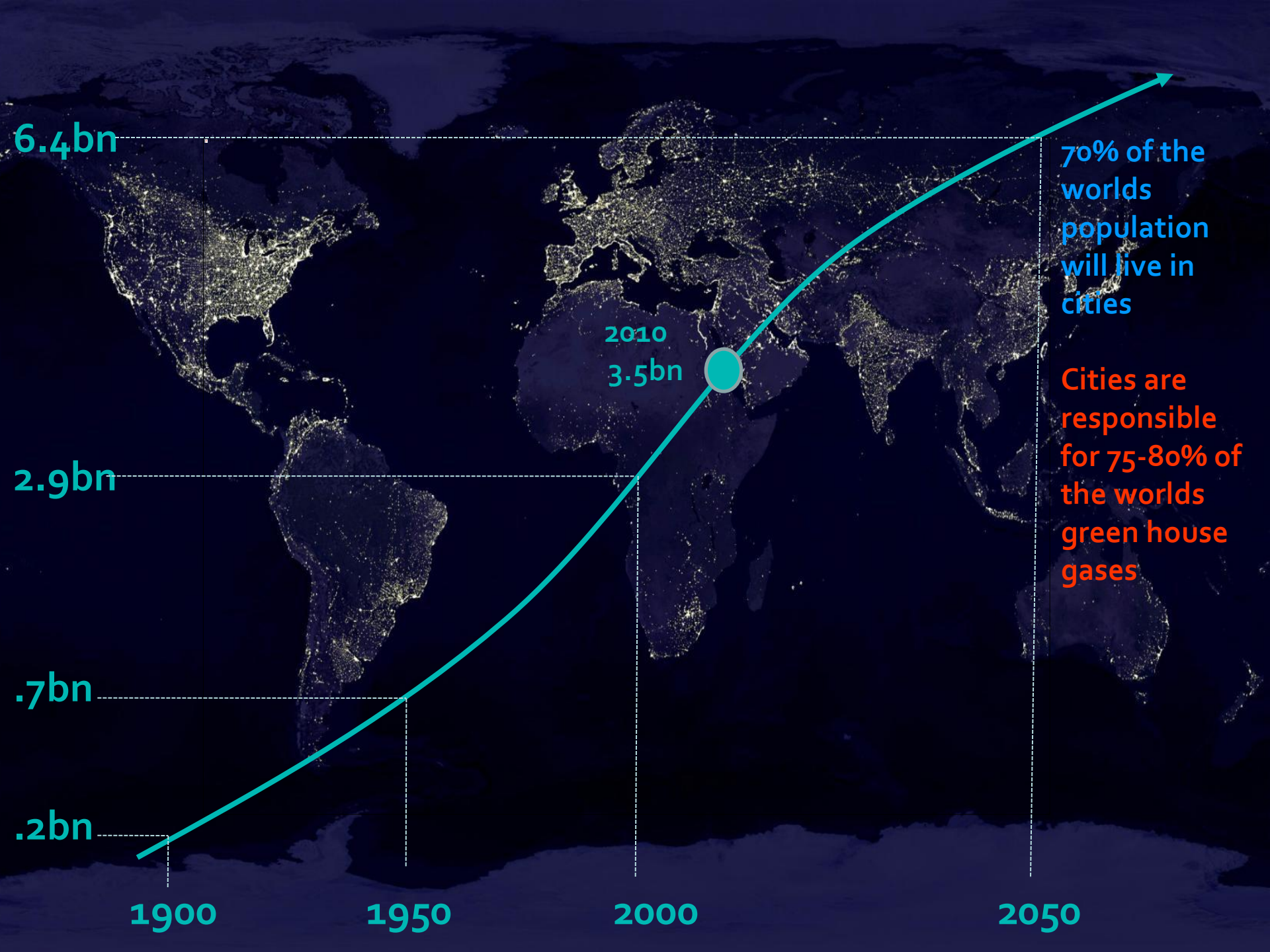
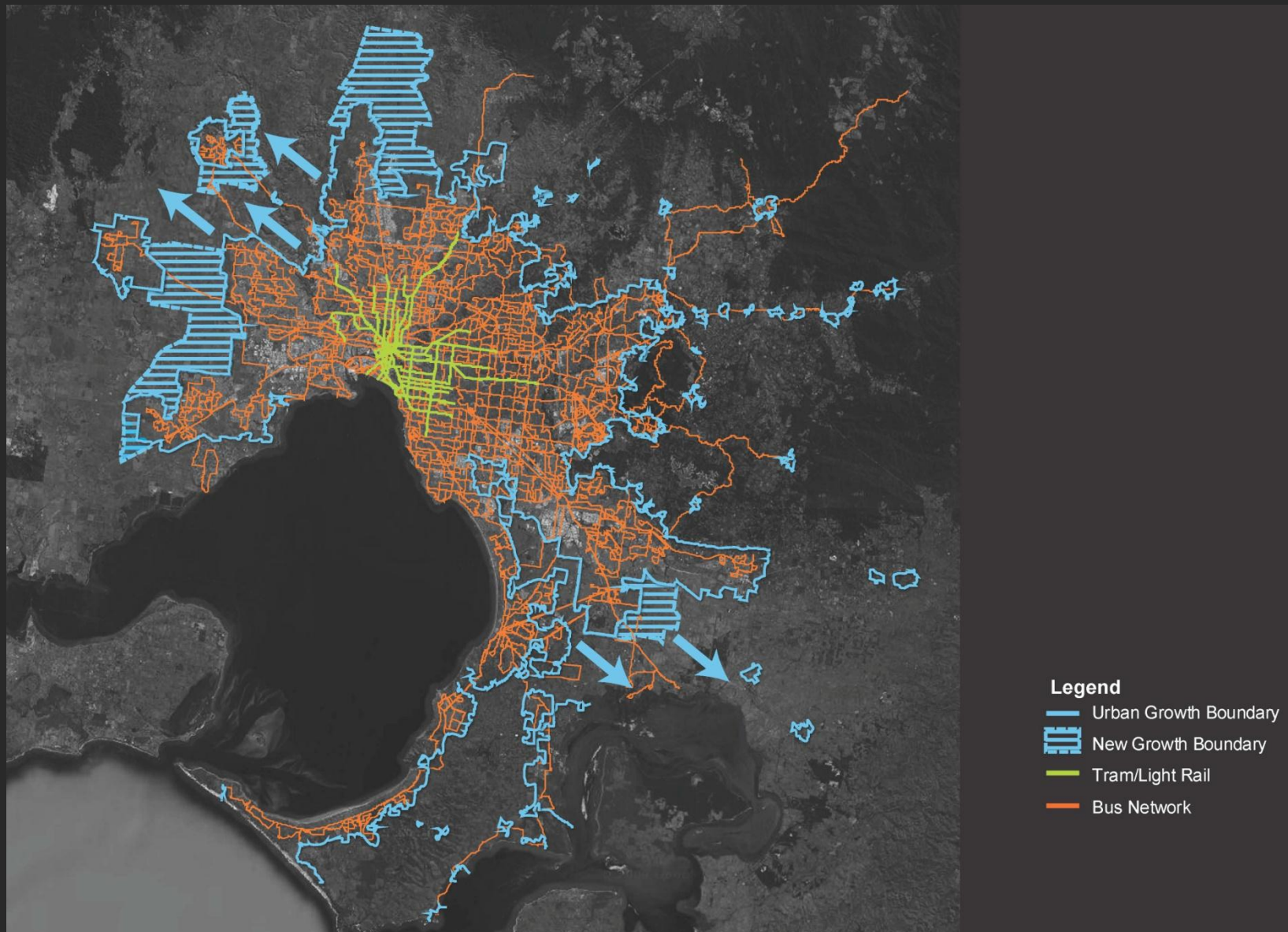
TRANSFORMING CITIES

TO ACHIEVE A FINANCIALLY AND ECOLOGICALLY SUSTAINABLE FUTURE

Steve Thorne
Design Urban Pty Ltd


6.4bn
2.9bn
.7bn
.2bn
1900
1950
2000
2050
2010
3.5bn
70% of the worlds population will live in cities
Cities are responsible for 75-80% of the worlds green house gases

Melbourne @ 5 million 2022



Melbourne @ 5 million
90% of all city infrastructure required by 2022 already exists.

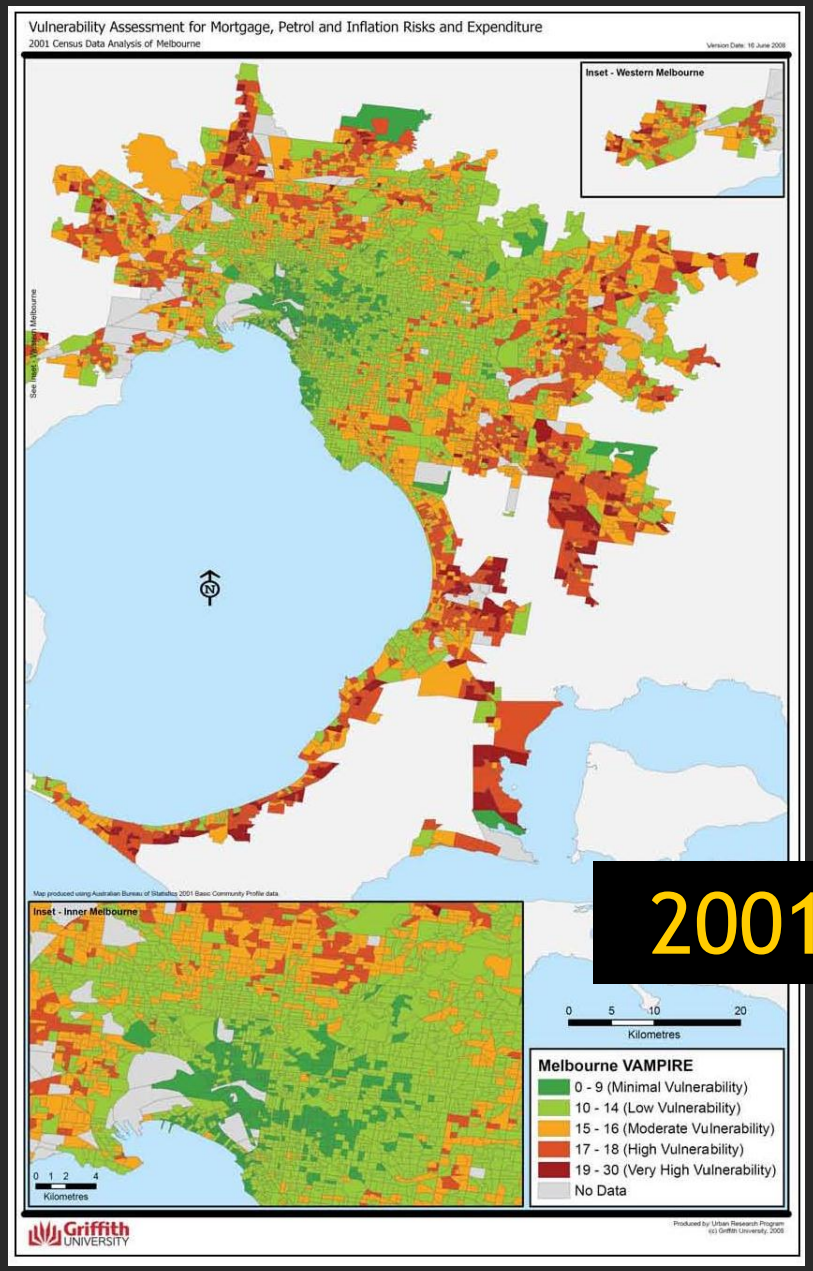
Conventional responses are to expand existing infrastructure and build more large scale projects.

These responses have high hidden costs.

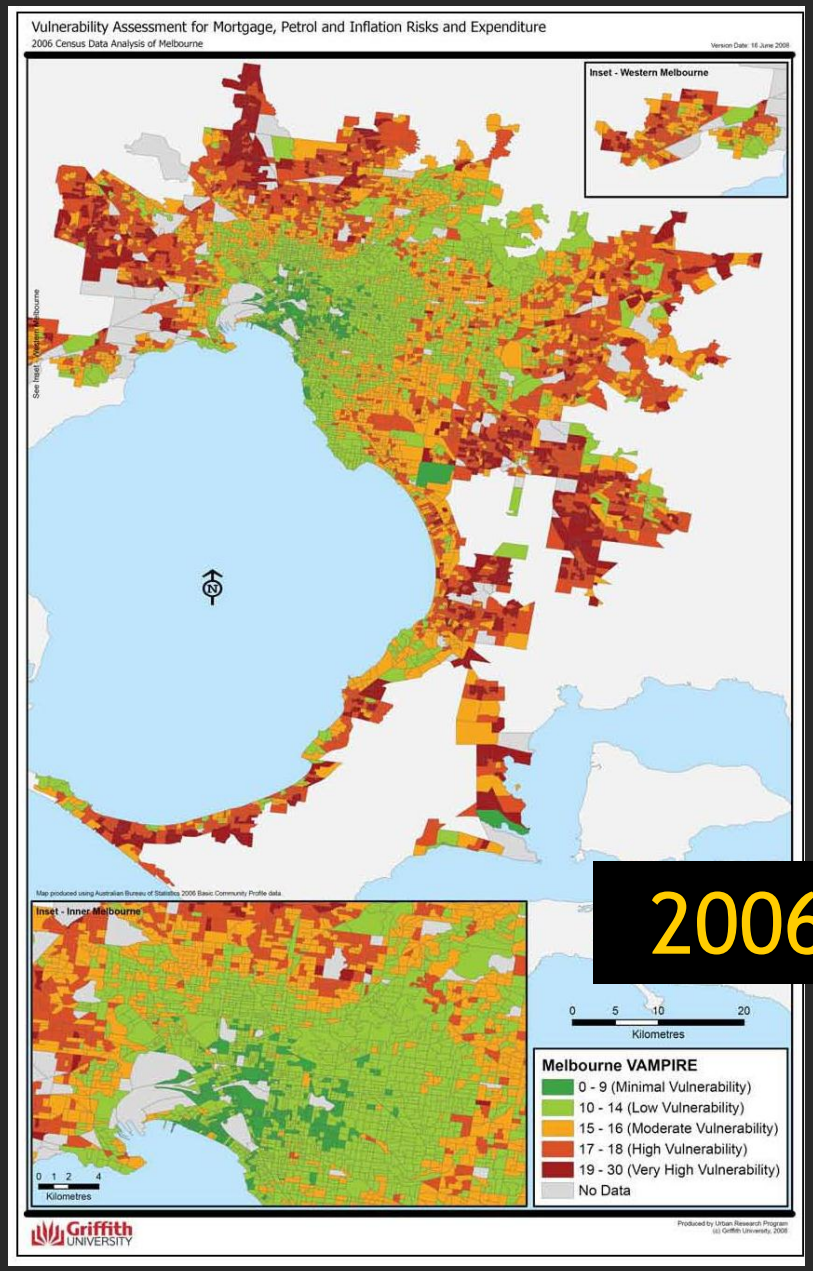
1000 houses built on the fringe of Australian cities cost $300 million more than 1000 houses built within existing growth boundaries.

SCOURCE. Trubka,R.,Newman,P. and Bilsborough,D. 2008, Assessing the costs of Alternative Development Paths of Australian Cities. Curtain University and Parsons Brinckerhoff

Melbourne: Oil & Mortgage Vulnerability



2001



2006

Status Quo

Will cost $110,080,000,000 extra over 50 years assuming that half of all future housing is built on the periphery of Melbourne

Challenge

Re-align the existing infrastructure of cities to produce a more;

- Sustainable
- Liveable
- Economically viable future

This is Happening in Many Cities

From a Policy point of view

Its about the Cities – and HOW we grow

DECENTRALISATION TO CONCENTRATION

Glasgow

QUALITY PUBLIC INFRASTRUCTURE

Bordeaux

SHIPYARDS TO SUSTAINABILITY

Malmo Bo01

FROM BLIND SPOT TO CITY OF CULTURE

Temple Bar, Dublin

PEOPLE, PLACES AND TRANSPORTATION

Bogota

Rediscovered Rivers
Seoul, South Korea

Rediscovered River
Seoul, South Korea

Rediscovered River
Arhaus, Denmark

MONOFUNCTIONAL TO MULTIFUNCTIONAL

Melbourne

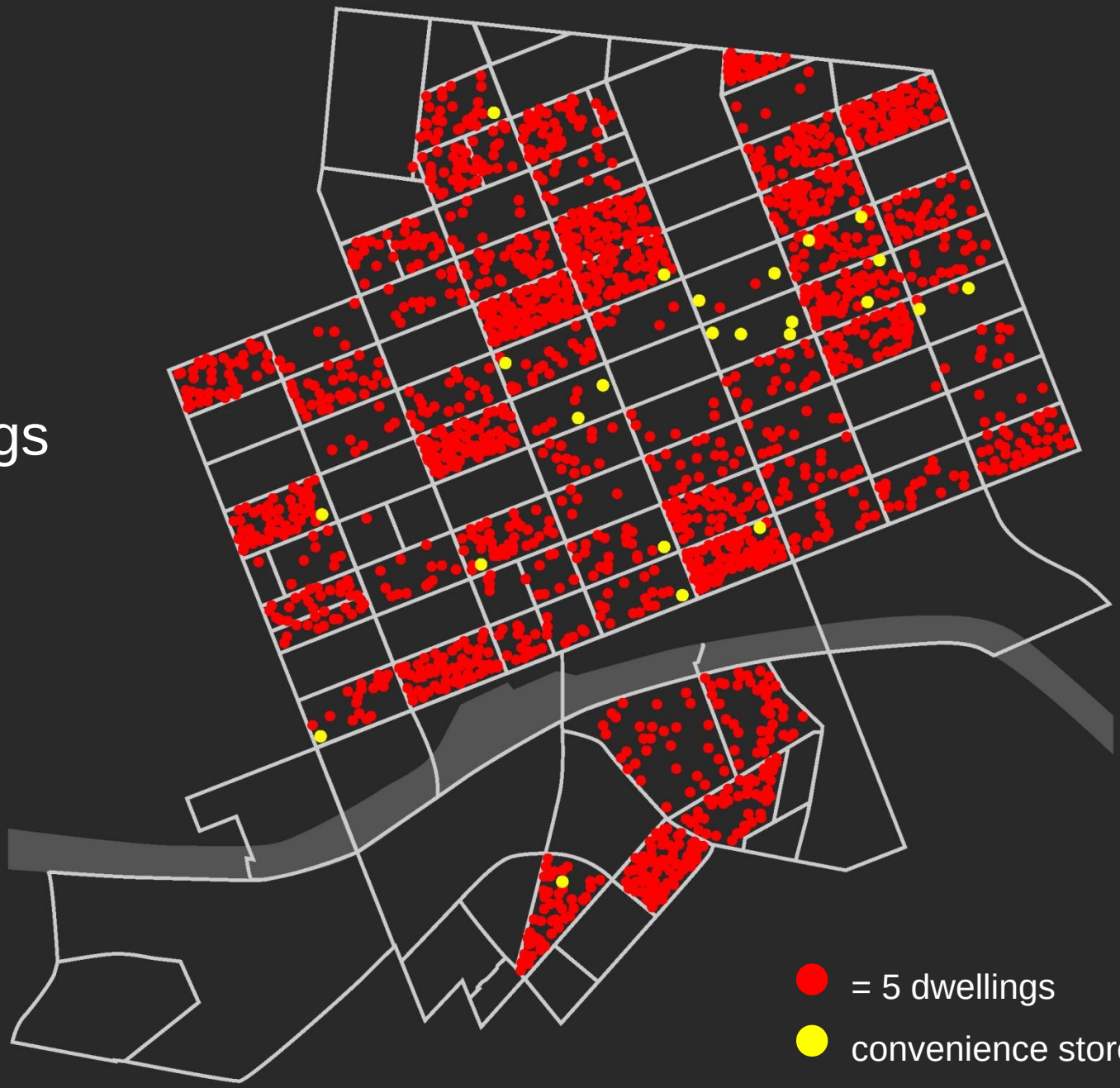
1983

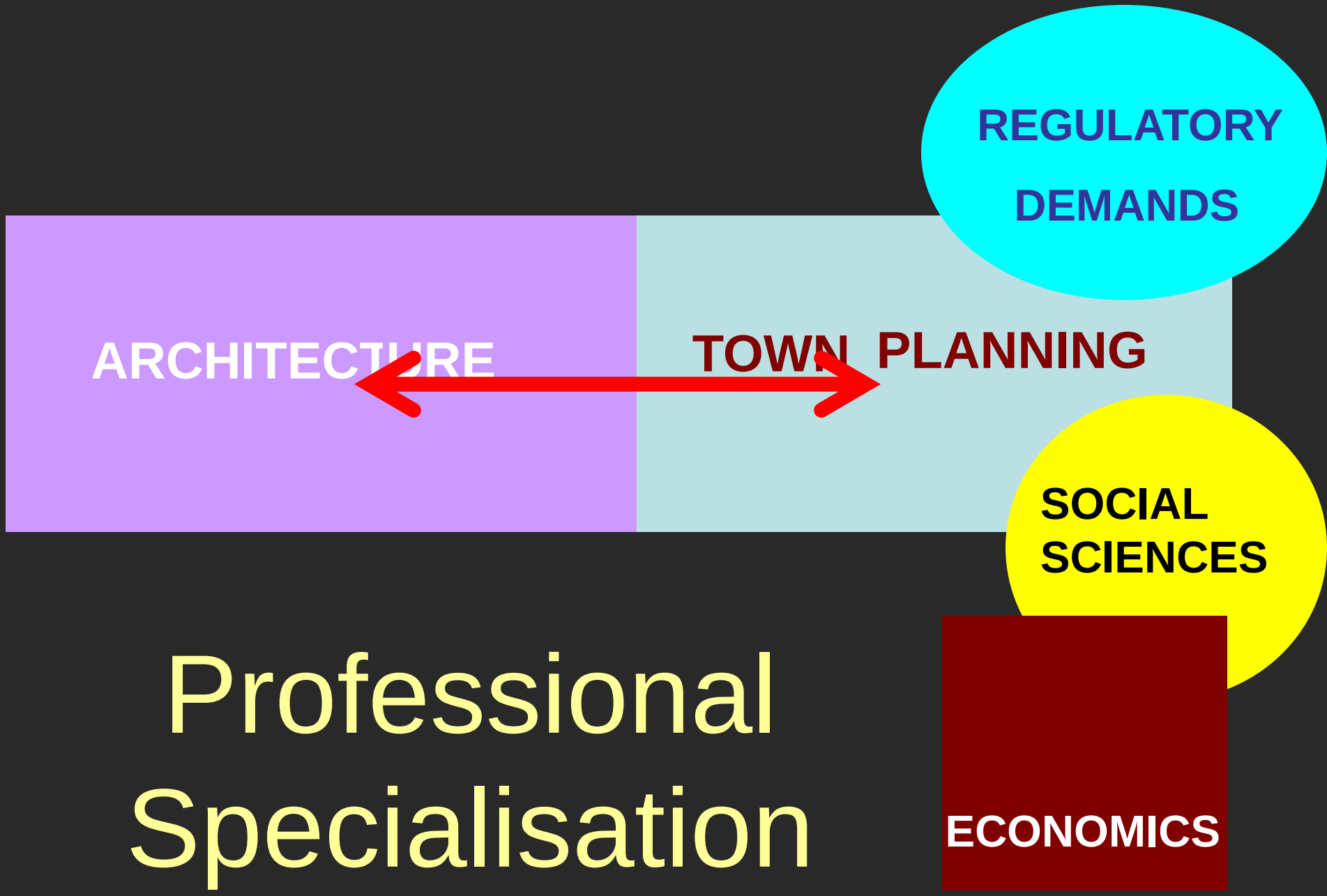
1997

3,763
dwellings

2002

9,895
dwellings





Professional Specialisation

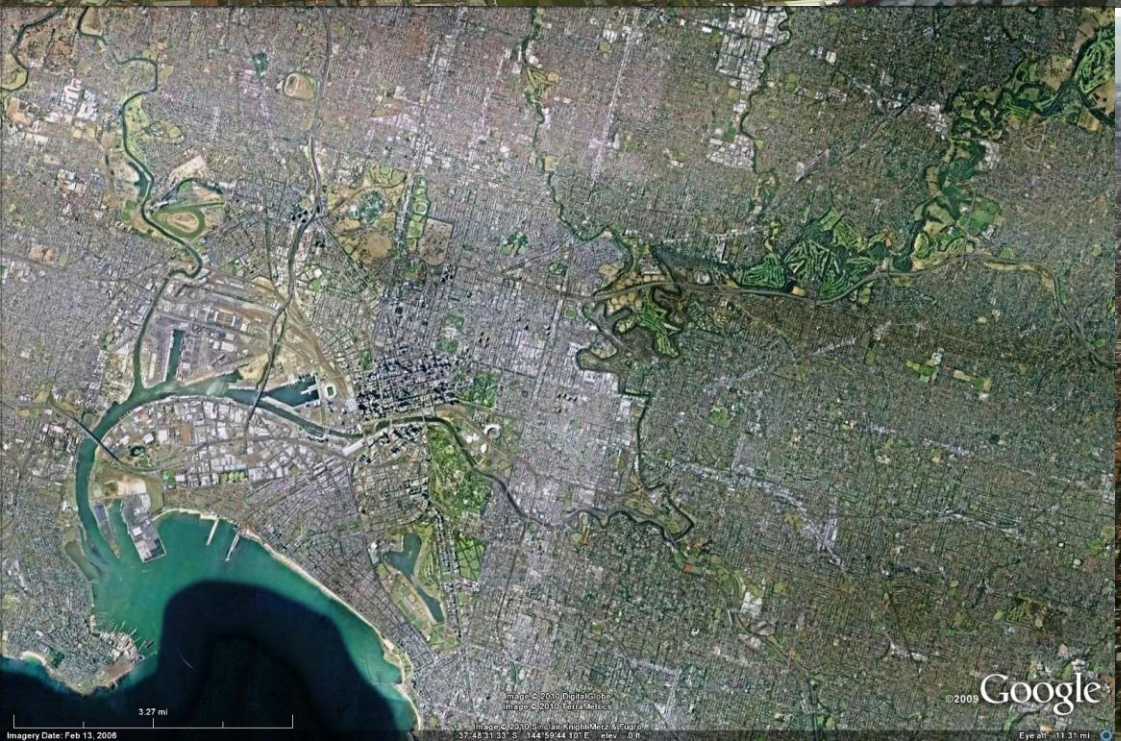
Status Quo is not an option!

At the same time destroying the “Australian Dream” of a home and land package is not an option.

So What are Our Options?

‘The 7.5% City’


ACTIVITY CENTRES 3% OF METRO AREA

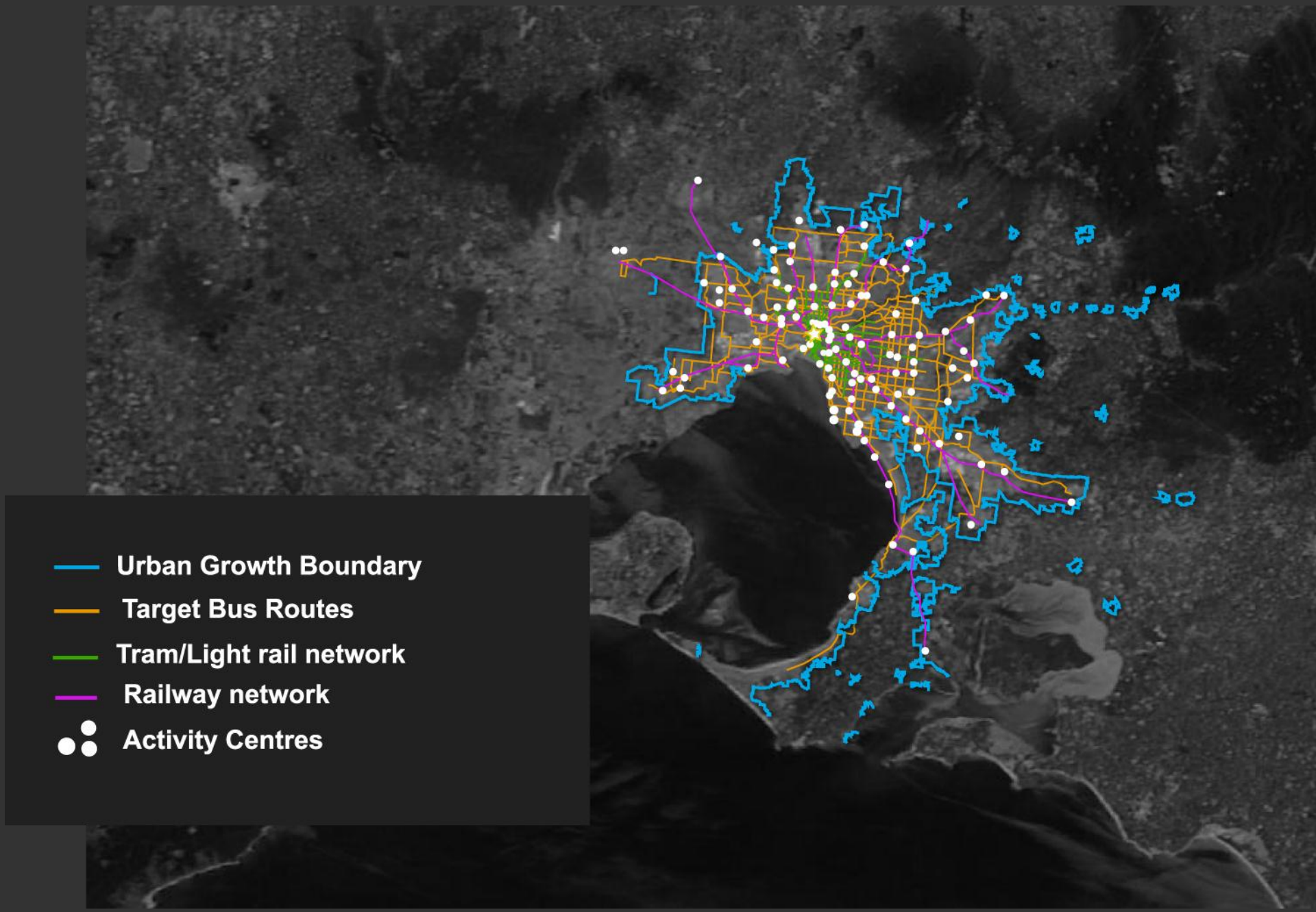

3.27 mi
Imagery Date: Feb 13, 2008
©2009 Google

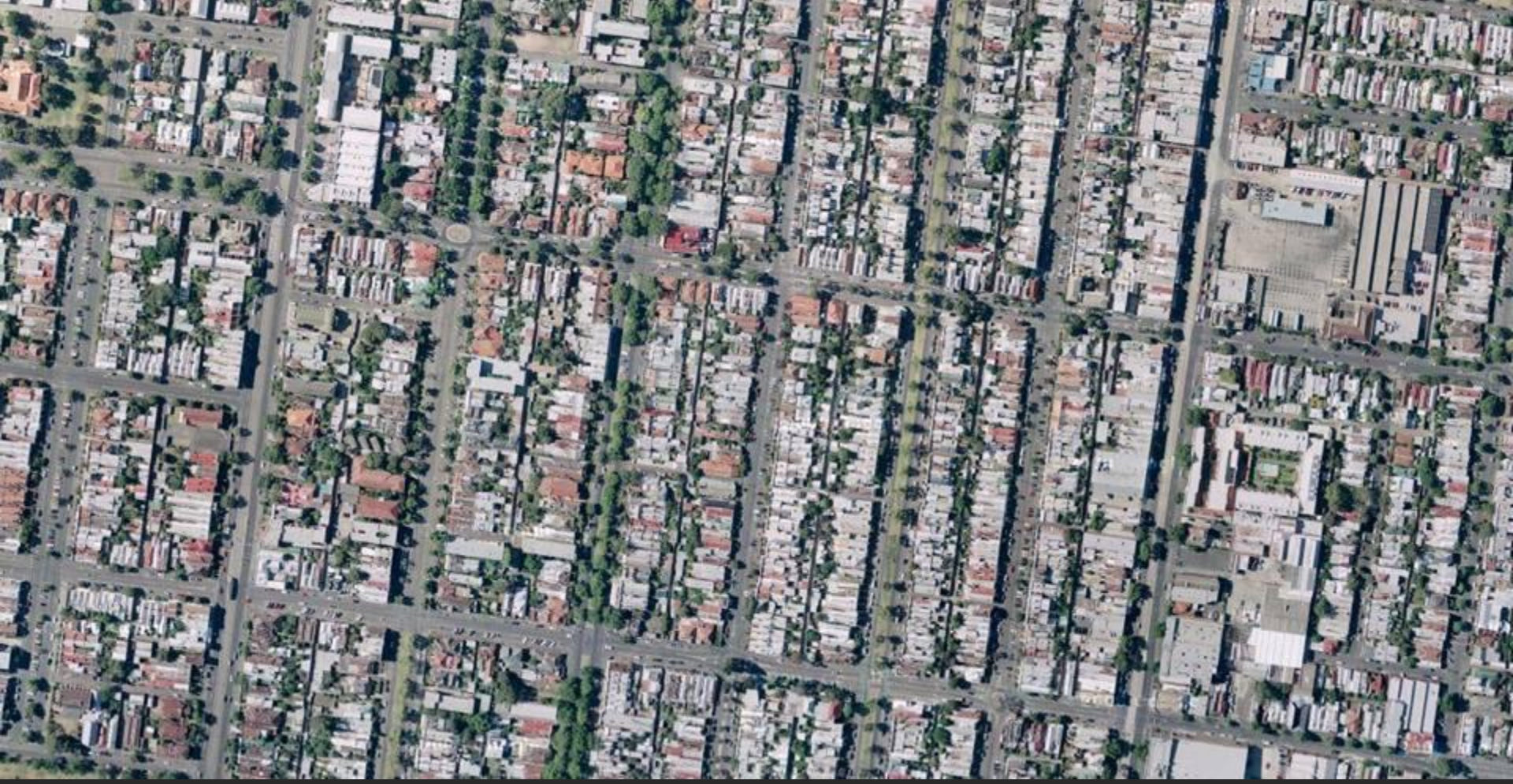
3% OF METRO AREA

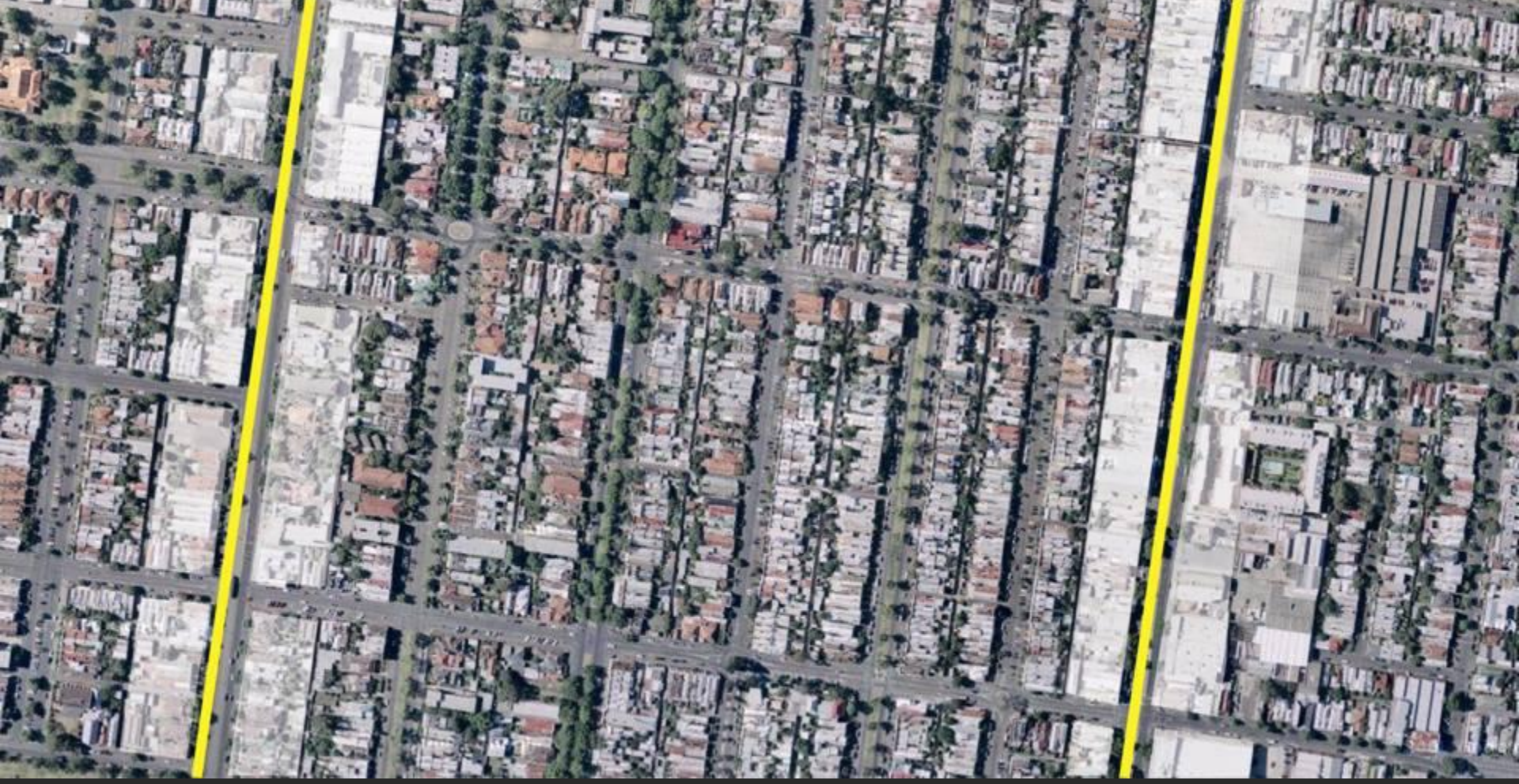
Known redevelopment sites 1.5%

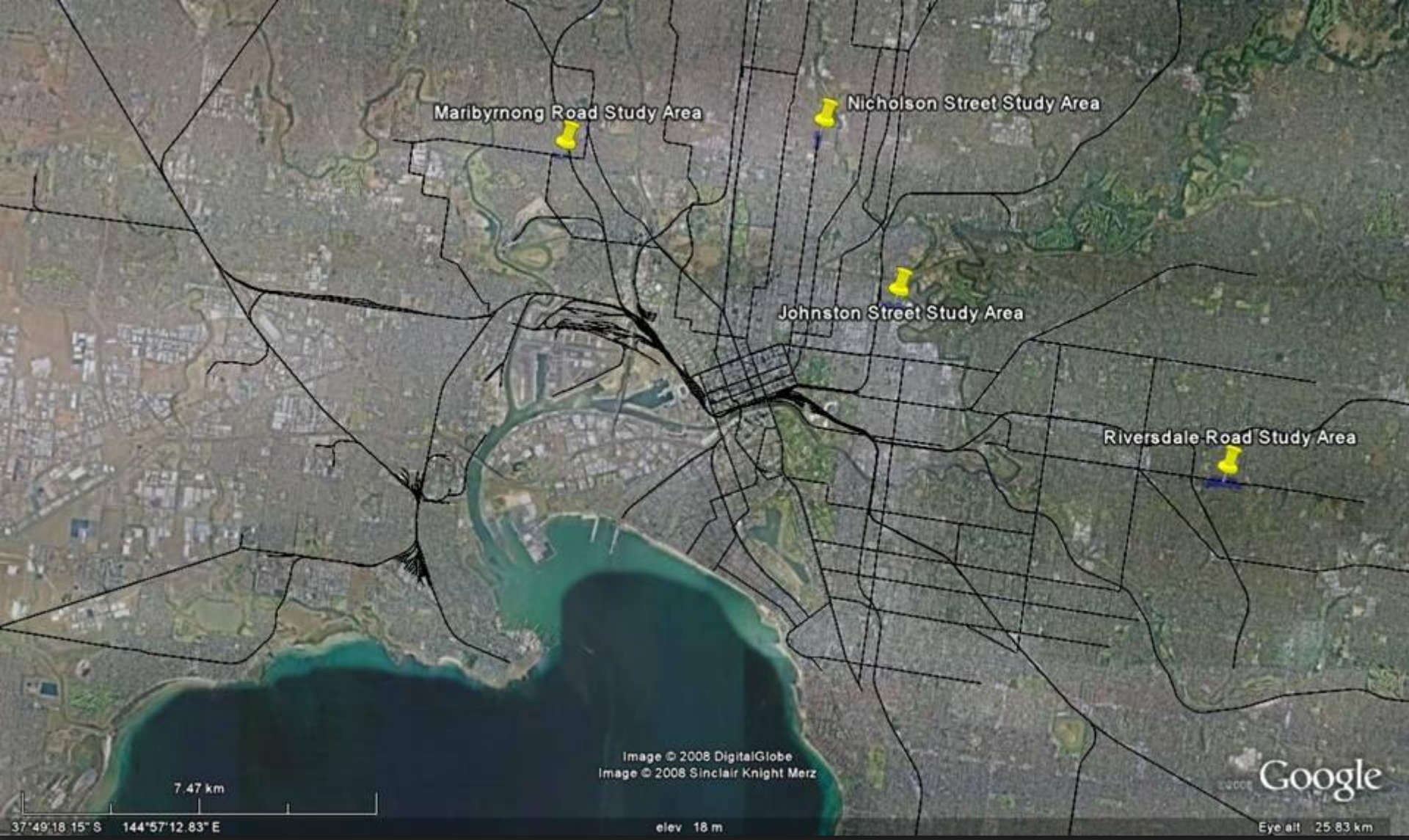
SUBURBS - 90% 0f METRO AREA


Urban Growth Boundary
Railway network
Activity Centres


Urban Growth Boundary
Target Bus Routes
Tram/Light rail network
Railway network
Activity Centres







Melbourne overview showing 4 study areas

Urban Design Principles

- Sites with rear vehicle access via lanes
- Lanes provide good interface with lower density hinterland
- Ground floor to be either "commercial capable" or retail – limited scope for residential at ground floor
- Studio units on garages to lanes – maximum 2 storey to provide interface with existing detached dwellings
- Tallest elements built to front boundary
- Height determined by locality and a maximum 6 storeys
- All building pedestrian entrances directly from street

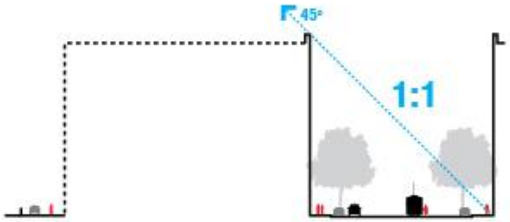
Transport Corridor: Urban Planning Overlay

1. applicable streets

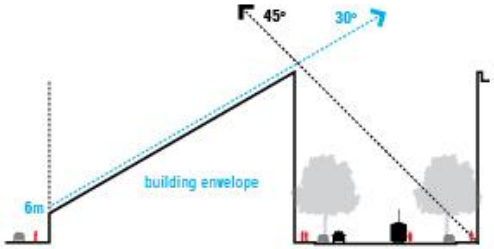
2. heritage

3. height limits

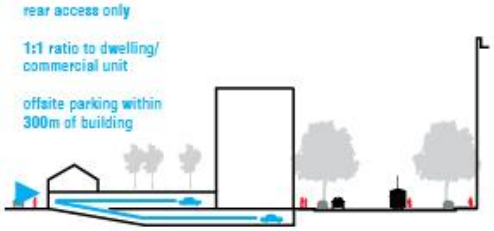
front



rear



4. parking



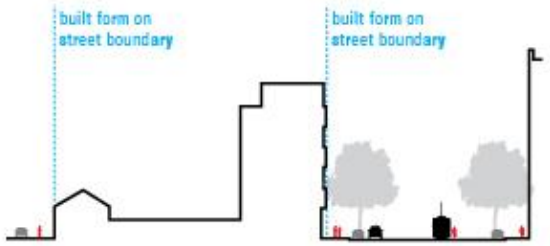
Limitations

DESIGN URBAN

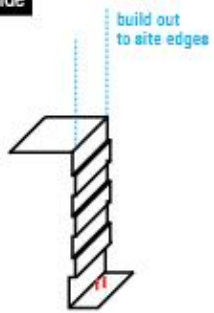
SGS Economics & Planning

5. setbacks

front



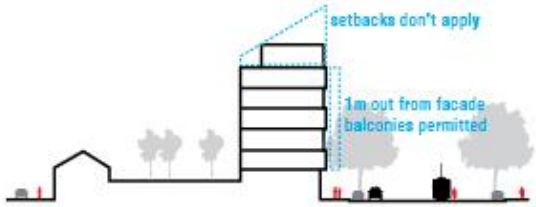
side



6. active frontages

7. passive surveillance

8. freedom zones



9. access

Requirements

DESIGN URBAN

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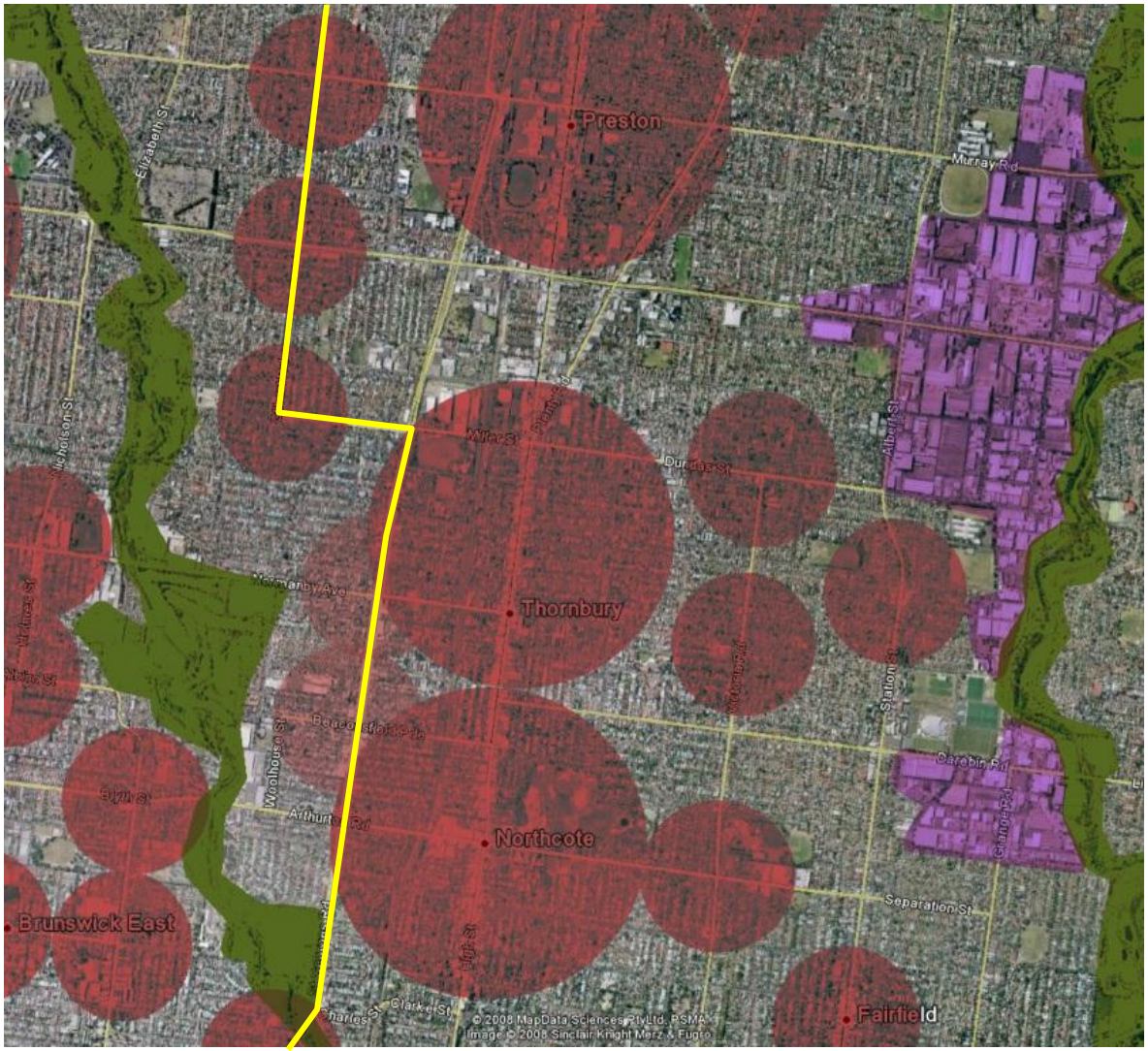
St Georges Road



DESIGN URBAN

SGS Economics & Planning

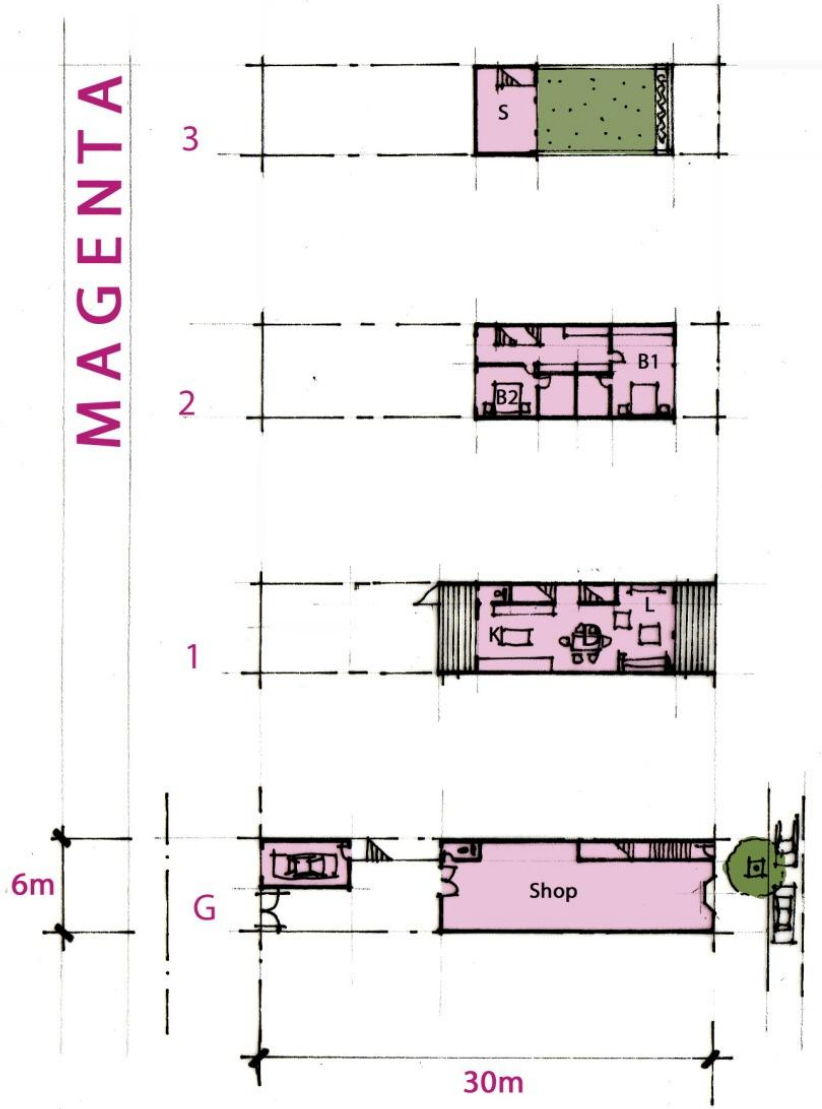
Colour	Block Types			
	Typical		Range	
	Width (m)	Depth (m)	Width (m)	Depth (m)
	6	30	6 - 10	30 - 50
	10	30	10 - 15	30 - 35
	15	30	15 - 20	30 - 35
	20	30	20 - 25	30 - 35
	20	40	20 - 25	40 - 50
	10	50	10 - 15	50+
	20	50	20 - 25	50+
	Atypical (including blocks over 25m frontage)			
	No Lane access to the rear			

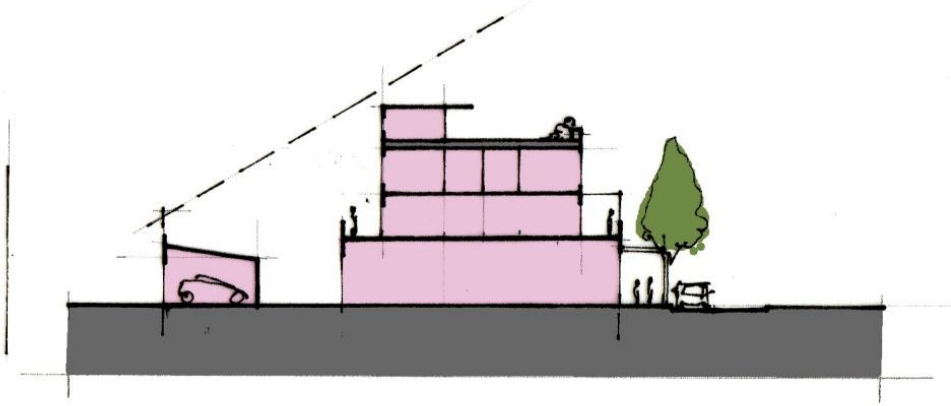
DESIGN URBAN

SGS Economics & Planning

Development Scenarios

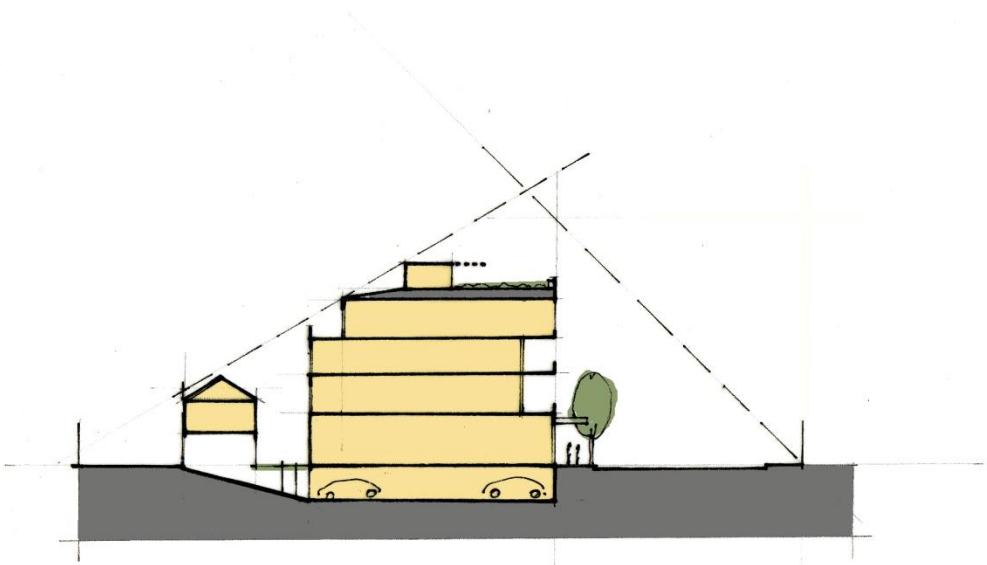
Magenta
1 Shop
1 Dwelling





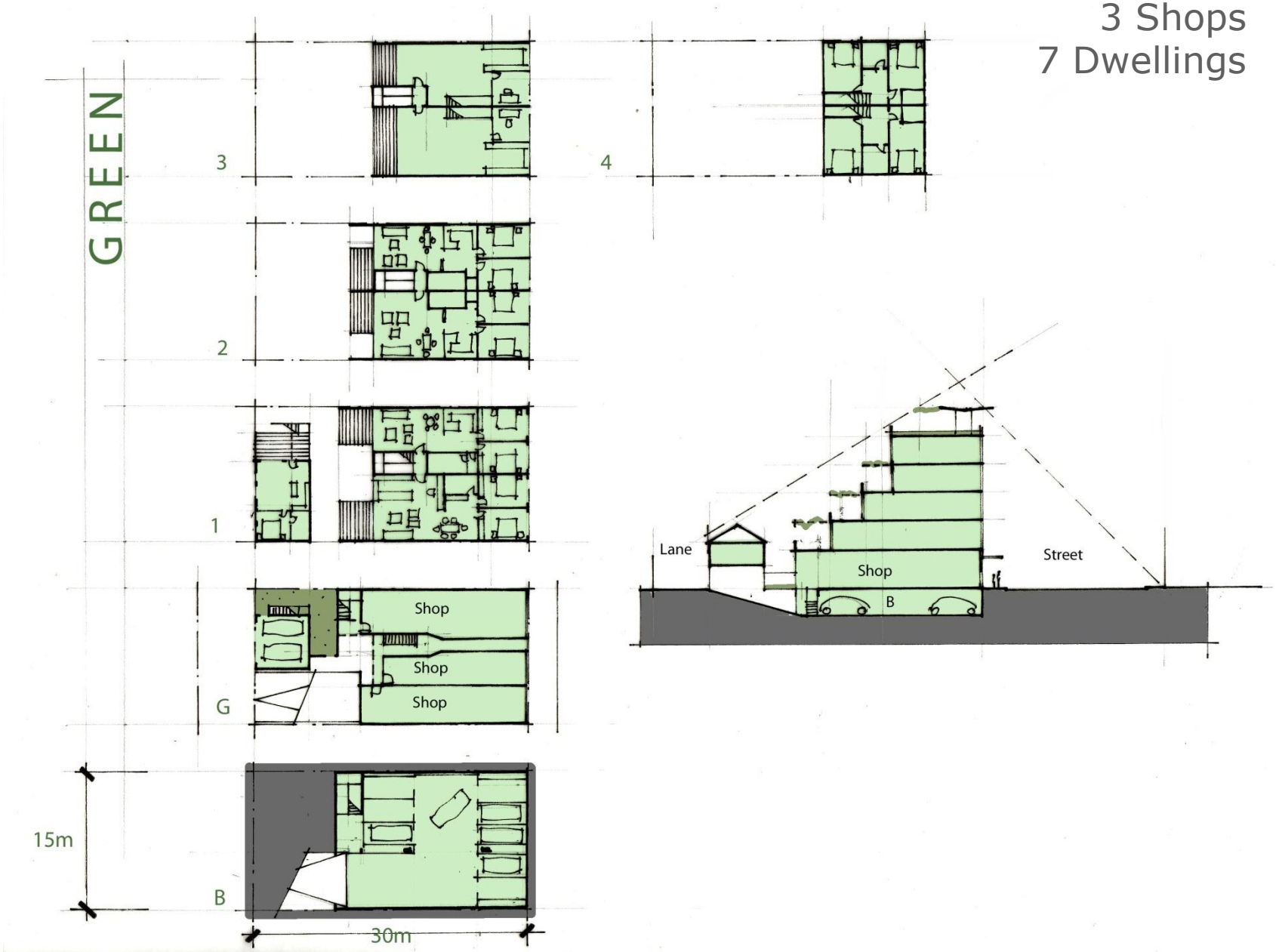
Development Scenarios

Yellow
2 Shops
5 Dwellings



Development Scenarios

Green
3 Shops
7 Dwellings

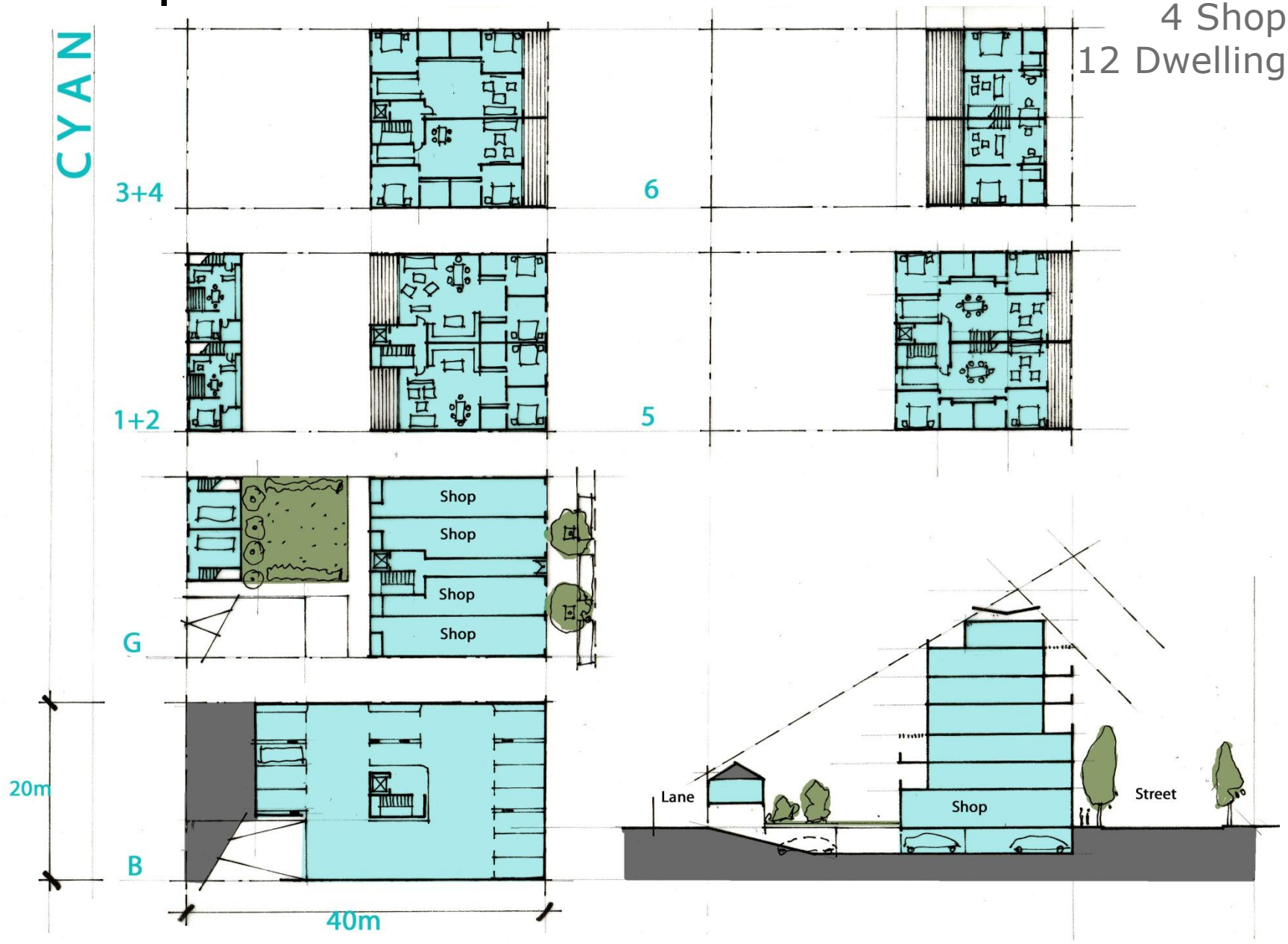


Development Scenarios

Navy
4 Shops
10 Dwellings

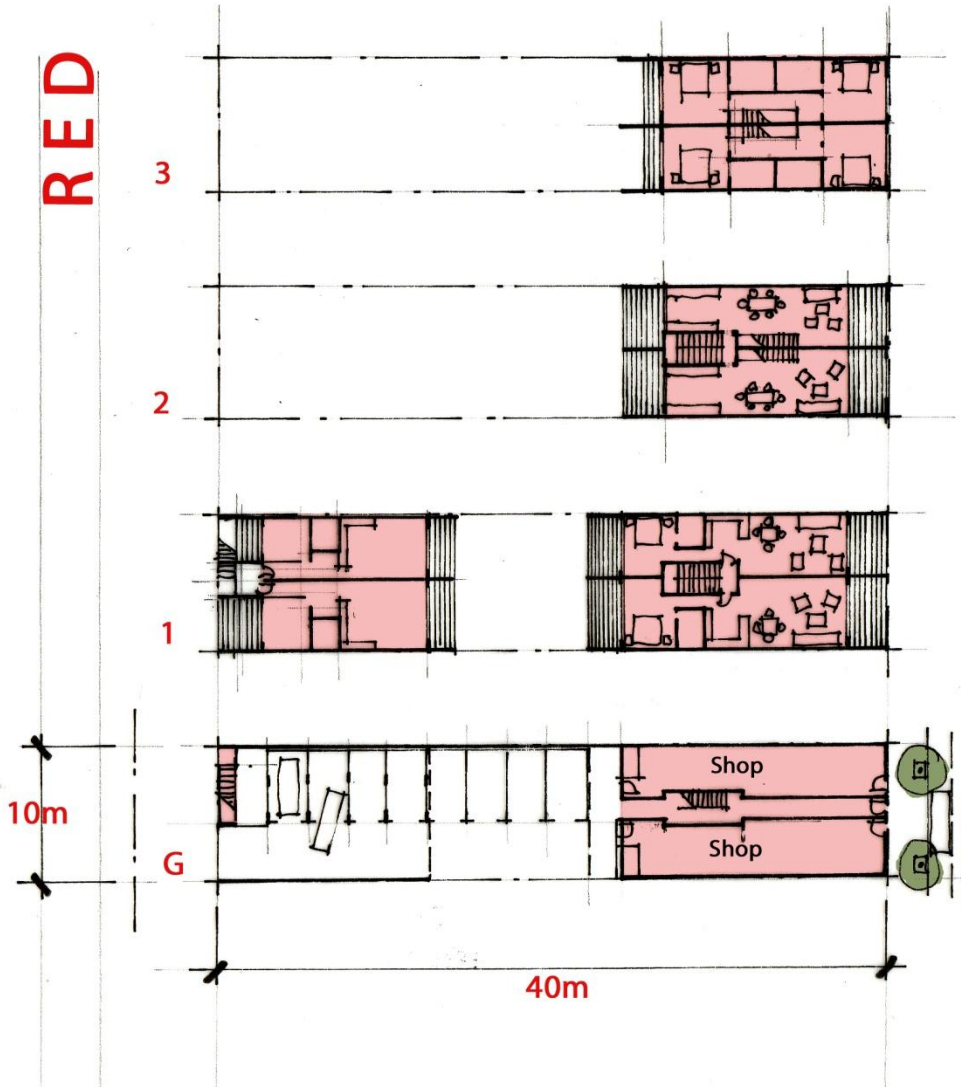
Development Scenarios

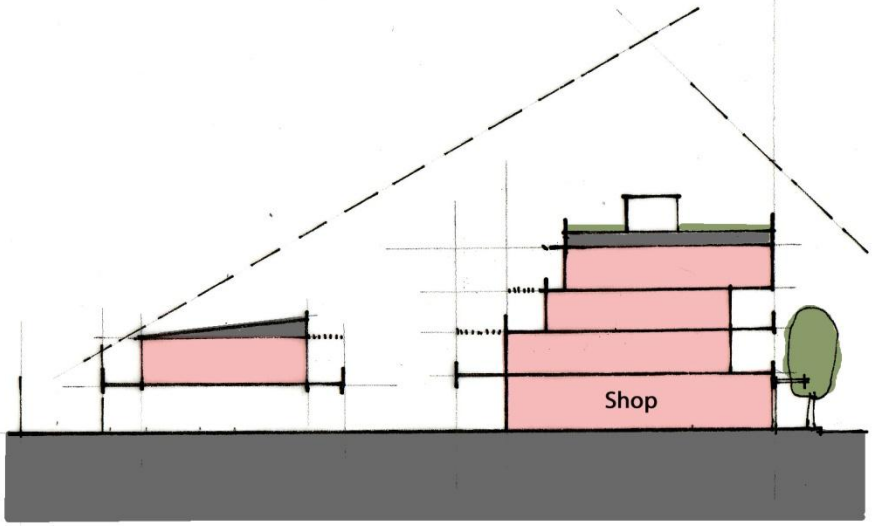
Cyan
4 Shops
12 Dwellings



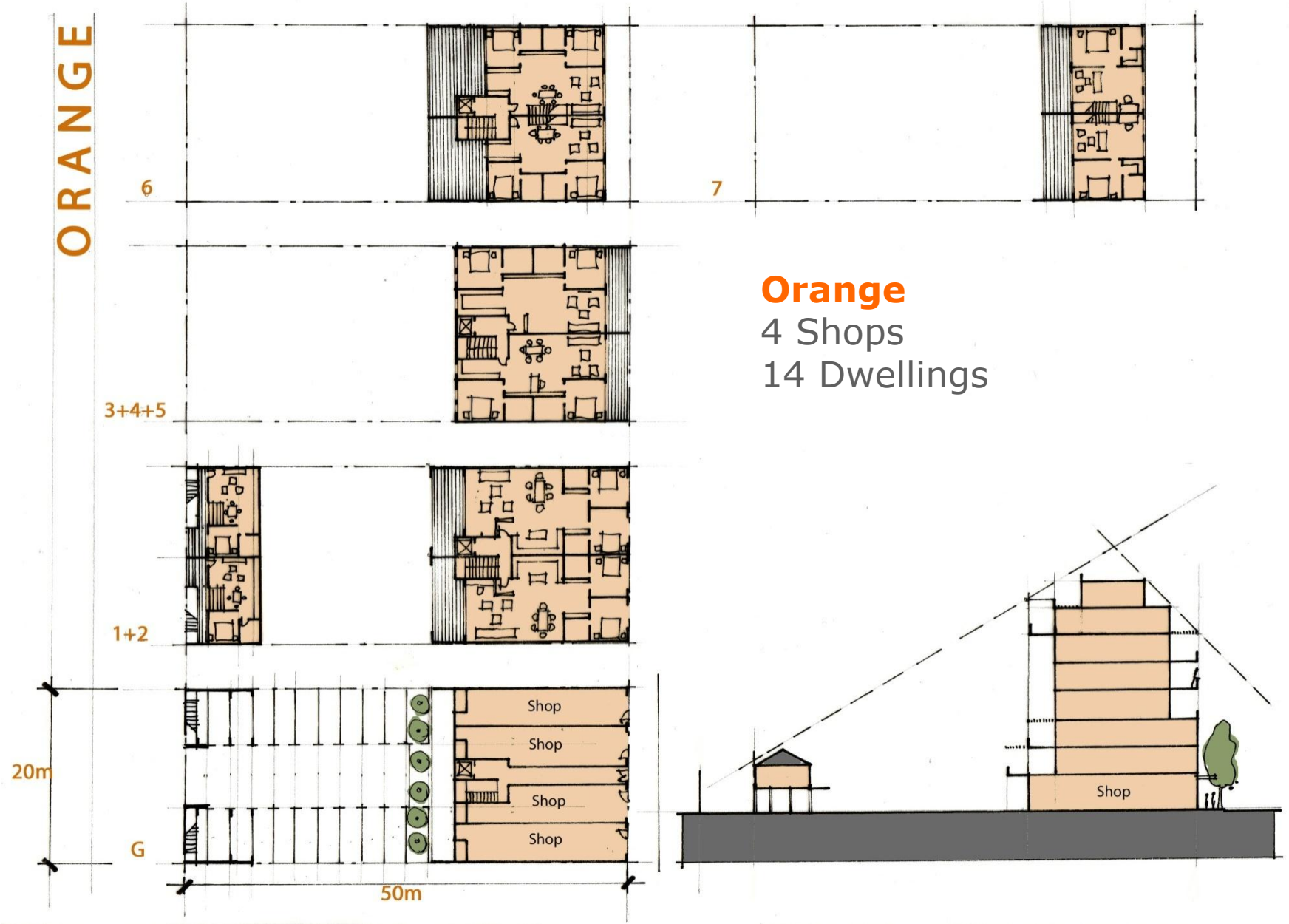
Development Scenarios

Red
2 Shops
6 Dwellings



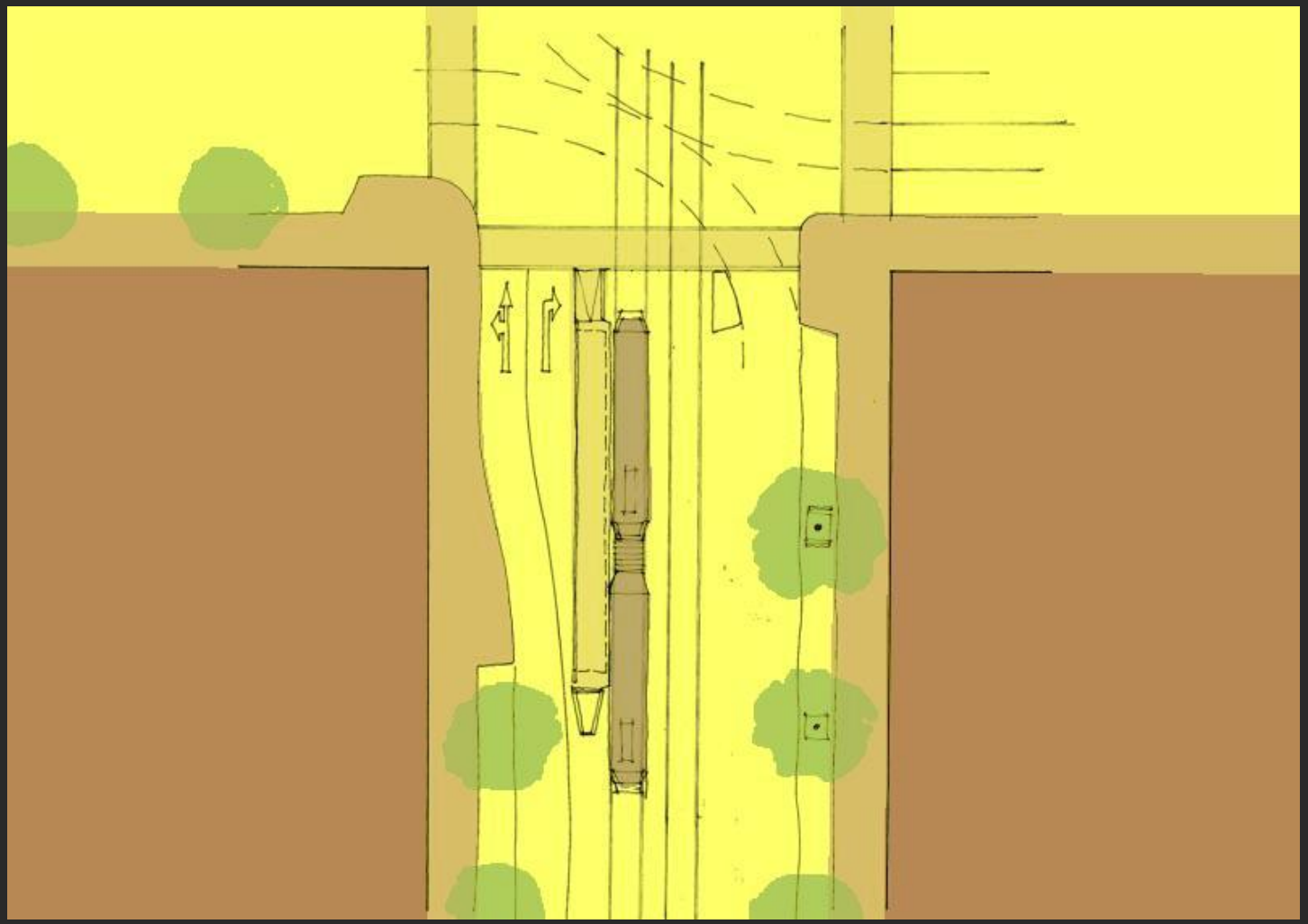


Development Scenarios



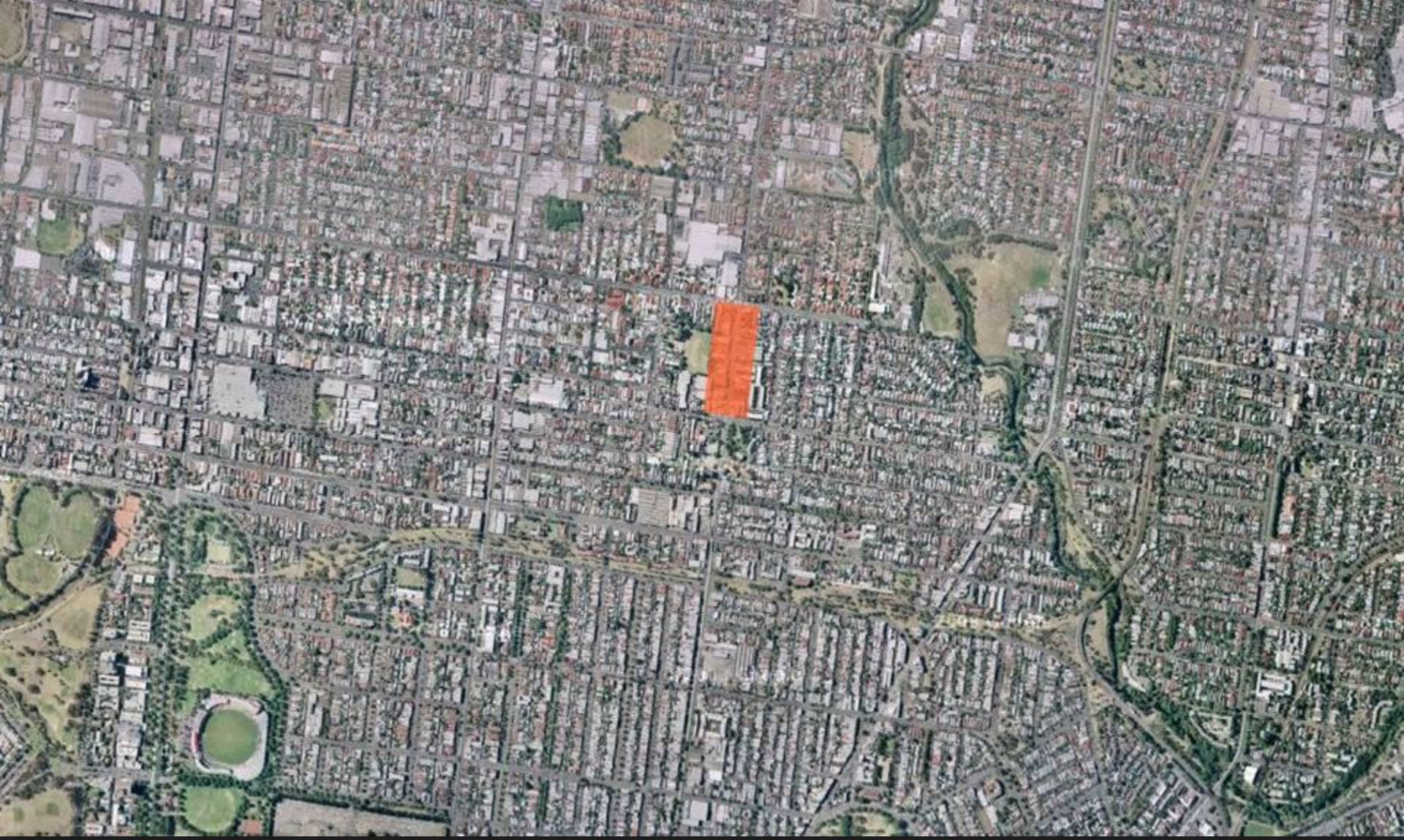
Orange
4 Shops
14 Dwellings

20m Street Reserve



DESIGN URBAN

SGS Economics & Planning



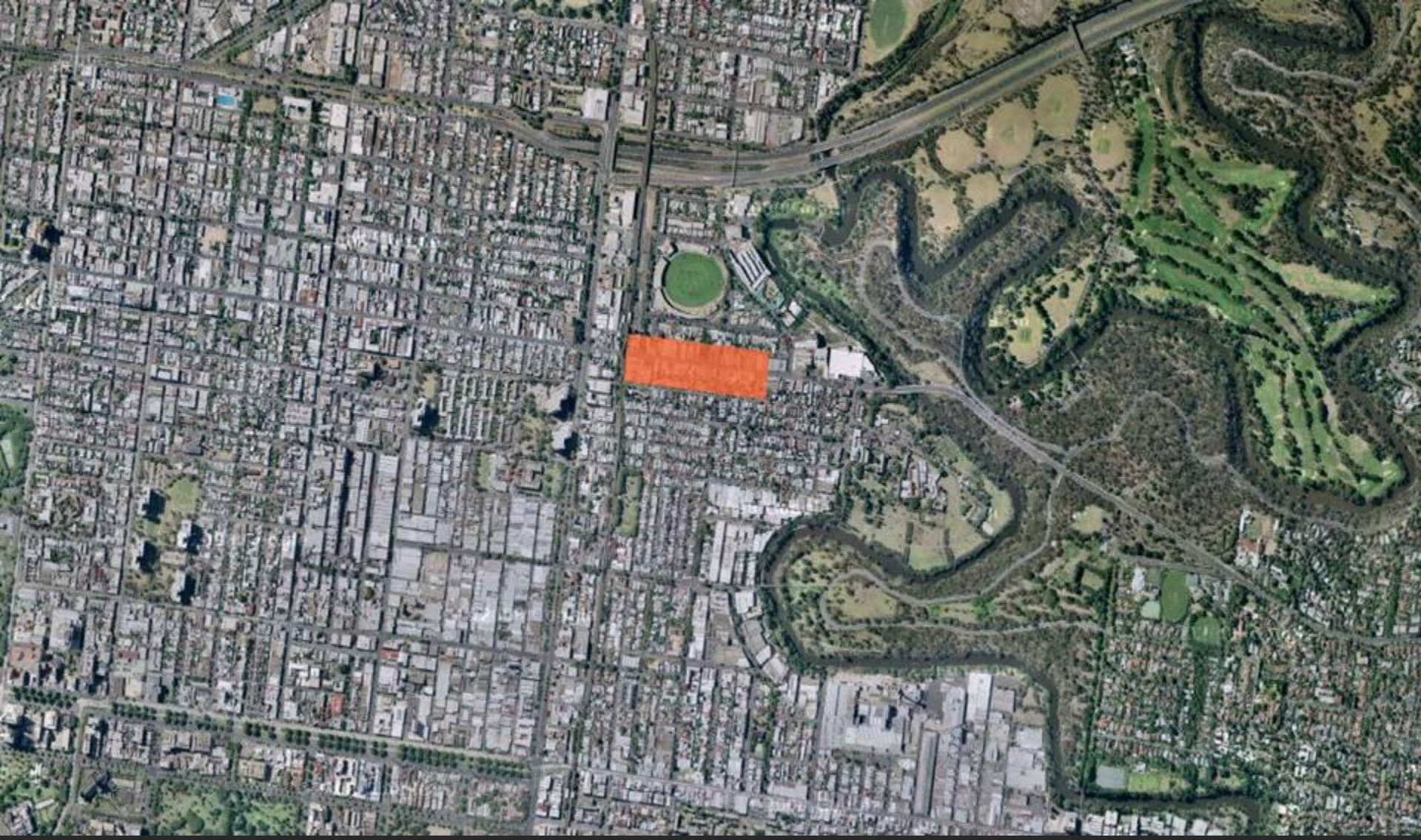
Nicholson Street study area (high level)

NOW

Nicholson Street, East Brunswick – looking south to the city

POSSIBLE FUTURE

Nicholson Street, East Brunswick – artists impression



Johnston Street study area (high level)

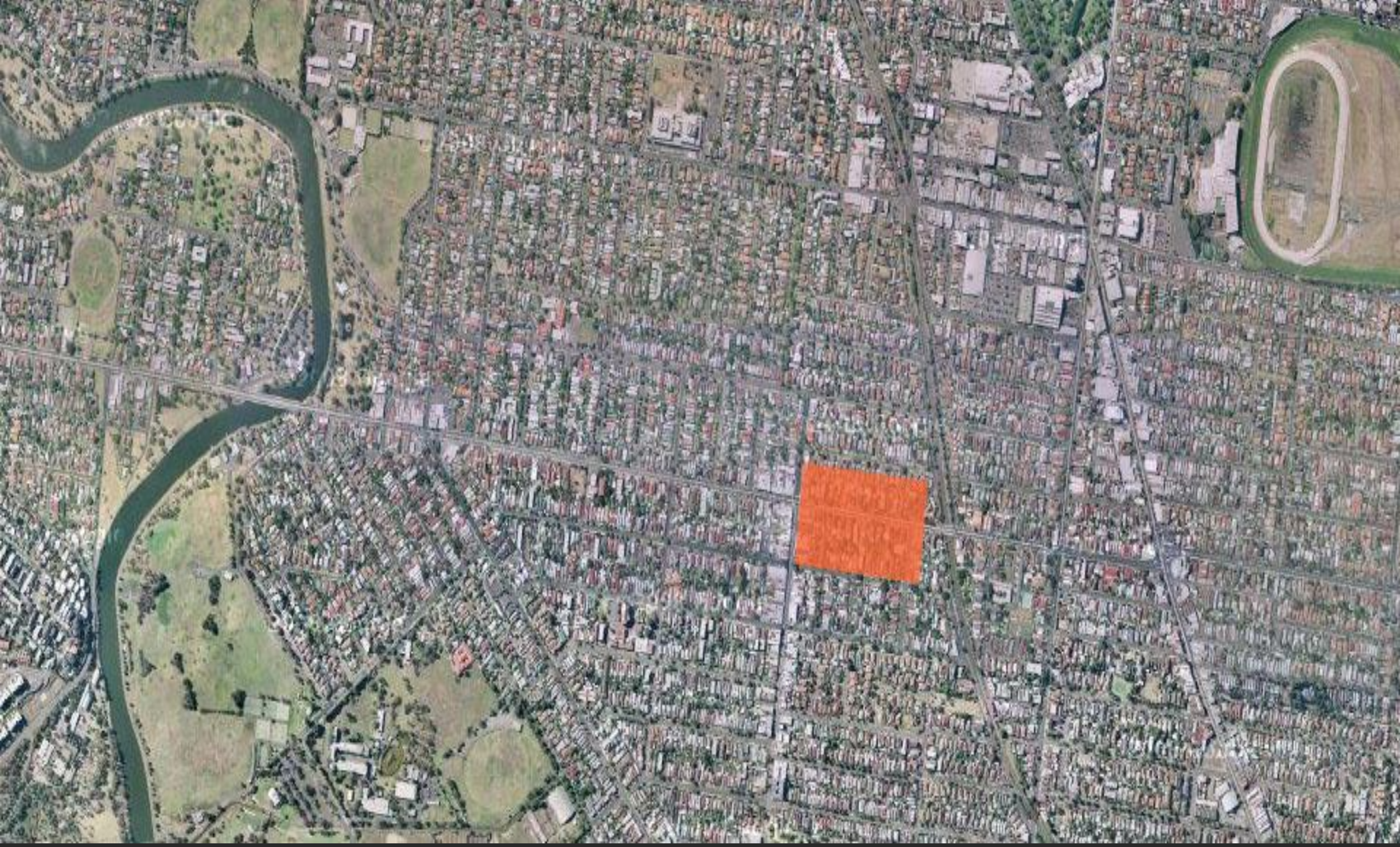
Johnston Street study area (medium level)

NOW

Johnston Street, Abbotsford – looking east

POSSIBLE FUTURE

Johnston Street, Abbotsford – artists impression



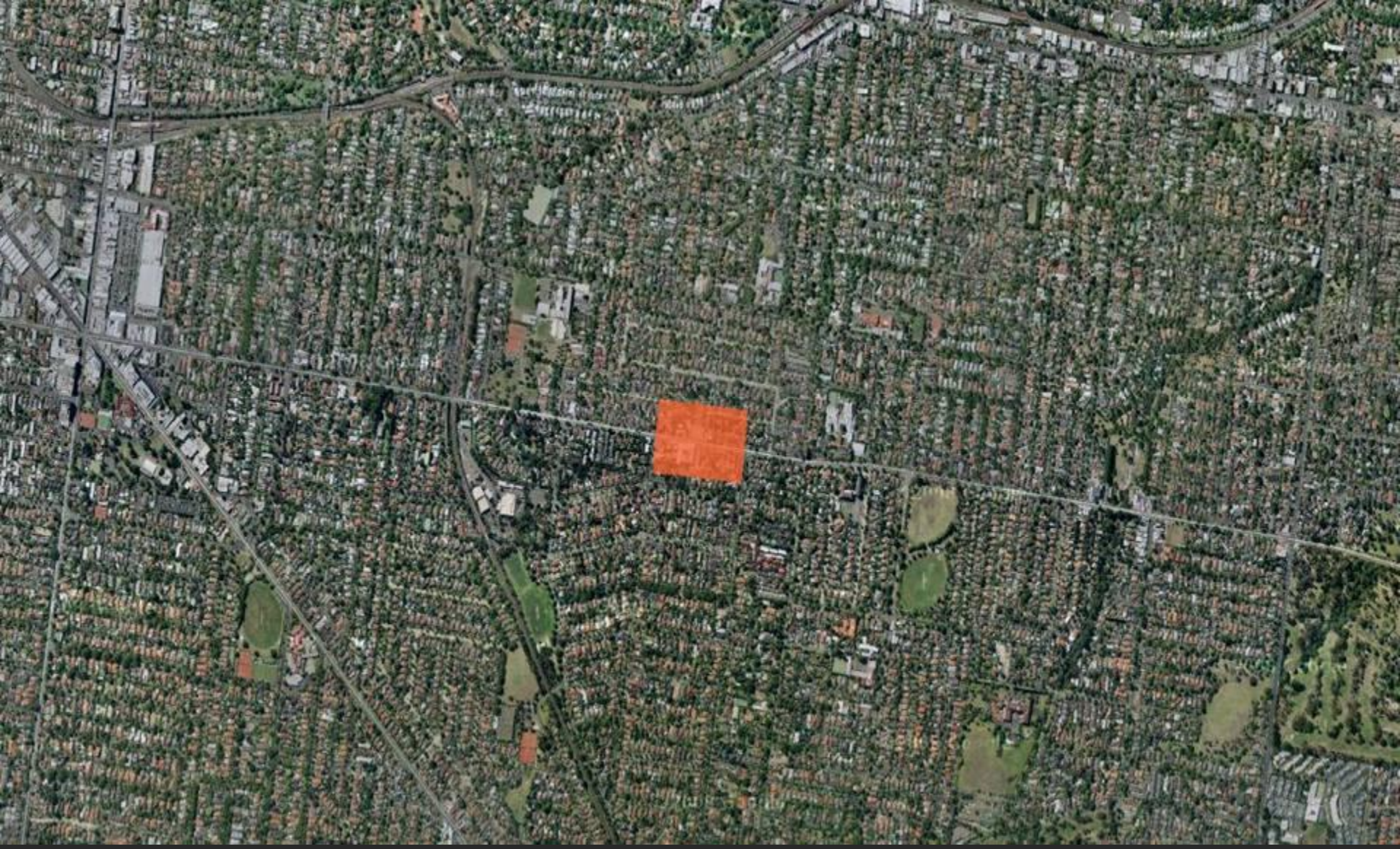
Maribyrnong Road study area (high level)

NOW

Maribyrnong Road, – looking west to Union Road

POSSIBLE FUTURE

Maribyrnong Road – artists impression



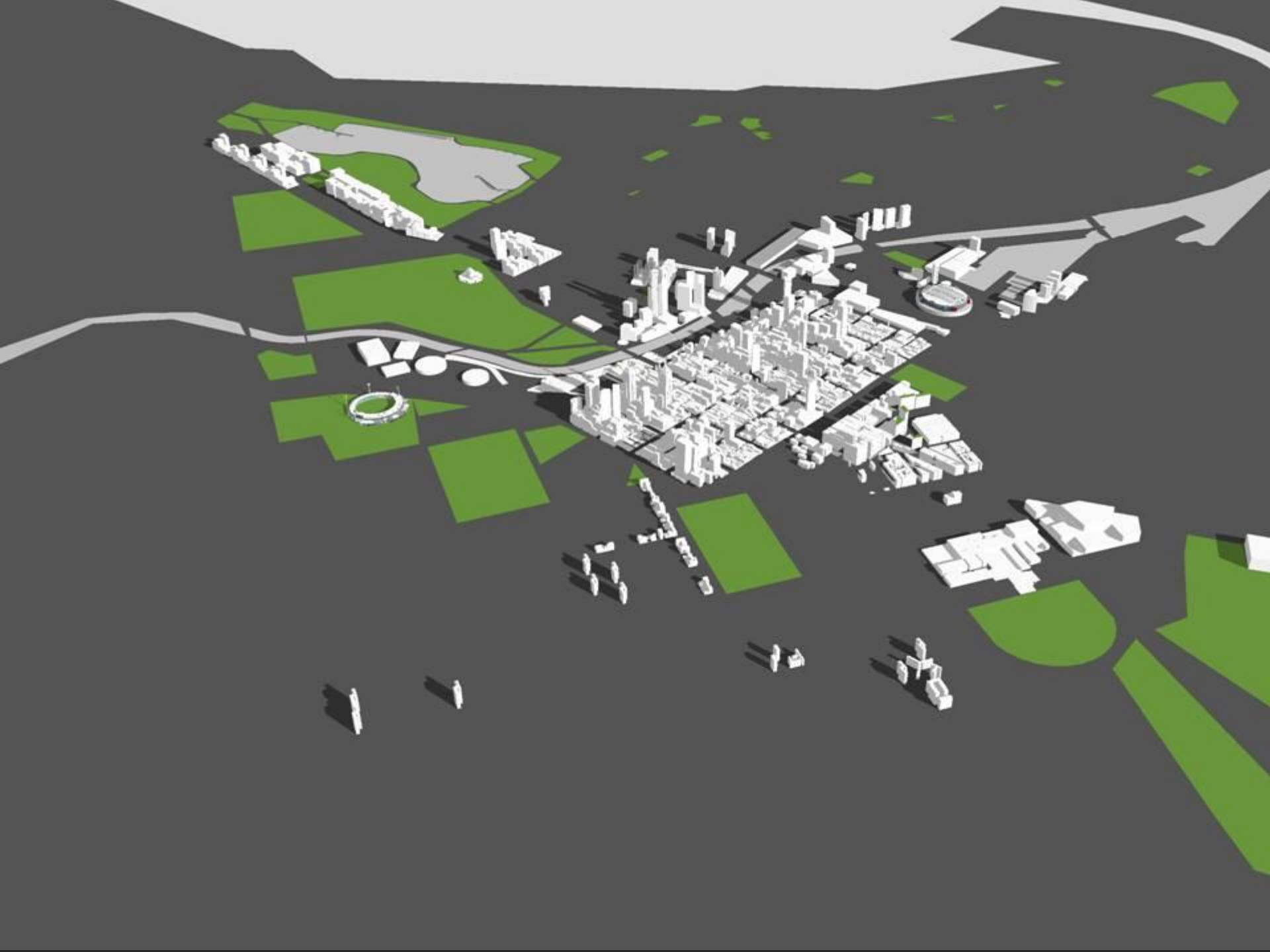
Riversdale Road study area (high level)

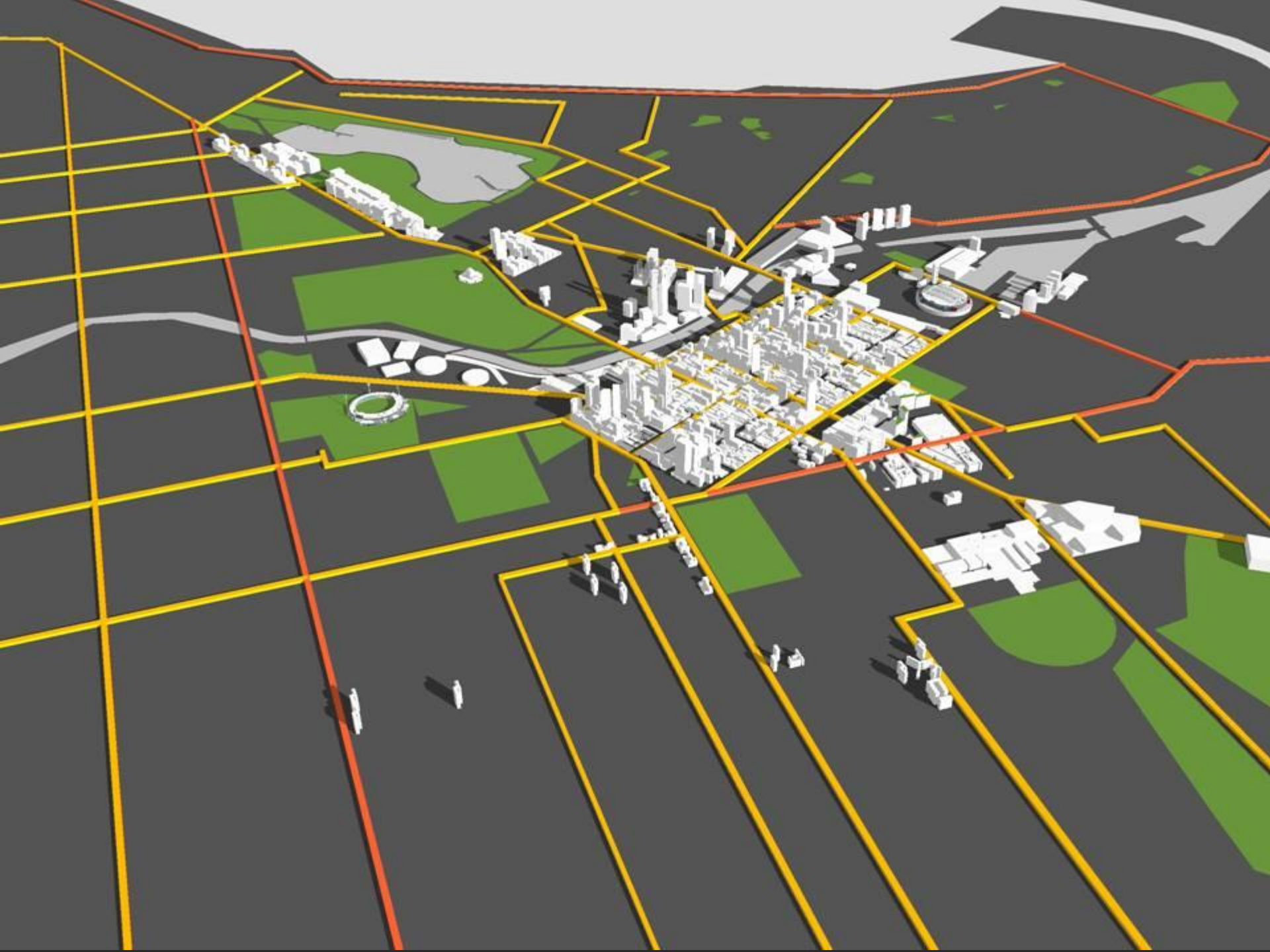
NOW

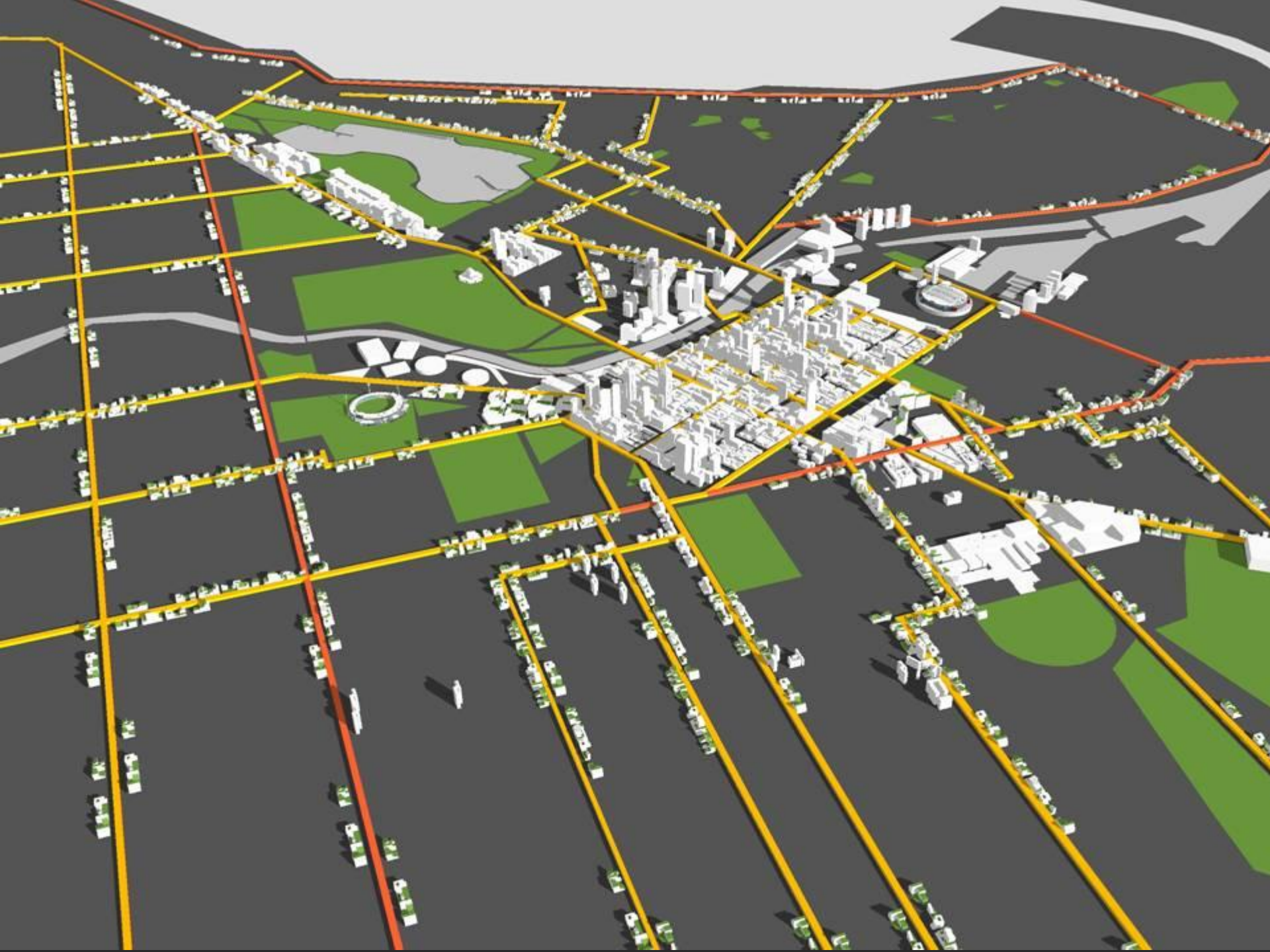
Riversdale Road, – looking west to Riversdale Park

POSSIBLE FUTURE

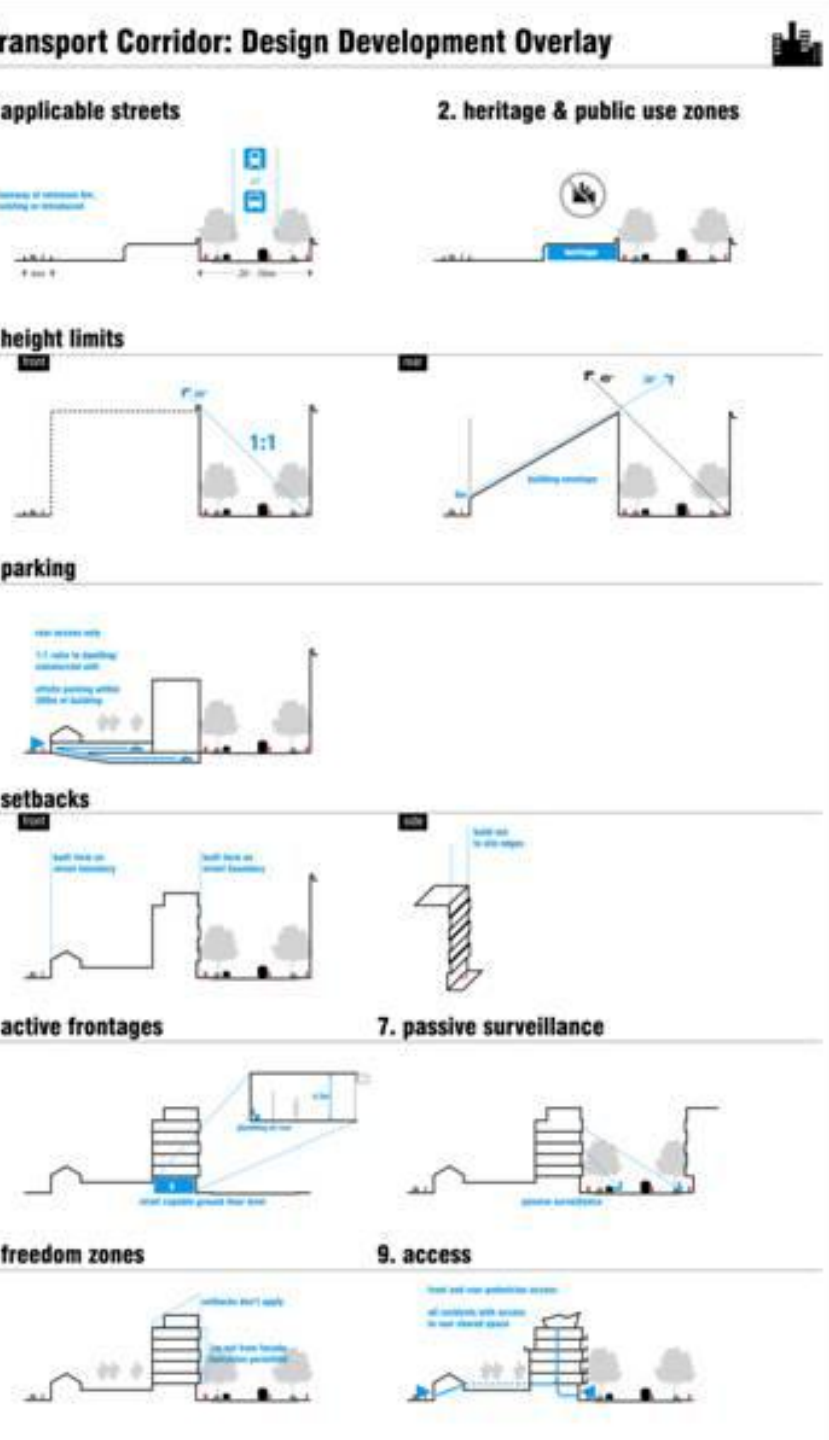
Riversdale Road – artists impression



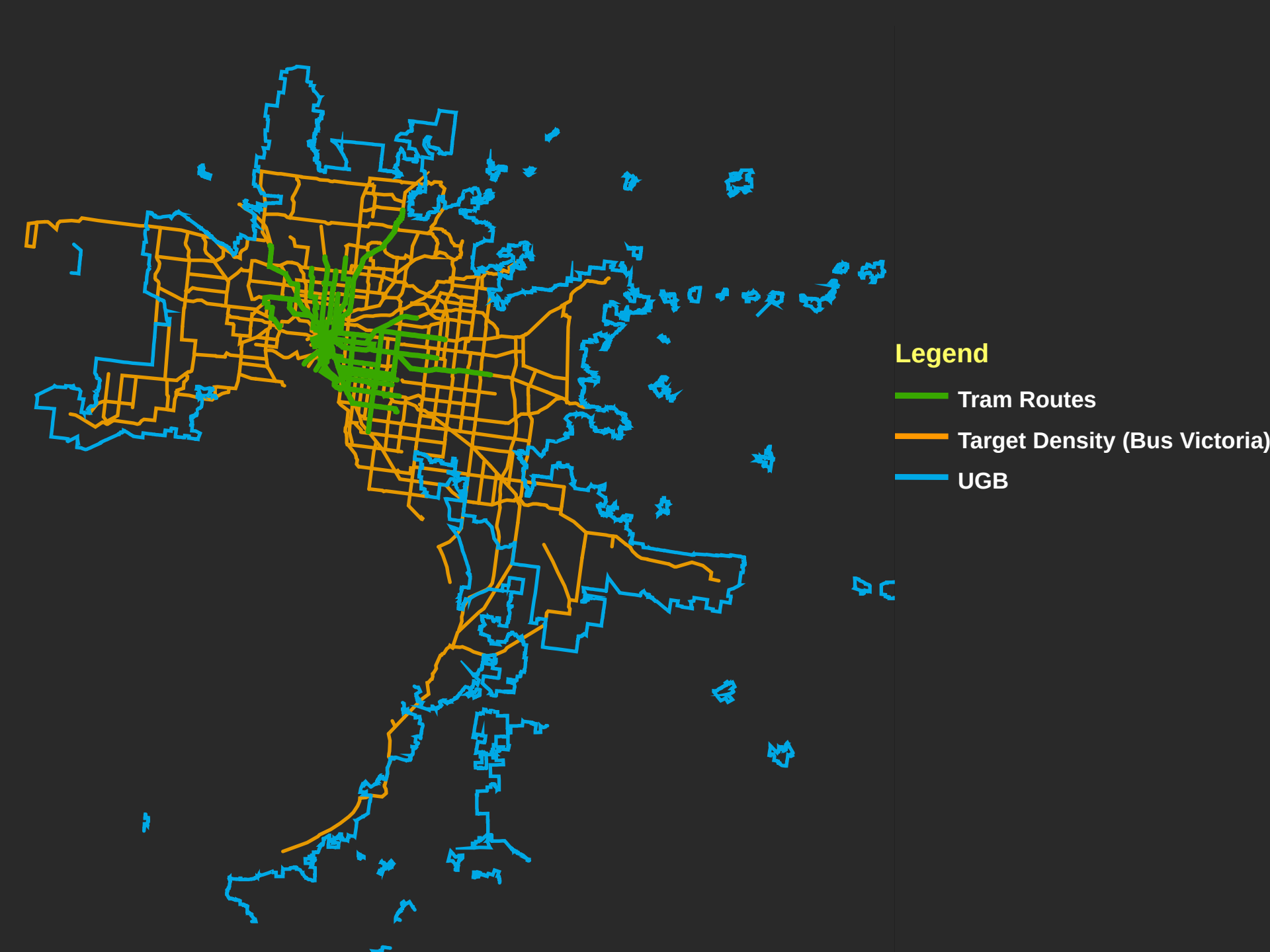




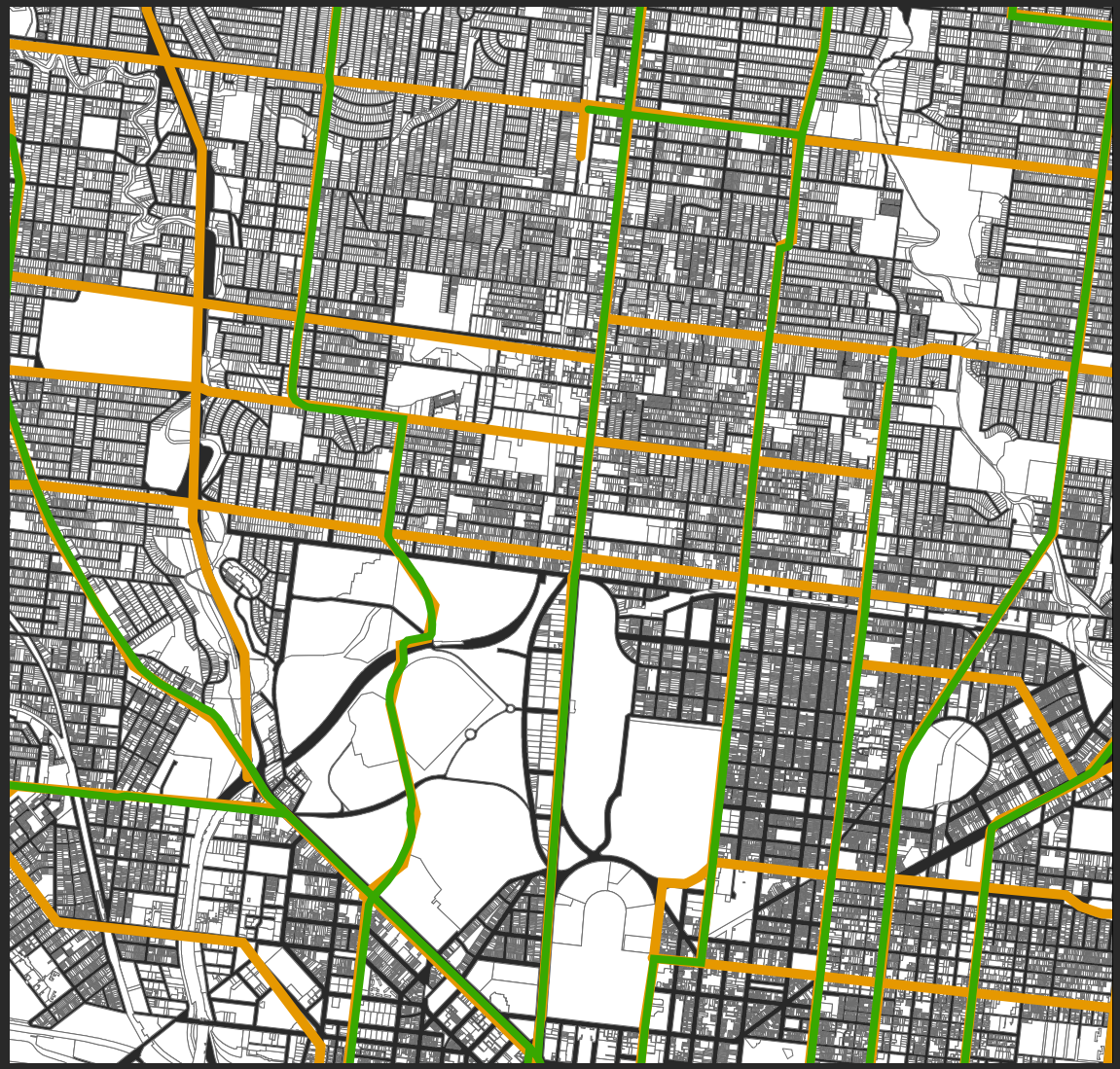
Design Development Overlay
Assessing the Potential



SOURCE Department of Planning and Communities


Legend
Tram Routes
Target Density (Bus Victoria)
UGB

CADASTRAL PARCELS



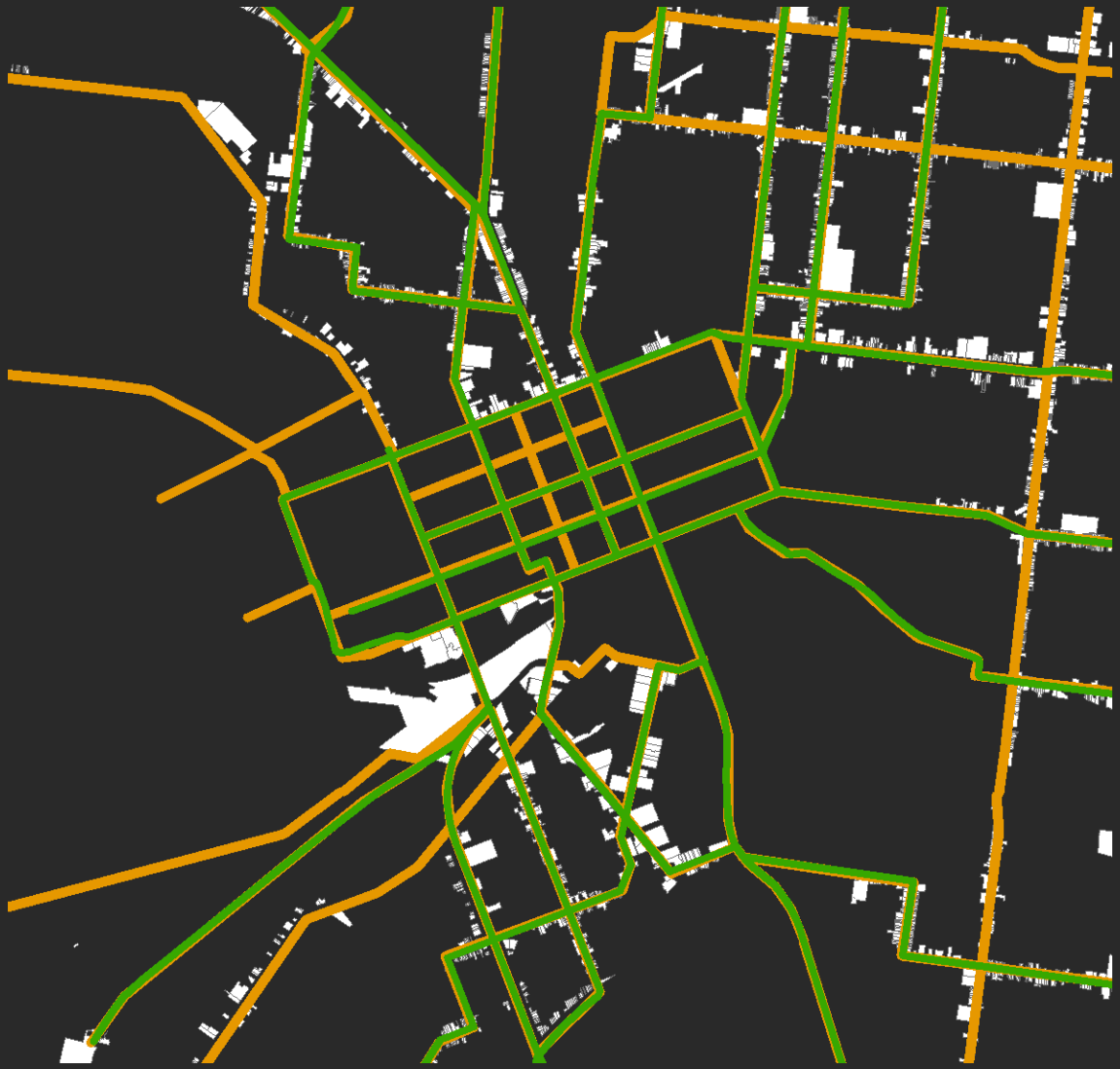
N

Legend

- Tram / Light Rail
- Target Bus Line
- Cadastral Parcels

Metropolitan Cadastral Parcels = 1,571,532

SPECIAL BUILDING ZONES
(CBD, Southbank, Docklands, St Kilda Road)



N

Legend

- Tram / Light Rail
- Target Bus Line
- Cadastral Parcels

Tram Potential Sites = 25,128 Bus Potential Sites = 96,480 Total = 121,608

SELECT PARCELS ALONG TRAM and TARGET BUS CORRIDORS

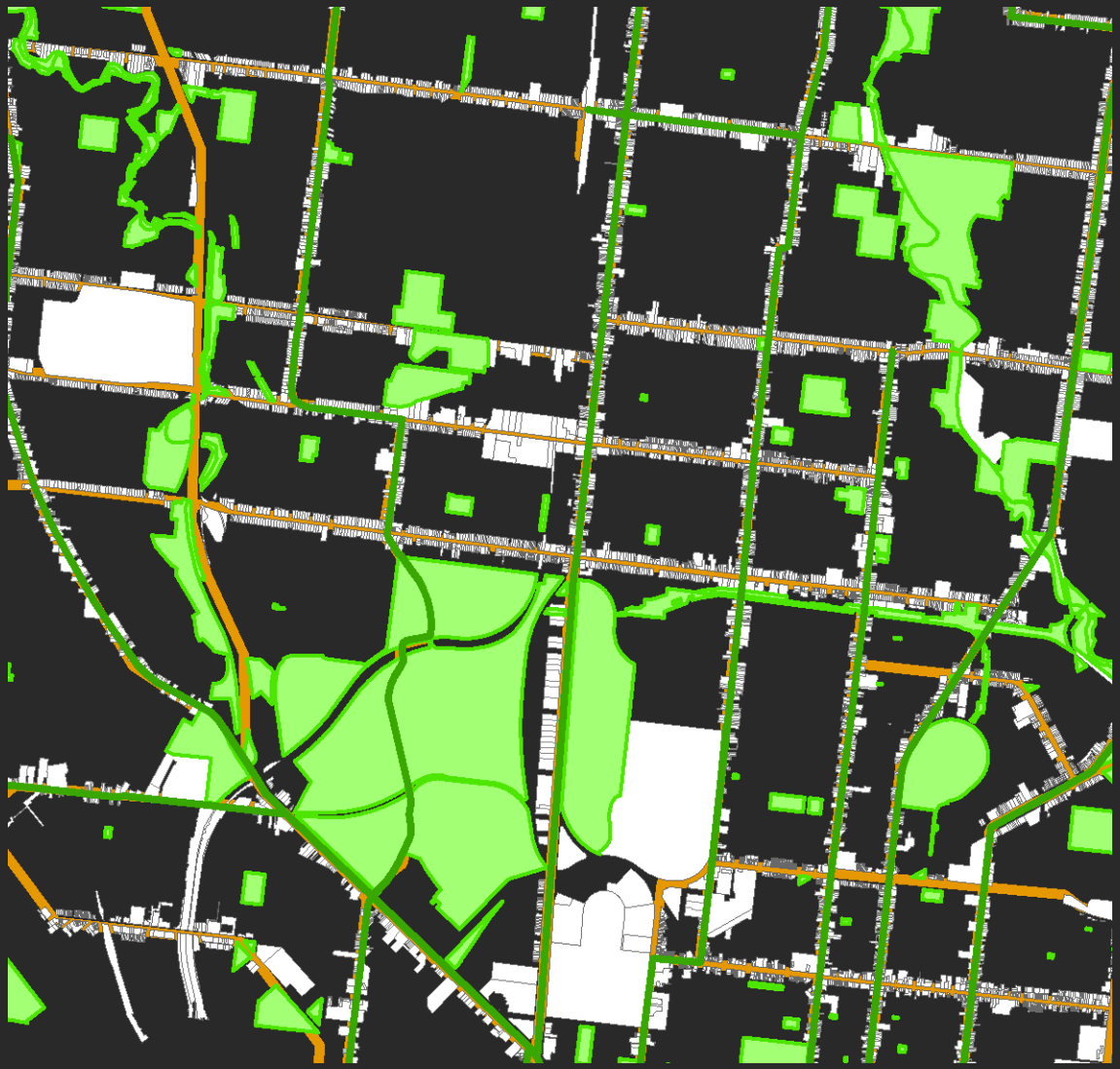
N

Legend

- Tram / Light Rail
- Target Bus Line
- Cadastral Parcels

Potential Sites = 25,128 Bus Potential Sites = 96,480 Total = 121,608

PARKS



N

Legend

- Tram / Light Rail
- Target Bus Line
- Cadastral Parcels
- Parks

Tram Potential Sites = 23,505 Bus Potential Sites = 95,450 Total = 118,955

PUBLIC USE AND INDUSTRIAL ZONES

N

Legend

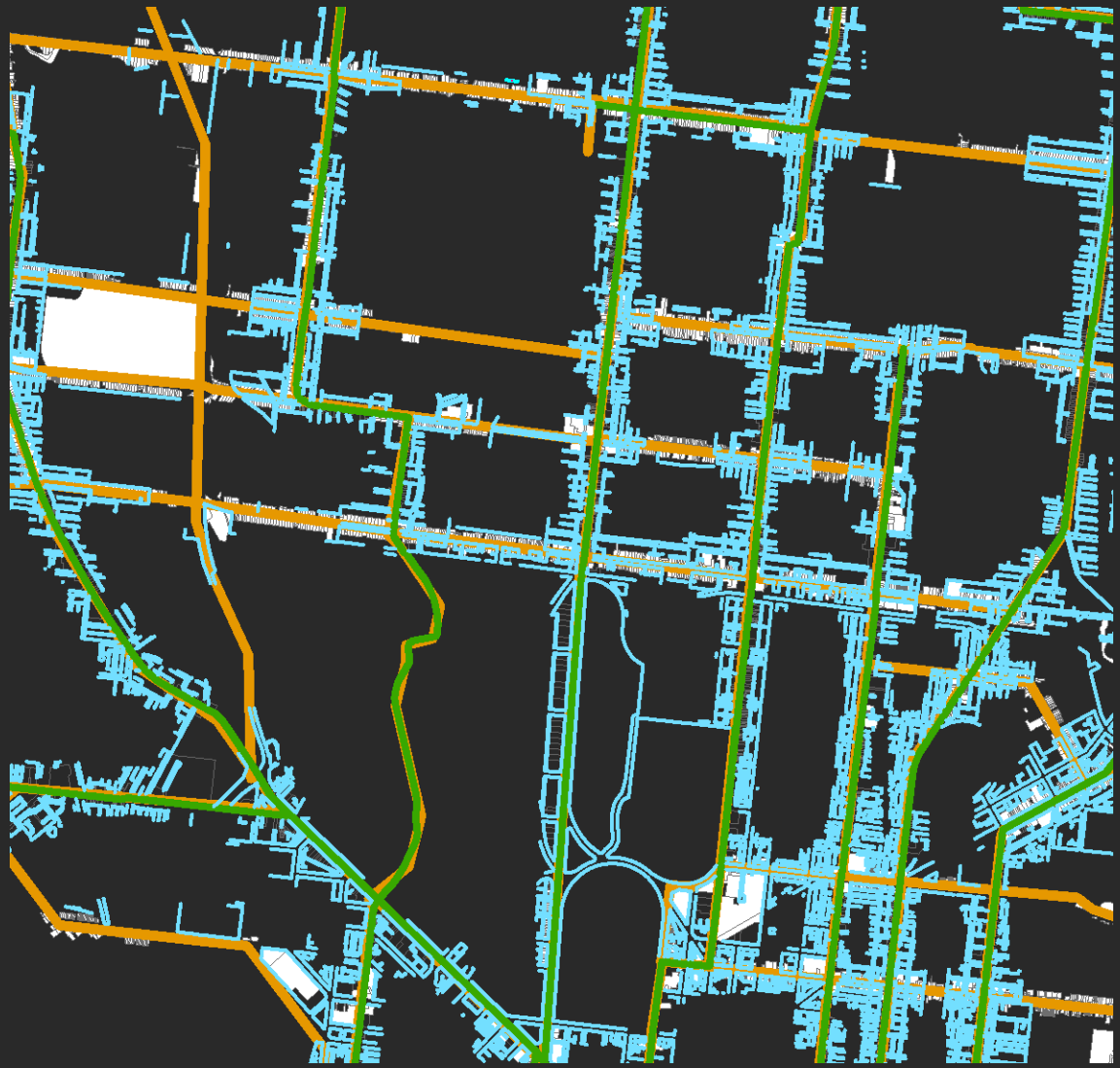
- Tram / Light Rail
- Target Bus Line
- Industrial Zone
- Public Use Zone

Tram Potential Sites = 23,202

Bus Potential Sites = 91,252

Total =114,554

REAR LANEWAY



N

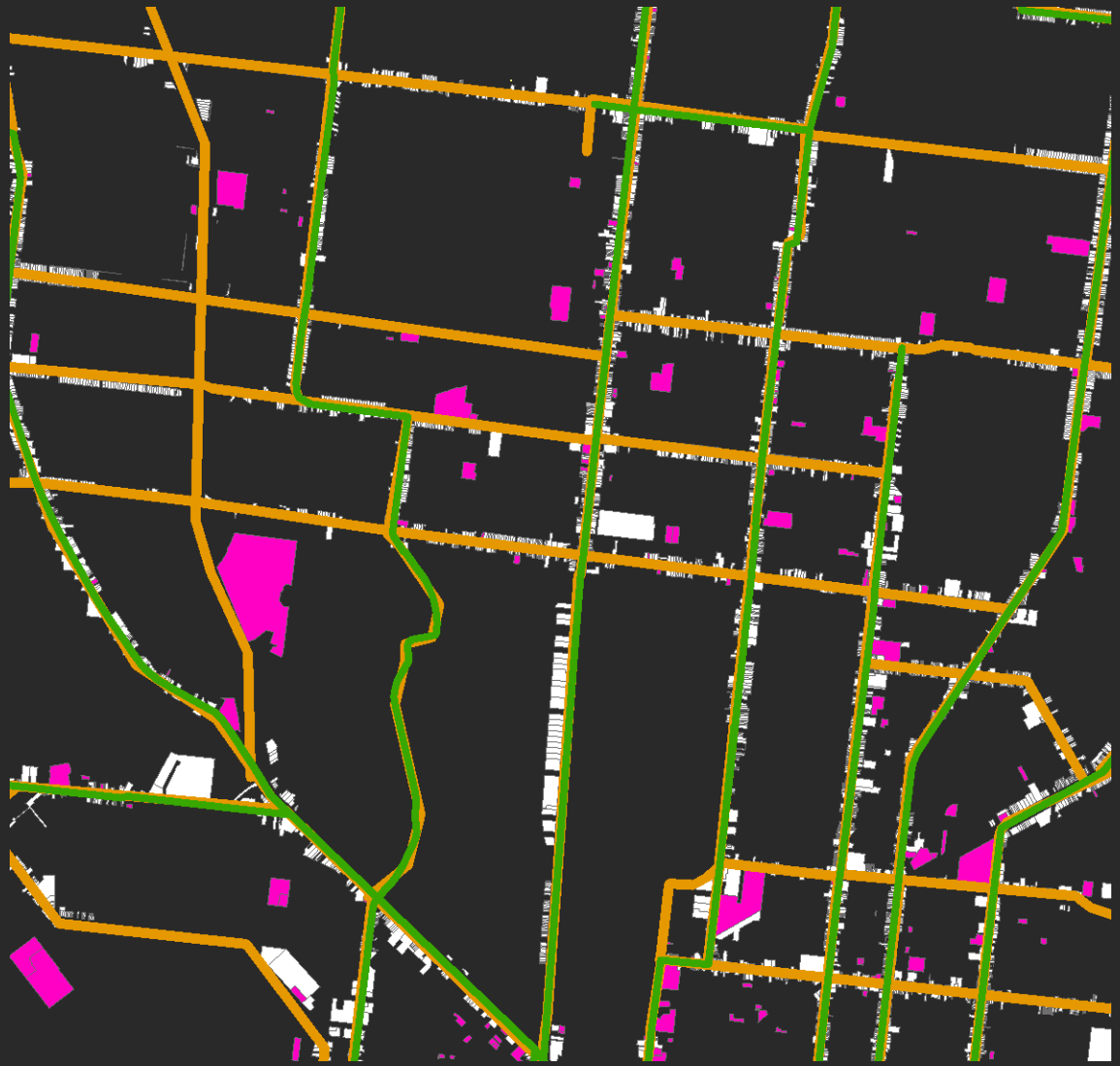
Legend

- Tram / Light Rail
- Target Bus Line
- Rear Laneway
- Urban Growth Boundary

Note:
Laneways have been derived based on gaps between cadastral parcels

Tram Potential Sites = 18,188 Bus Potential Sites = 22,440 Total = 40,628

RECENTLY DEVELOPED SITES AND SITES IN PLANNING (DPCD)



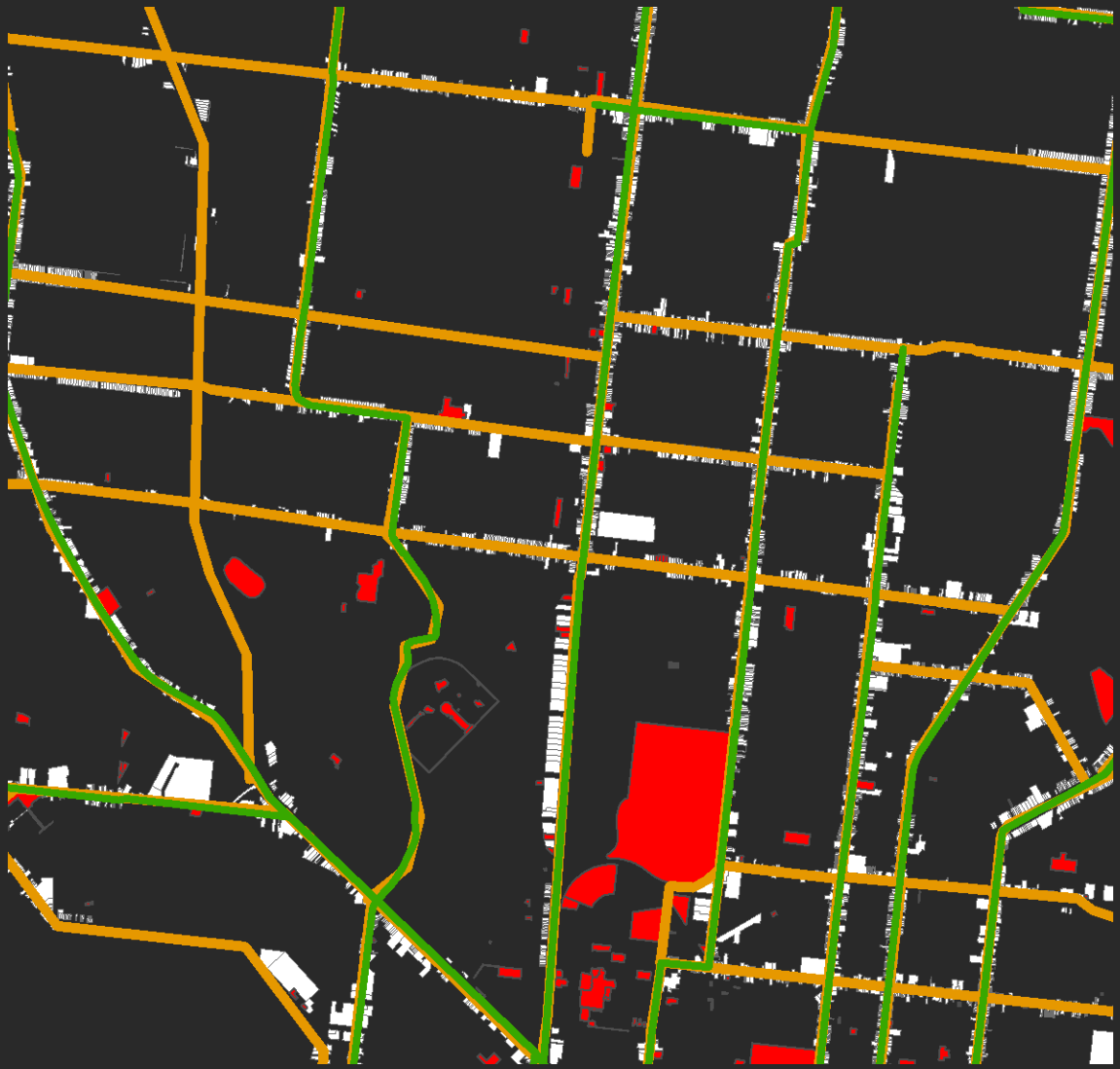
N

Legend

- Tram / Light Rail
- Target Bus Line
- Recently Developed Building

Tram Potential Sites = 18,118 Bus Potential Sites = 22,038 Total = 40,156

HERITAGE REGISTER BUILDINGS



N

Legend

- Tram / Light Rail
- Target Bus Line
- Heritage Register Building
- Urban Growth Boundary

Tram Potential Sites = 17,726

Bus Potential Sites = 21,973

Total = 39,699

HERITAGE OVERLAY

N

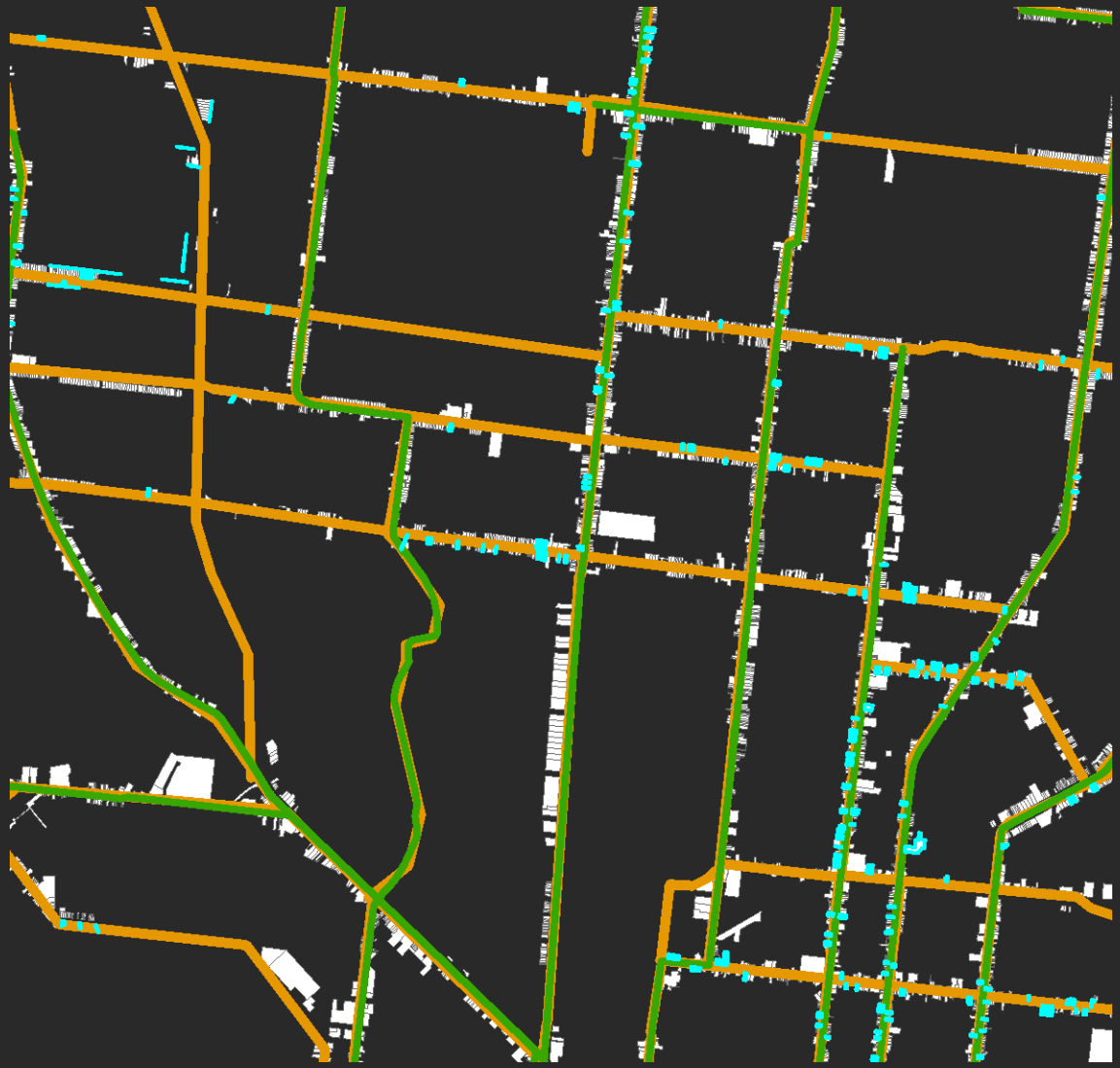
Legend

- Tram / Light Rail
- Target Bus Line
- Heritage Overlay

Tram Potential Sites = 16,307 Bus Potential Sites = 20,570 Total = 36,877

(Remove 50% of sites within the heritage overlay)

FRONTAGE < 6m



N

Legend

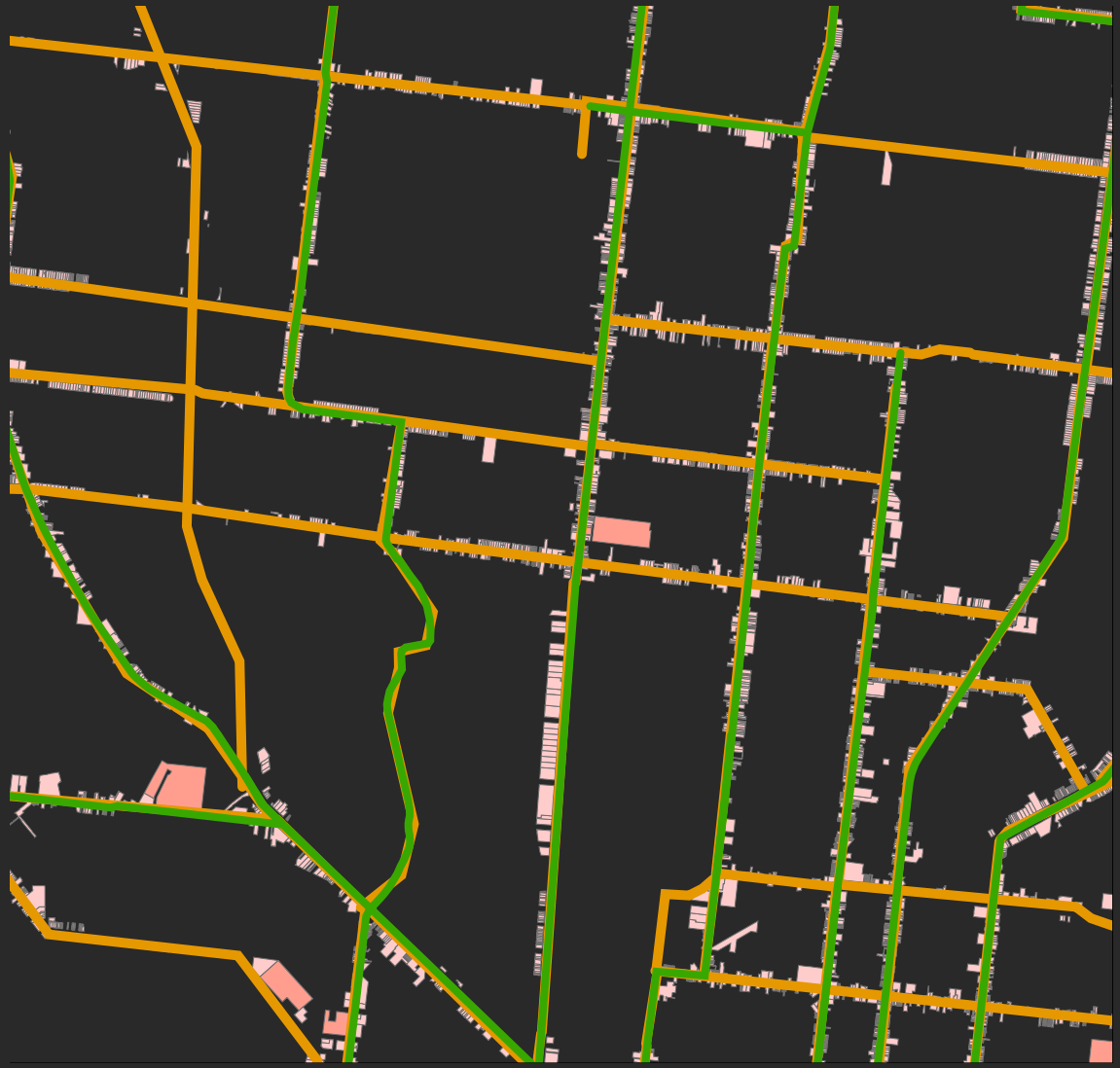
- Tram / Light Rail
- Target Bus Line
- Frontage < 6m
- Urban Growth Boundary

Tram Potential Sites = 12,439

Bus Potential Sites = 18,883

Total = 34,753

AREA OF AVAILABLE SITES



N

Legend

- Tram / Light Rail
- Target Bus Line
- Available Sites

Tram Potential Sites = 12,439
Bus Potential Sites = 22,038

Area Ha = 1,418
Area Ha = 5,275

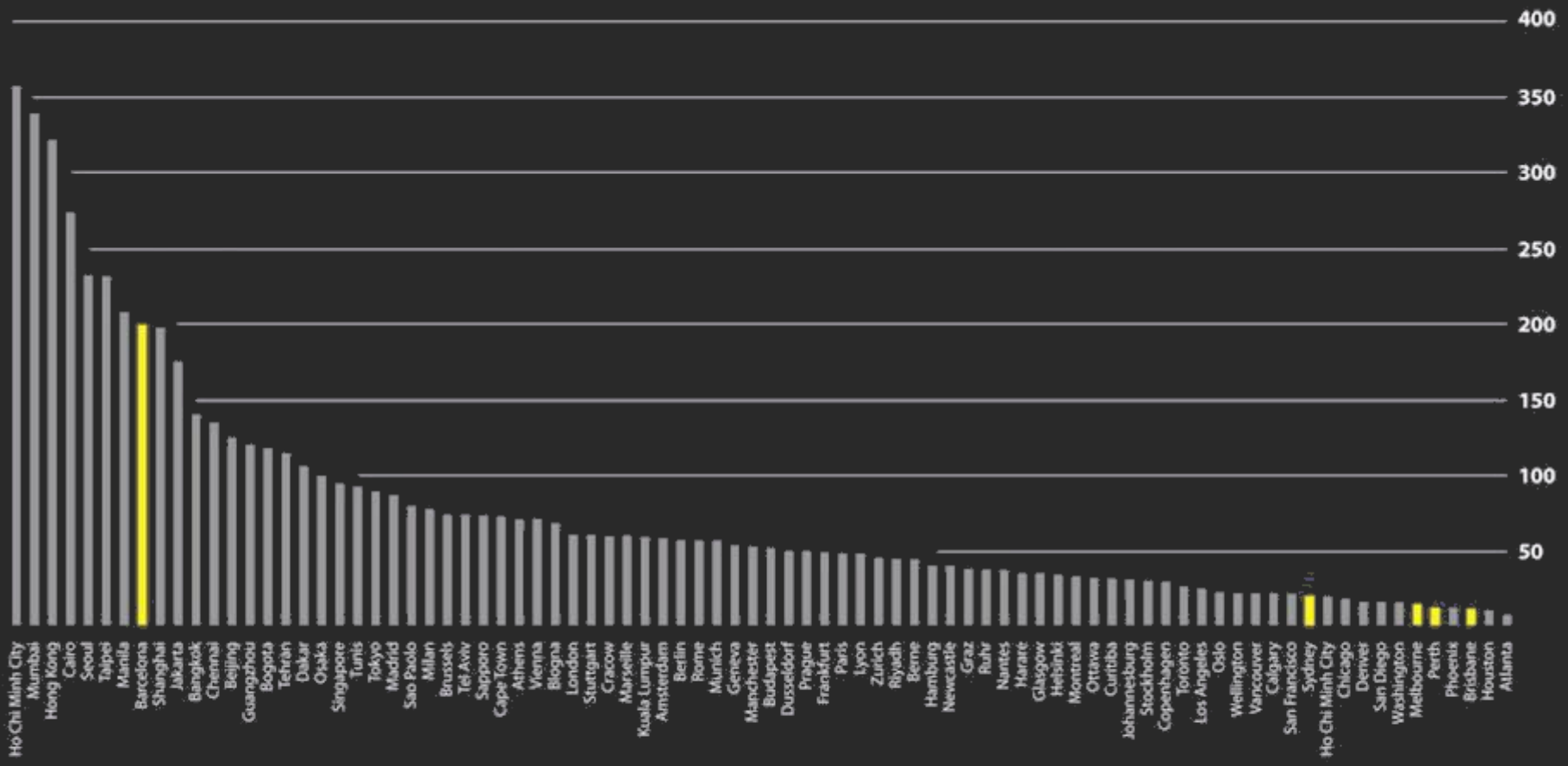
Total 34,477 Sites

Results

	Tram	Target Bus Lines
Sites available for densification	12,439	22,038
Total area (Ha)	1,418	5,275
Current population	48,630	158,250

Proposed Density Range 180 - 450

	Low	High
Net population increase	1,003,950	2,457,310



Urban Density, 1995 (Persons/Ha)

Acknowledgements: Prof Peter Newman, Murdoch University, W.DC

Tallinn, Estonia

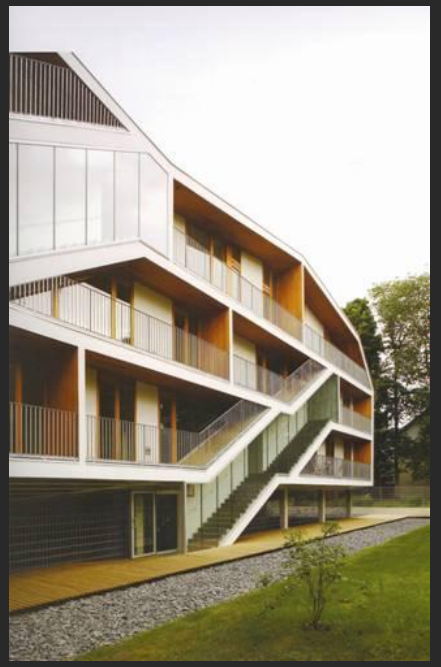
Lydia Koidula 24

(Source: J.MOZAS, J.ARPA,: *D BOOK, Density, Data, Diagrams,* Dwellings, '07)

3+1 Architects 2006

RESIDENTS / ha :

237



- **102 *dwellings* / ha.**
- ***237 residents* / ha**
- **GFA : 1071 m2.**

Aerial view

Mexico City, Mexico

Calle Alfonso Reyes 58. Colonia Condesa

(Source: J.MOZAS, J.ARPA,: *D BOOK, Density, Data, Diagrams,* Dwellings, '07)

Dellekamp Architectos 2003

RESIDENTS / ha :

449

- 179 dwellings / ha
- 449 residents / ha.
- GFA : 2009 m2

Aerial view

Vancouver, Canada

4387 West 10th Avenue

RESIDENTS / ha :

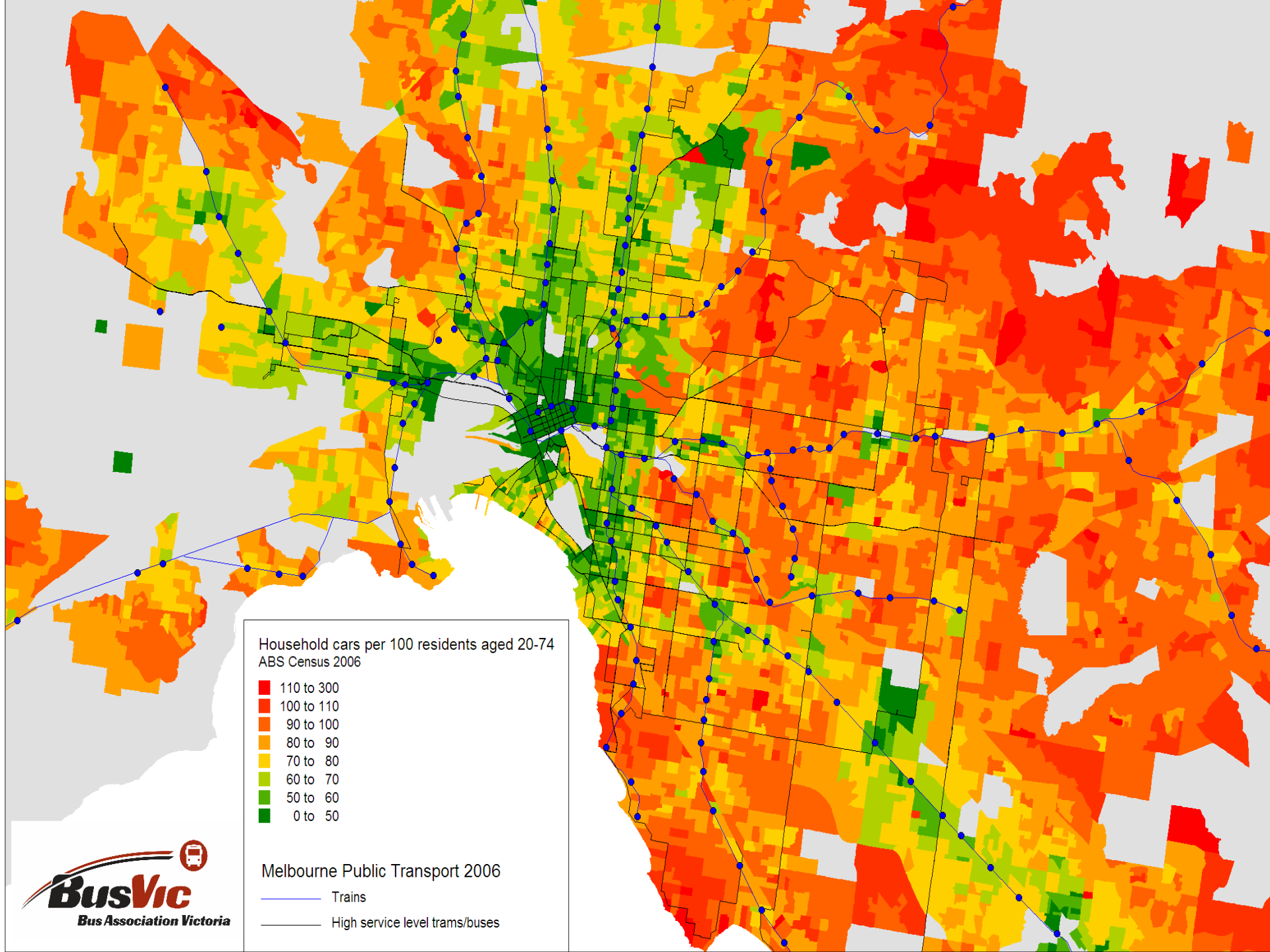
553

- **142 dwellings/ha**
- **553 residents/ha.**
- **GFA : 1932 m2**

Aerial view

(Source: J.MOZAS, J.ARPA,: *D BOOK, Density, Data, Diagrams,* Dwellings, '07)

LWPAC 2006


Household cars per 100 residents aged 20-74
ABS Census 2006
110 to 300
100 to 110
90 to 100
80 to 90
70 to 80
60 to 70
50 to 60
0 to 50
Melbourne Public Transport 2006
Trains
High service level trams/buses
BusVic
Bus Association Victoria

An Access Economics report prepared for Diabetes Australia estimates the total economic cost of obesity in Australia in 2008 was a staggering $58 billion.

THE AGE
FRIDAY, MARCH 12, 2010 7
NEWS

Public transport users vote with feet

By **CLAY LUCAS**
TRANSPORT REPORTER

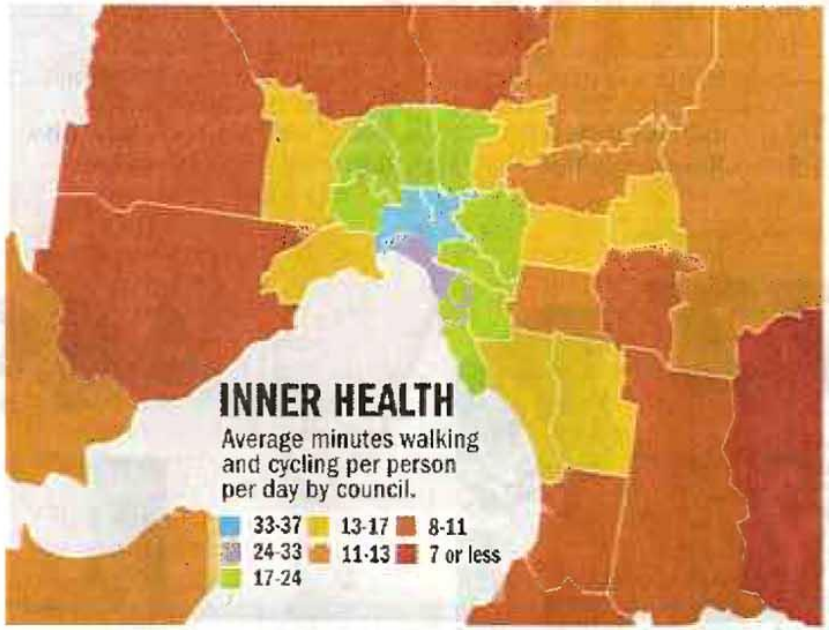
PUBLIC transport users get a daily average of 41 minutes physical exercise, compared with an average of eight minutes for those who only drive, according to an analysis of Victorian travel data.

Research completed by the Bus Association of Victoria has found that those who use public transport in Melbourne are likely to get their recommended daily dose of physical activity as a "side effect" of their travel.

Exercise guidelines produced by the federal government recommend that adults spend at least 30 minutes a day walking, cycling or doing another activity that increases their heart rate.

An Access Economics report prepared for Diabetes Australia estimated the total economic cost of obesity in Australia was about $58 billion in 2008.

A map produced as part of the Bus Association's study also indicates how much people who live in each of Melbourne's council areas either walk or cycle. It shows that those in Melbourne's inner areas, which in most cases have easier access to public transport, get much more exercise as part of their daily travel routine than those who live in outer Melbourne.



Bus Association policy manager Chris Loader said the study showed that improving public transport services was crucial. "The research demonstrates that it brings significant public health benefits," he said. "We need better public transport in Melbourne's middle and outer suburbs."

The Heart Foundation's chief executive, Kathy Bell, said the survey highlighted the need for more outer-suburban transport services, because one impact would be improved health.

"People in Melbourne's growing outer suburban areas are missing out on satisfactory levels of public transport services and also on the health benefits of walking and cycling that are associated with regular public transport use," she said.

The study's figures are derived from the state government's Victorian Integrated Survey of Travel and Activity, released last year. It surveyed 43,800 people in households in Melbourne and regional Victoria. The Bus Association analysis compared public transport users with those who used a vehicle to get around.

'people who used public transport on a particular day, also spent an average 41 minutes walking and/or cycling as part of their travel.' Chris Loader The Age March 12 2010

Productive Suburbs

This comprises 90% of the metropolitan area and remains the ‘Australian dream’.

- The home as a financially positive energy generator in support of the grid and large scale energy facilities achieved through gross feed-in tariffs.
- The backyard as productive food source.
- The street as linear forest-$1 invested in tree planting delivers $5.6 of value back to the city.
- The city as catchment.

NOW

Curtain Street, looking west to Nicholson Street

POSSIBLE FUTURE

Curtain Street – artists impression

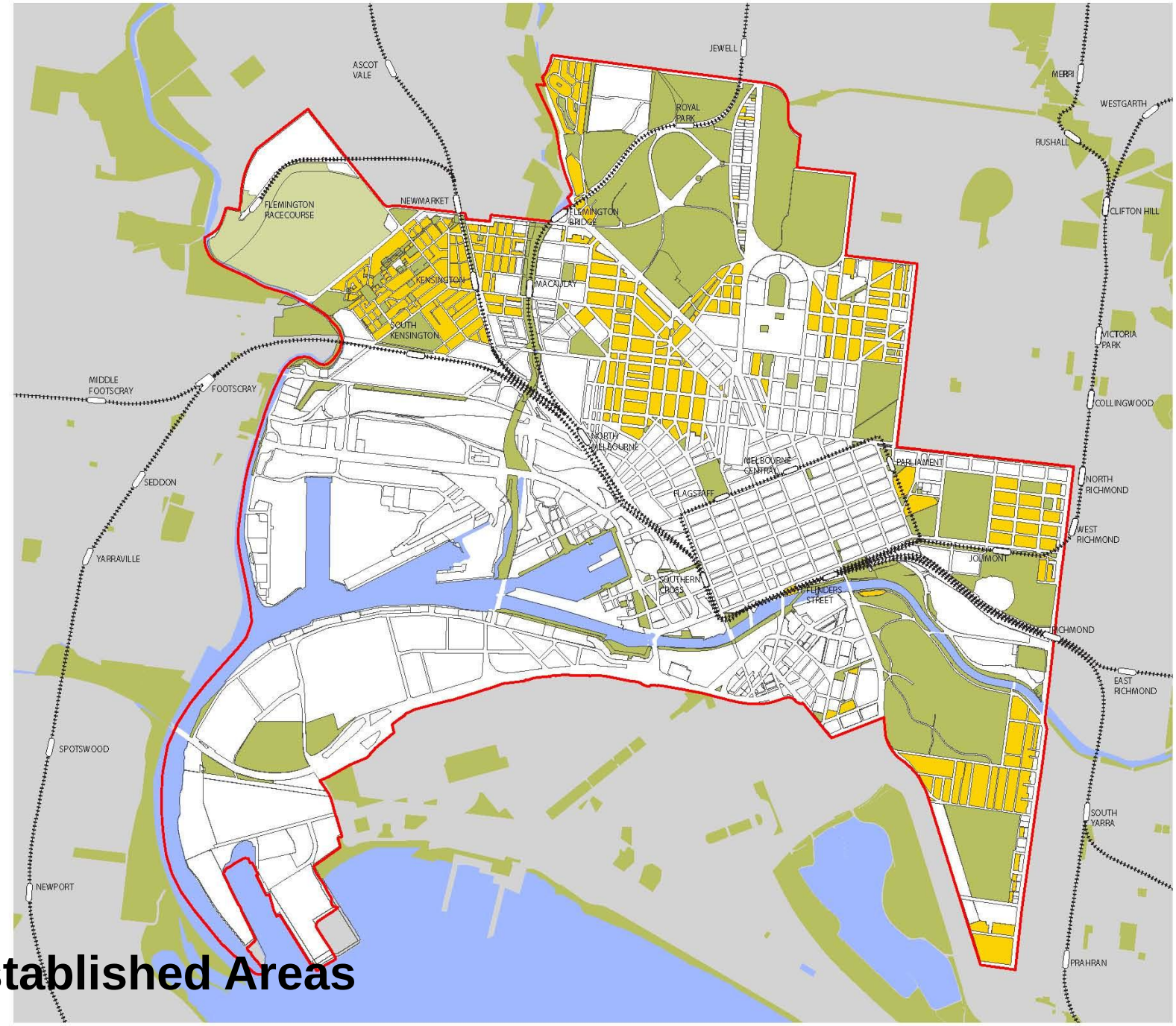
REDEVELOPMENT SITES

•The State Governments Urban Development Program database identifies 1,486 key development sites that either have planning approval or are under construction.

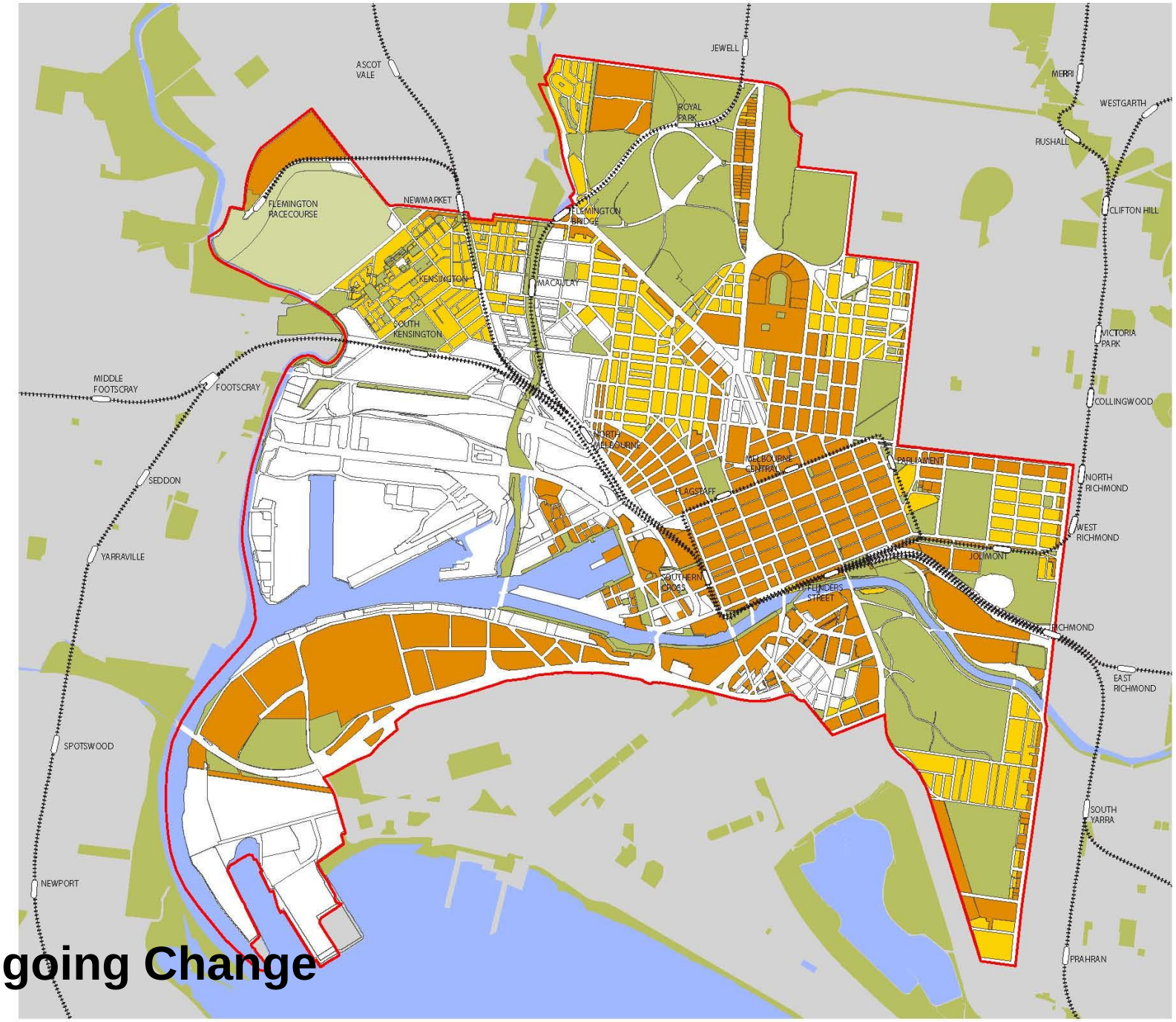
•The area covered by these sites is 3161 hectares, or **1.5%** of the metropolitan land area

•Based on the developments where there are known dwelling numbers the average density is over 200 dwellings per hectare. This would conservatively translate to an additional 550,000 people accommodated.

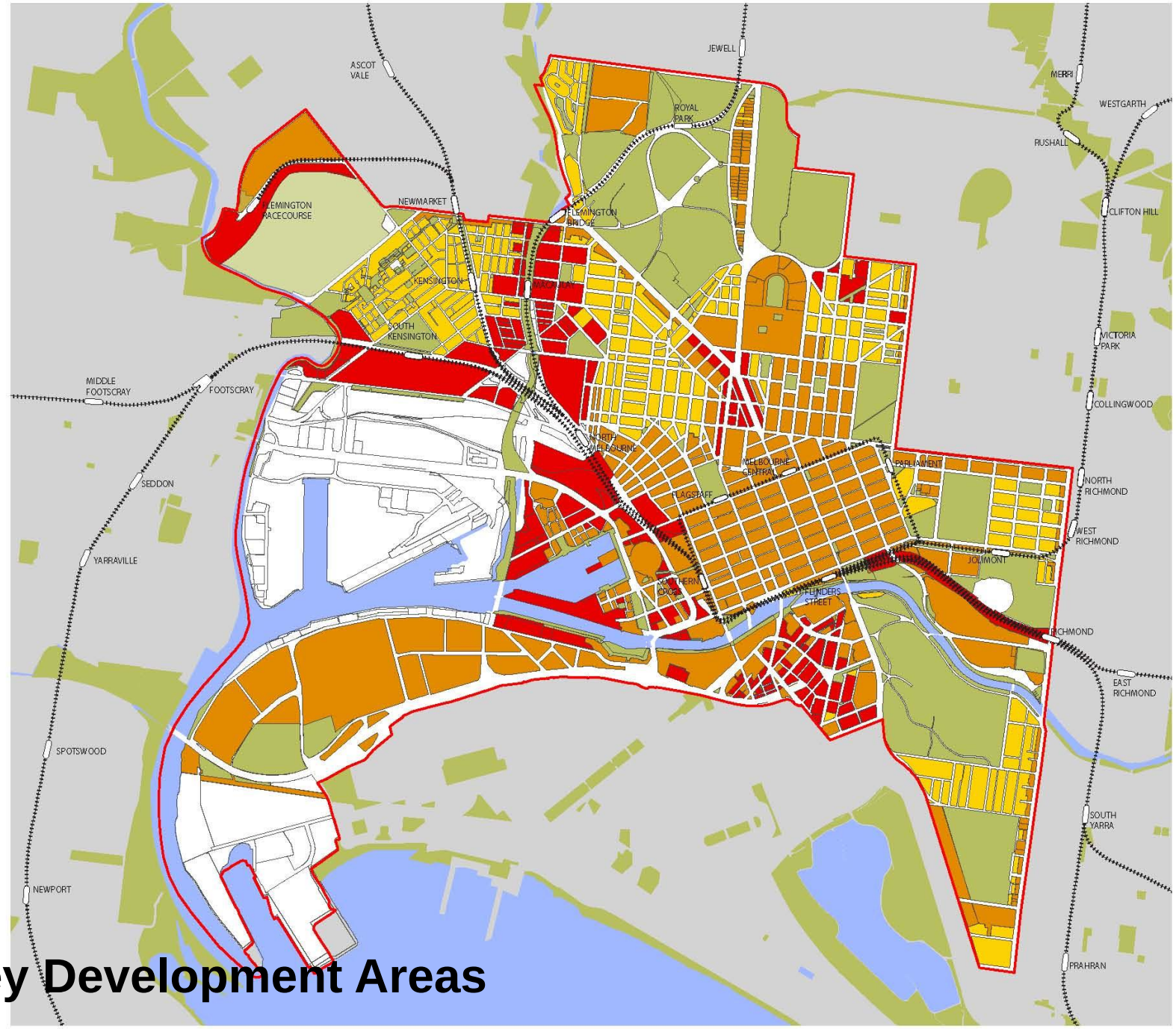
•Add to this the 100,000 house blocks currently owned by VicUrban and private developers and you have an additional potential of 250,000 people within the existing capacity of available land within the metro area.



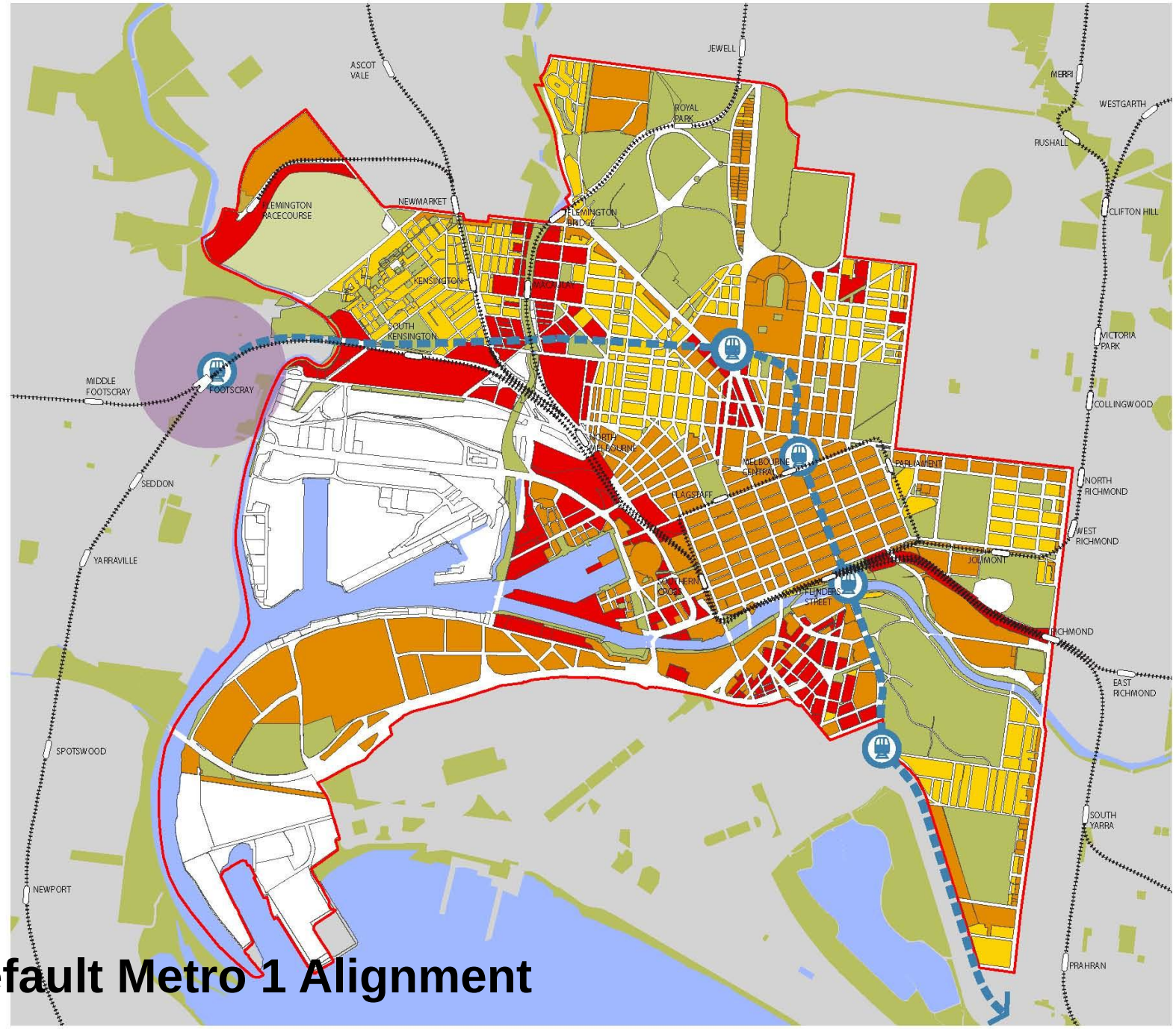
Established Areas



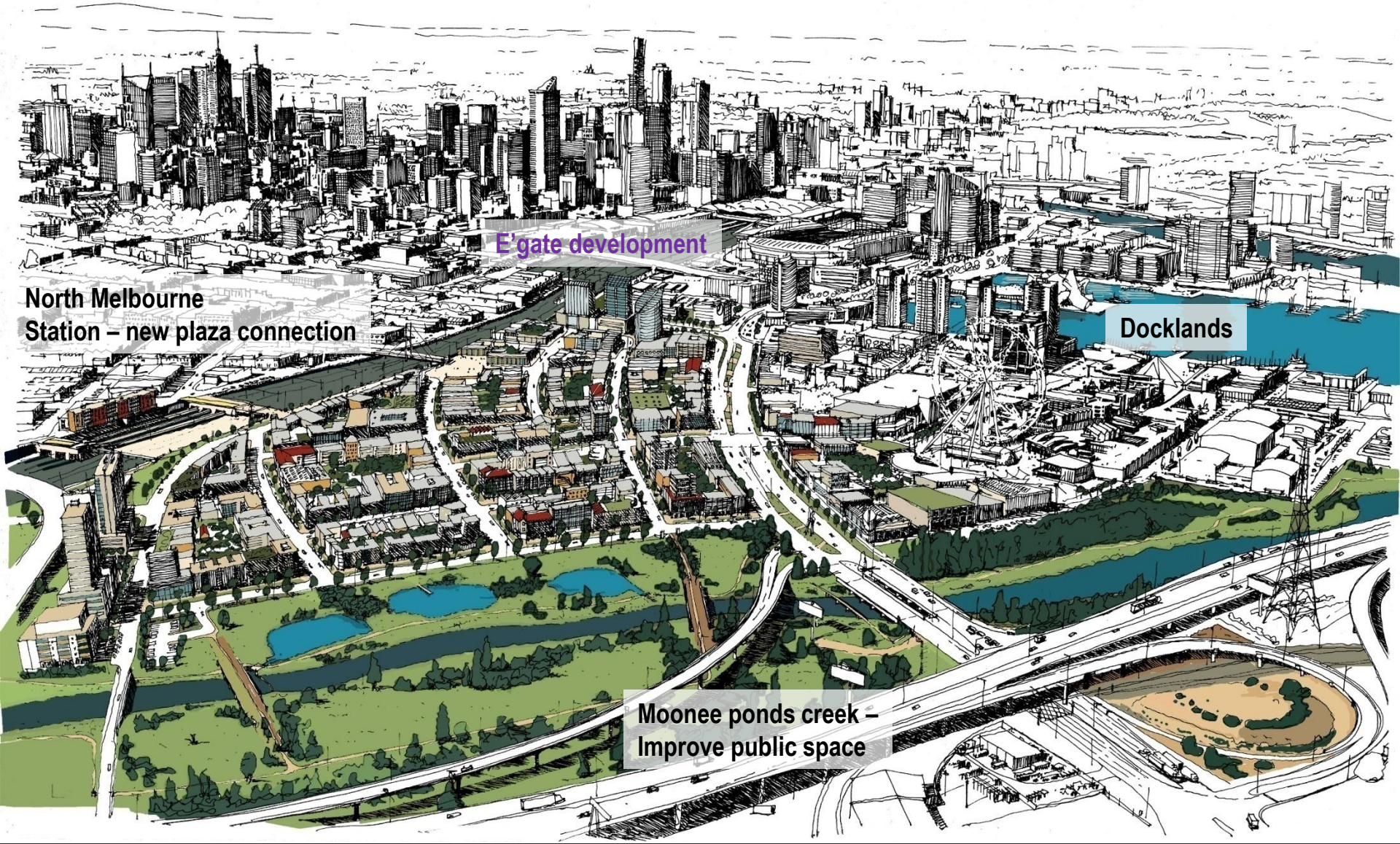
Ongoing Change



Key Development Areas



Default Metro 1 Alignment


E'gate development
North Melbourne
Station – new plaza connection
Docklands
Moonee ponds creek –
Improve public space

The opportunity

- Engaging the community in the solution
- Avoid the “either or” debates
- Move beyond conventional developments and investment patterns which will only reinforce existing problems
- Transformational solutions that build on existing infrastructure can produce better social, economic and environmental benefits.
- Potential new population capacity (*excluding growth areas and infill sites*) is 4,050,000 people on 7.5% of the Metropolitan area.

Acknowledgements

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