not have enough of these in Christchurch.



This often leads to cars speeding down Mays Rd during peak traffic times, which is a concern to us as we have young children. As do many other families on Mays Rd.

We would like to see turning restrictions in place on the intersection of McFaddens Rd and Cranford St, preventing East bound traffic turn left on to Cranford St.

Also traffic restrictions on Papanui Rd to prevent traffic using Normans Rd, Papanui Rd and Mays Rd as a short cut.

HAVE YOUR SAY

To help us develop the Downstream Effects Management Plan we would appreciate your feedback

ccc.govt.nz/haveyoursay

Do you support a clearway on Cranford Street between Innes Road and Berwick Street?

Yes No

Comments:

To avoid a bottleneck the clearway is essential.

Do you support intersection upgrades at Forfar/Warrington Street and Barbadoes Street/ Warrington Street?

Yes No

Comments:

These are key intersections to ease the north/south bottleneck that will arise with traffic hitting Bealey Ave "t-bone".

Do you support three laning of Madras and Forfar Street and Barbadoes Street between Warrington Street and Bealey Avenue?

Yes No

Absolutely!! North/South traffic must move via these roads to Cranford St. with least amount of impediment. Allow left and right free turn into Barbadoes St!!



Which traffic calming option/s do you prefer?

- Raised intersections
- Narrowing sections of road
- Chicanes, bends and landscaping
- Mid-block raised platforms
- Turning restrictions

What would you like us to consider when upgrading the following intersections?

Cranford Street/Westminster Street

Enable free left-turn options to get this traffic off main north/south route.

Cranford Street/Berwick Street

Remove all impediments - go for four laning on Berwick Street. This is key to avoiding bottleneck between Forfar St and Bealey Avenue.

Madras Street/Edgeware Road

Maximise north/south flow!

Barbadoes Street/Edgeware Road

Maximise north/south flow!

Submission #16044

Name Geoff Leech

Please note: your full name, address and telephone number are required because this information is important for transparency, and for Christchurch City Council's decision-making process. It also means we can update you on progress. Ideally, we would like your email address so, if you have one, we can make a messsage for us today in touch with you throughout the engagement process.

Your submission, including your name and contact details, will be made available to the decision-making body, for example the Community Board, Committee or the Council, to help them make an informed decision.

Submissions, with names but without contact details, are made available online once the Board, Committee or Council agenda goes live on the Council website.

If requested, Council is legally required to make all written and/or electronic submissions available to the public, including the names and contact details of the submitter, subject to the provisions of the Local Government Official Information and Meetings Act 1987.

If you believe there are compelling reasons why your contact details and/or submission should be kept confidential, please contact the Council's Engagement Manager on (03) 941 3095 or 0800 800 255 (toll-free) for more information.

Please fold with the reply paid portion on the outside, seal and return by 5pm, Monday 28 May 2018

Do you have any other feedback you would like us to consider?

In my opinion Berwick St is the key to avoiding a bottleneck ^{on Sherburn St}
Berwick St. should be a free-turn left from Cranford St heading South and a free-turn right from Warrington St on to Barbadoes St. Similarly, heading north from the city, Madras should be a free-turn left to Berwick St (2 lanes if possible) intersecting with Cranford St in the evening.

We need to 4 lane Berwick St OR implement clearway rules as per Cranford St.

~~1/2/18~~

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>>>GOT A QUESTION? VISIT www.nzpost.co.nz/HELP<<<

Free



Page Three

Attention: Ann Campbell
Engagement Team
Public Information and Participation Unit
Christchurch City Council
PO Box 73016
Christchurch 8154

Submission #16044

Sections of Madras/Forfar Street and Barbadoes Street between Warrington Street and Bealey Avenue would be three-laned within the existing corridor resulting in some loss of parking. The intersections in the area would need to be upgraded to support this change as shown in the map below.



Downstream Effects Management in relation to Proposed changes to Cranford Street and the surrounding area

In relation to the above proposal, I have the following concerns both in relation to the potential construction/works during the proposed changes and the resulting long-term impact afterwards.

As a business owner and member of the St Albans community, I am eager to see that this part of Christchurch continues to grow and prosper both for residents, business owners and Christchurch citizens generally.

However, the changes proposed for Barbadoes Street will impact not only on my business, but also businesses across the road near Warrington Street with the resulting reduced parking availability and restricted ease of access to our premises. There are elderly residents who live adjacent to our businesses and in the surrounding area on Barbadoes Street and there are potential safety risks for these residents having to navigate around a busier road with less on street parking available for them, their visitors, care workers as well as increased difficulty getting in and out of their properties.

In the absence of any traffic calming measures, I am concerned that there will be road safety issues for our elderly patrons, and potentially for any other person who may have mobility issues.

This road is mainly in a residential area, with some small businesses that cater to the local community. The proposed reformatting/relaning of Barbadoes Street will have an impact on our street amenity and would change the dynamic of the local community if it is to become a major traffic thoroughfare from the proposed motorway extension. This appears to be in direct conflict with the Council's drive to enhance community resilience and create more community cohesion.

For my business specifically, I have concerns about the medium to long-term impacts on my daily operations. I am the owner of a hearing clinic very near the corner of Warrington Street and Barbadoes Street (Sincock & Till Audiology, [REDACTED] [REDACTED] – see marking of map attached). My core business is testing hearing and fitting hearing aids, and as such I require a **quiet** environment to ensure an accurate hearing test and hearing aid fitting for my clients. I am extremely concerned about the disruption the proposed changes would have on the viability and sustainability of my business, not only while construction is going on but also after the changes have finished. I am concerned due to experiencing periodic and ongoing road works outside my clinic on the opposite side of the road over the past two years. Despite being advised of these disruptions, we had extreme noise issues, and restricted access whilst these were done - the same piece of road/footpath was repeatedly dug up on at least four occasions over this time.

The proposed changes in laning and reduced on-street parking will be off-putting to my existing and potential clients if there is poor access. If they cannot park outside or get to my limited off-street parking, and get in and out of my business easily, this will deter them from coming to see me. I do have limited off street parking but this needs to be able to be accessed freely. I am operating in a highly competitive business environment and as a small business owner, am reliant on my clients having good and convenient access to my clinic, plus having the right environment that allows for adequate hearing testing to occur. My competitors are situated close by, and it is very easy for someone to leave my care and go to another provider that has ease of access and no noise disruption.

My main concerns are:

- Construction noise during the development phase and increased traffic noise afterwards will prevent me from testing and fitting hearing aids for my clients, rendering my services almost useless
- Construction and traffic noise will make it difficult for people who come to my clinic to feel comfortable and at ease with having their hearing tested, and will possibly obscure the real issues my clients may be having with their hearing
- Construction noise may invalidate my accreditation with third party funders e.g. ACC. My clinic must meet the required standards of quiet ambient noise levels among other things when carrying out hearing tests and fitting and adjusting hearing aids.
- Reduction in street parking will limit the ability of clients who have to drive to my clinic to be able to access the clinic easily, thereby reducing my clientele and having a direct impact on my business continuity.

I have more detailed concerns during the construction phase as follows:

- My hearing assessments require low levels of ambient noise. I need to have a quiet environment to carry out my business of hearing testing and hearing aid fitting with any degree of confidence and reliability. I am certified to third party funders that my ambient noise levels are at or under a certain level. If I am carrying out a hearing test while there is loud construction noise going on outside then this reduces my credibility as a professional and potentially reduces the reliability of my results. The higher noise levels also make it difficult for people who come to my business (who often already have a communication disability) to communicate with me and my staff.
- At present clients can access my business from both north and south directions on Barbadoes Street without hindrance. Any disruption to this access to my premises will impact my clientele. The majority of my clients are older people. I am also concerned about people with disabilities that should be able to access services they need freely.
- The noise levels, dust and vibration that will occur while the construction is happening will adversely affect clients and staff. Due to the elderly and vulnerable nature of my some of clients, this can be untenable for them and create more stress and unpleasant working conditions for my staff, which could potentially put me in breach of the Health and Safety at Work Act 2015.
- The potential risk that the bus service which some of my clients use to visit my clinic may no longer run along Barbadoes Street with the proposed altered format will further reduce accessibility to my services to current and future clients. Several of my clients are unable to drive for various reasons due to their age and/or health status.

After the construction work has finished, these are my long-term concerns:

- The north and south approaches to my clinic may limit the ability to access my business freely, easily and safely after the proposed changes are finished.
- Reduced on-street parking will have a direct impact on the ability of clients to park and easily access my business.
- The safe access to my limited off-street parking may be compromised, further putting my clients at risk. If there is, as proposed, one lane going northward on Barbadoes Street, a client approaching from the south who indicates to turn left into my business may be mistaken by following drivers as an indication to turn left at the *intersection*.
- The changes in traffic flow will make it more difficult to access my business. People may not be able to approach and access my business from the north if there are two lanes, and if they are

not in the correct lane they will have to quickly change lanes to turn right shortly after the intersection into Barbadoes Street. This has the potential to create road safety issues, particularly if they are elderly or can be easily confused or flustered.

Should the proposed changes proceed regardless I would like to know the following:

1. Will there be an island outside my business (between north and south lanes) where people cannot turn into my business if approaching from the north?
2. What are the proposed timeframes for the roadworks if they proceed (start/end dates and duration of hours, i.e. during business hours, after hours)?
3. What support does Council offer to enable small businesses like mine to carry on without disruption during construction and afterwards?
4. Has the Council considered the negative impact and media attention that will ensue of Council's actions affecting the viability of small businesses like myself who rely upon specific environmental conditions such as low levels of ambient noise and accessibility for the elderly and people with disabilities?

Regards



Carolyn Till
Audiologist/Owner
Sincock & Till Audiology

[Redacted contact information]

<https://ccc.govt.nz/the-council/consultations-and-submissions/haveyoursay/show/142>

PROPOSED CHANGES TO CRANFORD STREET AND THE SURROUNDING AREA

We're proposing changes to Cranford Street and the surrounding roads to coincide with the completion of the Christchurch Northern Corridor. We'd like to hear your thoughts on how to make this work for commuters and local communities.

Me:- Barry PYCROFT

Address:- [REDACTED]

My Interest:- I have a son (Kelvin B. PYCROFT), owning and living in his own home on Barbadoes Street.

Kelvin's Address:- [REDACTED]

Kelvin's Interest:- Kelvin cycles all over the city – early morning & mid evening commutes and recreationally. Across the street from him is a convenience store.

That store [REDACTED] does a lot of business during commuter peak times and has a steady stream of customers throughout the day. The hours of business are 7:00a.m till 8:00p.m.

Customers of [REDACTED] park on BOTH SIDES of the street for the space of three (3) vehicles. Consequently Kelvin tolerates a lot of short time comings and goes just outside his gateway. This is made easier by his house having good sound reduction qualities and the green fence alleviating the street noise.

Introduction:-

We agree that something is required to be done to manage the orderly flow of traffic to & from the CNC and Northern Motorway.

The proposals appear workable, but at this stage of proceedings, not a lot of effort has gone into understanding of the longer term effects. An important and obscured effect is that “artery” will service vehicles coming to the city to work or business from Amberley, Pegasus & Ravenswood, Rangiora and environs, Woodend & Kaiapoi, The inner suburbanites have multiple choices as to the their commuter routes.

Concerns:-

That parking for the corner Dairy will be compromised. (Note that Kelvin has no financial or other interest in the business. Just that “Live & let Live” applies.). If parking is affected, so will the business. It is not sensible for customers to turn off Barbadoes into Canon then U-Turn on Canon to get back onto Barbadoes.

Visitor parking. There are currently un-enforceable bylaws governing parking adjacent residences. That of not parking on berms. The loss of residence adjacent parking made so with Bus & Cycle lanes is contrary to the well-feeling of residents. Visitors (especially foreigners & out-of-towners) to a property are not likely to be aware of the rules, let alone have knowledge of them. As it is visitors to Kelvin's place cannot park with certainty within five (5) car lengths plus driveway widths on Canon Street and should a dairy customer be stopped outside Kelvin's Barbadoes gateway, Couriers and visitors might have to wait several minutes in main traffic flow or park several

metres down the street. For a workman to the property, this restraint is not tenable.

The traffic causes the ground that Kelvin's home sits on to shake & wobble like a jelly!. It is quite disconcerting when a bus or large truck goes by, especially at speed. We figure there has been so little sub-surface assessment of the ground that we fear that properties surrounding the Barbadoes expressway will become damaged by means of ground surface crust failure. What might be the Insurance implication should perhaps the ground subsides and Kelvin's house ‘breaks’? Will the risks associated with the road works and increased traffic be evaluated? By whom?

With an increase in traffic, with its attendant noise, vibrations & pollutions and possible ground subsidence, What might be the effect on Property values?

With an increase in traffic, that vehicular access of onto & off bordering residences is hampered and made LESS SAFE.

The law is different for different perceptions and measures of traffic flow when reversing a vehicle onto streets.

Running cost: The stretch between Innes & Berwick will be managed with twice daily “shifting of lanes”. Who will do this? What cost? Borne by whom? For how many years? And the reliability of such activities? And the interruption to traffic flow by virtue of inconsistency, uncertainty with confusion and awareness by drivers?

Submission #16160

OBSERVATIONS:-

Moderators to traffic flow, and vehicular access Onto & Off Barbadoes Street and its bordering residences will be the intersection control lights at Warrington, Edgware & Bealey intersections. These lights will modify the flow for that particular period in which a resident might enter Barbadoes street.

It is likely that traffic flow will be hindered, even interrupted by vehicles turning into residential properties. With no parking and little shoulder space, perhaps for cycle lane? A vehicle turning off will need to slow down, perhaps even stop) in main flow lane. Let us not forget there are a whole range of driver abilities and confidences that affect 'ideal plans' negatively.

Musings:-

Barbadoes, and Madras with bottom of Forfar streets between Bealey and Warrington..

(Q).- What has been the consideration to make that section of those streets a CONTINUATION of the one-way streets?

Rationale:-

The length of those streets between Moorhouse & Bealey Avenues appears to work OK. There are residences & businesses on those streets, with parking. As for access from one end or the other, those streets have cross-streets connecting them, such that a major detour round-about is not required to get to a particular address.

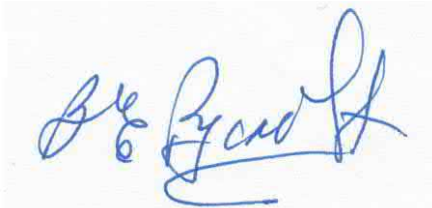
And so it is with the length of those streets between Bealey and Warrington. There are lights at each end and in the middle (Edgware). To get to any particular address, the cross-streets of Bealey, Purchas, Canon, Edgware (with lights), Edward and Warrington are not as great distance apart and using Right turns on the one-way streets works well, leaving only simple lane change to get from right to left-side street addresses. Additionally, on-street parking would remain as present thereby offering a safety zone for vehicles turning onto or off those. one-way streets.

My Submission:-

I would submit that we consider a continuation of the one-way system of Madras & Barbadoes streets. This provides absolute consistency of expectation till the change requirements meet at Warrington intersections.

Signed:-

Barry E. PYCROFT
29th May 2018.



Currently Madras crosses Bealey as two lanes and is forced into one shortly after. This works fine for non-arterial traffic, but these streets will become a really major arteries into and out of the city. Barbadoes clears well into the 2½ lanes when it crosses Bealey to the inner city. Madras however under the present proposal, might well still have opposing or oncoming traffic appearing to those travelling out of the city.

Should the proposal put at this time be adopted, those travelling in the "casual" lanes will need to cross two lanes and not have 'safe shelter' as they traverse right turn to their residences. This WILL cause major disruptions to expected flow.

Also, for cyclists, Packe and Allard Streets offer safer travelling and reduce (perhaps) the access angst to an address on the other street or behind them.

An odd thought:-

How could it be achieved that the most Left-hand lane of the EAST-BOUND Lane of Bealey Avenue be converted to a single west-bound lane from Barbadoes to Madras.?

This could be done with the use of high opaque strong barrier (1.5m high concrete) between that and the regular east-bound lanes.

Packe Street at Bealey would need to be converted to be an IN (being from Barbadoes or closed off altogether.

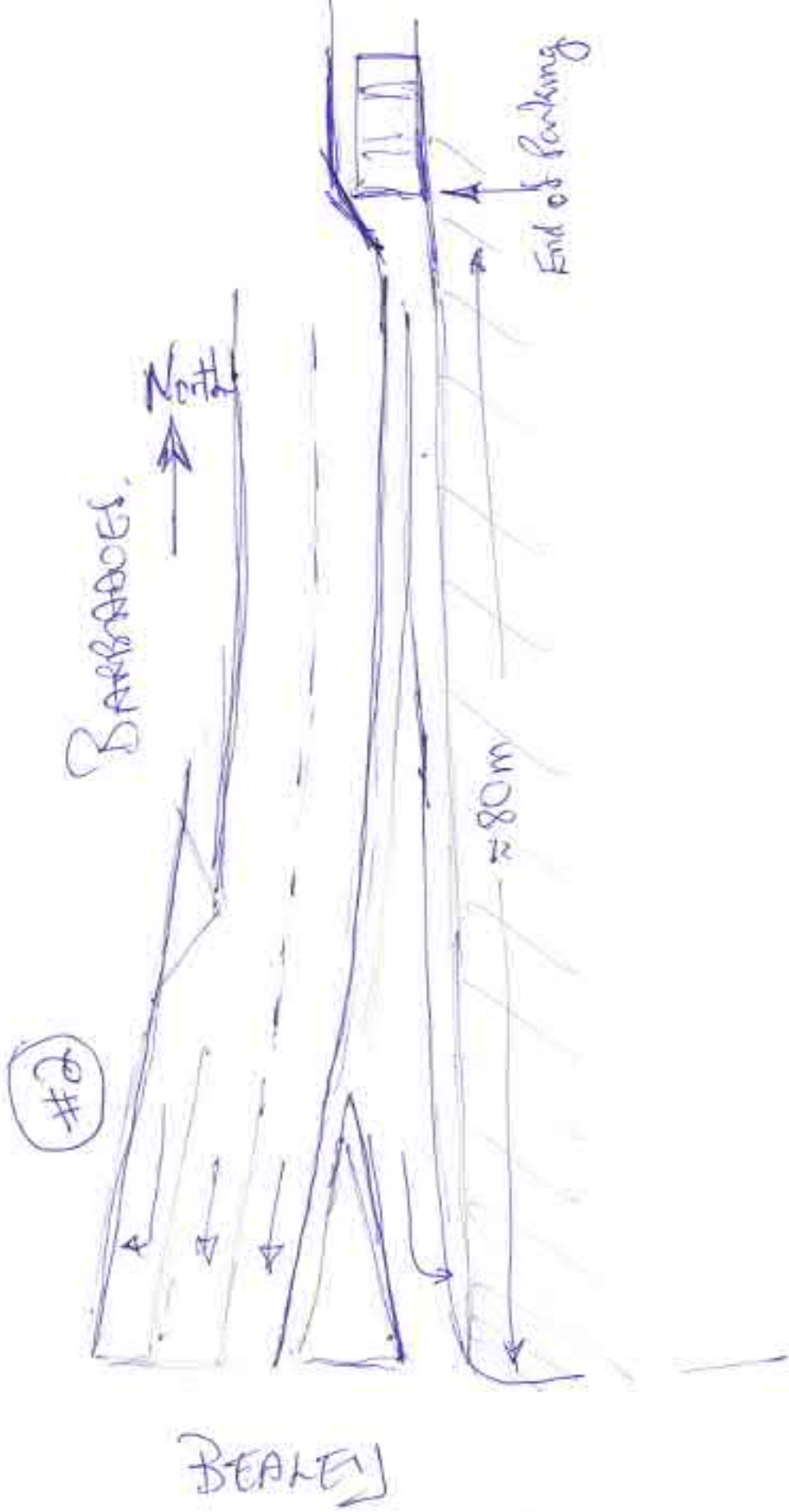
My reasoning is that residents coming down Barbadoes need to get to the lower block of Madras Street. This 'free one-way lane' would avoid loop traffic from Barbadoes to Madras having to await the Bealey/Barbadoes AND Bealey/Madras lights.

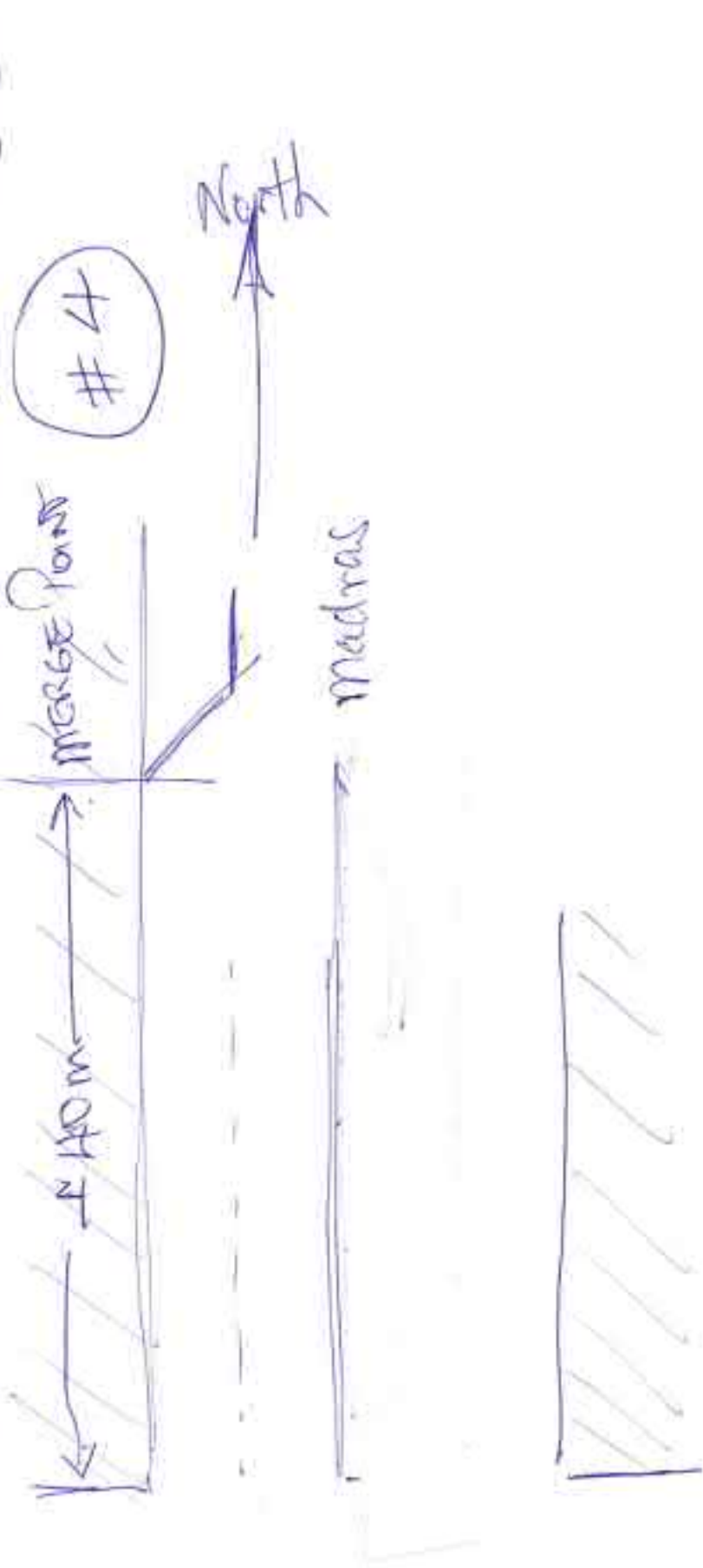
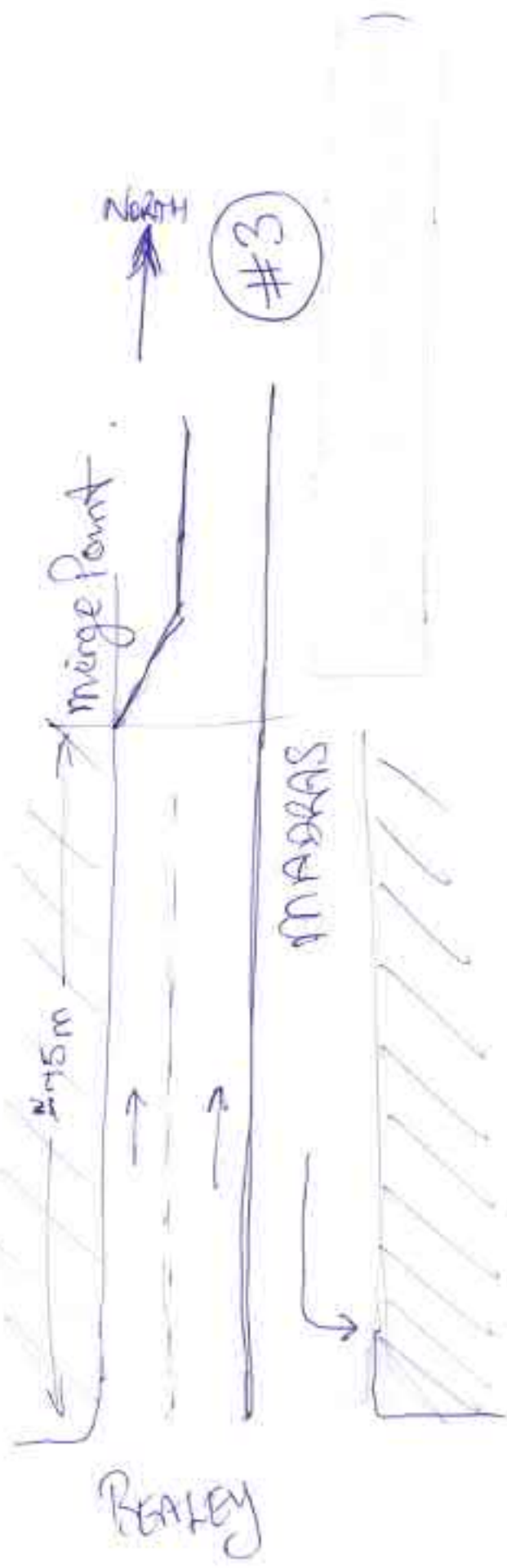
Joining onto Madras would be give way and assisted by the existing intersection lights.

Currently, that lane is used only for entry to Packe & Barbadoes from the West the latter which would become not done, thereby making redundant that short section of lane.

Parking would be severely compromised however, and access to the businesses here would be also not be straight forward!. Hmmm.

Submission #16160





BEALEY

Edgewater

Submission – Proposed changes to Cranford Street and the surrounding area

J Pickles

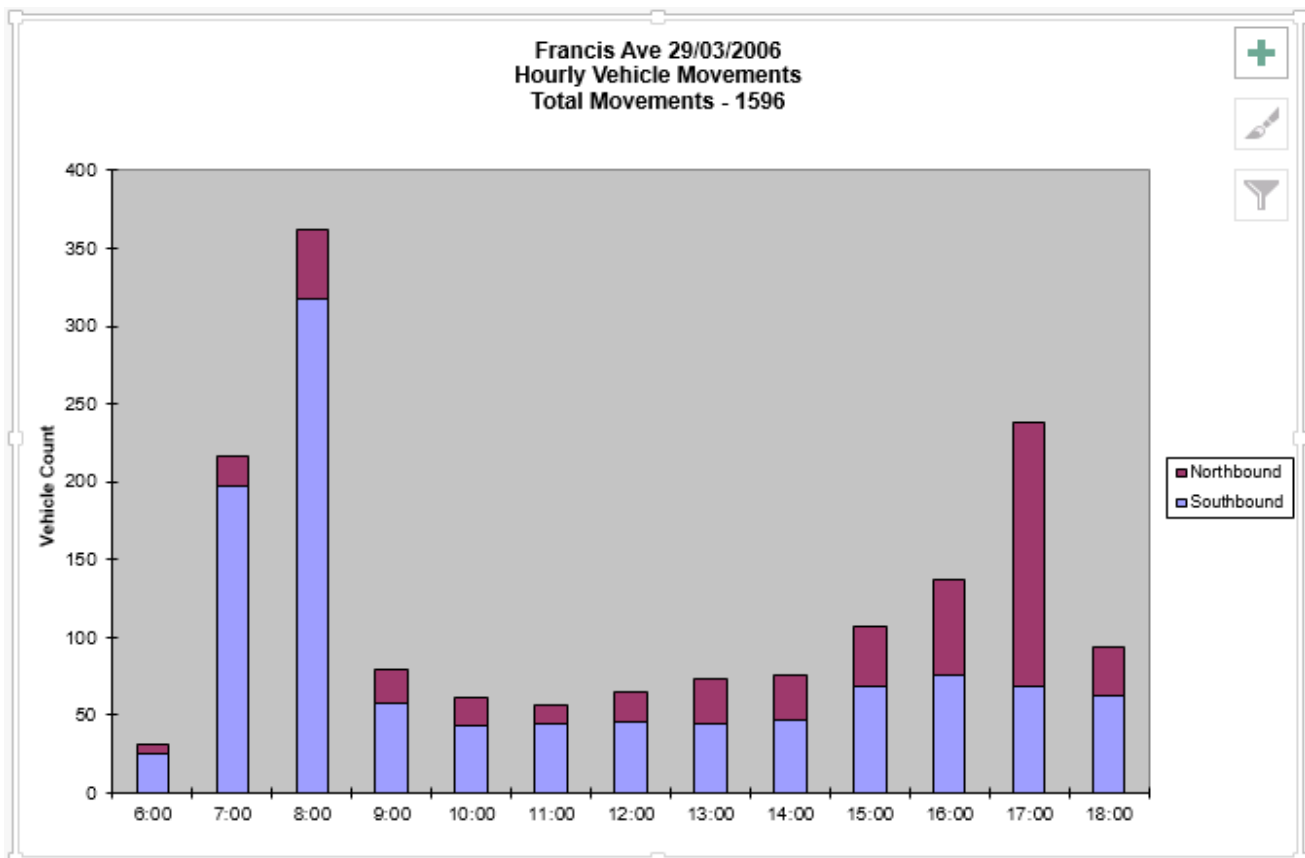
3rd June 2018

Thank you for providing the opportunity to comment on these developments. We live on Francis Avenue which has suffered from heavy traffic in the past with long distance commuters taking short cuts through local roads.

In 2007 some engineering works were carried out to try and reduce the volume of long distance traffic using local roads. This was called the Flockton Cluster exercise and involved some changes similar to those being proposed. Our street now has a series of raised platforms and is narrower than most local roads.

I measured the volume of traffic before construction of the platforms and then again afterwards. All measurements were taken on the same day of the week (Wednesday), in similar benign weather conditions and during school term time so that a fair comparison could be made.

Prior to the changes the daily traffic count was around 1,600, well above the level for which local roads are designed.



Traffic was counted again on 7th November 2007 after the platforms were installed. The volume had reduced to 1,286, about a 19% decrease. Most drivers reduced their speed to around 40 km/hr but there was still a minority of drivers who exceeded the speed limit over the platforms.

As the works carried out in 2007 are very similar to those suggested in your pamphlet it is unlikely that these changes would have any marked effect on driver decision making. Even if high numbers of platforms and raised intersections were installed over a wide area at considerable cost the impact is likely to be minor and the cost prohibitive.

A count of traffic on Francis Avenue was taken between 7am and 9am on 16th May this year, again a Wednesday, school term time and similar weather conditions to the other counts. Traffic movements had dropped to 208, about 35% of numbers ten years ago. Numbers dropped heavily following the earthquakes and have still not returned to anywhere near previous levels. This has been largely caused by the reduction in city centre employment from 39,203 in 2006 to 19,419 in 2013 (Department of Statistics figures). The number will have increased in the past five years but still remains well below pre-earthquake levels.

The limiting factor on traffic throughput on the arterial roads will be the cross roads and in particular the capacity of the traffic light controlled crossings. Three laning of Madras St and Barbadoes St and clearways on Cranford St will help but the major concentration of effort needs to be on traffic light throughput.

There are two 'soft' measures which could help to considerably increase the efficiency of traffic light controlled junctions.

1. Driver education. Drivers are often slow to react to light changes, not just running red lights but more importantly in moving off when the lights turn to green. A concerted advertising campaign to improve driver awareness and reaction time at traffic lights could have a marked impact on capacity.
2. The City Council reviewed the Enlighten app from Connected Signals in 2017 and independent tests were carried out which concluded:

“EnLighten has the potential to effectively shorten the time users take to move off at signalised intersections and, therefore, may have some use in managing traffic congestion levels. Furthermore, the app can reduce drivers’ stress levels and improve their subjective driving experience overall.”

However the City Council decided not to implement Enlighten due to technical problems with the app. This technology has the potential to improve road capacity at low cost and the City Council should push ahead, find fixes for the technical problems and implement it city-wide.

The one part of the Northern Corridor development which could provide major benefits but which has been largely overlooked is the cycleway running the whole length of the new road. Every effort should

be applied to making best use of this cycleway. Bike technology is moving rapidly ahead and the number of electric bikes in New Zealand has doubled in the past year from 20,000 to 40,000. This is in sharp contrast to the very slow uptake of electric vehicles with recent bad news on the reliability of car batteries likely to slow this down still further. There are a host of good reasons for encouraging bike use rather than car use along the Northern Corridor:

- The arrival of electric bikes brings outer suburbs like Belfast, Northwood and Redwood within easy bike commuting reach of the city centre with Belfast about 9km from the city centre, much closer than Sumner.
- Every change from car to bike for trips into the city reduces the congestion, noise, pollution, parking and dislocation problems downstream of the Northern Corridor that this consultation is all about.
- Further costly road widenings and construction would be less likely.

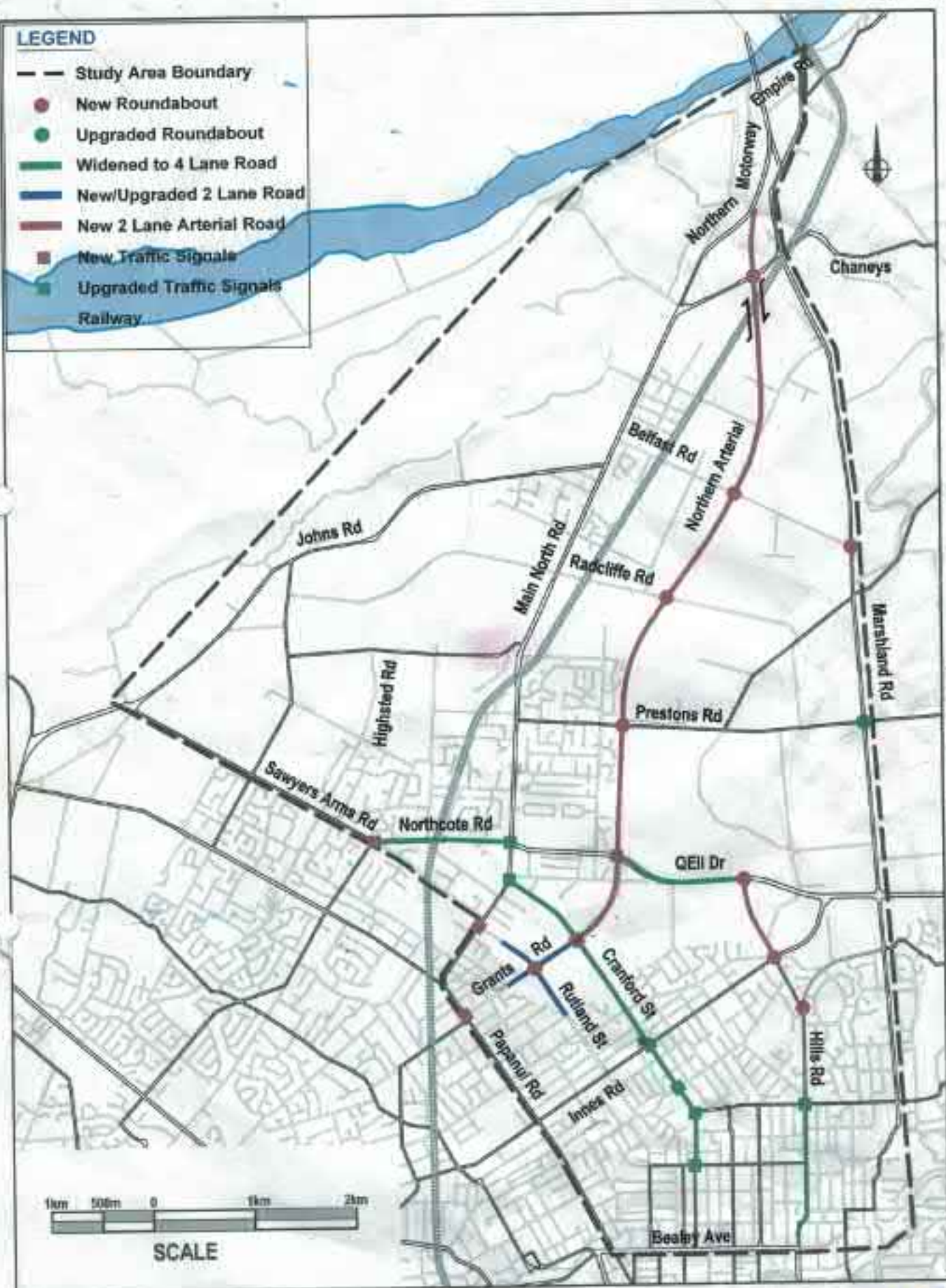
The aim of the City Council should therefore be to put all effort in to maximizing the use of the cycleway and encouraging commuting by bike and particularly electric bikes. Measures which would help are:

- Easy and plentiful access points to the cycleway from Belfast, Northwood and Redwood. These are not shown in NZ Transport Agency literature and are presumably the City Council's responsibility.
- Improved cycling networks in these outer suburbs to allow safe access to the cycleway.
- High quality connection to the city's new cycle network including a grade separated crossing of Cranford Street.
- High quality lighting along the cycleway to allow safe use in the Winter.
- Minimal detours which would extend travel distance.

Measures also need to be taken to make sure that increased traffic flows don't deter cyclists in St. Albans/Mairehau. All of the new traffic lights need to provide safe crossing for cyclists in all directions. A speed limit reduction to 30 km/hr should also be considered on local roads to make walking and cycling safer.

LEGEND

-  Study Area Boundary
-  New Roundabout
-  Upgraded Roundabout
-  Widened to 4 Lane Road
-  New/Upgraded 2 Lane Road
-  New 2 Lane Arterial Road
-  New Traffic Signals
-  Upgraded Traffic Signals
-  Railway



Christchurch Northern
Roding Options
Scoping Study

RECOMMENDED ROADING PROJECTS X1



June 4 2018

RE: Cranford Street Changes

SUBMISSION FROM SPOKES CANTERBURY

Spokes Canterbury is a local cycling advocacy group with approximately 1,200 members that is affiliated with the national Cycling Action Network (CAN). All submissions are developed online and include member's input. Spokes is dedicated to including cycling as an everyday form of transport in the greater Christchurch area.

We would like the opportunity to appear at any public hearing that is held to consider submissions on these projects. Should there be an officer's report or similar document(s) we would appreciate a copy(s).

If you require further information or there are matters requiring clarification, please contact our Submissions Convenor Dirk De Lu in the first instance. His contact details are:

[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

Don Babe
Chairperson, Spokes Canterbury

“The process is about mitigating impacts, not optimizing outcomes.” Peter Park

Submission

In this submission Spokes will attempt to highlight some of the inadequacies of both the project and the consultation process. This consultation isolates comments to only a portion of this project, while failing to address the many area wide problems which this project creates. Submitters are left to question the usefulness of participation. People are not empowered here; instead they are fed far less information than is required and restricted in which of their concerns might be considered. This is disempowerment.

This painfully illustrates why Council is in desperate need of Cycle Champions and a Cycle Advisory Panel. The project serves the interests of car based transport, not the community, not mode choice. The impact on neighbourhoods and on the ability to provide a local cycle network is simply ignored. This project undermines Council’s policies to support mode choice, meet current and future demand and be a ‘city of cycles’.

The Northern Corridor shifts congestion from Main North and Marshlands Roads. Catering to car commuters from the north, active travel modes are clearly disadvantaged. Existing and new residential areas are left only the option to drive without a local cycle network connecting neighbourhoods or on to the central city.

Close in residential areas of Mariahau, St Albans, Edgware, Richmond, Shirley well suited to active transport options are sacrificed to accommodate more cars. Innes, Hills and Westminster Roads provide minimal to no cycle infrastructure. Cranford, Berwick, Warrington, Forfar, Madras and Barbados are given over to cars. All will quickly turn into congested commuter routes leaving no one happy. In many instances what cycle infrastructure, if any, will be provided is unstated.

The proposed shared 3 meter wide path on Cranford Street leaves people on foot and bicycle to sort it out while also trying to avoid cars at commercial driveways and intersections. Drivers are to be encouraged to be careful when entering and leaving driveways. This is cold comfort for residents, consumers and cycle commuters. Pedestrians will resent the cyclists on their turf and those cyclists who choose to use the road will incur the wrath of drivers.

People on bikes wishing to avoid the mess on Cranford will be given access to the Papanui Parallel Major Cycle Route, PP MCR, just north of Placemaker’s taking them to Rutland Reserve. Details on this link are not provided. The draft Annual Plan shows this scheduled for 2020.

In the meantime a connection to Papanui Parallel MCR, PP MCR, via Mcfaddens Road is the next best option. The consultation document provides no details as to cycle infrastructure to

be provided on McFaddens Road. There is none presently. Papanui Parallel MCR provides basic infrastructure on Rutland, but no cycle provision for cyclists accessing Rutland from McFaddens Road. At the very least speeds must be lowered with a 30 km/h commitment and cycle friendly speed humps on McFaddens.

PP MCR is the only N/S cycle route between the RR cycleway on the west and the Avon Otakaro MCR and the southern spur of the Northern Line MCR to the east. These are large gaps leaving whole neighbourhoods without real mode choice.

Connections with consistent cycle infrastructure from PP MCR to the east from Sawyers Arms south are not provided until Salisbury St in the CBD. Cyclists coming from the east on the Northern Line MCR will find little on offer. Innes Road lacks infrastructure until Briggs Road through to Hills Road, ending at Manuka. Hills Road has some infrastructure near Innes, but this quickly ends. Hills Road connects to Westminster which has no cycle infrastructure and is the obvious route to tie eastern areas to the Papanui Parallel MCR. Local riders report that many cars use Westminster as a very fast rat run placing all at risk. What infrastructure is to be provided? An alternative route and/or a 30 km/h speed limit is clearly needed.

Connections to the west are not provided until Peterborough St in the CBD. There may be other options via a local cycle network if one were built.

This project installs car centric infrastructure first, cycle infrastructure where it can be squeezed in. A too narrow shared path and no detail whatsoever for Berwick/Warrington, Innes, Westminster or Hills all of which will be used by cyclists to get to the PP MCR. It is the old story of neglect. Simply excusing this omission by citing it as 'out of scope' is disingenuous at best. Piecemeal planning is bad planning. This is a backward looking project which will quickly congest and which neglects what we know people want and the future requires.

Barbadoes and Madras would be the logical east of city N/S cycle routes, but this plan fully dedicates them to cars without shame at undermining the alleged commitment to mode choice. 2 meter wide cycle lanes are the minimum required on both.

Intersections to be upgraded: Forfar/Westminster, Warrington/Barbadoes, Madras/Sherbourne, Edgware/Barbadoes/Madras. Details of these upgrades are not provided. Instead the public is asked to make suggestions while the options and rationale for why and where they might be applied are left out. Yet another consultation document which does not provide what is required for the public to make informed comments.

Speed may possibly be lowered on: McFaddens, Weston, Knowles, Roosevelt, Rutland, Westminster, Flockton, Jameson using narrowing, humps, buildouts, chicanes many of which make pinch points for people on bikes. Ideally speeds would be lowered on all streets in the project's circled area with the exception of Cranford, Berwick, Barbadoes and Madras.

Also lower speeds on Courtenay Street and St Albans through to Rutland. But this is to be a 'sacrifice' area, leaving these neighbourhoods ideally suited to active transport to the CBD disadvantaged.

This project is crying out to go back to be redesigned with consideration for the entire area to support true mode choice, safety and preservation of community amenity. Including walking and cycling stakeholders in the wholesale reworking of this plan is clearly indicated.

There are alternatives:

- Would a commuter park and ride with shuttle better serve car commuters? Where would be the best location for such?
- With rail public transport being mooted by central government might it be prudent to put this project on hold until more is known?
- What is the cost of this project including the annual costs of constantly shifting the clearway?
- How will the increased traffic impact the roads linking to and through the central city?
- What is the anticipated demand and the capacity of this proposal?
- Where is the safety audit for this project and why is it not part of the consultation documents?
- None of this information is provided and all of it is vital for a genuine empowered community consultation process.

Spokes is mindful that Council and staff must work within the parameters provided. This consultation makes clear the overwhelming shortcomings of the current process. Genuine community involvement, empowerment and even the fundamental goals of safety, mode choice, resilience and basic transport engineering are all not achieved.

To be true to representing and empowering citizens Council needs to expand how it plans and consults. Spokes and others have been requesting this for decades. When will Council act? Re-opening this consultation offers the opportunity for Council to embark on a community empowered planning process and regain credibility. Spokes has offered to engage constructively with Council and does so again here.

Spokes has no choice but to oppose this project in its entirety.

The clearway is not supported.

Three laning of Madras, Barbadoes and Forfar Streets is not supported.

Traffic calming suggestions cannot be lumped into a single preference. Different situations require different approaches. In all instances people on bicycles should not be forced into

pinch points and used as de facto traffic calming devices. This 'shotgun' approach to consultation is not supported.

Intersections also require individual assessment. Designs which accommodate all modes while recognizing the unique requirements of each are favoured. Cycle lanes and advance stop areas across the lanes to facilitate cycles first through to increase safety should be provided in high traffic areas.

The failure of empowered community engagement is not limited to NZ. This piece from the U.S. is worth the time to read. <https://www.strongtowns.org/journal/2018/5/25/public-engagement-isbroken>

Consultation: Proposed changes to Cranford Street and the surrounding area

We the residents of Roosevelt Street and Malvern Street:

Number 1: Strongly support the proposed Cranford Street clearway and three-lane sections of Madras/Forfar Street and Barbadoes Street. We believe the clearway on Cranford Street is **critical** to ensure safety of children during peak hour times along side streets such as Roosevelt, Malvern and Westminster.

Number 2: Strongly support the traffic calming for Malvern, Roosevelt, Westminster and Rutland Streets. We respectfully request that the residents of this area are given the opportunity to provide input into the street designs, before the designs are developed. This could be through a meeting / workshop to consider design aspects to deliver traffic calming and slowing.

| Name | Address | Signature |
|---------------------|-------------------------|---------------------|
| Nick Scott | Roosevelt Ave | Nick Scott |
| GLENN NASTAU | Roosevelt Ave | Glenn Nastau |
| Theresa Speckling | Roosevelt Ave | Theresa Speckling |
| John Crossland | Roosevelt Ave | John Crossland |
| Stephanie Hopkinson | Roosevelt Ave | Stephanie Hopkinson |
| JOSHUA GARDNER | ROOSEVELT [REDACTED] | Joshua Gardner |
| Ben Rosser | Roosevelt Ave | Ben Rosser |
| Simon Fox | Roosevelt Ave | Simon Fox |
| Hannah Fox | Roosevelt Ave | Hannah Fox |

| Name | Address | Signature |
|--------------------------------|-------------------------------|-------------------|
| Nick Sutton | Roosevelt St Albans | Nick |
| Mark Ackroyd | Roosevelt Pre St Albans | Mark |
| Clive Minton | Roosevelt Ave | Clive |
| MIKE NICOL | MALVERN ST | Mike |
| Ben Lee | Malvern Street | Ben |
| Sam Stark | Roosevelt Ave | Sam |
| Andrew Willis | Malvern Street | Andrew |
| Daniel Allan Rebecca Elkins | Malvern street | Daniel Rebecca |
| Kevin & Marie Coffey | Malvern St | Kevin |

| Name | Address | Signature |
|--------------------------|--------------|--|
| Joanna Wells | Malvern St |  |
| Craig Taylor | Malvern St |  |
| Rob & Angela Clarke | Jacobs St |  |
| Mariakki Triantafyllidis | malvern st |  |
| Thomas Edwards | Malvern st |  |
| Melissa Macfarlane | Malvern St |  |
| Frank Hill | Rosewell Ave |  |
| Russell Timmins | Rosewell Ave |  |
| Fiona Hartland | Rosewell Ave |  |

Summary Document

Christchurch Transport Plan

2012 – 2042

*Keep Christchurch moving
by providing transport choices to connect people and places*



Introduction

The draft Christchurch Transport Plan is a 30-year vision aimed at keeping Christchurch moving forward by providing transport choice to connect people and places.

An effective transport system in Christchurch is critical for the city to recover from the earthquakes and to grow and attract new business, investment and people.

Following the earthquakes, the Council is presented with a unique opportunity to transform Christchurch's transport system as the city is rebuilt. The draft Plan recognises that the earthquakes have had a severe impact on the city's transport system and that there will need to be significant investment during the next decade to repair and recover the city's transport infrastructure but also to improve it. The city has an opportunity to enhance Christchurch's reputation as a cycle city by increasing the importance of cycling in the rebuild.

Creating a city that is easy to move around will not only improve access and provide travel choice but it also supports a vibrant economy, creates stronger communities and helps to improve the health and wellbeing of residents.

The Council will work with the community to develop more detailed options for the transport networks identified in this Plan. Funding for preferred options will be part of the Council's next Long Term Plan (LTP).

This summary is a guide to the draft Christchurch Transport Plan 2012-42. The Plan outlines four goals:

- Improve access and choice
- Create safe, healthy and liveable communities
- Support economic vitality, and
- Create opportunities for enhancing the environment.

There is also a number of actions to help deliver those goals, which are outlined throughout this document.

Comments are invited from 18 July to 5pm on 23 August 2012, followed by hearings in September / October. The Council will then meet to consider public input and make decisions on the plan.

*Tell us what you think.
We want to know what
you think of our plans
for the future.*

How to find out more

Copies of the full draft Christchurch Transport Plan are available:

- online at ccc.govt.govt.nz/HaveYourSay
- Or at open service centres and Council libraries or the Civic Offices, 53 Hereford Street.

Come along to one of our community drop-in sessions and talk to staff about the plan:

Saturday 28 July

10am-4pm
South City Mall
555 Colombo Street

Tuesday 31 July

4pm-7pm
Cotswold School Hall
50 Cotswold Avenue, Bishopdale

Wednesday 1 August

4pm-7pm
Wigram Manor
14 Henry Wigram Drive, Wigram

Thursday 2 August

4pm-7pm
North Beach Community Centre
93 Marine Parade, New Brighton

Tuesday 7 August

5pm-7pm
Lyttelton Club
23 Dublin Street, Lyttelton

Have your say

You can make a submission online, by email or in writing. A submission form is on the back of this document.

Public hearings will be held in September /October 2012. Please indicate in your submission if you would like to be heard.

Below: Illustrative concept of the Christchurch Transport 30 Year Vision.



The four goals

Four goals have been identified which will help to achieve the vision of the draft Christchurch Transport Plan.

Goal 1.

Improve access and choice

by delivering resilient transport networks with an emphasis on efficient road use, cycling, public transport and walking. Key to this goal is introducing a new road classification which will guide the design and management of streets to reflect the local environment and place emphasis on balancing both people and vehicle movement. The goal supports the development of a safe cycle network, to make it easier for Christchurch residents to cycle. This will include creating shared footpaths, developing dedicated major cycleways and key flagship cycleways that will support Christchurch to become a cycle city.



Goal 2.

Create safe, healthy and liveable communities

highlights transport's role in supporting the recovery of the Central City, suburban centres and new growth areas. The integration of land use and transport planning will also be strengthened through District Plan changes. The goal supports a safer systems approach to improve the safety of the entire transport system.



Goal 3.

Support economic vitality

by developing local freight routes to improve access to the Christchurch International Airport, Lyttelton Port and freight hubs. Parking and congestion management will support the growth of commercial centres.



Goal 4.

Create opportunities for environment enhancements

by building green infrastructure and adapting the network for climate change and peak oil, investing in new technology and infrastructure enhancements.



Goal 1. Improve access and choice

The Council will aim to provide residents with more connected, accessible transport options across all networks – freight, road, walking, cycling and public transport.

These will ensure better use is made of the road space, easing congestion and will help to support economic vitality.

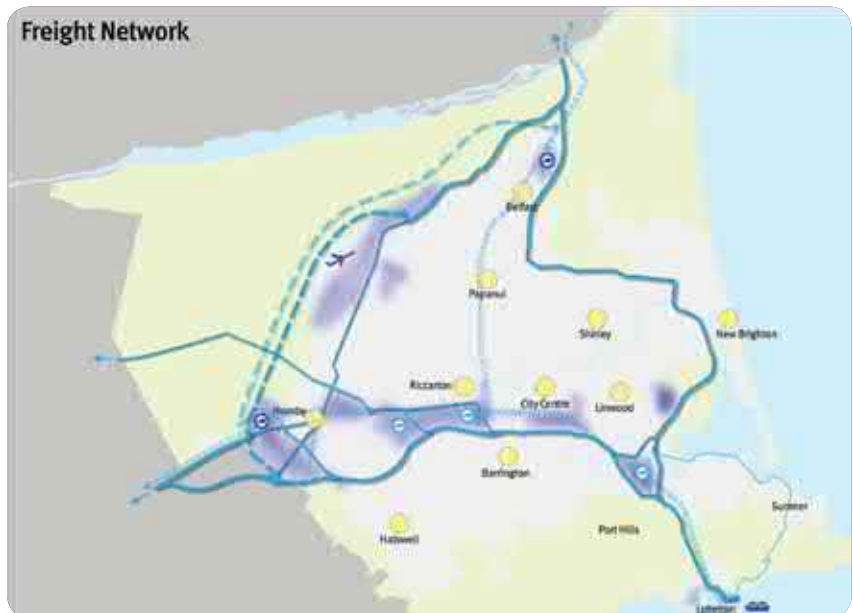
The transport actions are to:

- Develop a new road classification system: This will change the way the Council uses road space and will guide how the transport system should function. It will replace the road classification in the District Plan, guiding the design of streets to reflect the local environment and placing emphasis on the way people and vehicles move around.
- Develop a new road priority tool: to support the road classification system, which aims to identify a priority transport option (freight, public transport, general vehicles, walking or cycling) for individual roads. This will, in turn, reduce competing demands for road space.
- Protect and enhance the strategic road and freight network: A network of major arterial routes will help to improve access to key activity centres. Dedicated freight routes, along with local road and intersection improvements will ensure good connections to the Roads of National Significance (state highways) and maximise journey efficiency and reliability. The Council will also work with neighbouring districts to improve connections between Christchurch, Selwyn and Waimakariri by vehicle, public transport, cycle and walking. There will be a programme of measures, including education, to manage the demand and use of strategic roads, along with improved signage to make it easier to move around the city.



Legend

- State Highways
- District Arterial routes
- Minor Arterial routes
- Key activity areas
- Neighbouring Districts
- Future Christchurch urban limits
- Future route to be investigated













Legend

- Strategic Freight route
- Potential Strategic Freight route
- Local Freight route
- Potential Strategic Freight route
- Freight-supporting route
- Existing rail
- Potential Future Freight route (rail)
- Existing/Future industrial area
- Existing freight hub
- Future freight hub
- Key activity areas
- Neighbouring Districts
- Future Christchurch urban limits

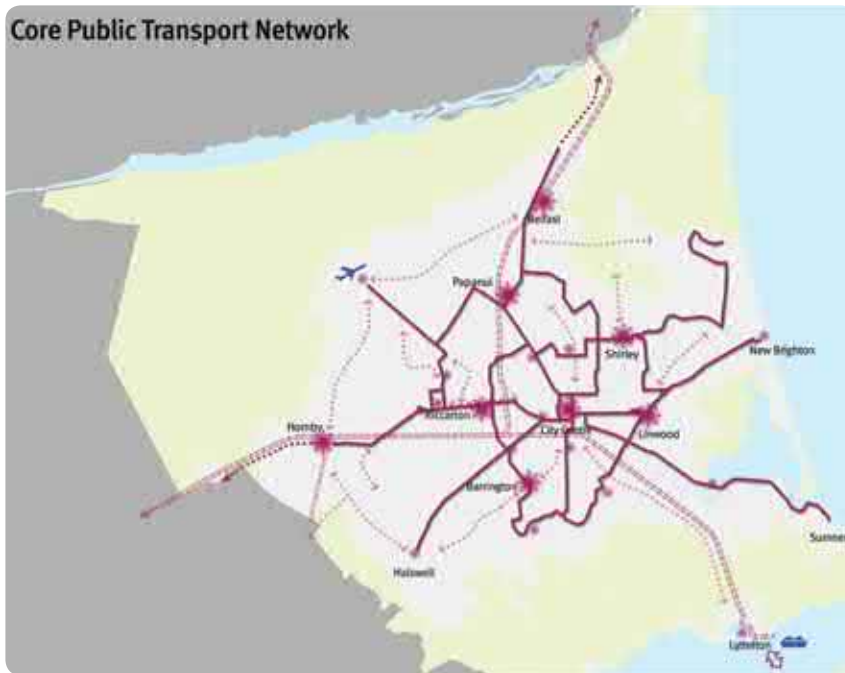


Legend

| | | | |
|---|----------------------------|---|----------------------------------|
|  | Major cycleways |  | Key activity areas |
|  | Local cycleways |  | Neighbouring Districts |
|  | Key recreational cycleways |  | Future Christchurch urban limits |
|  | Education |  | Connecting to neighbours |
|  | Existing rail |  | University and CPIT |

- Develop a cycle network that makes Christchurch a cycle city: The Council will embrace the opportunity to develop a safe, connected cycle network during the city’s rebuild, which will make cycling a more attractive, safe and accessible transport option for residents of all cycling abilities. This will include the creation of three types of cycleways – major, local and recreational cycleways. The Council will look for opportunities to create shared footpaths, which could be used by a number of users, including people cycling and walking. A number of major cycleways will be identified as ‘flagship cycleways’ and will make a strong statement about Christchurch’s commitment to cycling during the recovery.

Goal 1. Improve access and choice



Legend

- Core Public Transport routes
These are the routes that provide higher-frequency services (not all public transport routes have been shown, for clarity)
- Possible Future routes
(subject to investigation)
- Connections to neighbours
- Existing rail
- Ferry connection
- Regional services
- Neighbouring Districts
- Future Christchurch urban limits
- Connection points

- Develop attractive and efficient public transport corridors: To make public transport a more attractive and reliable transport choice, options for rapid transit will be investigated and future public transport corridors will be protected. There will be an emphasis on providing quality public transport infrastructure, including priority measures on core public transport corridors and improved infrastructure at connection points (bus stops and interchanges) to make transfer between services easy. Options for Park and Ride will be investigated and implemented.
- Develop attractive and safe street environments for walking: There will be a focus on creating vibrant commercial centres that are attractive to spend time in. Streetscapes will be attractive and safe, traffic will be slowed and people will be encouraged to linger and relax. A network of core walking routes will connect commercial centres, greenspaces, parks and urban spaces. There will be an improved level of safety on local walking routes.
- Deliver high quality information and education: The Council will make it easier for residents to move around the city by increasing travel information, wayfinding and travel planning advice.



Legend

- Walkable centres
- Recreational routes
- Education
- Existing rail
- Future Christchurch urban limits
- Neighbouring Districts

Goal 2. Create safe, healthy and liveable communities

Transport can shape communities by providing safe, attractive streets, accessible travel options.



The planning and building of new communities and the recovery and revitalisation of existing communities needs to be well connected and integrated into the transport system to improve safety, reduce car dependence and to reduce environmental effects. A connected and healthy population is key to a productive economy.

The transport actions are to:

- Support recovery: As earthquake-damaged streets are repaired, improvements can be made to make them more attractive. Transport improvements will support the recovery programmes for the Central City, suburban centres and new growth areas across the city in the short to medium term.
- Implement effective and integrated land-use policy and plans: At all stages of the land and infrastructure development process, decisions will have a crucial role in providing a variety of transport choices and managing network efficiency and resilience. The right design, location and function of buildings, subdivisions and streets will improve access to housing, jobs, schools and services by walking, cycling and public transport. This will increase access to more affordable travel options and reduce the need to travel by car for long distances.
- Deliver a safer system: A safer transport system saves lives, reduces injuries and helps to improve the efficiency of the network. A safer systems approach focusses on safer road use, safer speeds, safer roads and roadsides and safer vehicles. The priority safety issues for Christchurch during the next three to five years will focus on improving the safety of intersections, of young drivers and of cycling and motor biking.

Goal 3. Support economic vitality

Christchurch’s transport infrastructure must be able to grow with the city’s economy. Easy movement of and access to goods and services will support the economic recovery and growth of the city.



Christchurch’s role as the economic hub and tourist gateway to the South Island will be strengthened by reliable transport connections. The rebuild presents a unique opportunity for the city to strengthen the roles of the airport and port for providing vital international connections. Transport can support economic growth by making it easier for people, visitors and organisations to be connected with each other.

While all transport options support economic vitality, this goal focuses on the role of freight movement and parking.

The transport actions are for:

- Freight reliability: The freight network will provide more reliable connections between freight hubs, the port and airport, using defined and well signposted routes to reduce the movement of trucks on local streets and in local neighbourhoods. Freight management plans will improve access for freight vehicles servicing commercial centres. The movement of goods by rail and cleaner fuels for freight vehicles will also be encouraged.
- Freight hubs: Freight hubs play a key role in the regional and local freight network and have the potential to enable better freight management.
- Accessible freight hubs are important for the efficient transfer of goods. The Council will look to identify and protect new freight hubs and the infrastructure from encroaching urban development and other land uses.
- Parking: A good supply of convenient, secure, well-placed parking will support the economic recovery and future prosperity of the city. Parking management will investigate the re-allocation of on-street parking where road space may be needed for public transport, active transport or landscaping. Where there remains a need for parking, convenient off-street locations will be identified. Parking management plans will help manage parking in commercial and residential areas.

Goal 4. Create opportunities for environmental enhancements

The rebuild and design of transport networks and infrastructure presents opportunities for the transport system to enhance the environment.



Investing in green transport infrastructure can reduce emissions, enhance water quality, biodiversity and landscapes. The draft Plan will create opportunities for environmental enhancements by reducing emissions, investing in green infrastructure and planning for future changes in the climate.

The transport actions are to:

- Re-shape travel demand and reduce emissions: By increasing the emphasis on vehicle occupancy (car pooling with priority parking), encouraging energy innovation, developing intelligent transport systems and investing in technology and attractive networks to increase the number of those walking, cycling and using public transport.

- Invest in green infrastructure: The repair and future replacement of streets provides an opportunity to implement new green infrastructure. Streets will be designed with people and the environment in mind, making use of recycle materials, rain gardens, street trees and environmentally sensitive stormwater management. Green transport corridors will create opportunities to conserve and restore biodiversity whilst improving access to open spaces, rivers and parks.

Submission Form

PLEASE READ BEFORE COMPLETING YOUR SUBMISSION

The public consultation period is from Wednesday 18 July 2012 – Thursday 23 August 2012. A public hearings process will follow.

It will help us if in your submission you:

- Refer to the specific chapter(s) (and goal if appropriate) of the Draft Transport Plan.

Please note: We are legally required to make all written or electronic submissions available to the public and to Councillors, including the name and address of the submitter. The submissions may be posted electronically on the Council’s website. Information will be available to the public subject to the provisions of the Local Government Official Information and Meetings Act 1987. If you consider there to be compelling reasons why your contact details and/or submission should be kept confidential, you should contact the Council’s Communication’s Consultation Team Leader, telephone 941 8999.

You may send us your submission:

On the internet

You may enter your submission using the form provided on the Council’s website at www.ccc.govt.nz/HaveYourSay Please follow all the instructions on the website.

By email

Please email your submission to CTP@ccc.govt.nz

Please make sure that your full name and address is included with your submission.

By mail

(no stamp is required) to:

Freepost 178
Draft Christchurch Transport Plan Submission
Christchurch City Council
PO Box 73012
Christchurch 8154

No anonymous submissions will be accepted. Whether you use this form or not, you must provide your full name, address and telephone number. If you are submitting on behalf of an organisation, please state this and your role within that organisation.

Submissions must be received (NOT postmarked) at the Hereford Street Civic Offices no later than 5pm on Thursday 23 August 2012. To ensure receipt, hand deliver last-minute submissions to the Civic Offices, 53 Hereford Street.

Your submission

If you wish, you can present your submission at a hearing. If that is the case, please tick the appropriate box below. The hearings will be held during September/October 2012. Five to ten minutes will be allocated for speaking to your submission, including time for questions from the Councillors. The Council will confirm the date and time of your hearing in writing, by email or by telephone call.

TICK ONE

I do NOT wish to discuss my submission at the hearing, and ask that this written submission be considered

OR

I wish to discuss the main points in my written submission at the hearings to be held during September/October 2012

I am completing this submission: For myself On behalf of a group or organisation

If you are representing a group or organisation, how many people do you represent?

My submission refers to Chapter(s): Goal (if appropriate):

Your Name: _____

Organisation name (if applicable): _____

Organisation role (if applicable): _____

Contact Address: _____

Postcode: _____

Phone No (day): _____ Phone No (evening): _____

Email (if applicable): _____

Signature: _____ Date: _____

Submission Form

1. Overall, do you support the direction of the draft Christchurch Transport Plan?

Yes No

2. How much do you agree or disagree with the 30 year vision and goals for transport in Christchurch?

Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree

3. How much do you agree or disagree with the main challenges identified for the transport system in Christchurch? The challenges can be found in chapter 4 of the draft Plan.

Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree

4a. How much do you agree or disagree with the core routes identified on the proposed network maps for strategic roads, freight, public transport, cycling and walking?

| | Strongly agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree |
|-------------------------|--------------------------|--------------------------|----------------------------|--------------------------|--------------------------|
| Strategic roads | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Freight routes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Public Transport routes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Cycling routes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Walking routes | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

4b. Where would you like the major cycleways to be?

5. How much do you agree or disagree with the introduction of a new road classification that aims to create roads and streets that will better cater for both people and vehicle movement?

Strongly agree Agree Neither agree nor disagree Disagree Strongly disagree

Glandovey, Idris and Straven Residents Association Incorporated

email: gisachch@gmail.com www.gisachch.com

P.O. Box 2082, Christchurch 8140, New Zealand

SUBMISSION ON THE PROPOSED CHANGES TO CRANFORD STREET

1. Introduction
2. The project is directed squarely at routes to the CBD and the Port
3. Potential adverse effects if strong protective measures are not taken
4. The changed legal and environmental context since the project was planned and approved
5. The Christchurch City Council Strategic Transport Plan 2012-2042
6. Induced and evaporating traffic and city design
7. The Christchurch City Plan and certain other documents
8. Implications for the Cranford Street area
9. Implications for our area
10. Wider area changes and management
11. Conclusion

1. Introduction

- 1.1 The northern extension into Christchurch, and particularly along Cranford Street to the four avenues and CBD, is challenging. It is vital to the health, safety, character and amenity of Christchurch and its residents, being the focus of this Council, that it is done swiftly and sensitively.

2. The project is directed squarely at routes to the CBD and the Port

- 2.1 The northern extension was proposed decades ago, certainly at least as far back as the 1960's. Its current form resulted from significant inquiry. The Joint Report, Recommendation and Decision of the Commissioners (Christchurch City Council and Canterbury Regional Council) of 24 July 2015 stated:¹

“5.64 We note that the goals of the two Requiring Authorities are understandably not aligned, with each having a different focus and objectives. NZTA’s overall objective in broad terms is to increase capacity and reliability on the route between the port and to the north, via QEII Drive, with no specific objectives regarding the connection between the north and Christchurch’s CBD.

5.65 CCC’s objective is to create a high quality route linking the NA to the city streets, ultimately improving the connection between the northern suburbs and the CBD. The NAE/CSU Project is

¹<file:///C:/Users/Spot/AppData/Local/Microsoft/Windows/INetCache/IE/A9NW6XP3/RMA92020038FinaldecisionCC.pdf>

seen as the first stage in this wider project, and increases overall capacity through the wider northern corridor including Main North Road, the NA and Marshlands Road.”

2.2 As can be seen, and this is fundamental, the purpose of the extension was to facilitate access to the CBD and also to Lyttleton Port.

2.3 What is very clear is that in no way was the project directed towards facilitating access through northwestern suburbs, let alone along those suburbs to the western and southern areas of Christchurch. This is seen in a number of aspects of the decision, which include a focus on reducing pressure on suburbs west of the project. For example:

“5.68 Mr Blyleven discussed the alternatives considered for the NA Project route itself. He outlined that assessment of these alternatives had concluded that the alignment could not go any further west, as this would impact on Belfast and the Upper Styx land use areas. He noted the location proposed provided a clear eastern boundary for these areas and would allow improvements to be made through the Main North Road corridor in the future to improve social amenity, land use integration and sustainable public transportation options...”

An express purpose was, rightly, to help improve livability and modal shift in Belfast and Upper Styx. It is doubtful that our or any other area was to be undermined in substitution.

2.4 There was concern that until a route from the Cranford / Innes intersection into the CBD was completed rat running to the north-west would occur. It was understandably seen as important that proper measures are taken to address that. The Commissioners identified that it was important that the route to the CBD be developed with speed. They stated:

“5.155 We also note that downstream effects will be greater until Cranford Street is upgraded south of Innes Road. We were advised that investigation of any changes to Cranford Street through that section have yet to be completed. However, from a financial and local impact perspective, the sooner that capacity south of Innes Road is increased and vehicles are less likely to look for faster alternative routes, the less likely it will be that traffic calming measures will need to be installed through the St Albans residential streets.”

2.5 The broader context is that the NZTA and CCC were developing the Western Bypass and the QEII drive four-laning. The Western Bypass was designed to facilitate vehicle and freight traffic around, rather than through, the northwestern suburbs. As identified, one purpose was to reduce substantially the vehicle traffic flowing through the northwestern parts of the city.

2.6 The broader context also included a major freight route and what were to be measures (not yet taken) to have freight use that route.

2.7 In summary, the touchstones are:

- (a) that this project is part of a suite of projects which are directed to ensure that traffic from the north does not unnecessarily traverse Christchurch residential areas, but is moved through three routes:

- **to the CBD**, via the Northern extension to Cranford Street, then to Bealey avenue and in turn utilizing either the CBD streets or the avenues around the CBD (ie Bealey, Fitzgerald, Moorhouse and Deans); or
- **to the Port**, via the northern extension and QE11 four laning. There was also to be an upgrade over time of the Northcote Road ring route; or
- **to the west of Christchurch**, via the Western Bypass. This enables access to the airport, Avonhead, Riccarton, Yaldhurst, Hornby and beyond, eg Rolleston and Timaru.

- (b) it is not intended for major freight, for which there is a strategic route;
- (c) neither the consultation nor the report were postulated on the basis that the project would increase traffic in the then, and still, overburdened northwestern suburbs of Christchurch;
- (d) to avoid adverse effects on local roads (as opposed to highways), the route from Cranford Street to Bealey Avenue must be undertaken swiftly;
- (e) despite the adverse effect on properties from Cranford Street directly to the CBD, the project was not approved on the basis that health or safety would be undermined there;
- (f) the project was not approved on the basis that health, safety, character and amenity in any other area, including the north west, would be undermined.

2.8 Care will need to be taken else those touchstones will be undermined. Insofar as those on Cranford Street and its vicinity are concerned, their health and safety and those of vulnerable roads users should be assured and enhanced. Adverse impacts on character and amenity should be minimized.

2.9 Insofar as the suburbs west of Cranford Street are concerned, and particularly west of Papanui Road are concerned, strong traffic calming measures will need to be taken to ensure that they do not suffer increased traffic and that residents' health, safety including that of vulnerable road users, and residential character and amenity, are preserved and enhanced.

3. Potential adverse effects if strong protective measures are not taken

- 3.1 Unless the project is designed and implemented swiftly and in accordance with the touchstones above, it will have unintended and adverse consequences. Potential consequences, and possible measures, are outlined in attachments:
- A. A summary of some health research (**attachment A**).
 - B. Some transport policies and research (**attachment B**).
 - C. Some overseas restrictions on heavy vehicles in residential areas (**attachment C**).

3.2 The majority of these the Council has before it already in several different contexts, since at least April 2017. They show that the potential adverse health effects of freight and heavy traffic flows include:

- disturbed sleep
- lower attention and productivity
- increased mental illness in adults
- increased risk of ADHD in children
- increased risk of dementia
- increased risk of stroke and myocardial infarction
- increased risk of death.

3.3 In a New Zealand study referenced in the annexures, the effects of heavy vehicles, noise, vibration and pollution are reported to impact especially on women, children and those at home during the day. Viewed another way, they are likely to have greater impact in residential areas, where for example there are children and people home during the day, than in commercial areas.

3.4 Traffic noise is increasingly considered to contribute substantially to adverse health outcomes – to a greater extent than air pollution in some cases. This has led the World Health Organisation to undertake a significant review of the WHO Environmental Noise Guidelines for the European Region. In April 2018 the WHO published a suite of research on the effects of noise, including traffic, on sleep, the cardiovascular and metabolic system, cognition, annoyance and mental health.² Adverse effects are worse and occur at lower levels than thought. The introductory paper to that review, published on 20 April 2018, urges governments and communities to:³

“...champion a multidisciplinary approach to help mainstream noise mitigation in their sustainable development processes.”

*(See Development of the WHO Environmental Noise Guidelines for the European Region: An Introduction, **attachment D**).*

3.5 Adverse health and safety risks are higher for heavy vehicles and high traffic volumes.

3.6 High traffic volumes are the single biggest indicator of the adverse crash performance of intersections, according to NZTA research. Put simply, the single most effective way of improving crash performance is to reduce traffic volume. Research also shows that actual crash data – unless perhaps gathered over many years - is not a good determinant of crash performance.

² http://www.mdpi.com/journal/ijerph/special_issues/WHO_reviews

³ Development of the WHO Environmental Noise Guidelines for the European Region: An Introduction, pg 5.
<http://www.mdpi.com/1660-4601/15/4/813>

3.7 Deterrence effects of freight and heavy traffic flows include reduced cycling and walking.

4. The changed legal and environmental context since the project was planned and approved

4.1 Significant legal and environmental changes have occurred and more data has become available since the project was planned and approved from 2009 through to 2015. It would be quite wrong to not take these into account.

4.2 These changes include:

Health research

- (a) the adverse health effects of vehicle transport, and particularly of high volume vehicle and freight transport, have been even clearer. In New Zealand they are now accepted in documentation at a local body (but not properly in the Council's Strategic Transport Plan and draft Long Term Plan), regional body and national level. They have been accepted overseas for longer in many countries and cities, as is apparent from the annexures hereto.

ECAN and Canterbury Regional Transport Committee

- (b) we now know from the Canterbury Regional Transport Committee's scorecard for March 2018 (**attachment E**) that:
- (i) for health, the long term trend is downwards;
 - (ii) for CO2 emissions, the long term trend is upwards;
 - (iii) for road closures and durations, the long term trend is increasing;
 - (iv) the "*long term trend in freight growth [is] positive*" This trend is referred to shortly when dealing with the Council's Strategic Transport Plan 2012- 2042.

We can hardly be proud of (i) to (iii). It is doubtful that (iv) is the priority for many Christchurch citizens and families who just want a healthy, safe and pleasant place to live, for them and future generations.

- (c) the Canterbury Regional Transport Committee has, this year, been undertaking its mid-term review of the Regional Transport Plan. To its great credit, in its revised draft plan (March 2018) and in its consultation report on feedback (May 2018) it squarely recognizes these issues, including that:
- speed of vehicle transport and vehicles link are not paramount objectives;
 - safety and access (all modes, with an emphasis on the need to increase less fossil fuel reliant transport) are;
 - an improved environment and value for money are major objectives;

- in its consultation report and proposed changes (which may have been made now), noise warrants consideration as a factor adverse impacting on health.

In these, it has drawn on the draft Government Policy Statement on Land Transport, but it is clear from correspondence with its Chair last year that it was already, commendably, moving towards a far more nuanced approach to transport.

- (d) as ECan has identified, we have the lowest public transport use in New Zealand. The media has referred to us as the car capital of New Zealand.

Draft Government Policy Statement on Land Transport (GPS)

- (e) the Draft GPS has been published, which places especial emphasis on safety, access, the environment and value for money. Access does not mean vehicles moving more quickly and easily. Instead, particular emphasis is placed on modal shift, for example to cycling and walking.

This was signaled months ago yet, inexplicably, does not appear to have impacted on Christchurch's Strategic Transport Plan, the business case for that nor the Draft Long Term Plan.

5. The Christchurch City Council Strategic Transport Plan 2012-2042

Avoiding an erroneous approach by Councillors

- 5.1 We wish to confront, at this stage, another aspect, being the Christchurch Strategic Transport Plan 2012-2042. We do so because it has been stated to us, wrongly, that it requires high volume vehicle traffic and freight to go on our roads, along Heaton, Glandovey, Idris and Straven roads, because they are part of a “strategic transport network” shown in that plan. We do not wish the planning for the northern extension to be clouded by this error.
- 5.2 The Strategic Transport Plan is just that, a plan. Not mandatory. It is flawed in part. It is quite unclear why the current Council is wedded to it. It was to a large extent economic growth and freight focused. The disturbing long term trends shown in the Canterbury Land Transport Committee's March 2018 scorecard have to be put in context. A broader context of course is a city rebuilding, but we are well down the track now - 7 years. The more immediate context is that the long term positive trend in freight growth happens to coincide precisely with the express purpose of the Council's Strategic Transport Plan 2012-2042 : it is focused heavily on promoting road freight movement, including in residential areas.
- 5.3 As we know, from the research contained in the annexures hereto, vehicle freight, especially in residential areas, has adverse impacts of exactly the types identified in the March 2018 scorecard- reduced wellbeing and increased CO2 emissions.
- 5.4 The Council's Strategic Transport Plan 2012-2042, after almost six years, has, at best, not prevented those trends. At worst, and more likely, it has promoted them. It is difficult to not draw a connection of some type between the Strategic Transport Plan's freight focus and the

increase in freight, and its focus on increased orbital vehicle traffic in the suburbs, and the downward trend in health and upward trend in CO2 emissions.

A flawed consultation

- 5.6 The main consultation document for the Strategic Transport Plan was the Consultation Summary Document (**attachment F**). Its content is illuminating. It states on page 2, that: *“The Council will work with communities to develop more detailed options for the transport networks.”* It lists clear goals of access and choice and safe, health liveable communities, amongst others. Cycling is a clear priority.
- 5.7 It shows on page 4 a freight network – which is not on roads in our area. It shows a strategic road network, but does not say its purposes.
- 5.8 The Consultation Summary states on page 4:
- “Goal 1. Improve access and choice.***
- Protect and enhance the strategic road and freight network: **A network of major arterial routes** will help to improve access to key activities centres. **Dedicated freight routes**, along with local road and intersection improvements, will ensure good connections to the Roads of National Significance (State highways) and maximise journey efficiency and reliability. The Council will also work with neighbouring districts to improve connection between Christchurch, Selwyn and Waimakariri by vehicle, public transport, cycle and walking. There will be a programme of measures, including education, to manage the demand and use of strategic roads, along with improved signage to make it easier to move around the city”* [Emphasis added]
- 5.9 As can be seen, there is nothing to say that the minor and collector roads on the strategic network will be for access to key centres, or freight. Instead, demand on that network was to be managed (which implicitly must include to ensure there are not adverse effects), and it would be easier to move, in the context of a plan focused on, amongst others, cycling, liveability and modal choice.
- 5.10 An entirely reasonable reading was that the minor arterials would be enhanced for cycling and walking, and not for freight and key activity centre vehicle movement, which was expressed to be on different routes. As said, the title was *“Goal 1. Improve access and choice.”* If the plan was for the minor arterials to be for freight and high volume fossil fuel transport, to the detriment of other modes, this should have been expressly stated. It was not.
- 5.11 Instead, page 5 shows that a cycle network will be developed. Expressly included for local cycleways are Straven, Glandovey West and East, Idris and Heaton roads. Glandovey West and East, Idris and Heaton roads do not have them. Page 6 then shows core public transport routes, which appears to include Straven, Glandovey East, Idris and Heaton roads.
- 5.12 Page 7 goes on to emphasise the freight network (again, not the roads in our area) and states:
- “The freight network will provide more reliable connections between freight hubs, the port, and airport, using defined and well signposted routes to reduce the movement of trucks on local streets and in local neighbourhoods”.*

- 5.13 In short, there was nothing in the consultation document to suggest adverse traffic effects and freight would be increased in our area. Based on what is express in the Consultation Summary the community could expect an improved focus on health and amenity, good local cycle ways and continued public transport (train and bus) and for the Council to work with it. As the Council knows from our submission on the Long Term Plan, which is hereby incorporated into this submission by reference, instead it got more freight, high volume vehicle transport, and no cycle lanes. There is no issue with public transport.
- 5.14 If what occurred was intended by the consultation summary for the Plan then the consultation summary was misleading. But the present point is simple: the consultation was flawed and cannot be regarded as garnering a community mandate for what occurred.

A Council failure to properly consider health

- 5.15 In developing this dated Strategic Transport Plan, in 2009 to 2012 the Council, extraordinarily, did not obtain a health assessment of adverse health effects, let alone along the new residential route in our area, a matter confirmed by the CDHB. It only obtained a generalised assessment of positive effects. The CDHB confirmed by way of email dated 23 November 2017, which the Council has, that:

“I can confirm that the Transport HLA undertaken in 2010 was a high level policy health impact assessment not a project Health Impact Assessment or project risk assessment. The project described some of the health- transport relationships but did not assess the relationship between health outcomes and transport issues at a local level along particular routes and intersections. The project did not assess noise impacts of transport specifically other than briefly noting that this can be an issue. The project was largely completed prior to the September 2010 earthquakes and further HLA work has not been undertaken in this policy space by the CDHB.”

- 5.16 How much better might health, wellbeing, public transport uptake and modal shift be if the Council had sought a full assessment almost a decade ago and then made plans in the suburbs to support those aspects?

An overburdened route in our area

- 5.17 We now know that the one new route in that Christchurch Strategic Transport Plan (Heaton to Barrington streets) is over-burdened to an extent associated with adverse effects of the type identified earlier. It clearly needs respite, not further stressing by way of the northern extension. Some parts, eg Clarence Street, now have a major commercial nature. But others, eg Straven to Heaton, do not. As we have said, we cannot be proud of the undermining, over recent decades, of Clarence Street by traffic. It would be good to improve it.

A conflict with the collector road status of Heaton Street

- 5.18 The Strategic Transport Plan wrongly shows Heaton St as a minor arterial. This is simply wrong. It is of concern that the Council continues to mislead by having in the public space documents showing it as a minor arterial.
- 5.19 It is a collector road (see the Christchurch City Plan extract, **attachment G**). That status is fixed for 5 years, and probably far longer when the time to introduce new city plans is taken

into account, perhaps another 5, meaning for 10 years or so. Collector roads are defined in the Christchurch City Plan, as follows:

*“Roads that distribute and collect **local** traffic between neighbourhood areas and the arterial road network. **These are of little or no regional significance**, except for the loads they plan on the arterial road network. They link to the arterial road network and act as local spine roads, and often as bus routes within neighbourhoods, but generally do not contain traffic signals. Their traffic movement function must be balanced against the significant property access function which they provide.”*

[Emphasis added]

- 5.20 The word local is of especial relevance, as is the statement that collector roads are of little or no regional significance. Clearly Heaton Street ought not to be used as a plank of the northern extension.
- 5.21 Instead, it ought to be dramatically calmed. It, as with other collector roads, is intended to have between 1,000 and 6,000 vehicles per day. It exceeds that. The traffic volume will need to be reduced.

An orbital route and cycling

- 5.22 The Strategic Transport Plan, as applied, provides orbital routes for vehicles but not for bicycles. The consequences, when consideration is given to the orbital route in our area, and in particular the actual roads it uses, are simple: You can drive past schools, eg Heaton Intermediate, on a street with much heritage, in a heavy vehicle, but children cannot cycle safely because there is no cycle way. You can drive to the park there, but your children are at risk if they cycle. The same applies to Glandovey Road and Idris Road. How is this commonsense?
- 5.23 This is not a mere diversion from the current issue of Cranford Street: clearly these roads must be made safe to cycle on for children and others. An integral part of that is taking calming steps to deter traffic from the northern extension from heading down those streets and compounding the current problems for cyclists.

Fortunately, the Strategic Transport Plan has not been entrenched

- 5.24 It is most fortunate that the Independent Hearing Panel has determined that the Council’s Strategic Transport Plan 2012-2042 not be entrenched in the Christchurch City Plan. In other words, it can be changed or deviated from with ease and without regulatory process. The City Plan states:

Appendix 7.5.12 Road classification system

1. *The purpose of Appendix 7.5.12 is to outline the Road Classification System, which is used to distinguish roads into categories, as some of the rules in the District Plan only apply to some of the roads in a particular category.*
- b. *Use hierarchy (modal networks):*

- i. *In addition to the functional hierarchy, a road use hierarchy has also been defined within the Christchurch Transport Strategic Plan. These networks highlight that different modes of transport have different priorities within the network. There are five modal networks defined in the Christchurch Transport Strategic Plan:*
- A. *the cycle network of major, local and recreational cycle routes (including on- and off-road cycle ways, and cycle ways within rail corridors);*
 - B. *the core public transport route network;*
 - C. *the walking network;*
 - D. *the freight network (including the rail network); and*
 - E. *the strategic road network.*
- ii. **These networks are not specifically shown in the District Plan as they will be subject to change over time.** *However, they are an important part of Christchurch's transport network and will be considered as part of the Integrated Transport Assessment process.*

[Emphasis added]

Summary

- 5.25 The Christchurch Strategic Transport plan is not entrenched. The process by which it came about is flawed. In any event, with the effluxion of time and many changes since it was made, it now needs review. Part of its content is equally flawed: quite why it was thought right to calm the CBD in the interests of health and amenity, and in stark contrast push high vehicle volumes and freight through residential areas, is unclear.
- 5.26 But it conflicts with common sense and all of the health and other research referred to earlier, and the many representations by community, dating back to the immediate post-earthquake Share an Idea process. What was sought was a high quality, calm, cycle and pedestrian friendly city. It would be most disingenuous to pretend citizens wanted the opposite where they live.
- 5.27 In light of all of the problems, and the fact it is not entrenched, it is of real concern that the Council has continued to progress its business case with the Strategic Transport Plan undiluted. Fortunately it also can be modified.
- 5.28 But for the purpose of Cranford Street and our area several major points can be extracted:
- (a) there is a need for the Councillors, when serving the interests of residents in the Cranford Street area, to ensure a far more nuanced approach to adverse effects than occurred in the 2012-2042 Strategic Transport Plan. The same can be said for any other area which might be affected, including ours;
 - (b) the Strategic Transport Plan does not require freight and high vehicle volumes to go down our roads. To access roads in our area traffic from the northern extension would need to conduit through Heaton Street. It would be inconsistent with its

classification, as well as health and safety and its residential, heritage and educational character, and also that of adjoining roads and suburbs to the west of it;

- (c) when put in the context of the Commissioners' concerns about the need for swift development of a route into the CBD, to avoid rat running, it is clear that calming steps must be taken now to ensure that Heaton Street does not suffer. If that is not done then there will be flow on effects, for example some traffic may move to the already overburden collector and minor arterial roads beyond it to the west.

6. Induced and evaporating traffic and city design

6.1 Inherent in many transport issues is the question where will the vehicle traffic go. Another change over recent years is increased acceptance of the phenomenon of induced and evaporating traffic. If progress by vehicle transport is less easy:

- some will cease taking purely discretionary trips. An example in our area is traffic transiting from the north and other suburbs to go to, for example, Westfield Mall. Instead some might choose to shop more locally, revitalizing their suburbs.
- some will engage in modal shift, to walking, cycling and public transport. This is a major plank of the Government's the NZTA's, Ecan's and, in part, the Council's, transport direction. We say in part the Council, because it is becoming very apparent that outside of the CBD the Council has embarked on creating faster and higher capacity vehicle routes in Christchurch.
- some will reroute, to more appropriate roads if care is taken with physical, operational and traffic management changes.

6.2 Adding capacity often increases traffic to the point of congestion again. Straven Road is a classic example. The Council in 2014 by Glandovey / Idris intersection works, which we seek reversed, increased traffic capacity along the route. Straven Road is again congested. Traffic, including heavy vehicle traffic, diverted from better routes.

6.3 These propositions are well founded in research, papers and articles, including the below (which the Council has already been provided with):

- *Generated Traffic and Induced Travel* April 2018, Victoria Transport Policy Research. Page 27 captures precisely a point we have made before:

“Increasing road capacity allows more vehicle traffic to occur. In the short term this consists primarily of generated traffic: vehicle traffic diverted from other times, modes, routes and destinations. Over the long run an increasing proportion consists of induced vehicle travel, resulting in a total increase in regional VMT.”

- *When roads are closed where does the traffic go.* The short point made is part of it evaporates, being the term used, for reasons articulated earlier;
- *The Global Designing Cities Initiative.* This major and influential multi-city international work makes similar points.

6.4 In the way the Christchurch Strategic Transport Plan 2012-2042 treats residential suburbs in a starkly less sympathetic way to the CBD and fosters high vehicle and freight transport, it runs counter to important principles in the *Global Designing Cities Initiative* and also in the WHO and Lanclet's series on urban design and transport (see **annexure A**).

7. The Christchurch City Plan and certain other documents

7.1 The Christchurch City Plan favours sensitive design of the type for which we advocate. In contrast to the Council's Strategic Transport Plan it is fixed and subject to a moratorium on change for 5 years. More likely that means 10 or so years when the time to effect a plan change is taken into account.

7.2 Of especial relevance to the Councillors' decisions is the emphasis it places on ensuring that Christchurch is a high quality and livable city, with a transport system which reflects that and also the setting in which it occurs.

7.3 Objective 7.2.1(a) of the City Plan expressly sets as an objective a transport system:

7.2.1.a.i *"that is safe and efficient for all transport modes"*

7.2.1.a.iii *"that supports safe, healthy and liveable communities by maximizing integration with land use"*

7.2.1.a.iv *"that reduces dependency on private motor vehicles and promotes the use of public and active transport"*

7.4 Policy 7.2.1.8 of the City Plan states:

7.2.1.8 Policy - Effects from transport infrastructure

1. Avoid or mitigate adverse effects and promote positive effects from new transport infrastructure and changes to existing transport infrastructure on the environment, including:

- 1. air and water quality;*
- 2. connectivity of communities;*
- 3. noise, vibration and glare;*
- 4. amenity and effects on the built environment;*
- 5. well-being and safety of users.*

7.5 The City Plan recognizes a "place" function. Of relevance, roads in residential areas are to be more sensitive to residential values than roads in commercial or industrial areas.

- 7.6 The City Plan also expressed recognises the importance of heritage. This extends to include the heritage of areas, a matter being progressed by way of the Council's Heritage Strategy adopted last year.
- 7.7 Regard is to be had to the Government Policy Statement on Land Transport and the Regional Policy, amongst others, which as foreshadowed are currently changing.
- 7.8 Other documents of relevance to transport planning are outlined in our submission on the Long Term Plan.
- 7.9 The present point is that there is a suite of documents, which are designed to ensure that transport projects such as these are undertaken in a manner which is sensitive to residential interests.

8. Implications for the Cranford Street area

- 8.1 The Cranford St project has been in the pipeline since at least the 1960's. But that fact ought not to blind the Councillors' to the many interests and values which may be compromised by it.
- 8.2 While Cranford Street has a significant commercial nature, the area surrounding is rich with homes and educational facilities. They are places where people live and children are educated.
- 8.3 It is clear from the fact of the consultation that adverse effects are to minimized. That will require consideration of a far broader range of factors than, for example, occurred in our area under the Strategic Transport Plan. The community and its residents are a part of Christchurch and its identity. This project needs to be undertaken in a way which properly values them, rather than treats the area merely as a conduit to and from the city from afar.
- 8.5 To help avoid adverse effects changes and calming will clearly be needed to a number of streets in the area. We do not intend to submit what should be done on which streets. That is because the local Cranford community will know best what is needed and it is not our place to speculate.
- 8.6 Instead, we wish to recognize that the project likely carries with it justifiable local community concern, and to emphasise to the Councillors the importance of:
- (a) engaging with community concerns;
 - (b) ensuring that the project responds to a current understanding of the health, safety, community severance, character and modal shift deterrent effects of high volume and heavy vehicle traffic;
 - (c) recognizing that the residential roads ought not to be undermined;
 - (d) ensuring that facilities are put in place to enhance, nor undermine, the community and to support modal shift;
 - (e) having proper regard to the Government Policy Statement on Land Transport and lower order plans which serve to promote its purposes.

9. Implications for our area

- 9.1 As is apparent from the decision, purpose and consultation for the northern extension, its focus is on access to the CBD and the Port. This will begin to regularize traffic flow more in line with pre-earthquake traffic: traffic can route around the four avenues and one-way CBD systems, not through residential areas.
- 9.2 An increase in vehicle traffic in our area would be unintended – certainly the Council had never engaged in consultation with the community in terms expressly directed at increasing vehicle and heavy vehicle traffic.
- 9.3 But unless strong physical, signage and operational measures are undertaken now, unintended and increased vehicle traffic will flow downstream through our area. As the Council knows, it is already overburdened.
- 9.4 It is residential, and the roads with which we are concerned, from Heaton Street to Straven Road, have a residential, heritage and educational, not commercial, character. Care will be needed to ensure roads in our area are safe for children and families, including ensuring that they are safe for and promote walking and cycling to the many schools and other facilities, eg, Christchurch Boys High School, Christchurch Girls High School, St Patricks, Fendalton Open Air School, Waimairi School, Heaton Intermediate and the University of Canterbury, and nearby shops, including Fendalton Mall, Westfield Mall and the CBD.
- 9.5 Those measures will need to ensure that changes do not adversely effect, and that they support and promote, the heritage of, and in, the area. These are reflected by the Heritage Zones in the City Plan and Heritage NZ Listed properties. Glandovey Road West and Heaton Street represent one of the greatest densities of Heritage NZ listed homes in Christchurch. There are heritage homes on Glandovey West, Idris Road and Straven Road, some but not all of which are formally recognised. Recognising the importance of local heritage, in 2009 the Community Board and Council commissioned and paid for a scoping study of heritage in the area, *Heritage in the Fendalton – Waimairi ward - a scoping study*, 2009.
- 9.6 There are no major or minor arterial roads which connect the northern extension to our area. The City Plan, expressly classifies the following roads as collector roads:
- Heaton Street
 - Idris Road from Wairakei Rd to Blighs Road
 - Blighs Road
 - Glandovey Road (west)
- 9.7 That classification means that their major purpose is serving local residents, not significant through traffic. They are expressly identified as having no regional significance. They ought to be protected from traffic of a regional nature such as that flowing to and from the northern extension
- 9.8 Changes will be needed to each of the collector roads listed to ensure that the vehicle traffic they carry is reduced and falls into the collector road classification of 1,000 to 6,000 vehicles per day, and that that is not upset by the northern extension.

- 9.9 Concerningly, the Council continues to have signage directing heavy traffic flows our way and, as covered earlier, to represent to the public that Heaton Street is a minor arterial road, not a collector road. These include electronic signage on, for example, Innes Road western end, advising of vehicle transit time to the minute to Riccarton via Heaton Street and our area. Signs essentially promote this as a major route. We recognize that the Council is pressured and it takes time to implement changes, but we are over a year past that classification being made by the IHP.
- 9.10 Some of these roads in part connect with minor arterial roads, being Idris Road and Straven roads. They also are overburdened, and are not reflective of their intended vehicle traffic volumes of 3,000 to 15,000 vehicles per day. Again, changes will be needed.
- 9.11 Having regard to the matters raised above and in earlier parts, it is apparent that changes will be needed on a number of roads and intersections:
- (a) the Cranford / Innes intersection design will need to ensure that the northern extension achieves its purpose: of enabling transit to the CBD and Port, and does not by mistake achieve a different purpose of bringing more traffic to the northwest of the city. This means a far more restricted entry and exit on the Innes Road south side compared to the other incoming roads;
 - (b) Innes Road south to Heaton Street will need to be calmed to accommodate cycling and ensure that it deters major traffic flows and freight from routing through it to the northwest of the city;
 - (c) along Heaton Street, to ensure that the same does not occur, and to bring the traffic volumes to a level properly reflective of its classification and residential, heritage and educational character;
 - (d) along Glandovey Road West, and at both the Fendalton Road and Idris Road intersections, to help reduce the risk of it being seen as part of a northern extension network, and to bring the traffic volumes to a level properly reflective of its classification and residential, heritage and educational character.
 - (e) for similar purposes, along Glandovey Road East, Idris Road and Straven Road. These will need to include calming measures at the Glandovey Road East intersection; the Idris and Fendalton Road intersection; the Straven and Fendalton Road intersection; and the Straven and Riccarton Road intersection. Otherwise, they will risk being seen by vehicles at either end as a part of the northern extension.

10. Wider area changes and management

- 10.1 It is anticipated that part of avoiding downstream effects will be having signage and management to ensure that vehicles from out of Christchurch are more directly encouraged to use the highways, major arterials and longstanding major orbital routes, eg
- the Western Bypass;
 - the northern extension to the CBD;
 - the northern extension and QE11 drive to the Port;

- the orbital route around the four avenues surrounding the CBD and Hagley Park;
- the Northcote road orbital ring system;
- the CBD one-way systems.

- 10.2 Vehicles can transit on those systems, and dip in or out on major spoke roads.
- 10.3 Integral to avoiding downstream effects is ensuring that freight uses the major freight network designed for it. The Council is aware there is a problem in this regard and also of the increased consequential damage which is being caused by freight using roads not designed for it. Signage, restrictions in appropriate places and education would help.
- 10.4 We anticipate that there will be at least two other benefits of this approach. First, it will promote the revitalization of the CBD. It is becoming very apparent that insofar as that is reliant on inner city housing it is simply taking too long.
- 10.5 A number of CBD businesses have failed over the past few years. They simply cannot compete easily with some major malls in Christchurch with major routes directing traffic to them.
- 10.6 This is becoming a major issue for Christchurch: unless urgent steps are taken, the CBD will continue to be set back in contrast to the suburban malls. This is an opportunity to address it, by acting swiftly and comprehensively to get traffic flowing to the CBD one way systems and car parking buildings.
- 10.7 Secondly, by alleviating residential traffic pressures, which are most prevalent in the north western suburbs, it will maximize the livability of those suburbs and will help foster more people living inside of Christchurch, rather than dispersed outside of Christchurch in a way reliant on vehicle transit. This is not a submission in opposition to satellite towns, but they cannot come at the cost of Christchurch's health, safety and character, and at the cost of a more compact lifestyle so necessary to our city's and our children's futures.

11. Conclusion

- 11.1 The project is challenging. The focus of the northern extension is on transit to and from the CBD and the Port.
- 11.2 There is a need to swiftly put in place access to the CBD from Cranford Street, to help reduce the possibility of adverse effects.
- 11.3 The range of streets which will need measures to help ensure those purposes is achieved, and not thwarted, is broader than may at first appear to be the case. They include our roads.
- 11.4 When assessing those, the Councillors ought to have regard to, amongst others:

- community views;
- current health and safety material and current data as to how Christchurch is doing (eg the annexures, the Regional Scorecard and in our case the known impacts of traffic in our area);
- current policies, for example the Government Policy Statement on Land Transport, assuming the draft is introduced in June 2018, and the revised, on the same basis, Regional Land Transport Plan;
- the residential, educational and heritage nature of many roads and communities which may be affected;
- current road classifications, eg Heaton Street being a collector street;
- the need for modal shift.

11.5 This should be seen as an opportunity to make changes which will significantly improve the livability of communities and to help support those who have been brave enough to support the CBD, and who are so vital to a vibrant future for the city centre.

11.6 We thank you for this opportunity to make submissions. We wish to be heard.

4 June 2018

Management committee

Glandovey, Idris and Straven Residents Association Incorporated

ANNEXURE A : A SUMMARY OF SOME HEALTH RESEARCH

1. Traffic noise and emissions pollution are serious public health issues. Research includes:
 - “*Burden of disease from environmental noise*”, 2012¹⁸. The World Health Organisation emphasized the adverse effects from noise, including the link between traffic noise and hypertension, ischaemic heart disease and adverse effects on children and their cognition.
 - *Noise Exposure and Public Health*, Passchier-Vermeer and Passchier.¹⁹ The public health impacts of noise (including aircraft, transport, work and neighbour generated) identified included adverse health and economic effects, at an individual and societal level.
 - *Long-Term Exposure to Road Traffic Noise and Myocardial Infarction*, Selander and Ors, 2009²⁰ supported the hypothesis that subjects exposed to traffic noise of 50dbA or higher since 1970 tended to have an increased risk of myocardial infarction.
 - *Nocturnal road traffic noise: A review on its assessment and consequences on sleep and health*, Pirrera and Ors, 2010.²¹ The impact of nocturnal traffic noise and the consequences on daytime functioning could not be ignored. Physiological reactions due to continuing noise processing leads to primary sleep disturbances which impair daytime functioning.
 - In an assessment of arterial route options undertaken for the Nelson City Council in 2010, *Appendix H: Social Impact Assessment*, Corydon Consultants Ltd,²² the adverse noise and air quality impacts of traffic as then known, were captured. They included adverse effects on children.
 - A 2013 German study²³ found that children who lived near noisy roads may have increased risk of hyperactivity. There was a 28% increase in symptoms of hyperactivity and inattention.
 - 2015 research led by the London School of Hygiene & Tropical Medicine in partnership with the Imperial College London and King's College London²⁴ analysed data for 8.6 million people living in London between 2003 and 2010. A link was suggested between long term exposure to road traffic noise and deaths. Deaths were 4% more common among adults and the elderly in

¹⁸ http://www.euro.who.int/__data/assets/pdf_file/0008/136466/e94888.pdf

¹⁹ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1637786/pdf/envhper00310-0128.pdf>

²⁰ [https://www.researchgate.net/profile/Goesta_Bluhm/publication/23713699_Long-](https://www.researchgate.net/profile/Goesta_Bluhm/publication/23713699_Long-Term_Exposure_to_Road_Traffic_Noise_and_Myocardial_Infarction/links/02e7e521e171e667c1000000/Long-Term-Exposure-to-Road-Traffic-Noise-and-Myocardial-Infarction.pdf)

[Term_Exposure_to_Road_Traffic_Noise_and_Myocardial_Infarction/links/02e7e521e171e667c1000000/Long-Term-Exposure-to-Road-Traffic-Noise-and-Myocardial-Infarction.pdf](https://www.researchgate.net/profile/Goesta_Bluhm/publication/23713699_Long-Term_Exposure_to_Road_Traffic_Noise_and_Myocardial_Infarction/links/02e7e521e171e667c1000000/Long-Term-Exposure-to-Road-Traffic-Noise-and-Myocardial-Infarction.pdf)

²¹ <http://www.sciencedirect.com/science/article/pii/S0160412010000474>

²² <http://nelson.govt.nz/assets/Our-council/Downloads/Plans-strategies-policies/ATS-appendix-h-stage-3report.pdf>

²³ <http://www.livescience.com/36953-traffic-noise-kids-hyperactivity-emotional.html>

²⁴ <https://www.sciencedaily.com/releases/2015/06/150623200112.htm>

areas with daytime road traffic noise of more than 60db compared with less than 55db. There was a 5% greater likelihood of being admitted for a stroke.

- 2015. Kluizenaar, T de, Erasmus University²⁵ reported on a range of studies showing the relationship between long term traffic noise and adverse health effects.
- Seidler and Ors, 2016.²⁶ A study on over 1 million Germans based on health insurer data found that the risk of heart attack increases with traffic noise exposure. It is greatest with road and rail traffic, and less with aircraft.
- 2016, Orban E, McDonald K, Sutcliffe R, Hoffmann B, Fuks KB, Dragano N, Viehmann A, Erbel R, Jöckel KH, Pundt N, Moebus S. 2016.²⁷ Traffic noise has been linked with increased risk of depressive symptoms.
- A study published in 2016 in the European Heart Journal,²⁸ based on 41,000 people in 9 countries, reported the adverse effects of air pollution and traffic noise on blood pressure. Those in noisy streets, with average night-time noise levels of 50db, had a 6% increased risk of developing hypertension compared with those where levels were 40 db.
- A Public Health Ontario led study²⁹ (2017) of 6.5 million health records found that those living within 50 metres of high traffic roads had a 7% greater chance of developing dementia than those who lived more than 300 metres away. The risk was 4% greater for those within 50 to 100 m and 2 % greater for those within 101 to 200 m.
- In 2017 *Impact of road traffic noise on cause-specific mortality in Madrid, Spain*¹³ reported that the impact of noise on cardiovascular mortality exceeded that of certain fine air pollution particles for two age groups, including those over 65.
- 2017. The Swiss SiRENE (Short and Long Term Effects of Transportation Noise Exposure) study reported. A snapshot:³⁰

²⁵ <http://repository.tudelft.nl/view/tno/uuid%3Af1c3ed77-2b26-49b0-bf82-bb51f74040ec/>

²⁶ <https://www.sciencedaily.com/releases/2016/07/160708144914.htm>

²⁷ <https://ehp.niehs.nih.gov/14-09400/>

²⁸ <https://www.sciencedaily.com/releases/2016/10/161025084744.htm>

²⁹ <https://www.sciencedaily.com/releases/2017/01/170104192302.htm>

¹³ <https://www.ncbi.nlm.nih.gov/pubmed/28259438>

³⁰ <https://www.sciencedaily.com/releases/2017/06/170621103143.htm>

“Increased risk for developing cardiovascular diseases

The results published so far show that aircraft, rail and road traffic noise in Switzerland leads to adverse health effects. For cardiovascular disease mortality, the most distinct association was found for road noise. The risk of dying of a myocardial infarction increases by 4 per cent per 10 decibel increase in road noise at home. Also the risk of hypertension and heart failure increases with transportation noise. "Particularly critical are most likely noise events at night regularly disturbing sleep," says Martin Röösli, principal investigator of SiRENE and professor of environmental epidemiology at Swiss TPH and the University of Basel. "The threshold for negative health impact is lower than previously suspected."

Noise also favours Diabetes

In addition to cardiovascular diseases, transportation noise also increases the risk of developing diabetes. This is shown by an examination of 2,631 people exposed to different degrees of noise pollution. "Two mechanisms play a role," explains Nicole Probst-Hensch, Head of the Department of Epidemiology and Public Health at Swiss TPH. "On the one hand, the chronic release of stress hormones influences insulin metabolism. On the other hand, sleep problems are known to negatively affect metabolism in the long term."

2. The most recent part of the series on urban design published in The Lancet, released in conjunction with the UN, has been summarised as follows:³¹

Land-use and transport policies contribute to worldwide epidemics of injuries and non-communicable diseases through traffic exposure, noise, air pollution, social isolation, low physical activity, and sedentary behaviours. Motorised transport is a major cause of the greenhouse gas emissions that are threatening human health. Urban and transport planning and urban design policies in many cities do not reflect the accumulating evidence that, if policies would take health effects into account, they could benefit a wide range of common health problems. Enhanced research translation to increase the influence of health research on urban and transport planning decisions could address many global health problems. This paper illustrates the potential for such change by presenting conceptual models and case studies of research translation applied to urban and transport planning and urban design. The primary recommendation of this paper is for cities to actively pursue compact and mixed-use urban designs that encourage a transport modal shift away from private motor vehicles towards walking, cycling, and public transport. This Series concludes by urging a systematic approach to city design to enhance health and sustainability through active transport and a move towards new urban mobility. Such an approach promises to be a powerful strategy for improvements in population health on a permanent basis.

³¹ [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(16\)30068-X/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(16)30068-X/fulltext) ;

<https://www.sciencedaily.com/releases/2016/09/160923121059.htm>

3. Most recently, a review published in 2018 in the Journal of the American College of Cardiology shows that traffic noise may result in disruption to the body at a cellular level, in a way that increases the risk of common heart disease risk factors.³²
4. The WHO has Night Noise Guidelines for Europe³³ 2009 and from 2014 to date has been reviewing its guidelines. In April 2018 it published a suite of research on the effects of noise, including traffic, on sleep, the cardiovascular and metabolic system, cognition, annoyance and mental health.³⁴ They make clear that adverse effects occur at lower levels than thought. The introductory paper to that review, published on 20 April 2018, urges governments and communities to:³⁵

“...champion a multidisciplinary approach to help mainstream noise mitigation in their sustainable development processes.”

5. The research points in a very clear direction: the adverse health effects of traffic are serious and should be taken seriously by decision-makers. Reflective of this, a range of jurisdictions – at city, state and national level - have policies and plans which are expressly directed at ensuring that the adverse effects of traffic and especially air and noise pollution are minimized.
6. An example is the City of London noise strategy 2016 – 2026,³⁶ but even that may be weak. Weak policies have led to successful proceedings, including notably in the UK by Client Earth against the Secretary of State.³⁷ Plans were not sufficient nor were timeframes sufficiently timely.

³² <https://www.sciencedaily.com/releases/2018/02/180205141116.htm>

³³ http://www.euro.who.int/__data/assets/pdf_file/0017/43316/E92845.pdf

³⁴ http://www.mdpi.com/journal/ijerph/special_issues/WHO_reviews

³⁵ Development of the WHO Environmental Noise Guidelines for the European Region: An Introduction, pg 5.
<http://www.mdpi.com/1660-4601/15/4/813>

³⁶ <https://www.cityoflondon.gov.uk/business/environmental-health/environmental-protection/Documents/city-of-london-noise-strategy-2012-2016.pdf>

³⁷ <https://www.clientearth.org/clientearth-launches-new-air-pollution-legal-action/> ;

<https://www.documents.clientearth.org/wp-content/uploads/library/2016-11-02-high-court-judgment-on-clientearth-no-2-vs-ssefra-on-uk-air-pollution-plans-ext-en.pdf>

ANNEXURE B : SOME TRANSPORT POLICIES AND RESEARCH

1. The NZTA Pedestrian Planning and Design Guide states:

“Individuals are more likely to choose to walk or cycle if they see the environment as being walk-and-cycle-friendly - that is, convenient, safe and pleasant with direct routes that minimise travel time”

“Primary characteristics include whether the routes are polluted by excessive noise and fumes, whether the footpaths are wide enough, whether the facilities are suitable for mobility and vision impaired pedestrians, whether the pedestrian spaces are enjoyable”

“Careful urban design can result in drivers, cyclists and pedestrians modifying their behaviour and can reduce the dominance of motorised traffic...

“Reducing traffic and speed has the highest priority as it not only benefits pedestrians but can also improve road safety, air quality and noise, enhancing the environment for others in the area. It also contributes to the less quantifiable ‘quality’ of the streetscape.”

2. The NZTA published research *Towards a Safe System for Cycling*, identifies that:

“Making urban cycling a safer and more attractive transport choice is now a NZ Transport Agency (‘the Transport Agency’) strategic priority ...

“...prioritising road infrastructure and focusing on the behaviour of motorists and cyclists are both key to cycling safety. While almost all crashes are the direct result of human error it is the environment within which road users must operate that largely dictates their behaviours...

“...Design standards, capability, capacity and behaviour need to be improved...A sustained effort to upskill and incentivise road designers so that actual design behaviour follows latest practice is needed...

...“more area-wide and connection approaches to cycling network development (as opposed to only easy-wins)” are needed.

3. That same research identifies that:

“Heavy vehicles are involved in a disproportionate number of serious or fatal cycle collisions...”

“...there should be a comprehensive focus on heavy vehicle/cyclist interactions. This relates not only to side under-run protection and/or sensors, but also to driver fatigue/distraction and clearly understood safe behaviour around cyclists.”

4. Heavy vehicles in residential areas are problematic in another respect. Transport Engineering Research New Zealand identified that:³⁸

“For communities on arterial roads and state highways, the traffic is one of the main community concerns. Heavy vehicles were perceived as a particular problem by residents. Concern about heavy vehicles appeared to cut across a range of people. However, heavy vehicles were of particular concern to women, households with children, and people home during the day.

Heavy vehicles were perhaps the biggest nuisance factor mentioned by residents. They were the biggest contributor in complaints about vehicle noise and vibration. In addition, comments about exhaust fumes often related to heavy vehicles.”

5. For cyclists and pedestrians, speed is highly relevant. *Towards a Safe System for Cycling*, identifies that:

“... Vehicle speeds above 40 km/h greatly increase the risk of severe cycle crash outcomes.”

6. High volume roads in residential areas are a particular concern. The NZTA Pedestrian Planning and Design Guide 2007 states:

“From 2001 to 2005, pedestrians accounted for about one in 10 (10.5 percent) of all road deaths in New Zealand. In the main urban centres, on roads subject to urban speed limits, about one in three road deaths (32 percent) were pedestrians.

At a national level, crashes involving pedestrians occur mainly:

- *while pedestrians are crossing roads (around 90 percent)*
- *in built up areas (two thirds of pedestrian deaths and 93 percent of injuries)*
- *within one to two kilometres of the pedestrian’s home*
- *on relatively main roads rather than minor roads (54 percent on roads classified by TLAs as ‘arterials’, 25 percent on ‘distributors/collectors’, and only 21 percent on ‘local’ roads)*
- *near residential land use (half)*
- *away from intersections (64 percent)*
- *away from formal pedestrian crossings (90 percent)”*

7. Several councils elsewhere in New Zealand and mayors of many cities overseas have taken an approach strongly protective of residential amenity, health and community. For example in New Zealand:

³⁸ http://www.transportationgroup.nz/papers/2004/11_Luther_Wigmore_Baas.pdf

- Hamilton prevents through trucks (freight) passing through Hamilton on some streets including major streets;
 - Cromwell has introduced certain restrictions;³⁹
 - Auckland and Tauranga are trialling a camera to reduce engine braking. The NZTA recognises it is a problem. It is a problem in our area;⁴⁰
 - various rural communities prohibit engine braking in townships.
8. The *New Zealand Urban Design Protocol*, Ministry for the Environment, 2005, seeks to ensure that the design of buildings, places, spaces and networks create high quality urban environments. It recognises that traffic infrastructure can have great effect on cities, the environment and people.
- It identifies seven essential design qualities, which include recognizing character, and in particular reflecting and enhancing the distinctive character, heritage and identity of our urban environment. It is apparent a multi-disciplinary approach is required.
9. See also *Environment and health for European cities in the 21st century : making a difference*, WHO, 2017, especially page 12 (1.1.2) and pages 33 onwards, which is protective of community, health and amenity.⁴¹

³⁹ <http://www.codc.govt.nz/your-council/news/Pages/Heavy-Vehicle-Restrictions.aspx>

⁴⁰ <https://nzta.govt.nz/commercial-driving/trucks-and-tow-trucks/engine-braking-noise-trial/>; <https://www.stuff.co.nz/auckland/local-news/central-leader/100573504/auckland-noise-braking-cameras-reduce-sound-from-truck-engine-breaking> ; <https://www.drivingtests.co.nz/resources/noise-camera-will-photograph-loud-trucks/>

⁴¹ http://www.euro.who.int/_data/assets/pdf_file/0020/341615/bookletdef.pdf?ua=1

ANNEXURE C : SOME OVERSEAS RESTRICTIONS ON HEAVY VEHICLES IN RESIDENTIAL AREAS

1. Overseas, cities are increasingly restricting diesel trucks and large freight on residential streets. For example:
 - the Mayor of Paris, from January 2017, banned the most polluting diesel vehicles during the day. Over recent years Paris has dispensed with vehicle traffic on certain streets including a highway. It redesigns major intersections to favour pedestrians not cars;
 - France has widespread limitations;⁴²
 - bans or impending bans on high emitting vehicles have been announced in Mexico City, Madris and Athens;⁴³
 - Tokyo has long had bans;⁴⁴
 - London is seeking to restrict heavy vehicles;⁴⁵
 - California has restrictions to reduce the use of high emitting trucks.⁴⁶
2. Closer to home measures are being taken in parts of Australia. For example:
 - Melbourne is banning trucks from various major streets as soon as its west gate tunnel is done, in order to improve safety, local air quality and noise;⁴⁷
 - Sydney is taking similar measures;⁴⁸
 - Perth has some restrictions.⁴⁹
3. Overseas, heavy vehicle operators have sought to counter restrictions by arguing that their businesses will be impacted and that the cost of goods will go up. But that is to place commercial interests above health, safety cycling, pedestrian and residential and environmental issues.

⁴² <http://urbanaccessregulations.eu/countries-mainmenu-147/france/paris>

⁴³ <https://www.radionz.co.nz/news/world/319504/four-major-cities-move-to-ban-diesel-vehicles>

⁴⁴ <https://www.japantimes.co.jp/news/2000/12/16/national/tokyo-bans-dirty-diesel-vehicles/>

⁴⁵ [https://www.london.gov.uk/press-releases/mayoral/new-measures-to-rid-london-of-dangerous-lorries ;](https://www.london.gov.uk/press-releases/mayoral/new-measures-to-rid-london-of-dangerous-lorries;)
<https://www.theguardian.com/uk-news/2016/sep/30/lorries-face-london-ban-plans-improve-safety-cyclists>

⁴⁶ <https://www.arb.ca.gov/msprog/onrdiesel/onrdiesel.htm>

⁴⁷ <http://westgatetunnelproject.vic.gov.au/trucks-off-local-roads/>

⁴⁸ <http://www.smh.com.au/nsw/trucks-to-be-forced-off-roads-20140316-34vn8.html>



⁴⁹ <http://www.abc.net.au/news/2008-03-25/truck-restrictions-on-leach-highway/1081932>

4. Relevantly in jurisdictions where restrictions have existed for some time, heavy vehicle operators have responded by using major alternative routes (ie more appropriate roads) and by un-stuffing, being unpacking freight and placing it into vehicles more suitable for delivery in residential areas.



Project Report

Development of the WHO Environmental Noise Guidelines for the European Region: An Introduction

Dorota Jarosińska ^{1,*} , Marie-Ève Héroux ¹, Poonum Wilkhu ¹, James Creswick ¹,
Jos Verbeek ² , Jördis Wothge ¹ and Elizabet Paunović ¹

¹ World Health Organization (WHO) Regional Office for Europe, European Centre for Environment and Health, Platz der Vereinten Nationen 1, 53113 Bonn, Germany; herouxm@who.int (M.-È.H.); wilkhup@who.int (P.W.); creswickj@who.int (J.C.); wothgej@who.int (J.W.); paunovice@who.int (E.P.)

² Finnish Institute of Occupational Health, Cochrane Work, Neulaniementie 4, 70701 Kuopio, Finland; Jos.Verbeek@ttl.fi

* Correspondence: jarosinskad@who.int

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Abstract: Following the Parma Declaration on Environment and Health adopted at the Fifth Ministerial Conference (2010), the Ministers and representatives of Member States in the WHO European Region requested the World Health Organization (WHO) to develop updated guidelines on environmental noise, and called upon all stakeholders to reduce children's exposure to noise, including that from personal electronic devices. The WHO Environmental Noise Guidelines for the European Region will provide evidence-based policy guidance to Member States on protecting human health from noise originating from transportation (road traffic, railway and aircraft), wind turbine noise, and leisure noise in settings where people spend the majority of their time. Compared to previous WHO guidelines on noise, the most significant developments include: consideration of new evidence associating environmental noise exposure with health outcomes, such as annoyance, cardiovascular effects, obesity and metabolic effects (such as diabetes), cognitive impairment, sleep disturbance, hearing impairment and tinnitus, adverse birth outcomes, quality of life, mental health, and wellbeing; inclusion of new noise sources to reflect the current noise environment; and the use of a standardized framework (grading of recommendations, assessment, development, and evaluations: GRADE) to assess evidence and develop recommendations. The recommendations in the guidelines are underpinned by systematic reviews of evidence on several health outcomes related to environmental noise as well as evidence on interventions to reduce noise exposure and/or health outcomes. The overall body of evidence is published in this Special Issue.

Keywords: noise; WHO environmental noise guidelines; noise abatement; Environmental Noise Directive; health; wellbeing

1. Introduction

Normal sounds become noise when they are unwanted or harmful. Exposure to environmental noise is associated with an increased risk of negative physiological and psychological health outcomes. Although noise is a product of many human activities, widespread exposure to noise from transport (road traffic, railway, and aircraft) is of major concern, affecting the health and wellbeing of many people in Europe. To this effect, environmental noise features among the top environmental hazards to physical and mental health and wellbeing in Europe [1,2].

2. Policy Context

The World Health Organization Regional Office for Europe comprises fifty-three Member States covering a vast geographical region from the Atlantic to the Pacific oceans. The European Environment and Health Process and its Ministerial Conferences guide the regional efforts to address the main environmental challenges to human health. The Parma Declaration on Environment and Health, adopted by the Member States of the WHO European Region at the Fifth Ministerial Conference in 2010, made implicit the need to reduce exposure to noise, and called upon the WHO to develop suitable guidelines [3].

At the European Union scale, the Environmental Noise Directive (END) 2002/49/EC offers a common approach to avoiding and preventing exposure to environmental noise, thereby reducing its harmful effects, as well as preserving quiet areas [4]. In implementing this directive, the European Commission is supported by the European Environment Agency (EEA), which gathers the noise exposure data and maintains the Noise Observation and Information Service for Europe (NOISE) [5].

The END (2002/49/EC) is a primary legislative tool for achieving one of the priority objectives of the Seventh Environment Action Programme, of “significantly reducing noise pollution in the EU by 2020 and thereby moving closer to World Health Organization (WHO) recommended levels” [6]. The directive sets out methods for collecting data on noise levels. These END outputs, then, provide a basis for developing measures to reduce noise levels at source.

3. Data on Noise Exposure Levels

The current state of knowledge on noise sources and population exposure in Europe is largely based on data submitted by the member countries of the European Union (EU) on a five-year cycle to the EEA [4,7]. The EEA database covers noise sources specified in the END (such as major roads, major railways, major airports, and urban agglomerations) and number of people exposed to each of the noise sources inside and outside urban areas. Noise levels (L) are calculated and represented in 5-dB interval bands at $L_{den} \geq 55$ dB (an average of day, evening, and night) and at night ($L_{night} \geq 50$ dB). These long-term average noise exposure indicators are reasonable and common predictors of adverse health effects in a population. However, other noise indicators might be useful to reflect special noise situations. In the case of noisy but short-lived events, like shooting noise or noise emitted by trains, L_{max} is often used; for example, L_{max} is an indicator of the maximum sound pressure reached during a defined measurement period. Used for setting noise limits, it is also considered in studies to determine certain health effects (e.g., awakening reactions) [8,9].

New scientific evidence, as also illustrated by the systematic reviews published in this Special Issue, shows that health and wellbeing can be affected at lower noise levels than specified by the END [10]; however, as reporting for these lower levels is not required under the END, there is a paucity of data on numbers of the population exposed below 55 dB. Analyses of the available noise exposure data show consistently that the dominant source of noise in Europe is road traffic; the second one is noise from railways, followed closely by aircraft noise. An extension of the mapping of noise exposure to the levels below 55 dB would expand the knowledge base and facilitate the evaluation of progress in preventing adverse health effects.

Despite substantial progress over the last fifteen years in data mapping and development of noise action plans, there is room for further improvement. For example, in 2013, only 44% of the expected data was delivered in the latest reporting round under the END [11]. In particular, noise exposure data from the eastern part of the Region is lacking, and inconsistencies in quality and quantity of reported data make the discernment of noise exposure patterns difficult.

The data related to noise sources and exposure information as prescribed by the END, combined with the data on industrial activity, urban areas, land use, and areas protected for the benefit of nature reported by countries to the EEA, were the basis of a first spatial assessment of areas in Europe potentially unaffected by noise pollution caused by human activity [11]. Protection of such

areas, largely undisturbed by noise from traffic, industry, or recreational activities is vitally important also from the perspective of human health protection.

4. Burden of Disease in Europe

Noise exposure is associated with a number of adverse health outcomes. Auditory effects of noise include hearing impairment and tinnitus, whilst nonauditory effects refer to cardiovascular and metabolic effects; adverse birth outcomes; poor quality of life, mental health, and wellbeing; annoyance; cognitive impairment; and poor sleep. Sleep disturbance and annoyance, mostly related to road traffic noise, are the most prevalent effects from noise.

The WHO Global Burden of Disease (GBD) measures the burden of disease using the disability-adjusted life-year (DALY) [2], which combines years of life lost due to premature mortality and years of life lost due to time lived in states of less than full health. The DALYs lost due to noise-induced health outcomes in the western part of Europe were estimated to be equivalent to: 903,000 years for sleep disturbance, 654,000 years for annoyance, 61,000 years for ischaemic heart disease, 45,000 years for cognitive impairment of children, and 22,000 years for tinnitus [2]. The burden of disease could not be calculated for the eastern and central part of the WHO European Region due to a lack of reported noise exposure data.

5. Why the Urgency?

With projections of rapid urban growth in Europe (80% of the citizens are expected to be living in or near a city by 2020) [12] and increased demand for road, rail, and air transport [13], a simultaneous increase in noise exposure and the associated adverse health effects can be anticipated. Hence, it is pertinent to continue positioning noise mitigation as a cross-cutting theme on the agenda of urban development and transport policies.

Available reported data on long-term average exposure show that 65% of Europeans living in major urban areas are exposed to daytime noise levels greater than 55 dB, and more than 20% to night-time noise levels greater than 50 dB, at which adverse health effects occur frequently [5]. As shown by the Eurostat surveys, noise from neighbours (defined as noise from, e.g., neighbouring apartments, staircases, or water pipes) and streets (described as noise linked to traffic, business, factories, agricultural activities, clubs, and yard) is also perceived to be a source of annoyance. An estimated 18% of citizens of the 28 member countries of the European Union reported being exposed to noise from neighbours or the streets in their living areas in 2016, a decrease from 24% in 2005 [14,15]. As data on noise created by neighbours is not collected through the noise-exposure mapping process (END 2002/49/EC), such a noise has not been considered in the development of the WHO Environmental Noise Guidelines.

Furthermore, reliance on wind energy has increased in the last years in Europe, with wind farms being an important component of Europe's shift towards a greener, renewable energy supply. However, the noise from increased installations of wind turbines have resulted in higher public annoyance in the EU [16].

Finally, concerns on the increasing exposure to noise in leisure settings are growing along with operation of personal music devices at unsafe volumes. WHO estimated that young people worldwide could be at risk of hearing loss due to these unsafe listening practices [17]. In the EU, a conservative estimate of users of devices such as personal music players and mobile phones with music functions lies in the range of 50–100 million people [18]. Noting the possible effects of wind turbines and personal devices on health, scientific literature pertaining to these noise sources have been considered in the development of the Noise Guidelines.

6. The WHO Guidelines

In 1999 and 2009, WHO published guidelines to protect human health, specifically from community noise and night noise exposure [18,19]. Over the years, there have been a number of

key developments and a substantial increase in the number and quality of studies on environmental noise exposure and health outcomes, with newly found associations with annoyance; cardiovascular effects; obesity and metabolic effects (such as diabetes); cognitive impairment; sleep disturbance; hearing impairment and tinnitus; adverse birth outcomes; and quality of life, mental health, and wellbeing. Another development is that whilst earlier studies focused mainly on road traffic and aircraft noise [11], newer studies also include noise from other sources such as railways and wind turbines.

In light of this new evidence, the WHO Environmental Noise Guidelines for the European Region are being developed in accordance with the “WHO Handbook for Guideline Development”, which sets out a clear framework to ensure rigorous adherence to the systematic use of evidence as the basis for developing public health recommendations [20]. Systematic reviews of scientific literature guided by specific key questions using the PICO or PECCOS (population, intervention/exposure, control, confounder, outcome, and study design) structure form the basis of the recommendations in the guidelines.

The two main questions that frame the guideline recommendations are:

1. In the general population exposed to environmental noise, what is the exposure–response relationship between exposure to environmental noise (reported as various indicators) and the proportion of persons with a validated measure of health outcome, when adjusted for confounders?
2. In the general population exposed to environmental noise, are interventions effective in reducing exposure to and/or health outcomes from environmental noise?

The development of the guidelines involves the collaboration of many groups, including the WHO steering group, the Guideline Development Group (GDG), the External Review Group (ERG) and the Systematic Review Team (SRT). The exact roles and composition of these groups, set out in the WHO Handbook for Guideline Development, are briefly summarized here [20]:

- The prime responsibility of the GDG lies in the development of evidence-based recommendations, based on the outcomes of the systematic reviews of evidence as well as careful consideration of other factors (such as values and preferences, balance of benefits and harms, and resource implications).
- The SRT is comprised of leading experts in the field of environmental noise and health, and their role is to review all relevant literature in the context of the guidelines.
- The ERG is composed of thematic experts as well as stakeholders representing individuals who are likely to be affected by the recommendations and interested parties. They are asked to participate at different stages to comment on clarity and implications for implementation.

Declaration of interests for each member of these groups are collected and managed to prevent bias from conflicts of interest. More information on the types of interests that need to be declared can be found in the handbook.

Seven systematic reviews of evidence were commissioned by WHO to assess the relationship between environmental noise and the following health outcomes: (1) annoyance; (2) cardiovascular and metabolic effects; (3) cognitive impairment; (4) effects on sleep; (5) hearing impairment and tinnitus; (6) adverse birth outcomes; and (7) quality of life, mental health, and wellbeing. An eighth systematic review was commissioned to assess the effectiveness of environmental noise interventions in reducing exposure and associated impacts on health. The reviews separately assess the environmental noise coming from the following sources, for each relevant health outcome: road traffic, railway, aircraft, wind turbines, and leisure. In the context of the WHO environmental noise guidelines, leisure noise was defined as outdoor and indoor exposure during leisure activities (such as discotheques, cafes, festivals, concerts, or personal music devices). Due to the individualized retrieval of evidence for each of the systematic reviews, the timeframes of the included literature varied; an indication of the

temporal coverage of the studies included can be found in specific systematic reviews. A detailed description of the methodology used to conduct the systematic evidence reviews, including individual protocols, has been prepared as part of the guidelines development process and will be published on the WHO Regional Office for Europe website.

The key objectives of the systematic evidence reviews were to assess the strength of the association between exposure to environmental noise and incidence or prevalence of adverse health effects, and where possible, to quantify the risk of these health effects with an incremental increase in noise exposure. A detailed description of the methodology used to conduct the systematic evidence reviews can be found in the systematic reviews published in this Special Issue.

WHO has adopted the grading of recommendations, assessment, development, and evaluations (GRADE) approach [20] in order to assess the quality of evidence and develop and report recommendations in the form of guidelines. GRADE is widely acknowledged as an effective method of rating the quality of the evidence and linking evidence to clinical recommendations because this approach facilitates judgments about the certainty in the observed effect estimates and the strength of the recommendations. The limitations to the application of the original GRADE in environmental health have been discussed in the literature [21]. Specifically in the context of the environmental noise guidelines, the GRADE approach was adapted to the observational studies, which are usually the only source of research evidence in this area. The main adaptations made to the GRADE approach for environmental noise are also discussed in the systematic reviews. The upcoming guidelines focus on the WHO European Region and provide policy guidance to its Member States that is compatible with the noise indicators commonly used in the END, namely L_{den} and L_{night} .

7. Looking Ahead

The evidence summarized and presented in the systematic evidence reviews is the basis for the development of recommendations in the WHO Environmental Noise Guidelines for the European Region. Aimed at decision-makers and technical experts, the new guidelines offer not only scientific, evidence-based rationale for identifying levels, at which environmental noise is related to a significant health impact, but also recommendations for actions to reduce exposure. For all who are involved in health and environmental impact assessment, such as policy makers, advocacy bodies, and researchers, these guidelines make recommendations on noise levels above which we are confident that there are health impacts for some noise sources and provide guidance for quantifying these impacts. Moreover, the guidelines highlight critical data and research gaps to be addressed in future studies. Although developed for the WHO European Region, the guidelines provide a general framework for use by a global audience.

8. Conclusions

As policy-makers begin to address rapid urbanization and sustainable economic development, the evidence systematically reviewed as part of the WHO Environmental Noise Guidelines for the European Region offers a useful reference for establishing the links between noise pollution and public health, especially taking into account effects on large populations in urban environments. Governments and communities are encouraged to use the opportunity to champion a multidisciplinary approach to help mainstream noise mitigation in their sustainable development processes.

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Author Contributions: Dorota Jarosińska coordinated the guideline development process; Marie-Ève Héroux was a responsible technical officer (until March 2017); James Creswick was in charge of communication aspects; Poonum Wilkhu and Jördis Wothge were WHO consultants; Jos Verbeek was a methodologist. Elizabet Paunović supervised the overall process of the guideline development. Dorota Jarosińska, Marie-Ève Héroux, James Creswick and Poonum Wilkhu drafted the manuscript; Jos Verbeek and Jördis Wothge contributed to its specific sections. All authors read, commented on and approved the final manuscript.

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Disclaimer: The authors alone are responsible for the views expressed in this publication and they do not necessarily represent the decisions or policies of the World Health Organization.

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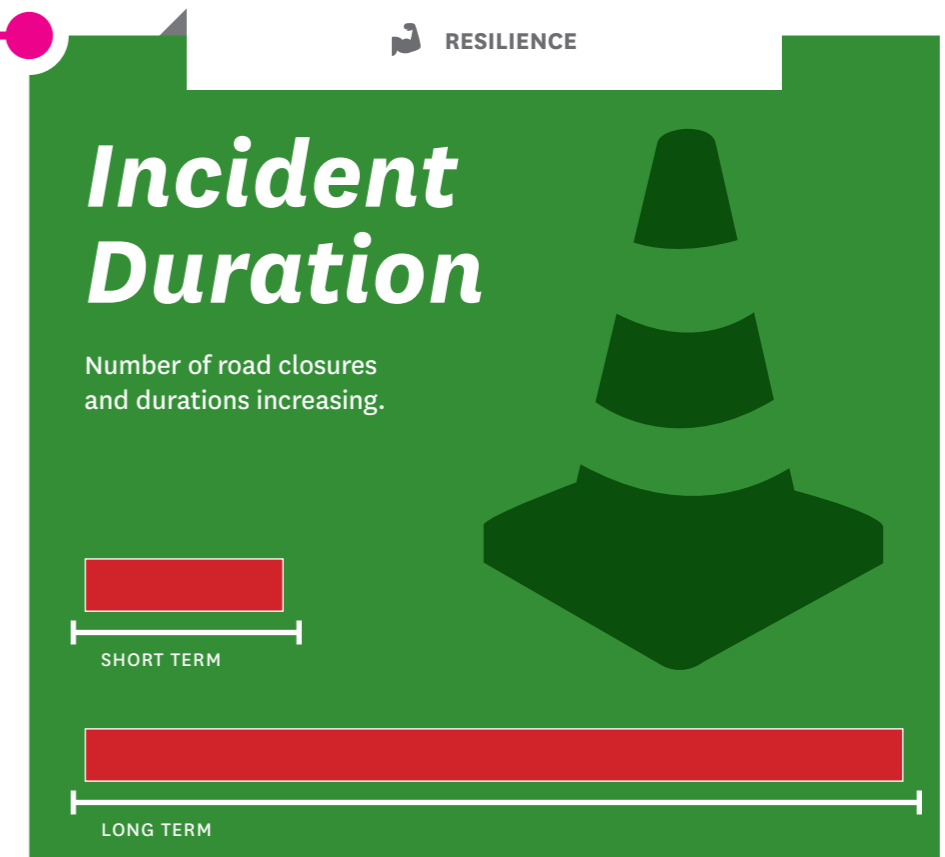
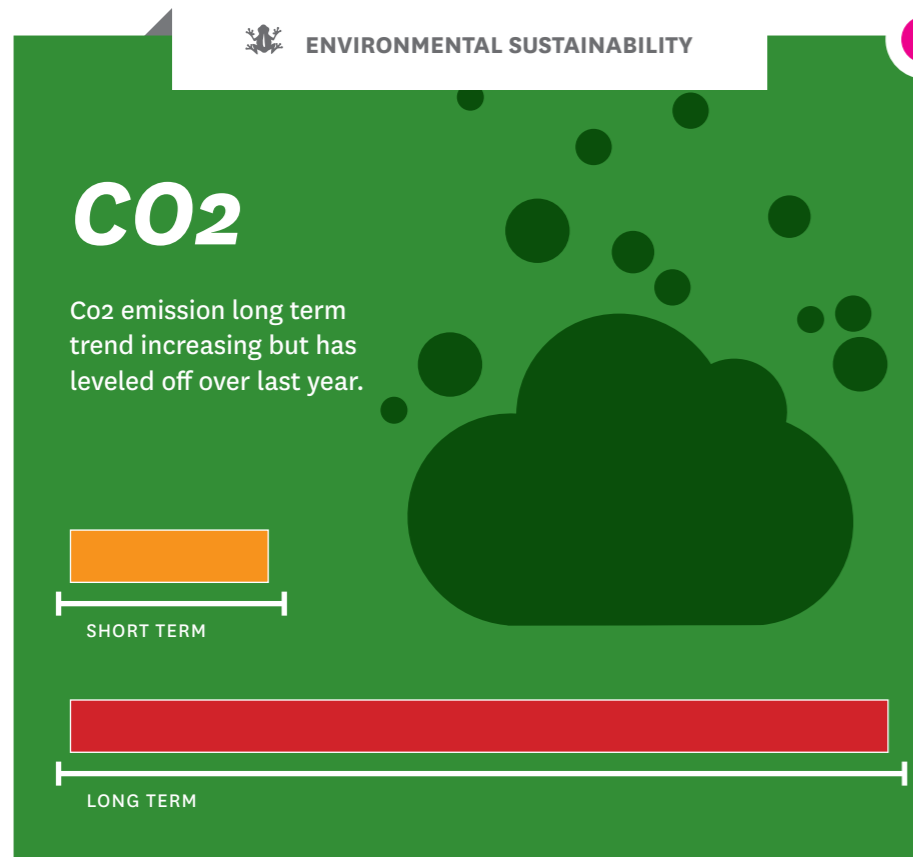


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“An accessible, affordable, integrated, safe, resilient and sustainable transport system for Canterbury.”

| | |
|--|------------------------|
| Safe, healthy & connected communities | Economic Development |
| Visitor Retention and dispersal | Freight Growth |
| Environmental sustainability | Resilience |
| Reduce congestion & improve journey time reliability | |
| Passenger & active transport | Optimise freight modes |
| Improve road safety | |
| Improve conditions & suitability of assets | |
| Integrate land use, transport & hazards planning | |
| Enable evidence-based decision making | |
| Collaboration, alignment & advocacy | |



The regional scorecard collates a range of transport measures that align with the strategy map (left) with measures relating to:

- Safety
- Land use planning
- Public Transport and active modes
- Travel times and reliability
- Resilience
- Asset condition
- Freight quantities
- Tourism
- Gross domestic product
- Wellbeing

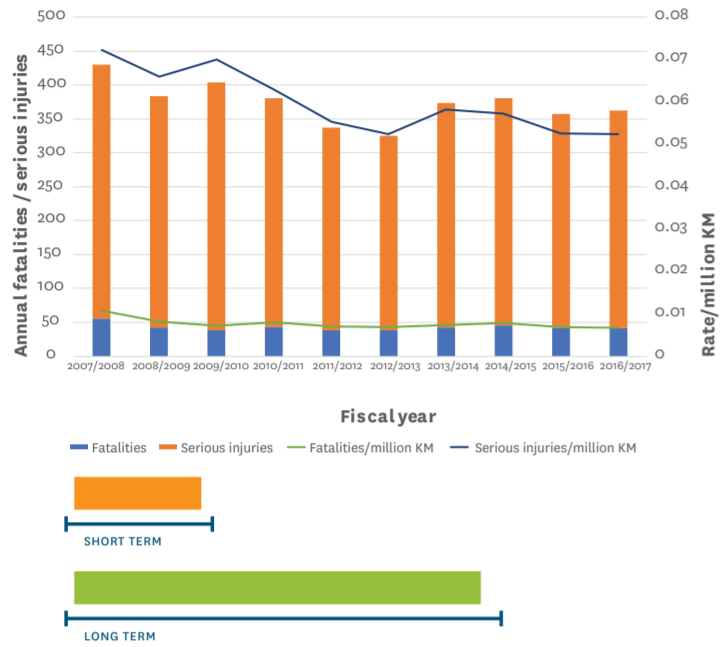
Data has been sourced from publicly available information including Statistic NZ, Ministry of Transport, NZ Transport Agency regional and local authorities.



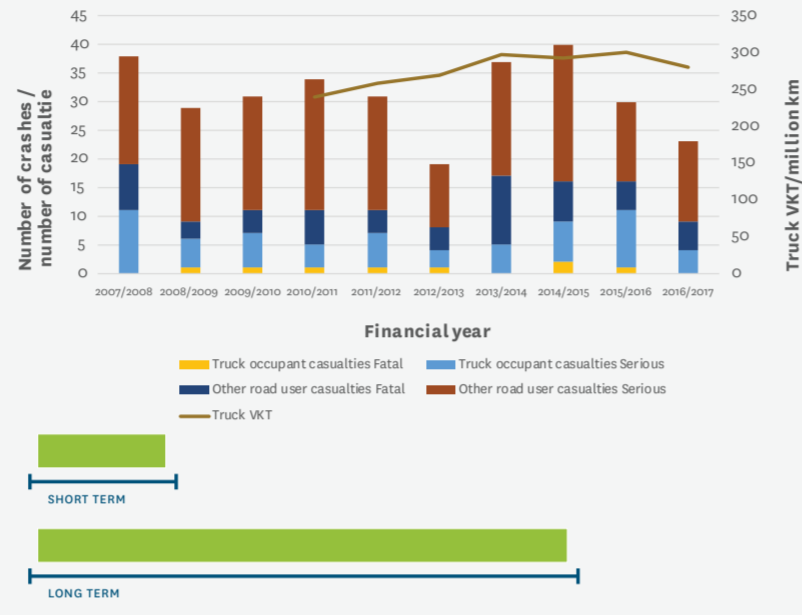


Improve road safety

CANTERBURY CASUALTIES

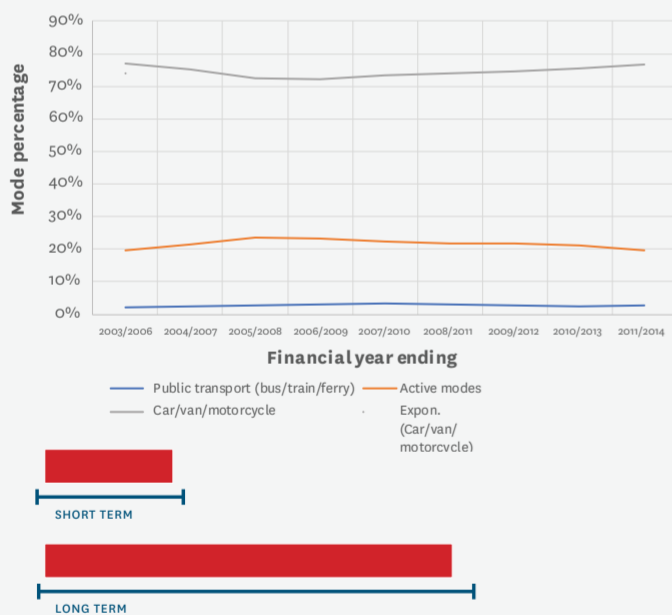


CASUALTIES ASSOCIATED WITH TRUCK CRASHES

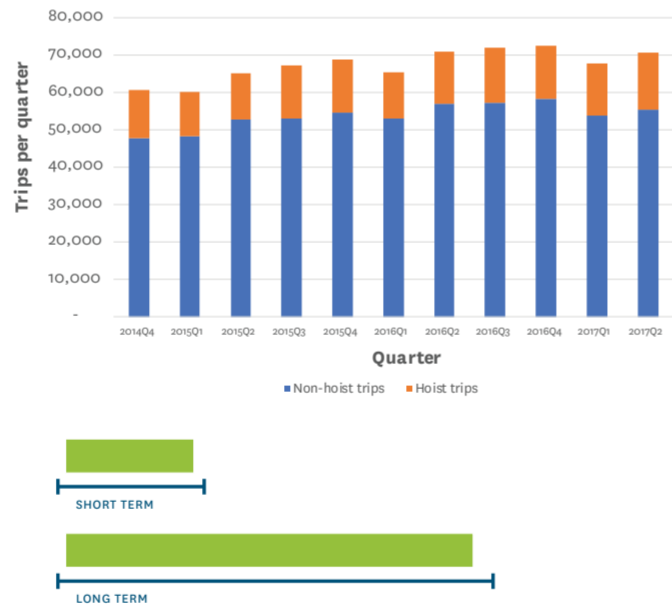


Integrate land use, transport and hazards planning | Improved effectiveness of passenger and active transport

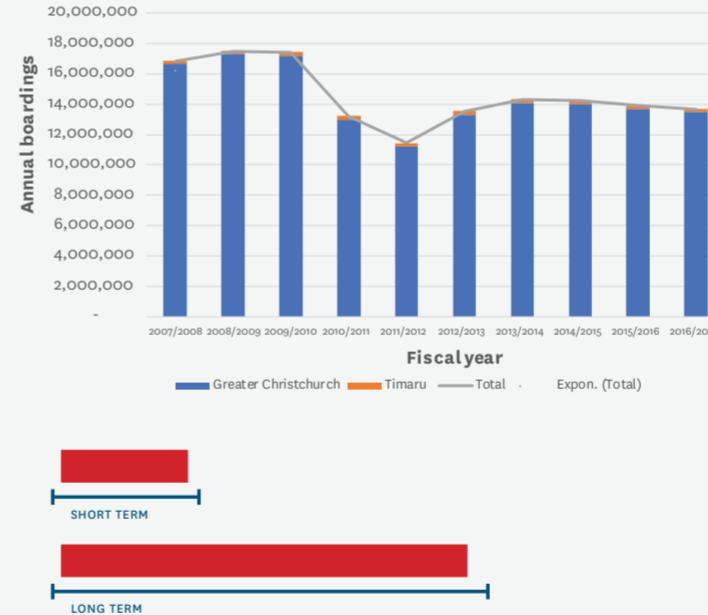
MODE SHARE - TRIP LEGS



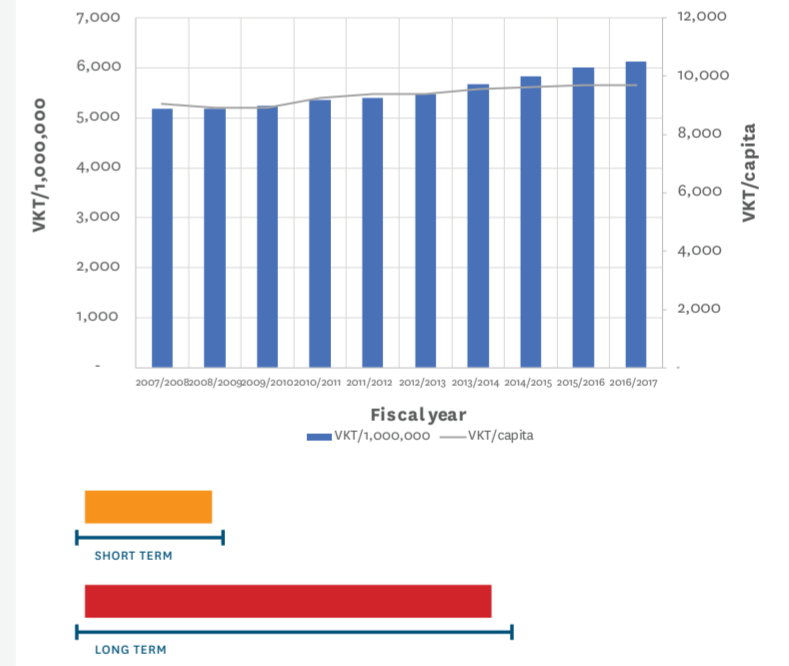
QUARTERLY MOBILITY TRIPS



PUBLIC TRANSPORT BOARDINGS



PUBLIC TRANSPORT BOARDINGS



Reduce congestion and improve journey time reliability | A more resilient transport network | Improve condition and suitability of assets

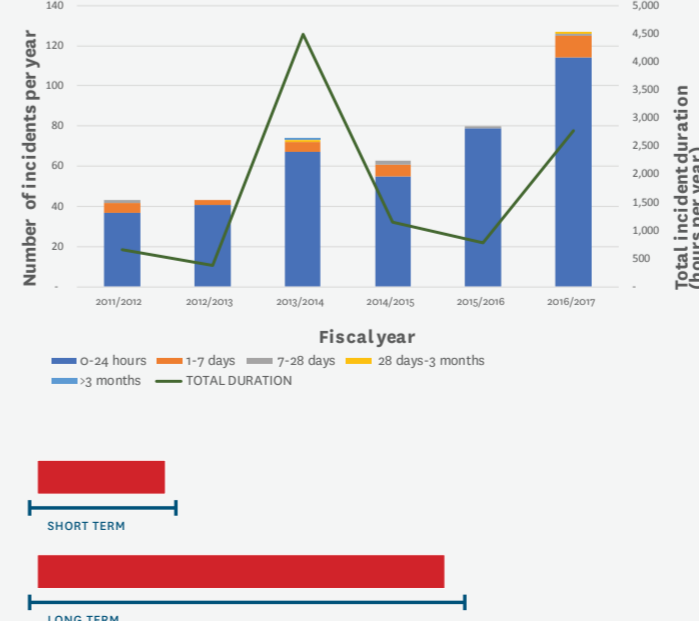
MONTHLY AVERAGE TRAVEL TIME AND CONSISTENCY



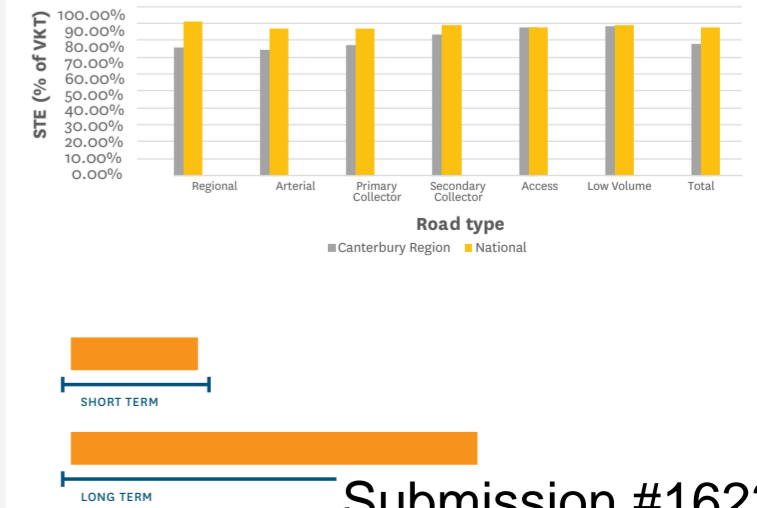
MONTHLY PT AVERAGE TRAVEL TIME AND RELIABILITY



NUMBER OF INCIDENTS BY DURATION (BAR CHART) AND TOTAL INCIDENT DURATION (LINE GRAPH)



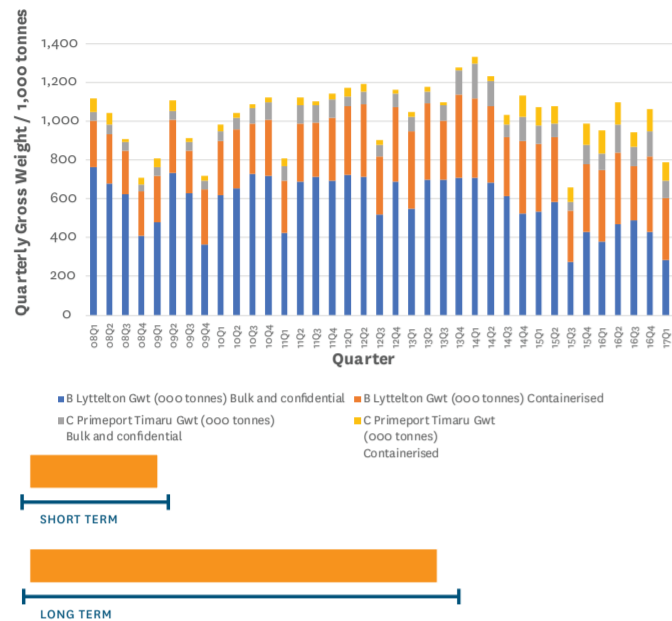
2016/2017



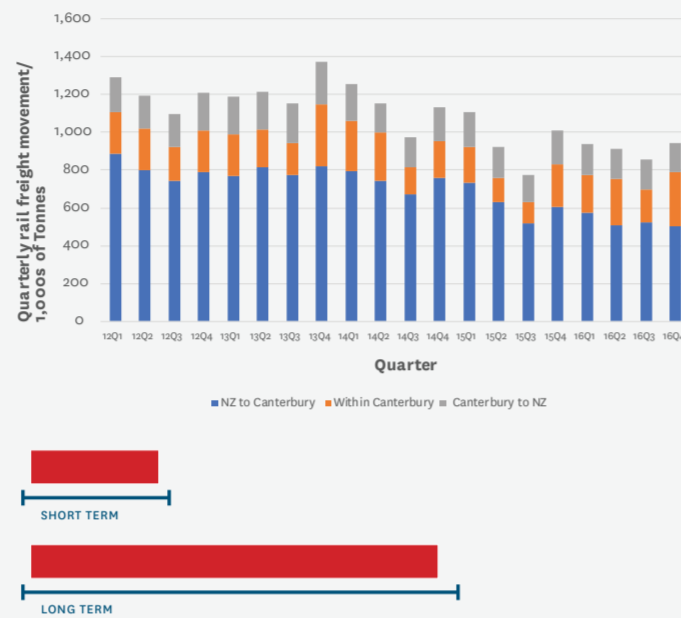


Facilitating and supporting freight growth | Optimise freight modes

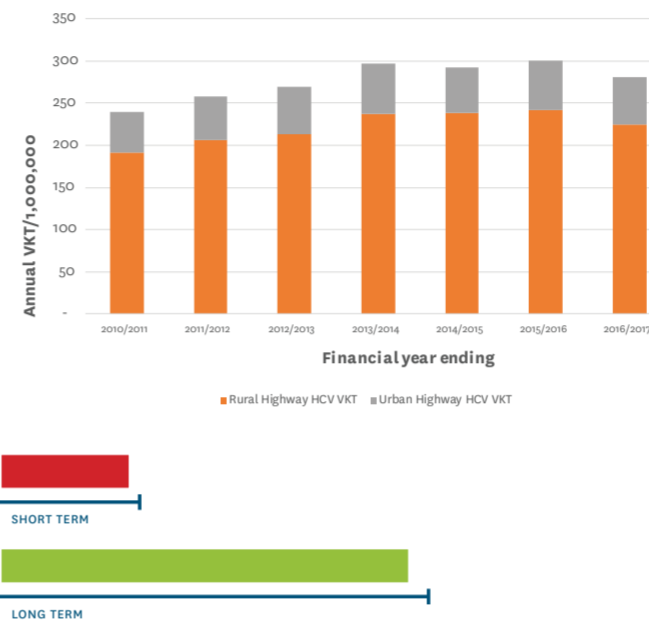
BULK, CONFIDENTIAL AND CONTAINERISED FREIGHT EXPORTS BY WEIGHT



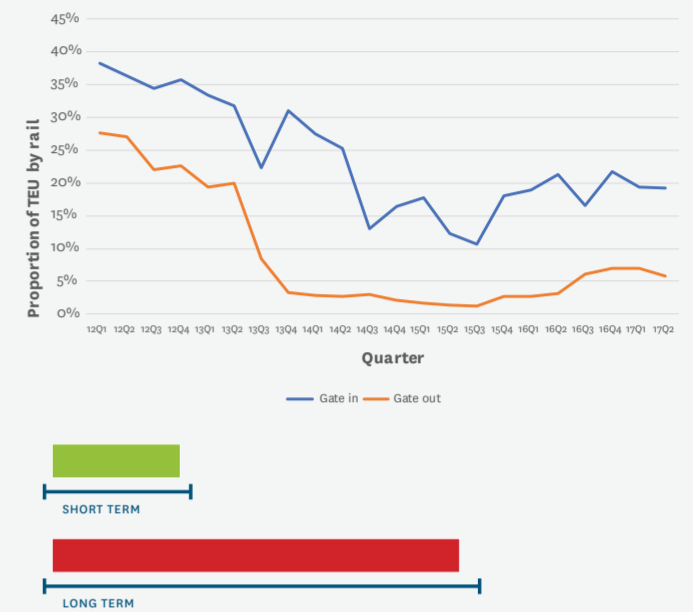
QUARTERLY RAIL FREIGHT MOVEMENT



HCV ANNUAL HIGHWAY VKT

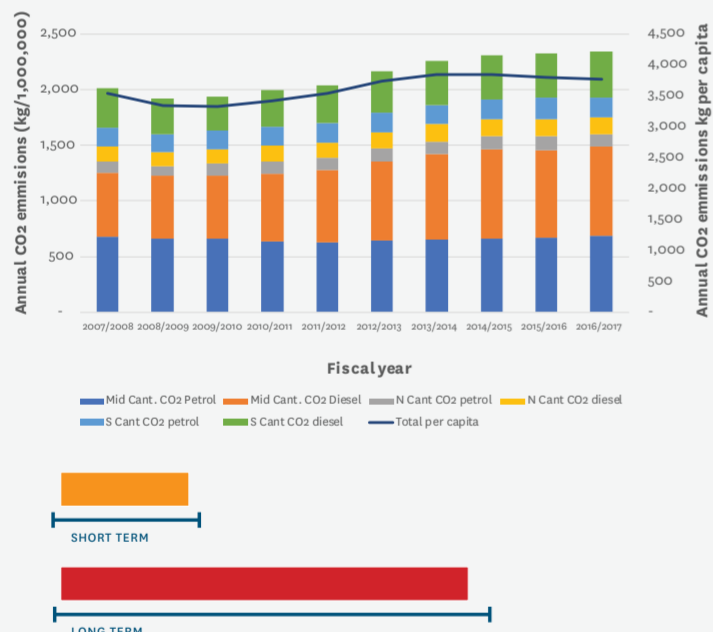


CANTERBURY PORT RAIL TEU PROPORTIONS

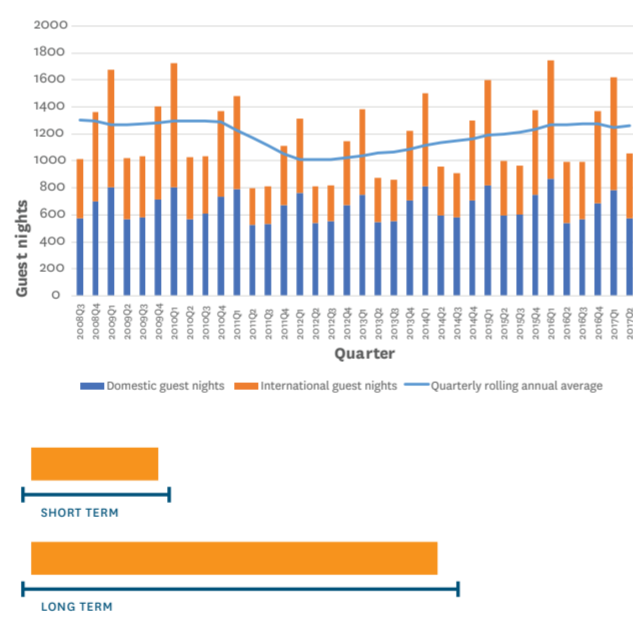


Environmental sustainability | Visitor retention and dispersal | Economic development | Safe, healthy and connected communities

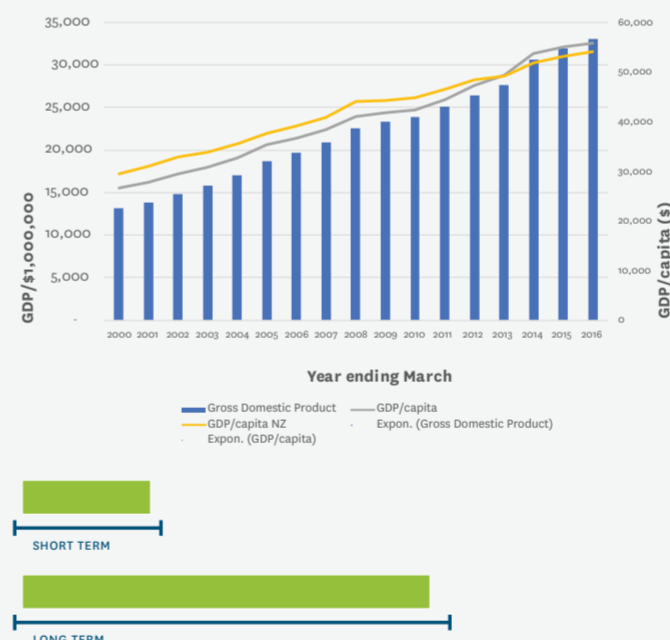
PETROL/DIESEL CO2 PRODUCTION



QUARTERLY GUEST NIGHTS (THOUSANDS)



CANTERBURY GROSS DOMESTIC PRODUCT



NZ GSS WELLBEING MEASURES

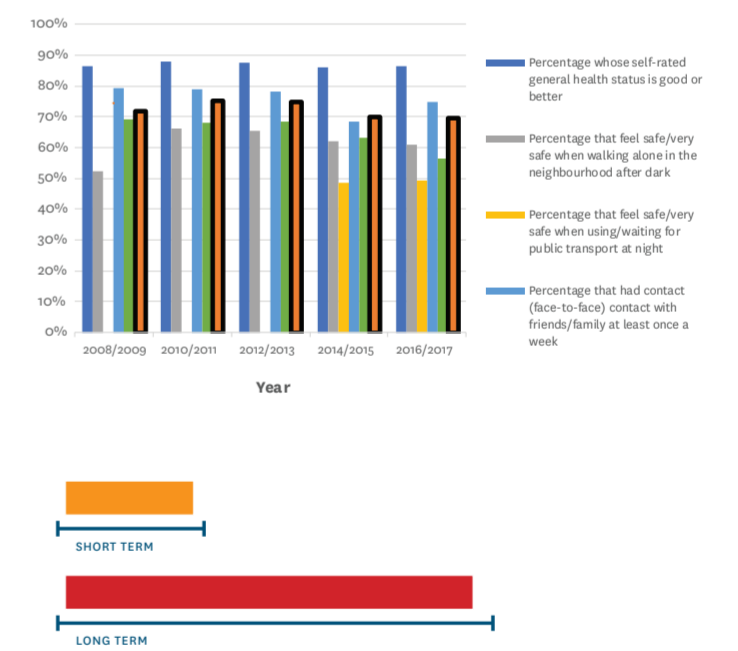


Table 7.5.12.2 - List of Arterial roads and Collector roads

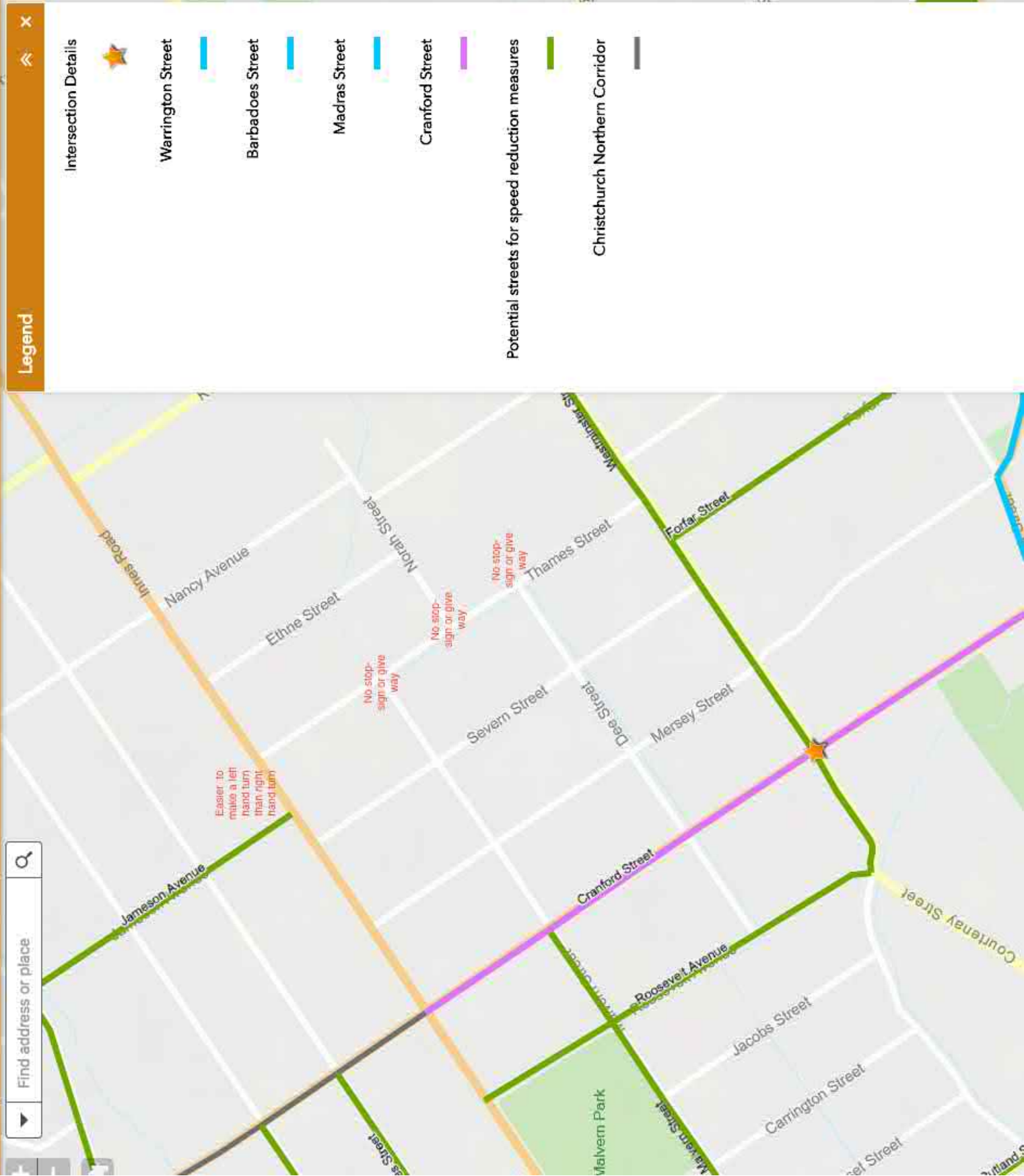
| Road | Classification |
|--|--------------------------|
| Acheson Avenue (Emmett Street - Hills Road) | Collector |
| Aidanfield Drive (Halswell Road - Wigram Road) | Collector |
| Akaroa Street (Briggs Road - Hills Road) | Minor arterial |
| Aldwins Road (Ferry Road - Linwood Avenue) | Major arterial |
| Alvaston Drive (Patterson Terrace - Halswell Junction Road) | Collector |
| Ambleside Drive (Grahams Road - Kendal Avenue) | Collector |
| Amyes Road (Shands Road - Springs Road) | Minor arterial |
| Annex Road (Blenheim Road - Birmingham Drive) | Collector |
| Antigua Street (Moorhouse Avenue - Brougham Street) | Collector |
| Antigua Street (Tuam Street - St Asaph Street) | Local Distributor Street |
| Anzac Drive (Travis Road - Bexley Road) | Major Arterial |
| Apsley Drive (Withells Road - Cutts Road) | Collector |
| Armagh Street (Cranmer Square (east side) - Colombo Street) | Local Distributor Street |
| Armagh Street (Montreal Street - Cranmer Square (east side)) | Main Distributor Street |
| Athol Terrace (Brodie Street - Peer Street) | Collector |
| Avondale Road (Breezes Road - New Brighton Road) | Collector |
| Avonhead Road (Yaldhurst Road - Russley Road) | Collector |
| Avonside Drive (Fitzgerald Avenue - Linwood Avenue) | Minor arterial |
| Avonside Drive (Swanns Road - Retreat Road West) | Collector |
| Avonside Drive (Retreat Road East - Wainoni Road) | Collector |

| Road | Classification |
|--|--------------------------|
| Ferry Road (Aldwins Road - Humphreys Drive) | Minor arterial |
| Ferry Road (Moorhouse Avenue - Aldwins Road) | Major arterial |
| Ferry Road (Humphreys Drive - St Andrews Hill Road) | Major arterial |
| Ferry Road (St Asaph Street - Fitzgerald Avenue) | Local Distributor Street |
| Fitzgerald Avenue (Bealey Avenue - Moorhouse Avenue) | Major arterial |
| Forfar Street (Winton Street - Warrington Street) | Collector |
| Frankleigh Street (Lyttelton Street - Barrington Street) | Minor arterial |
| Frosts Road (Beach Road - Travis Road) | Minor arterial |
| Gamblins Road (Wilson's Road - St Martins Road) | Collector |
| Gardiniers Road (Johns Road - Harewood Road) | Collector |
| Garlands Road (Aynsley Terrace - Opawa Expressway) | Collector |
| Garlands Road (Opawa Expressway - Rutherford Street) | Major arterial |
| Gasson Street (Brougham Street - Moorhouse Avenue) | Minor arterial |
| Gayhurst Road (Cresswell Avenue - Avonside Drive) | Collector |
| Gebbies Pass Road (Governors Bay Teddington Road - Christchurch Akaroa Road) | Minor arterial |
| Gilberthorpes Road (Waterloo Road - Buchanans Road) | Collector |
| Gladstone Quay (Norwich Quay - Cashin Quay) | Major arterial |
| Glandovey Road (Fendalton Road - Idris Road) | Collector |
| Glandovey Road (Idris Road - Rossall Street) | Minor arterial |
| Glenstrae Road (McCormacks Bay Road - Monks Spur Road) | Collector |
| Gloucester Street (Colombo Street - Madras Street) | Local Distributor Street |
| Gloucester Street (Fitzgerald Avenue - Gayhurst Road) | Collector |

| Road | Classification |
|--|--------------------------|
| Hamill Road (Halswell Junction Road - Caulfield Avenue) | Collector |
| Hammersley Avenue (Quinns Road - Marshland Road) | Collector |
| Hampshire Street (Wainoni Road - Breezes Road) | Collector |
| Hansons Lane (Riccarton Road - Blenheim Road) | Collector |
| Harbour Road (Kainga Road - Lower Styx Road) | Collector |
| Harewood Road (Orchard Road - Johns Road) | Collector |
| Harewood Road (Papanui Road - Johns Road) | Minor arterial |
| Hargood Street (Ferry Road - Linwood Avenue) | Collector |
| Harman Street (Lincoln Road - Selwyn Street) | Collector |
| Harper Avenue (Deans Avenue - Bealey Avenue) | Major arterial |
| Harrow Street (Olliviers Road - Aldwins Road) | Collector |
| Hawke Street (New Brighton Road - Marine Parade) | Collector |
| Hawkins Road (Radcliffe Road - Quaid's Road) | Collector |
| Hay Street (Linwood Avenue - Ruru Road) | Collector |
| Hayton Road (Symes Road - Wigram Road) | Collector |
| Heaton Street (Strowan Road - Papanui Road) | Collector |
| Heberden Avenue (Nayland Street - Scarborough Road) | Collector |
| Hendersons Road (Halswell Road - Sparks Road) | Collector |
| Hendersons Road (Sparks Road - Cashmere Road) | Collector |
| Hereford Street (Fitzgerald Avenue - Linwood Avenue) | Minor arterial |
| Hereford Street (Latimer Square (east side) - Fitzgerald Avenue) | Local Distributor Street |
| Hereford Street (Madras Street - Latimer Square (east side)) | Main Distributor Street |

| Road | Classification |
|---|--------------------------|
| Hereford Street (Rolleston Avenue - Madras Street) | Local Distributor Street |
| Highsted Road (Harewood Road - Styx Mill Road) | Collector |
| Hills Road (Whitmore Street - Innes Road) | Minor arterial |
| Hindness St (Dunbars Road - Balcairn Street) | Collector |
| Holmwood Road (Fendalton Road - Rossall Street) | Collector |
| Hoon Hay Road (Halswell Road - Cashmere Road) | Minor arterial |
| Humphreys Drive (Linwood Avenue - Ferry Road) | Major arterial |
| Huxley Street (Colombo Street - Burlington Street) | Minor arterial |
| Huxley Street (Croydon Street - Burlington Street) | Collector |
| Idris Road (Fendalton Road - Wairakei Road) | Minor arterial |
| Idris Road (Wairakei Road - Blighs Road) | Collector |
| Ilam Road (Riccarton Road - Wairakei Road) | Collector |
| Innes Road (Papanui Road - Queen Elizabeth II Drive) | Minor arterial |
| Inwoods Road (Broadhaven Avenue - Mairehau Road) | Collector |
| Jarnac Boulevard (Buchanans Road - Millesimes Way) | Collector |
| Jeffreys Road (Clyde Road - Idris Road) | Collector |
| Jerrold Street North (Collins Street - Barrington Street) | Major arterial |
| Jerrold Street South (Collins Street - Barrington Street) | Major arterial |
| Johns Road (Harewood Road - Main North Road) | Major arterial |
| Jones Road (Railway Terrace - Dawsons Road) | Collector |
| Kahu Road (Kotare Street - Straven Road) | Minor arterial |
| Kainga Road (Main North Road - Harbour Road) | Collector |
| Kendal Avenue (Memorial Avenue - Wairakei Road) | Collector |
| Kennedys Bush Road (Glovers Road - Cashmere Road) | Collector |

| Road | Classification |
|---|-------------------------|
| Southern Motorway and connectors (Simeon Street - Halswell Junction Road) | Major arterial |
| Southampton Street (Tennyson Street - Croydon Street) | Collector |
| Sparks Road (Halswell Road - Lyttelton Street) | Minor arterial |
| Spencerville Road (Main North Road - Lower Styx Road) | Collector |
| Springfield Road (Durham Street North - St Albans Street) | Collector |
| Springs Road (Main South Road - Selwyn District Boundary) | Minor arterial |
| St Albans Street (Papanui Road - Trafalgar Street) | Collector |
| St Andrews Hill Road (Main Road - Major Hornbrook Road) | Collector |
| St Asaph Street (Hagley Avenue - Fitzgerald Avenue) | Main Distributor Street |
| St Martins Road (Fifield Terrace - Centaurus Road) | Collector |
| Stanmore Road (Tuam Street - North Avon Road) | Collector |
| Straven Road (Fendalton Road - Riccarton Road) | Minor arterial |
| Strickland Street (Brougham Street - Colombo Street) | Collector |
| Strowan Road (Heaton Street - Wairakei Road) | Minor arterial |
| Sturrocks Road (Cavendish Road - Main North Road) | Collector |
| Styx Mill Road (Gardiners Road - Main North Road) | Collector |
| Summit Road (Evans Pass Road - Selwyn District Boundary (west of Dyers Pass Road)) | Collector |
| Summit Road (Gebbies Pass Road - Selwyn District Boundary (north of Gebbies Pass Road)) | Collector |
| Summit Road (Christchurch Akaroa Road - Long Bay Road) | Collector |
| Sumner Road (Oxford Street - Evans Pass Road) | Minor arterial |
| Sutherlands Road (Cashmere Road - Sparks Road) | Collector |
| Swanns Road (Stanmore Road - Avonside Drive) | Collector |



Cranford St Changes

One of the reasons given for the need of bypassing of Belfast was to reduce traffic through it as it “cuts the community in half”, lots of that traffic is now going to be forced into the middle of St Albans... cutting St Albans in half

How are local residents going to be able to cross the Cranford St or turn out of their streets

Traffic Calming

Road narrowing, chicanes, etc. forces cyclist into traffic flow and also reduces the number of available on street parks

A “Raised intersection” has been used at corner of Westminster St & Courtenay St to replace the roundabout and this has little to no effect on the speed of cars travelling along Westminster which is right beside a school

Areas around St Albans Primary School

There needs to be “40km/h variable speed limits” included in any changes to this area, other schools in quieter streets in Christchurch already have these in place

Eg Cranford, Westminster, Courtenay, Trafalgar

Innes Rd

This is also a very busy road, why is there nothing in the plan for extra traffic there?

Robin Parr



Innes Road

Add some small islands to make restrictions to limit through speed and cornering speed.
Set off existing curbing to allow cycle thoroughfare
South end (Westminster) already is narrower
Required as adjacent streets, Severn and Mersey, have traffic calming entrances off Innes Road

Thames Street

Malvern Street

Norah Street

Existing

Clarrie Pearce extra Cranford St submission :

At the drop in session I was told :

1. There is \$17m ring fenced for this work but no-one knew what was intended to be delivered for that sum.
2. There are no traffic, cycling or pedestrian counts.
3. Cyclists would all use the Papanui Parallel Route.
4. Nothing is intended / planned for Cranford South of Berwick as the traffic would use Barbados and Madras. Note one traffic engineer admitted this was probably incorrect but he was holding the Corporate line.
5. That the vast majority of the South bound traffic would use Barbados St from Berwick.
6. That North Bound traffic would use Madras St into Berwick.
7. That the work is for the benefit of motor vehicles and not cyclists or pedestrians.
8. That the plan produced following this consultation will not go out for consultation as an area solution but only as individual streets.

My comments - numbers to relate to the above :

1. \$17m won't go very far so where will the compromises be? Nothing on Cranford South of Berwick or any of the side roads? The impact on Edgware Village?
2. Surely without existing counts and modelled future extrapolations then there is no basis to "test" design possibilities?
3. The assertions that all cyclists would use the Papanui MCR were very strong. That might be from where the Motorway joins Cranford but South of that is a major issue. Any cyclists South East of the Motorway need to get across Cranford to join the MCR. There are three points where this can happen. Innes Rd, Westminster St and Edgware Rd. In each case the cyclists need a way of safely turning right across Cranford. They also need a safe way to travel along Cranford to reach those intersections. From Westminster to Edgware there are no connecting roads and heading South all cyclists must travel on Cranford St. **See note below re shared path proposal.**
4. Traffic heading South on Cranford St wanting to go anywhere in a South East or due South direction is not going to travel East to get to Barbados. Eg to get to the CCC offices they will proceed down Cranford to Bealey and then use Colombo or Durham.
5. Common sense dictates that large volumes of vehicles will travel South on Cranford and many may choose to pass through Edgware Village. With a stated intention by staff to not do anything to Cranford St South of Berwick this will be farcical.
6. The reverse is true with North bound traffic in the evening being unlikely to use Madras.
7. There was a strong contention that this plan is only for motor vehicles with little or no consideration for cyclists.
8. I specifically queried further consultation on the regional master plan being produced from this work and was emphatically told that the only further

consultation would be on individual streets. Surely this has to be addressed as by the time you get to an individual street all the other factors are predetermined.

Shared Path proposal :

The proposed plan South of Innes and presumably South of Berwick (if it gets a look in) is for a shared path. This will provide a very low level of service for cyclists. The pedestrian numbers are quite low, based upon my observations. This means that a "Rutland St" or "Ferry Rd" solution could be considered, bringing the cyclists out onto the road to get priority at intersections. Even without a "dooring zone" it will be safer as parking will be restricted.

With the proposed shared path the cyclists must give way at each side road and with motorists not having any awareness of the cyclists "on the footpath" creates a significant risk.

Cyclists are also up against the property boundaries creating more danger at each driveway. Especially with vehicles turning across two busy lanes to enter a property. The awareness of cyclists will be minimal.

Cyclists need a safe way to get from the shared path or the cycle lane across to the MCR.

In the absence of a decent level of service, cyclists may choose to "take the lane" as the safest option. Therefore negating your second lane.





Christchurch City Council
Public Information and Participation Unit
PO Box 73016,
Christchurch 8154

Level 1, 189 Montreal Street,
Christchurch 8011
P: (03) 963 8727
C: (029) 963 8727

PO Box 10-318,
Christchurch 8145
E: ray@urbisgroup.co.nz
W: www.urbisgroup.co.nz

Via email: ann.campbell@ccc.govt.nz

28th June 2018

Dear Anne,

RE: SUBMISSION REGARDING POTENTIAL THREE LANNING OF MADRAS STREET AND BARBADOES STREET

I write on behalf of Wakefield Mews Limited who is the owner of the ex-Orion site which is located within the block bounded by Madras Street, Canon Street, Packe Street and Purchas Street, St Albans, Christchurch. The purpose of this letter is to present a formal submission to the proposed changes to the Cranford Street and surrounding area as part of the '*downstream works*' associated with the upgrading of Cranford Street.

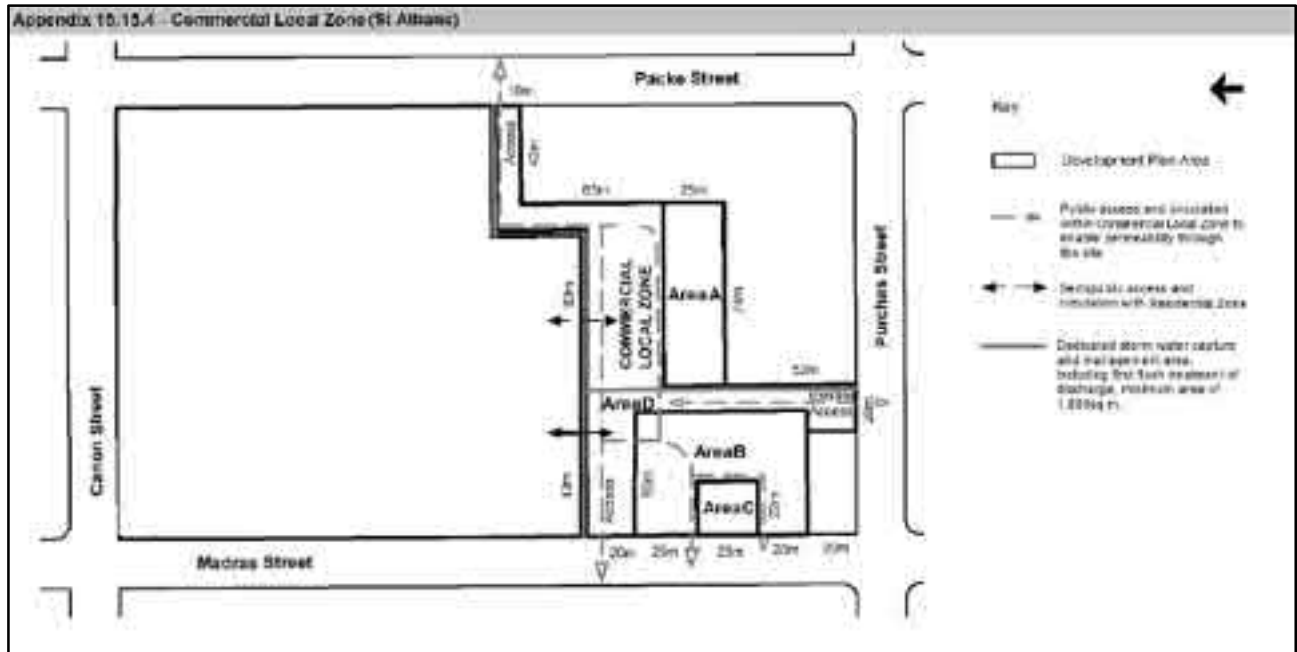
It is accepted that this submission is being lodged with the Council after the published cut-off date of 4th June 2018, however, as advised via telephone, we only received future traffic count data, necessary to inform our position on this proposal, the week before last from the Council. I therefore appreciate your offer of enabling this submission to be lodged after the cut-off date.

You may not be aware that the redevelopment of the Orion site was the subject of a privately requested plan change (#31) considered and approved by the Council in 2009. At the time of the plan change, the specifically planned development of the site included:

- a) The provision of 237 residential units, each with two parking spaces;
- b) The provision of 4,500m² of commercial floor space on the site including a supermarket;
- c) The provision of 474 spaces for the apartments (234 of these spaces are provided in a basement, 108 spaces provided in above ground garages, and 132 spaces provided in above ground parking areas) plus 166 spaces to cater for the combined parking demand of apartment visitors and non-residential activity parking demand.

It can be seen that what is proposed for the site will be a development of significant scale and will be a notable generator of traffic.

Further, the Council rezoned the site both *Commercial Local* and *Residential Medium Density* to further recognise and facilitate the redevelopment of the site for the scale of activity described above. Appendix 15.15.4 of the now-operative District Plan provides an outline development plan of the site and this shows primary vehicle access points to Madras Street, Purchas Street and Packe Street as shown below.



It follows that the scale of development proposed for the Orion site is specifically provided for in the District Plan.

At this stage, Wakefield Mews requires further information from the Council in order to fully evaluate the potential impact the possible three-laning of the street might have. In summary of what follows:

- a) Wakefield Mews notes that both Madras Street and Barbadoes Street are currently classified as collector roads within the District Plan, and that the expected function of both roads will alter to that of a minor arterial route should traffic volumes significantly increase as a result of the Cranford Street works.
- b) Both Madras Street and Barbadoes Street have historically operated with very high levels of service given the traffic volumes they have carried.
- c) Based on information provided by the Council to date, Wakefield Mews questions the need for the three-laning works given that predicted future traffic flows on both Madras Street and Barbadoes Street are not greater than what has been historically carried by these streets in the present layout. Why is an increase on road network capacity being sought when the Council's CAST predictions of future peak hour traffic volumes are not greater than what has occurred in the past? Where is the numerical basis or rationale behind the proposed works?

- d) Should the three-laning proceed, Wakefield Mews has strong concerns in relation to the adequacy of any remaining on-street parking provision to meet the parking demand of existing and anticipated future development of residential zoned land along both Madras Street and Barbadoes Street. Wakefield Mews seeks further information on ambient on-street parking demand, and anticipated future on-street parking demand given the high density zoning of both the Wakefield Mews site and the surrounding neighbourhood.
- e) Should the three-laning proceed, Wakefield Mews has strong concerns that a three-laned section of road past the Mews site would leave inadequate space for the provision of both on-street parking and a turning facility (either a painted median or a painted right turn bay) to cater for anticipated future traffic flows into the site. Wakefield Mews seeks clarification on exactly how the Council would design Madras Street as a three-lane option so a more accurate evaluation of on-street parking and site access implications can be made.
- f) What specific design consideration has been given towards the safe provision for right turns into and out of the Wakefield Park site from Madras Street, and also for Wakefield Mews traffic turning at the Barbadoes/Packe and Barbadoes/Canon intersections?
- g) Should, as an alternative, Madras Street and Barbadoes Street becoming one-way northbound and southbound respectively, then Wakefield Mews has significant concerns relating to a loss of accessibility of the site particularly from the north.

Wakefield Mews wants to work with the Council on evaluating possible design solutions to the traffic issues facing both Madras Street and Barbadoes Street and anticipates that this submission will be the start of a continued consultative process where suitable design outcomes based on full analysis of available traffic data can provide a design solution acceptable to all parties involved. In the interim we provide the following analysis of data made available by the Council to date that has influenced the present position of Wakefield Mews as summarised in points a) to g) above.

If you have any questions, please do not hesitate to contact me via email or phone.

Yours faithfully,



Ray Edwards

Managing Director

Planned Road Function

Both Madras Street and Barbadoes Street are classified as an urban ‘collector road’ within the Councils citywide road hierarchy. The purpose of a collector road is defined in the District Plan as being:

Roads that distribute and collect local traffic between neighbourhood areas and the arterial road network. These are of little or no regional significance, except for the loads they place on the arterial road network. They link to the arterial road network and act as local spine roads, and often as bus routes within neighbourhoods, but generally do not contain traffic signals. Their traffic movement function must be balanced against the significant property access function which they provide.

The important points to note from the above is that the planned function of a collector road is collect and distribute traffic from neighbourhoods to the arterial road network, but also to retain a significant property access function. Therefore, the Council needs to manage its road network in a manner that keeps traffic flows to identified levels whilst at the same time retaining a high level of accessibility to properties alongside.

Further, the District Plan provides the following design specifications for urban minor arterial and collector roads in the District Plan. The formation standards for a minor arterial road has been included because, in our opinion, this is the function both Madras Street and Barbadoes Street will have following the Cranford Street works. Ironically, both Madras Street and Barbadoes Street used to have minor arterial classifications, and the proposed upgrading of Cranford Street will result in increased traffic flows along the road that will further reinforce their roles as a minor arterial route.

| Road classification | Road widths (m) | | Roadway widths excluding any parking (m) | | Minimum lanes | Minimum Number of Footpaths | Median | Amenity strip | Cycle facilities |
|-----------------------------|-----------------|-----|--|-----|---------------|-----------------------------|--|---------------|------------------|
| | Min | Max | Min | Max | | | | | |
| Minor arterial road - Urban | 23 | 30 | 14 | 22 | 2 | 2 | The provision of those facilities is allowed for in the standards for road design and construction | Yes | Yes |
| Collector road – Urban | 22 | 25 | 10 | 14 | | | | | |

Table 1: District Plan design specifications for urban minor arterial and collector roads

The existing roadway width (measured kerb to kerb) on both roads is around 14m including lanes for on-street parking (normally around 2.0m wide on each side of the road). Therefore, the existing formation standard of both roads meets the planned maximum width for an urban collector road (10m roadway plus two 2.0m wide parking lanes) but is below the planned minimum width for a minor arterial road unless compromises are made in relation to the provision of on-street parking.

Existing Traffic Flows on Madras Street

Madras Street, north of Bealey Avenue, provides the continuation of the one-way northbound section of Madras Street to the south of Bealey Avenue. As a result, the northbound and southbound traffic flows are heavily tidal in nature with a strong northbound flow in the weekday evening peak (4:00pm to 6:00pm) period as shown in Figure 1 below:

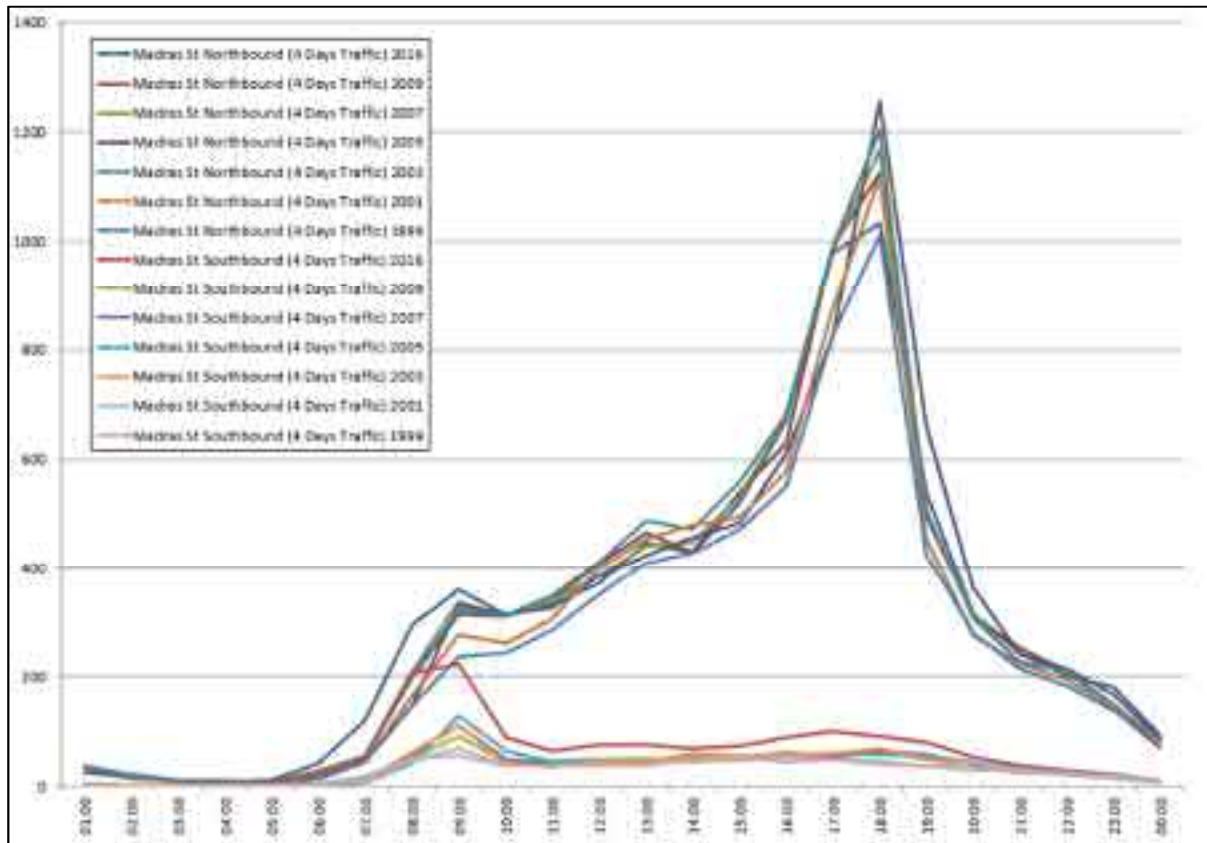


Figure 1: CCC Hourly Traffic Count data – Madras Street North of Bealey Avenue 1999 to 2016

Figure 1 highlights the significant disparity between northbound and southbound traffic flows. This disparity, combined across a typical weekday, results in a daily northbound traffic flow of some 7,500 vehicles per day versus a southbound traffic flow of around 3,500 vehicles per day (2016 values).

Figure 1 also shows that traffic growth on Madras Street has been minimal during the 1999-2016 period.

Figure 2 on the next page shows both directional and combined traffic flows on Madras Street, and this confirms that the traffic volume along the road has actually declined since the earthquakes. That said, the current daily traffic volume of around 11,000 vehicles per day is above what would be typically carried by a collector road (planned volume envelope of around 4000-10,000vpd). This volume is within the envelope of what is carried by a minor arterial route (planned volume envelope of around 10,000-20,000vpd).

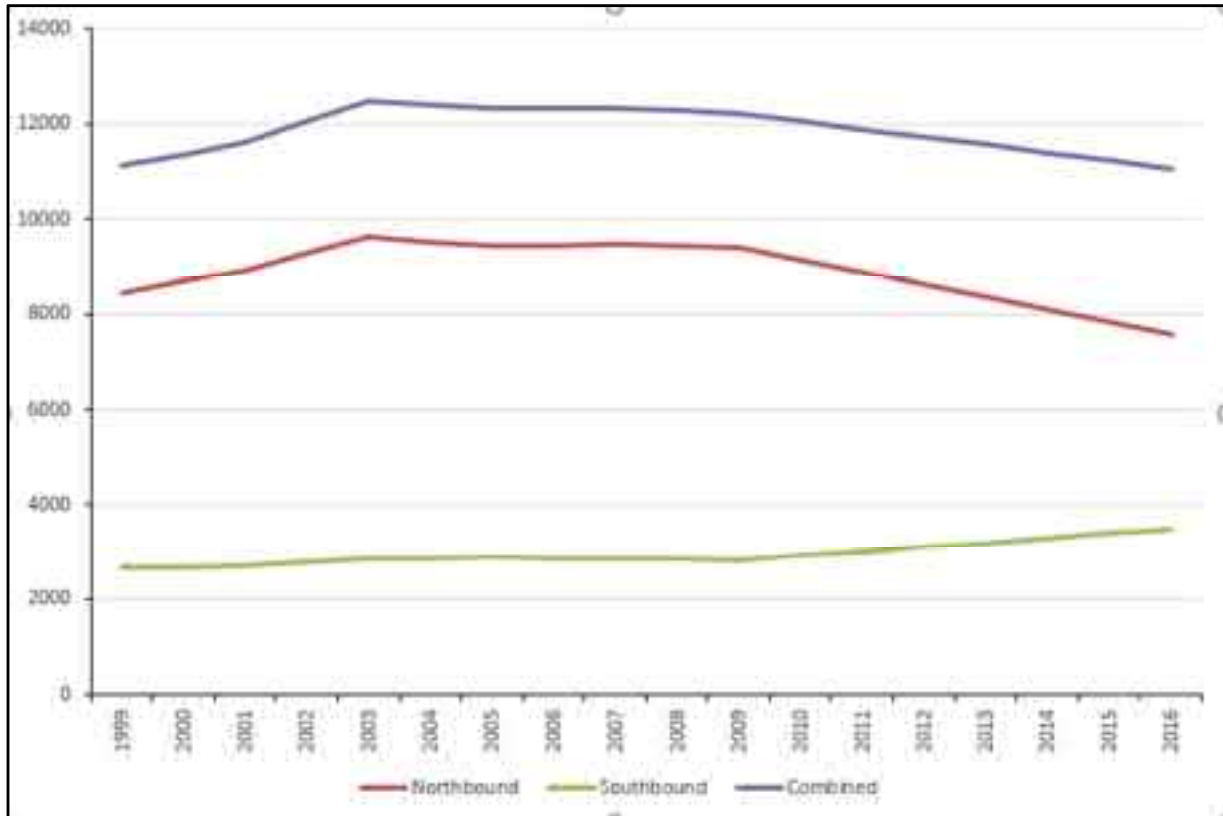


Figure 2: CCC Daily Traffic Count data – Madras Street North of Bealey Avenue 1999 to 2016

Existing Traffic Flows on Barbadoes Street

Barbadoes Street, north of Bealey Avenue, provides a feeder route to the one-way southbound section of Barbadoes Street to the south of Bealey Avenue. As a result, the northbound and southbound traffic flows are also heavily tidal in nature with a strong southbound flow in the weekday morning peak (7:00am to 9:00am) period as shown in Figure 3 on the next page.

Figure 3 highlights the significant disparity between southbound and northbound traffic flows. This disparity, combined across a typical weekday, results in a daily northbound traffic flow of some 9,000 vehicles per day versus a southbound traffic flow of around 4,000 vehicles per day (2016 values). However, the northbound traffic flow in the weekday evening peak period of around 400vph is much higher than the comparable southbound volume on Madras Street (100vph) at the same time. This is because Barbadoes Street offers far greater route choice at Bealey Avenue.

Figure 3 also shows that traffic growth on Barbadoes Street has been minimal during the 1999-2016 period. Figure 4 on the next page shows both directional and combined traffic flows on Barbadoes Street, and this confirms that the traffic volume along the road has been static since 1999.

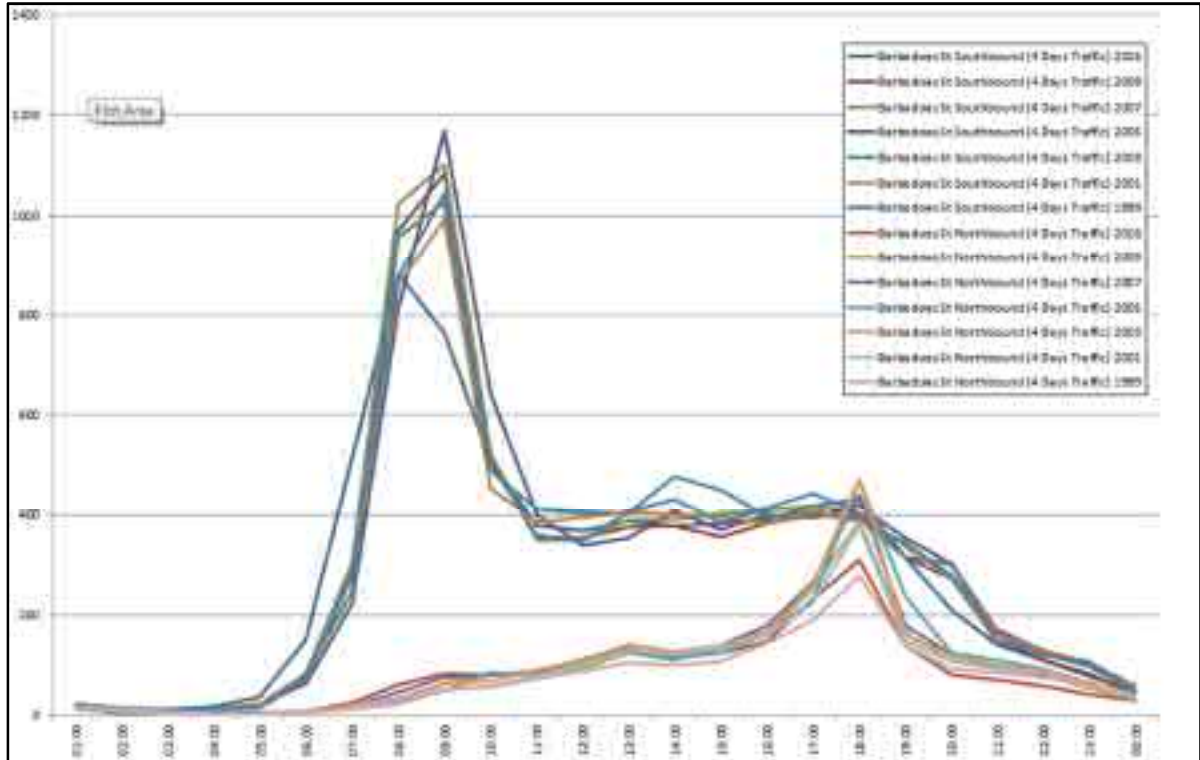


Figure 3: CCC Hourly Traffic Count data – Barbadoes Street North of Bealey Avenue 1999 to 2016

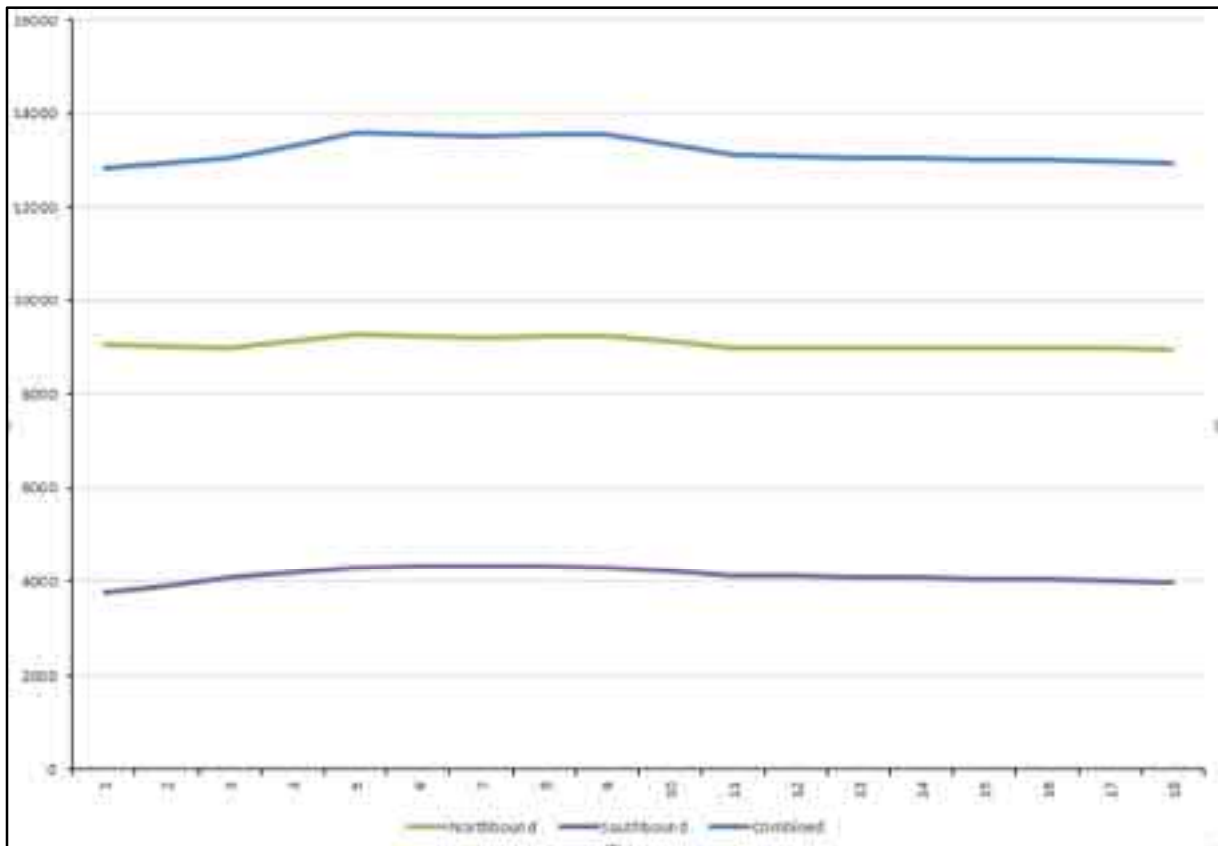


Figure 4: CCC Daily Traffic Count data – Barbadoes Street North of Bealey Avenue 1999 to 2016

Like Madras Street, the daily traffic volume of around 13,000 vehicles per day is well above what would be typically carried by a collector road. This volume is more akin to what is carried by a minor arterial route. Again, this section of Barbadoes Street used to have a minor arterial classification, and the proposed upgrading of Cranford Street will result in increased traffic flows along the road that will further reinforce its role as a minor arterial route.

Estimated Future Traffic Flows

The Council has developed a computer model of traffic flows on the road network. The purpose of this model, known as the *Christchurch Assignment and Simulation Traffic (CAST)* model, is to enable comparative evaluation of differing road network and land use development patterns. The CAST model will have been used to estimate future traffic flows on the road network following the Cranford Street upgrade works.

It is a logical expectation that the connection of the southern end of the northern motorway to the northern end of Cranford Street will result in a notable increase in traffic volumes within St Albans between Innes Road and Bealey Avenue. As noted above, the Council has provided us with predicted road network flow information through to the design year of 2031 adopted by the CAST model. Table 2 below provides a comparative summary of 2016 count data and Council-supplied CAST predictions for 2031 count data for the critical weekday morning and evening peak periods on the road network:

| | Madras Street | | | Barbadoes Street | | |
|--------------|---------------|-------------|-------------|------------------|-------------|-------------|
| | Northbound | Southbound | Combined | Northbound | Southbound | Combined |
| 2016 AM Peak | 360 | 224 | 584 | 61 | 883 | 944 |
| 2031 AM Peak | 526 (+46%) | 411 (+83%) | 937 (+60%) | 22 (-64%) | 1056 (+20%) | 1078 (+14%) |
| 2016 PM Peak | 1034 | 91 | 1125 | 309 | 430 | 739 |
| 2031 PM Peak | 983 (-5%) | 224 (+146%) | 1207 (+ 7%) | 413 (+34%) | 385 (-10%) | 798 (+8%) |

Table 2: Comparative summary of 2016 count data and CAST predictions for 2031 count data for the critical weekday morning and evening peak periods

Table 2 shows that traffic growth is predicted to grow on both Madras Street and Barbadoes Street. These increases are notable given the recent history of nil and more recently negative traffic growth on these two streets. Certainly, a key point to note is that the CAST model assumes that Madras Street will remain in two-way form and that the estimated future traffic volumes do not justify any change to the road layout at all. The two-way combined volume of 1207vph in the weekday PM peak is no different to what this section of Madras Street has carried, in its present layout, in the past. A similar situation applies to Barbadoes Street.

Road Redevelopment Options

Ignoring that CAST predictions future traffic volumes on Madras Street and Barbadoes Street will be no different to what has occurred in the past; the Councils consultation document discusses the concept of ‘three-laning’ both Madras Street and Barbadoes Street to provide an additional lane in the priority flow direction on both streets. The consultation document is silent on exactly how this could be achieved within the existing road reserve width (boundary to boundary of 20m) or roadway width (kerb to kerb width of 14m as discussed earlier).

Noting a road reserve with of 20m, and also noting that the Council recently replaced the kerbs along this section of Madras Street, it is therefore unlikely that the Council will want to relocate them as part of this proposal. On this basis Table 3 below presents variations on possible proposed road layouts within a 14m wide roadway in order to accommodate an additional traffic lane such as what the Council consultation document suggests:

| Madras Street | Existing | Option A | Option B | Option C | Option D | Option E |
|-------------------------------------|------------|--------------|--------------|------------|------------|------------|
| Western Footpath | 3.0m | 3.0m | 3.0m | 3.0m | 3.0m | 3.0m |
| Parking Lane | 2.0m | 2.0m | deleted | deleted | deleted | 2.0m |
| Northbound Cycle Lane | 1.5m | 1.5m | 1.5m | 1.5m | 1.5m | 1.5m |
| Northbound Lane | 3.5m | 3.5m | 3.5m | 3.5m | 3.5m | 3.5m |
| Proposed Additional Northbound Lane | n/a | 3.5m | 3.5m | 3.5m | 3.5m | 3.5m |
| Painted Median | n/a | n/a | n/a | n/a | 2.0m | 2.0m |
| Southbound Lane | 3.5m | 3.5m | 3.5m | 3.5m | 3.5m | 3.5m |
| Southbound Cycle Lane | 1.5m | 1.5m | 1.5m | deleted | deleted | deleted |
| Parking Lane | 2.0m | 2.0m | 2.0m | 2.0m | deleted | deleted |
| Eastern Footpath | 3.0m | 3.0m | 3.0m | 3.0m | 3.0m | 3.0m |
| Total Width | 20m | 23.5m | 21.5m | 20m | 20m | 22m |

Table 3: Potential road cross sections for Madras Street with two northbound lanes and one southbound lane.

Table 3 shows that:

- The existing road layout is shown with parking and room for cyclists on both sides of the road.
- Option A retains the existing layout and adds in an additional northbound lane. The 23.5m required to achieve this would require road widening.
- Option B removes one lane of parking such as what has been suggested by Shane Turner at our recent meeting with the Council. The 21.5m required to achieve this would require road widening.
- Option C is Option B but with the southbound cycle lane removed on the basis that the southbound cycle facility could be placed on Barbadoes Street. This can be achieved without any road widening but creates issues for safe turning into properties alongside Madras Street.
- Option D deletes all on-street parking and the southbound cycle lane in favour of a painted median to provide safer property access. This is unlikely to gain any favour with residents.
- Option E is Option D but with the parking lane reinstated. The 22m required to achieve this would require road widening.

Table 3 shows that of the three viable options that can fit within the existing 20m road reserve width, a compromise needs to be made in terms of cycle lanes, parking lanes or both. This is more so if a painted median is to be provided along the centre of the road to safely cater for right turn access into properties alongside. Such a median would be very desirable given the predicted traffic volumes that Wakefield Park could generate.

It might be possible to provide a variation of Option E where a painted median is installed along the Wakefield Mews road frontage to safely provide for right turn entry owing to expected site generated traffic volumes, but to delete the painted median elsewhere in favour providing one lane of on-street parking. However even an option such as this is also likely to receive severe opposition from residents as a result of the loss of on-street parking.