

OPEN

MINUTE ITEM

ATTACHMENTS

Ordinary meeting of the
Works and Infrastructure Committee

Wednesday 6 March 2019
Commencing at 9.00a.m.- hearing of submissions to Amendment to the
Speed Limits Bylaw 2011 (210) - Waimea Road
Council Chamber

Civic House

110 Trafalgar Street, Nelson

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4.5 Mr Tim Bayley (#19574)

A. A2150508 - Tim Bayley supporting information

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Item 5: Hearing of Submissions to Nelson City Council's Amendment to the Speed Limits Bylaw 2011 (210) - Waimea Road: Attachment 1



When calling
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A2149516

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6 March 2019

Memo To: Her Worship the Mayor and Councillors

Memo From: Anna Gully

Team Leader Administration

**Subject: WAIMEA ROAD PROPOSED SPEED LIMIT REVIEW –
LATE SUBMISSION**

One late submission from Ian McGregor has been received regarding the Waimea Road proposed speed limit review, and is attached for your information. The submitter does not wish to speak to their submission.

If this submission is to be included in the formal decision making process, a resolution to that effect must be passed by Council at today's meeting:

Recommendation

THAT the late submission to the Waimea Road proposed speed limit review be accepted.

Item 5: Hearing of Submissions to Nelson City Council's Amendment to the Speed Limits Bylaw 2011 (210) - Waimea Road: Attachment 1

Submission Summary

Waimea Road - Proposed amendment to the speed limits bylaw - Submission #19659

Mr Ian McGregor

Nelson 7040

Speaker? False

Department	Subject	Opinion	Summary
NCC - Infrastructure Services	Waimea Road - Proposed amendment to the speed limits bylaw		See attached

From: [Jan MacGregor](#)
To: [Council Enquiries \(Enquiry\)](#)
Subject: Waimea Rd: Improving safety with lowering speed to 50 kmph
Date: Friday, 22 February 2019 12:32:27 a.m.

Dear Nelson City Council,

I am currently skiing in Italy and thought the deadline for the submissions was 25th February but would still like to make the following points - very much in favour of dropping the speed limit.

I have lived at the top of Panorama Dr for about 10 years and would use the section of Waimea Rd about 3 times a week - except when skiing.

A) The section of road with dual lanes from Nelson City leading up to the crest:

- 1) In my experience about 50% of the traffic using the Right Hand Lane is turning right at one of the streets towards the end of the dual carriage way.
- 2) A certain amount of the traffic turning right has to wait until oncoming (Nelson City bound) traffic has passed. I am concerned about the possibility of the waiting vehicles being hit from behind.
- 3) The dual lane ends suddenly and there do not appear to be merging warnings nor space to merge, as is standard for dual carriage ways. This is surely bad Traffic Engineering. Is there a liability on the NCC?

B) The turn off to the SPCA

1) Twice just before leaving for skiing, I had come through the Waimea Rd / Ridgeway intersection heading to Nelson City and had finished merging when SUDDENLY in front of me the vehicle stopped and waited to turn right into the SPCA. I had to brake drastically, check in the rear vision mirror because I knew that cars were coming behind me on my left and I did not know if I had sufficient room to violently veer left to pass the static vehicle. I did, just make it. Recently I saw this happen to another car. (Really, at 70 kmph I don't think the (prior) merge distance is nearly long enough.)

2) When travelling from Nelson City to the Ridgeway you cannot put the left turning blinking light on until after the SPCA entrance. Otherwise a car waiting to turn right into the SPCA starts to turn into the SPCA because they think you are (also) turning (left) into the the SPCA.

Early warning that you are turning left into the Ridgeway is a major advantage to traffic waiting to turn from the Ridgeway, otherwise they have to wait for a gap in oncoming traffic to exit the Ridgeway.

3) Dropping the speed limit will be a big improvement at this turn-off.

C) The Ridgeway/Waimea Road intersection.

Several years ago I made a detailed submission on this intersection requesting that the speed limit be reduced to 50 kmph, (and asking for an extra lane for traffic turning left from Waimea Rd into the Ridgeway).

Key points I would make now are:

Item 5: Hearing of Submissions to Nelson City Council's Amendment to the Speed Limits Bylaw 2011 (210) - Waimea Road: Attachment 1

1) The 50 mph sign for the Ridgeway is immediately around a corner, and cannot be seen from Waimea Rd (naturally). So theoretically you swing left out of Waimea Rd (70 kmph) and then almightily brake to hit 50 kmph in what I say is an impossibily short distance.

2) In the approximately 10 years I have lived in Panorama Dr the peak number of vehicles waiting to exit the Ridgeway has increased from about 3 to about 10.

3) A couple of weeks or so before I left to come skiing, there was glass on the road at all corners of all the traffic Islands except perhaps the bottom corner of the Waimea Rd traffic island (which I do not often drive past).

4) Some months ago I was in a taxi from the airport to my house and we went through the Ridgeway/Waimea intersection. The taxi driver said that this intersection was the worst in Nelson.

5) The problem of vehicles with trailers turning left into the Ridgeway from Waimea Road has got substantially worse since my submission. Several times I have seen the towing vehicle turn left and then have to wait with trailer (with yacht once) sticking right across the downhill lane of Waimea Road waiting for a gap in the traffic flow down Waimea Road. Reducing the speed from 70 kmph to 50 will reduce the impact damage.

6) Reducing the speed limit to 50 kmph will be a big safety and traffic flow improvement for this intersection.

My background.

I am a Civil, Materials, and Production Engineer; and in the Ministry of Works received some training and experience in Road and Traffic Engineering.

I. D. MacGregor

B.E.(Civil) MHKIE, MIET, CEng, EngNZ

Waimea Road Speed Limit Review - Hearing Schedule - 6 March 2019				
Status	Page No.	Time	Duration	Speaker (Submission ID)
	3	9:05 a.m.	5 mins	Noeline Inglis (# 19441)
	19	9:10 a.m.	5 mins	Robin Whalley (# 19458)
	49	9:15 a.m.	5 mins	Bruce Thomas (# 19526)
	116	9.20 a.m.	5 mins	Pat and Chris Heaphy (# 19618)
	67	9:25 a.m.	5 mins	Tim Bayley (# 19574)
	92	9.30 a.m.	10 mins	Nelson Youth Councillors (# 19598)
	96	9.40 a.m.	5 mins	Charles Heaphy (# 19600)
	106	9.45 a.m.	5 mins	Gavin Calder - Automobile Association - Nelson District (# 19612)

The new intersection on Waimea Rd just below Bishopdale will cause some major issues with Nelson traffic over the next few years until the Southern Link is finally built.

The intersection was planned to connect the new subdivisions and now a rest home on the south end of the Port Hills. It was designed in 2000 and was publicly vetted and approved by NCC but this was at a time when the Southern Link was considered to be an absolute certainty within the next couple of years.

So the traffic flows on Waimea Rd and around the waterfront were expected to drop considerably as the total traffic load would be shared by 3 major arterial routes in and out of Nelson instead of just 2.... so the design was looking at 2 to 3000 cars a day coming into a roading system that would have been carrying around 14 to 16,000 vehicles a day NOT the 24,000 maximum capacity that Waimea now carries every day. (without the Link) .

The 2003 Environment court decision put a stop to the Southern Link and it has never really got off the ground again and now with a present government that shows no support for roading and a council partially filled with strong anti road people there was little chance that the link would proceed until this flawed proposal came back on the table in a new location on Waimea Rd.

The only good thing about this new intersection is that this will cause traffic to block up even more with a 12% increase in vehicle movements into a road already running at FULL capacity and this will precipitate the building of a 3rd link faster than anything ever has!

Council engineers are proposing that as well as installing this new intersection just 7.5 m from social housing, that at the same time they change the speed limits over the Bishopdale Hill from 70 kph to 50.

Over the past few weeks we have conducted a number of traffic surveys as to just how Nelson traffic behaves and flows in and out of town at different locations on Waimea Rd. and the results and observations have been very enlightening.

SOUTHBOUND - out of town

The new intersection will remove the "passing lane" southbound, out of town, up the Bishopdale Hill, at the same time as reducing the speed to 50kph which will seriously reduce Waimea Rd capacity to carry traffic.

Waimea Rd. southbound carries an incredible amount of traffic at present, more in fact than any two lane city road should.

As in my original submission NZTA engineers have told me the only reason was due to the presence of two lanes over the hill and the fact it goes from 50 to 70 here this causes a venturi like event to traffic behind opening up the travelling distance between cars and kind of "sucks" traffic out of town allowing for an above average traffic flow.

My original estimates of traffic flow were incorrect ("out of town lanes at present carry around 1800 to 2000 cars per hour at rush hour".) but the 24,000 + cars per day is correct.

The actual measured results are much lower at peak ~1500 to 1525 an hour (+ trucks 13 to 25 and buses 4 to 7) - time frame- 4.10 to 5.10 pm (We also checked the flow for 20 mins either side of this and flow rates were similar)

By comparison at Rocks Rd / Bisley Rd at rush hour northbound traffic max flow rate is around 1200 per hour but due to poor road layout beyond the intersection of the southbound lane it's flow rate is just 900 per hour! this is why most days during the week and over the Xmas holidays Rocks Rd southbound is often backed up right round to the tank farm at Haven Rd ! (these are measured actual results from past surveys by TWA)

The proposed intersection has a single bypass lane southbound which is good, so it will not subject the traffic to the "back up" pulses caused by a traffic signal.

But Waimea goes down to one lane and the speed drops to 50 kph, so traffic will slow as there will no longer be the "Venturi Effect", talked about above, and traffic will continue at the crawl it is now on the rest of Waimea from town to Market St, each peak afternoon period, and then all the way out of town.

For the southbound lane over the hill the present point where the speed limit changes to 70kph is almost exactly the middle of the proposed intersection and as this is a "bypass lane" with a raised median separating it from the turning and northbound traffic ... there is nothing to impede traffic from speeding up to 70kph from this point.

The other major issue here will be heavy vehicles coming from the quarry and the landfill on Market Rd. These trucks now turn out of Market Rd and have to climb the hill from a standing start. At present it is not so much of an issue as there are two lanes and faster traffic can easily pull out and pass at 70 kph once they get past the present speed zone change half way up the hill. BUT when this is only one lane it will be a lot harder for them to get out of Market Rd and once out on Waimea south they climb slowly up the hill at around just 20 kph. Not such a big issue for the Fulton Hogan trucks going back empty to the transfer station but the quarry trucks are fully laden and these will really slow traffic here .

As it is now Waimea has no real issues over the hill and the turnoff lanes to Beatson and Ulster work well but are not that heavily used.

One of the reasons that this section of road works so well and moves very freely, even at peak afternoon flows, is that some 20 to 25% of all its traffic turns off down the Ridgeway. So to slow this section to 50 kph just does not make sense. Traffic turning northbound onto Waimea from the Ridgeway is not that heavy at this time of day and has very little problem getting across this 70 kph traffic flow and making it's way up the hill and merging into northbound traffic. (it is a different story in the AM peak !)

The 70 kph limit should stay in force till at least past the Ridgeway intersection as it effects very few houses or driveways in this section.

If any change were to be made, the speed drop to 50 kph could be moved closer to the Ridgeway so that traffic over the bridge there and past the intersections and houses was all at 50 kph .

This would make very little difference to the smooth flow of traffic down the hill and to the Ridgeway.

Traffic turning out of the new Princes Dr extension to go southbound have plenty of room and distance in their own lane to speed up and merge with existing traffic coming through on the bypass lane. This should not be an issue as only 30% of the total traffic coming out of Princes Dr. is estimated to be turning this way and this will be in the morning rush hour, not the afternoon when southbound traffic is at it's peak.

NORTHBOUND - into town

Into town the actual measured morning peak results is around 1200 vehicles an hour (+ buses 10 and trucks 18) - time frame 7.47 to 8.47 am)

This is around 300 vehicles per hour less than in the afternoon ... the reasons for this are interesting.

1. The number of vehicles entering the traffic flow at the Beatson Rd round-about.
2. The large number of vehicles entering from the Ridgeway (at most times as traffic crawls up the hill here there are at least 10 cars in the merge lane, ready to join with the through traffic already on Waimea.)
3. The strange lane set up where the top of Beatson Rd joins Waimea. Here there is a left hand lane for Beatson Rd traffic to turn into to head into town BUT it starts just before the

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WAIMEA RD Speed Change

intersection and without exception ALL the inbound traffic on Waimea below this intersection moves into the outside lane and stays to the left. The second lane on the right over the hill is always empty Strange ? I think it is because drivers have been in a "stop and go" line up from Annesbrook round-about and are afraid they will have to remerge with the traffic stream further down the hill where it goes back into 1 lane . So the result of this is that every time a car wants to turn in from Beatson the main stream of traffic has to stop to let them in and you get a back up and traffic stops. This needs to be redesigned so that traffic here is merging down the hill.

Now the new light may go some way to solving this issue as there will be two northbound lanes through the intersection continuing some 200 m's past it, I am told (although no plans exist for this)

Very little traffic will be turning into Princes Dr in the morning so both these lanes should be available for straight through morning commuter traffic.

But the bigger issue is that this light will be a 3 phase light

1. Allowing traffic to flow through and free turn into Princes Dr from the south.
2. Stopping northbound Waimea traffic and allowing exiting Princes Dr traffic to enter Waimea north and southbound.
3. Stopping northbound Waimea traffic and allowing traffic to turn out of Princes Dr northbound onto Waimea and southbound traffic on Waimea to turn into Princes Dr

Option 1 should be the longest of the 1 min cycle , option 2 the next biggest and option 3 the smallest during the morning rush period BUT this does mean Waimea into town will be stopped for 2 cycles out of 3 this will cause traffic to stop and block up way back over the hill and cause issues much further back .

But this new light is going to be introducing some 300 cars per hour over the peak morning period. 70% of this heads into town (around 210) and 30% out of town (90)

So here we are trying to fit an extra 200+ cars into a road that is running at it's max of 1200 an hour..... you can't fit 12 lb of sugar in a 10 lb bag something has got to break!

We have observed how the Motueka light on Waimea works and this gives an interesting insight into what we may be looking at.

At around the same time frame as the northbound survey was done it runs at an approximate 40 sec red then 40 sec green(now this is just a 2 phase signal most of the time as there is little or no traffic out of Motueka St from the hill side.) If the new intersection runs around the same cycle rate then we can assume that similar issues will present themselves.

At the Motueka light around 16 to 18 cars stop for each red signal but the back up of stopped traffic moves back as a pulse through the traffic to include around 50 to 60 vehicles at each signal change ... this represents a "stopped traffic" distance of approx 500 + m's back down Waimea Rd. If we transpose this to the new light location this will cause traffic to back up and stop 1/2 way down the hill coming up from the Ridgeway. This, when combined with incoming traffic of Beatson Rd, will cause the traffic to jam to the merge point of the Ridgeway traffic once this happens the road will stop to function and become a parking lot and this will cause major issues back to Annesbrook and beyond to the deviation so we will have gridlock !!

Also this new intersection requires two lanes into town meaning that ALL the mature trees in Station Park will be cut down! Just how green is that Nelson....

And the new road off the hill will have a considerable amount of rain runoff from its hard surfaces so they are now putting a stormwater retention pond where the park is now!

There is another major issue with the design of the intersection to date.

North of the intersection there is a wide road reserve berm that will be used for the second, inside lane, but not shown on the drawing, is a footpath that I am told by city planners the owners of the

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WAIMEA RD Speed Change

looking north from #240



looking south from #240 it gets worse ...



A2150508

and #244 is impossible ??? as the footpath will be inside this fence



here the footpath will be from the brick pillar to the bush and any driveway would be from the top of this down at 45o or more ???



Is this what we want for Waimea Rd ? I SAY NOT ... if you do this it will jam up traffic on this major artery and cause even more traffic to take the Rocks Road route making things worse there. It will precipitate the building of the Southern Link and make it an urgent project which is maybe a good

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WAIMEA RD Speed Change

thing but it will cause an economic nightmare for Nelson as the movement of goods and people ends up in gridlock.

The intersection should never have been approved for this location, especially without any new public consultation.

Even if this intersection stays with it's planned location and design then I think there still is no reason to change the speed limit out of town.

This out of town traffic can continue around at 70 kph to the existing 50 speed change 200 m before the Beatson Rd round-about or a few 100 m's closer to the Ridgeway.

Traffic turning right at the lights from the new extension of Princes Dr will have plenty of time and space (approximately 350m) to speed up to 70 kph to merge into the out of town lane on Waimea Rd before the turnoff to Beatson Rd.

Northbound traffic should be at 70 kph from the existing speed change after Beatson Round-about to just the before the Beatson Rd entrance, approximately 380 m's south of the new intersection, so they can be at 50 kph when they come to the new traffic light at Princes Dr. So this requires moving the existing speed change south.

This would work perfectly and not cause the kind of disruption that removing a lane and dropping the speed at the same time would have ...

Using the excuse that it is a "safety issue" is a weak one ... because the section of road has few if any houses or intersections leading off it and there is a brand new cycleway / walkway all along it's length so there is no need for cyclists or walkers to be on this road.

They say in the report that "cyclists and walkers are vulnerable" but there is absolutely no need for either to be on this section of road as we have spent around \$750,000 to give them both a wide shared party down the south side of Bishopdale Hill. To suggest that we should be including a footpath on the road here is a joke as there is nowhere for them to walk to or from as there are almost no properties along this section of road from the Ridgeway to just over the hill.

The existing cycle lane markings northbound up the hill from Ulster St should be removed as they are way less than the legal requirement under the highway code and quite dangerous at any speed. (worse than those around the waterfront!)

If there were a real issue of safely with this 70 kph speed limit here why are NCC leaving a section of 70 kph between the Beatson and Annesbrook roundabouts in both directions?

That does not make sense ?

The reason is simple because having a faster section of road here clears traffic away from both roundabouts faster making traffic flow better and clearer.

Six accidents in a 5 year period does not constitute a safety risk when you have to consider just how many vehicle journeys have been made on this road in that time.

At around 150,000 vehicle movements a week ... that is 7.8 million a year and over 5 years is 39 million trips.

This puts the accident rate at a minuscule 0.000154 per 1000 cars ... so your chance of having an accident on that section of road if left at 70kph is 1 in 6.5 million ... which is pretty good odds of making it without mishap and you got a better chance of winning Lotto! And reducing the speed to 50 will not remove this risk.

Exactly the same logic applies in the section over Bishopdale Hill especially out of town.

Traffic can clear itself faster and because a big % of the southbound traffic turns off down the Ridgeway so there is no issue with the traffic slowing to 50 at some point before the round-about.

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WAIMEA RD Speed Change

If the few houses along this section beyond the Ridgeway intersection are concerned about the speed, you could move this change point forward towards town to be just after the Ridgeway intersection because the road has lost a big 20 to 25% of it's traffic by this point and the change of speed will have little effect in the following distances or the 2 second rule as every 4th car has just left the traffic line.

This INTERSECTION IS IN THE WRONG PLACE

It is our contention that this new intersection was in wrong place from the very beginning They could easily have just taken the extension Princes Dr straight into Beatson Rd to form the other side of the intersection with Scotia St. roughly as drawn here



This would just work as an uncontrolled intersection with give-ways on Scotia and the new extension of Princes Dr.

Drivers coming down from the new development who wanted to go into Nelson would turn left onto Beatson and then left onto Waimea at the existing intersection.

Those wanting to go to Stoke or Richmond would turn right and go down Beatson to the roundabout

Drivers wanting access up to the subdivision could come off Waimea or up Beatson and turn up onto the new road.

I first thought that this would be hard to do due to the hill here but seeing what the boys at GB Quarries have moved around here this would not be an issue ...

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WAIMEA RD Speed Change

The bigger question is how would a new Southern Link get past this road ? (as it would be at the existing Beatson Rd grade)

The trick with taking a new SL through here would be to cut the new road down around 6 ms below the existing cycle trail as it goes over the Bishopdale Hill

Then the SL could go under an overpass built into Princes Dr at a later date, just before Princes Dr joins to Beatson...

The SL would then carry on down next to Beatson and would soon be back up at ground level as Beatson falls away quite fast from this intersection. There is plenty of room here to have both roads running almost parallel to each other ... with the new Princes Dr well above the new SL.

This lower SL would then be in a cut over Bishopdale out of sight and lower so that trucks and traffic use less fuel while driving over it.

There would be some issues for the new road during construction of a SL as there would need to be considerable embankment work but the same would apply for the location they are presently planning when they have to go under the new road and it has to have an overpass built for it later to pass over the SL.

At the same time as the new Southern Link is being build (or before) they should lower Waimea to the level of where Beatson Rd joins Waimea thus making it easier and more efficient to get over the hill

Taking the new road into Beatson would stop the need for an intersection that will seriously interfering with traffic flows on Waimea.

It would also save the developer a lot of money as I understand there is not a lot of change out of a million for a light controlled intersection.

So I suggest it is time to revisit this issue before it is too late and we get an unnecessary intersection that will cause traffic chaos in and out of Nelson.

Yours Tim Bayley

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