



Green infrastructure for central Wellington after COVID

Adam Auditorium, Wellington, 29 July 2020

Paul Blaschke, Maibritt Pedersen Zari, Amy Hobbs



**Absolutely Positively
Wellington City Council**

Me Heke Ki Pōneke

Introduction

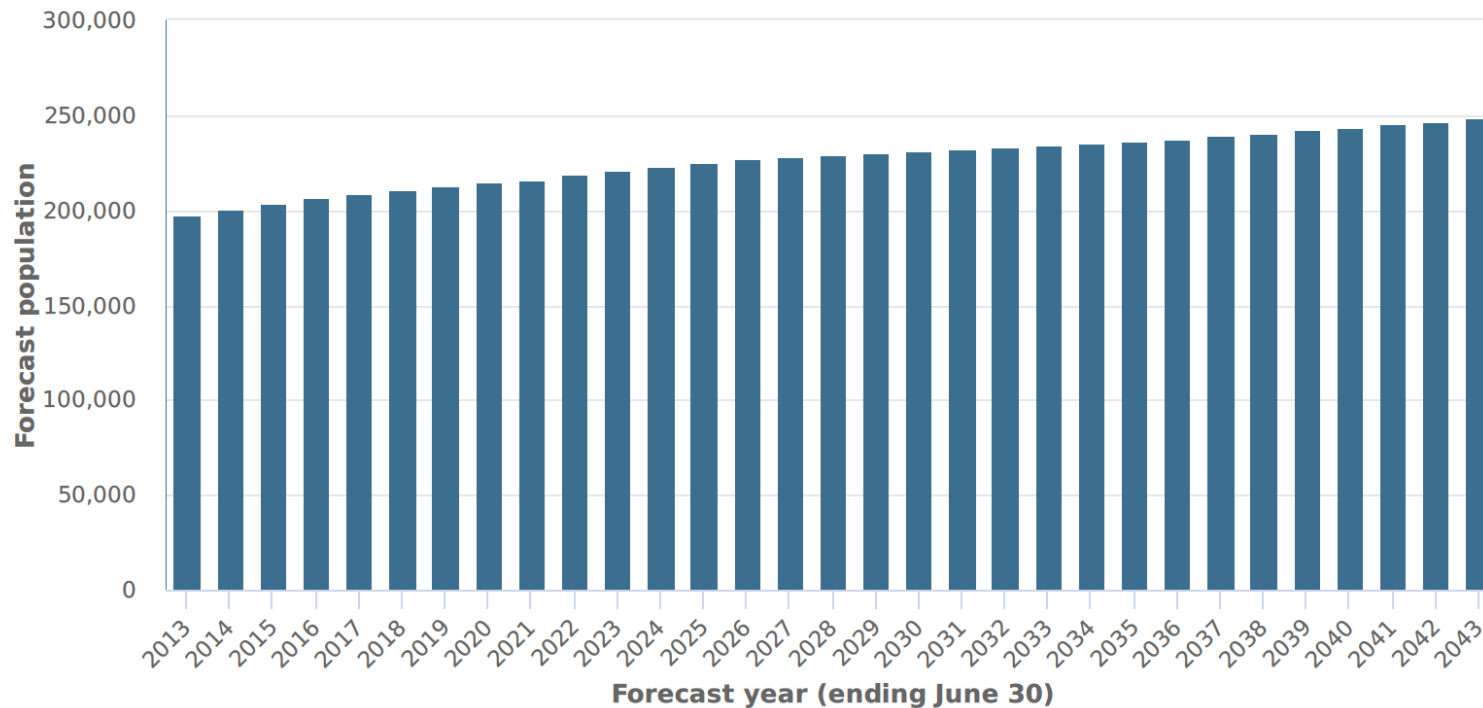
- How will Wellington's central city develop as we gradually recover from COVID?
 - can we even assume we are in a post-COVID period?
- Will Wellington's population continue to grow at forecast rate?
- Does the current and future population have adequate opportunity to relate to our green and open spaces?
- What about the ongoing climate change and biodiversity crises?
 - other sustainability and planning challenges that central Wellington is facing?



Population projections

Forecast population

Wellington City



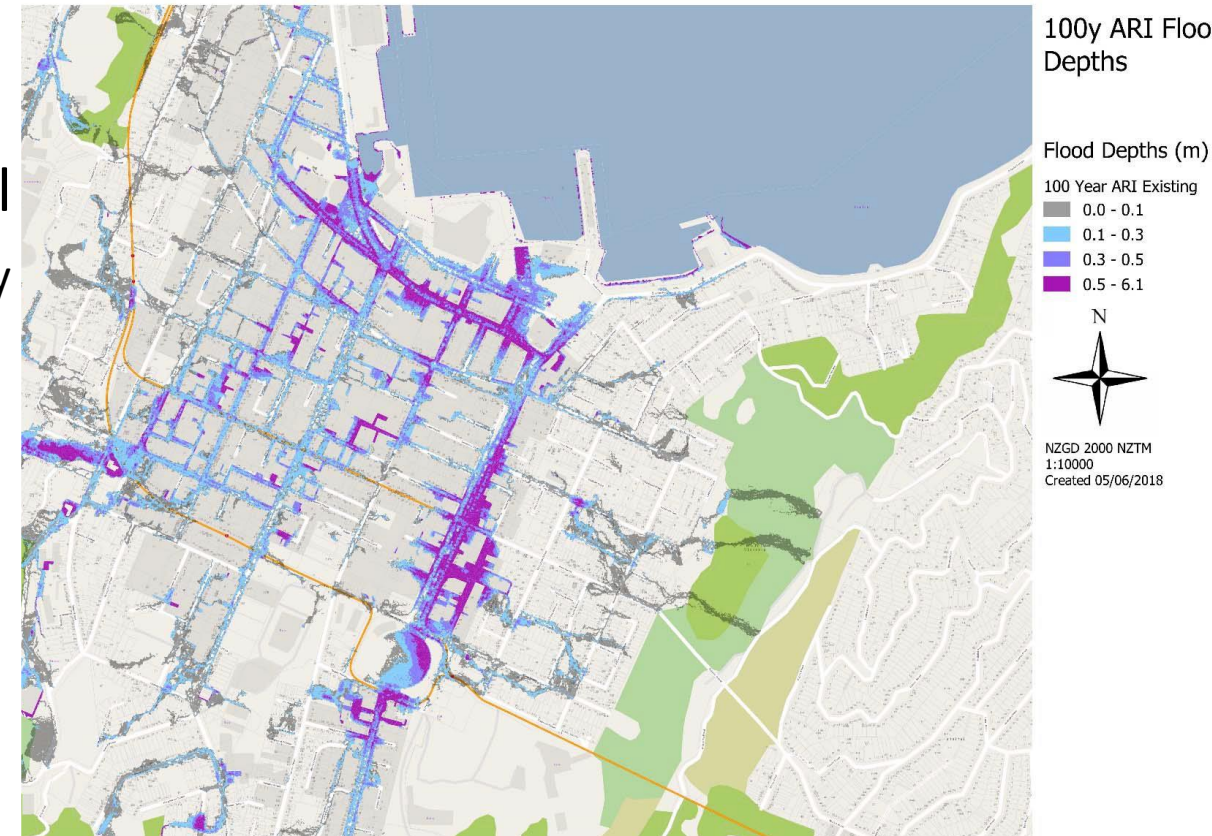
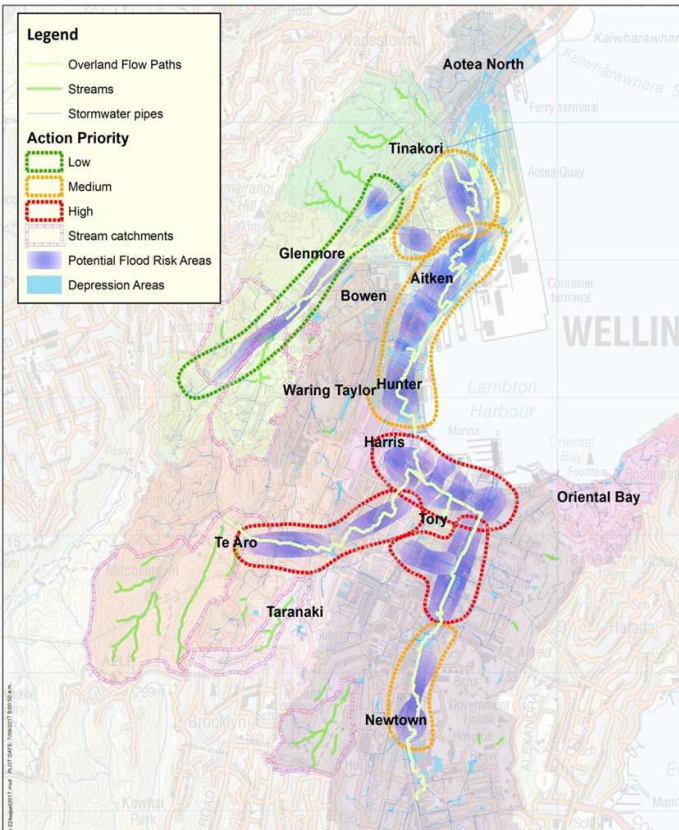
Population and household forecasts, 2013 to 2043, prepared by .id, November 2019.

- Current population c. 215,000
- Effect of internal and international emigration/immigration?
- Commuting patterns into the central city?

Climate change projections

- Sea level rise
- Higher intensity rainfall
 - >25% increase in the daily precipitation on the top 1% of rainy days per annum by 2100

 **Flooding risks**

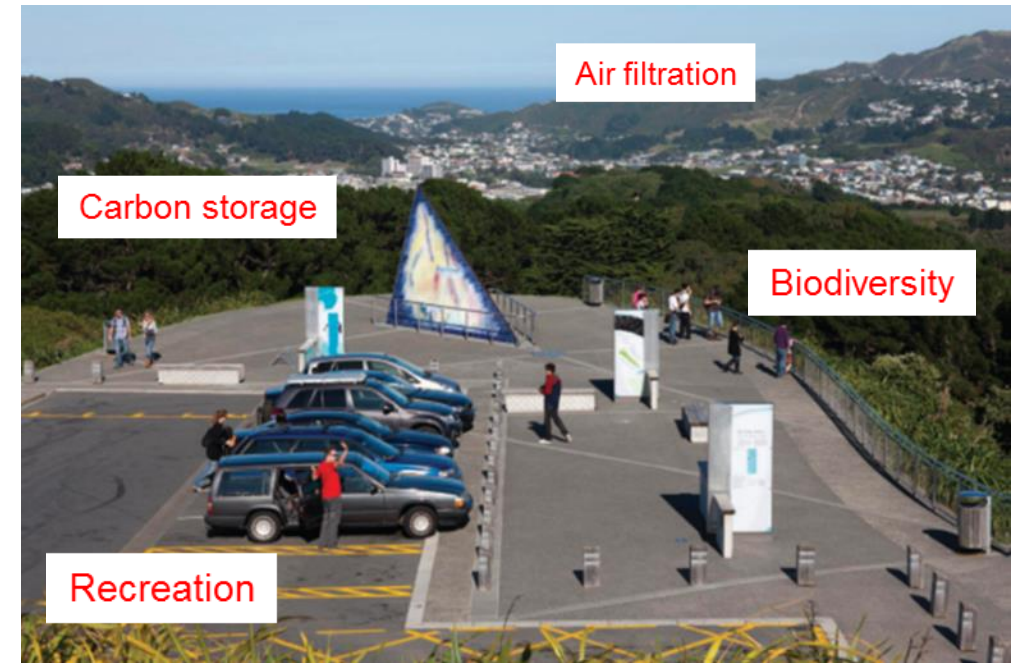


Stantec, for Wellington Water, 2018

Why focus on green infrastructure and green space in central city?

- Contact with nature very important for health & wellbeing
- Mostly this contact is provided by urban green and blue spaces
- They provide many other values
- A critical part of the city's infrastructure
- Green infrastructure: “a network providing ingredients for solving urban and climatic challenges by building with nature”

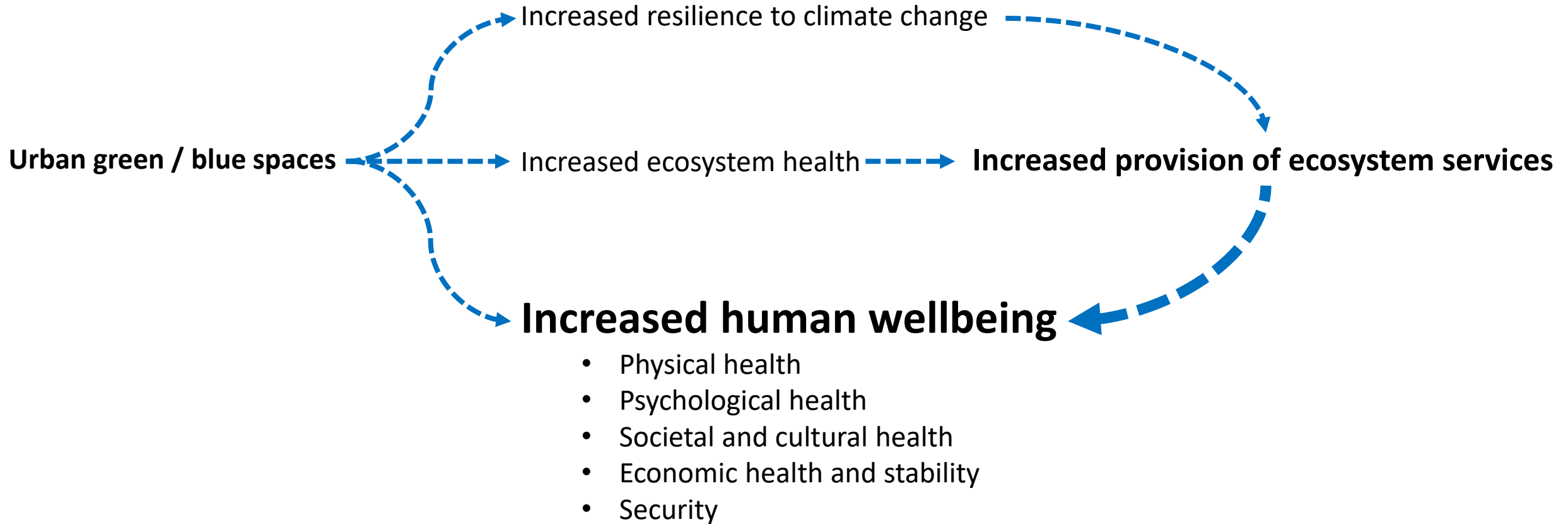
In the central city, most green infrastructure needs to be provided for by council, directly or through policy



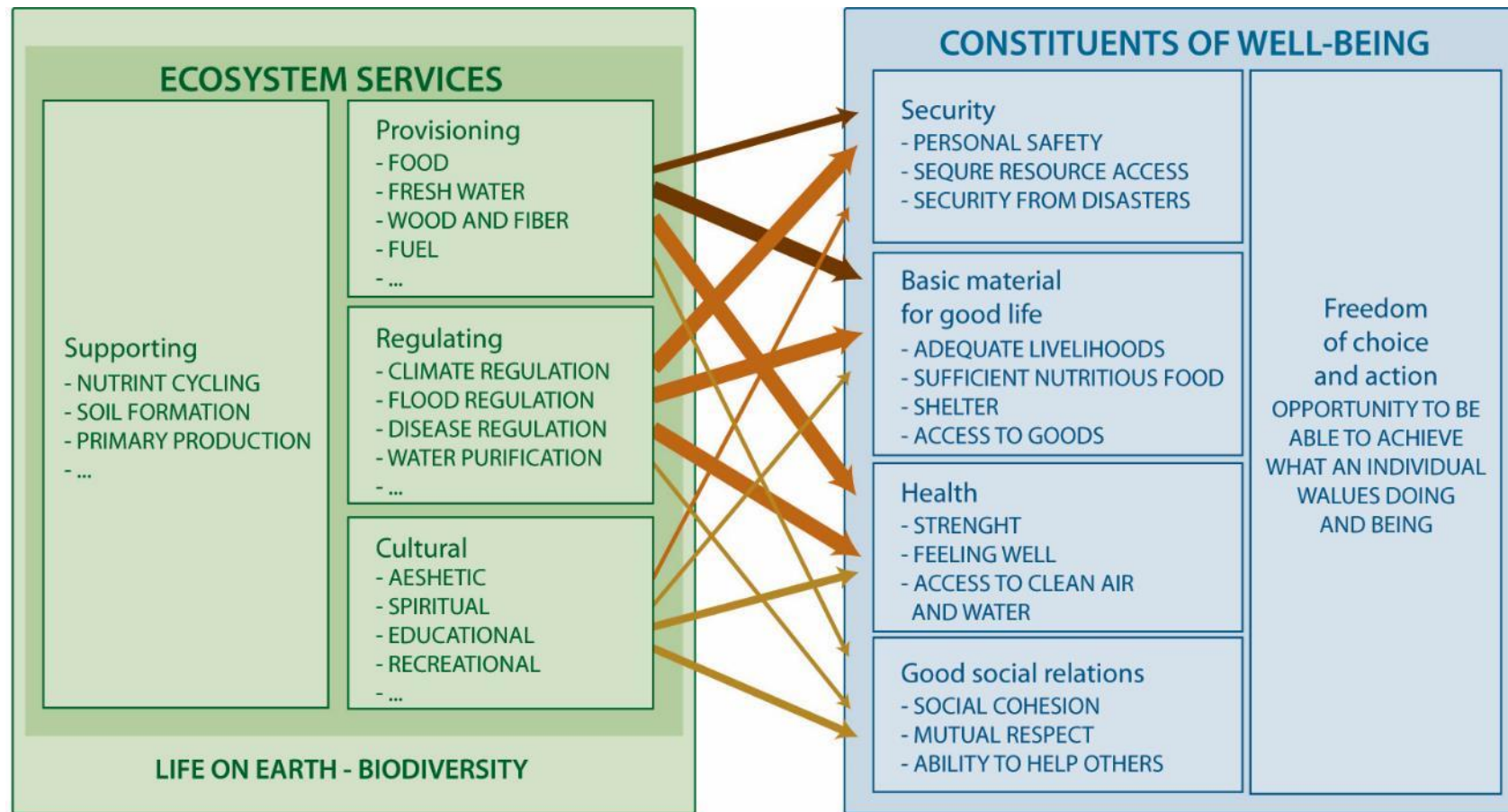
Council brief:

- Assess current provision (**supply**) of public green space within Wellington central city area
- Assess current and potential need (**demand**) for public green space
- Recommend on GS provisions

Benefits of urban green/blue space & infrastructure



Ecosystem services and human wellbeing











Arrow's color
potential for mediation by socioeconomic factors






High
Medium
Low

Arrow's width
intensity of linkages between ecosystem services and human well-being

Strong
Medium
Weak






Ecosystem services in a Wellington City context

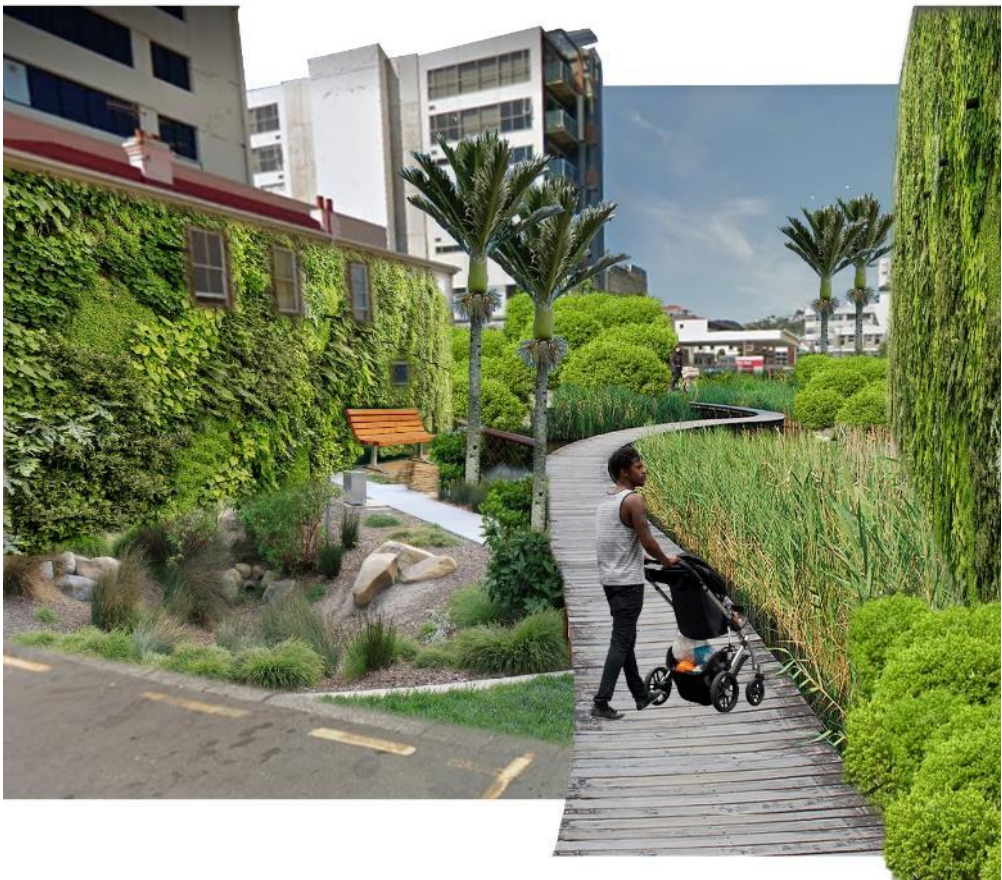
Ecosystem Service		
Supporting Services		Habitat provision
		Nutrient cycling
Regulation Services		Purification
		Climate regulation
		Disturbance prevention and resilience
Provisioning Services		Provision of energy
		Provision of fresh water
		Provision of food

Ecosystem Service		
Cultural services		Beauty
		Recreation
		Culture
		Health and wellbeing
		Knowledge

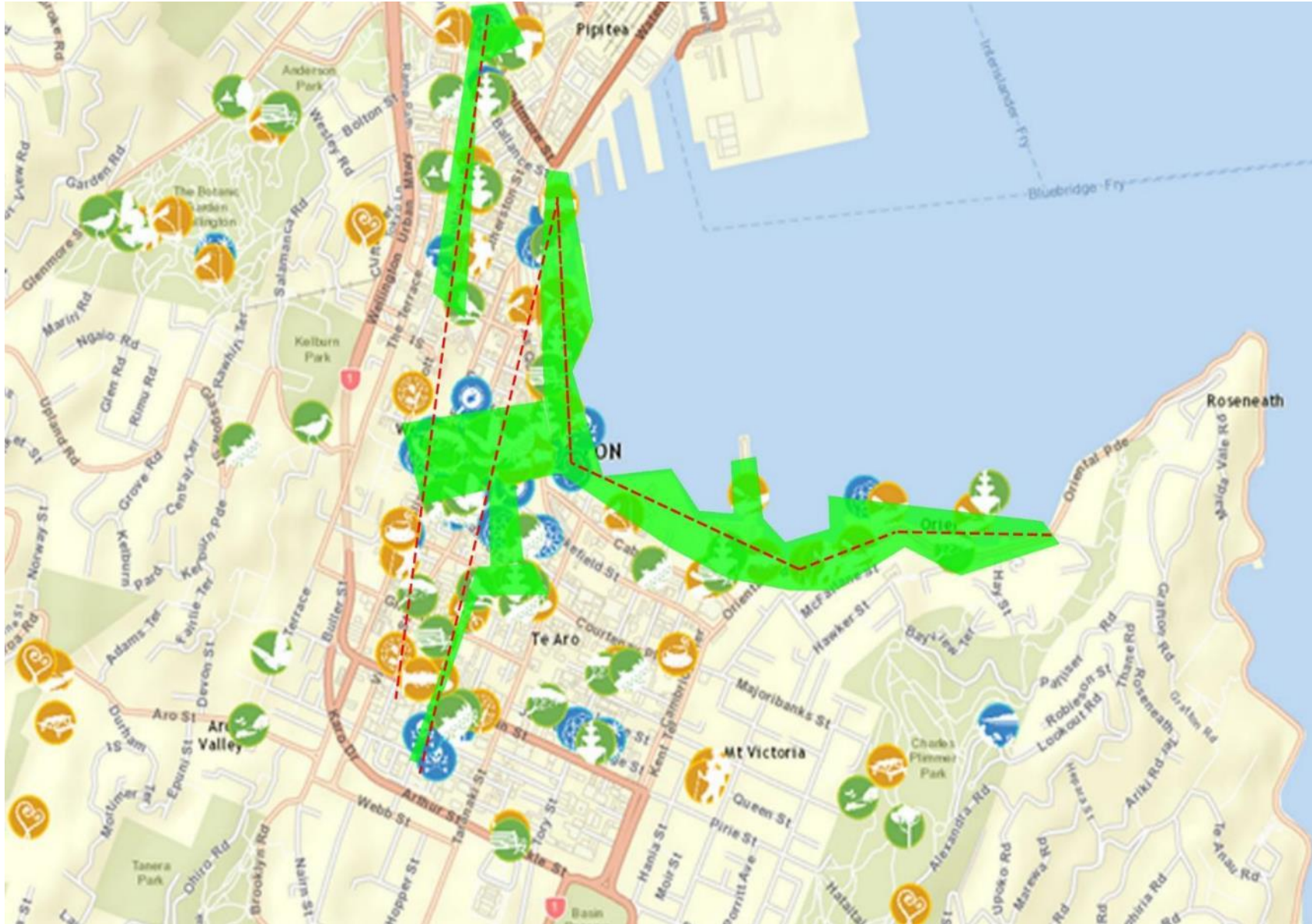
Cuba Quarter Green Nexus



Ecosystem Service		
Supporting Services		Habitat provision
Regulation Services		Purification
		Disturbance prevention and resilience
Cultural services		Beauty
		Culture



The importance of connected green spaces



The Wellington Nature Map (Biophilic Wellington)

Zones (green) and corridors (red lines) of inner city biophilic intensity in Wellington

PEDERSEN ZARI, M. 2019. Understanding and designing nature experiences in cities: a framework for biophilic urbanism. *Cities & Health*.

Acknowledgements: Funding for the Wellington Nature Map from the Wellington City Council is gratefully acknowledged. Dr M. de Roiste (Victoria University of Wellington) provided technical assistance in relation to the GIS and Story Map process. Research assistance and photography was provided by R. Whale (Wellington Living Architecture), E. Cruz (École Centrale de Lyon), and K. Milne (Victoria University of Wellington). Icons were developed by K. Spencer (Kelly Spencer Graphic Design).

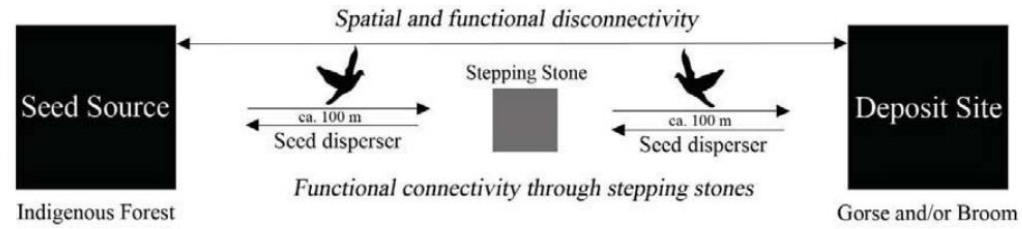
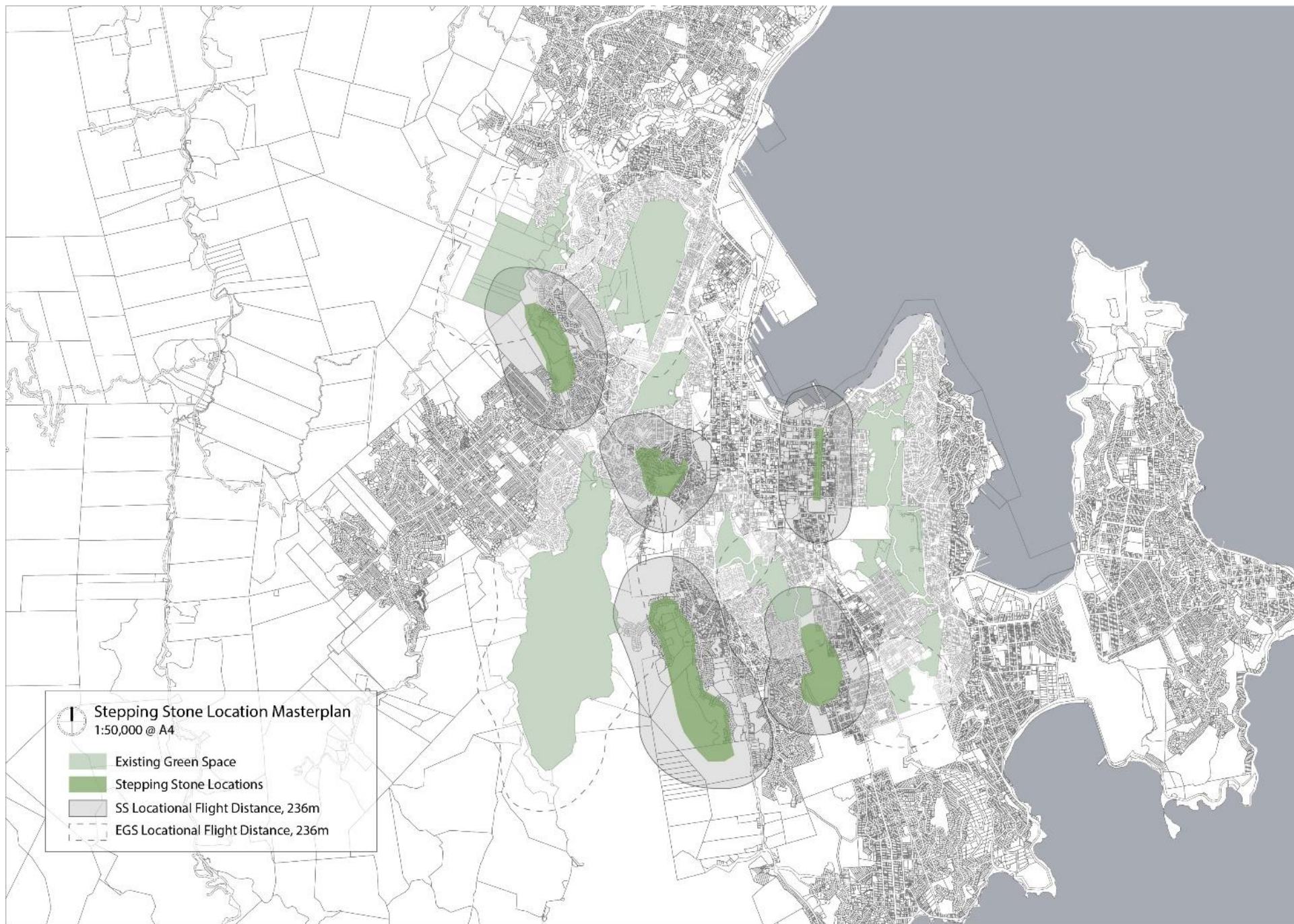


Figure 6.7. A conceptual spatially-explicit landscape pattern for providing functional connectivity for facilitating species movement and seed dispersal mechanisms between seed sources and deposit sites through stepping stones

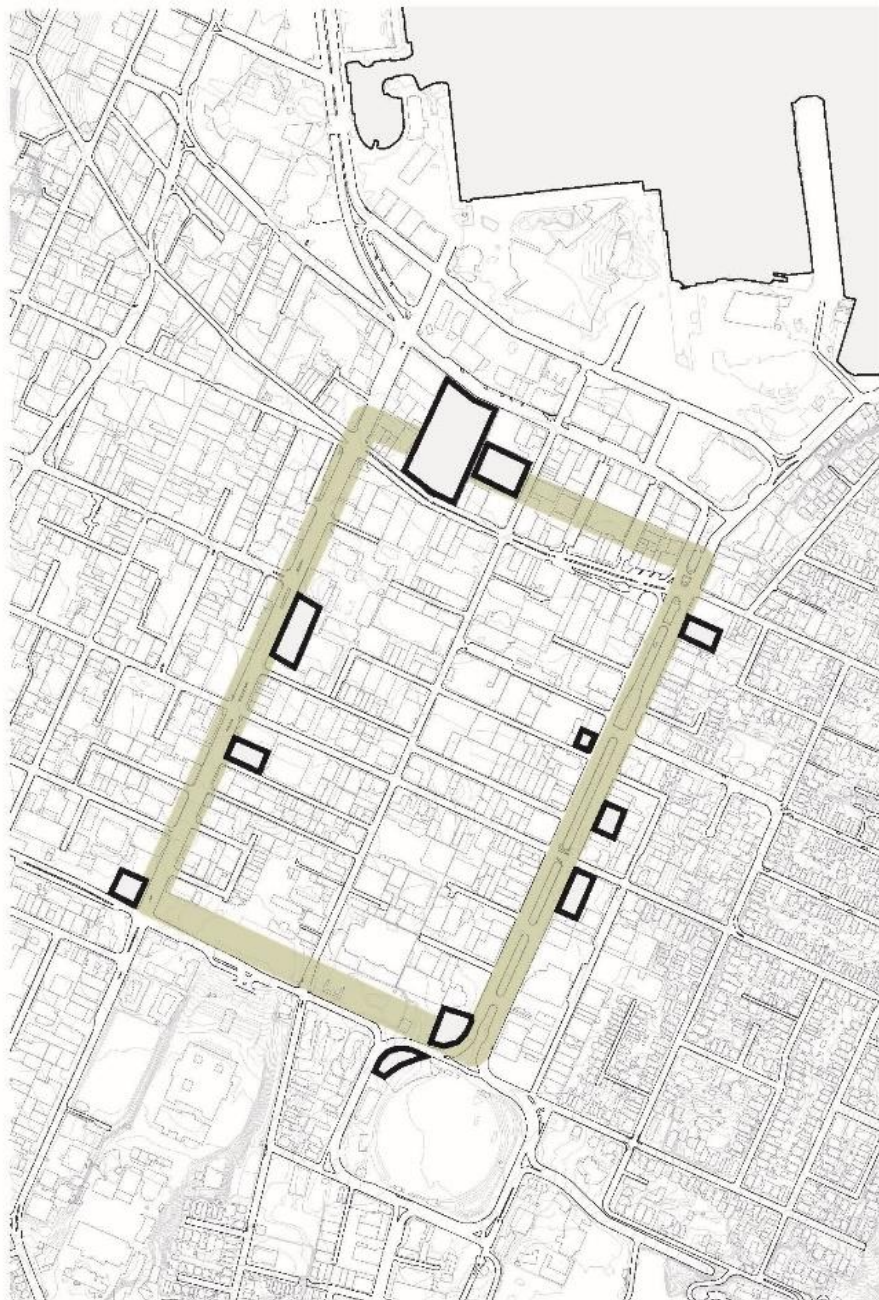




Wellington inner city green belt / block: biodiversity + human wellbeing



**Wellington Inner City Green Belt:
Architecture as green space and
stepping stone habitat**
4th Year Architecture Biophilic Design
Studio, VUW, 2019 and 2020



Wellington Inner City Green Belt / Block: Architecture as green space and stepping stone habitat

Taranaki Street,



Courtenay Place,



Kent / Cambridge Terraces,



Pukeahu National War Memorial





Stacking Green by Vo Trong Nghia + Daisuke Sanuki + Shunri Nishizawa, Ho Chi Minh, Vietnam



Dockside Green community on
Vancouver Island, Canada



25 Verde, Turin, Italy, Luciano Pia



Bosco Verticale de Milano, Boeri Studio



EDITT Tower, Ken Yeang,
Singapore

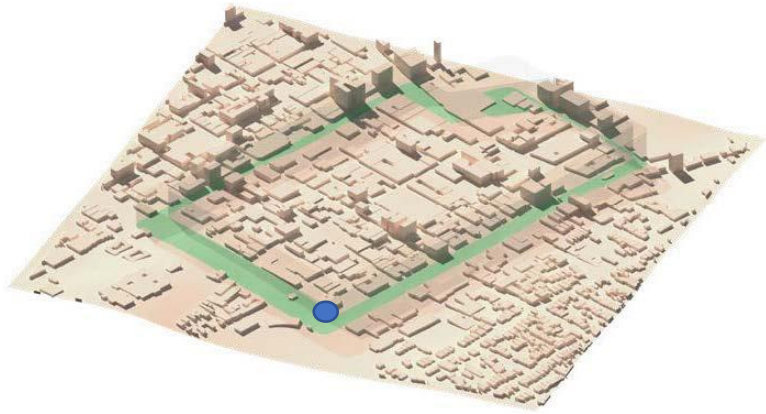


Green Villa, MVRDV, Netherlands



ECOLOGICAL



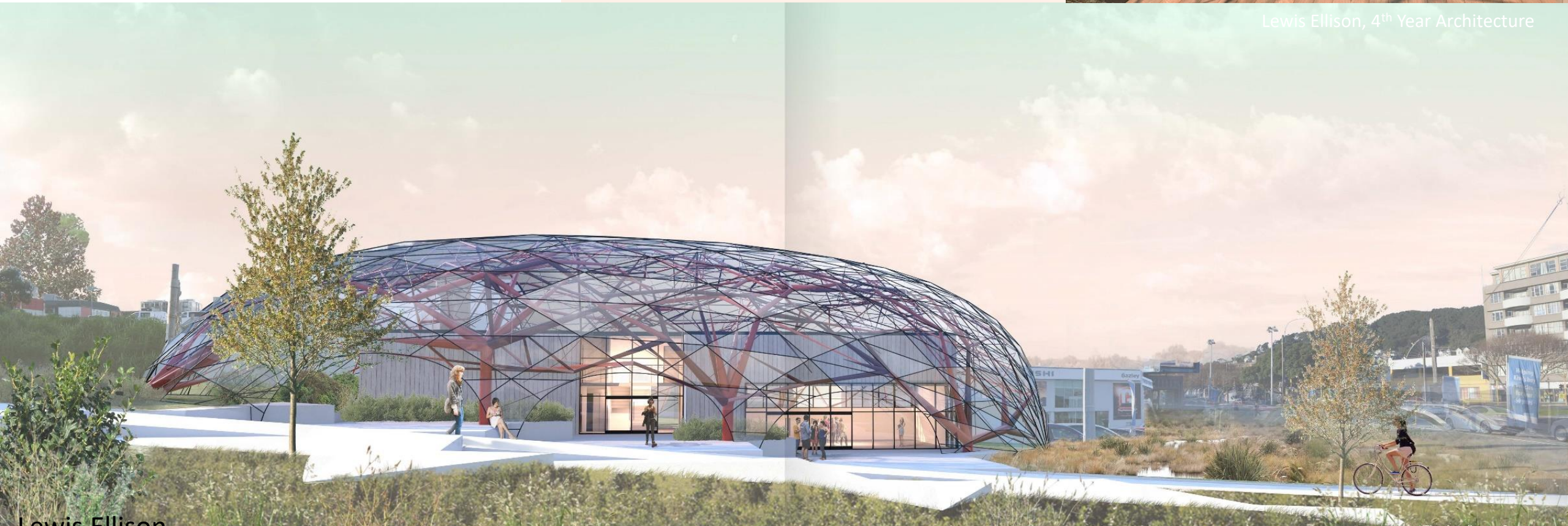


AMELIORATE CENTRE

FOR SUSTAINABLE LIVING

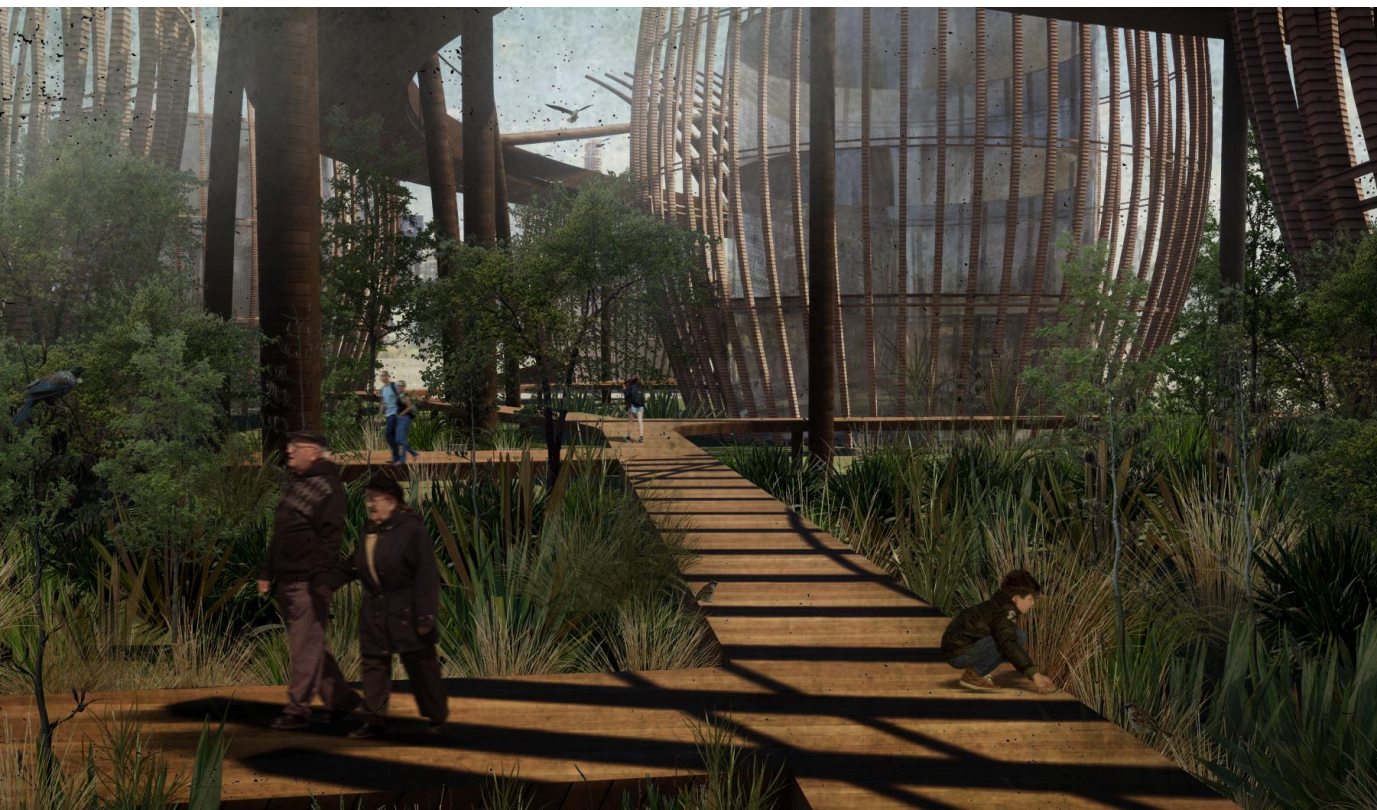


Lewis Ellison, 4th Year Architecture



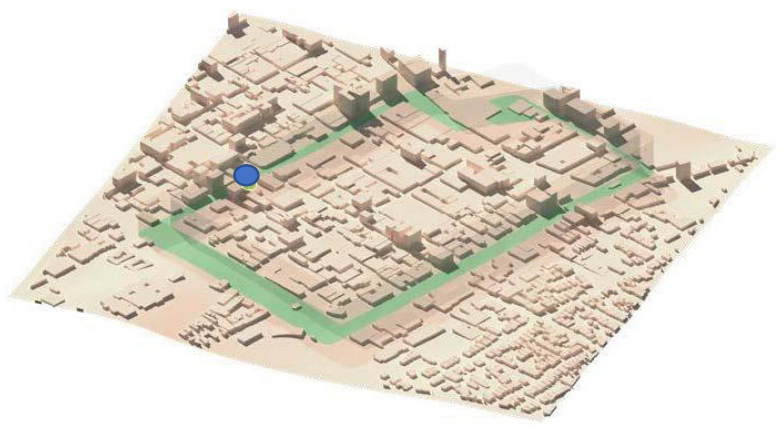


va

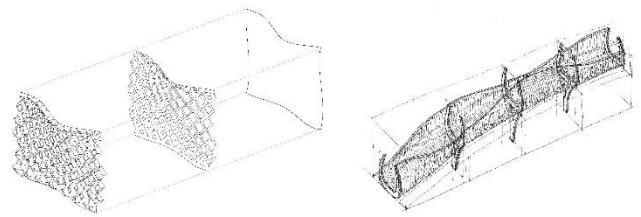
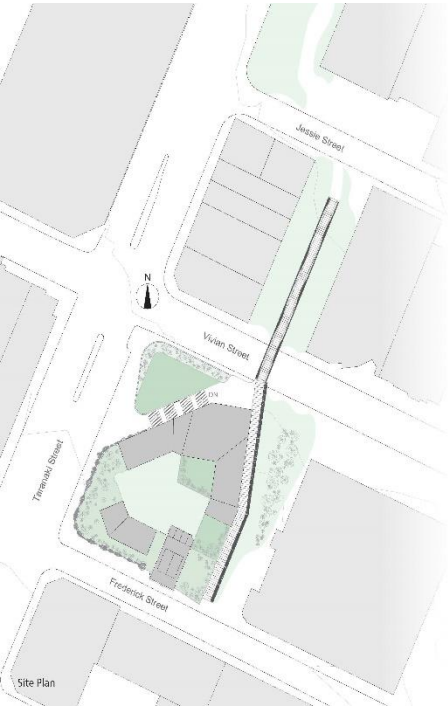
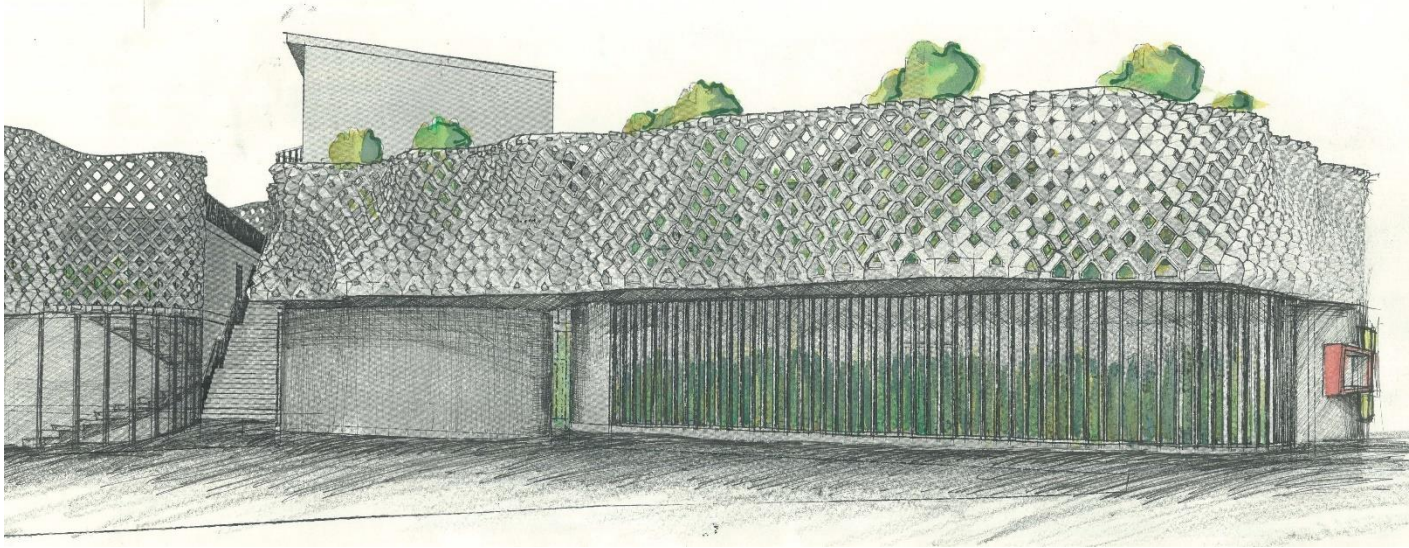


Savannah Hunt

Tom Westend



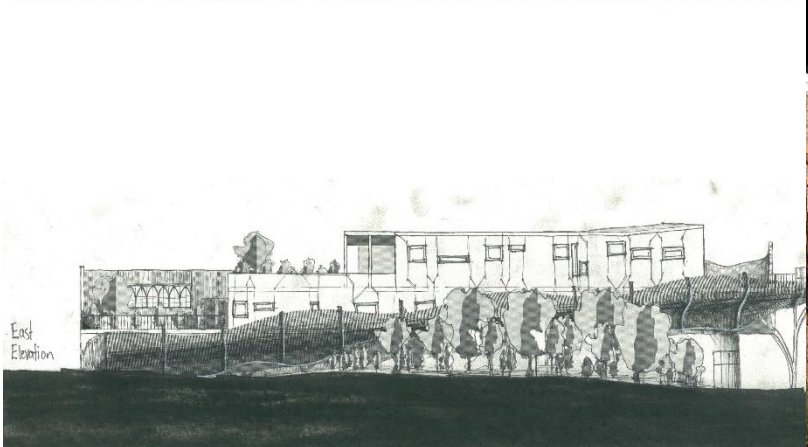
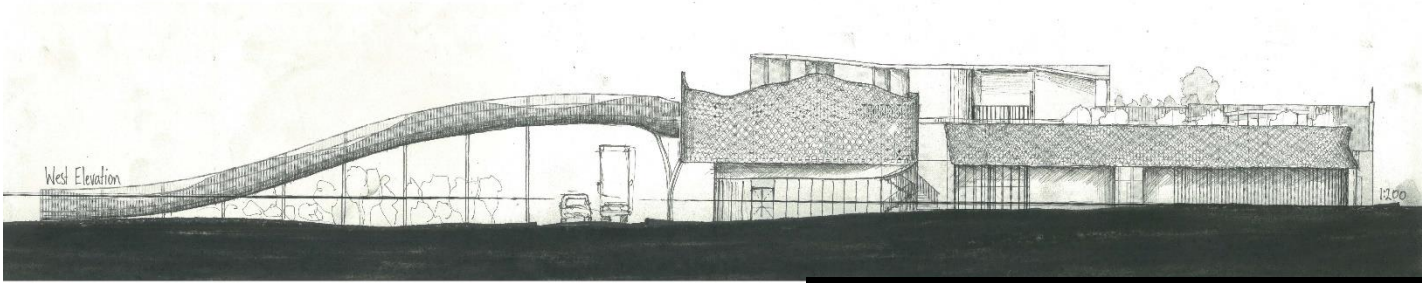
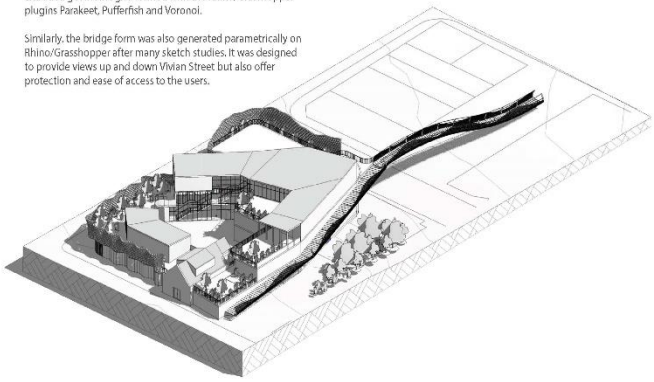
Home Away From Home

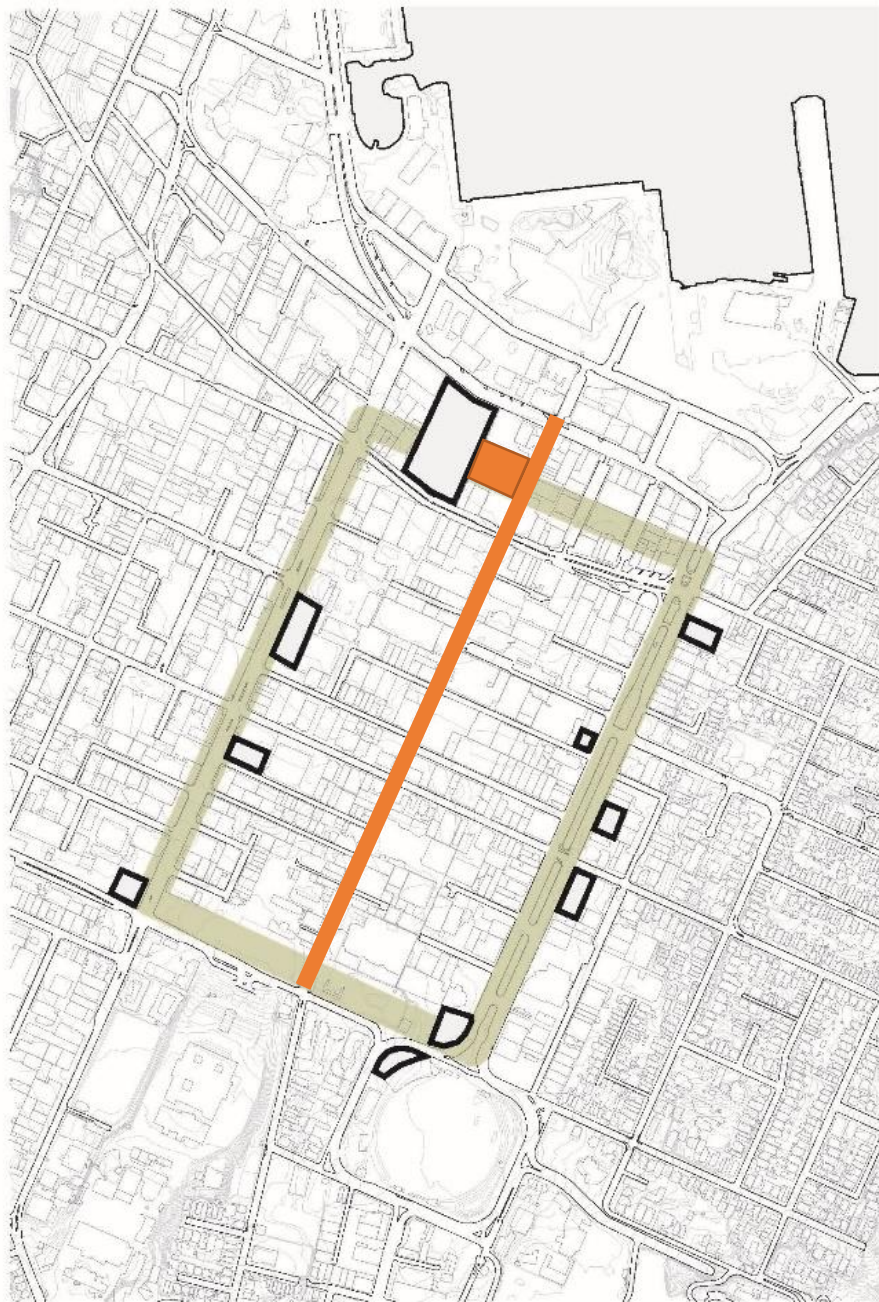


Major Design Interventions

Exploded isometric of how the façade skin was made up for the wall from a lofted surface made with graph mapper, to an extruded geometric grid formed with the Rhino/Grasshopper plugins Parakeet, Pufferfish and Voronoi.

Similarly, the bridge form was also generated parametrically on Rhino/Grasshopper after many sketch studies. It was designed to provide views up and down Vivian Street but also offer protection and ease of access to the users.

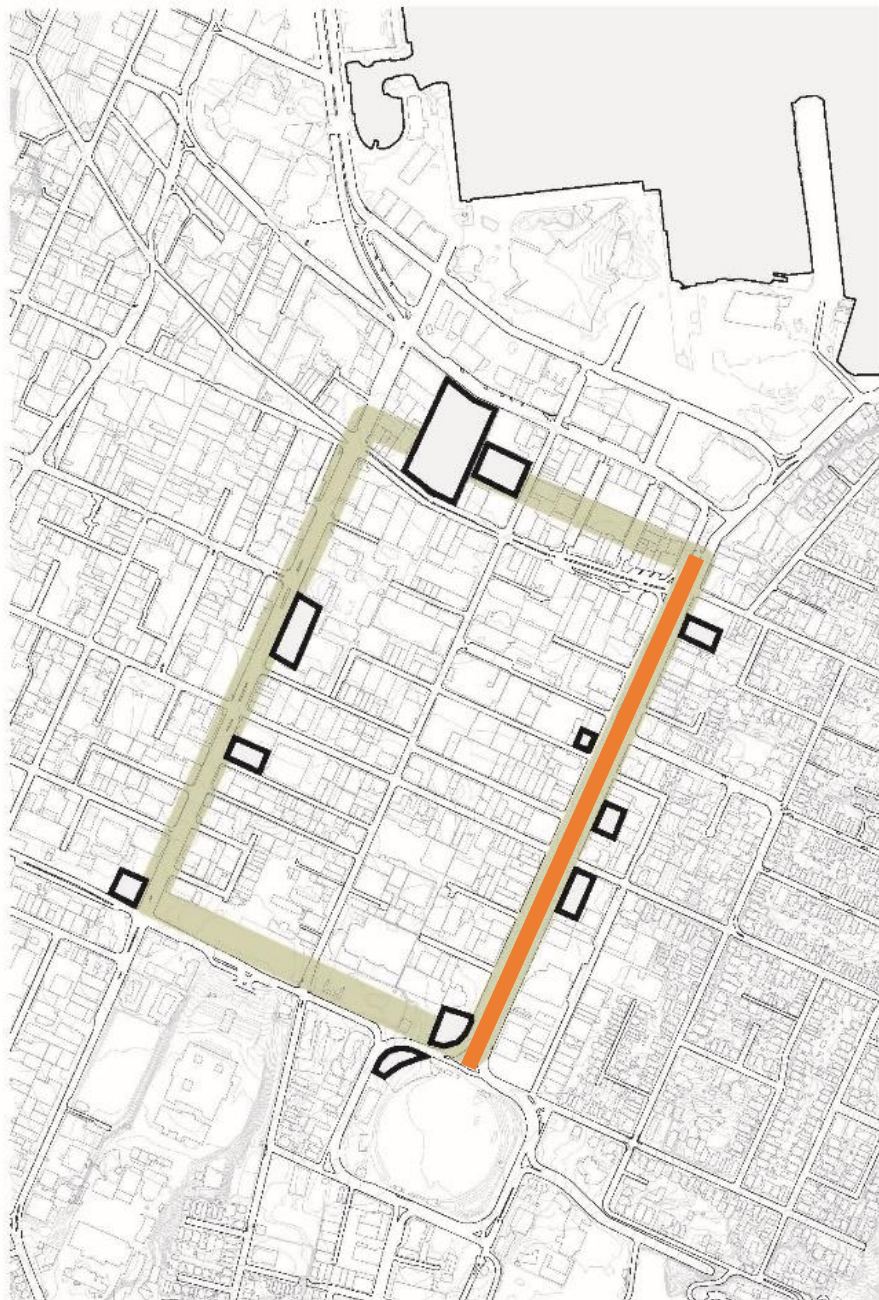




BIODIVER_CITIES

Through an ecosystem services framework, and by incorporating biophilic design principles: how can architecture and urban design contribute to regeneration and increased native biodiversity in Wellington?





BRIDGING THE DISTANCE: ACCOMMODATING WILDLIFE INTERACTION IN AN URBAN SETTING

HOW CAN URBAN HABITATS ACCOMMODATE NATIVE WILDLIFE SPECIES AS WELL AS PROVIDING ELEMENTS FOR HUMAN/WILDLIFE INTERACTION?

Michaela Thomson

+ POTENTIAL AREAS TO START INTERACTIONS

low a.
foraging



site species

Grey Warbler
SilverEye

Caterpillars
Flies
Spiders
Beetles

site plants

Cordyline australis
Coprosma robusta
Rubus phoenicolasius
Piper excelsum
Cyathea medullaris
Fuchsia excorticata
Pennantia corymbosa
Sophora

low b.
communicating



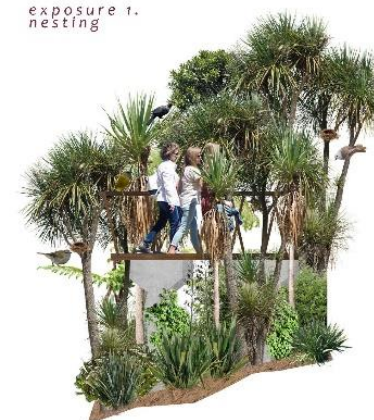
site species

Fantail
SilverEye

site plants

Cordyline australis
Coprosma robusta
Veronica 'otari delight'
Piper excelsum
Cyathea medullaris
Fuchsia excorticata
Pennantia corymbosa

exposure 1.
nesting



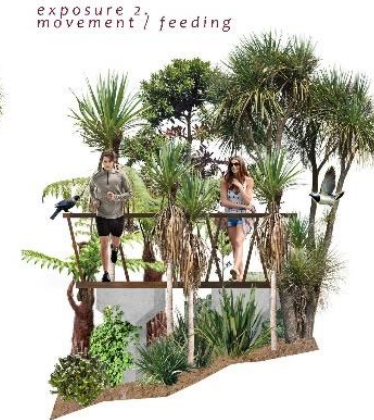
site species

Grey Warbler
Tui
Bellbird
Whitehead

site plants

Cordyline australis
Coprosma robusta
Rubus phoenicolasius
Piper excelsum
Cyathea medullaris
Fuchsia excorticata
Pennantia corymbosa
Holera populnea

exposure 2.
movement / feeding



site species

Tui
Kereru

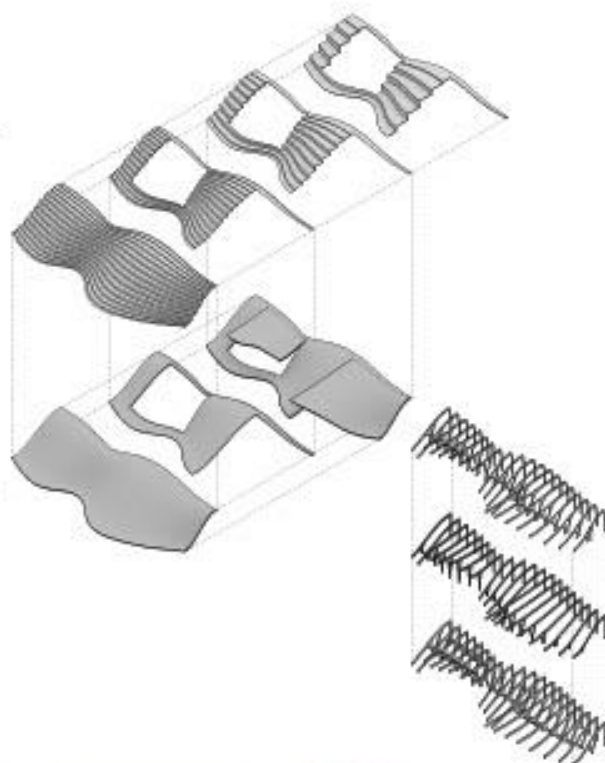
site plants

Cordyline australis
Phormium tenax
Coprosma robusta
Veronica 'otari delight'
Holera populnea
Piper excelsum
Cyathea medullaris
Fuchsia excorticata
Pennantia corymbosa

Wellington's Lost Streams

Tom Westend

The Waitangi stream catchment region encompasses the suburbs of Mt Vic, Te Aro, Mt Cook and Newtown. Historically there was a lagoon that was located where the Basin Reserve cricket grounds are with a stream that ran down Kent and Cambridge Terrace. This thesis is looking at bringing the stream and lagoon back to the surface for flood mitigation, increased central city biodiversity, remediation of urban water quality, human health and permaculture.



Diagrams Legend:

1. Flooding and existing piped stream locations
2. Simulated Stream locations
3. Figureground study of existing permeable vs impermeable surfaces
4. Building programme study
5. Connectivity opportunities between Te Aro and Mt Vic



The current design intervention explores the use of a terraced green roof for urban food production, increasing permeable surface area and cross programming a variety of functions essential to human and ecosystem health. The regenerative design and 14 principles of biophilic design models are used as the framework for testing concepts against.

Legend:

- Green Space
- Stream
- Light Rail Network
- Vehicular Aterial Route
- Monuments
- Area for Development
- Existing Infrastructure



Urgent biophilia: green spaces to aid in psychological resilience

An Investigation on Urgent Biophilia during the COVID-19 Pandemic

"When faced with an urgent disaster or hazardous situation, humans as individuals and as communities and populations, seek out doses of contact and engagement with nature to further their efforts to summon and demonstrate resilience in the face of a crisis." Tidball (2012)



Biophilia

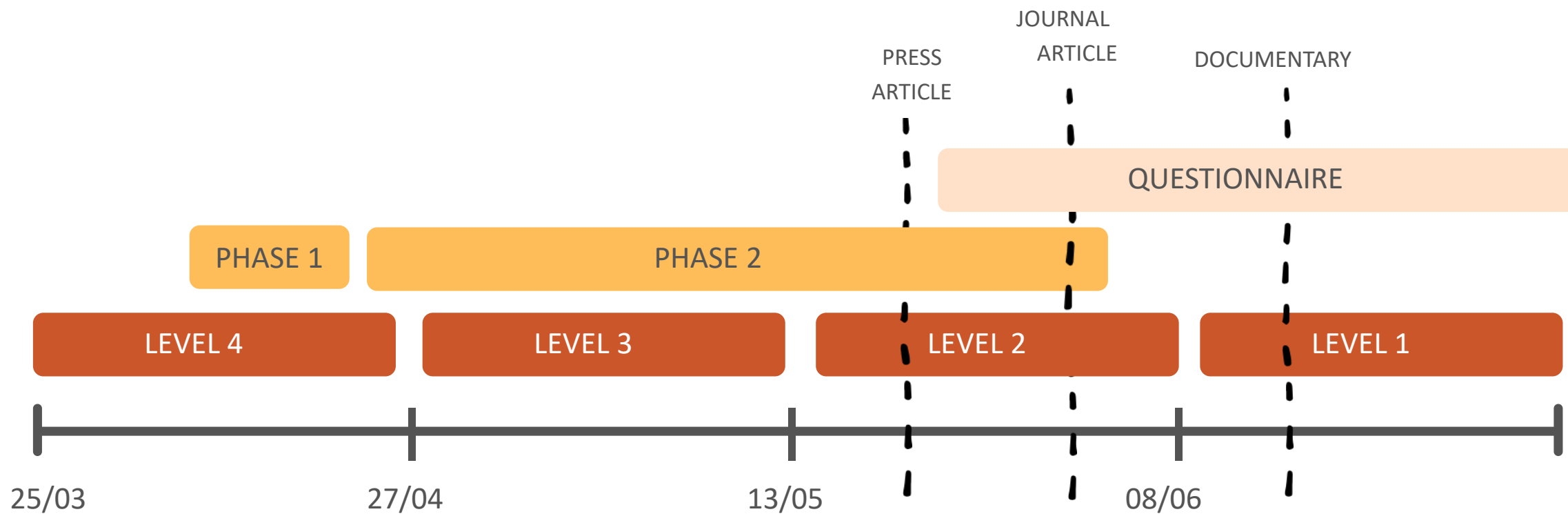
- Subconscious
- Stable periods: expressed at varying degrees
- Often used for recovery of personal hardship

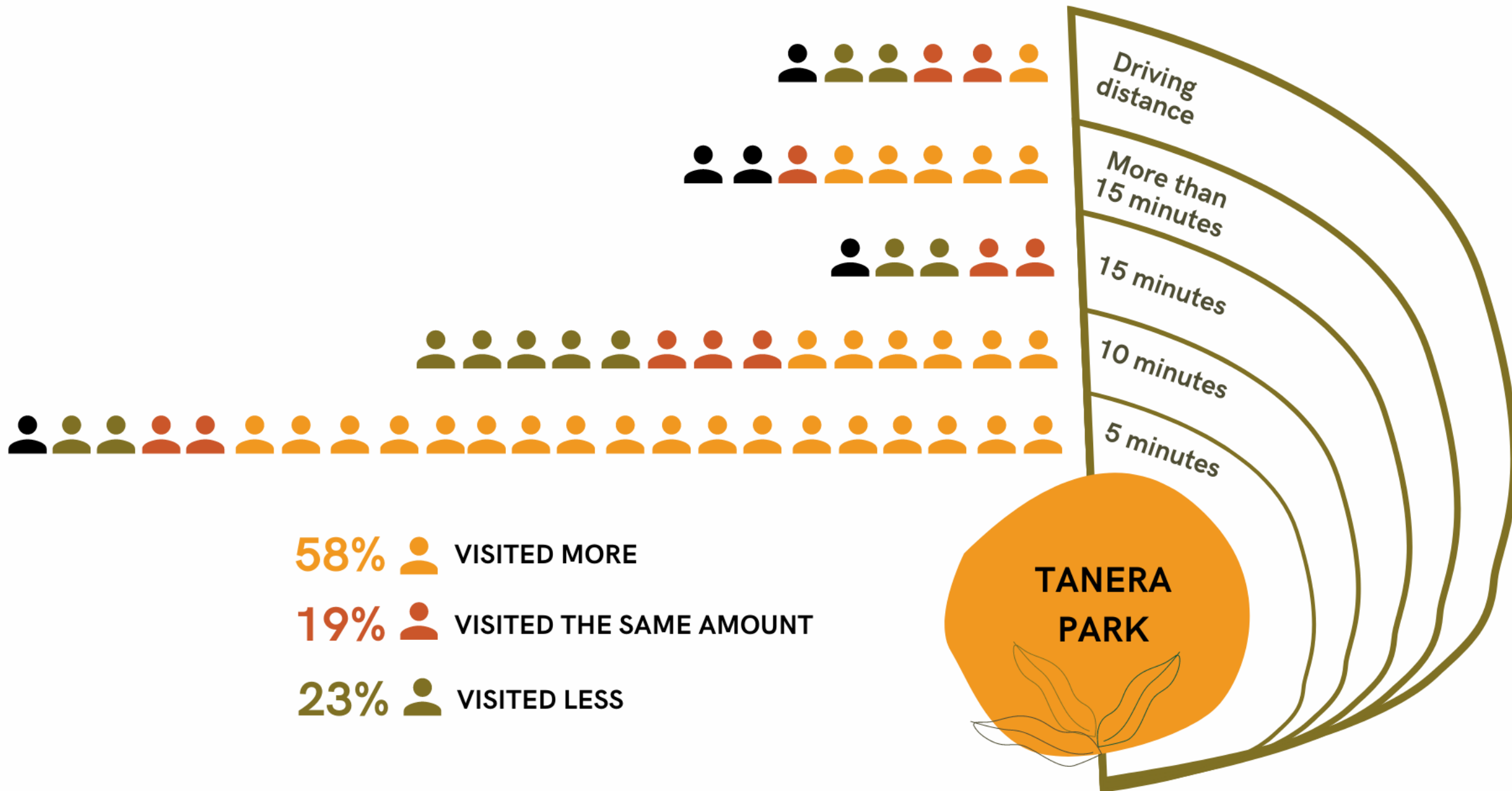
Urgent Biophilia

- Conscious
- Post-disaster context: 'highly sensitized'
- May compellingly and suddenly come to the fore
- In seeking the affiliation, aiding themselves in recovery

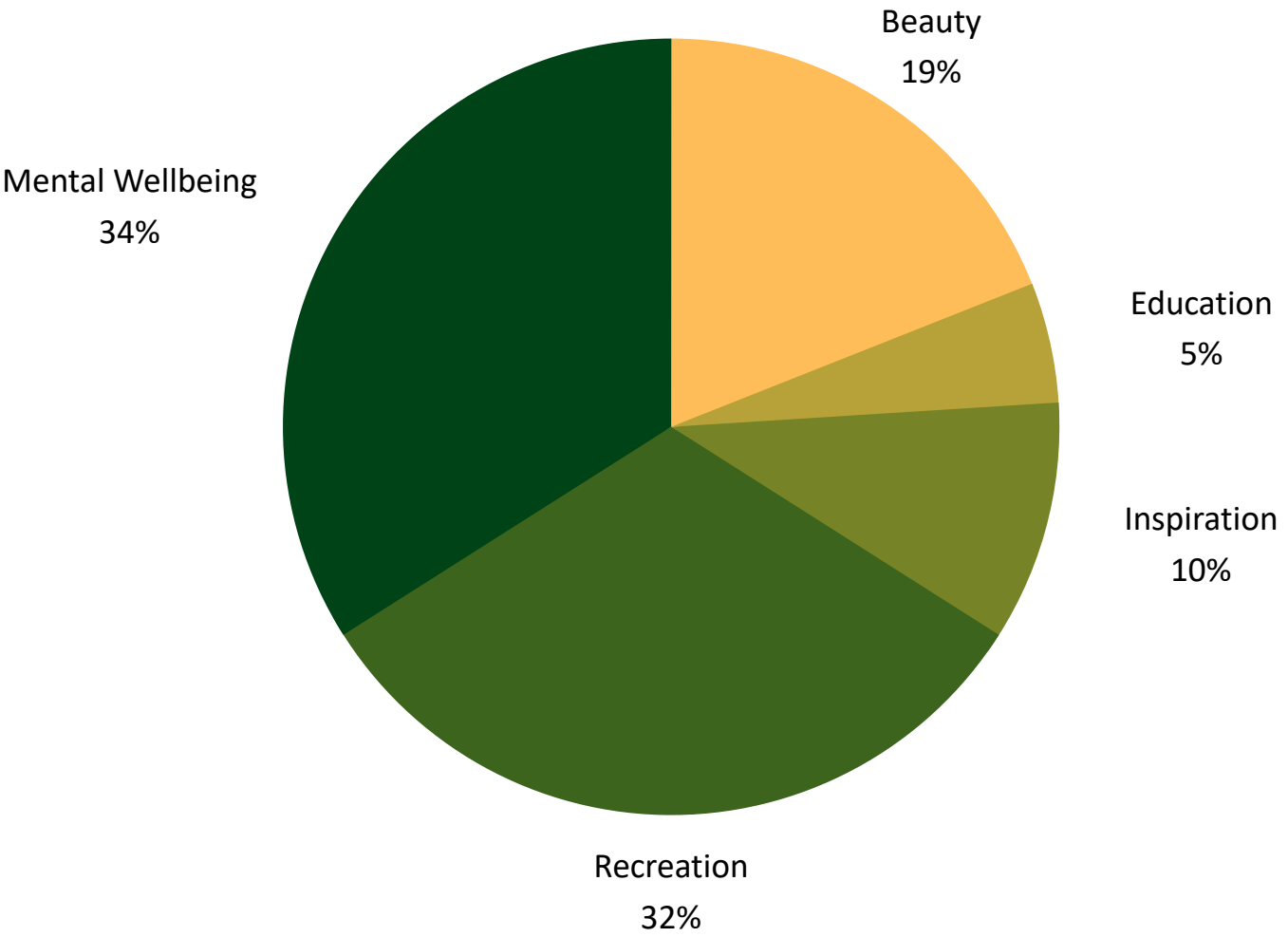


Tanera Park, Aro Valley





Why visit the park?

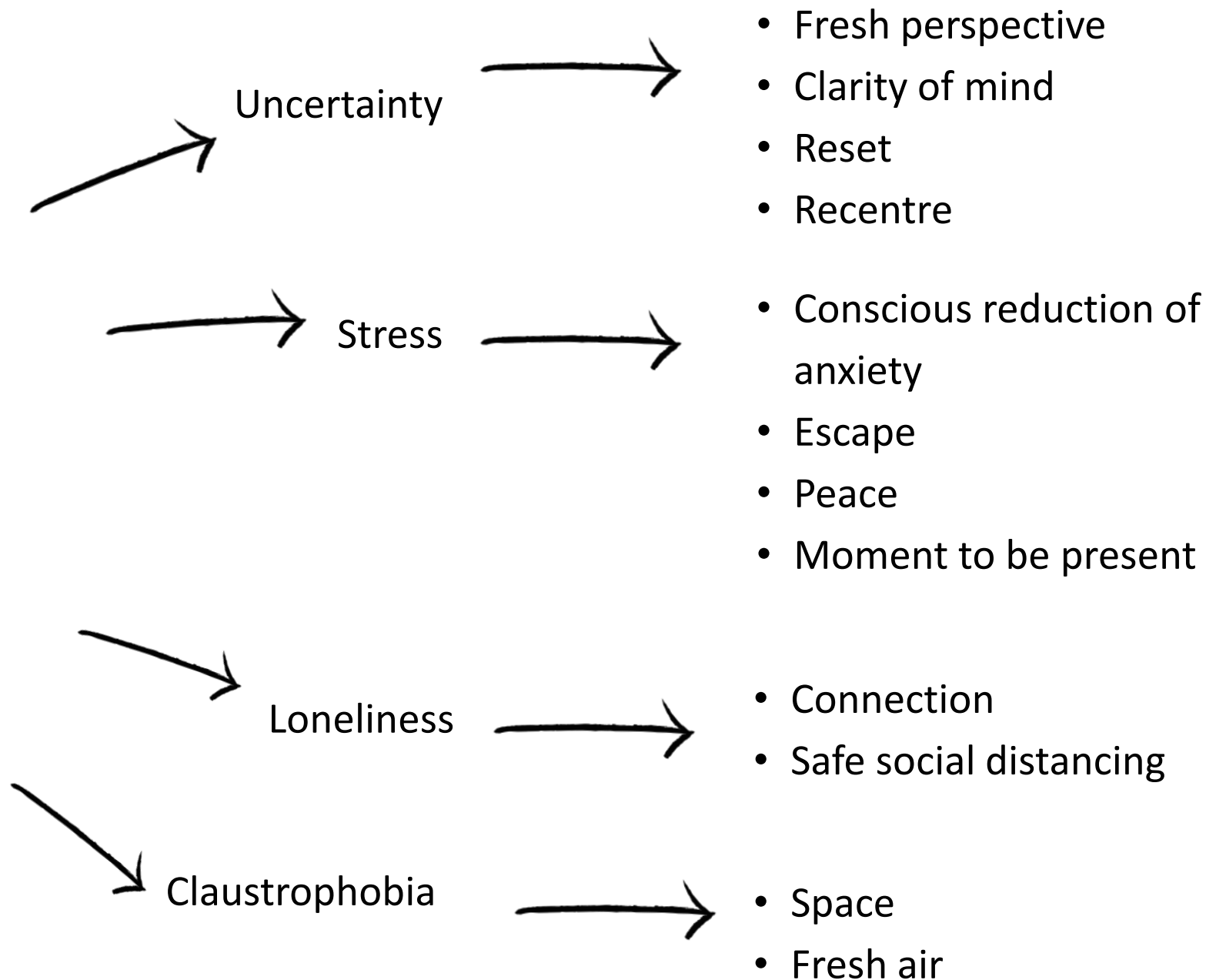


PHASE 01
Level Four



"Park visits helped me
process my emotions"

77%





Insights

- People were visiting the park for mental wellbeing as much as leisure
- They were satisfying physical AND psychological needs
- There was a rediscovery, enhanced interest, and realisation of the value of local nature for many

Implications in a post-Covid19 world

- Understanding responses to socio-ecological upheaval is important
- The climate crisis likely to increase the frequency and severity of 'events'.
- We must consider who gets access to nature
- Urban green/blue design should be strategic
- There is an opportunity to harness a refreshed appreciation of the value of green/blue space

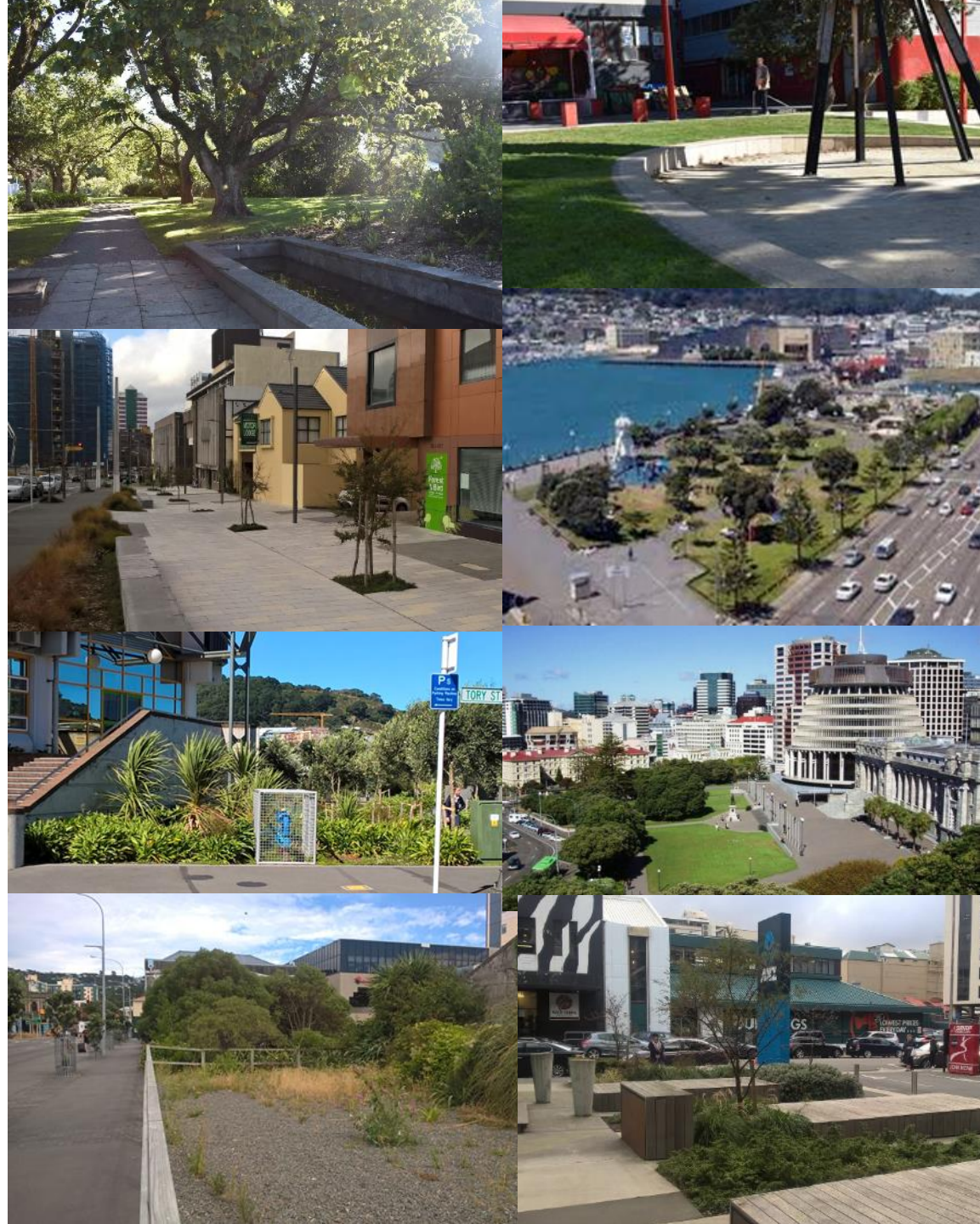


'Urgent Biophilia'
Documentary.
By G. Pittar
youtu.be/HsLSEAFEH8E

In Crisis, Do We Turn To
Nature? May 20, 2020
<http://business.scoop.co.nz/2020/05/20/in-crisis-do-we-turn-to-nature/>

Urban green space

- “An area of trees, grass, or other vegetation providing for environmental, recreational or cultural values”
- Not just WCC Parks and Gardens – also road reserves, other land tenures
- Different types of vegetation cover
 - Trees, horticulture, grass areas
- Green spaces and blue spaces
- Public spaces and private spaces



Central Wellington census area units and population



CAU	Popula tion (2013)	Pop'In (2043) High- growth scenario	Popl' growth (%) High- growth scenario
Thorndon- Tinakori Road	4,100	6,400	50
Lambton	5,600	11,150	92
Willis St - Cambridge Tce	7,300	15,900	110
Total Central City	17,400	31,080	90

2020 population approx. 25,000
Plus 76,300 commuters coming into central Wellington (2013)

Amounts of green space

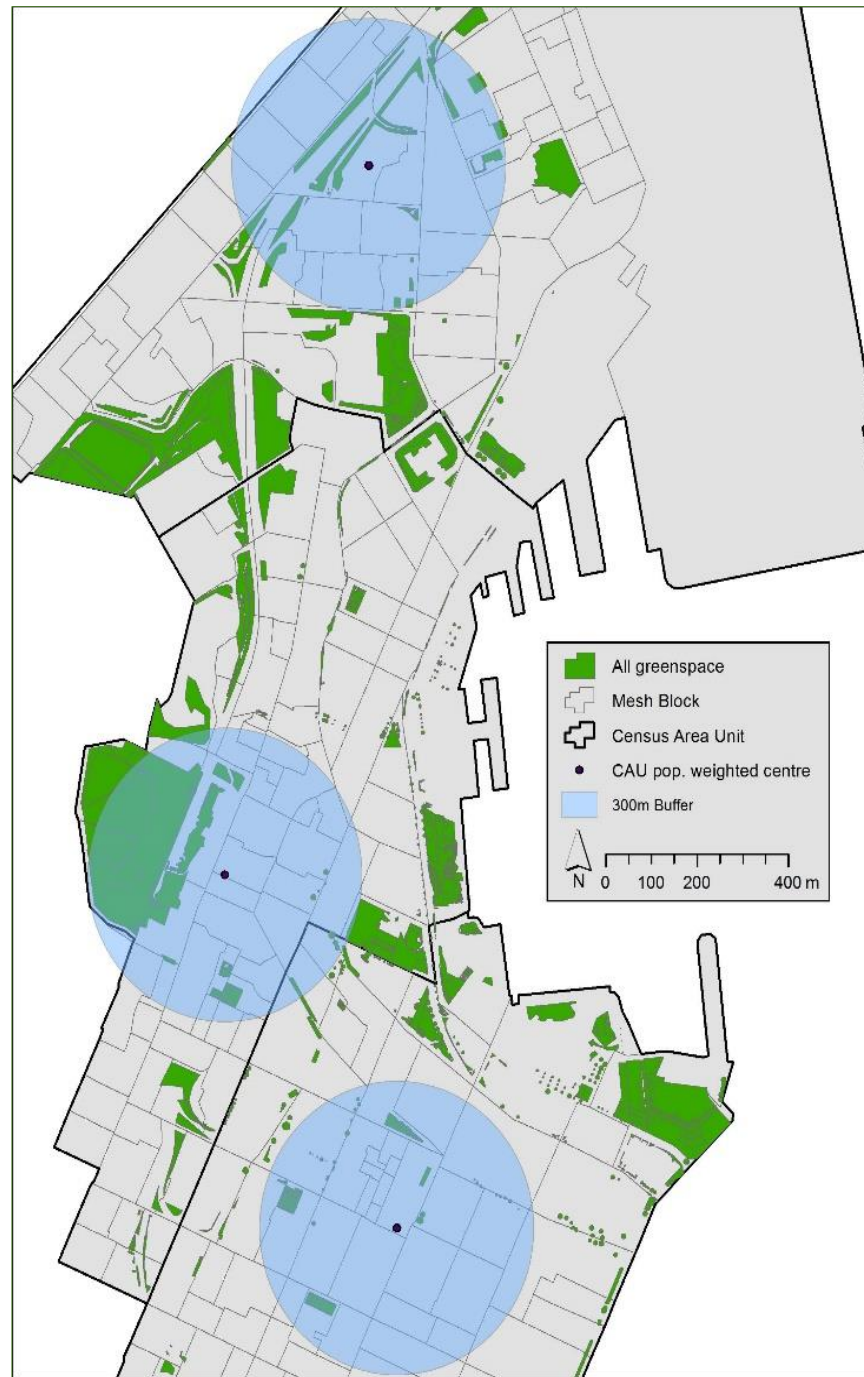
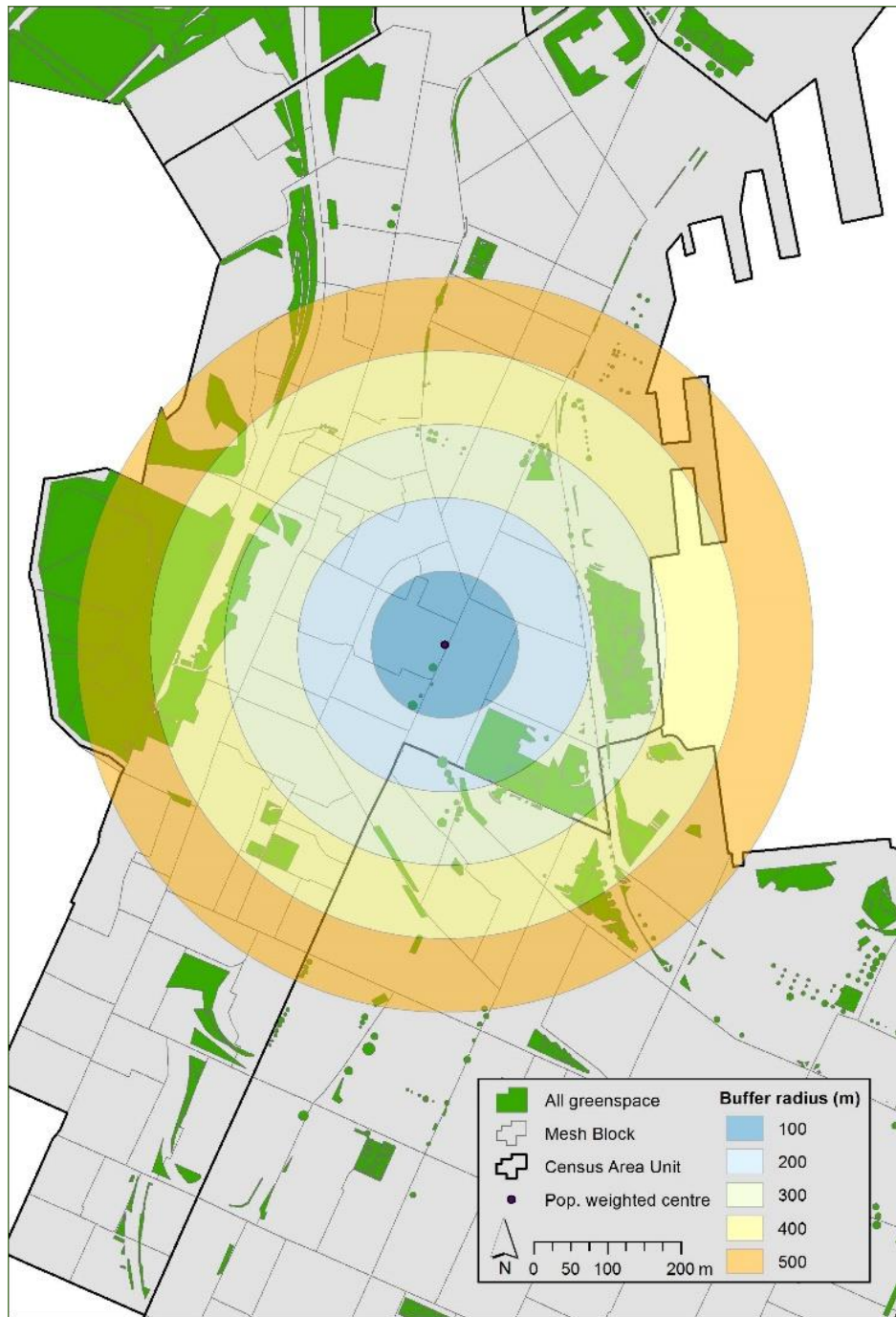
Land cover	Area (ha)			
	Thorndon-Tinakori	Lambton	Willis St-Cambridge Tce	Central City (total)
Discontinuous trees	9.2	1.8	1.3	12.3
Continuous trees	3.2	6.8	0.5	10.5
Hard surfaces	1.4	2.9	2.3	6.6
Grassed areas	4.2	4.5	1.9	10.6
Bushes & horticulture areas	0.5	0.3	1.1	1.9
Total (ha)	18.5	16.3	7.1	41.9



Per capita green space availability

CAU	Population (2013)	Total green space* (ha)	Green space per capita 2013 (m ² /person)	Green space per capita 2043 (m ² /person)
Thorndon-Tinakori Road	4,100	17.3	41	26
Lambton	5,600	12.5	22	11
Willis St-Cambridge Tce	7,300	6.1	8	3
Central City	17,400	34.6	20	10

* Excluding hard surfaces



“Buffers” of green space around population-centred centroids

Supply and demand conclusions

- The supply of accessible GS to the current population is unequally distributed between the three census area units (CAUs) comprising the central city
- These inequalities will increase as the CAU populations grow at different rates
- As population and housing density increases, the case for improving green space supply increases
- Accessibility issues for young, old & people with disabilities – quality considerations

Green space provision as Wellington densifies

- GS “interacts” with other urban infrastructure
 - Other public or accessible private space (waterfront, central govt, churches, private residential) helps augment council GS
- \$ into GS justified as city intensifies: need to maintain QOL & other co-benefits (e.g. resilience; climate change); benefits to property owners & users
 - e.g. small “pocket parks”; street corner parks
 - Do we need so much car parking as city densifies?
- Council can lead way with policies to encourage & where necessary require GS provision
 - Take advantage of opportunities for (small) property acquisition

Recommendations: Improving quantity and quality

- **Plan for increased availability, accessibility & quality of green space in the central city...**
 - ...in order to provide for the health & wellbeing and amenity benefits of the significantly larger future population of the central city
- Green spaces should be seen as vital green infrastructure and an integral part of functioning urban (eco)systems
- Resources needed for maintenance and replacement
- “Central city green spaces that enhance ecosystem and community health”
- 11 more specific recommendations



green + blue

Wellington - a city set in nature

Amy Hobbs

Mahi Hoahoa Tāone (Senior Urban Designer)

Why a green + blue network plan?

We want to enable well informed decision making for our green and blue spaces. It is more important than ever that we have targeted and deliberate investment in green + blue space to ensure our city will adapt to climate change, will function in sync with natural environment systems and support the health and wellbeing of people and communities.

Benefits



Economic

- Reduced flood risk
- Reduced health care costs
- Capitalise on Wellington's identity - a city set in nature
- Diversity of inner city jobs
- Increased property values
- Return on investment
- Happy tenants/less turnover



Resilience

- Climate change mitigation
- Social equality
- Kaitiakitanga
- Response to growth
- Reduced flood risk
- Emergency food supply
- Civil defence
- Seasonal shade
- Future proof
- World health epidemic



Health & Wellbeing

- Areas to gather - socialise
- Areas to rest + connect with nature
- Reduced stress
- Promote active lifestyle
- Accessible + safe
- Inclusive
- Increase amenity
- Livable city



Cultural

- Education
- Te Ao Māori
- Past, present future
- Connect to our local histories
- Community gardens
- Amenity
- Spiritual



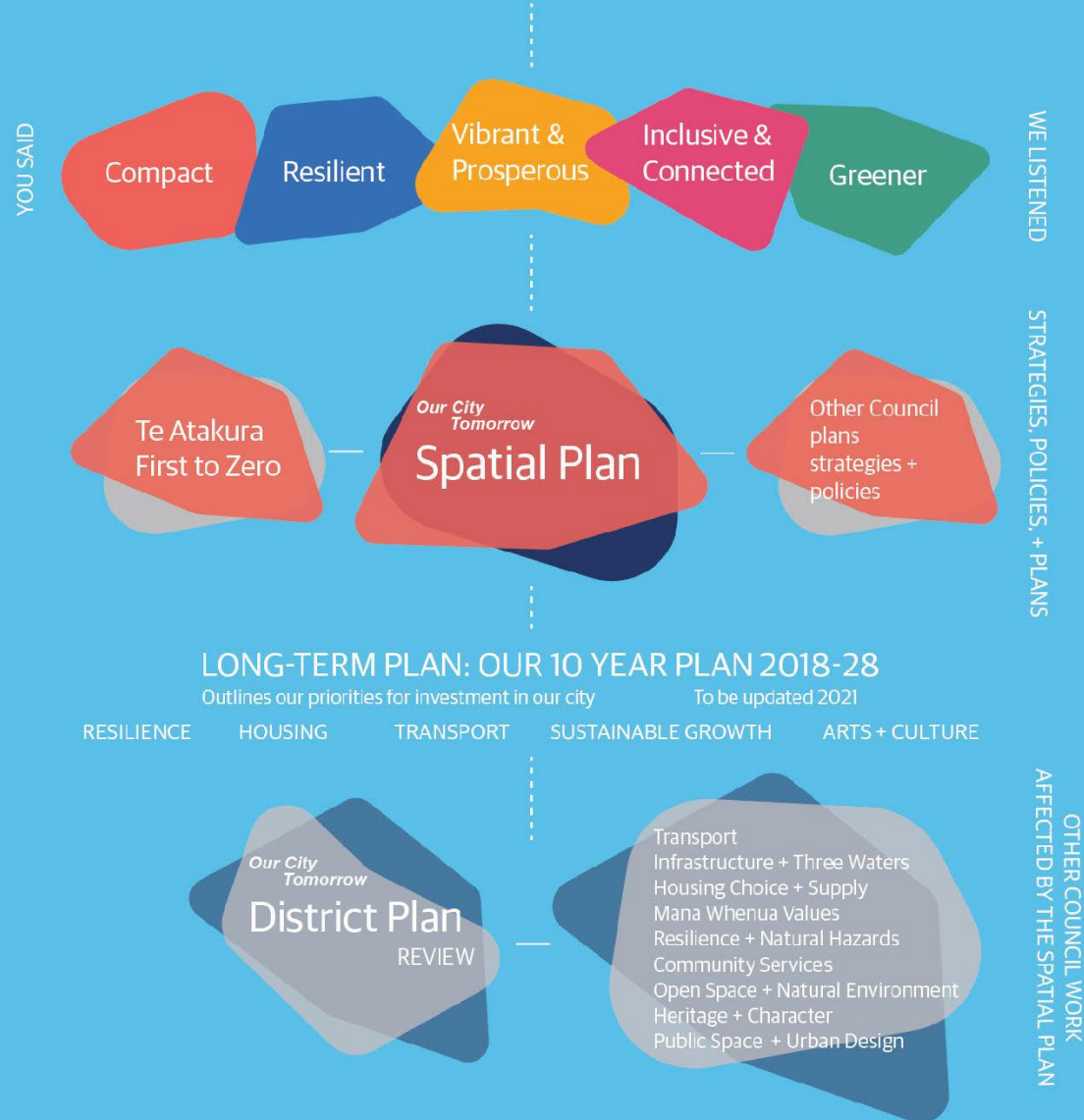
Ecological

- Walking the clean/green talk
- Mātauranga
- Water quality
- Biodiversity
- Sequester carbon
- Air quality
- Soil health

Strategic Alignment

Our City Tomorrow

Planning for Growth



Our environment is the foundation of our city - it holds everything together.

The green network plan is one part of a broader piece of work that Council will progress on how we provide for the necessary parks and other green spaces that are a critical part of city infrastructure.

What we are already doing



The critical mass of support for more green infrastructure and taking back our streets for people and nature witnessed during level 3 and 4 lockdown is very timely and relates strongly to existing WCC strategic frameworks.

This pandemic won't be our last pandemic and we have to be resilient to other shocks that could happen.

What we've heard

"We want nature to be a part of our lives."

Comments from the Our City Tomorrow pop-up engagement container 2017:

"Look after our water"

"I want to see more native plants and birds in the city:"

"More people need more green spaces and trees"

"Keep waterways clean"

"More public spaces! We'll need more with population increase"

“A thriving, green capital city framed by the harbour and hills, composed of interconnected, cohesive neighbourhoods that support people to lead healthy lives”.

Identity

There is only one Wellington

Let's cherish our flora and fauna,
our unique landscape and cultural
richness



Taonga

Every tree, plant, green space counts.

The strong presence of the town belt and harbour have perhaps influenced people's perception of Wellington and led to a degree of complacency about our central city environment



Make nature visible

A successful green and blue network will respond to climate change and help our city adapt to having more water in our lives.

There is compelling evidence based research that confirms people's health and wellbeing is significantly improved when they can connect with nature.

We can sequester more carbon through setting tree and vegetation targets.



Waitangi Park

Partnerships

Nature doesn't have cadastral boundaries so a successful green and blue network relies on people working together across private and public ownership boundaries.

This includes making both our open spaces and our built environment work harder.



Detail of map of Wellington compiled from information supplied by Elsdon Best

<https://mch.govt.nz/puke-ahu/park/puke-ahu-history-2>

Think green

'Thinking Green' underpins every project in Wellington. It is seen as a value add and a non negotiable.

Green space typologies and connectors are defined to identity opportunities for greening across the city.

A green and blue investment plan is endorsed along with recommended design solutions and increased asset management and whole of life costs.



Taasinge Square is Copenhagen's first climate-adapted urban space

Parklet



Bond Street

Pocket Park



Grey Street

City Park



Wharewaka. Image: Jeff Brass

Anchor Park



Waitangi Park

Linear Park



Image: St. Louis, Chouteau Greenway. Re-surfacing history and reducing segregation

Trees



Swanston Street, Melbourne. Walkable street

Green roofs and walls



Stedsans Rooftop Farm Restaurant, Copenhagen

SuDS & WSD



Waitangi Park

Our central city



Work in progress

Existing spaces - LOS mapping + assessment

Our trees



2019 WCC tree planting statistics

50,660 grown + planted by WCC or community groups

15,000 were grown and planted in community nurseries

Majority 10cm tall and planted in reserves
15% mortality rate

Of that, 140 planted in subdivisions in Churton Park and Grenada Village

5 planted in CBD to replace small ones that died
4 new trees in Grey Street
6 trees in Denton Park/Lombard (2018)

No heritage trees or notable trees in central city

Street + park trees (WCC GIS)

Local

"Parklets re-purpose two to three parking stalls along a block into a public space for people to enjoy the city".



Bond Street



The Terrace



Boulcott Street

International

Parklet examples



Ship Wreck Park, San Francisco



Fresh Air Park, London



Rua Padre João Manuel, São Paulo

Pocket Park examples

Local



Midland Park



Denton Park



Cobblestone Park. Image: Jeff Brass

International



Derbyshire Street Park



Derbyshire Street Park



Franklin Street Park

What will we end up with?

A plan that will influence decisions and align green + blue initiatives with projects such as LGWM, P4G, our Long Term Plan, roading and utility projects, park and streetscape projects, private sector developments and more.

Possible recommendations/outcomes:

- Regulatory and policy?
- Identify key relationships;
- Strategic acquisitions;
- Repurposing areas of road reserve;
- Street tree budget;
- Bringing under performing public open spaces up to a higher level of service;
- Invest and deliver over time;
- Funding models;
- Management and maintenance budget that reflect the level of service we need.

Dr Paul Blaschke

Blaschke & Rutherford Environmental
Consultants, Wellington

paul@blaschkerutherford.co.nz



[www.linkedin.com/in/
paul-blaschke-4868991b1](https://www.linkedin.com/in/paul-blaschke-4868991b1)



Dr Maibritt Pedersen Zari

Wellington School of Architecture
Victoria University of Wellington

maibritt.pedersen@vuw.ac.nz



[@MPedersenZari](https://twitter.com/MPedersenZari)



mpedersenzari.webs.com



[www.linkedin.com/in/
mpedersenzari](https://www.linkedin.com/in/mpedersenzari)



Amy Hobbs

Urban Design
Wellington City Council

amy.hobbs@wcc.govt.nz



Wellington.govt.nz



[@WgtnCC](https://twitter.com/WgtnCC)





green + blue

Wellington - a city set in nature

Amy Hobbs
Mahi Hoahoa Tāone (Senior Urban Designer)

**Absolutely Positively
Wellington City Council**
Me Heke Ki Pōneke

Why a green + blue network plan?

We want to enable well informed decision making for our green and blue spaces. It is more important than ever that we have targeted and deliberate investment in green + blue space to ensure our city will adapt to climate change, will function in sync with natural environment systems and support the health and wellbeing of people and communities.

Benefits



Economic

- Reduced flood risk
- Reduced health care costs
- Capitalise on Wellington's identity - a city set in nature
- Diversity of inner city jobs
- Increased property values
- Return on investment
- Happy tenants/less turnover



Resilience

- Climate change mitigation
- Social equality
- Kaitiakitanga
- Response to growth
- Reduced flood risk
- Emergency food supply
- Civil defence
- Seasonal shade
- Future proof
- World health epidemic



Health & Wellbeing

- Areas to gather - socialise
- Areas to rest + connect with nature
- Reduced stress
- Promote active lifestyle
- Accessible + safe
- Inclusive
- Increase amenity
- Livable city



Cultural

- Education
- Te Ao Māori
- Past, present future
- Connect to our local histories
- Community gardens
- Amenity
- Spiritual



Ecological

- Walking the clean/green talk
- Mātauranga
- Water quality
- Biodiversity
- Sequester carbon
- Air quality
- Soil health

Strategic Alignment



Our environment is the foundation of our city - it holds everything together.

The green network plan is one part of a broader piece of work that Council will progress on how we provide for the necessary parks and other green spaces that are a critical part of city infrastructure.

What we are already doing



What we've heard

"We want nature to be a part of our lives."

Comments from the Our City Tomorrow
pop-up engagement container 2017:

"Look after our water"

"I want to see more
native plants and
birds in the city:"

"More people need more
green spaces and trees"

"Keep waterways clean"

"More public spaces!
We'll need more with
population increase"

Draft vision

“A thriving, green capital city framed by the harbour and hills, composed of interconnected, cohesive neighbourhoods that support people to lead healthy lives”.

Identity

There is only one Wellington

Let's cherish our flora and fauna,
our unique landscape and cultural
richness



Taonga

Every tree, plant, green space counts.

The strong presence of the town belt and harbour have perhaps influenced people's perception of Wellington and led to a degree of complacency about our central city environment



Make nature visible

A successful green and blue network will respond to climate change and help our city adapt to having more water in our lives.

There is compelling evidence based research that confirms people's health and wellbeing is significantly improved when they can connect with nature.

We can sequester more carbon through setting tree and vegetation targets.



Waitangi Park

Partnerships

Nature doesn't have cadastral boundaries so a successful green and blue network relies on people working together across private and public ownership boundaries.

This includes making both our open spaces and our built environment work harder.



Detail of map of Wellington compiled from information supplied by Elsdon Best

<http://linch.govt.nz/puke-ahu/park/puke-ahu-history-2>

Think green

'Thinking Green' underpins every project in Wellington. It is seen as a value add and a non negotiable.

Green space typologies and connectors are defined to identity opportunities for greening across the city.

A green and blue investment plan is endorsed along with recommended design solutions and increased asset management and whole of life costs.



Taasinge Square is Copenhagen's first climate-adapted urban space

Draft typologies

Parklet



Bond Street

Pocket Park



Grey Street

City Park



Wharewaka. Image: Jeff Brass

Anchor Park



Waitangi Park

Linear Park



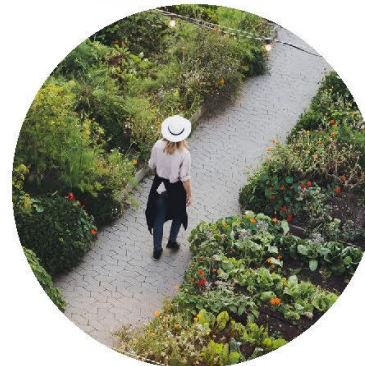
Image: St. Louis, Chouteau Greenway. Re-surfacing history and reducing segregation

Trees



Swanston Street, Melbourne. Walkable street

Green roofs and walls



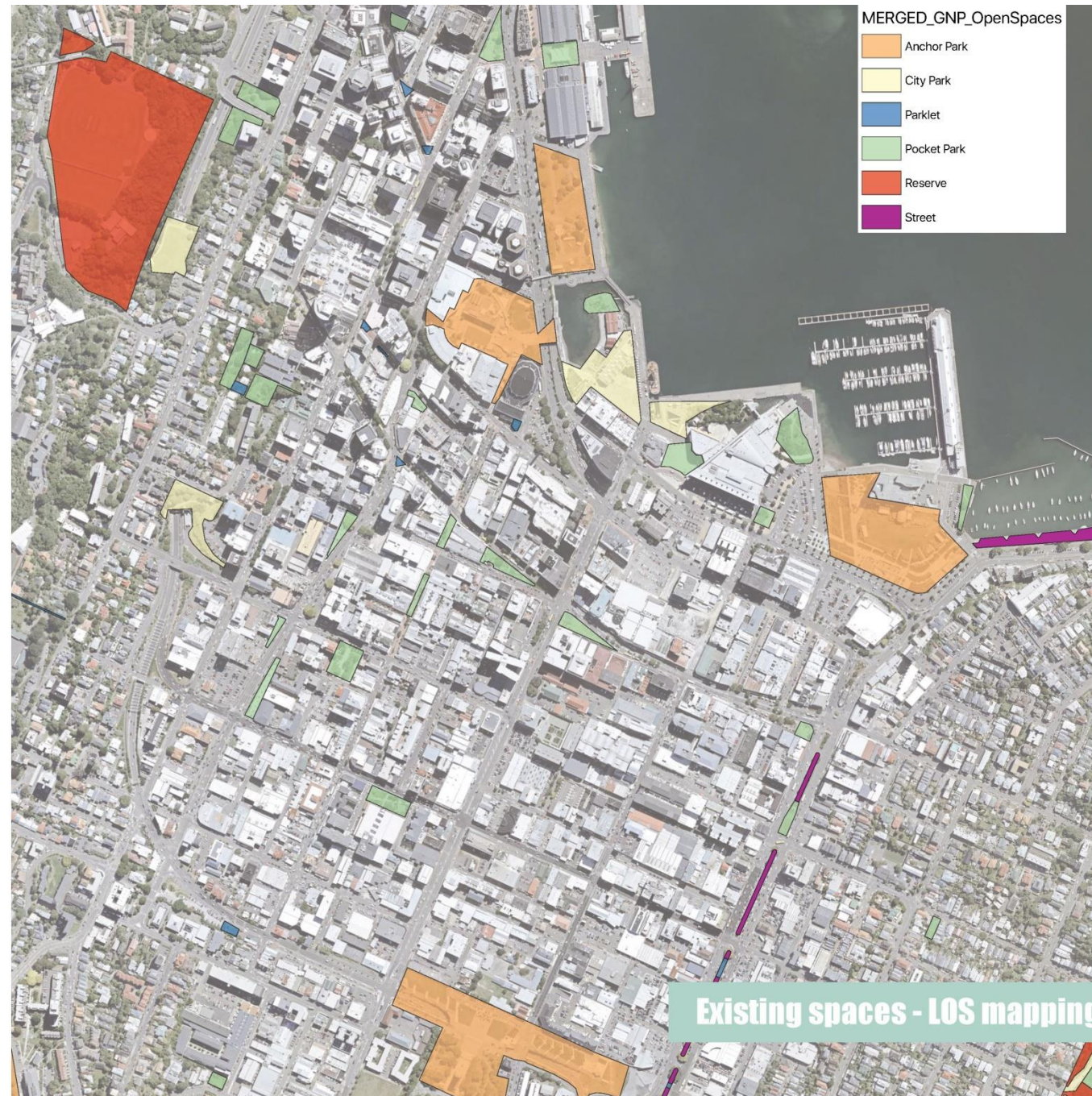
Stedsans Rooftop Farm Restaurant, Copenhagen

SuDS & WSD



Waitangi Park

Our central city



Our trees



Local

"Parklets re-purpose two to three parking stalls along a block into a public space for people to enjoy the city".



Bond Street



The Terrace



Boulcott Street

International

Parklet examples



Ship Wreck Park, San Francisco



Fresh Air Park, London



Rua Padre João Manuel, São Paulo

Pocket Park examples

Local



Midland Park



Denton Park



Cobblestone Park. Image: Jeff Brass

International



Derbyshire Street Park



Derbyshire Street Park



Franklin Street Park

What will we end up with?

A plan that will influence decisions and align green + blue initiatives with projects such as LGWM, P4G, our Long Term Plan, roading and utility projects, park and streetscape projects, private sector developments and more.

Possible recommendations/outcomes:

- Regulatory and policy?
- Identify key relationships;
- Strategic acquisitions;
- Repurposing areas of road reserve;
- Street tree budget;
- Bringing under performing public open spaces up to a higher level of service;
- Invest and deliver over time;
- Funding models;
- Management and maintenance budget that reflect the level of service we need.

Dr Paul Blaschke

Blaschke & Rutherford Environmental
Consultants, Wellington

paul@blaschkerutherford.co.nz



[www.linkedin.com/in/
paul-blaschke-4868991b1](https://www.linkedin.com/in/paul-blaschke-4868991b1)



Dr Maibritt Pedersen Zari

Wellington School of Architecture
Victoria University of Wellington

maibritt.pedersen@vuw.ac.nz



[@MPedersenZari](https://twitter.com/MPedersenZari)



mpedersenzari.webs.com



[www.linkedin.com/in/
mpedersenzari](https://www.linkedin.com/in/mpedersenzari)



Amy Hobbs

Urban Design
Wellington City Council

amy.hobbs@wcc.govt.nz



Wellington.govt.nz



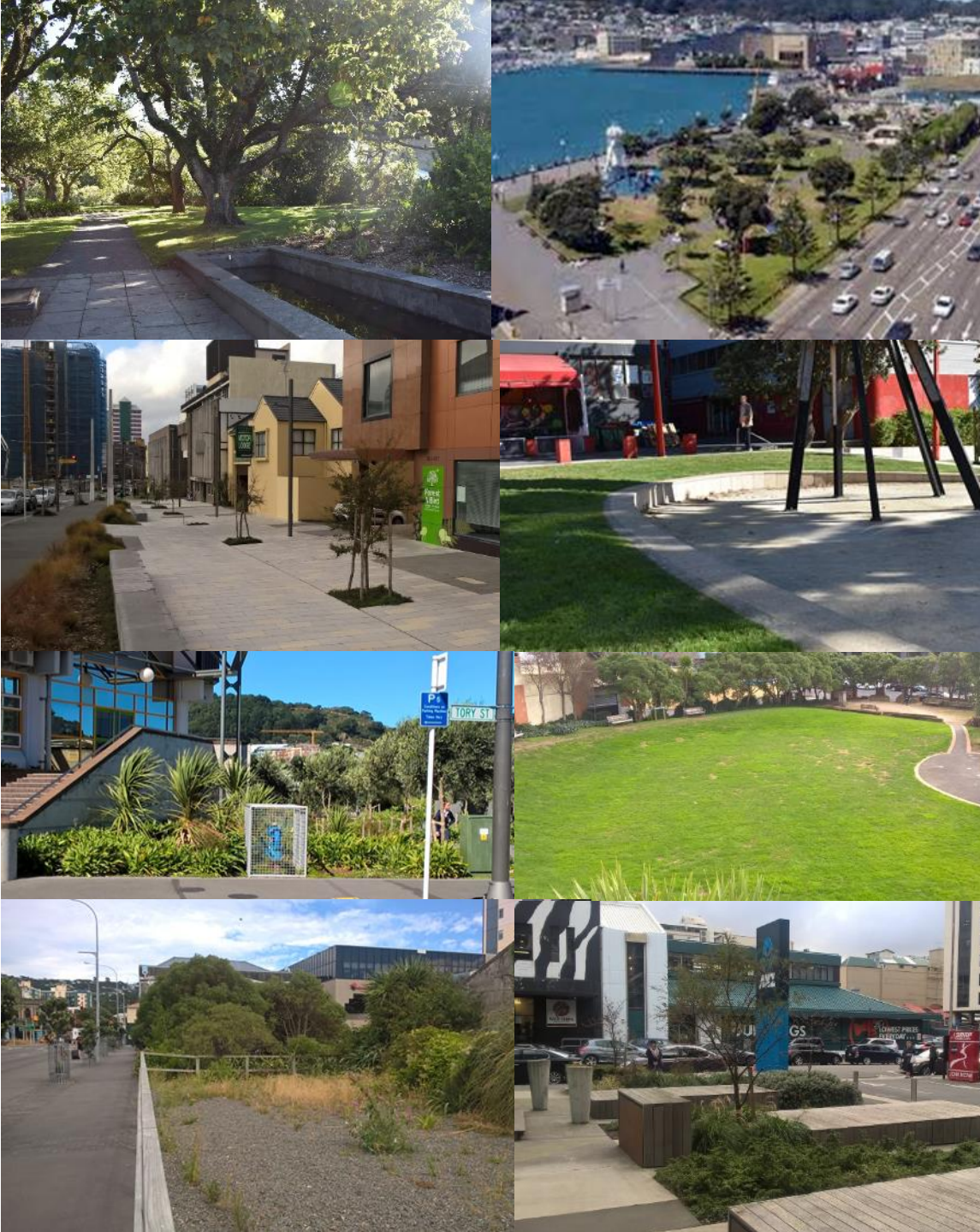
[@WgtnCC](https://twitter.com/WgtnCC)



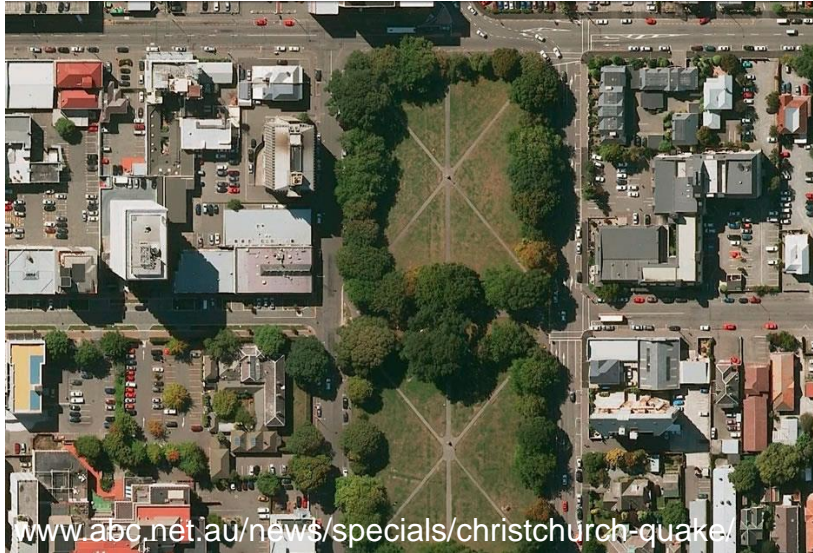
Spares

Categories and types of public green space

Parks and reserves	Road reserves	Other zoned areas
Continuous trees and forest	Treeland (discontinuous trees)	Waterfront Central Government grounds Schools NZTA etc Classification As for parks and reserves
Treeland	Treeland	
Bushes, shrubs, horticulture areas	Individual trees	
Grassed areas	Grassed areas	
Impervious surfaces	Impervious surfaces	



Urban green spaces as centres of resilience



Accessibility, quality, and universal design



- Maibritt incorporates a couple of key ideas from following 5 slides?

Children and adult visitors at the Botanic Gardens, Wellington (photographer: 'Wanderer')