

A vibrant, tree-lined pedestrian street in a city, likely Amsterdam. The street is paved with cobblestones and is flanked by multi-story brick buildings with many windows. Large, leafy trees line the street, providing shade. In the foreground, a person wearing a blue dress and a hat is walking away from the camera, and a man in a white shirt and tan pants is walking towards them. A bicycle is parked on the right side of the street. The overall atmosphere is bright and sunny, suggesting a pleasant day.

Finding space for nature:

A set of approaches to making cool, walkable streets



OPEN ACCESS

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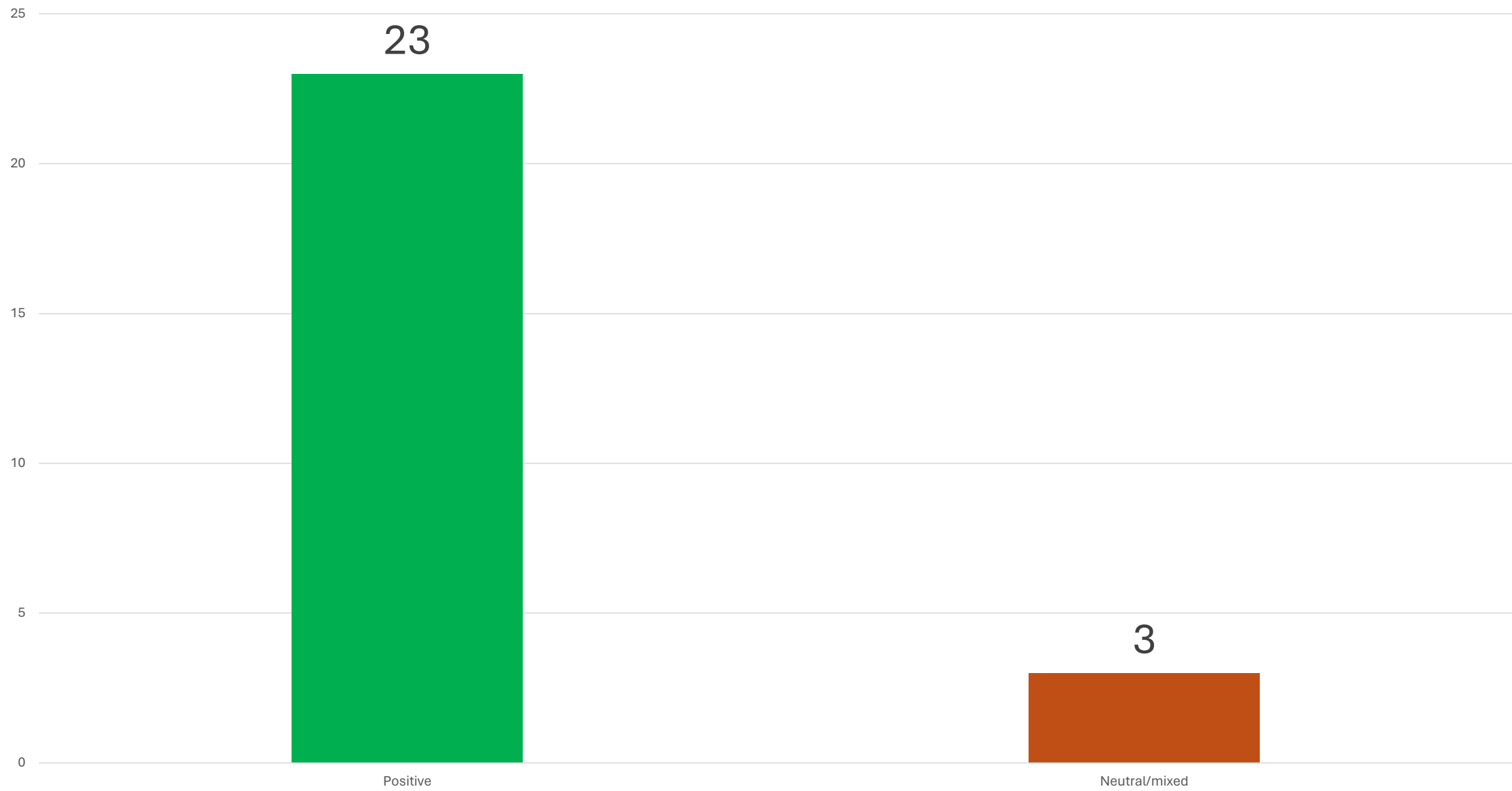
The impact of street greenery on active travel: a narrative systematic review

Jiahua Yu, Hao Zhang, Xinyang Dong and Jing Shen*

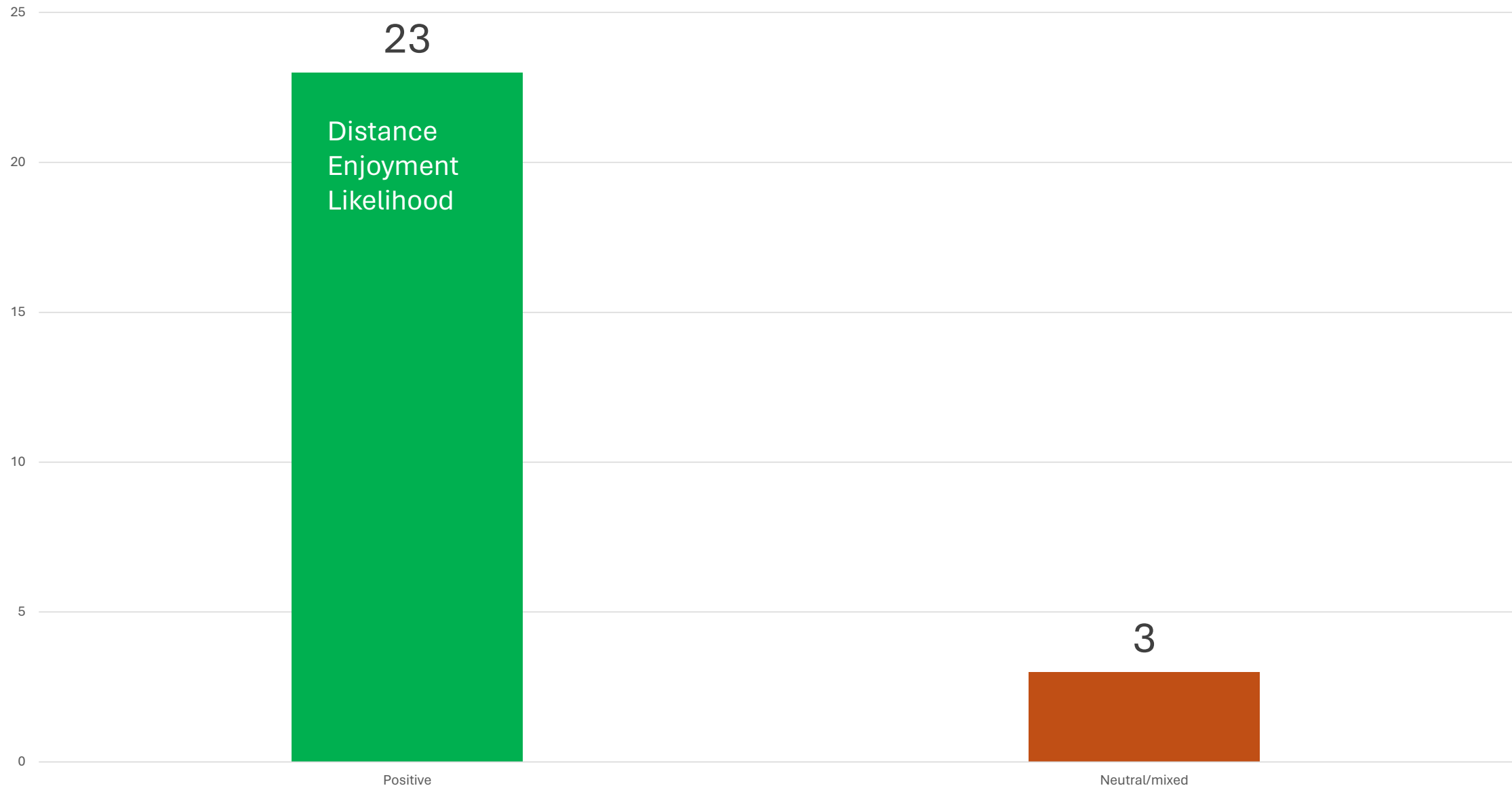
Department of Physical Education, China University of Geosciences (Beijing), Beijing, China

Background: Street greenery may have a profound effect on residents' active travel (AT), a mode of transportation involving walking and cycling. This study systematically reviewed the scientific evidence on the effects of street greenery on active travel.

Impact of greenery on active transport behaviour - findings of 26 studies



Impact of greenery on active transport behaviour - findings of 26 studies



Benefits of Urban Trees

Research has linked the presence of urban trees to...



PROTECTING BIODIVERSITY

including habitat for migrating birds and pollinators



REDUCING OBESITY LEVELS

by increasing physical activity including walking and cycling



MANAGING STORMWATER,
keeping pollutants out of waterways,
and reducing urban flooding



REDUCING RATES

of cardiac disease, strokes, and asthma due to improved air quality



COOLING city streets by 2-4° F,
reducing deaths from heat and
cutting energy use



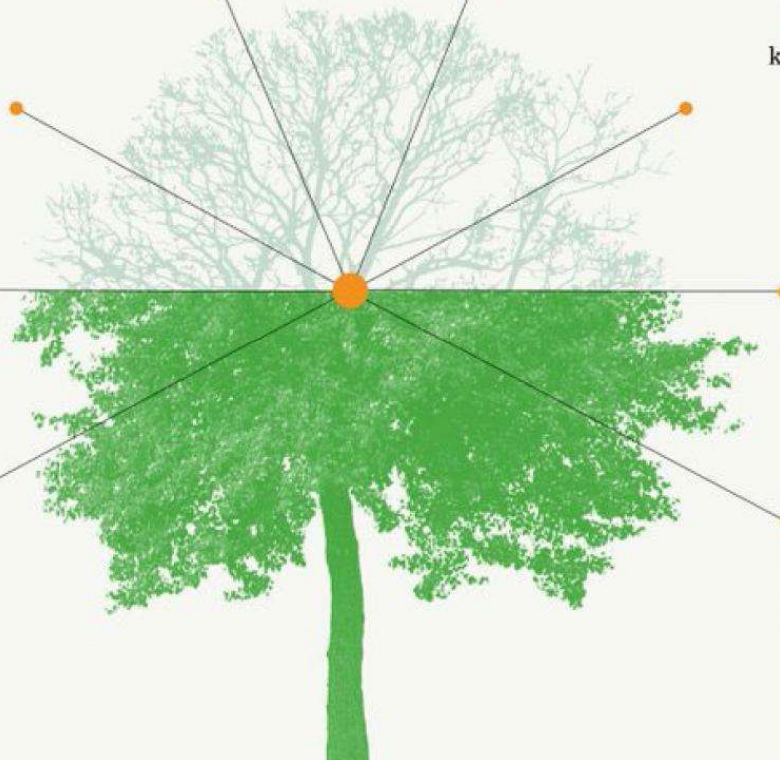
FILTERING up to a third of fine
particle pollutants within
300 yards of a tree

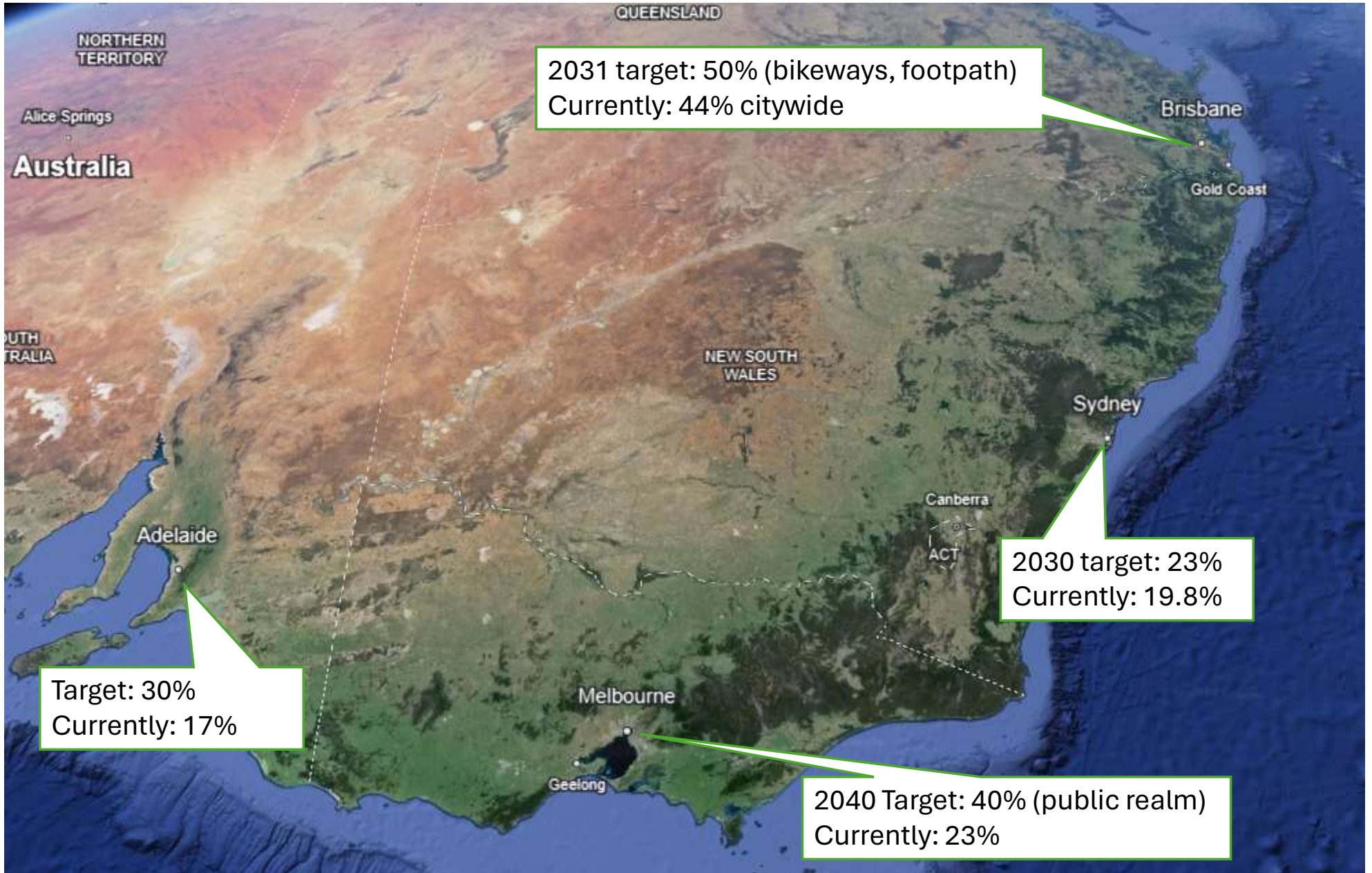


INCREASING
neighborhood property values



REDUCING STRESS by helping
interrupt thought patterns that
lead to anxiety and depression





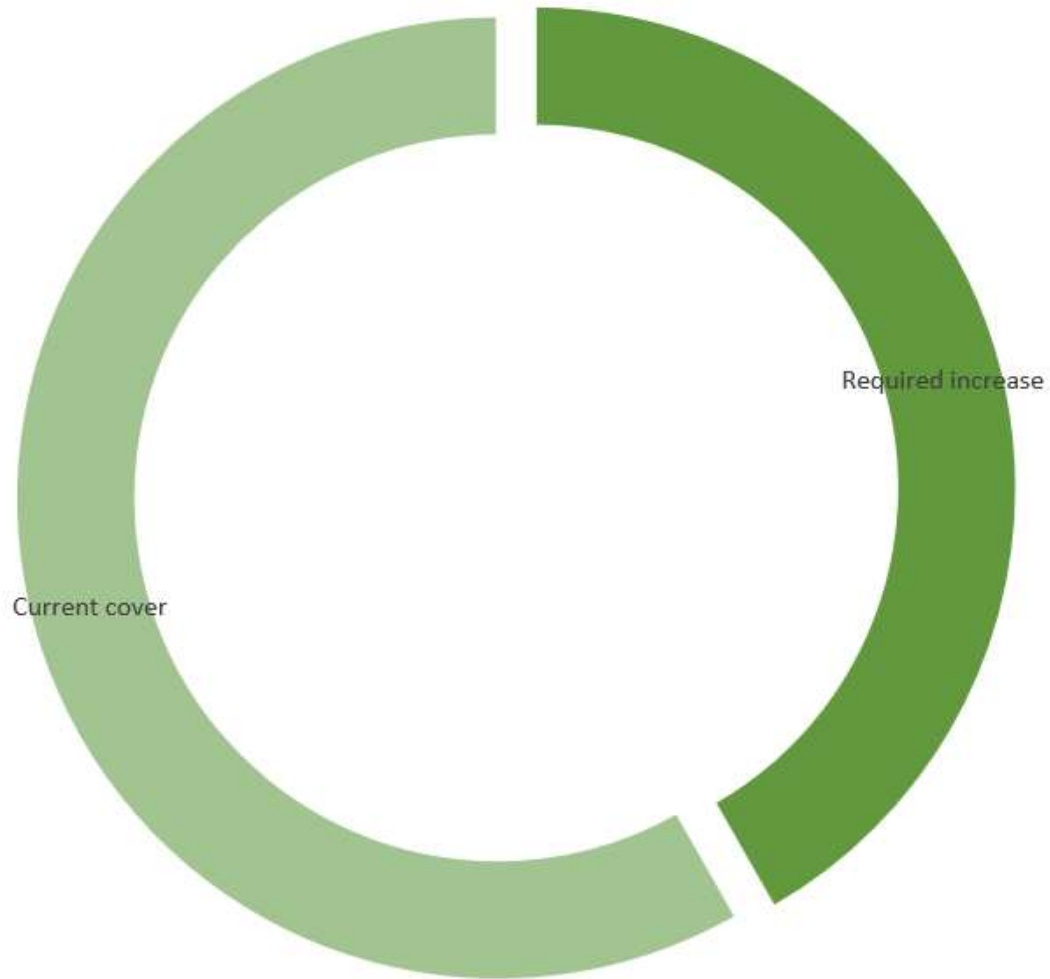
2031 target: 50% (bikeways, footpath)
Currently: 44% citywide

Target: 30%
Currently: 17%

2030 target: 23%
Currently: 19.8%

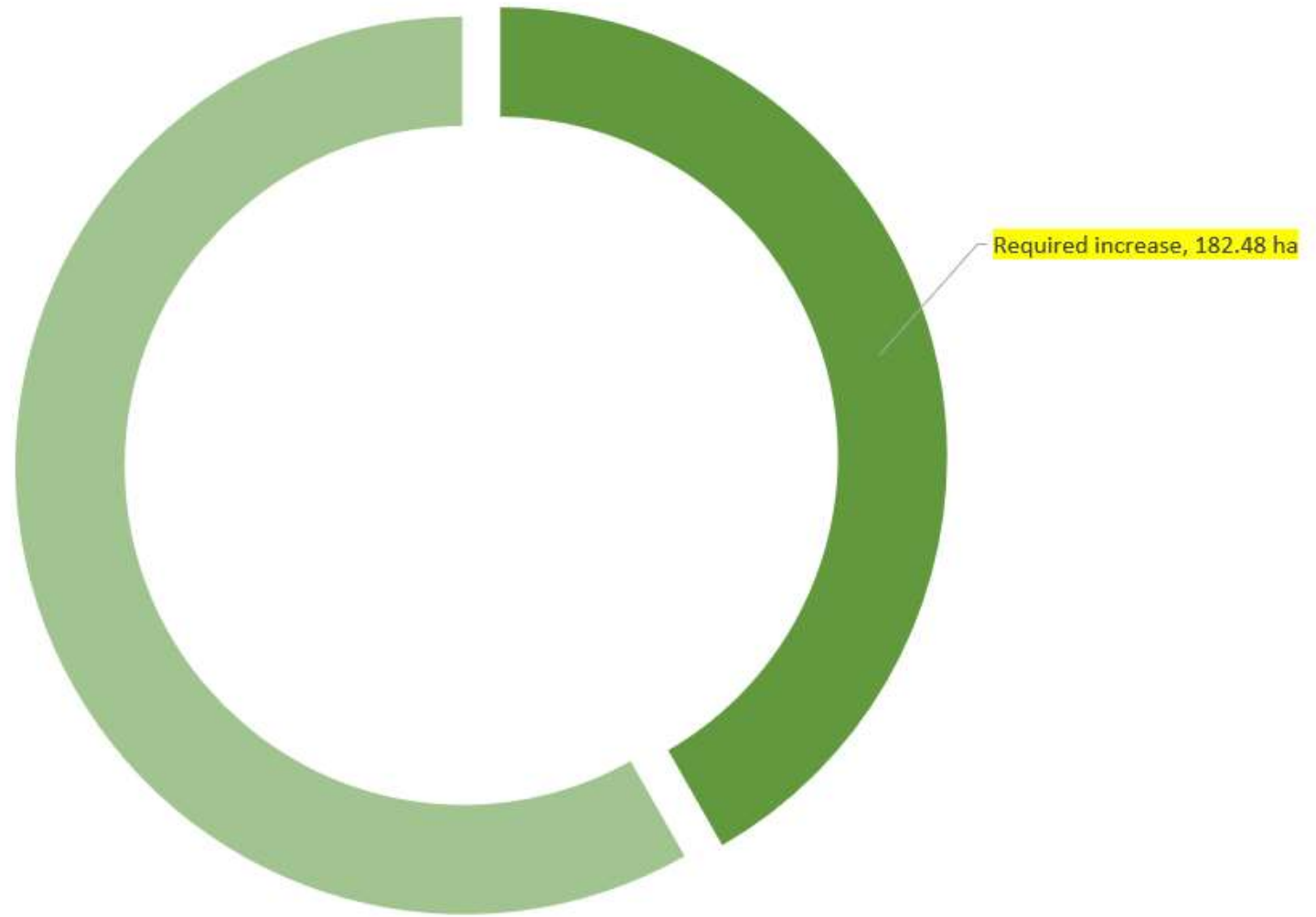
2040 Target: 40% (public realm)
Currently: 23%

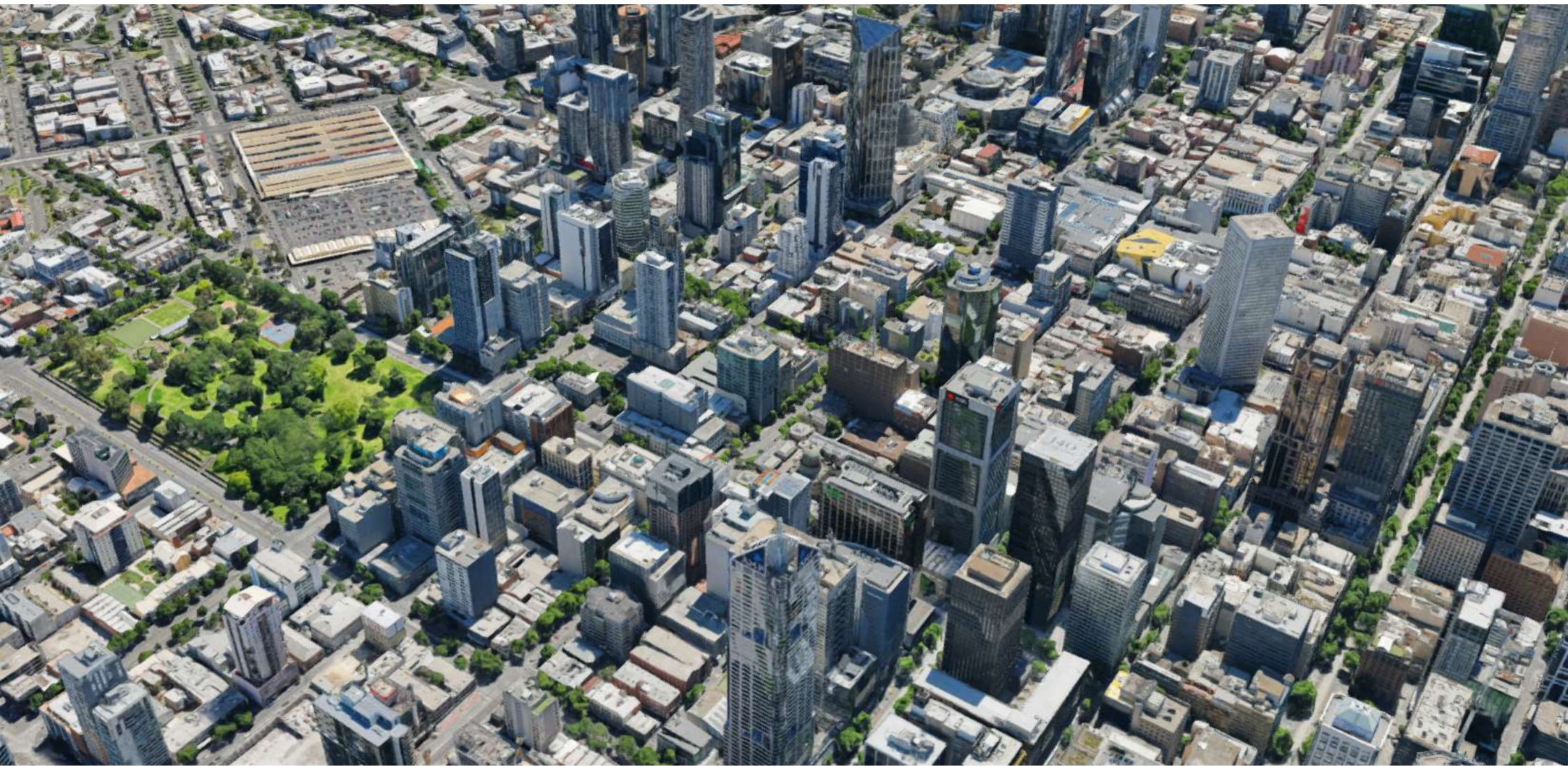
40% Canopy Cover by 2040



Current cover (ha)	Required for 40% target	Required increase
254.6	437.08	182.4

40% Canopy Cover by 2040







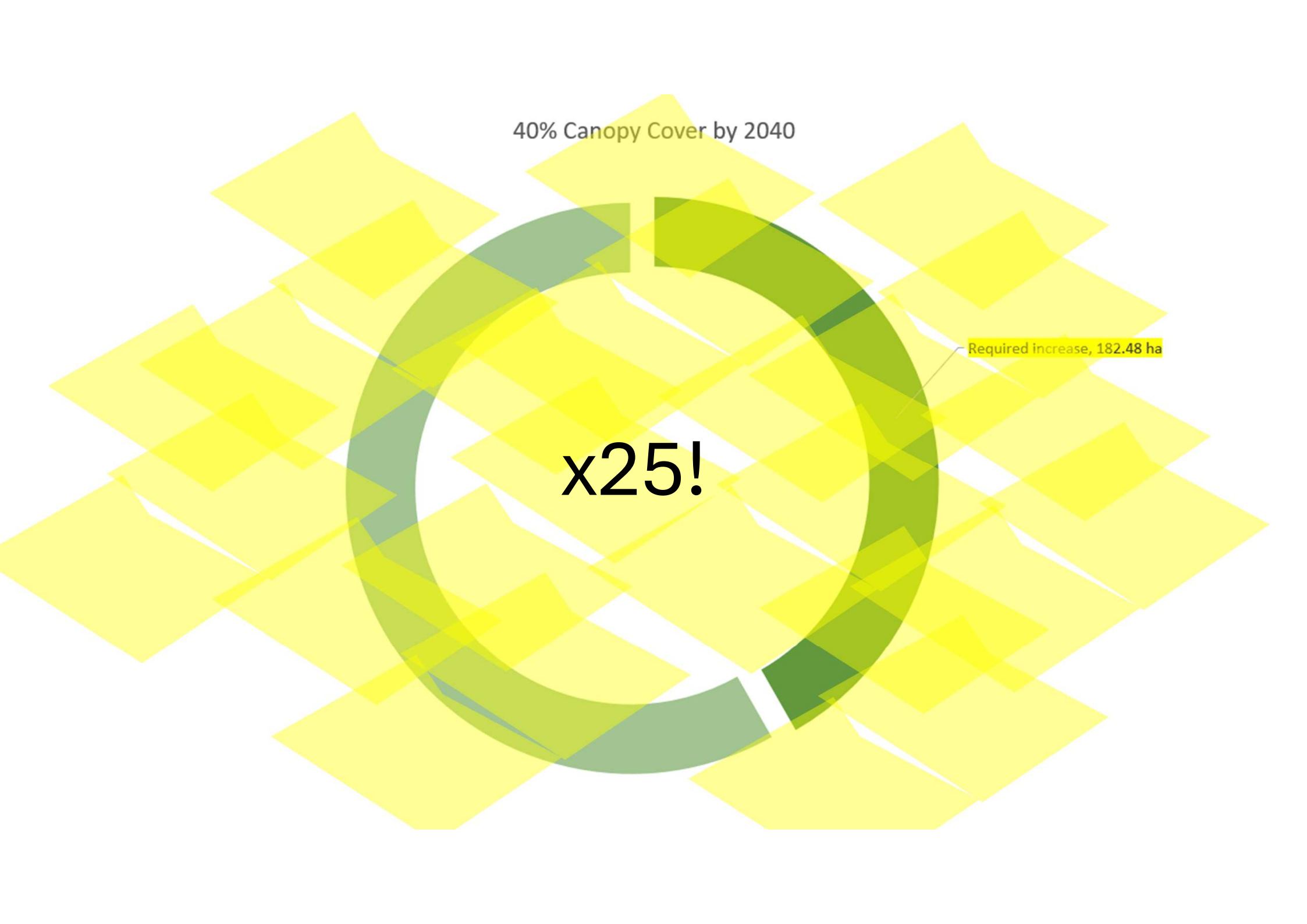


7.2ha

40% Canopy Cover by 2040

Required increase, 182.48 ha

x25!



Two paths to systematic land use change

- A few huge, iconic moves
- A few hundred modest re-balancings

Set 1: the showpieces



Cheonggyecheon stream
Seoul, Korea



Before



After





Bishan Park, Singapore





Before



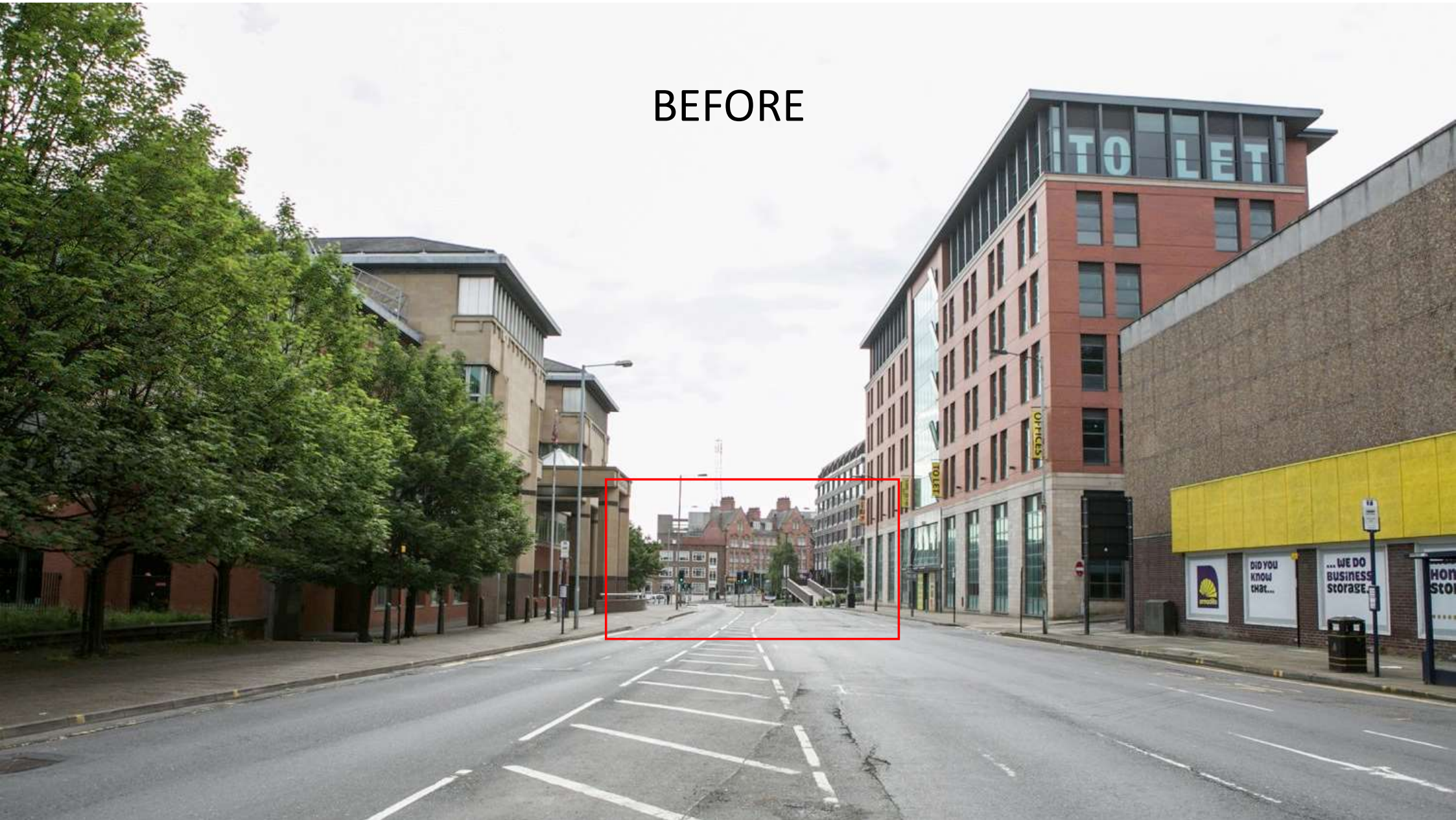
After



'Grey to Green' - Sheffield, UK



BEFORE



AFTER

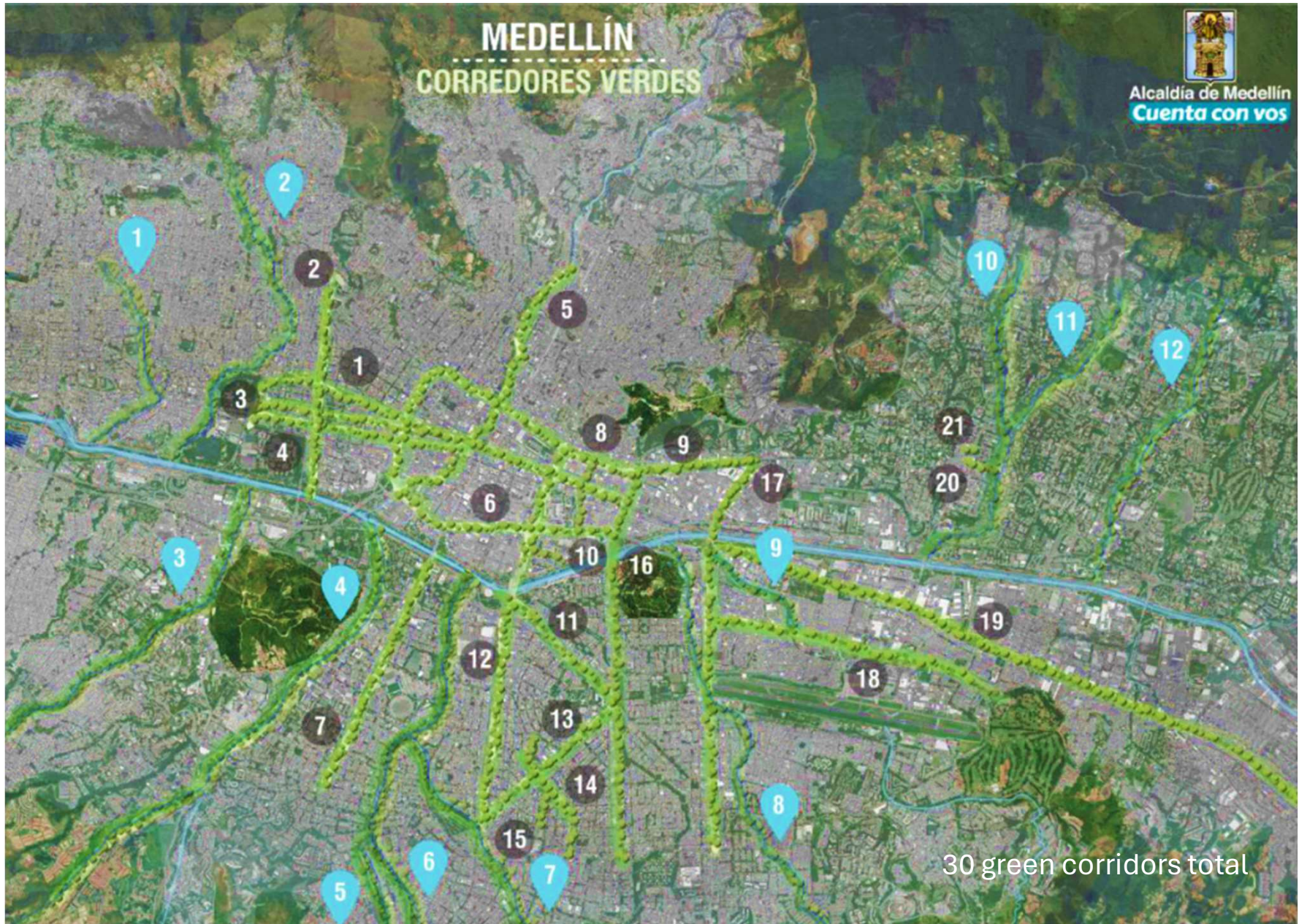




MEDELLÍN CORREDORES VERDES



Alcaldía de Medellín
Cuenta con vos



30 green corridors total

Medellin, Colombia



20km shaded
ped/bike paths

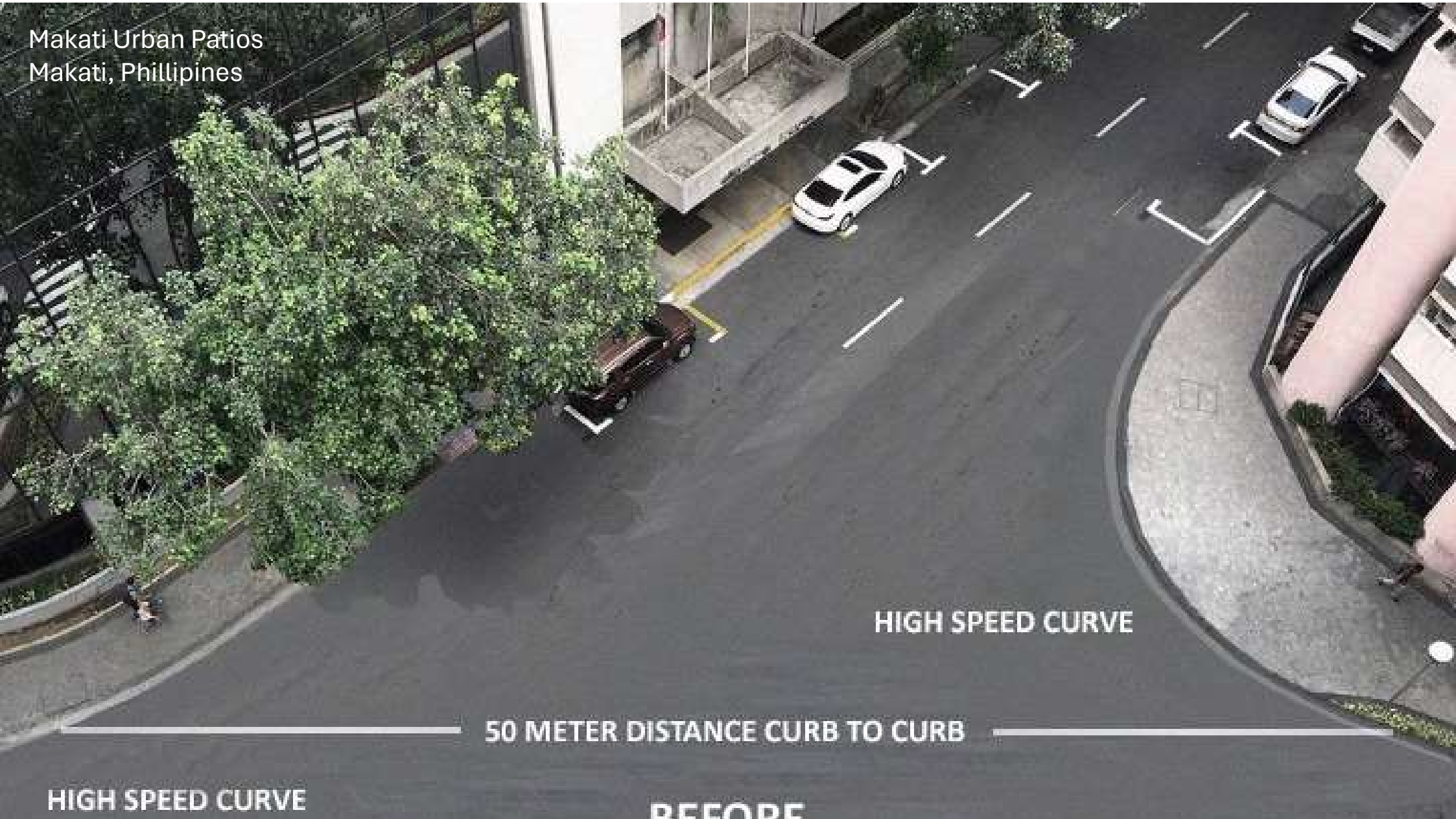


2 degrees cooler

Set 2: small but systematic



Makati Urban Patios
Makati, Phillipines



HIGH SPEED CURVE

50 METER DISTANCE CURB TO CURB

HIGH SPEED CURVE

BEFORE







Fitzroy, Melbourne



Brunswick, Melbourne

Copenhagen, Denmark





Guildford Lane, Melbourne CBD



Three cities to watch

- London's LTN program
- Barcelona's superblocks
- Paris' Hidalgo phenomenon



London's LTNs

82% remaining
47% traffic reduction
Strong public support


REBUILDING A GREENOR HACKNEY

Hackney Downs Low Traffic Neighbourhood

 Schools with proposed School Streets

 **New traffic filter:**
Only cyclists, pedestrians, and emergency and refuse vehicles can pass through

 **New bus gate:**
Only buses, cyclists, pedestrians, and emergency and service vehicles can pass through

 **Low traffic neighbourhood motor vehicle entry and exit points**


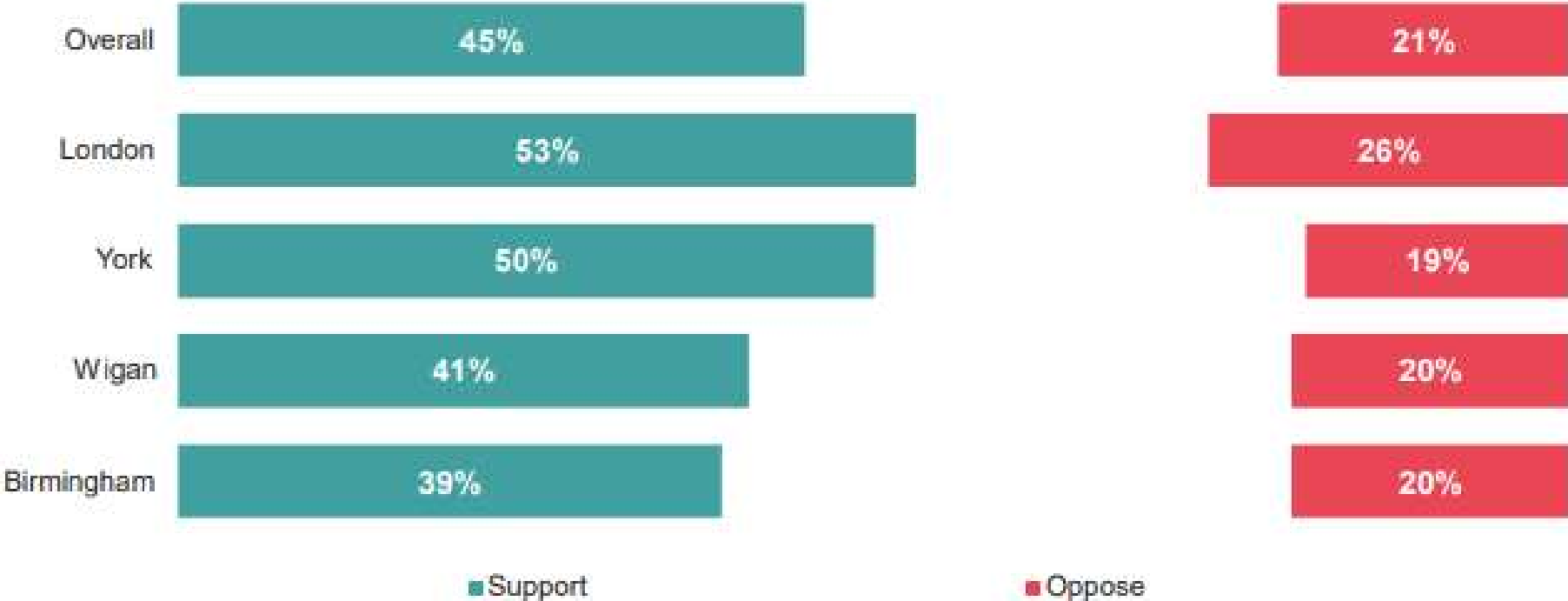
 Low traffic zones, creating quieter, greener neighbourhoods that support walking and cycling. Each zone can be accessed by car via a main road from outside the low traffic neighbourhood.



Figure 4.2: Support for local LTN scheme

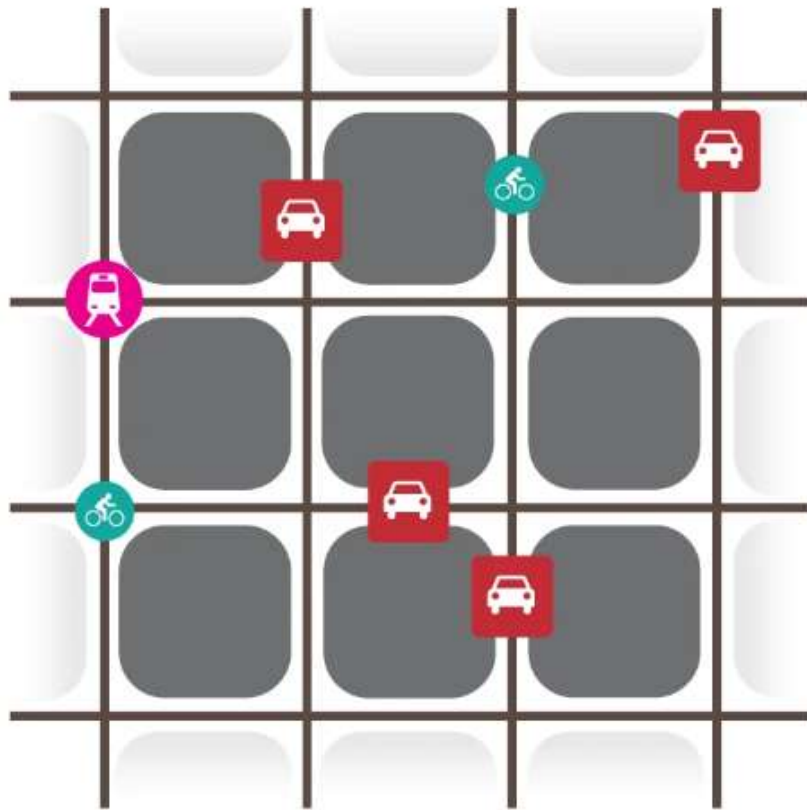


Q10: To what extent do you support or oppose the existing Low Traffic Neighbourhood scheme in your local area?
Base: All answering (1,835); Birmingham (316); London (388); Wigan (459); York (672);
Fieldwork dates: October-December 2023

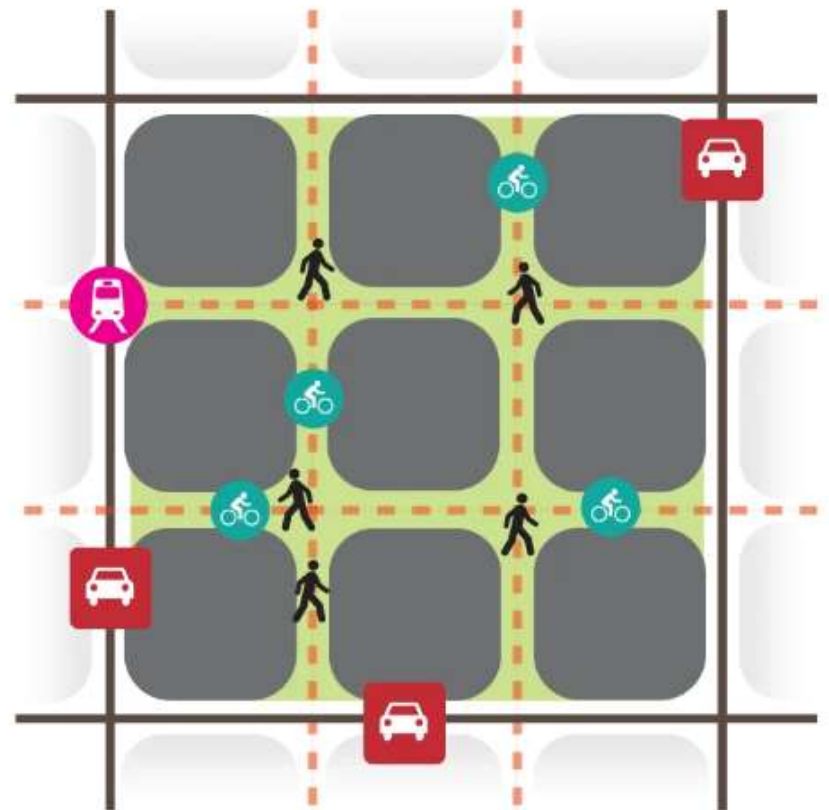


Barcelona's superblocs

Current situation



Superblock



■ Urban block — Exterior street - - - Interior street ■ Transformed street space

Turns out these were the prototypes



Girona Green Axis





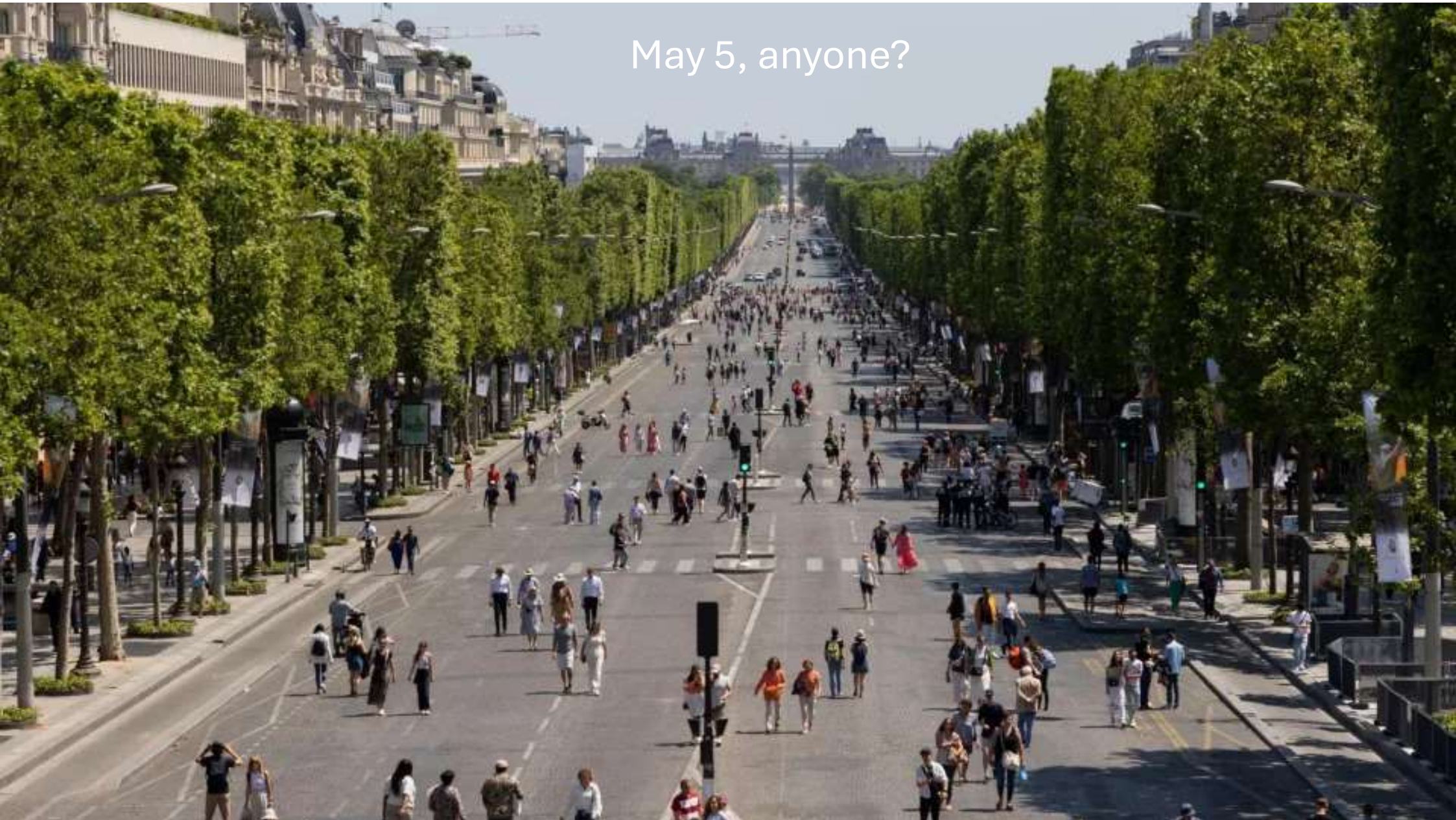
Rocafort Square



Paris: huge promises, and a few big wins



May 5, anyone?





- Removal of 70,000 car parking spaces on streets (50%)
- ‘School streets’ for kids during school hours
- Higher parking fees for larger cars
- 180km of new bike lanes
- 40 football pitches worth of pedestrianised streets by 2030
- 50% of the city's surfaces vegetated and permeable





Paris pumps €300m into cycling infrastructure during coronavirus

Roads could be temporarily converted to bike lanes from 11th May



Forbes

FORBES > INNOVATION > SUSTAINABILITY

French Revolution: Cyclists Now Outnumber Motorists In Paris

Carlton Reid Senior Contributor @

I have been writing about transport for 30 years.

Follow

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Apr 6, 2024, 10:06am EDT

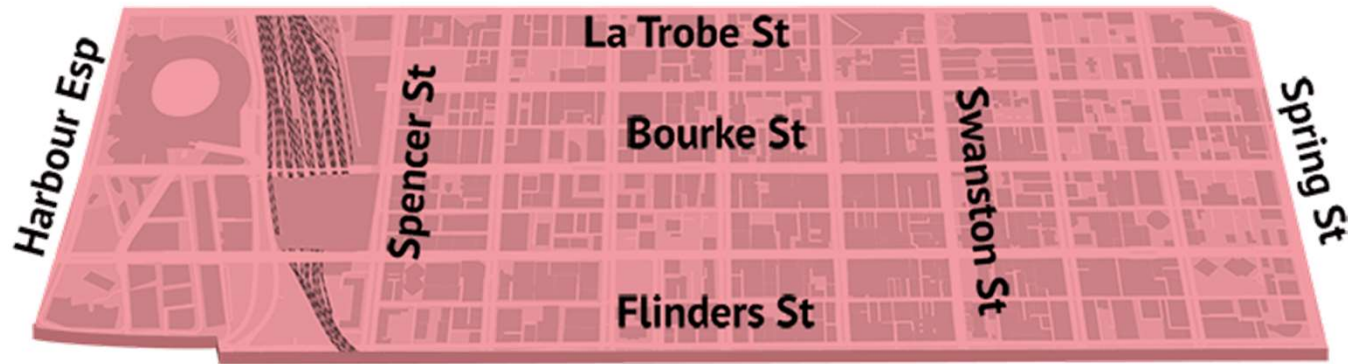


Parisians ride their bicycles near the Eiffel Tower. (Photo by Chesnot/Getty Images) GETTY IMAGES

What could a systematic change in Melbourne's streets look like?



There are 460 hectares of car parking in City of Melbourne ... or 3.6 Hoddle Grids



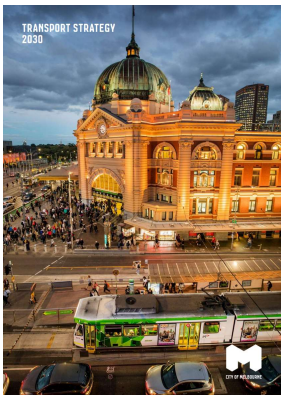
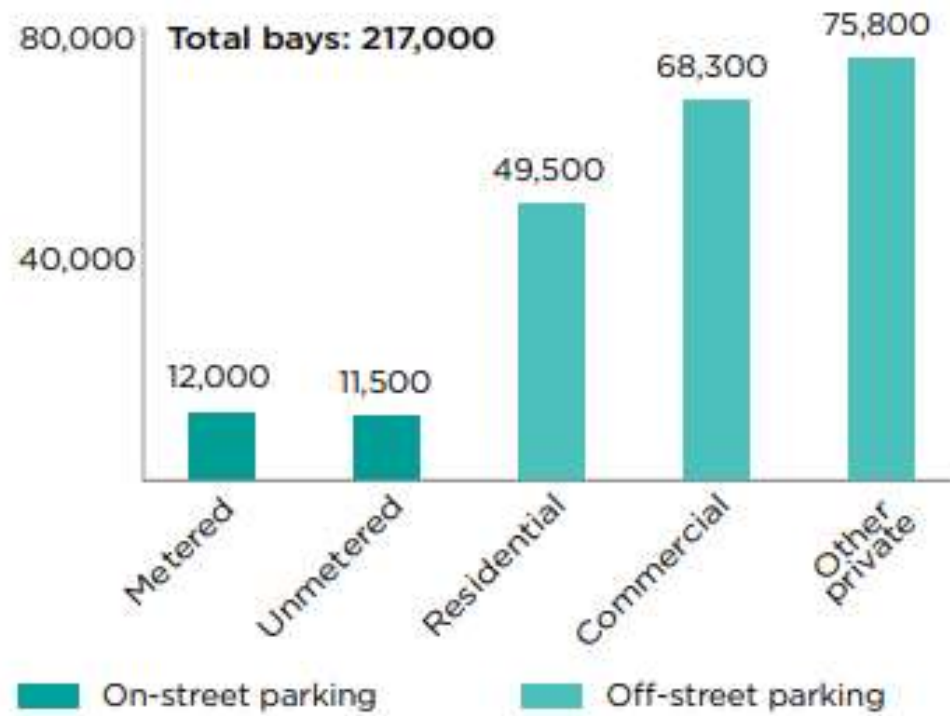


Figure 10: Parking supply in the municipality



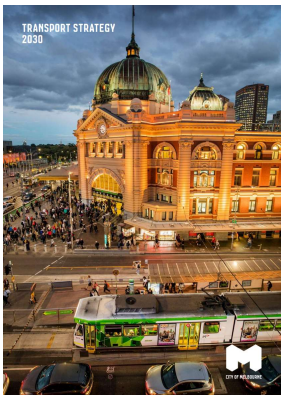
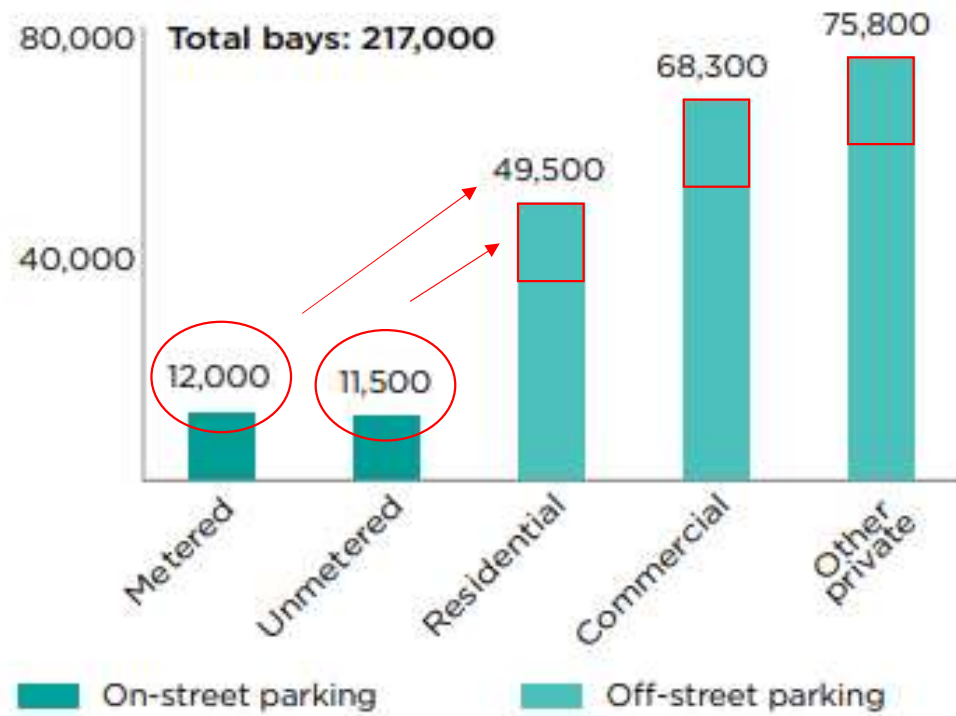
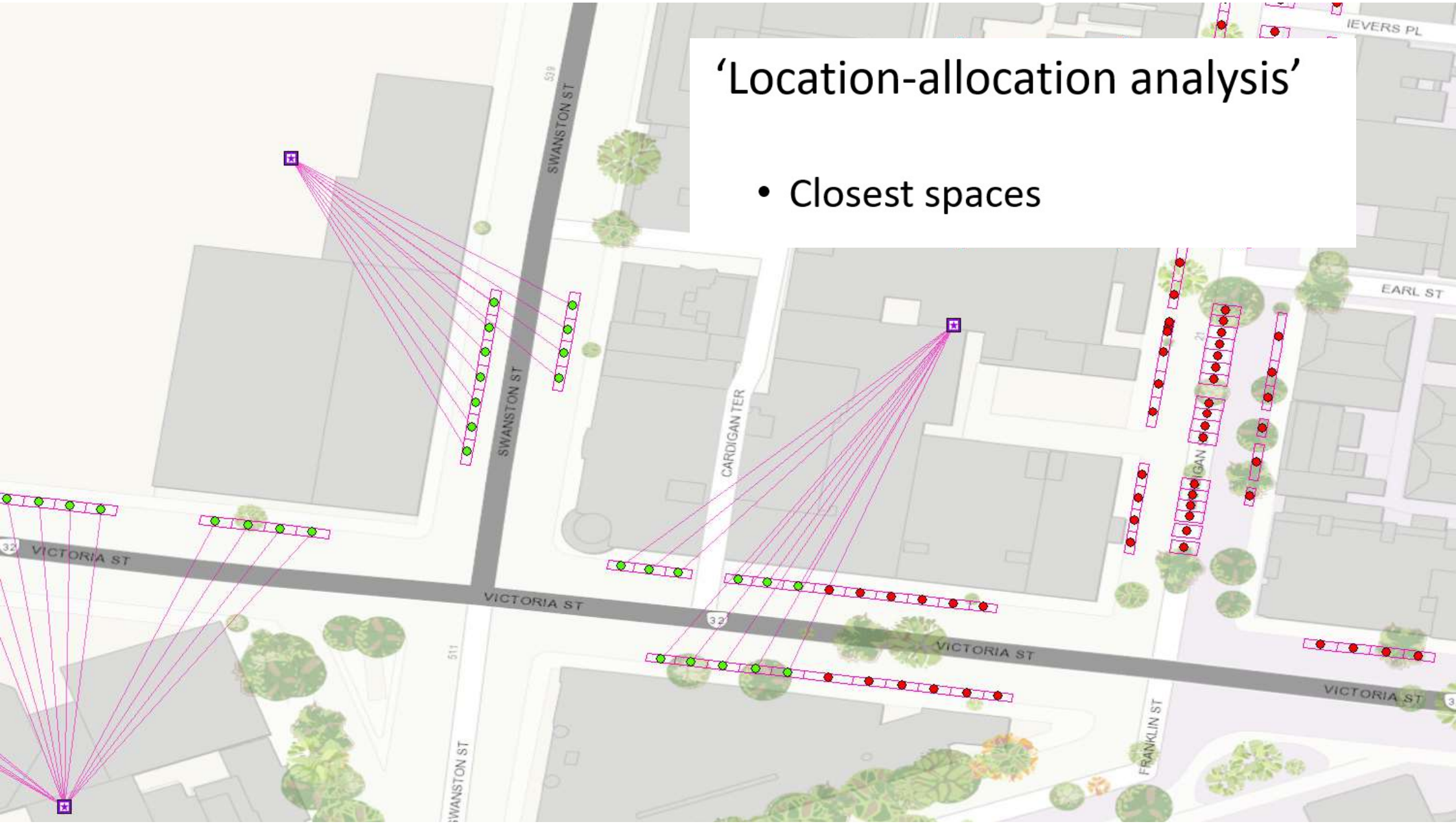


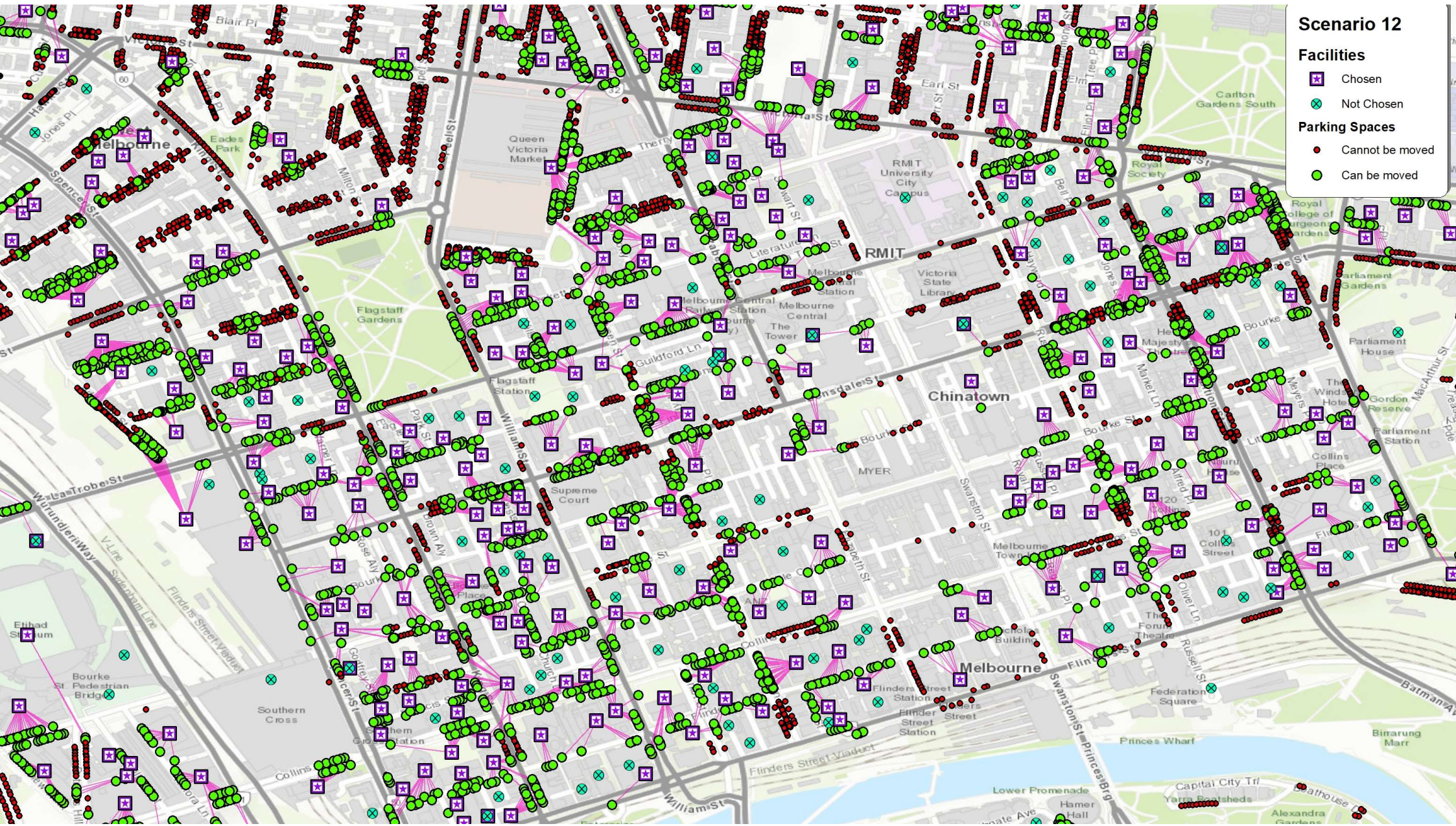
Figure 10: Parking supply in the municipality



'Location-allocation analysis'



- Closest spaces







Scenario 12

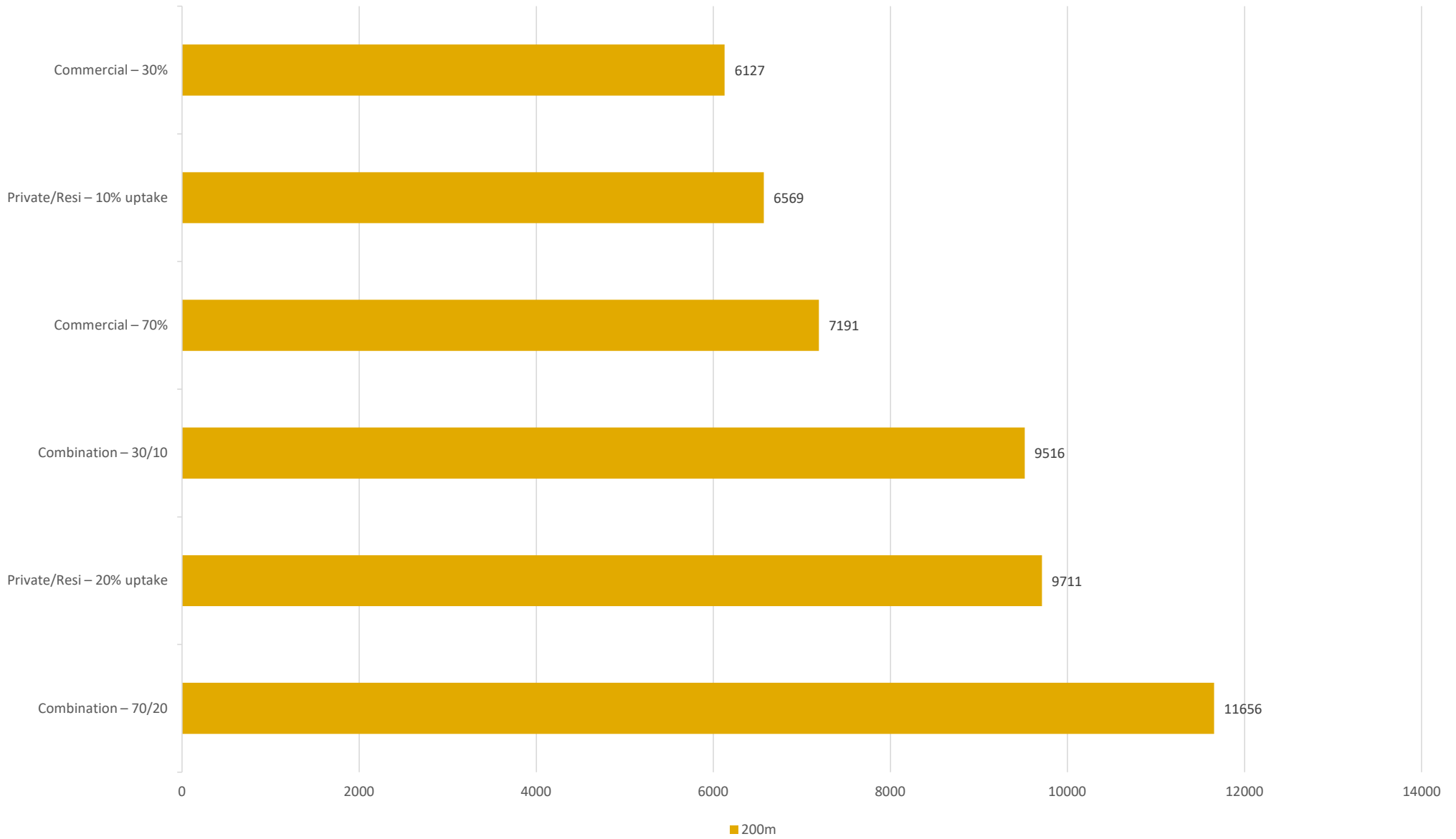
Facilities

-  Chosen
-  Not Chosen

Parking Spaces

-  Cannot be moved
-  Can be moved

Number of parking spaces consolidated from street into adjacent buildings (count)



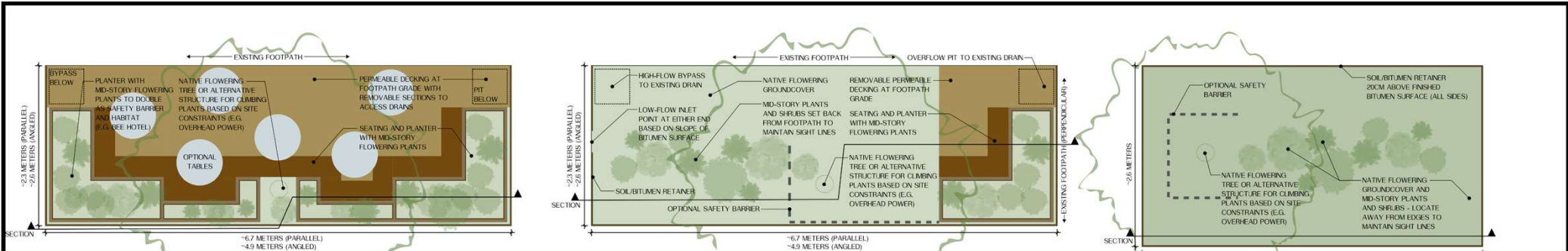
So, what do we do with the space?

1. Prepare standard, replicable designs
2. Model the benefits
 - Stormwater infiltration
 - Canopy cover growth
 - Ecological connectivity





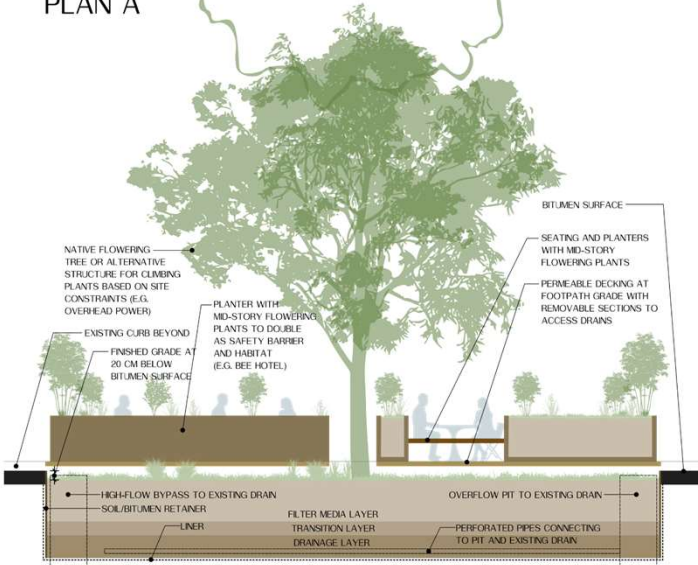
Grey to green,
Sheffield
(@nigeldunnett)



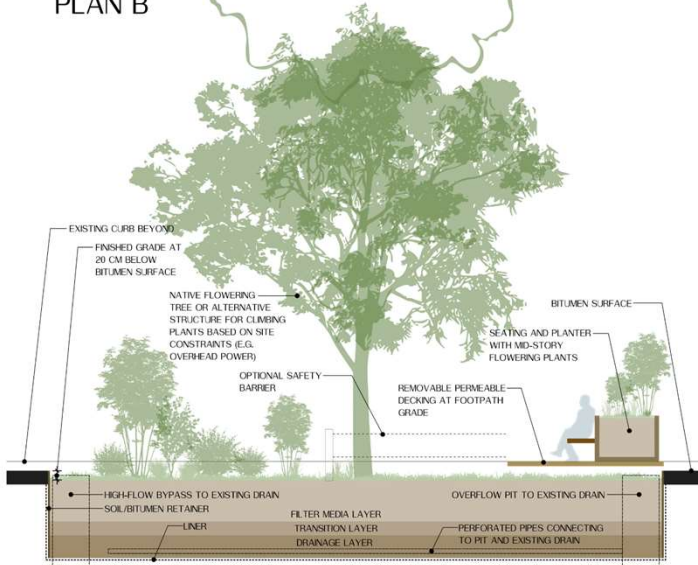
PLAN A

PLAN B

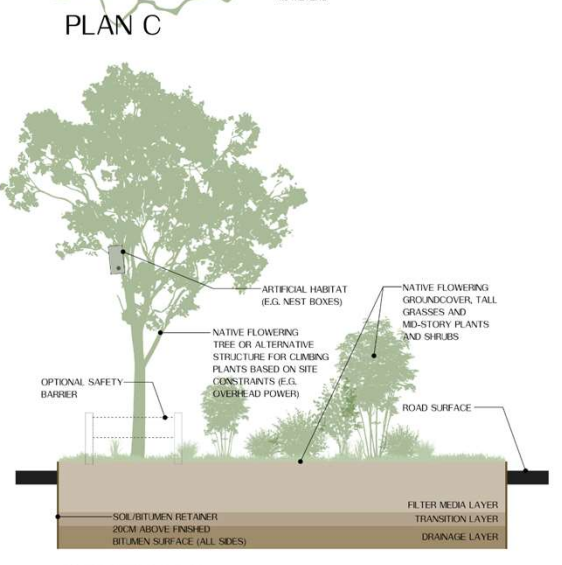
PLAN C



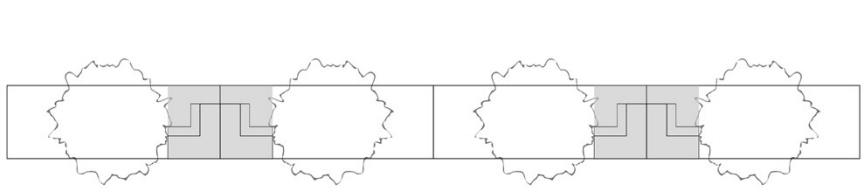
SECTION A



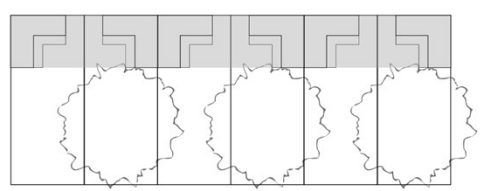
SECTION B



SECTION C



PARALLEL CONFIGURATION



90-DEGREE CONFIGURATION



60-DEGREE CONFIGURATION



Faraday Street, Carlton.
Image prepared by ASPECT Studios.



Canopy specialist:
Dr Alessandro Ossola

If we can achieve the “20% Private/Resi, 200m” scenario...



78.8 million litres of
stormwater intercepted
annually

If we can achieve the “20% Private/Resi, 200m” scenario...



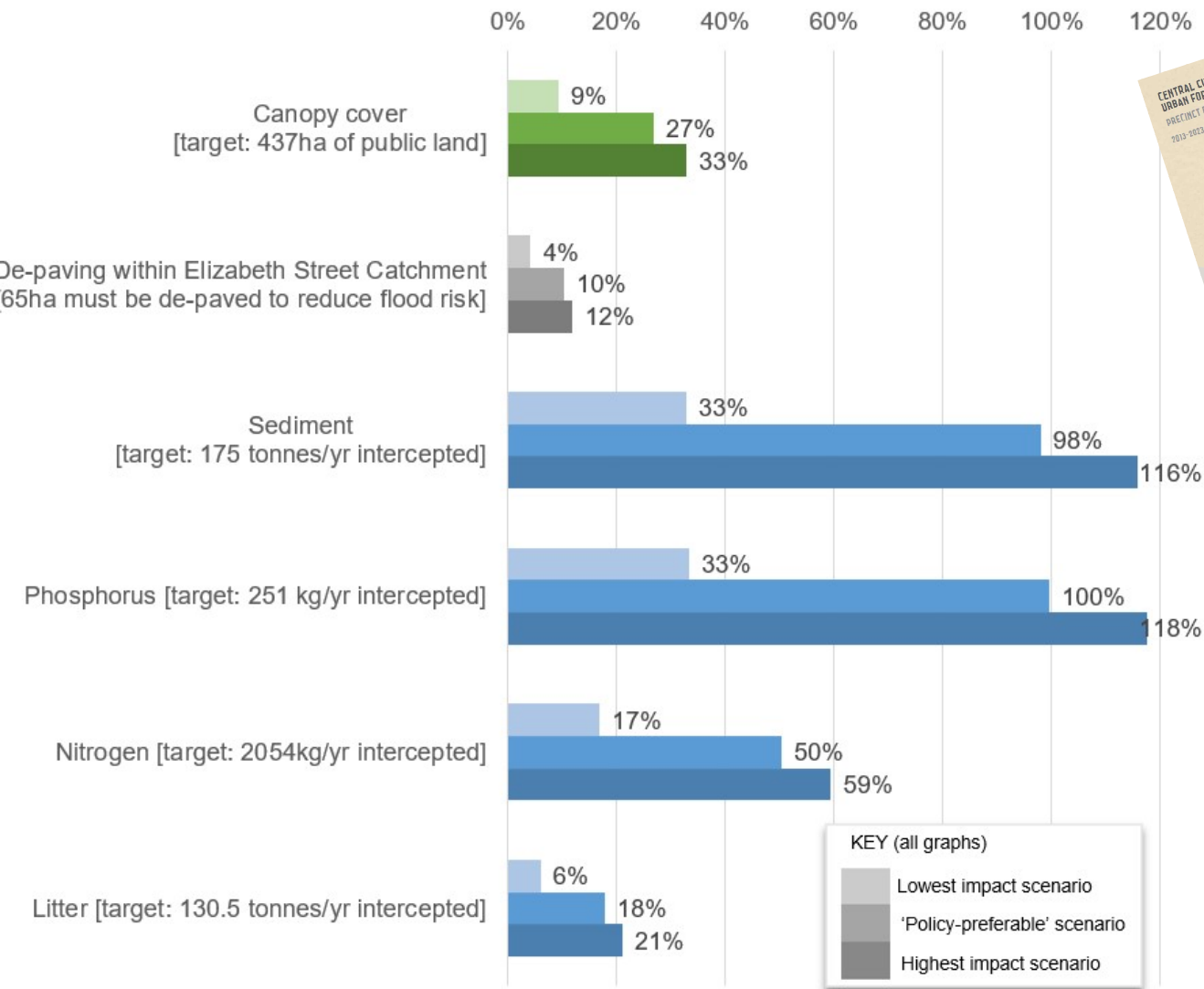
23.8 tonnes of litter

If we can achieve the “20% Private/Resi, 200m” scenario...



176 tonnes of sediment

How much would these changes contribute to meeting the City of Melbourne's sustainability targets?



Thanks!

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