

Sustainable living: Housing, transport and the city

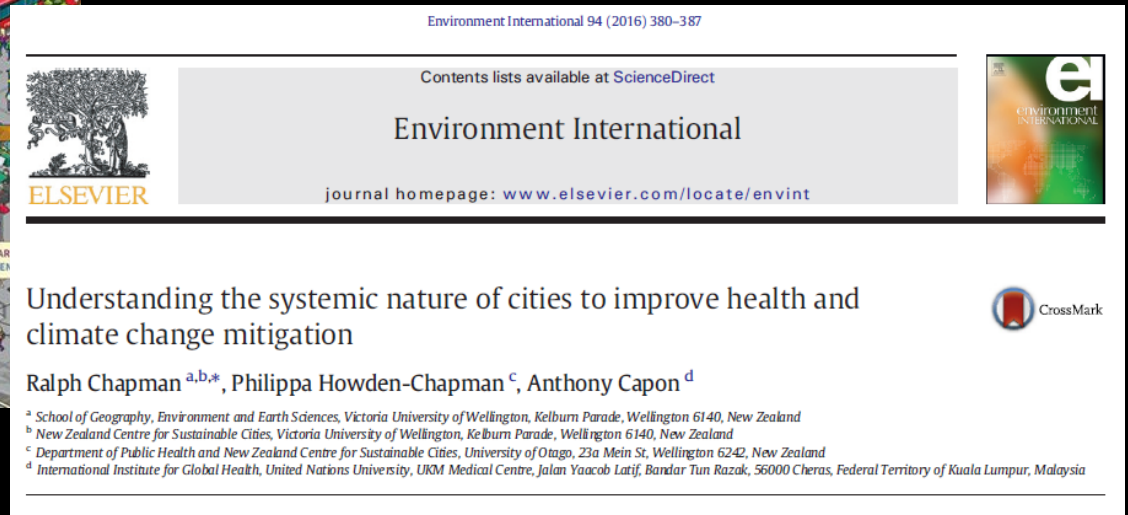
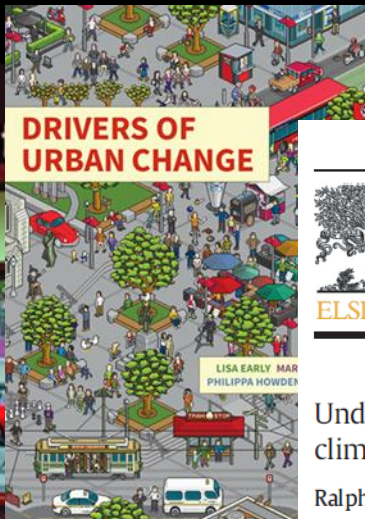
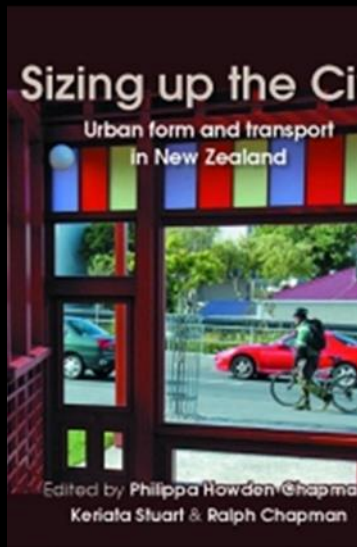
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NZ Centre for Sustainable Cities

- Network of 40+ researchers – including several from Victoria University
- Funded by competitive grants, e.g. **Resilient Urban Futures** (MBIE)
- Papers and books available via our websites - for example:



Sizing up the City
Urban form and transport
in New Zealand
Edited by Philippa Howden-Chapman,
Keriatu Stuart & Ralph Chapman

DRIVERS OF URBAN CHANGE
LISA EARLY MAR
PHILIPPA HOWDEN

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Understanding the systemic nature of cities to improve health and climate change mitigation
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Housing, transport and the city: a big picture framework

1. **Drivers:** the big issues confronting us
2. **Preferences:** What sort of housing, neighbourhoods and travel do New Zealanders prefer?
 - How are our preferences changing?
3. **Critical steps:** ...to take along a sustainable path

1 Drivers: the big issues confronting us

Globally and locally:

- Climate change – Paris agreement: urgent transition
- Inequality and affordability -- housing and transport
- Transitioning; building resilience

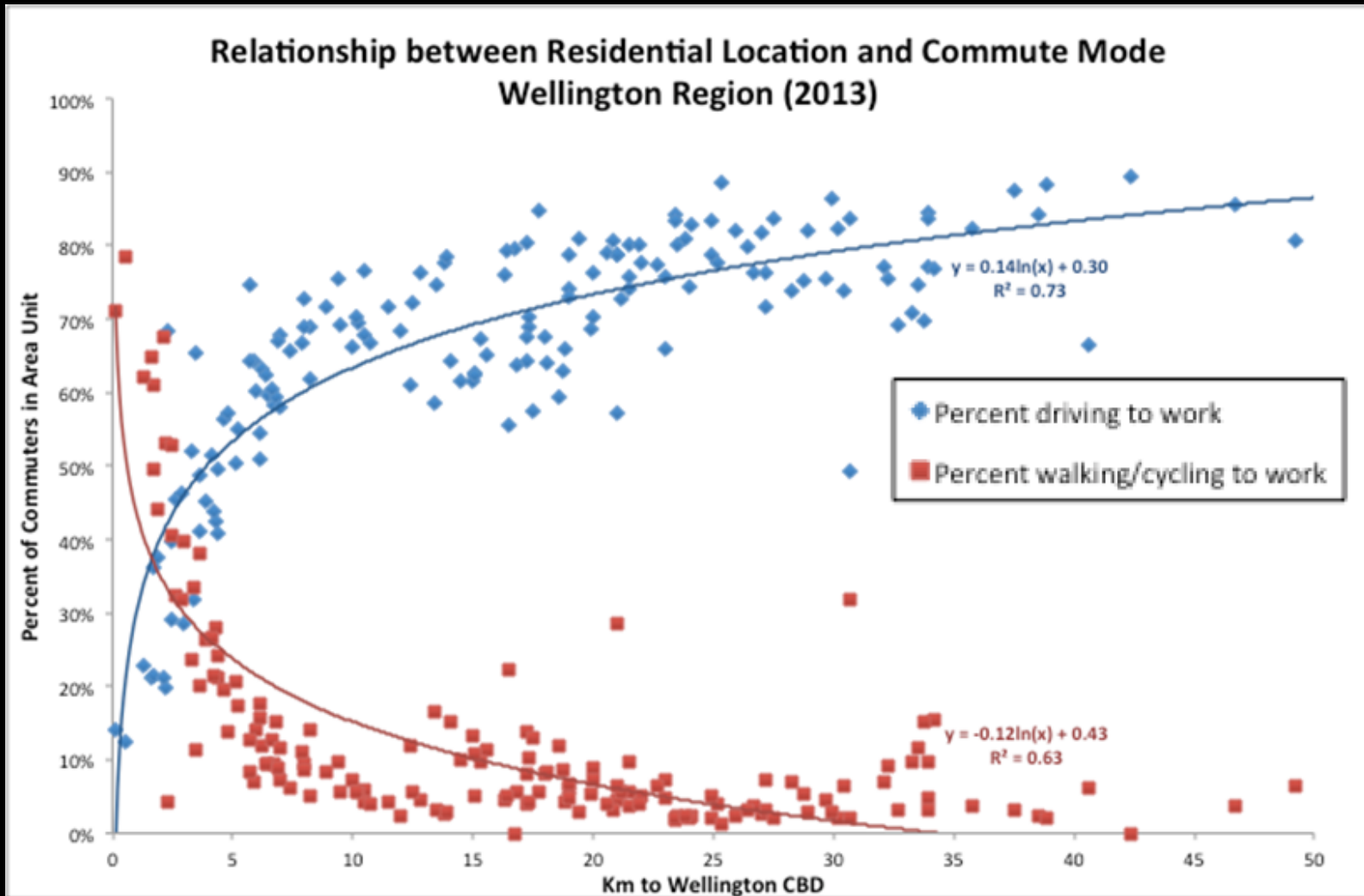
...which takes us to:

- Where and what do we design and build?

2 Preferences: what sort of housing, travel and neighbourhoods do we like?

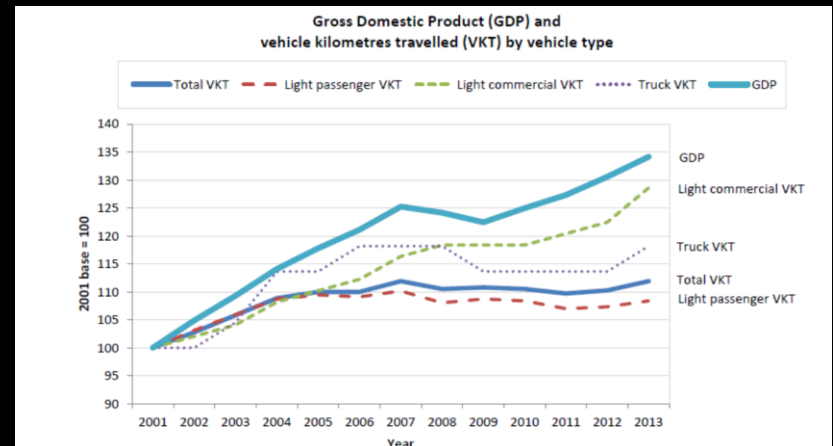
- Most New Zealanders currently prefer stand-alone housing
- Many - especially younger or older people - would opt for compact, accessible neighbourhoods
- Want access to green space – not necessarily a lot
- Often rather walk, cycle or go by public transport, than use car
- Believe local government (rather than market forces) should make the call on the shape of our cities

If live more centrally, drive to work less



How are our preferences changing?

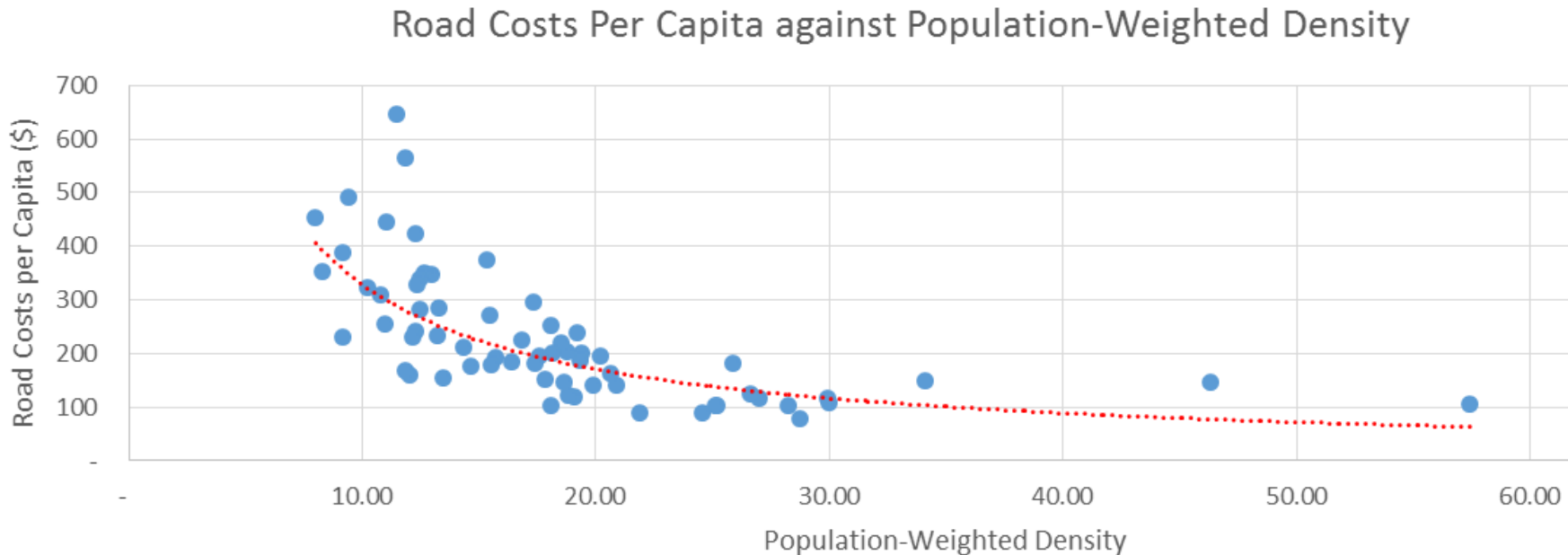
- We aspire to **accessible, mixed use neighbourhoods**, and **vibrant communities** -- e.g. with shops, amenities, public spaces
- Market (developers) moving towards **compact, medium density housing** in well-connected places
- We are increasingly using **active transport** (walking, cycling) or public transport, rather than a car



3 Critical steps... along a sustainable path

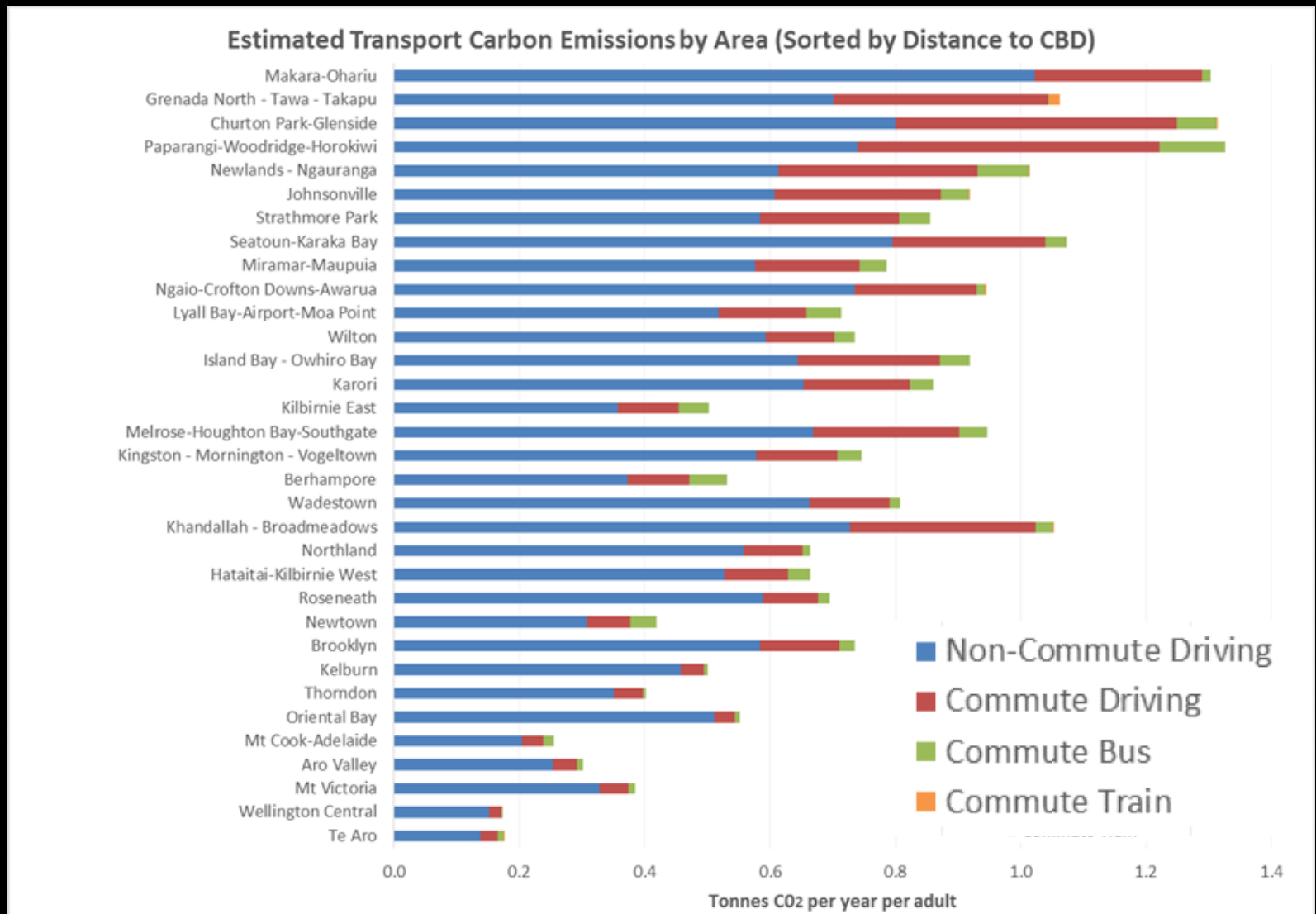
- a. Design our cities to be more compact and better connected – save on infrastructure, energy costs, and carbon emissions; improve health
- b. Invest heavily in walking and cycling - for health, cost savings & sustainability
- c. Electrify our bus fleets asap – and support electric cars
- d. Lift the price on carbon

Infrastructure (e.g. roading) costs tend to fall as settlement density rises



Other things being equal, it's likely to save on infrastructure by intensifying compact settlements

Why more central housing helps: Carbon emissions and distance to the CBD (Wgtn)

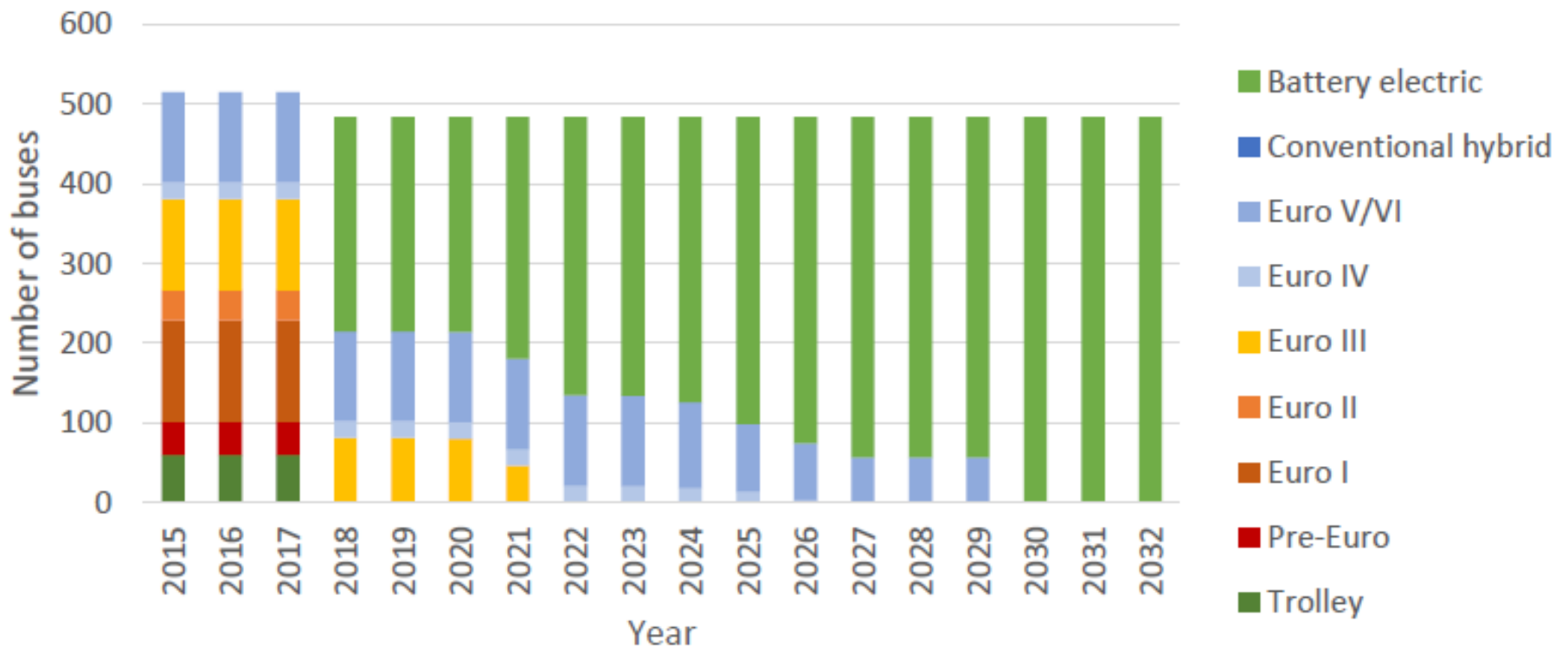


Urban form, design and travel

- Density is not everything in urban form
- Density helps with other factors -- city design, land use mix, connectivity, etc.
- These all influence travel behaviour & quality of life
- Policies can alter urban form over time
- Co-benefits for health, community quality of life, and climate change

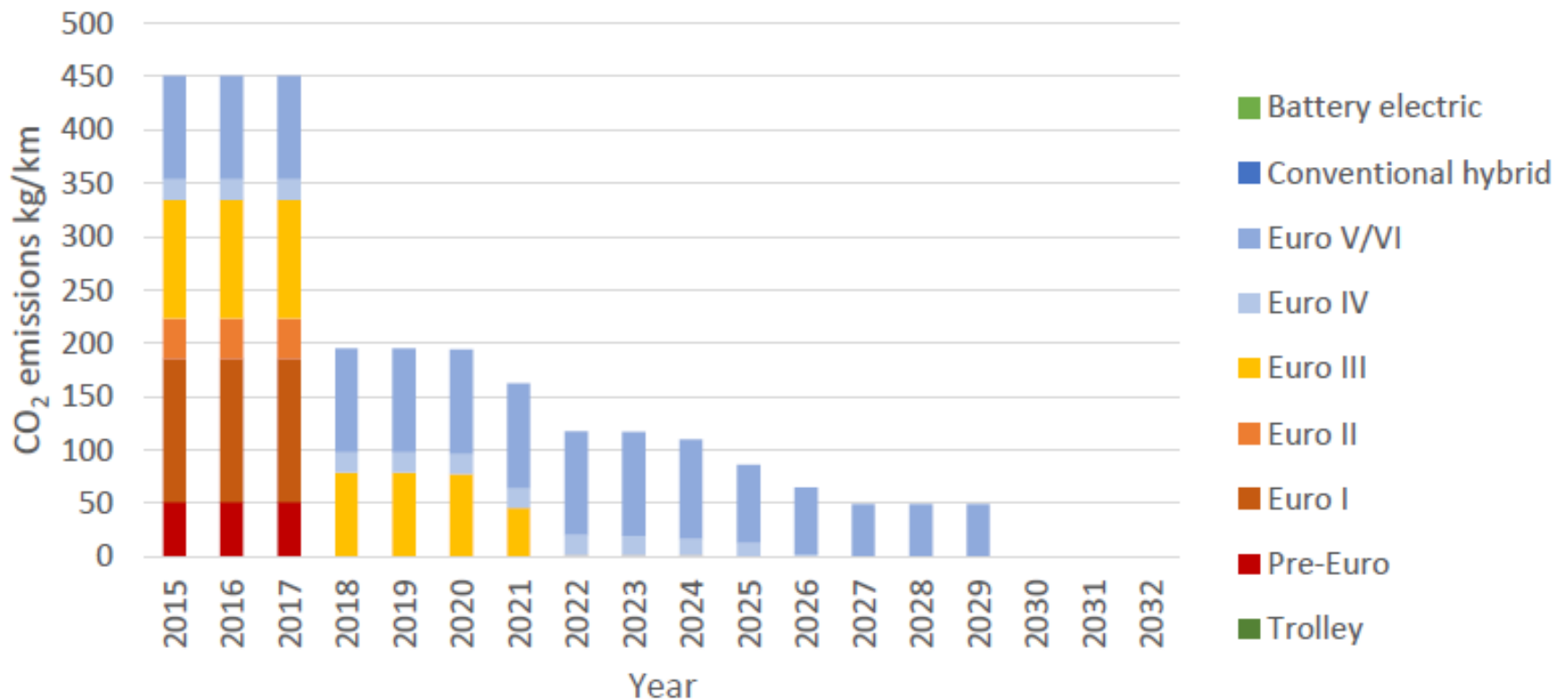
Moving to battery buses is costly but has big advantages (CO₂, PM, NO_x)

Scenario 5 Wgtn Region bus fleet configuration



Carbon emissions from bus fleet with early introduction of battery buses

Scenario 5 Wgtn Region bus fleet CO₂ emissions kg/km



Conclusion

- The current housing shortage, and climate change, require innovative thinking
- People's preferences are also changing: think ahead to resilient futures
- Huge potential for more sustainable living with policy changes to support **compact urban form**, **more affordable housing** and **sustainable transport**

Coda: The Global Commission on the Economy and Climate, 2014

'How urban planners shape urban form and long-lived infrastructure in these coming few years will largely determine whether the world gets locked into a traditional model... or moves onto a better path, with more compact, connected and liveable cities, greater productivity and reduced climate risk.'

Thanks!