

SUMMARY STATEMENT – TRANSPORT CHAPTER

- 1.1 Tēnā koutou katoa. My full name is **Anne Heins**. I am employed as Community Travel Advisor at Christchurch City Council (the **Council**). I have 9 years' experience in the active and public transport planning and education space.
- 1.2 I have prepared evidence¹ on behalf of the Council in respect of cycle parking requirements in relation to Plan Change 14 (**PC14**). I subsequently participated in joint witness conferencing which produced the Joint Witness Statement of Transport Experts (Transport JWS), dated 26 September², followed by rebuttal evidence dated 9 October³.
- 1.3 This summary provides further information and highlights the key points of my evidence related to the following areas that remain in contention:
 - (a) cycle parking design matters; and
 - (b) provision of power points in communal cycle parking facilities to allow charging of e-bikes, e-scooters etc.

2. GROWTH IN MICROMOBILITY USE

- 2.1 Christchurch is the leading cycling city in Aotearoa. Christchurch cycle ownership rates are almost double the national average, with around 60% of adults owning a bicycle. We have a flat topography, an enviable climate with comparatively few days of inclement weather, and a connected, high-quality cycleways network currently spanning over 70km, with more cycleways planned or under construction.
- 2.2 Micromobility use including bicycles, e-bikes and e-scooters is growing rapidly. Data from 26 cycle counters across our city shows cycle trips have increased over 30% in the last 7 years. More recently, Quarter 1 of 2023 showed an 11% increase compared to the same period in 2022. Growth is much steeper again for cycle trips into the Central City, with an 80% increase in trips in the four years to November 2020.
- 2.3 I consider that this growth trend of cycling and other micromobility will continue with the construction of additional protected cycleways and the

¹ <https://chch2023.ihp.govt.nz/assets/Council-Evidence-11-August-2023/29-Anne-Heins-Statement-of-evidence-final.PDF>

² <https://chch2023.ihp.govt.nz/assets/Joint-Witness-Statements/Joint-Expert-Witness-Statement-of-Transport-Experts-Transport-26-September-2023.pdf>

³ <https://chch2023.ihp.govt.nz/assets/Rebuttal-Council/29.-Rebuttal-Evidence-Anne-Heins.pdf>

growing availability and popularity of a larger range of e-bikes catering to wider household requirements and the carrying of children and larger loads. PC14 will also stimulate growth through:

- (a) Intensification, which will see more trips viably made by micromobility as more daily amenities and destinations become located within shorter distances; and
- (b) A decrease in the availability of surface car parking on vacant lots, and the abolition of residential parking minimums proposed as part of PC14.

2.4 However, the current poor standard of cycle parking is a real barrier to the uptake of cycling in particular. Apart from common accessibility and useability issues, the lack of security in much of the current residential cycle parking means that around one third of the average four bicycles reported stolen each day are stolen from people's residences.

2.5 The use of micromobility modes as part of broader transport choice needs to be enabled by fit-for-purpose, practical, sufficient, and secure parking facilities in new residential developments.

3. CYCLE PARKING DESIGN MATTERS

3.1 In light of the above, and in accordance with the conferencing statement I recommend cycle parking for dwellings without a private garage be required to:

- (a) Be weatherproof;
- (b) Not require the lifting of a bicycle or micromobility device;
- (c) Be accessible externally without stairs; and
- (d) Be lockable.

3.2 The changes proposed in Council's submission (S751)⁴ would address the matters outlined above.

3.3 I do however propose a change to the relief sought by Council in its submission (p.3) in relation to Appendix 7.5.2, being the addition of an

⁴ Please see attachment 47 for the Council's relief in respect to the Transport Chapter

Advice note recommending Sheffield cycle stands as the most universal and flexible cycle stand type in communal facilities. Sheffield stands are square, staple-shaped stands that (unlike the majority of cycle stand types) accommodate all standard pushbikes, e-bikes, e-scooters and bikes with child seats or panniers affixed to them, as well as the majority of cargo-bikes. To give an appreciation of the large range of micromobility devices that cycle stands should ideally accommodate and allow secure locking of, I have included photos as **Appendix 1**.

- 3.4 I agree with the Advice note on Sheffield stands proposed by Ms Piper to be inserted into Appendix 7.5.2 after e.iv.B.
- 3.5 On further reflection, based on detailed measurements of a cross-section of the current bicycle fleet in Christchurch, I now recommend the 90th percentile bicycle dimensions in Figure 4 of Appendix 7.5.2 of **Council's submission⁵** be updated to **60mm tyre width**, and **1.85m length**.
- 3.6 I also now recommend that the rules of Appendix 7.5.2 specifically refer to the 90th percentile cycle dimensions, as proposed by Ms Piper.

⁵ <https://ccc.govt.nz/assets/Documents/The-Council/Plans-Strategies-Policies-Bylaws/Plans/district-plan/PC14-751-Ike-Kleynbos-for-Christchurch-City-Council-proposed-Attachment-47.pdf>

4. CYCLE PARKING CHARGING FACILITIES

- 4.1 My position on the provision of power points in communal cycle parking facilities has changed since writing my primary evidence, where I supported an Advice note recommending provision of these as per Ms Piper's 42A report⁶.
- 4.2 In the Transport JWS and in my rebuttal evidence, I stated that my opinion on whether to *require* (as opposed to recommend) electrical charging points in communal cycle parking facilities was subject to further information and advice from Fire and Emergency NZ⁷. I have now received FENZ's advice and consider there is merit in *requiring* rather than *recommending* power points to enable convenient and safer charging of e-mobility devices, for the reasons outlined below.
- 4.3 Recapping briefly on my primary evidence (paragraphs 27, and 48 – 51⁸), e-mobility devices like e-bikes and e-scooters are on a steep growth trajectory, with imports, sales and fleet share all showing rapid growth (Figure 4 – Statistics NZ⁹). Recent Christchurch data shows that over 20% of privately-owned micromobility devices are electric (Figure 5 – CCC).
- 4.4 An e-bike battery typically weighs between 3 and 8kg making carrying them frequently to charge burdensome. Furthermore, some batteries (estimated to be around 5% of e-bikes), cannot be removed from the bicycle by the user. The majority of e-scooters do not have removable batteries, so the whole device needs to be taken to the residence to charge if no separate secure charging facilities are provided.
- 4.5 The facts above make it important that charging points for e-mobility devices are provided within communal parking facilities.
- 4.6 Aside from enabling e-micromobility as a convenient transport option by requiring power points, there are also important fire safety risks to consider. FENZ warns that lithium-ion batteries found in e-mobility devices (as well as other everyday devices including laptops, vapes and power tools) have been shown to be susceptible to thermal run-away causing fires and explosions, resulting in significant injuries, loss of life overseas, and loss of

⁶ Paragraph 8.1.21, <https://chch2023.ihp.govt.nz/assets/Council-Evidence-11-August-2023/10A-Clare-Piper-Section-42A-Report-final.PDF>

⁷ Paragraph 17 - 29.-Rebuttal-Evidence-Anne-Heins.pdf (ihp.govt.nz)

⁸ <https://chch2023.ihp.govt.nz/assets/Council-Evidence-11-August-2023/29-Anne-Heins-Statement-of-evidence-final.PDF> Pages 8 and 51.

⁹ <https://www.stats.govt.nz/news/electric-vehicle-imports-continue-to-climb/>

property¹⁰¹¹. Lithium-ion battery fires burn at a temperature of between 2000 and 3000°C (in contrast, an LPG flame is around 1200°C)¹². Lithium-ion fires burn for longer, can spread very quickly, and produce highly toxic fumes.¹³ In the first 8 months of 2023, there have been 65 suspected lithium-ion battery fires in New Zealand – nearly double the number for all of 2022.¹⁴

- 4.7 Since submitting my rebuttal evidence, I have met with representatives of FENZ: Bruce Irvine (Senior Advisor Risk Reduction, Canterbury District) and Steve Kennedy (Group Manager / Assistant District Commander, Canterbury District) to seek their advice on best approaches to mitigate the fire risk associated with e-micromobility devices.
- 4.8 FENZ's position is that standard 240V power points should be provided within cycle parking facilities, separated from a dwelling/unit, in order to minimise risk to human life from lithium-ion batteries exploding and/or catching fire within a dwelling, including potentially near exits thereby blocking safe escape. FENZ's recommendation is for provision of power points at a rate of 1 per cycle park, to avoid the use of multiplugs or extension cords which add an electrical safety risk.
- 4.9 On consideration of advice received from FENZ, and further consideration of the steep growth in e-micromobility ownership and use, and its potential to help achieve emissions reductions and contribute to well-functioning urban environments, I now recommend that communal cycle parking facilities be required to have 1 standard 240V power point per 1 cycle park.
- 4.10 If the Panel does not consider there is merit to *require* power points, then I support an Advice note to be inserted as recommended by Ms Piper's 42A report (8.1.18)¹⁵, amended as per her summary statement.

¹⁰ Fire and Emergency NZ. (2020) *Lithium batteries — what's the problem?* https://www.fireandemergency.nz/assets/Documents/Files/Report_174_Lithium_Batteries_Whats_the_problem.pdf Accessed 30.10.23

¹¹ 22. In March 2023, there was an incident of an e-scooter charging in a Wellington apartment that exploded and burst into flames, critically injuring the resident, a man in his 50s. The man has survived and is undergoing rehabilitation from his severe burns with his recovery expected to take 18 months to 2 years. This situation is what the requirement for power points in communal cycle parking facilities is intended to avoid. See Sunday Programme, "A burning issue" <https://www.tvnz.co.nz/shows/sunday/clips/a-burning-issue> Accessed 15.10.2023.

¹² Pete Gallaher, Fire Investigator, FENZ, in Sunday Programme, "A burning issue". 15.10.2023 <https://www.tvnz.co.nz/shows/sunday/clips/a-burning-issue>. Accessed 31 October 2023.

¹³ Ibid.

¹⁴ Sunday Programme, "A burning issue" <https://www.tvnz.co.nz/shows/sunday/clips/a-burning-issue> Accessed 15.10.2023.

¹⁵ <https://chch2023.ihp.govt.nz/assets/Uploads/documents/10a%20-%20Clare%20Piper%20-%20Section%2042A%20Report%20-%20final.PDF>

- 4.11 I maintain my previous position that when cycle parking is provided in an enclosure that is private to one unit (which is more likely in lower density developments), residents are more likely to have the opportunity to charge their mobility device outdoors from a ground floor power point. As such, I am of the opinion at this stage that it is unduly onerous to require a power point to be provided in a private cycle parking enclosure.
- 4.12 In relation to Comprehensive Residential Developments specifically, upon considering advice from FENZ, I have changed my position recorded in the Transport JWS. Rather than requiring 1 power point per 2 cycle parks, I now support Mr Hardcastle's proposed rate of **1 power point per cycle park**.
- 4.13 I welcome any questions from the Panel.

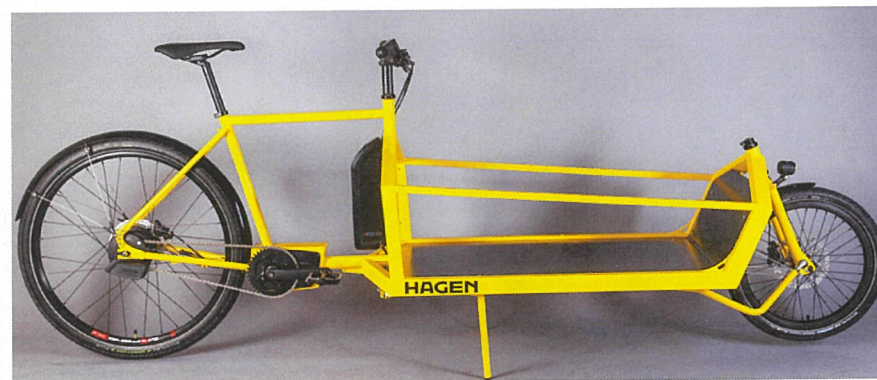
Date: 21 November 2023

Anne Heins

Appendix 1: Photos showing the large range of micromobility devices that cycle stands should ideally accommodate and allow secure locking of.



Longtail electric cargo-bike with child seats



Cargo-bike



Compact e-scooter



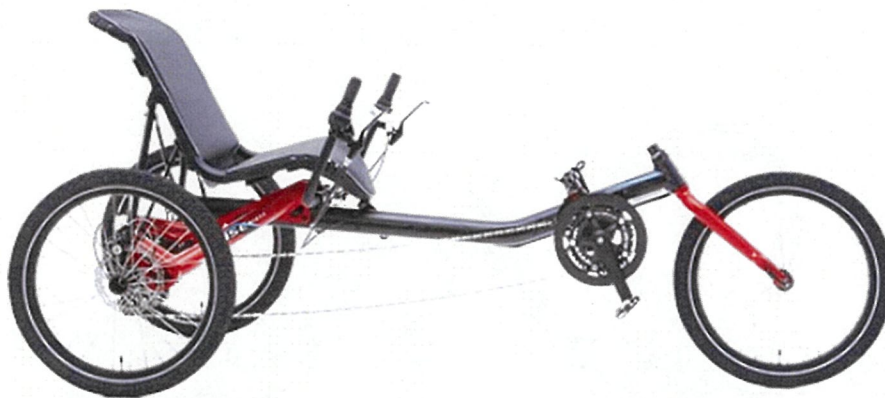
High-powered e-scooter with suspension



Family cargo-bike for children



Fat tyre e-bike



Recumbent tricycle (used by people with balance issues such as those with aphasia, cerebral palsy, Parkinson's disease, multiple sclerosis etc)



Step-through e-bike



Self-balancing scooter



E-mountain bike



Seated e-scooter



Longtail e-bike with grocery panniers