

BEFORE THE INDEPENDENT HEARINGS PANEL

Lay Statement and Evidence

In the matter of:

The Proposed Christchurch
Replacement District Plan –
Proposal 14 - Residential

Submitter:

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1. The parts of the proposal Generation Zero #1149 submission relates to are as follows:

Chapter 14 Residential:

14.1.5.4 Policy – Best practice for health, building sustainability, energy and water efficiency

14.1.6.1 Policy – Comprehensive development

14.1.6.2 Policy – Higher density housing location

14.1.6.4 Policy – Neighbourhood Centres scale and location

14.1.6.5 Policy – Parks and open space networks

14.2.3.11 Life-stage inclusive and adaptive design for new residential units

14.3.3.10 Life-stage inclusive and adaptive design for new residential units

14.4.3.7 Life-stage inclusive and adaptive design for new residential units

14.5.3.6 Life-stage inclusive and adaptive design for new residential units

14.6.3.17 Life-stage inclusive and adaptive design for new residential units

14.7.4.13 Life-stage inclusive and adaptive design for new residential units

14.8.3.16 Life-stage inclusive and adaptive design for new residential units

14.9.21 Life-stage, adaptive design and energy and water efficiency

14.2.3.12 Energy and water efficient standards for new residential units

14.3.3.11 Energy and water efficient standards for new residential units

14.4.3.8 Energy and water efficient standards for new residential units

14.5.3.7 Energy and water efficient standards for new residential units

14.6.3.18 Energy and water efficient standards for new residential units

14.7.4.14 Energy and water efficient standards for new residential units

14.8.3.17 Energy and water efficient standards for new residential units

2. The particular changes that Generation Zero are seeking are as follows:

14.1.6.1 Policy – Comprehensive development

(a)(vi) “provides good access to facilities and services by a range of transport modes through the provision of integrated movement networks of roads and especially public transport, cycle and pedestrian routes”

14.1.6.2 Policy – Higher density housing location

“Ensure that ~~some~~ substantial higher density housing is located to support, and have ready access to, commercial centres and public transport, and to provide opportunities for walking and cycling, and ready access to open space”

3. Executive Summary of Submission

Generation Zero is a national organisation launched in June 2011 with over 10,000 supporters, mostly between the ages of 18 and 30. Our vision is for a thriving, zero-carbon Aotearoa before 2050. We believe that it is essential to design our city such that it aids in reducing fossil-fuel usage, provides multiple effective transport options, and maximises the longevity of residential housing and infrastructure.

Generation Zero first wishes to express support for policies 14.1.5.4, 14.1.6.4, 14.1.6.5 and 14.9.21, as well as the policies shown in 14.2.3.11 and 14.2.3.12, which are echoed throughout the Residential part.

Concerning policies 14.1.5.4, 14.9.21, 14.2.3.11 and 14.2.3.12: Generation Zero considers it eminently sensible to include a rating system for buildings which includes water and energy efficiency, as well as to provide houses which will have greater longevity and adaptability to their occupants’ needs. A rating system will give power to consumers, especially those entering the market, and will encourage compliance by those property owners or developers who could otherwise provide substandard housing. This scheme also has the ability to support the growth of sustainable, low carbon housing, which is the direction the housing market must inevitably take if we are to reduce carbon emissions. Lastly, and perhaps most importantly, providing warmer, cheaper and healthier housing will increase the wellbeing of the citizens of Christchurch – something

which should remain at the forefront of our minds as we address this District Plan Review.^{1 2 3}

Concerning policy 14.1.6.4: Firstly, provision of nearby facilities to meet the day-to-day needs of local residents will reduce and shorten private vehicle trips. This has the effect of lowering carbon emissions significantly for those residents, as well as making travel cheaper for them. Furthermore, Neighbourhood Centres will assist in fostering a sense of community and making day-to-day living easier and more enjoyable for residents.

Concerning policy 14.1.6.5: Public parks and open space areas are essential features of any vibrant, active community. Having access to these spaces is shown to have positive effects on neighbourhood satisfaction, stress and obesity.^{4 5 6 7} Additionally, green spaces within the city are known to reduce the urban heat island effect, which is an important factor in terms of adapting to climate change and in terms of citizens' wellbeing.^{8 9}

As to the changes that Generation Zero seeks to the District Plan, both are small but important changes to policies which we otherwise support.

Starting with policy 14.1.6.1, we appreciate that public transport, cycle and pedestrian routes are being included in future regulations for the city. However, it needs to be acknowledged that these things cannot take a backseat to new roads and other private transportation infrastructure. In fact, Generation Zero strongly argues that they should be prioritised above private transportation infrastructure, which is reflected in the wording changes we suggest. High quality public transportation, cycleways and pedestrian access are essential in reducing our contribution to climate change.^{10 11 12} Transportation emissions are

¹ Marmot and Bell "Fair society, healthy lives" (2012) 126(1) Public Health 4, p7

² Jacobs et al "The Relationship of Housing and Population Health: A 30-Year Retrospective Analysis" (2009) 117(4) Environmental Health Perspectives 597

³ Shaw "Housing and Public Health" (2004) 25 Annu. Rev. Public Health 397

⁴ Alcock et al "Longitudinal Effects on Mental Health of Moving to Greener and Less Green Urban Areas" (2014) 48 Environ. Sci. Technol. 1247

⁵ Grahn and Stigsdotter "Landscape planning and stress" (2003) 2 Urban For. Urban Green. 1

⁶ Thompson et al "More green space is linked to less stress in deprived communities: Evidence from salivary cortisol patterns" (2012) 105 Landscape and Urban Planning 221

⁷ Bjork et al "Recreational values of the natural environment in relation to neighbourhood satisfaction, physical activity, obesity and wellbeing" (2008) 62(4) J Epidemiol Community Health

⁸ Wong and Yu "Study of green areas and urban heat island in a tropical city" (2005) 29 Habitat International 547

⁹ Oliveira, Andrade and Vaz "The cooling effect of green spaces as a contribution to the mitigation of urban heat: A case study in Lisbon" (2011) 46 Building and Environment 2186

¹⁰ Chapman "Transport and climate change: a review" (2007) 15 Journal of Transport Geography 354

among one of the largest contributors to carbon emissions in New Zealand and worldwide, and so it stands to reason that we should reduce these emissions as much as possible, especially by tried and true methods such as public transport and cycleways.¹³ Currently policy 14.1.6.1 allows for a bare minimum of public transport, cycling and pedestrian infrastructure to be installed while still meeting its requirements. We would like to see regulatory acknowledgement of the required shift in focus from private transport to public transport, cycling and walking.

Looking at policy 14.1.6.2, the change that we suggest is in a similar vein to 14.1.6.1. We support the requirements for higher density housing to be located near key centres of activity. However, we suggest that a greater shift from low-medium density housing to high density housing is required in the interests of reducing urban sprawl, mitigating climate change and creating a more liveable city.^{14 15} In addition to that, higher density suburbs makes the implementation of public transportation and cycle ways more cost efficient by servicing more people using the same space. Our suggestion to change the wording is once again to see regulatory acknowledgement of the shifting focus of modern and future-proof cities.

Through the rebuild Christchurch has a unique opportunity to create a smart, sustainable and liveable city. There is a wealth of evidence on how that might be done that didn't exist even 50 years ago, and Generation Zero would like to see that evidence utilised to the fullest extent. What this means in application is a city which provides good quality public transportation, cycle ways and pedestrian access; good quality housing with increasing pockets of high density housing; and plenty of green spaces for citizens to make use of and enjoy.

¹¹ C3 Collaborating for Health "The benefits of regular walking for health, well-being and the environment" (2012), p18

¹² Woodcock et al "Public health benefits of strategies to reduce greenhouse-gas emissions: urban land transport" (2009) 374 Lancet 1930

¹³ MBIE "New Zealand Energy Greenhouse Gas Emissions Report" (2013)

¹⁴ Ewing et al "Urban development and climate change" (2008) 1(3) Journal of Urbanism 201

¹⁵ Marshall "Reducing urban sprawl could play an important role in addressing climate change" (2008) 42(9) Environmental Science & Technology 3133

4. Evidence in Support of Submission

i. On the health benefits of active transport (cycling and walking):

C3 Collaborating for Health “The benefits of regular walking for health, well-being and the environment” (2012)

Hartog, Boogaard, Nijland and Hoek “Do the Health Benefits of Cycling Outweigh the Risks?” (2010) 118(8) *Environmental Health Perspectives* 1109

Oja et al “Health benefits of cycling: a systematic review” (2011) *Scand J Med Sci Sports*

Pucher and Dijkstra “Promoting Safe Walking and Cycling to Improve Public Health: Lessons from The Netherlands and Germany” (2003) 93(9) *American Journal of Public Health* 1509

ii. On the benefits of urban green spaces:

Alcock et al “Longitudinal Effects on Mental Health of Moving to Greener and Less Green Urban Areas” (2014) 48 *Environ. Sci. Technol.* 1247

Bjork et al “Recreational values of the natural environment in relation to neighbourhood satisfaction, physical activity, obesity and wellbeing” (2008) 62(4) *J Epidemiol Community Health*

Grahn and Stigsdotter “Landscape planning and stress” (2003) 2 *Urban For. Urban Green.* 1

Thompson et al “More green space is linked to less stress in deprived communities: Evidence from salivary cortisol patterns” (2012) 105 *Landscape and Urban Planning* 221

iii. On the relationship between housing and health:

Jacobs et al “The Relationship of Housing and Population Health: A 30-Year Retrospective Analysis” (2009) 117(4) *Environmental Health Perspectives* 597

Marmot and Bell “Fair society, healthy lives” (2012) 126(1) *Public Health* 4

Shaw “Housing and Public Health” (2004) 25 *Annu. Rev. Public Health* 397

iv. On the relationship between urban sprawl and climate change:

Bart “Urban Sprawl and climate change: A statistical exploration of cause and effect, with policy options for the EU” (2010) 27 *Land Use Policy* 283

Ewing et al “Urban development and climate change” (2008) 1(3) *Journal of Urbanism* 201

Marshall “Reducing urban sprawl could play an important role in addressing climate change” (2008) 42(9) *Environmental Science & Technology* 3133

Stone, Hess and Frumkin “Urban Form and Extreme Heat Events: Are Sprawling Cities More Vulnerable to Climate Change Than Compact Cities?” (2010) 118 *Environmental Health Perspectives* 1425

v. On the urban heat island effect:

Oliveira, Andrade and Vaz “The cooling effect of green spaces as a contribution to the mitigation of urban heat: A case study in Lisbon” (2011) 46 *Building and Environment* 2186

Wong and Yu “Study of green areas and urban heat island in a tropical city” (2005) 29 *Habitat International* 547

vi. On transportation, health and climate change:

Chapman “Transport and climate change: a review” (2007) 15 *Journal of Transport Geography* 354

Dora “A different route to health: implications of transport policies” (1999) 318 *BMJ* 1686

Rissel, Curac, Greenaway and Bauman “Physical Activity Associated with Public Transport Use – A Review and Modelling of Potential Benefits” (2012) 9 *Int. J. Environ. Res. Public Health* 2454

Woodcock et al “Public health benefits of strategies to reduce greenhouse-gas emissions: urban land transport” (2009) 374 *Lancet* 1930

vii. Other topics:

MBIE “New Zealand Energy Greenhouse Gas Emissions Report” (2013)