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To: Wellington City Council

As attached to on-line submission

Submission by the NZ Centre for Sustainable Cities on Our City Tomorrow: Wellington's Draft Spatial Plan

Paul Blaschke[1], Ralph Chapman[2], Ben Schrader[3], Caroline Shaw[4], Ed Randal[4], Philippa Howden-Chapman[5], Ian Shearer[6], for the New Zealand Centre for Sustainable Cities

Summary of Main Points

- We agree in general with the proposed Wellington Draft Spatial Plan (DSP), and underline the importance of measures proposed to **intensify** the city, enabling people to live well while rapidly reducing levels of carbon emissions, from transport in particular. **Alignment with Te Atakura (First to Zero) is critical**. Urban form and design should support sustainable travel modes – namely public transport, active travel (walking, cycling, scooting, etc.) and zero-carbon modes such as electric car sharing.
- As intensification takes place in appropriate parts of the city, it will be necessary to ensure **"densification done well",** especially retaining and protecting high quality **heritage and character** buildings and housing, and adequate green **and public space**. We see 'transitioning' the city over coming decades towards greater intensity as a planned process of enabling replacement and upgrade of the building and housing stock along the main arterials and at key transport and activity nodes. The council will need to take responsibility for acquiring and upgrading green and public space, especially where intensification is occurring, financed largely through adequate development contributions and, we suggest, use of levies on value uplift.
- **Housing affordability** is an important goal as development proceeds in Wellington. We envisage Wellington retaining its attractiveness as a place to live and work, and -- although there is considerable uncertainty about this -- believe we have to plan for

[1] Blaschke and Rutherford Consultants, and NZ Centre for Sustainable Cities
[2] Assoc Professor, SGEES, Victoria University of Wellington, and NZ Centre for Sustainable Cities.
[3] Independent historian, and NZ Centre for Sustainable Cities
[4] University of Otago, Dept of Public Health, and NZ Centre for Sustainable Cities
[5] Professor, University of Otago, Dept of Public Health, and NZ Centre for Sustainable Cities
[6] Front-End Solar Technologies Ltd, Wellington, and NZ Centre for Sustainable Cities

the possibility of population growth at the middle to upper end of the range set out in WCC's planning documents[7].

- We believe the plan should be relatively **permissive**, allowing varied, creative building and housing designs **within the constraints** of meeting the above goals. For example, we do **not** support a requirement for new buildings to be '**at least** six storeys' in the central city, and we believe this is not a statutory requirement of the NPS-UD.

About the New Zealand Centre for Sustainable Cities

The New Zealand Centre for Sustainable Cities is an interdisciplinary research centre dedicated to providing the research base for innovative solutions to the economic, social, environmental and cultural challenges facing our urban centres. We undertake a range of research, published as books (Early et al. 2015; Howden-Chapman et al., 2017), journal articles, policy papers, working papers, and blogs, as well as making submissions from time to time to central government and councils on a range of issues relevant to cities, from climate change policy to compact urban development. See http://sustainablecities.org.nz/ and http://resilienturbanfutures.org.nz/ [8]

High level principles relevant to the Draft Wellington Spatial Plan

- Underlining consistency with the zero carbon goal
- Retaining the compact, walkable city vision
- Support for intensification done well and improving housing affordability
- Protecting heritage, character and green space
- Alignment with other relevant local, regional and national policies and programmes

These principles are examined in turn with discussion and examples. The last principle of alignment with other relevant policies and programmes is mentioned throughout other sections.

Consistency with zero carbon emissions goal

A 'sustainable' or 'zero carbon' city is in our view the single most important additional feature of the city we would like to see included in the vision informing the WDSP. The current vision ('ensuring a green, vibrant and prosperous, inclusive and connected, compact and resilient Wellington city') does not explicitly include this, and could be amended either to include the word 'sustainable' or include the words 'zero carbon [city]'. However, as we assume it may not be possible to amend the five goals at this stage, we believe it is vital to

[7] We are aware of the latest update (25 September) to the population projections. Covid-19 effects on migration and CBD/suburban/home working patterns adds significant uncertainties to all demographic projections, especially intro-urban ones.

[8] *Disclosure:* most writers of this submission are resident in Wellington City and many have specific personal views especially relating to their own suburb (some having written personal submissions), but this submission is the consensus of all writers on behalf of the NZ Centre for Sustainable Cities.

explicitly state that the Spatial Plan will be fully consistent with the Council's Te Atakura (First to Zero) strategy.

We believe the WDSP plan broadly can be consistent with a vision of Wellington city moving progressively to net zero carbon emissions by 2050, via 50% (approximately) % reductions within a decade (2030), in line with the strong recommendations of the IPCC, and consistent with WCC's Te Atakura strategy.[9]

The importance of placing emissions reduction at the centre of WDSP thinking rests on both ethical and political arguments. The reality as we see it is that if Wellington and New Zealand in general do not adhere to the IPCC's recommended trajectory, then New Zealand will neither have the ethical nor the practical political leverage to influence other regions and countries to reduce emissions rapidly enough to avoid disastrous climate change. If the international community were to continue on its current trajectory, there is a high likelihood of catastrophic warming and other manifestations of climate change within coming decades, with potentially more than a billion lives lost and/or forced to migration migrate by 2070 (Xu, Kohler, Lenton, Svenning, & Scheffer, 2020). Such a world would be beset by conflict and devastating for future generations. Wellington must do everything possible to avoid this scenario, by demonstrating that it is possible to reduce emissions to zero by 2050.

Urban density and transport

The proposals contained in the Draft Plan are a necessary component to achieving a healthy low carbon transport system. Urban density, along with mixed land use, is one of the most powerful determinants of sustainable urban access and mobility, and economic productivity. Increasing population density, mixed land use and transport connections reduce emissions, improve health and increase liveability (Ewing & Hamidi, 2015; Stevenson et al., 2016). To achieve the transport emission reductions necessary to deliver on Te Atakura, as well as the 2020 NPS on urban development, Wellington must increase urban density. We suggest that the proposed changes around density should be clearly framed and explained more explicitly in terms of carbon emission mitigation. Council could even provide some indicative estimates around the reduction in emissions that will be achieved by the increase in density planned, to strengthen the case for change.

Failure to achieve an increase in density would result in a narrower suite of options available to reduce emissions in the transport sector. A denser city will allow transport emission reductions through increased use of public transport, cycling (electric and regular) and walking as well as fleet conversion to electric cars. A less dense city would require emission reductions to be almost exclusively delivered through fleet conversion to electric cars. This latter option would result in an exacerbation of congestion, community severance, poor health, high infrastructure costs, inequity and low liveability. This is because evidence is now showing that due to the low cost of running, owners of electric cars increase their trips numbers and drive longer distances, in some cases quite substantially (Daramy-Williams,

Anable, & Grant-Muller, 2019; Haustein & Jensen, 2018; Kester, 2018). Moreover, some of the policies required to promote fleet conversion to electric cars (such as free parking and charging points) unsurprisingly encourage extra use of the vehicles once purchased. These drivers of induced private vehicle travel would result in Councils requiring to put substantial travel demand management policies in place (e.g, congestion charging, parking restrictions etc) to deal with the extra trips and longer distance travelled.

It is essential that rapid-transit routes are chosen and promulgated, including timetables, *before* residential intensification developments are allowed.

Promoting urban density achieves multiple goals -- including keeping open a wider range of options to deliver transport carbon emission reductions

Reducing carbon emissions means not only transport emissions but progress to reduce emissions associated with the construction, demolition and (future) operation of buildings. This is relevant to the spatial plan, although other action is also needed to deliver it. There needs to be careful analysis by the Council, working with MBIE (MBIE, 2020), of ways in which the city can ensure that only zero- or very low-emissions buildings are constructed. Moreover, avoiding construction emissions is consistent with heritage and character buildings and housing being preserved. This does not of course mean preserving ***all*** buildings, especially where single storey buildings stand in the way of multi-storey buildings that would provide much needed housing intensification (see below).

Another aspect of climate change needs to be taken into account in the DSP: it will be necessary to design for resilience in the face of climate change, as the Council has accepted. All buildings in low-lying areas such as within a few blocks of the harbour will need to be designed to cope with sea level rise of at least a metre, and conservatively, two metres, with corresponding foundation work and storm water arrangements.[10]

Retaining the compact, walkable city vision

Wellington city's compact character is what makes it the most walkable and lively inner city in New Zealand. It must be retained. We believe this is compatible with the approximately 8000 additional dwellings expected in the central city, but this extra provision needs to be 'done well' and not distributed randomly and with little attention to sensitive areas, such as close to the harbour.

In addition, given the desirability of a diversity of heritage and character buildings in parts of the central city, we believe it would be a mistake to require all buildings to be 6 storeys or more in this area. This does not appear to be required under the National Policy State-Urban Development (NPS-UD). Policy 3 of the NPS-UD requires that local government policies and plans **must not prevent** buildings of at least 6 storeys being built. But it is clearly a discretionary policy in terms of **minimum** height limits. Furthermore Policy 3 as written more easily enables an integrated approach to Outcome 1 of the NPS-UD: "New Zealand has well-functioning urban environments that enable all people and communities to provide for

[10] In the longer term, i.e. beyond 2100, this area could well be exposed to several metres of sea level rise.

their social, economic, and cultural wellbeing, and for their health and safety, now and into the future."

In many cases, new buildings of three to five storeys could be permitted in some places without compromising intensification goals, although market pressures will of course tend to push developers to greater height levels. Moreover, we do not see it as desirable to increase maximum building heights to above 10 storeys in the blocks in the close vicinity of the harbour. This could create the effect of an extended wall of tall buildings close to the harbour, cutting off views from many areas and buildings further back, and reducing the amenity at the harbour edge. There is already scope within the central city for considerable intensification, without going above 10 storeys.

Support for 'Densification Done Well'

As outlined above, intensification (densification) is vital for two main reasons – to ensure housing affordability, and to enable transport and home-heating emissions to be reduced (Lee & Lee, 2020; Norman, MacLean, & Kennedy, 2006). For these reasons, we are highly supportive of the general thrust of the intensification goal.

However, in some inner suburban areas, such as Newtown, we believe the Council's draft plan may be too sweeping and too blunt. We are in agreement with the Council on the following aims:

- Removal of the requirement for on-site car parking
- Concentrating future development around existing bus routes and the future mass rapid transit route and town centres, provided this is staged over the full period of *Planning for Growth*[11] so that initial development is concentrated on smaller narrower zones.
- Increased height limits to allow development of at least six storeys along key transport routes to support growth in areas linked to the Let's Get Wellington Moving programme.' (WCC 2020, Our City Tomorrow)

However, this does not justify more widespread and unselective intensification across all areas mentioned. Going up to six storeys or more may be too much, and unnecessary to cater for planned growth and densification goals, in parts of some inner and outer suburbs.

If areas within walking distance of the central city are to be intensified (as they should be), then there should be a greater degree of consistency in provisions for this. The WDPS requires intensification in some areas, including some outer suburban areas, while requiring lower height limits in areas within easy walking distance of the CBD (eg Mt Victoria and Kelburn. Kelburn is insufficiently justified as an outer suburb and appears to be particularly 'under-utilised', with only a tiny pocket of up to 6-storey zoning, and a 4-storey maximum in streets less than a kilometre from Lambton Quay, despite no identified need for character

[11] We understand that even after its current revision, the District Plan will be revised again during the 2025-45 period during which the WDSP.

protections. (In contrast, Johnsonville, has streets with "at least 6 stories" enabled well over a kilometre from its railway station). Central Hataitai also appears to be under-densified, given its easy proximity to the Golden Mile and its possible location on planned future transit routes (a second tunnel, for example).

To take Newtown as an example, we note that WCC now project between 500 and 750 more dwellings required in Newtown[12], so the pressure to go up may not be quite as intense as the 2000 homes figure earlier indicated. Realistically, there does seem to be a move towards urban centre living, and a likely immigration demand over the next 30 years, especially as climate change-driven migration ramps up. But taking these various factors together, a rapid and blunt intensification in such inner suburban areas may not be necessary. There seems to be adequate scope for densification largely ***around arterials and nodes*** and within close proximity of these arterials and nodes (initially one lot or one block wide)**.** 'Pepper potting' a considerable number of high density (type 4b) apartments elsewhere in these suburbs may not only tend to damage suburban character, and cause widespread loss of sun, it may be unnecessary.

A further critical general point with regard to all aspects of "Densification Done Well" is the very high dependence of the WDSP on **design and other guidelines** to guide the implementation and assessment of all developments to high standards. This will be necessary to ensure the political durability of the final Spatial Plan as well as the outcomes required for expression of the high-level principles. These guidelines as well as other aspects of the WDSP will also help to ensure the necessary integration of the WDSP with other WCC and regional planning documents, e.g. Wellington Growth Strategy, Let's Get Wellington Moving, Liveable Streets, Green Network Plan.

Housing affordability

Housing affordability is a very important issue, but there are limited tools available to local government to improve affordability through the spatial plan. Essentially, leaving aside subsidies, which are better left to central government, we see two major tools available to the Council to address affordability through the Spatial Plan – improving the supply of housing, and inclusionary zoning. Neither aspect should come at the cost of high quality of design and other guidelines mentioned above.

Increased supply is likely to follow from intensification, but it may take some years for effects to be felt in prices, and this will depend on whether supply growth is outstripped by growth in demand. Demand shifts are outside the control of district councils. Moreover, reducing *excess* demand by increasing supply will work only if supply is provided in the lower-middle part of the market, where affordability is most severe (leaving aside the public housing part of the market).

[12] https://planningforgrowth.wellington.govt.nz/__data/assets/pdf_file/0022/14953/PFG-Draft-Spatial-Plan-Growth-Figures-25-September.pdf

This is where inclusionary zoning can play a role, and is widely used in overseas jurisdictions (e.g. de Kam et al, 2014)[13] . We would support its use but it might drive away some developers who may prefer to operate in a market without any constraint such as having to provide 10% affordable units within their developments. The Council would need to be prepared to argue that its value in addressing affordability by providing more housing for lower income buyers is worth a degree of negativity created by the regulation involved. An important argument here is that without inclusionary zoning, lower income households are often driven out of the central city or inner suburbs, and this makes it more difficult for workers to access jobs in the (inner) city, impeding to some degree the labour market, lowering productivity, and reducing social integration. Such effects have been seen in parts of New Zealand such as Queenstown in recent years.

We conclude that inclusionary zoning warrants further discussion, but in the meantime increased housing supply via greater intensification will make a significant contribution to housing affordability.

Heritage Protection

The NZCSC supports the erection of new medium density housing and particularly affordable housing in the inner city and suburbs, but this should not be at the unnecessary expense of heritage and older housing that could be readily preserved with careful management and good urban design practices.

We believe that retaining older buildings is essential to making urban environments more sustainable. International research has identified that nearly 40 percent of all greenhouse gases are produced in the construction, demolition and operations of buildings. Most new buildings erected in the present are built for a 50-year lifespan, meaning they will not survive long enough to repay the amount they cost in carbon to construct (Page, 2016; Hartenberger, 2011).

Conversely, preserving older buildings contributes to climate change solutions by storing energy (often called embodied energy) and becoming carbon reservoirs.[14] Demolishing buildings intensifies landfill pressures and increases demand for finite raw materials to create new building products. As the American architect and sustainability expert Carl Elefante famously put it: 'We cannot build our way to sustainability; we must conserve our way to it.'[15]

CSC acknowledges that retaining every building in the existing character areas is not practicable if intensification is to occur in sustainable ways and that there is a difficult balancing act between preserving heritage and providing affordable, fit-for-purpose housing

[13] We note that the Netherlands is also now encountering greater affordability issues, see https://www.pbl.nl/sites/default/files/downloads/PBL2018_Policy-and-practice-affordable-housing-in-the-Netherlands_3336_0.pdf]

[14] Erica Avrami, 'Making Historic Preservation Sustainable', *Journal of the American Planning Association*, 82:2, (2016) p, 105; Richard Wagner, 'Finding a Seat at the Table: Preservation and Sustainability', in Richard Longstreth, ed, *Sustainability and Historic Preservation: Towards a Holistic View*, Newark: University of Delaware, 2011, pp. 10-11.

[15] Carl Elefante, 'The Greenest Building is …One that is Already Built', *Forum Journal*, 21:4,(2007) p. 26

close to the city to reduce transport carbon emissions. We also want to ensure that every effort is made to avoid unnecessary demolition or wasting of building resources. The sub-character areas identified in the DSP should therefore be extended to realise both aims.

We believe the best way forward is for future growth to be carefully managed and staged. Intensification should begin in semi-industrial brownfield sites along existing and forecast public transport spines and then move back from there. This would ensure that that the impact of redevelopment on the existing character areas is better controlled and less invasive than if unrestricted growth was permitted from the start.

CSC recognises that building "sustainable communities" is broader than preventing flooding and putting up green buildings. It also has a social imperative. Built heritage contributes to sustainability by identifying the places that matter to all of us. It is not confined to Victorian suburban heritage as has been claimed. The myriad stories people have told about these places – from the earliest arrivals to mana whenua to colonial settlers and later immigrants, – help root us all in our communities and contribute to our social identities.[16] They nourish and sustain us.

We are not aware of a comparable city with Wellington that has deregulated height limits to allow the high level of intensification in character and heritage areas that is proposed in the DSP. Rather than opening intensification to large swathes of historic areas, the usual response is to restrict rebuilding to certain zones, whether this be along arterial transport routes or in places of lower heritage value. For example, Melbourne's old inner-city suburbs have faced similar pressure for intensification that Wellington has faced. In an attempt to increase density Melbourne City Council too revised its spatial plan in the mid-2010s to encourage growth while also maintaining good heritage protections.[17] The carefully managed spatial plan for suburban Carlton allows for multi-storey housing of up to eight stories in particular areas (Residential Growth Zone) while maintaining heritage protections for much of the rest of the suburb (General Residential Zone). This approach has enabled the area to accommodate hundreds of new dwellings without sacrificing the heritage attributes that have long defined the suburb. Wellington could learn much from this approach.[18]

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[16] Page, *Preservation*, p 127.

[17] City of Melbourne, *New Residential Zones: Analysis and Implementation Report*, Issue 1, Melbourne, (2014), pp. 1-14 and 16-21. https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.com-participate.files/2314/1290/8087/Background__Methodology_and_Recommendations_.PDF and https://s3.ap-southeast-2.amazonaws.com/hdp.au.prod.app.com-participate.files/2314/1290/8087/Background__Methodology_and_Recommendations_.PDF (accessed 5 Oct 2020).

[18] This link explains Melbourne's heritage overlay mechanism, similar to Wellington's existing character areas: https://www.yarracity.vic.gov.au/the-area/heritage/heritage-overlays-and-gradings. These links show the type of housing being built in Carlton's Residential Growth Zones: https://citta.com.au/portfolio/elgin-street-carlton/ and http://jacksonarchitecture.com.au/portfolio_page/living-carlton-housing-redevelopment/ (accessed 5 Oct 2020).

Green, blue and open spaces

Our work on green space in the city suggests a strong need to increase provision of smaller parks, green paths, and street trees to balance the intensification occurring in the central city, especially in the Te Aro census area unit.

There are important benefits of green and blue spaces for health and wellbeing and for amenity of residents, commuters and visitors (Blaschke et al 2019, Bertram et al, 2020). There is also emerging evidence, including from Wellington, for positive effect of access to nature on the pro-environmental behaviour of residents (Whitburn et al. 2019, 2020).

Wellington City is relatively well-endowed with green and blue spaces, especially its town belt network (Inner Town Belt and Outer Green Belt), some iconic botanical gardens and large reserves and it superb harbour and South Coast. Close access to green and blue space is needed for these benefits. This close access can't be assumed for Wellington residents, especially the very young, the elderly and people with disabilities.

Our recent detailed study of GS distribution and accessibility in the central city (Blaschke et al., 2019) shows marked differences, and poor availability and equitability in places especially in Te Aro, exactly the part of the city where most current growth is concentrated. These differences are likely to be exaccerbated by projected population growth in the next 25 years.

It will therefore be necessary to actively plan and implement additional areas of green space in those parts of the central city and inner suburbs where densification is planned, otherwise the liveability of Wellington will be under threat.

This is not an argument against densification or an increase in building heights. It is an argument for:

- incorporation of green space in various forms (pocket parks, street trees and street strips, other road reserve areas, green walls
- greater space between tall buildings, and attention to site coverage rules that mandate and incentivise these spaces.
- attention to quality, so that every area of green space counts. This is not only for health and wellbeing and amenity but for other important ecosystem services and also resilience. For example the WDSP discusses the need for 'anchor sites' but it is clear from the population growth data for the central city that additional anchor sites are required for the Te Aro area to provide resilience in the case of earthquakes or other natural disasters.

We have some limited data that suggests that access in outer suburbs is equally inequitable (Chan, 2017). These data and our knowledge of Wellngton suggests that a more nuanced approach to the outer suburbs is justified. There are big differences in the appropriate settings for intensification between Tawa, Newlands, Brooklyn, Mirimar (and various outer suburbs of Seatoun, Breaker Bay, Owhiro Bay, Crofton Downs etc) which don't even make it into the analysis, also subject to development pressure.

There is also an an important need for public transport access to all significant green and blue spaces. Green space in turn often offers transport opportunities especially for active transport.

Most of our knowledge is of public green spaces. We need far more integration between public and private green space (some will be provided by the Backyard Taonga project within District Plan work). Private spaces integrate importantly with public green spaces – in terms of visibility from the street, many ecosystem services which cross the public/private boundary, and of course the health and wellbeing of residents. Green space therefore needs to be built into new private and social housing initiatives.

Within the public green space realm there are many places which are not WCC Parks and Reserves and nevertheless have important values (Blaschke et al, 2019), including school grounds, government building grounds, and transit corridors. Road reserves are also vital in suburban areas. Need better integration of all green space tenures.

Other infrastructure requirements

The context of the WDSP is within a degraded and insufficient infrastructure – water, waste management, poor resilience to flooding, earthquakes etc. Intensification needs to build better, including infrastructure, not just more.

We see this directly with housing. All new housing needs to include higher building performance and greater energy efficiency, regardless of density or positioning within the sector or market.

Stormwater control facilities must be encouraged or if necessary required to cope with an increased likelihood of short bursts of very heavy rainfall. This also requires selected streets in the hilly Wellington environment to be designed as 'flood-channels' on specific routes to the sea or to specific spaces which can act as local holding basins, plus swales incorporated on residential streets all buildings sited to avoid storm water deluge inflow. Similarly, rainwater storage tanks for non-potable water usage should be associated with all new residential densification developments.

Encourage integration and sharing of local generation from solar energy resources via residential embedded-networks and micro-grids to increase local resiliency zones and limit the need for large scale electricity network upgrades.

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