

## Proposed District Plan Submission 21/3/24 – SIGNS

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Tēnā koutou katoa

My name is Dr Paul Van Houtte and I am a Wellington resident and medical practitioner currently working in mental health. My submission is as a private citizen and I declare that I have no conflict of interest.

I submit that the Proposed District Plan does not go far enough to limit the use of digital billboards. Stricter regulation is needed due to the following negative impacts:

- Driver distraction and safety concerns
- Disrupted visual amenity values
- Light pollution with impacts on human and wildlife
- Issues with 'smart' technology and surveillance

### Driver distraction

Road traffic accidents are a leading cause of death for youth and young adults (Brome 2021).

There is a strong upwards trend in road fatalities in NZ since the historical low of 308 in 2012 to 375 in 2022, with increases highest among cyclists (+137%) and on urban roads (+82.8%) (ITF 2024).

Driver distraction is implicated in a significant portion of road traffic accidents (Wundersitz 2019).

Numerous studies have confirmed digital billboards contribute to driver distraction – and that is indeed their purpose – through both visual inattention (glancing away from the road), and cognitive distraction (impaired concentration) (Hinton 2022, Brome 2021, Meuleners 2020, Costa 2019). Multiple recent experimental and driving simulator studies clearly demonstrate that digital billboards negatively affect driver performance and increase driver errors (Meuleners 2020, Brome 2021, Mollu 2018, Edquist 2011). They do so more than regular roadside signs (Dukic 2013).

Drivers exposed to digital billboards view them for up to 3 seconds (Dukic 2013). They tend to spend more time at high-risk following distances, and have higher speeds approaching pedestrian crossings (Meuleners 2020, Mollu 2018). Studies have often been done in a '*best case scenario*' avoiding complex driving settings, excluding teens, older, inexperienced or less competent drivers (Stavrinos 2016, Brome 2021, Mollu 2018, Dukic 2013), so real-world impacts are highly likely to be understated.

A direct causal relationship between distraction from digital billboards and road crashes is difficult to prove (Mollu 2018, Hinton 2022, Sheykhfard 2020) in part due to the multifactorial nature of many crashes and the limitations involved in gathering information on distraction at a crash scene (Brome 2021, Gordon 2009). This does not indicate an absence of risk (Hinton 2022).

A recent study showed a 30-40% reduction in injury crashes when roadside billboards were removed, and a 40-50% increase when they were reinstated (Gitelman 2019).

Industry points to inconclusive research as to the rationale for why roadside advertising should be permitted (Hinton 2022). Analysis of industry-commissioned studies suggests no impact on safety, but several are not available for scrutiny or show substantial methodological flaws (Hinton 2022).

Image transitions on digital billboards activate an automatic visual reflex influencing drivers to look at the sign and away from the road (Dukic 2012). Reflexive responses cannot be disengaged and at best the negative effects can be minimized by intentional inhibition (Dukic 2012, Trick 2009). Their brightness at night makes them stand out above all else. With reference to Appendix 1 - there are major safety issues with this sign, and many other digital billboards already placed in Wellington in close proximity to traffic lights, pedestrian crossings and intersections. They make you look, and clearly constitute a road hazard.

### **Visual amenity values**

Digital billboards significantly disrupt visual amenity values, and we are experiencing a rapid takeover of Wellington's visual sphere, similar to what has been described as an '*infestation*' in Auckland (Scott, 2022). This is also a developing research space, but digital out of home (DOOH) billboards are becoming increasingly recognised as visual pollution affecting visual pollution indices (Wakil, 2021), and may be detrimental to public appreciation of urban environments through visual discomfort (Adam, 2022). They also detract from areas of architectural interest – see photo Appendix 2. Due to their adverse effects it has been recommended that they be treated as a component of urban quality of life indicators (Talaat, 2023).

### **Light pollution**

Digital billboards increase light pollution, and have a significant impact on the natural and built environment, often producing glare, light trespass, skyglow, and substantially changing the nightscape (International Dark Sky Association 2019). They can affect residents inside their homes as well as in public, and neither support visual wellbeing nor the circadian rhythms of humans (Zielinska-Dabkowska, 2019) – see photo Appendix 3. They also likely disrupt wildlife. An Auckland study of artificial light at night showed a correlation with between artificial light levels and seabird groundings (Heswall, 2022), with the CBD a grounding hotspot. Wellington is known as an Important Bird Area - a site of global significance for seabirds on land (Forest and Bird 2014), and the city supports a number of other nocturnal species.

### **'Smart' technology**

There are numerous further issues with the advent of digital billboards and digital out of home (DOOH) using 'smart' technology. According to the industry document '*Programmatic Digital Out of Home Explained*' (IAB, 2021) many digital billboards in New Zealand already use vehicle and facial detection cameras, cellphone location data and financial transaction data of passers-by. Furthermore, '*audience specific targeting i.e. age, gender, location behaviour...developments are in the pipeline*' (IAB, 2021).

The widespread use of profiling technologies by corporations for analysis and prediction of group or individual behaviour is known as surveillance capitalism (Zuboff, 2015). This has the capacity for psychological manipulation (Yeung, 2018).

Although targeted advertising is already widespread on our phones and computers, digital billboards and DOOH panels introduce surveillance capitalism into the public domain where people do not have the choice to disconnect, put it down or avoid exposure - they make you look.

## Conclusion

Digital billboards have a number of significant adverse impacts, including on road safety, loss of visual amenity values, light pollution, as well as numerous issues from surveillance technology.

I propose that there are also unknown psychological impacts from these combined effects, which urgently need further research. Due to their high level of intrusiveness an ethical case could be made that they contravene the New Zealand Bill of Rights protecting freedom of thought.

It is not right that we should be exposed to this intensity of marketing in public.

This is an evolving field with rapid spread and technological advancement. Its complexity makes regulation difficult with opportunities for exploiting loopholes - see photo Appendix 4. Harm minimisation efforts are paradoxical given the intended purpose of digital billboards is to draw attention more effectively - they make you look.

The Proposed District Plan may be the only opportunity to curtail the spread of digital billboards before they become too entrenched and difficult to remove.

Digital billboards are materially different to other signs and must be regulated as such.

Therefore, I urge you to recommend digital billboards be designated as 'generally not permitted' or at the very least 'not permitted to be visible from any road'. This would in no way limit advertisers' freedom of speech – they would still be free to advertise using less invasive and distracting means.

If we want people to be well in Wellington, then it needs to be a safe and pleasant place to live. Advisors and counsellors are entrusted with this task and I have faith in you to make the right decision.

Many thanks for your time.

Yours sincerely,

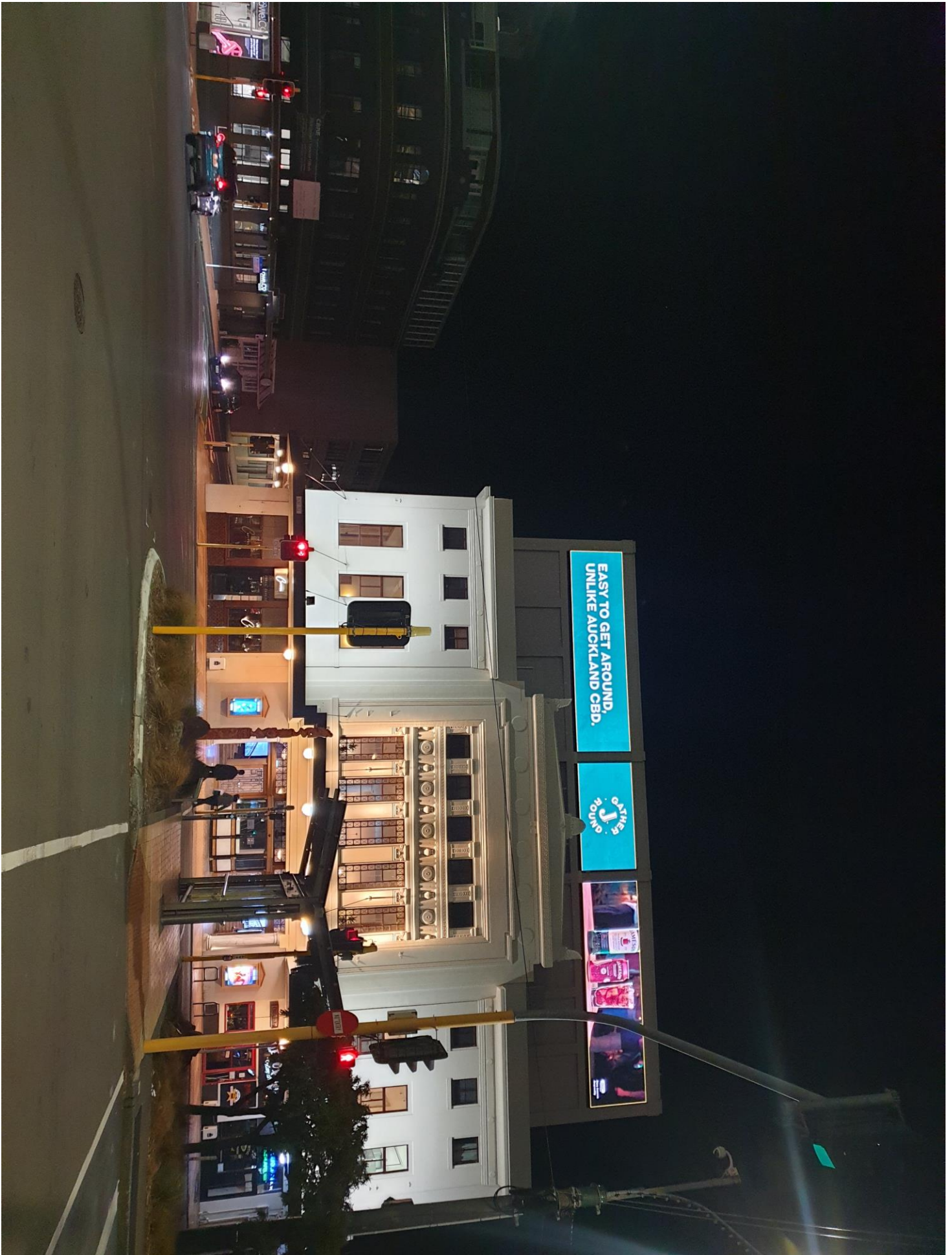
Dr Paul Van Houtte.

Appendix One. Adelaide Road, Wellington - note oncoming cyclist



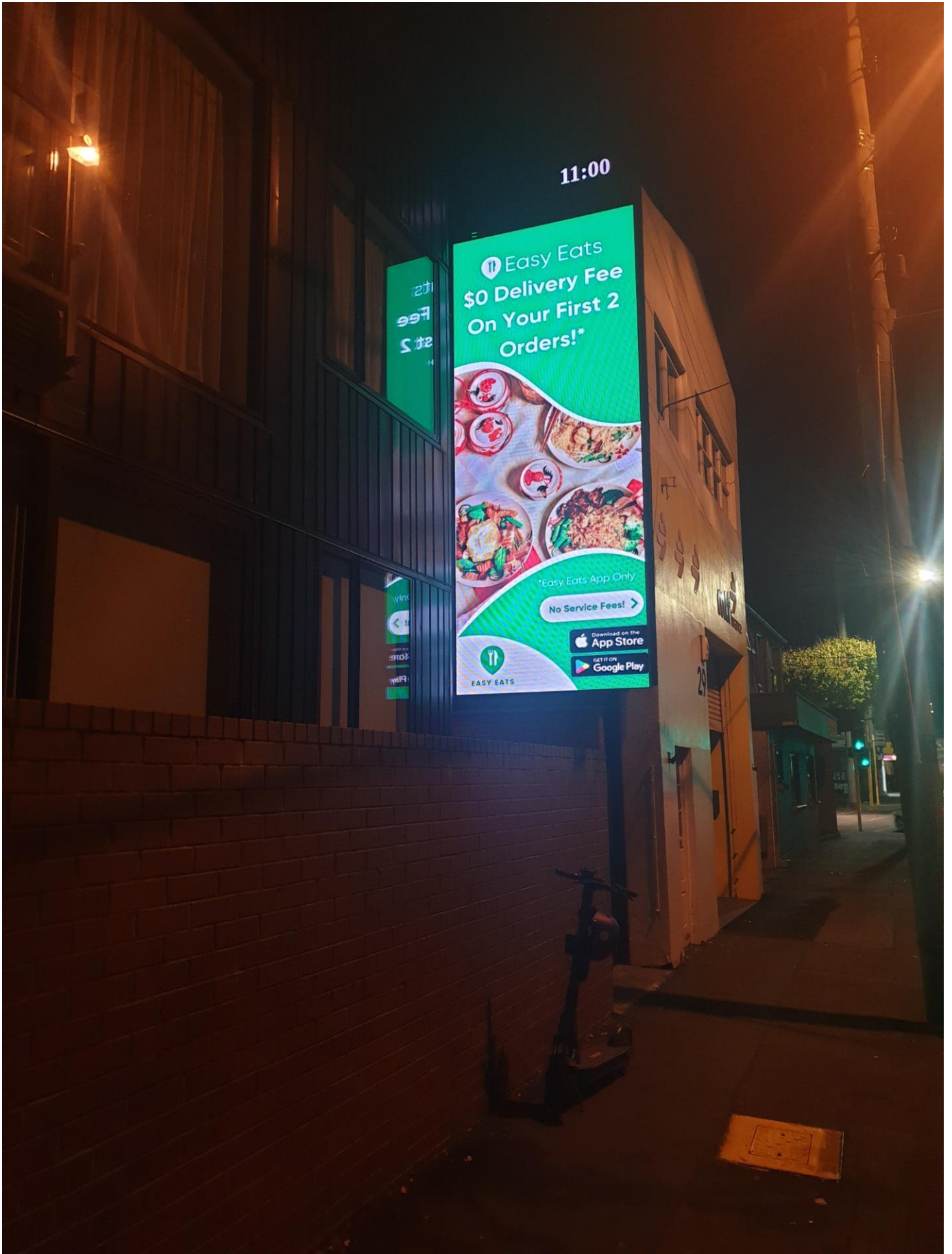


Appendix 2. Embassy Theatre, Wellington



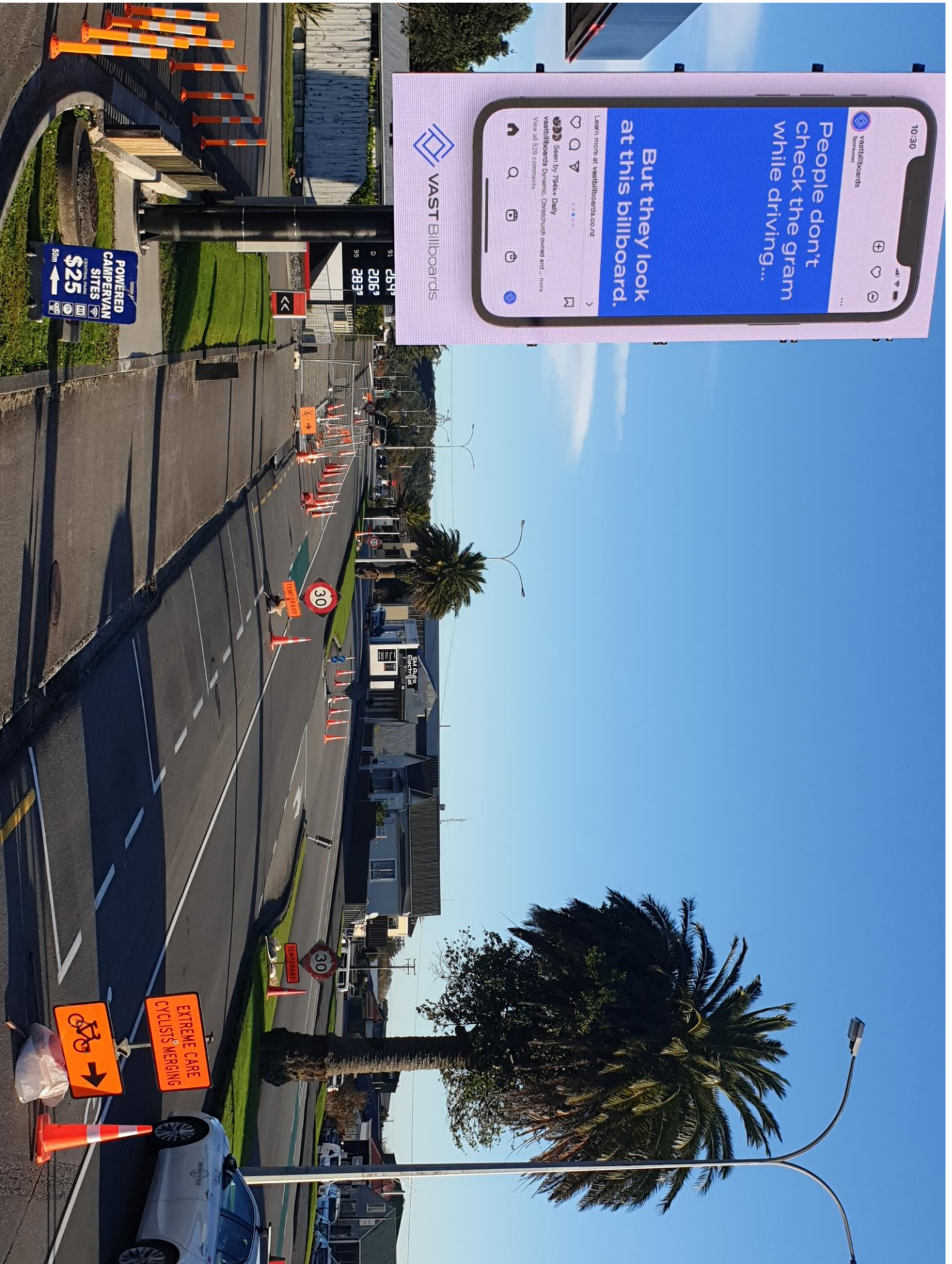


Appendix 3. Rugby St, Wellington





Appendix 4. Tainui St, Greymouth – note road modification hazard



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