

# Auckland Transport

Smarter, Integrated Transport Networks

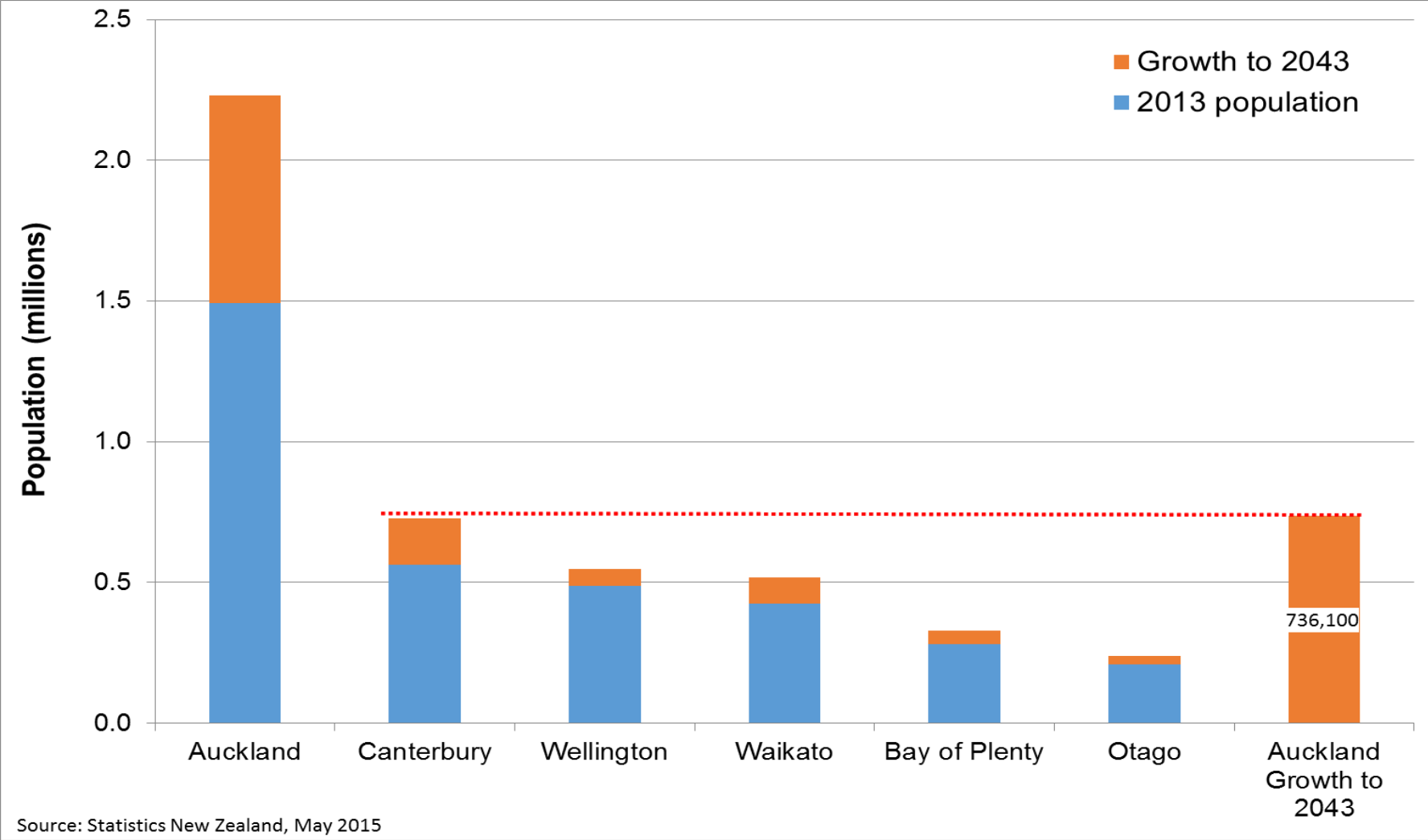
November 2016



**Auckland  
Transport**   
*An Auckland Council Organisation*



# Regional growth



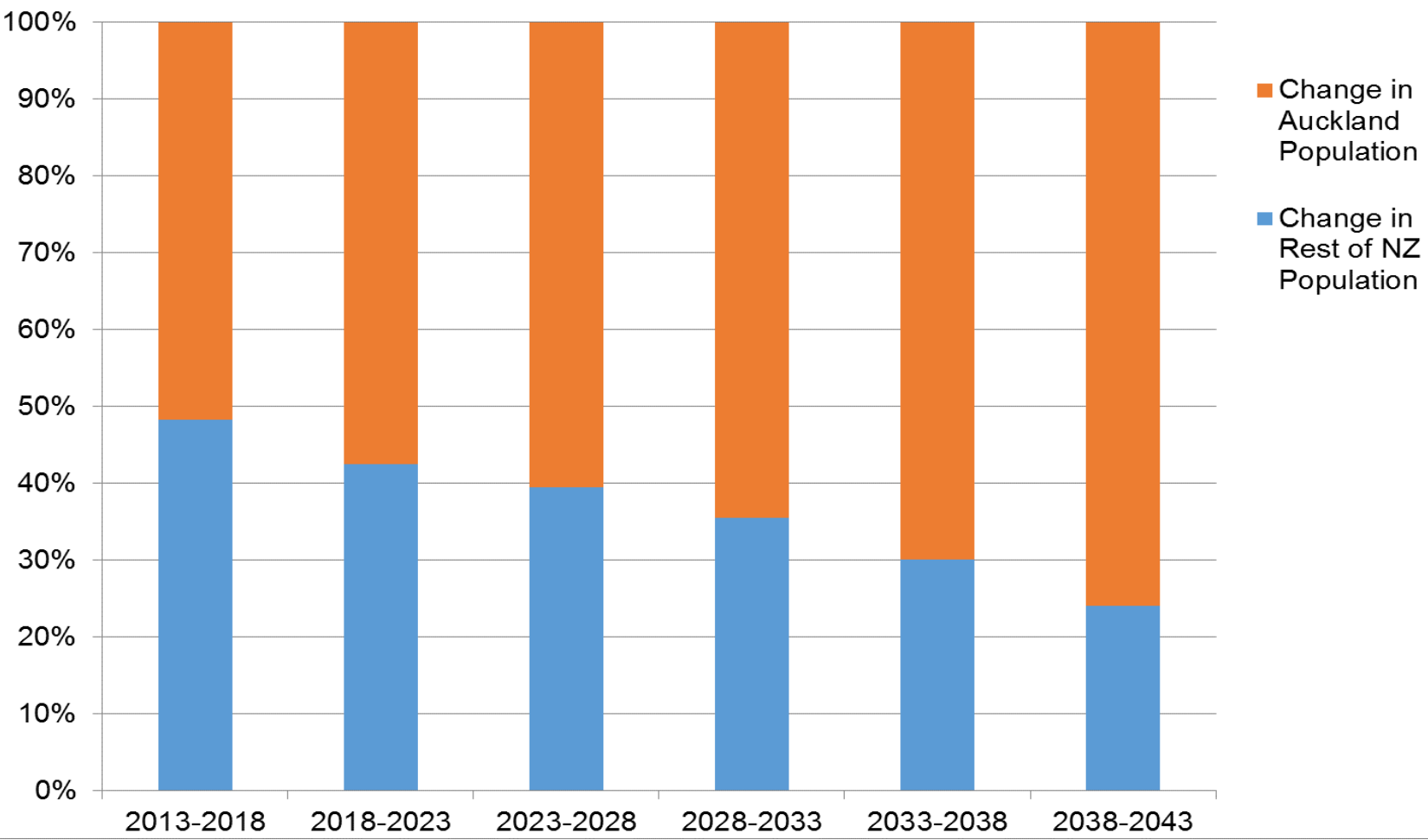
Source: Statistics New Zealand, May 2015



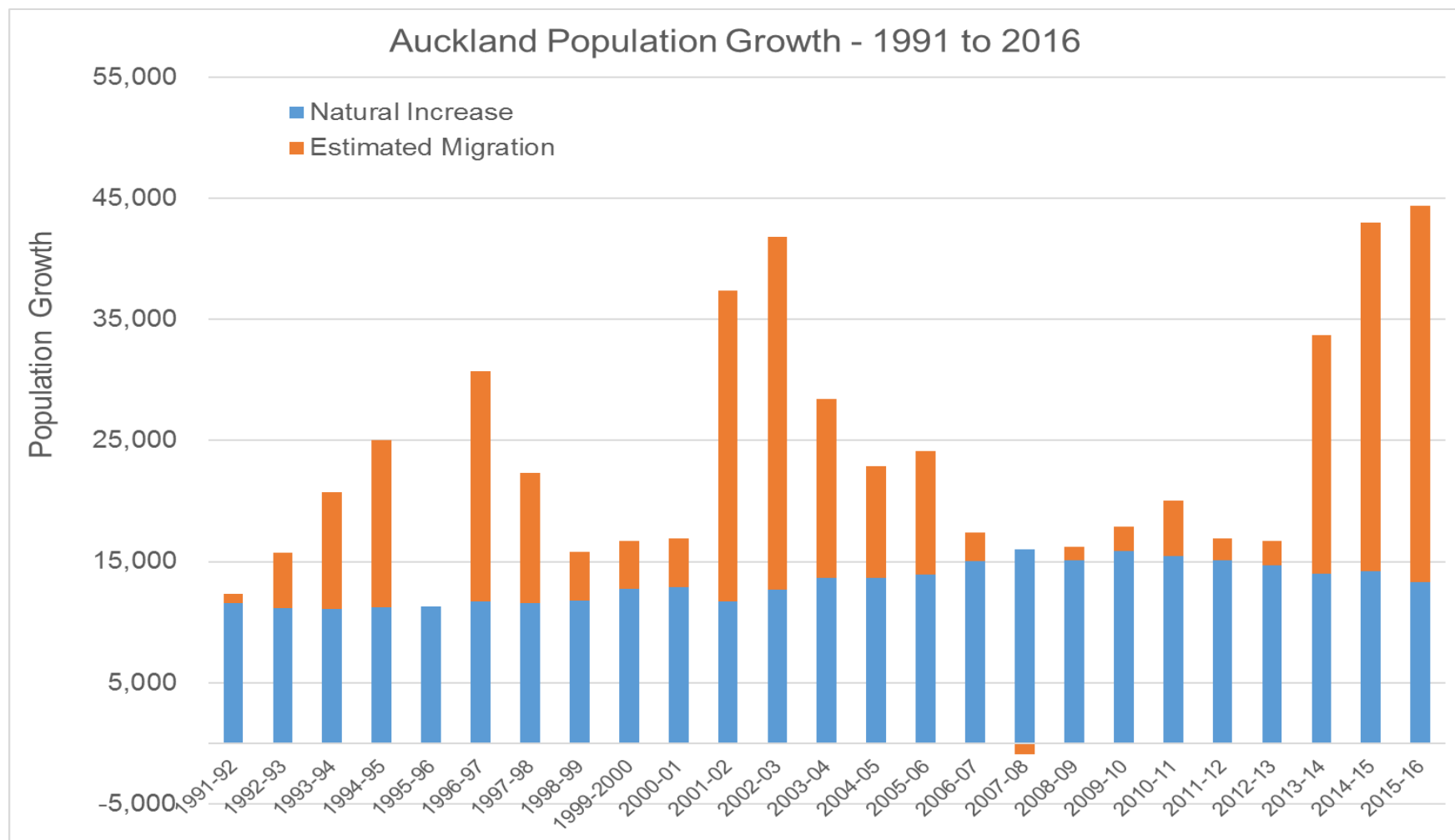
# Growth *cont...*

### Auckland and Rest of NZ Population Growth, 2013-2043

Source: Stats New Zealand, medium growth projection 2015



# Growth *cont...*

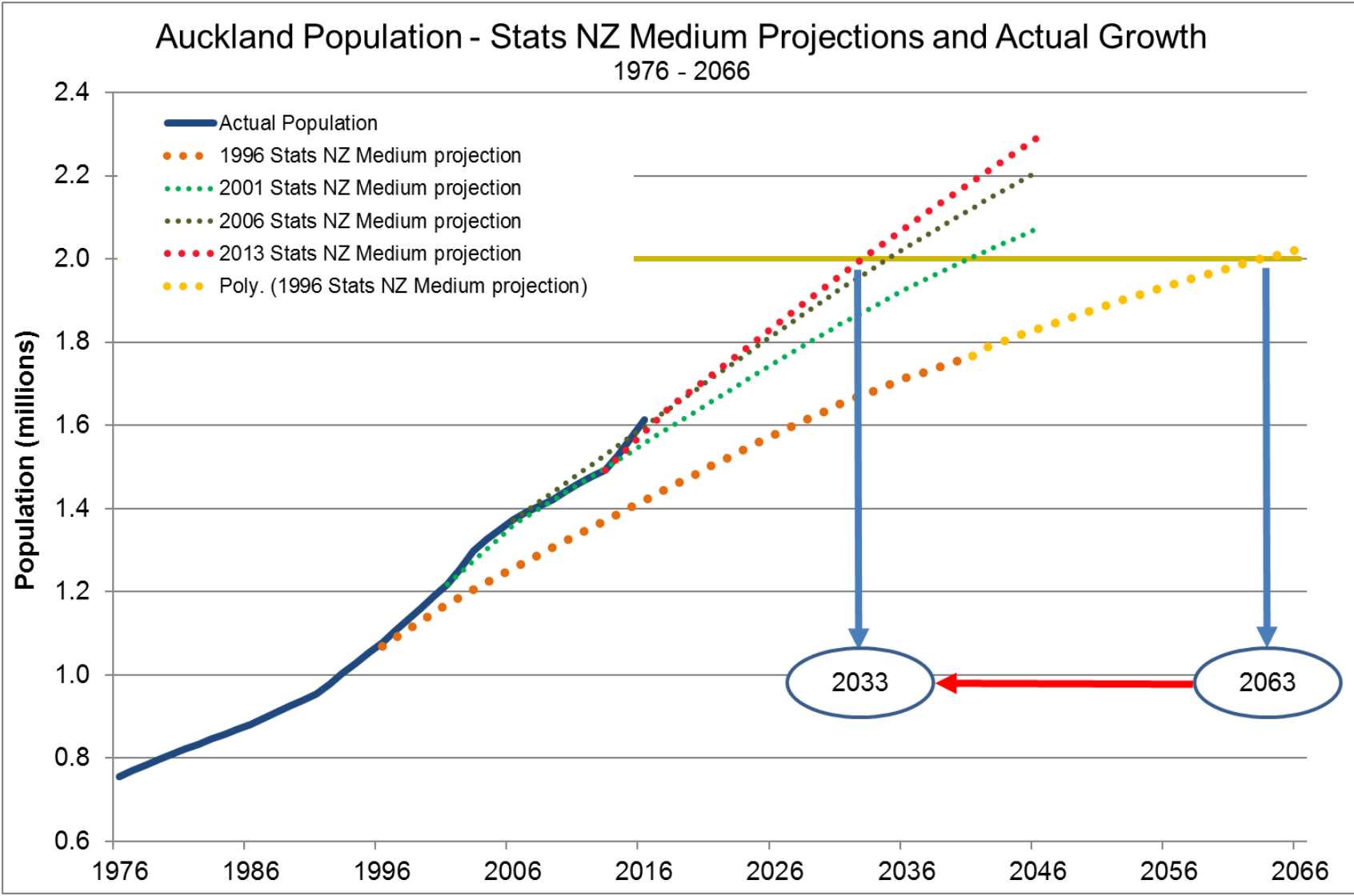


Source: Jackson & Pawar/Compiled from Statistics New Zealand ERP, Births, Deaths Datasets (NB. Changes in timing and method of estimating Resident Population between 1995 and 1996 mean that only natural increase can be shown for that year)

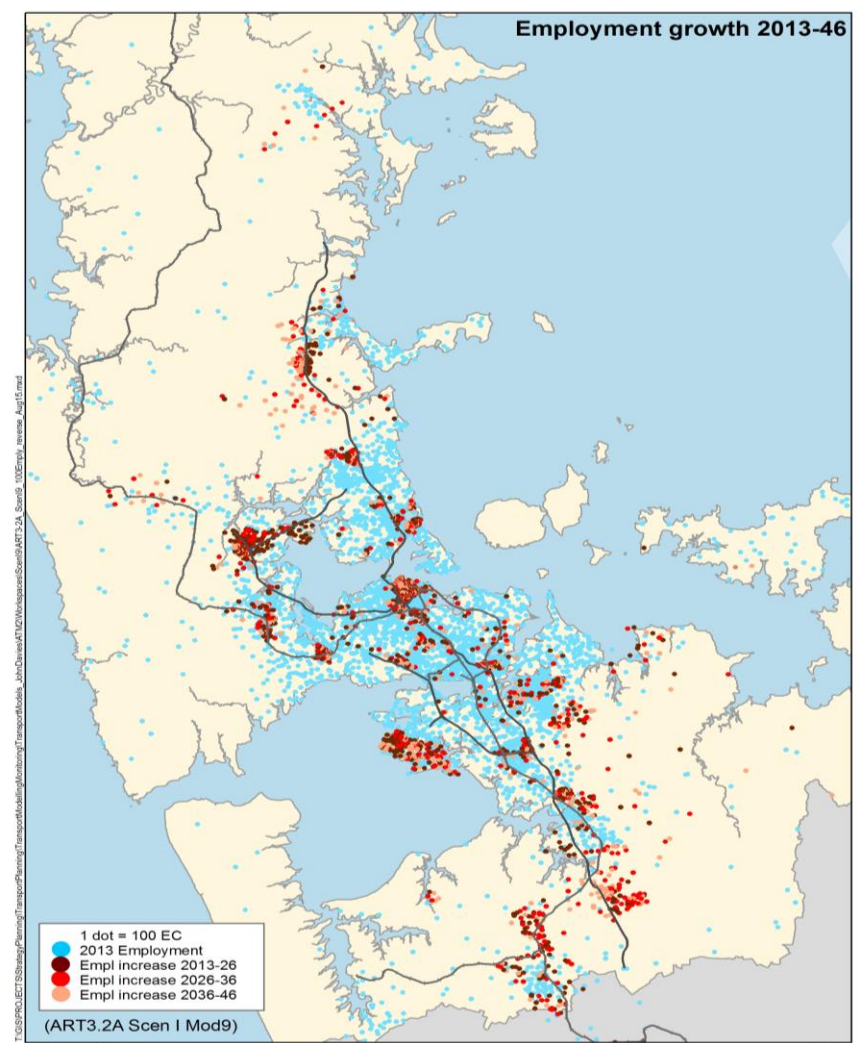
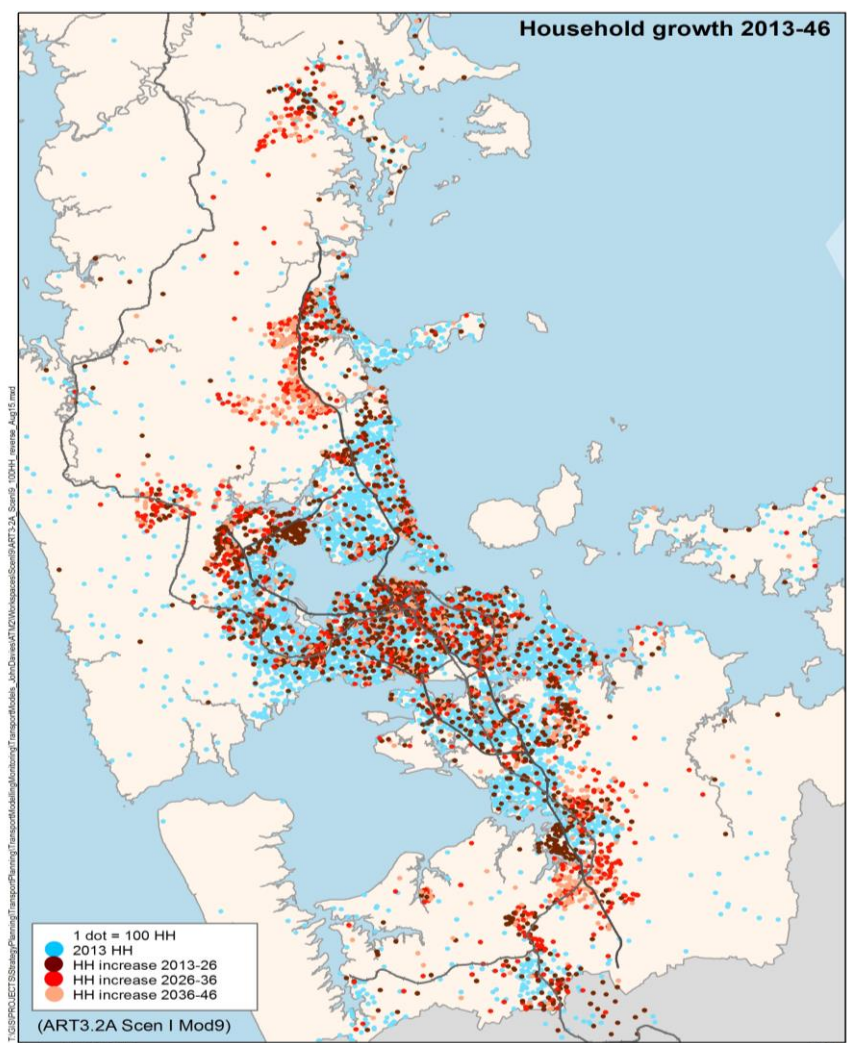




# Growth *cont...*



# Growth *cont...*







May 2015

© Skylens





Mt Eden Station

Groffon Station

Karangahape Station

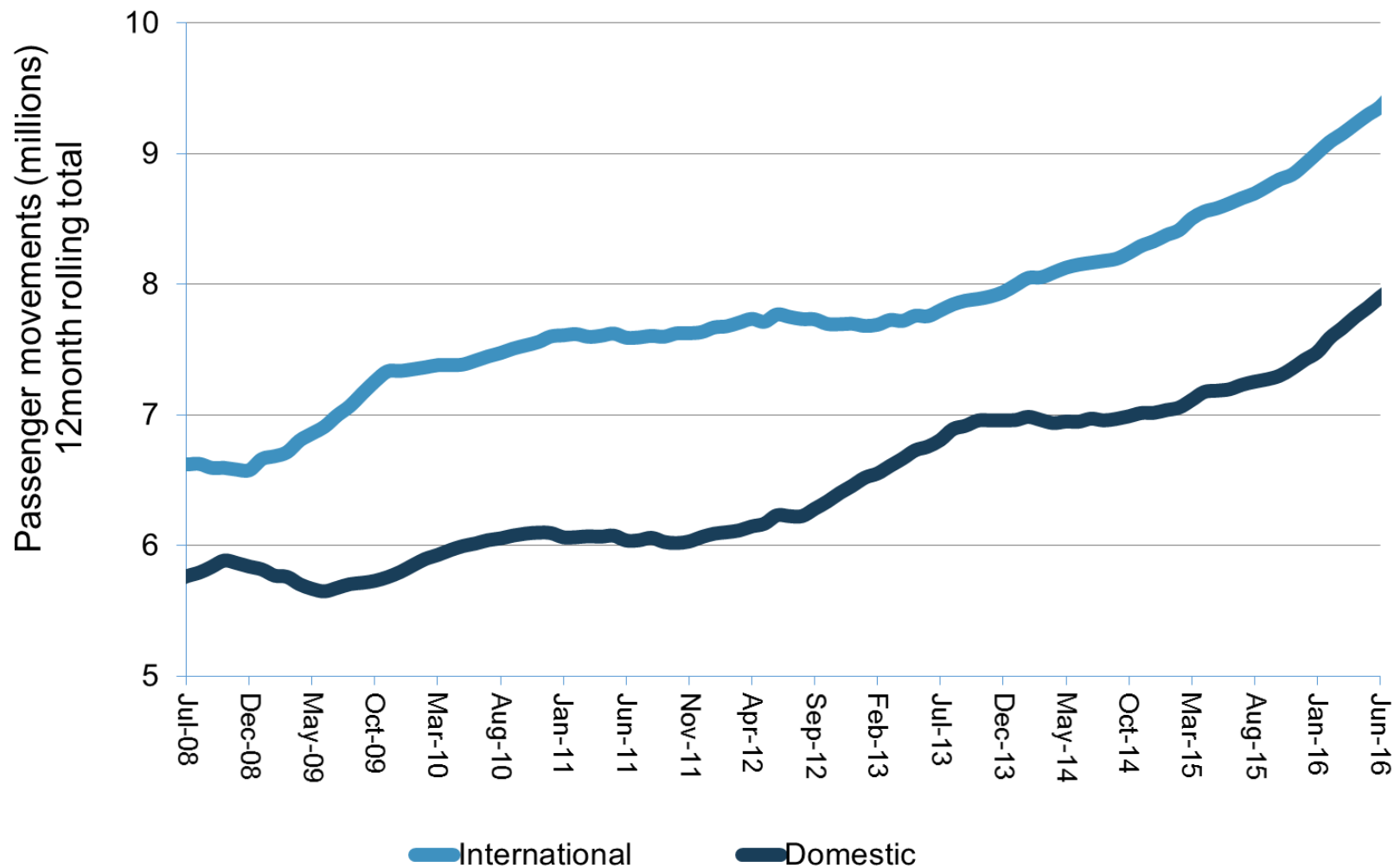
Lambton Station

Parnell Station

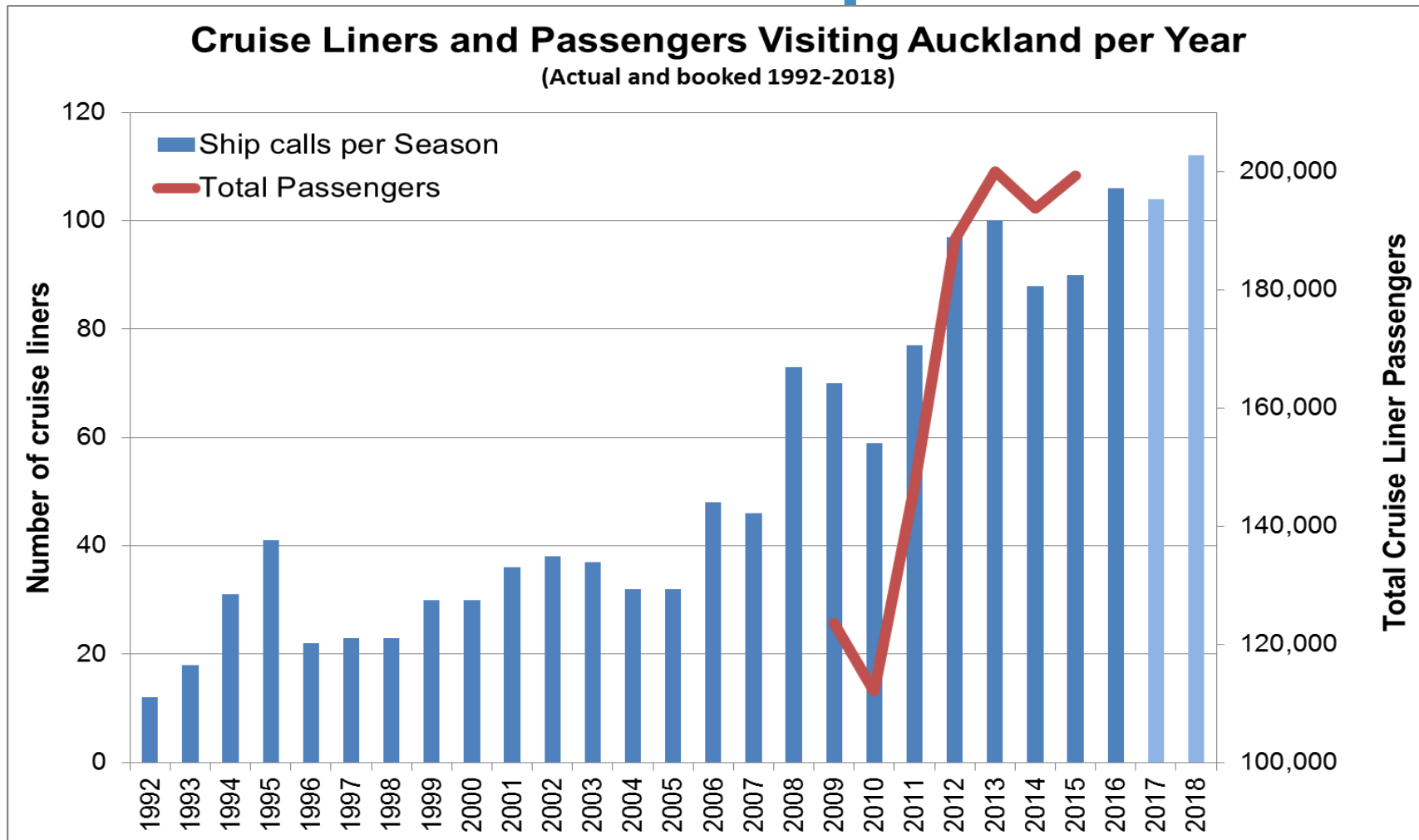
Britomart Station



# Growth - Air Passenger Movements



# Growth – Cruise Ships



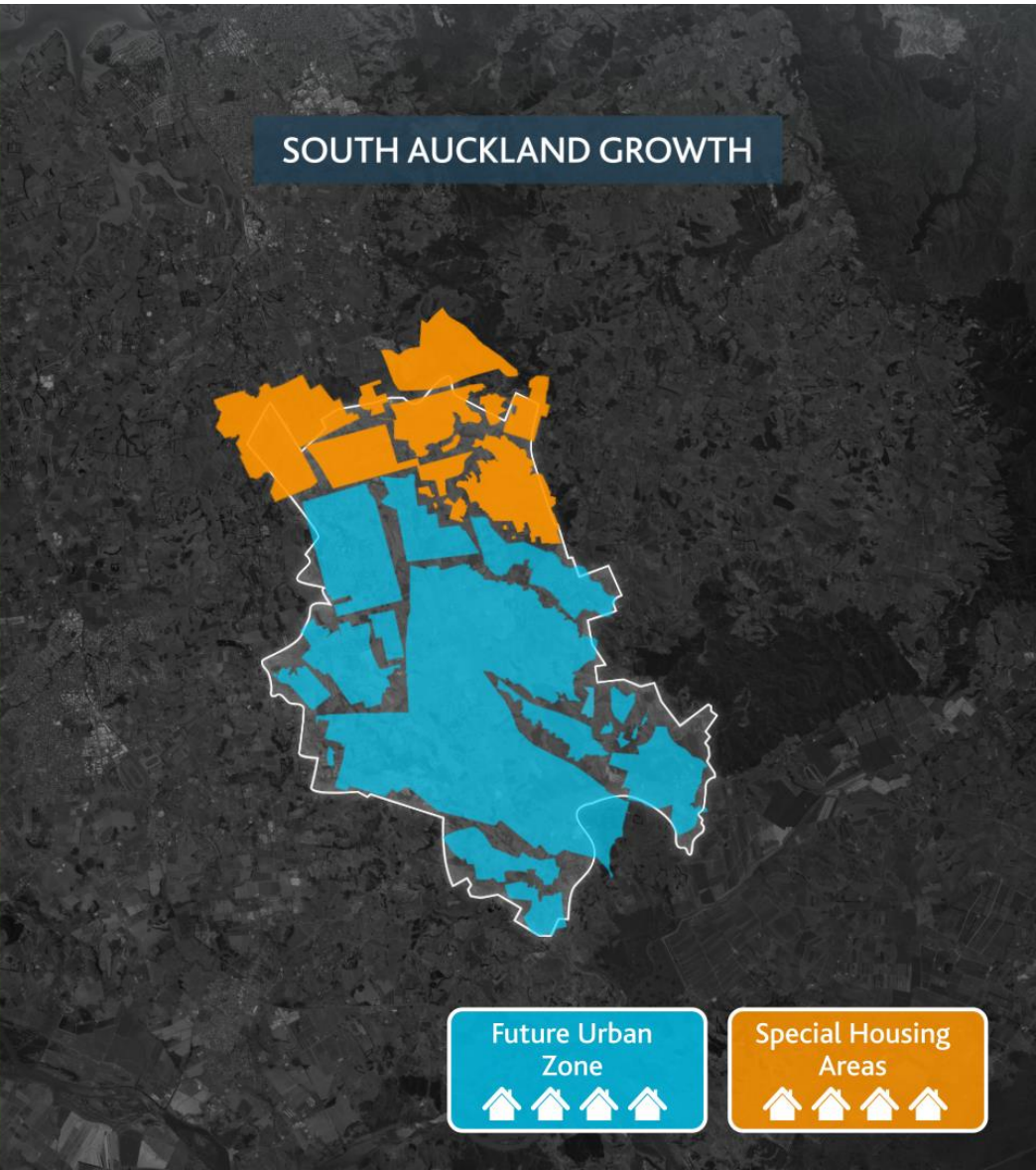
- Ships are getting larger so passenger growth even more significant



### HAMILTON URBAN AREA



### SOUTH AUCKLAND GROWTH



Future Urban Zone  
🏠🏠🏠🏠

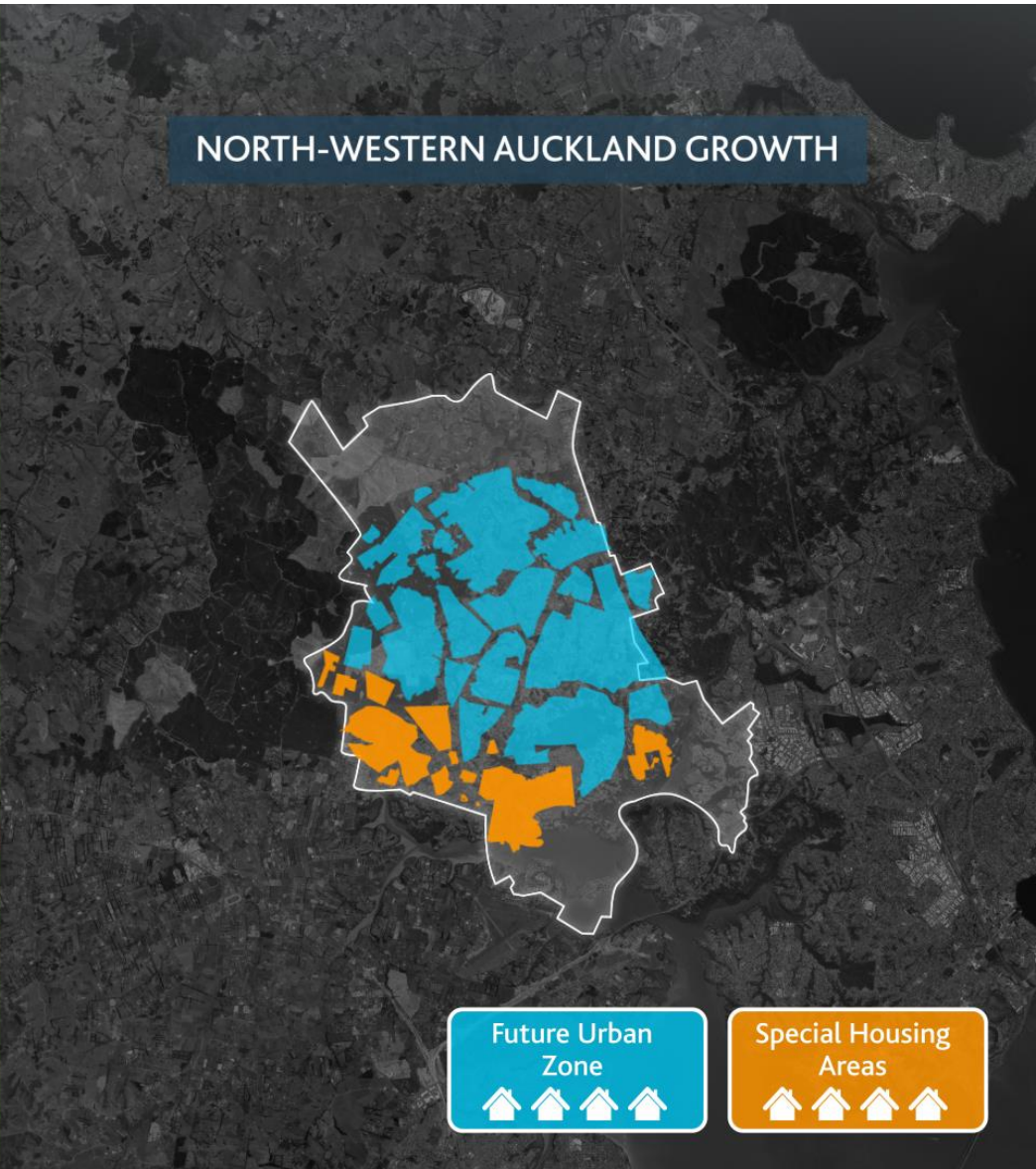
Special Housing Areas  
🏠🏠🏠🏠



### HAMILTON URBAN AREA



### NORTH-WESTERN AUCKLAND GROWTH



Future Urban Zone  
🏠🏠🏠🏠

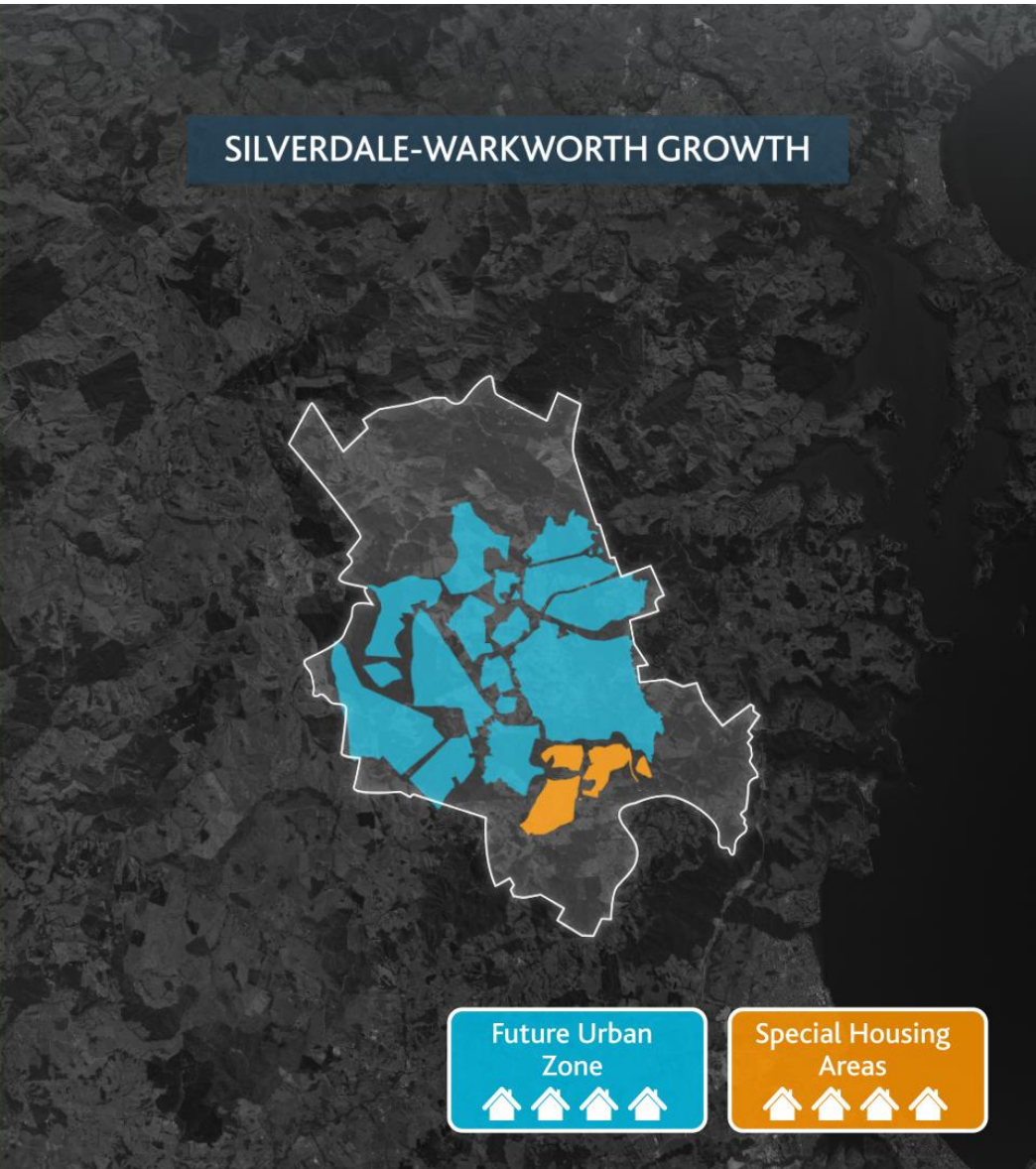
Special Housing Areas  
🏠🏠🏠🏠



### HAMILTON URBAN AREA



### SILVERDALE-WARKWORTH GROWTH

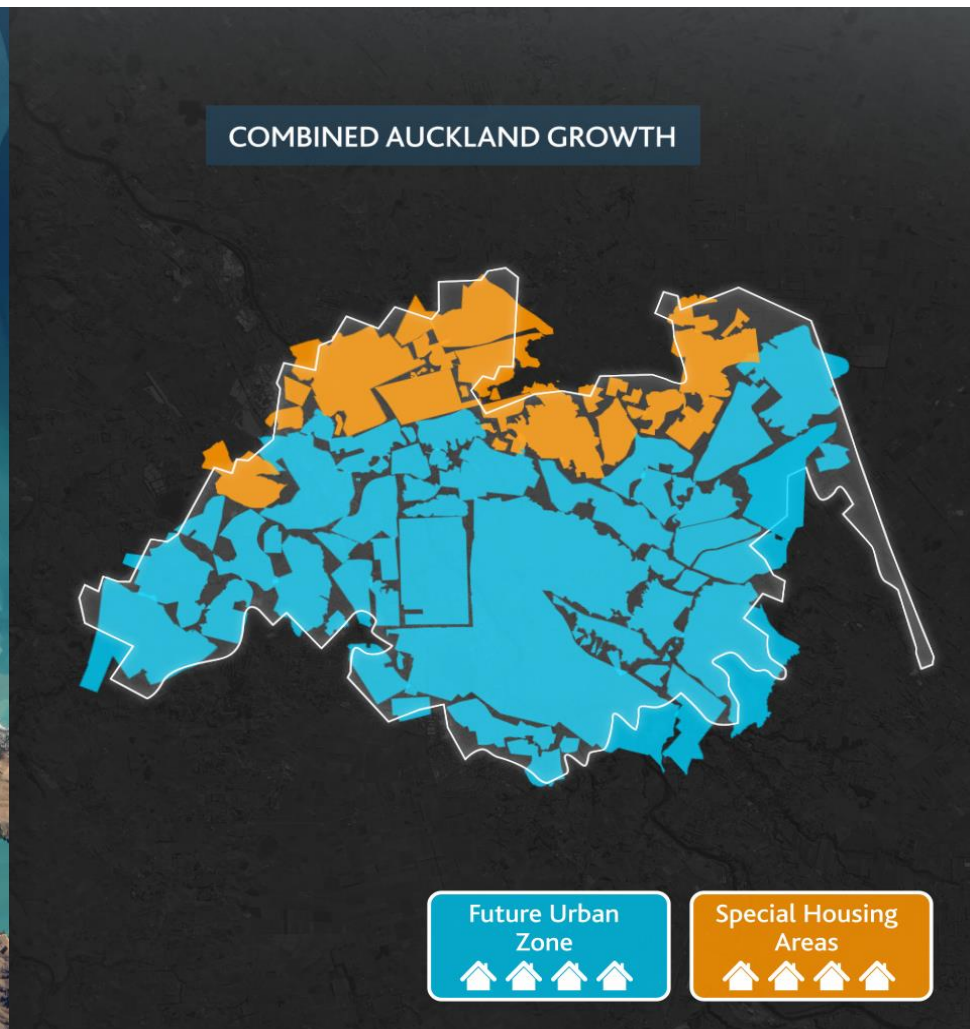


Future Urban Zone  
🏠🏠🏠🏠

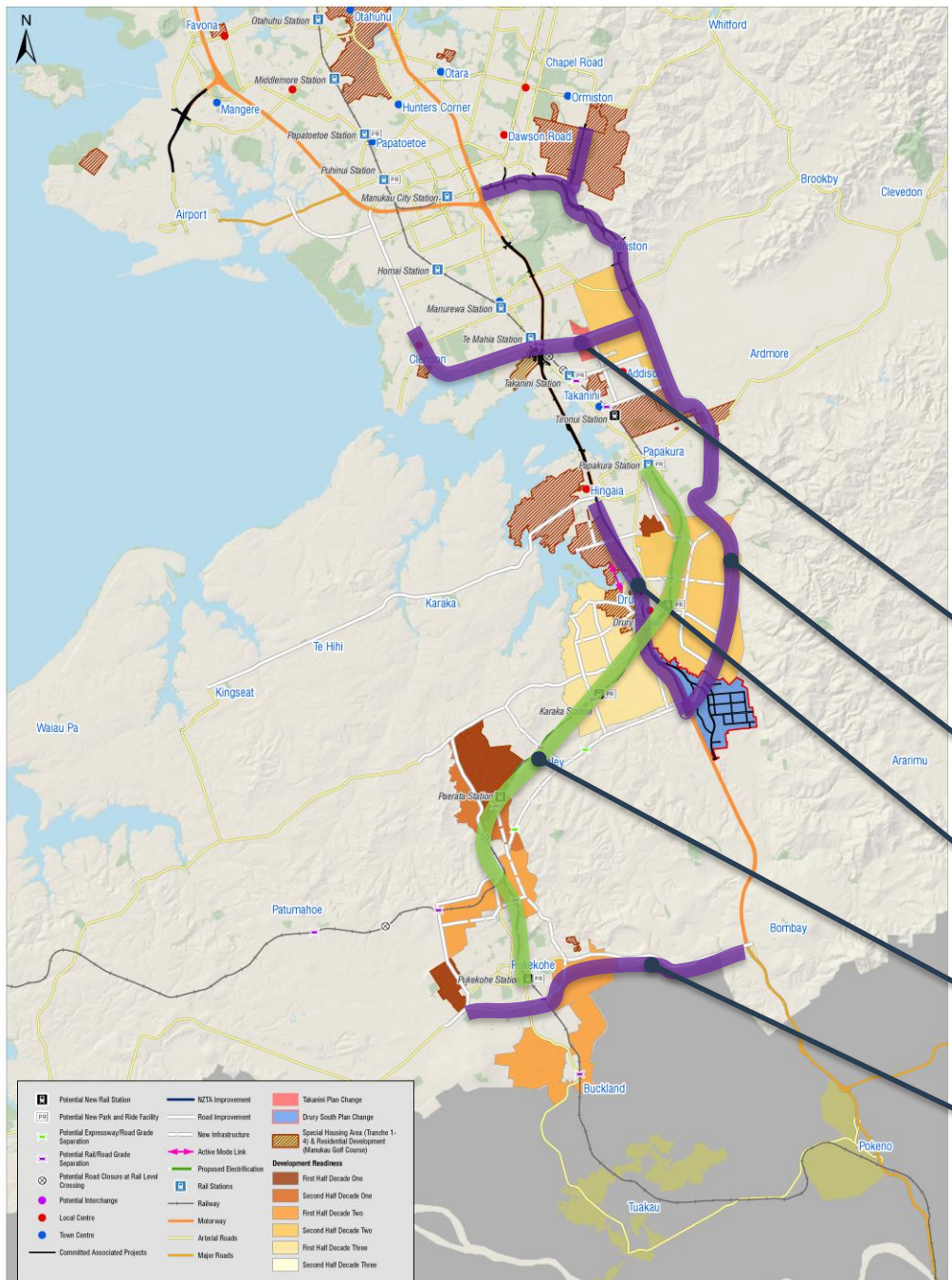
Special Housing Areas  
🏠🏠🏠🏠



# Greenfield Growth *cont...*







### Growth in household numbers:

- Approved through SHAs 11-14,000
- Further release in FULSS 26-39,000
- **Total** **40-50,000**

### Total transport infrastructure requirements:

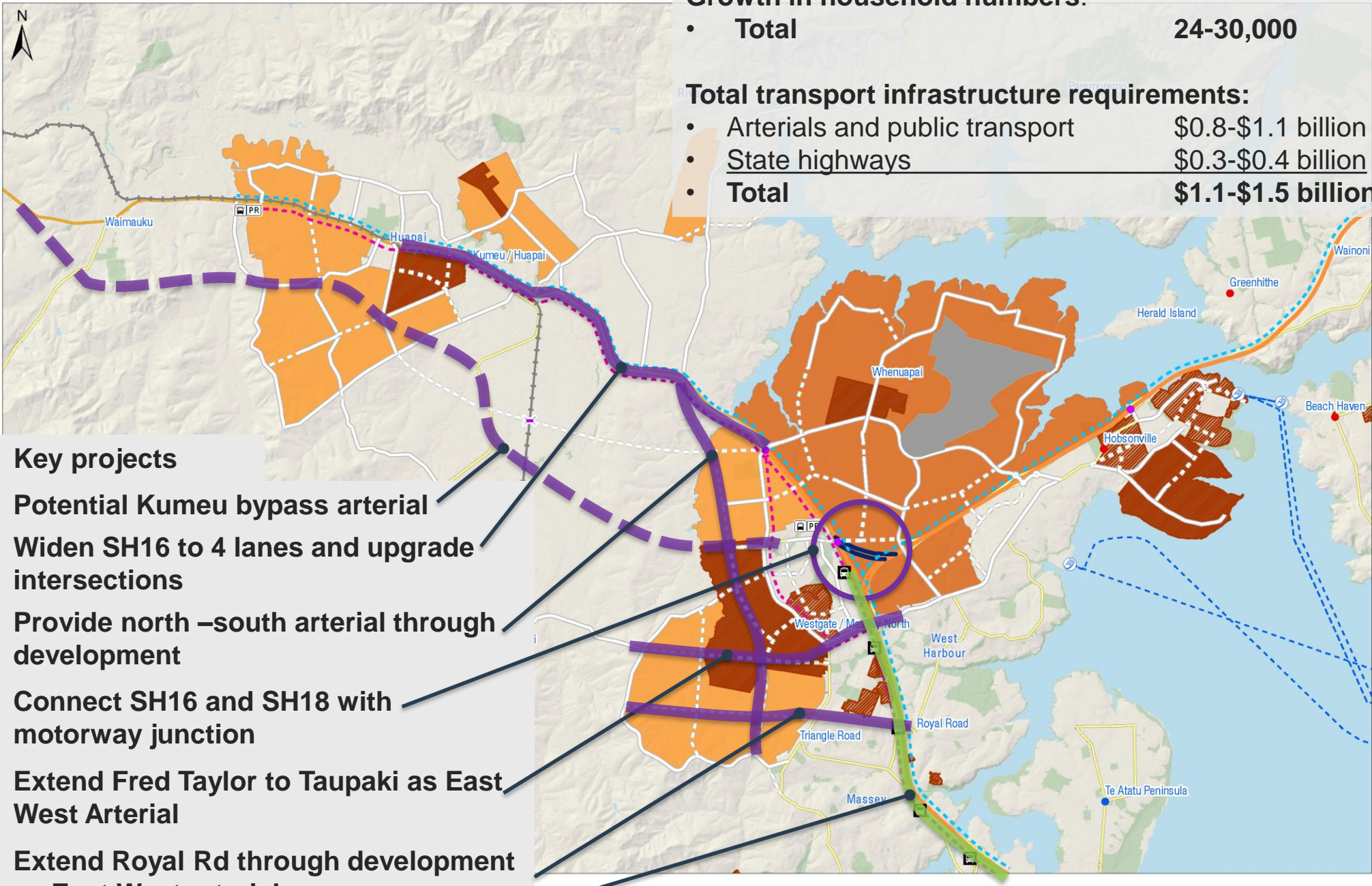
- Arterials and public transport \$2.4-\$3.1 billion
- State highways \$0.5-\$0.7 billion
- **Total** **\$2.8-\$3.7 billion**

### Key projects

- Provide east west connection between Takanini and Te Mahia road
- Extend Mill Road corridor to connect Flat Bush, Takanini, Papakura and Drury South
- Widen SH1 to 6 lanes between Papakura and Drury South
- Electrify the rail line between Papakura and Pukekohe, plus provide 3 additional stations
- Provide Pukekohe bypass plus upgrade of arterial to SH1







**Growth in household numbers:**

- **Total** **24-30,000**

**Total transport infrastructure requirements:**

- Arterials and public transport \$0.8-\$1.1 billion
- State highways \$0.3-\$0.4 billion
- **Total** **\$1.1-\$1.5 billion**

**Key projects**

Potential Kumeu bypass arterial

Widen SH16 to 4 lanes and upgrade intersections

Provide north-south arterial through development

Connect SH16 and SH18 with motorway junction

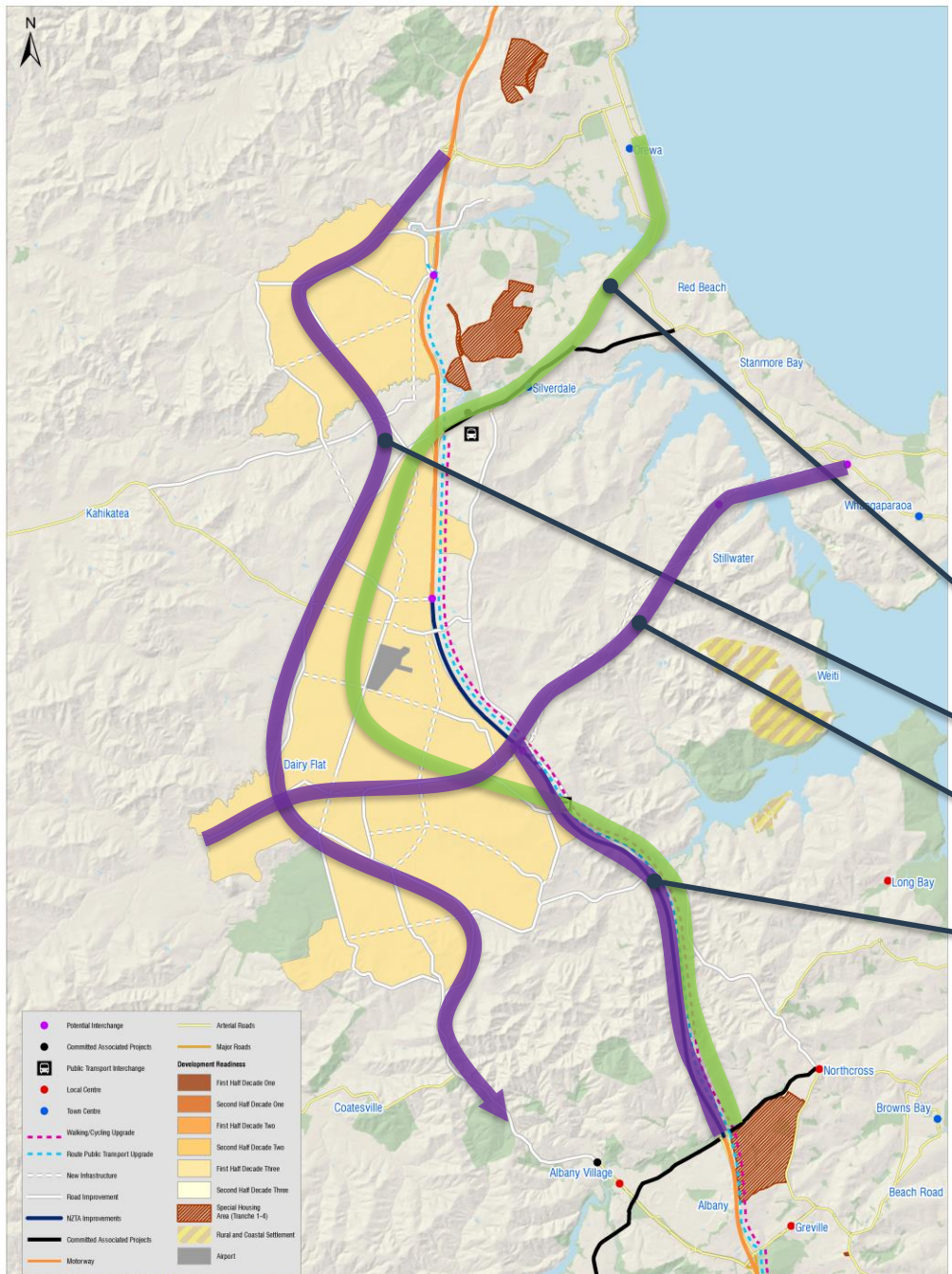
Extend Fred Taylor to Taupaki as East West Arterial

Extend Royal Rd through development as East West arterial

Provide north-western busway

**Indicative transport networks**





**Growth in household numbers:**

- **Total** **25-30,000**

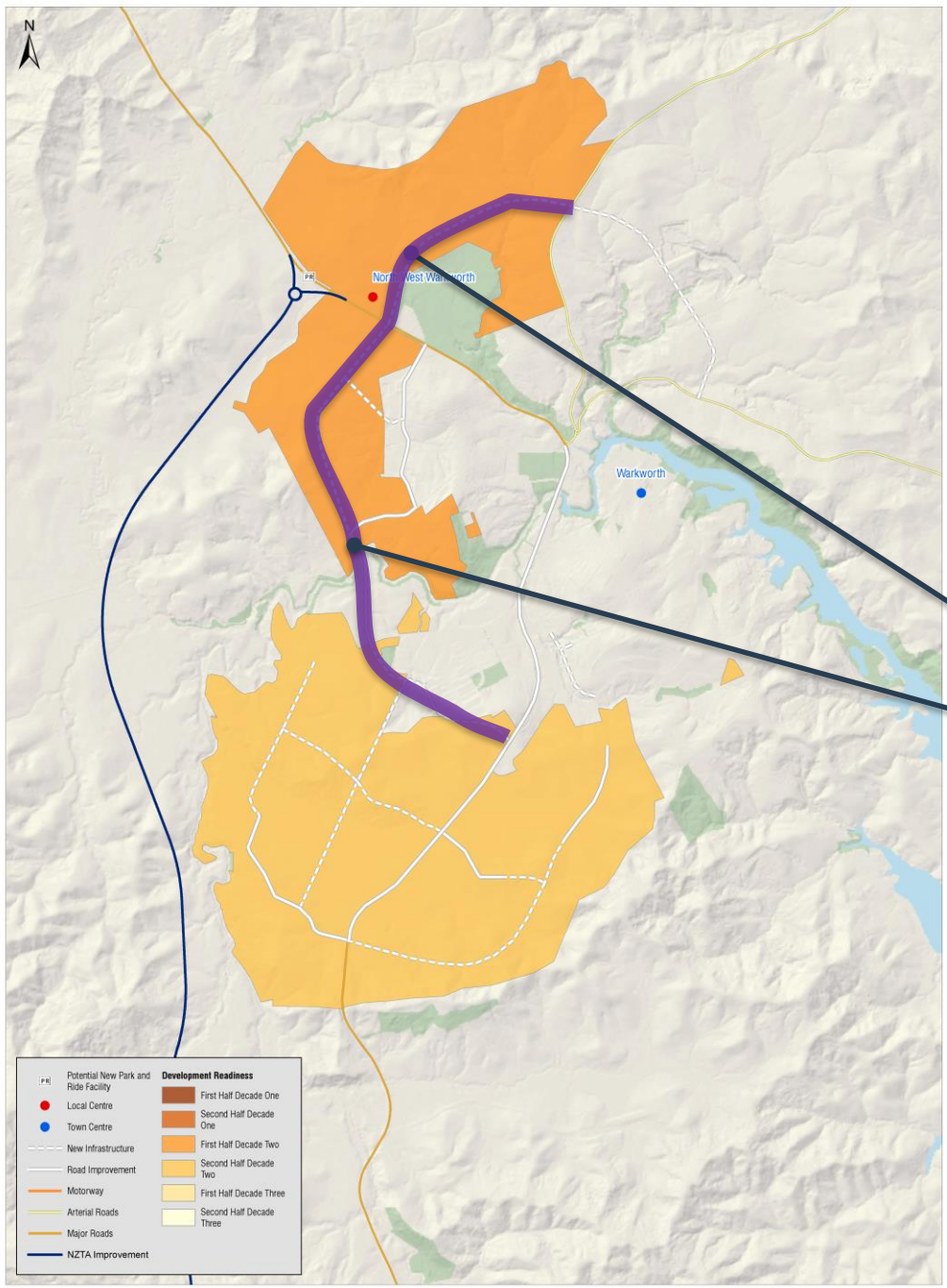
**Total transport infrastructure requirements:**

- Arterials and public transport \$1.5-\$1.9 billion
- State highways \$0.3-\$0.4 billion
- **Total** **\$1.8-\$2.3 billion**

**Key projects**

- **Extend busway from Albany to Orewa**
- **Upgrade/connect Wainui/Dairy Flat with parallel arterial**
- **Provide Penlink and extend into Dairy Flat**
- **Widen SH1 to 6 lanes between Albany and Penlink**





**Growth in household numbers:**

- **Total** **5 - 6,500**

**Total transport infrastructure requirements:**

- **Arterials and public transport** **\$200 - \$260 mil**

**Key projects**

**Matakana Link Road**

**Western Collector**

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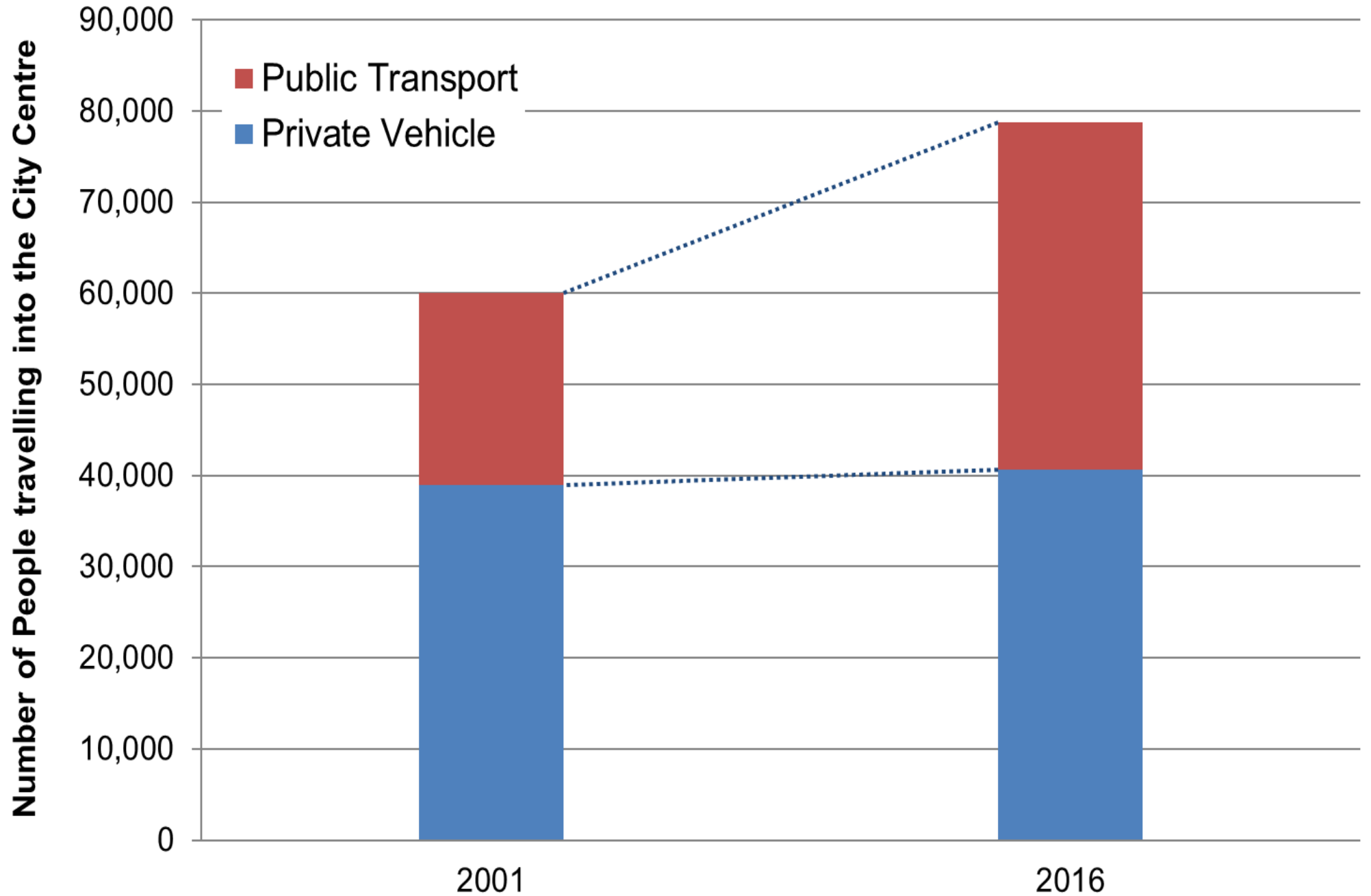
# Public transport

- Significant tool for reducing congestion – but not silver bullet
- PT growth faster than population
- PT expenditure more than balanced by expenditure in other areas
- Key is reliability of travel time



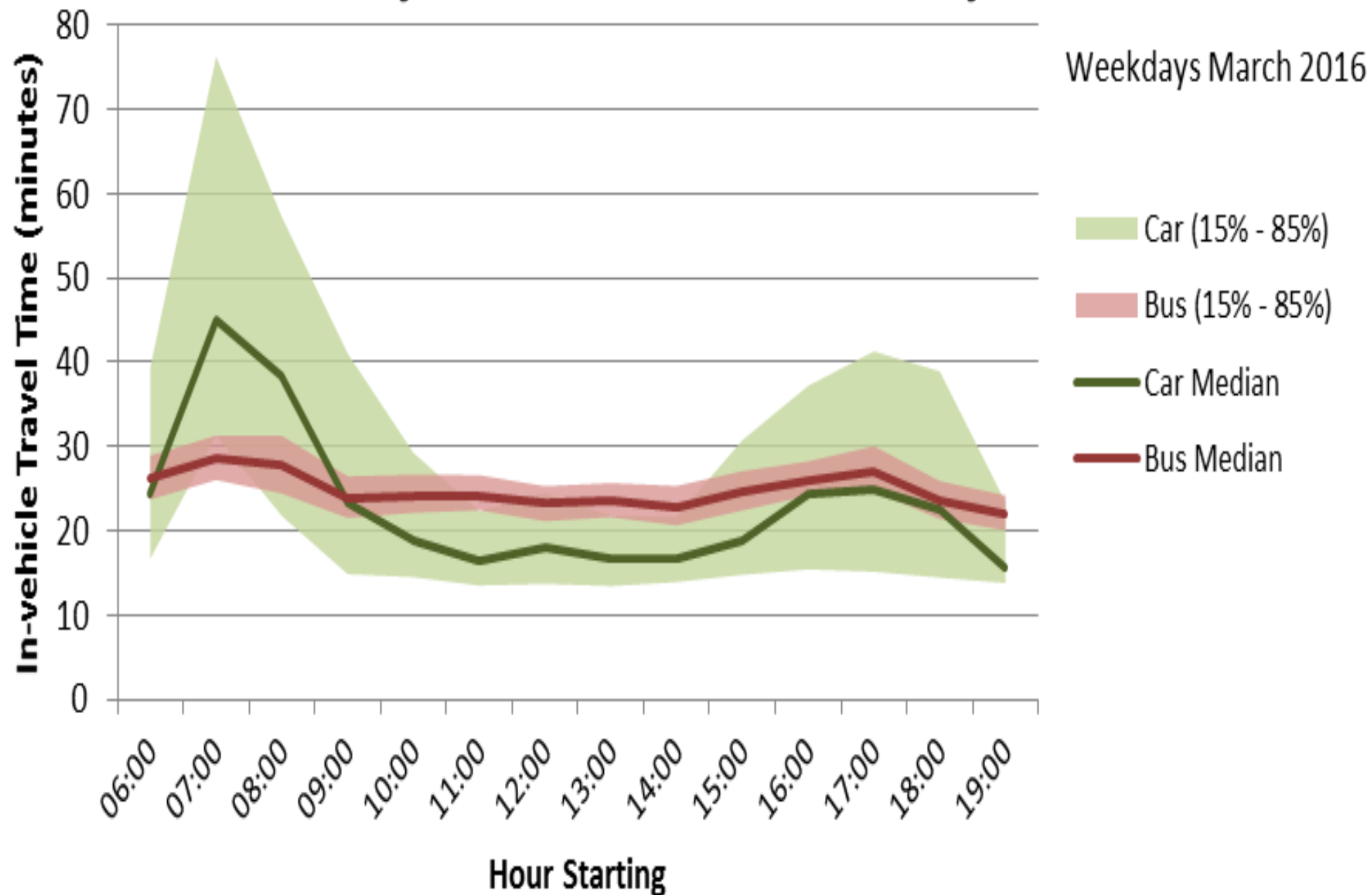
# People Entering The City Centre by Car and PT: 2001-2016

(Morning Peak Period, 7am-9am)

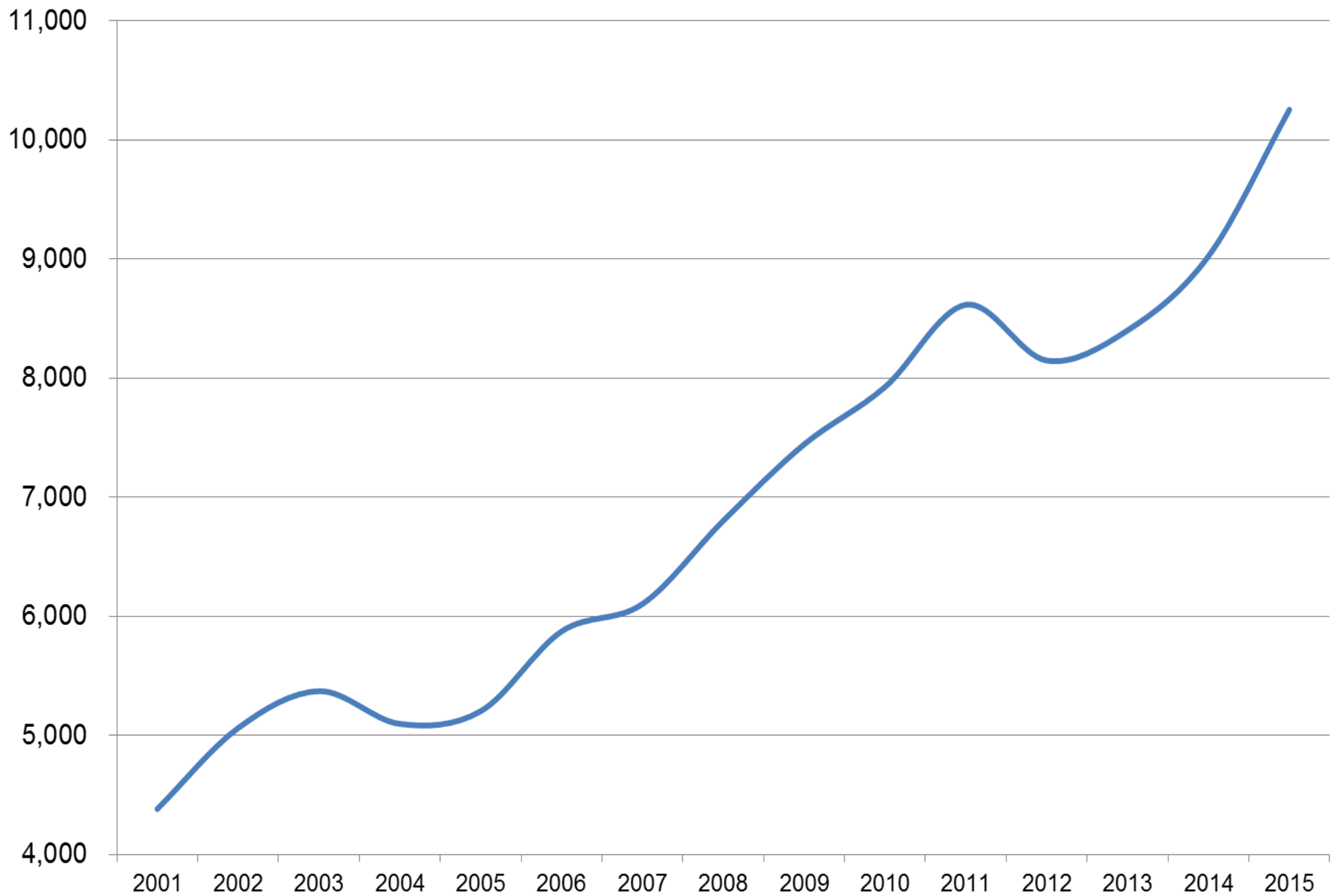




# Albany to CBD - Travel Time by Mode



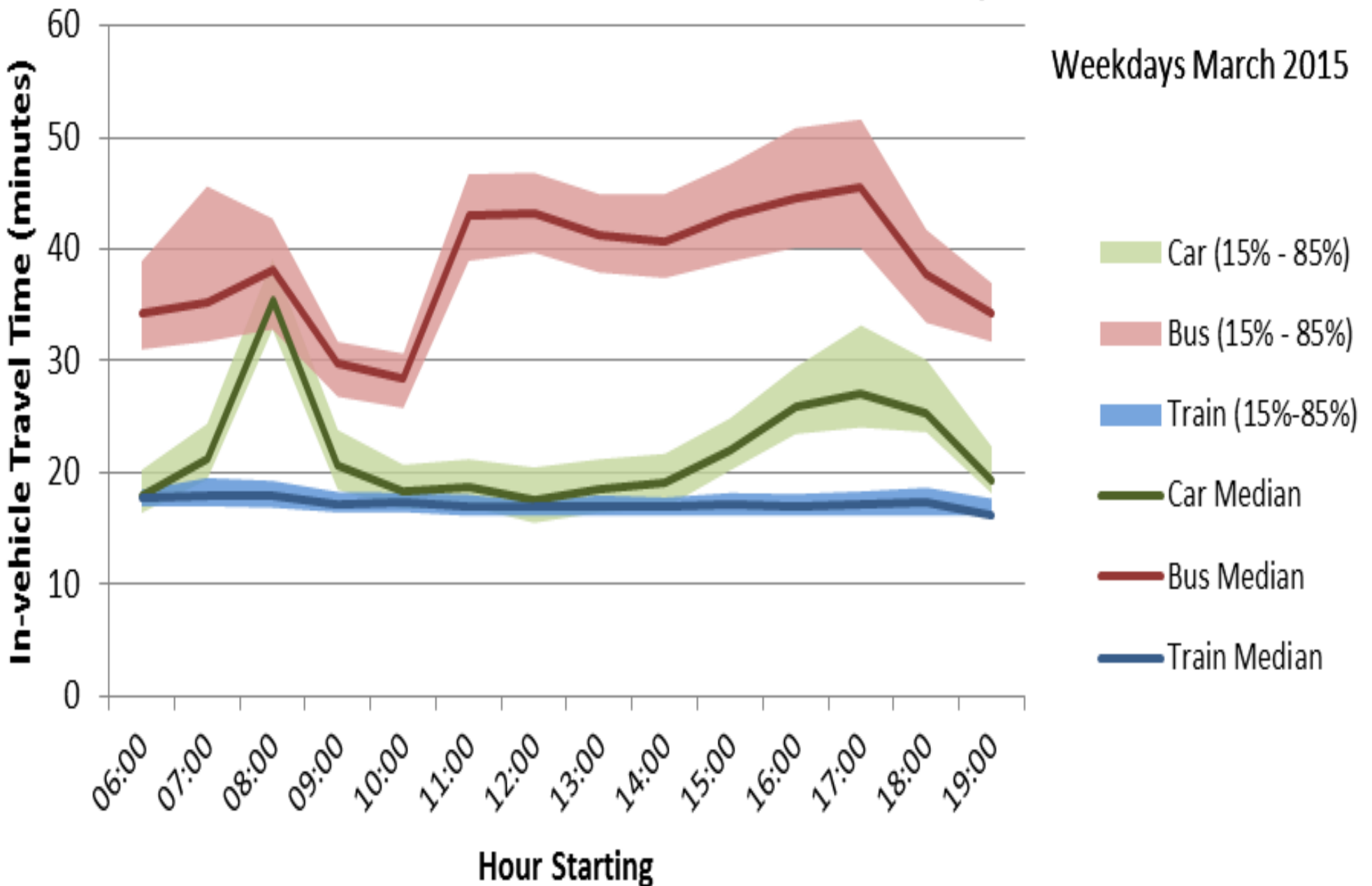
# N Busway Patronage into City Centre, Morning Peak Period, 2001-2015



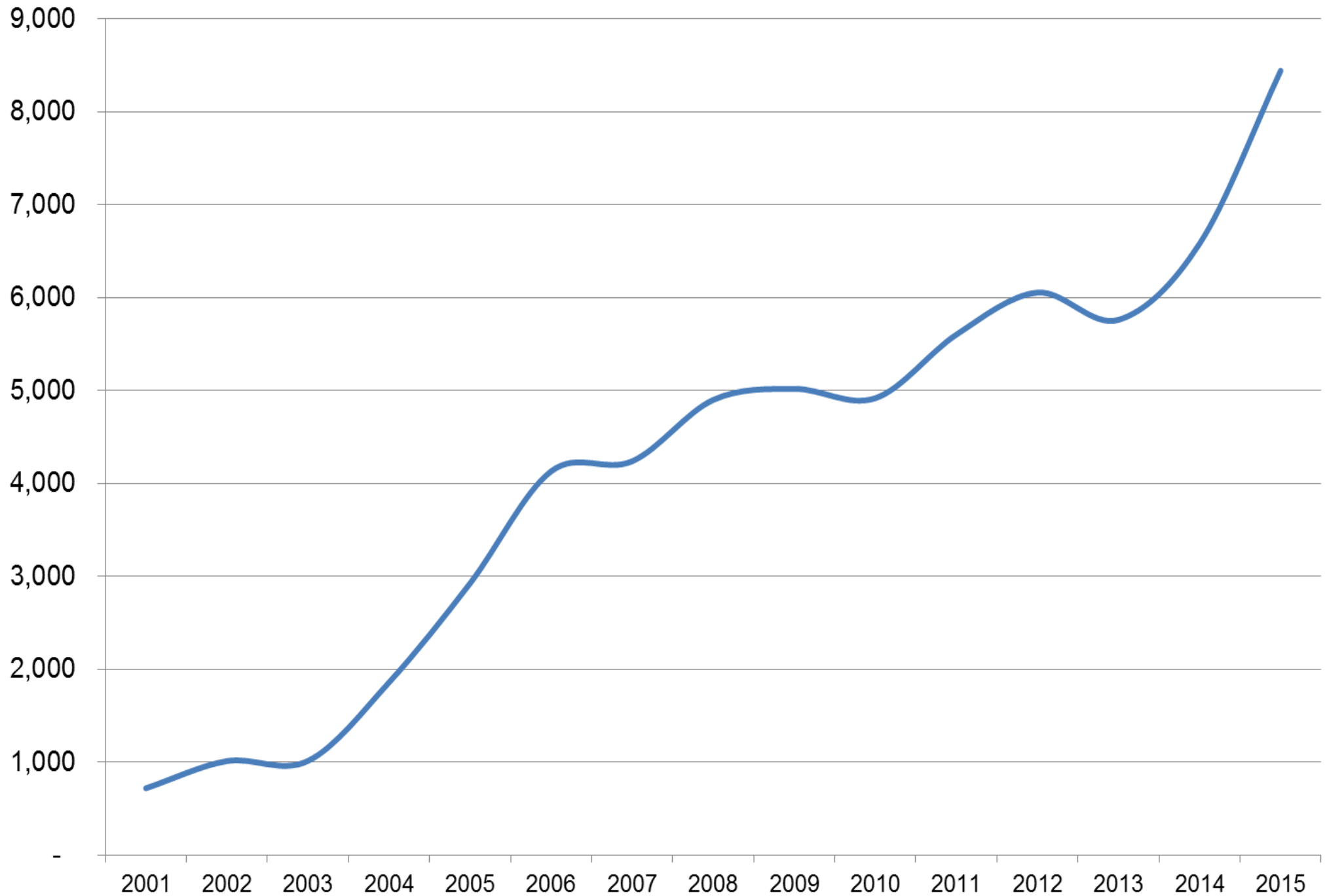


# Panmure to CBD - Travel Time by Mode

Weekdays March 2015



# Rail Patronage into City Centre, Morning Peak Period, 2001-2015





# Rapid Public Transit





# CRL alignment





# Aotea station





# Aotea



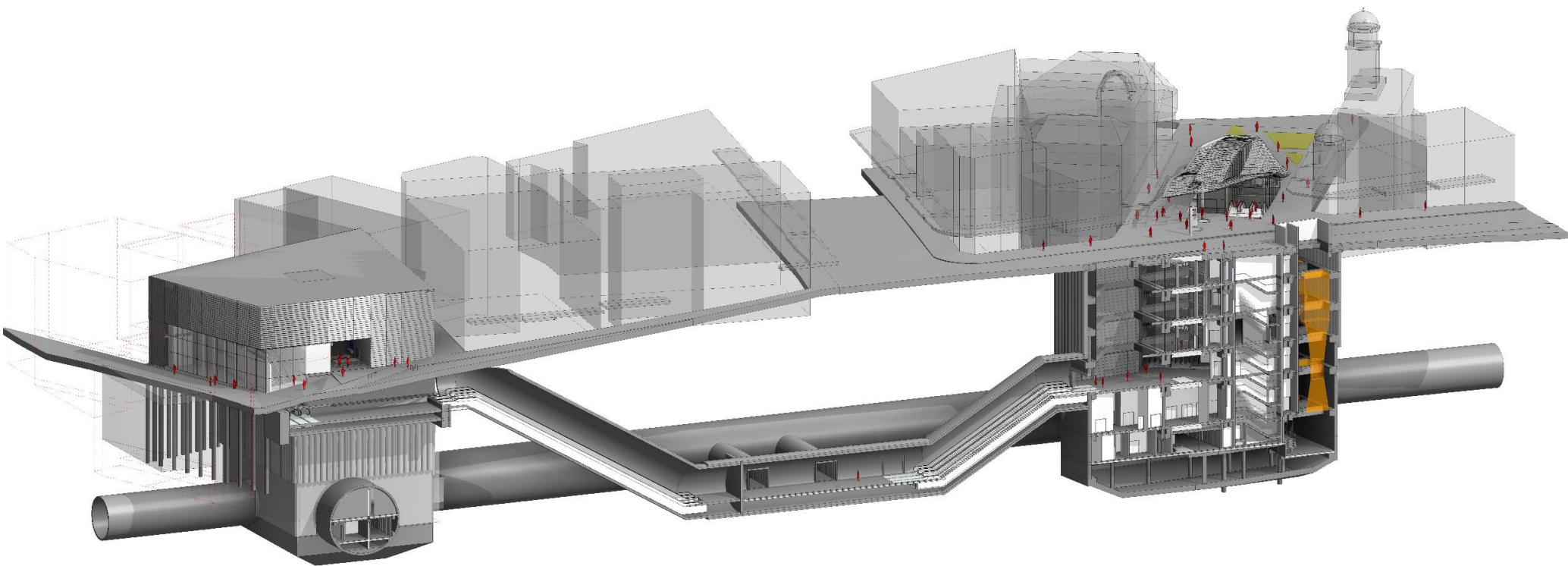


# Aotea



# Karangahape Station

## Cutaway Section



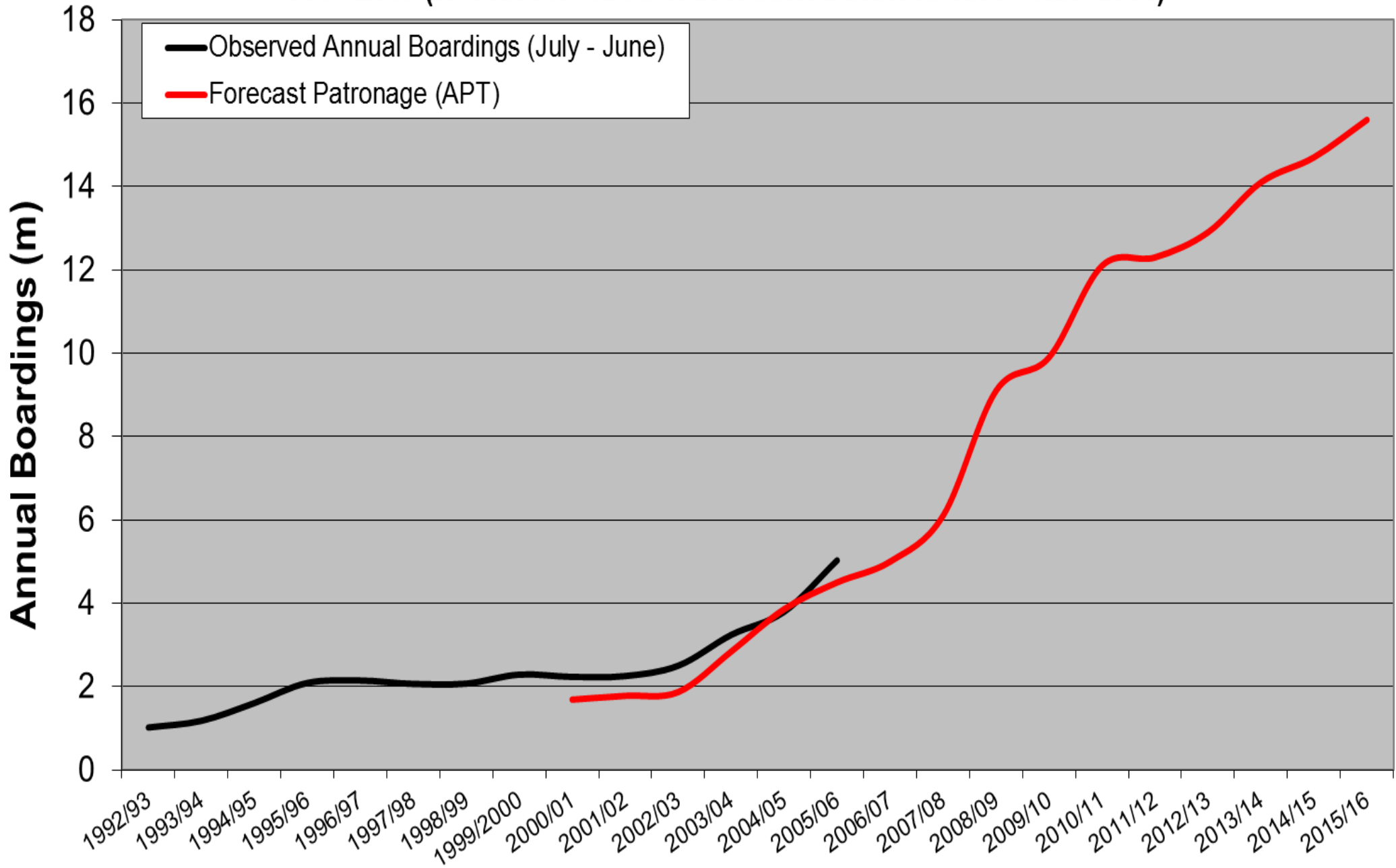


# Karangahape Road



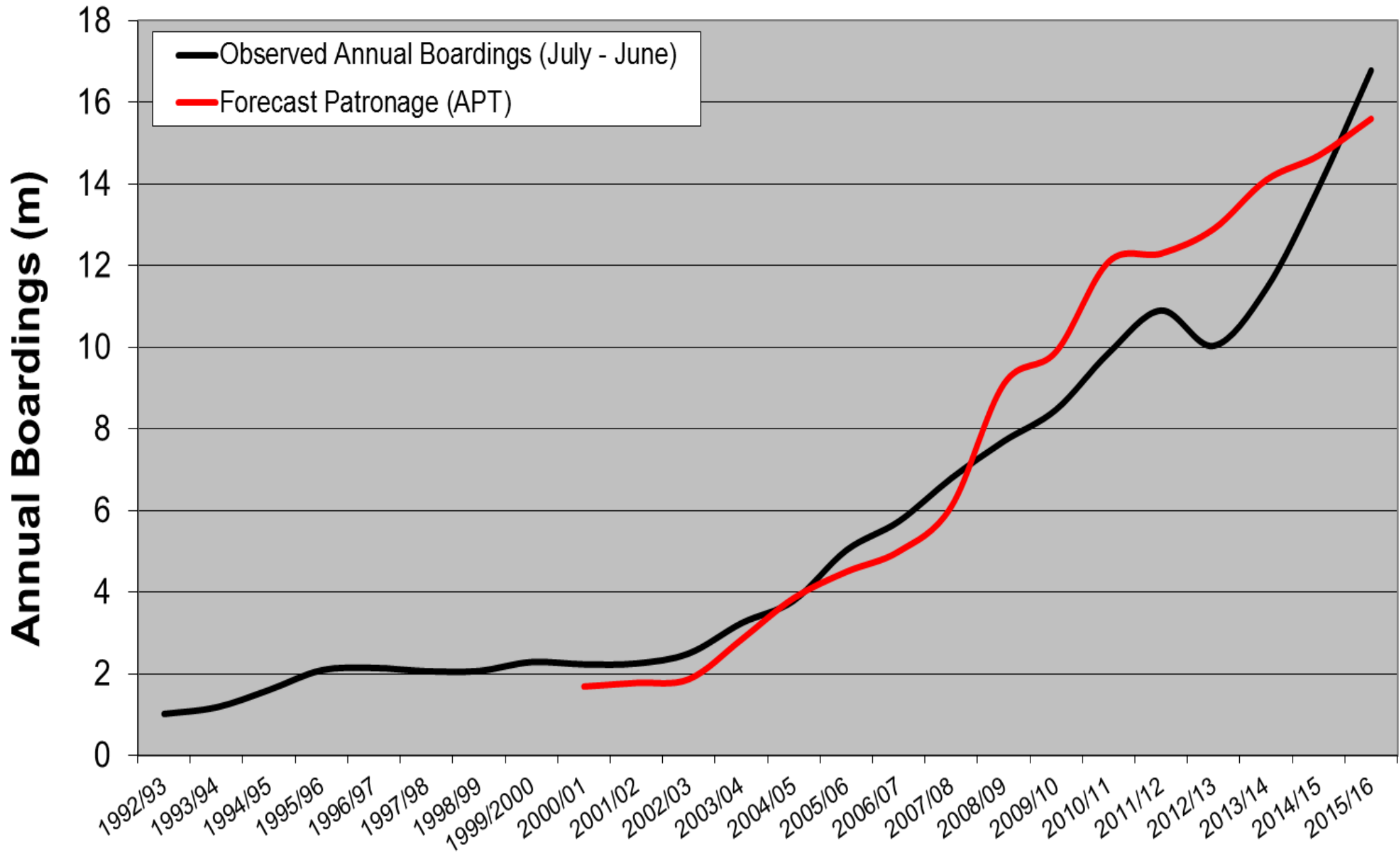
# Auckland Observed and Forecast Rail Patronage Trends

1993 - 2016 (forecast for rail electrification business case - RDP 2006)

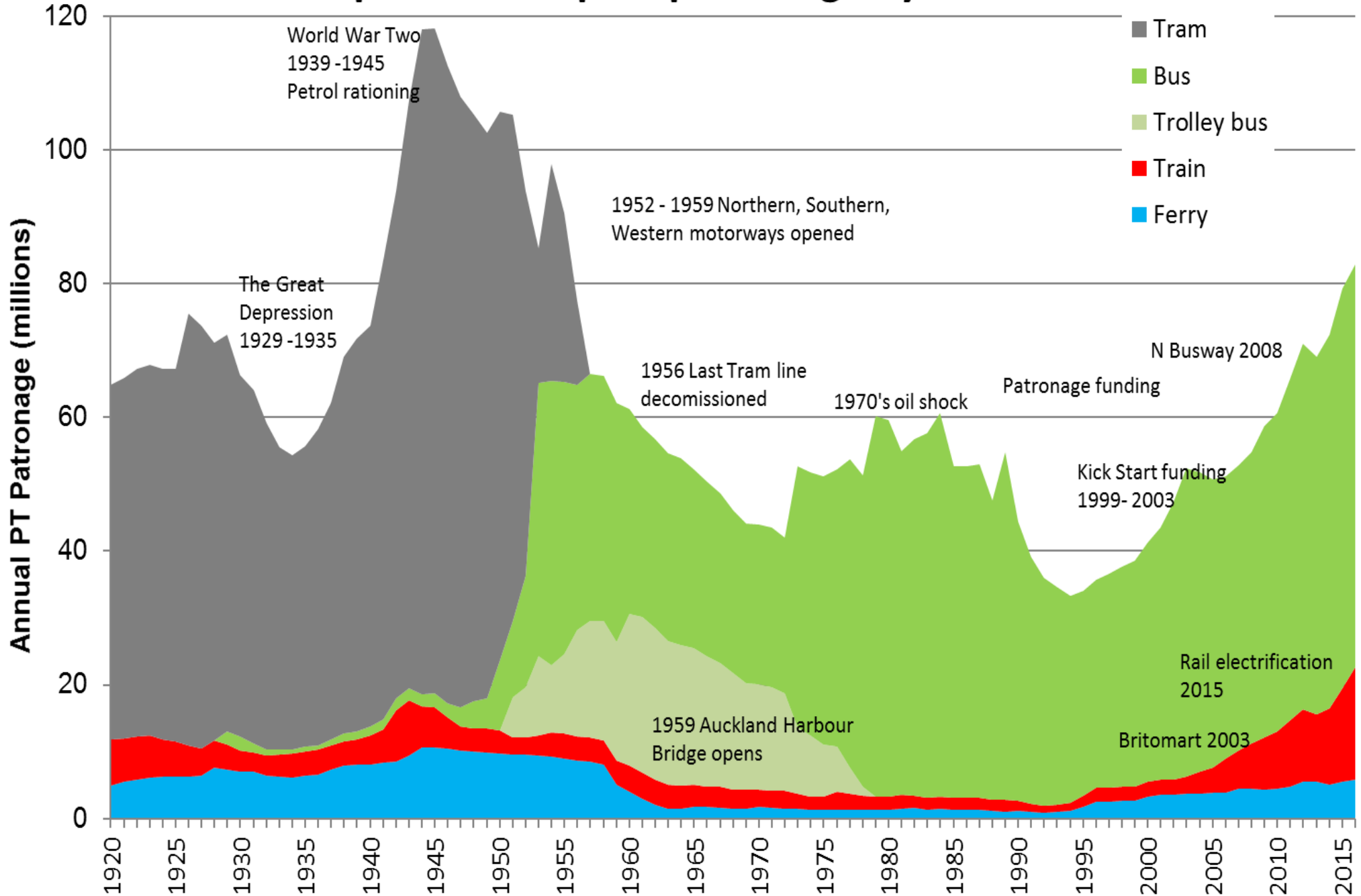




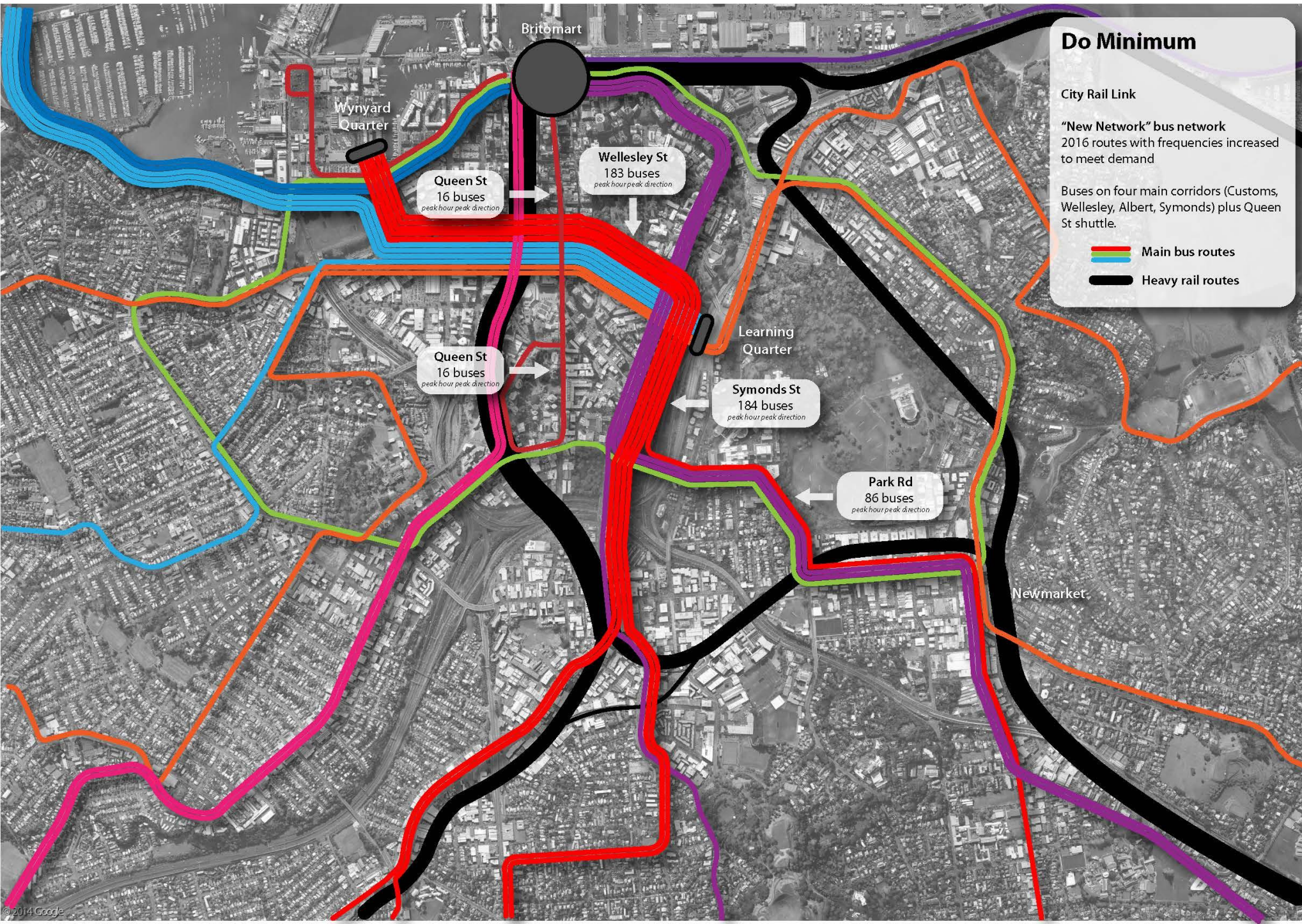
# Auckland Observed and Forecast Rail Patronage Trends 1993 - 2016



# Auckland public transport patronage by mode 1920 - 2016







## Do Minimum

**City Rail Link**

“New Network” bus network  
2016 routes with frequencies increased to meet demand

Buses on four main corridors (Customs, Wellesley, Albert, Symonds) plus Queen St shuttle.

- Main bus routes
- Heavy rail routes

**Queen St**  
16 buses  
*peak hour peak direction*

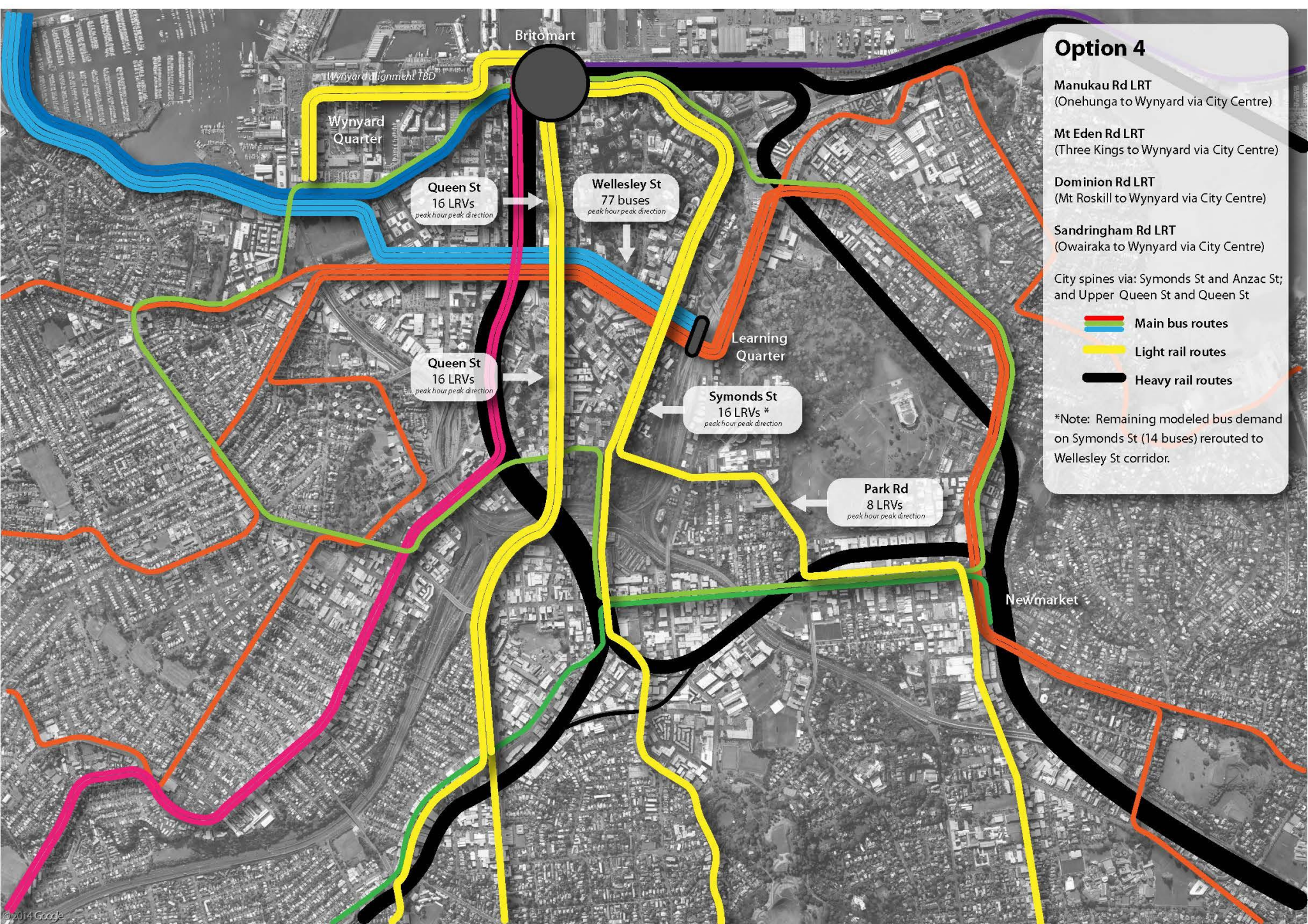
**Wellesley St**  
183 buses  
*peak hour peak direction*

**Queen St**  
16 buses  
*peak hour peak direction*

**Symonds St**  
184 buses  
*peak hour peak direction*

**Park Rd**  
86 buses  
*peak hour peak direction*





### Option 4

- Manukau Rd LRT**  
(Onehunga to Wynyard via City Centre)
- Mt Eden Rd LRT**  
(Three Kings to Wynyard via City Centre)
- Dominion Rd LRT**  
(Mt Roskill to Wynyard via City Centre)
- Sandringham Rd LRT**  
(Owairaka to Wynyard via City Centre)
- City spines via: Symonds St and Anzac St;  
and Upper Queen St and Queen St

- — — Main bus routes
- Light rail routes
- Heavy rail routes

\*Note: Remaining modeled bus demand on Symonds St (14 buses) rerouted to Wellesley St corridor.

**Queen St**  
16 LRVs  
*peak hour peak direction*

**Wellesley St**  
77 buses  
*peak hour peak direction*

**Queen St**  
16 LRVs  
*peak hour peak direction*

**Symonds St**  
16 LRVs\*  
*peak hour peak direction*

**Park Rd**  
8 LRVs  
*peak hour peak direction*





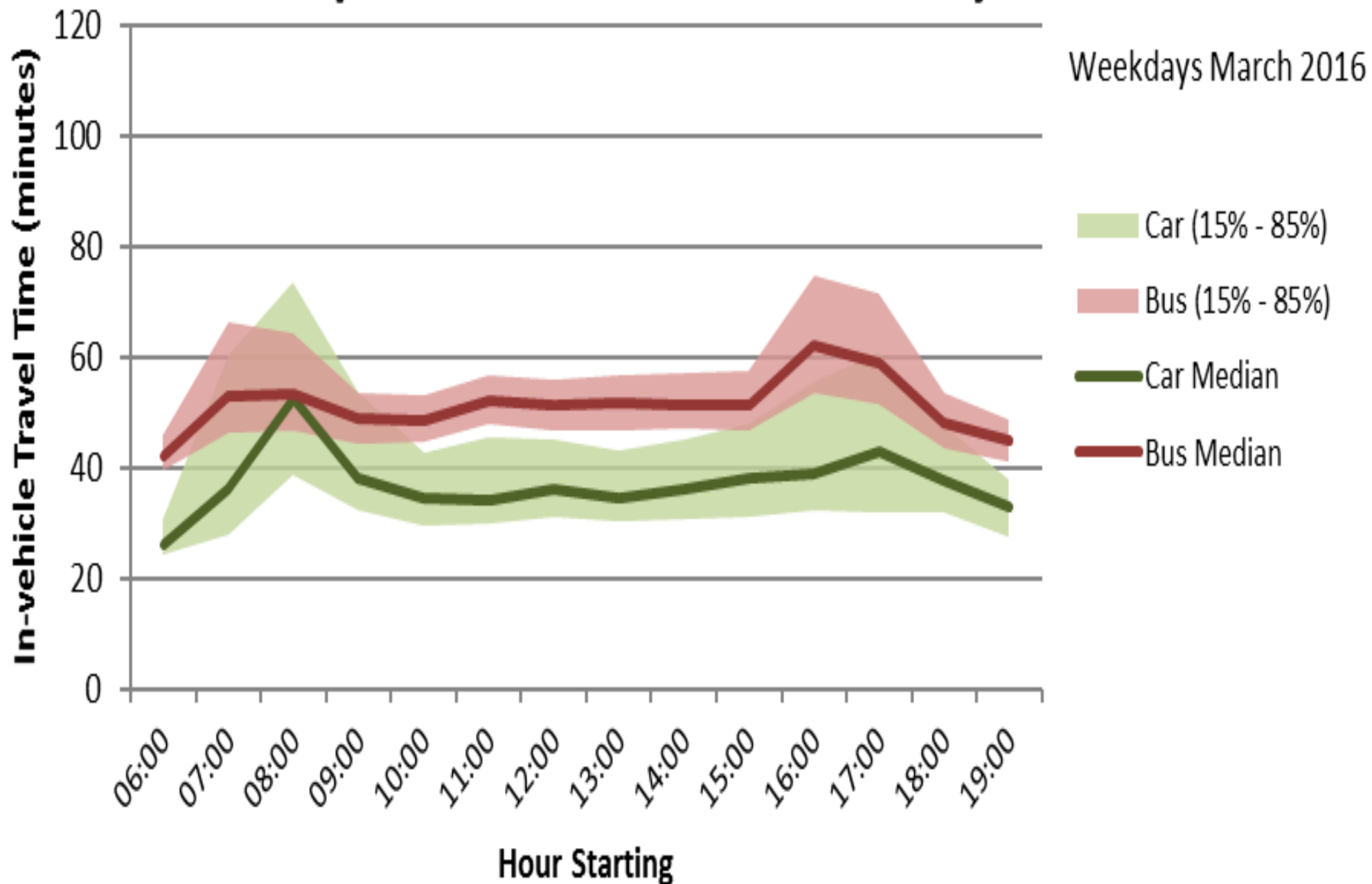


# Airport heavy and light rail evaluation – preliminary findings

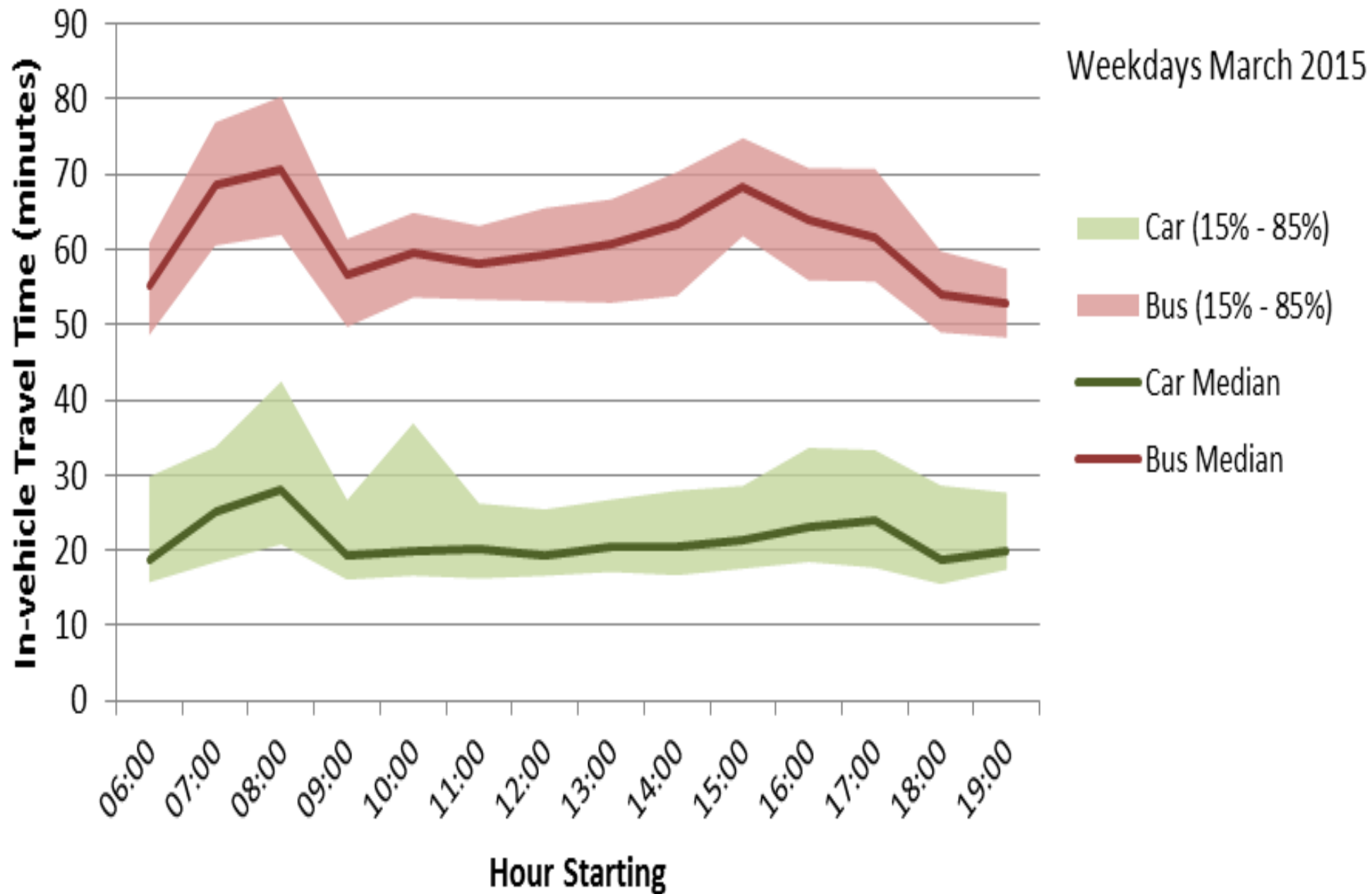
*video clip* (stills taken from video clip)



# Airport to CBD - Travel Time by Mode



# Botany to Airport - Travel Time by Mode







**71,000** PEOPLE LIVE AROUND THE AIRPORT AREA

**22,000** JOBS IN MORE THAN 900 BUSINESSES

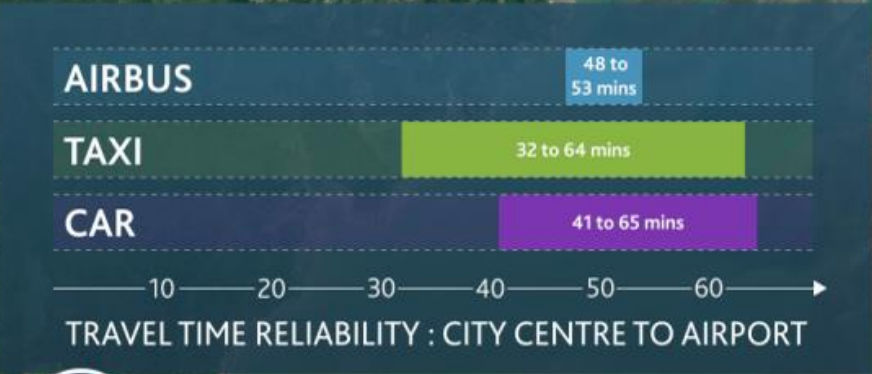
AIRPORT EMPLOYMENT AREA

AUCKLAND AIRPORT

**24** MILLION PASSENGERS EXPECTED BY 2025

**63,000** VEHICLE TRIPS PER DAY





EXISTING ROAD NETWORK  







RAIL PROVIDES RELIABLE TRAVEL TIMES  
IT IS THE BEST LONG TERM PUBLIC TRANSPORT  
OPTION IN THE AUCKLAND AIRPORT AREA



EXISTING RAILWAY NETWORK 







**AIRPORT RAPID TRANSIT : HEAVY RAIL**











14.8KM OF NEW DOUBLE TRACK  
INCLUDE 1.9KM ON-STREET RUNNING  
7 NEW STATIONS AND 1 STATION UPGRADE



**AIRPORT RAPID TRANSIT : LIGHT RAIL**



































KIRKBRIDE RD/SH20A INTERSECTION  
DESIGNED FOR LIGHT RAIL









ASCOT STATION  
LIGHT RAIL ONLY

AIRPORT BUSINESS DISTRICT  
STATION - LIGHT RAIL ONLY

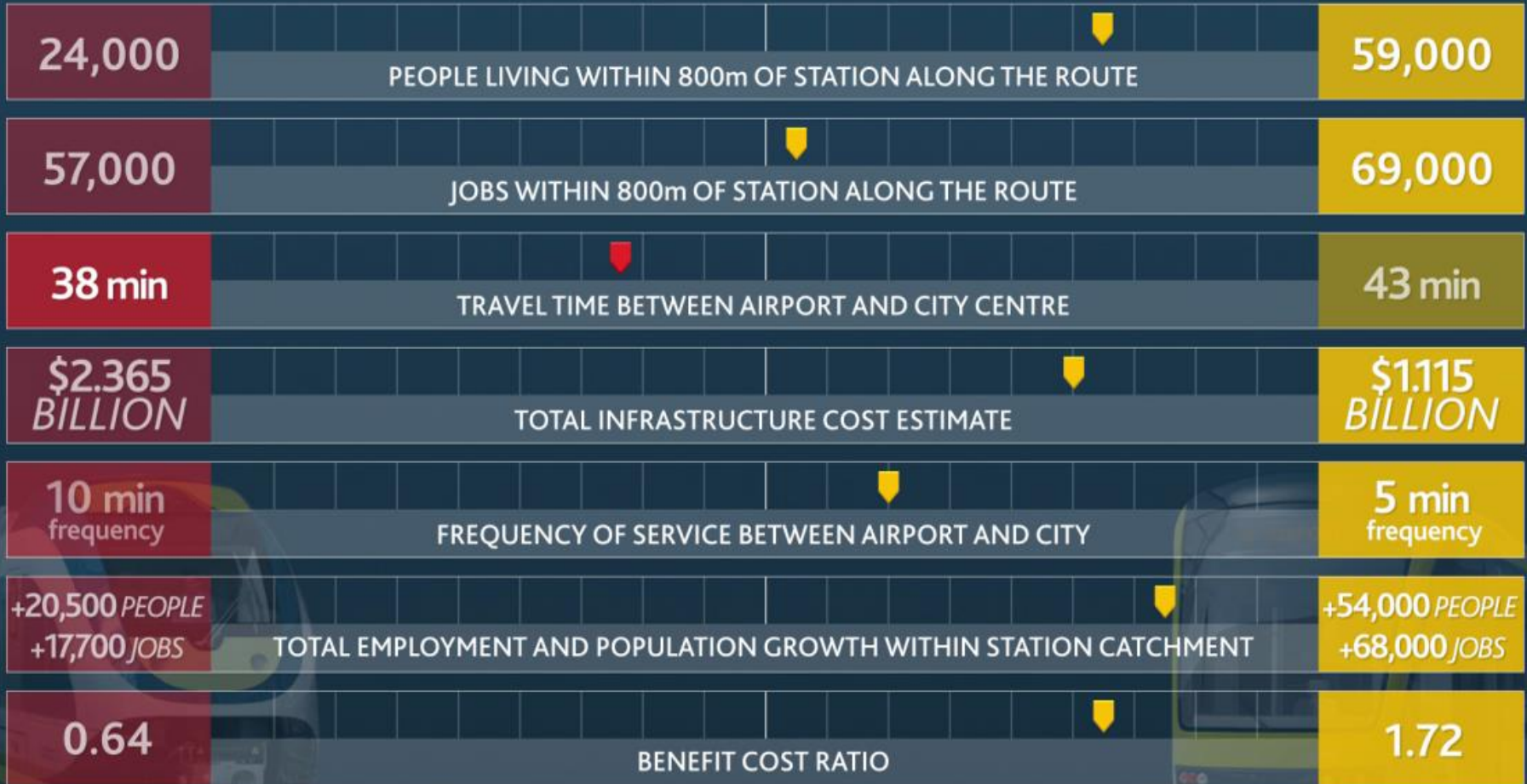
AIRPORT TERMINAL STATION  
LIGHT OR HEAVY RAIL

TUNNELLED IN  
AIRPORT AREA

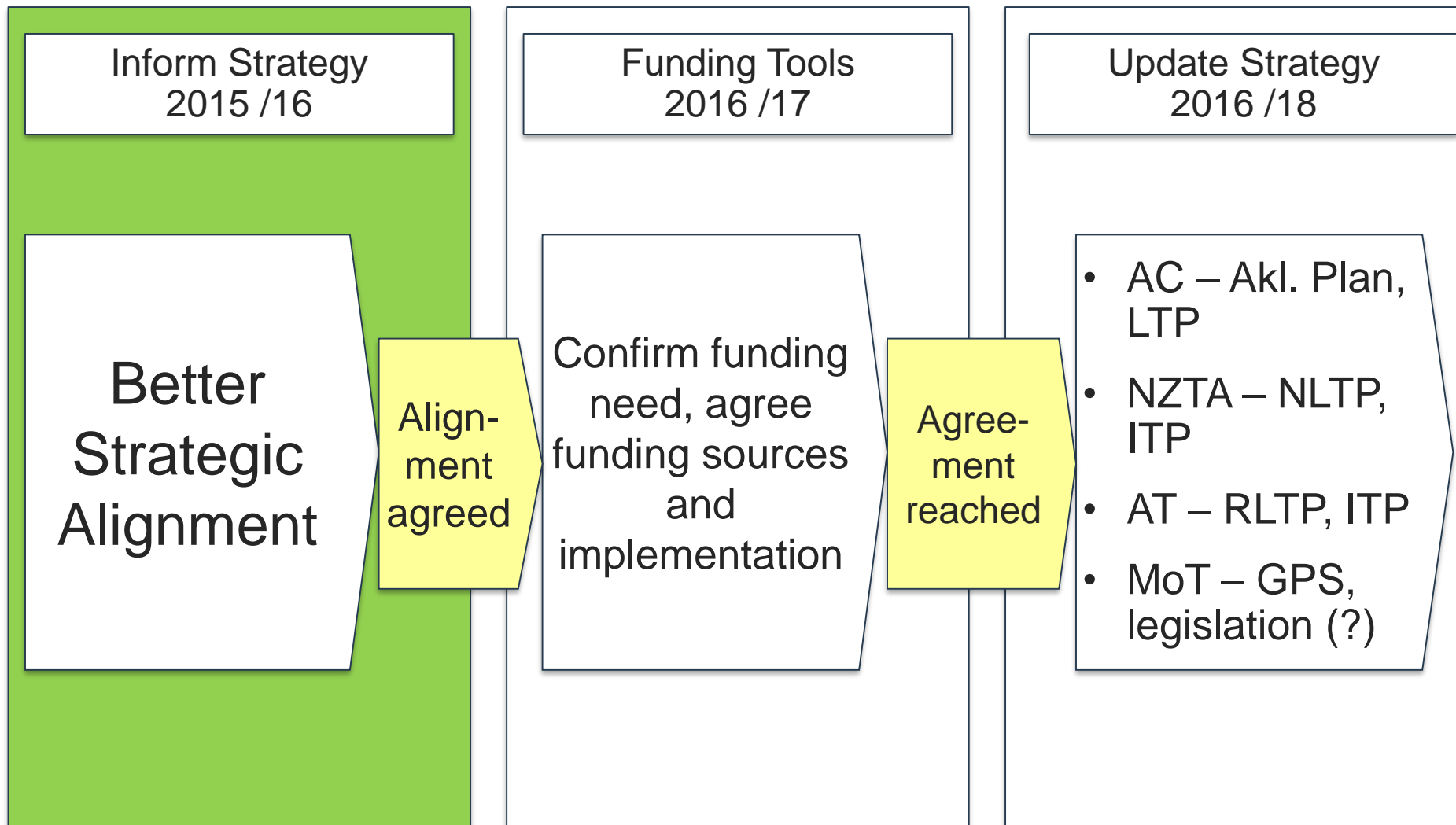


**HEAVY RAIL  
PERFORMS BETTER**

**LIGHT RAIL  
PERFORMS BETTER**



# ATAP Emerging Phases





# Major projects

# Strategic Transport Network: Third decade (cumulative)



This map should be read in conjunction with the relevant text in the Auckland Plan development strategy and supporting chapters.



Removal of level crossings  
Efficiency and resiliency improvements  
Increased capacity and services

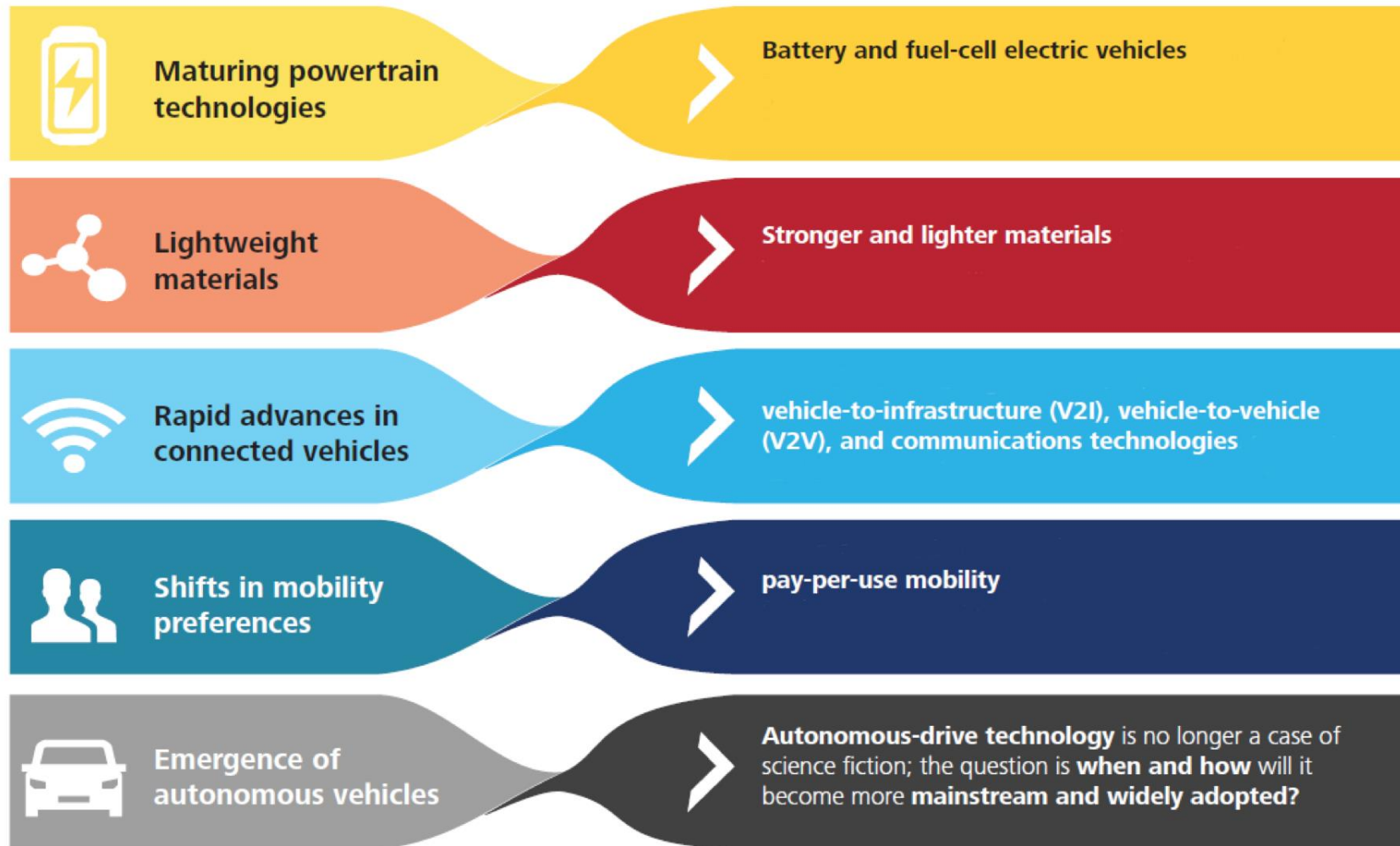
Additional motorway lanes  
Removal of level crossings  
Third / fourth main (Wiri to Pukekohe)  
Efficiency and resiliency improvements  
Increased capacity and services  
Freight efficiency improvements

Key	
	Local road and public transport projects
	State highway projects
	Light Rail
	Heavy Rail network improvements

Arterial improvement supporting Southern Growth Area



# The next wave: transportation and mobility is converging



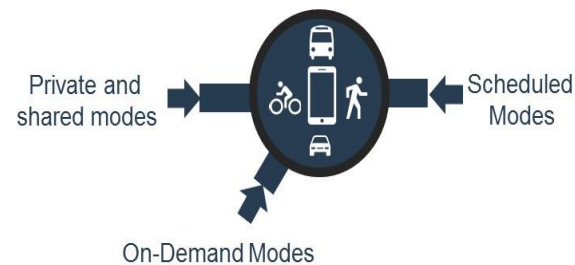


# The next wave

## The Sharing Economy – Mobility as a Service

### The road map to autonomous vehicles

- Car Share
- Car pooling
- Ridesharing
- Bike share/cycle hire
- Uber
- Passenger transport on demand
- First and last leg linking with PT



# ATAP STRATEGY FOR AUCKLAND

- Invest in strategic rapid transit, road and active networks
- Optimise use of existing transport networks
- Remove barriers to new technology and mobility sharing
- Introduce first stage of network pricing
- Deliver infrastructure in growth areas

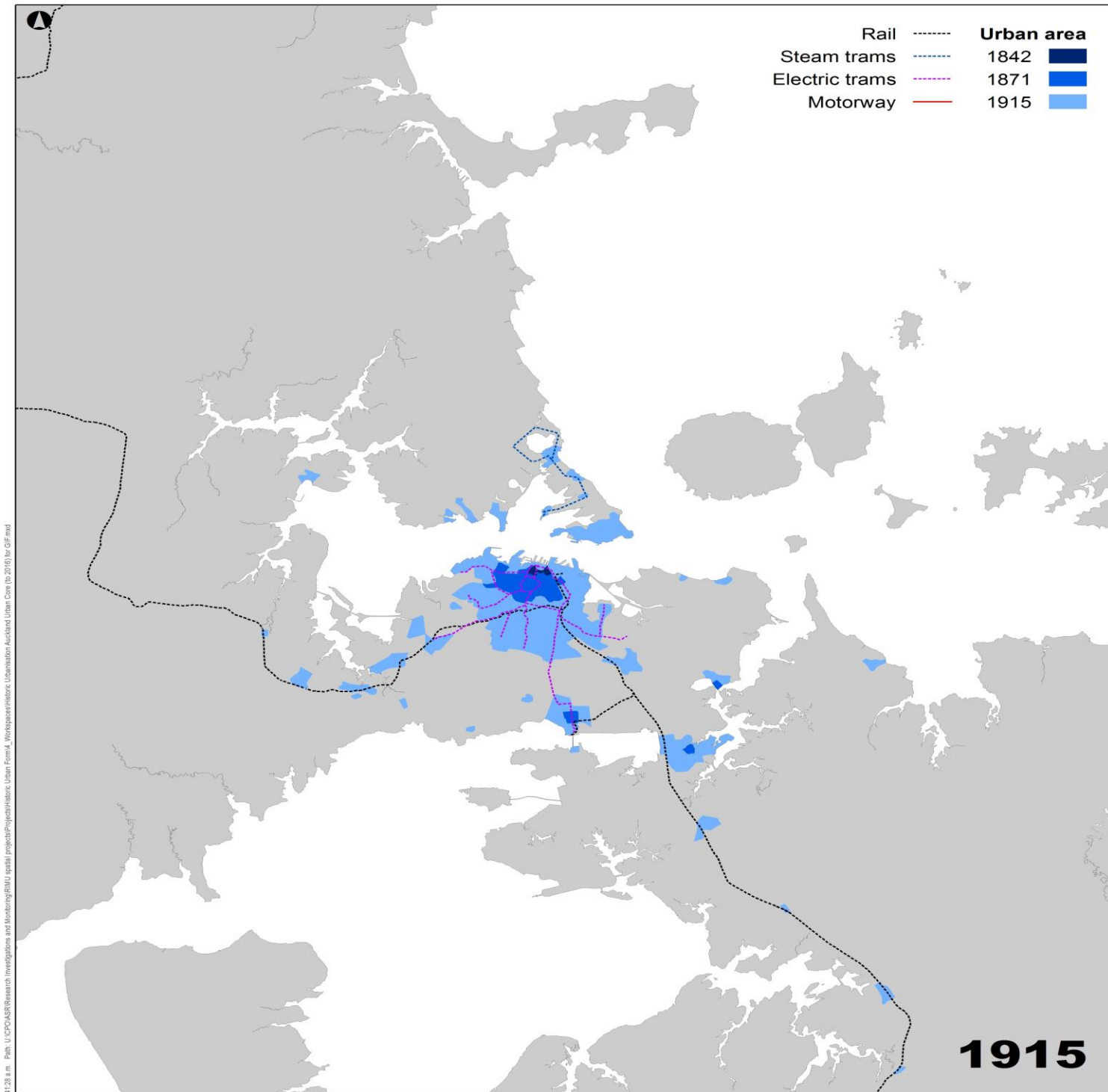
**Decade 1**





# Thank you.



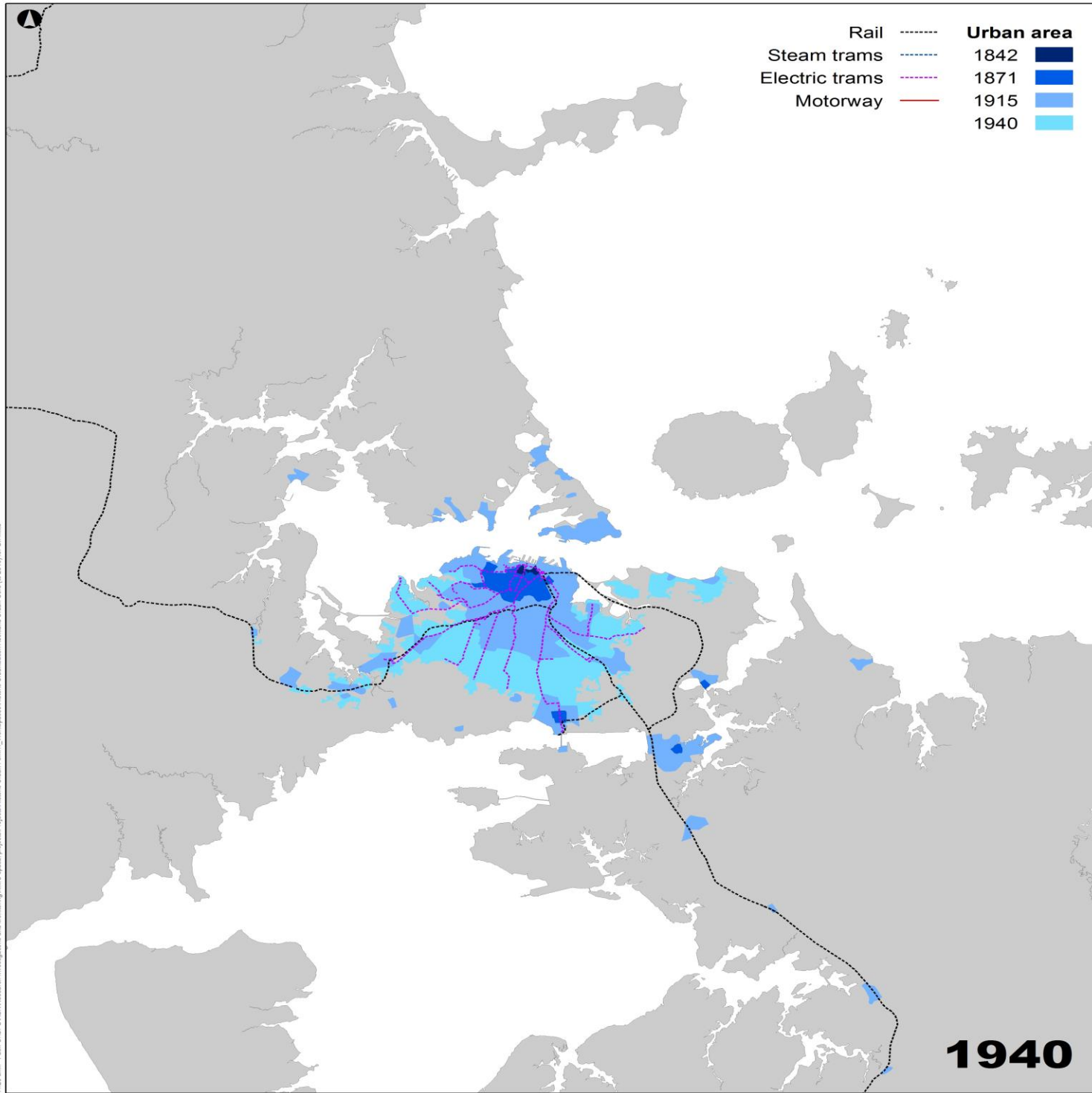


Rail	.....	<b>Urban area</b>
Steam trams	.....	1842
Electric trams	.....	1871
Motorway	.....	1915

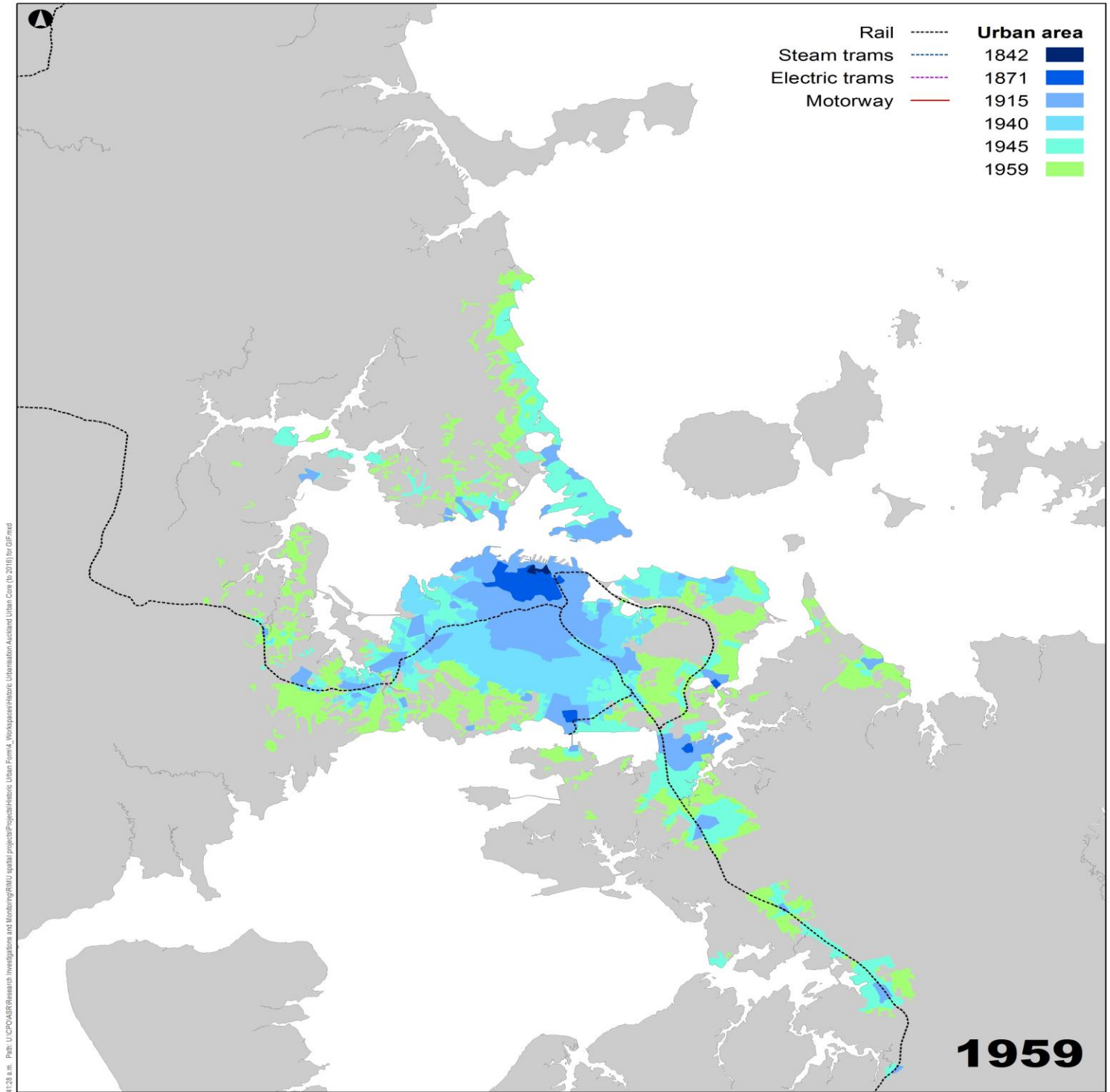
**1915**

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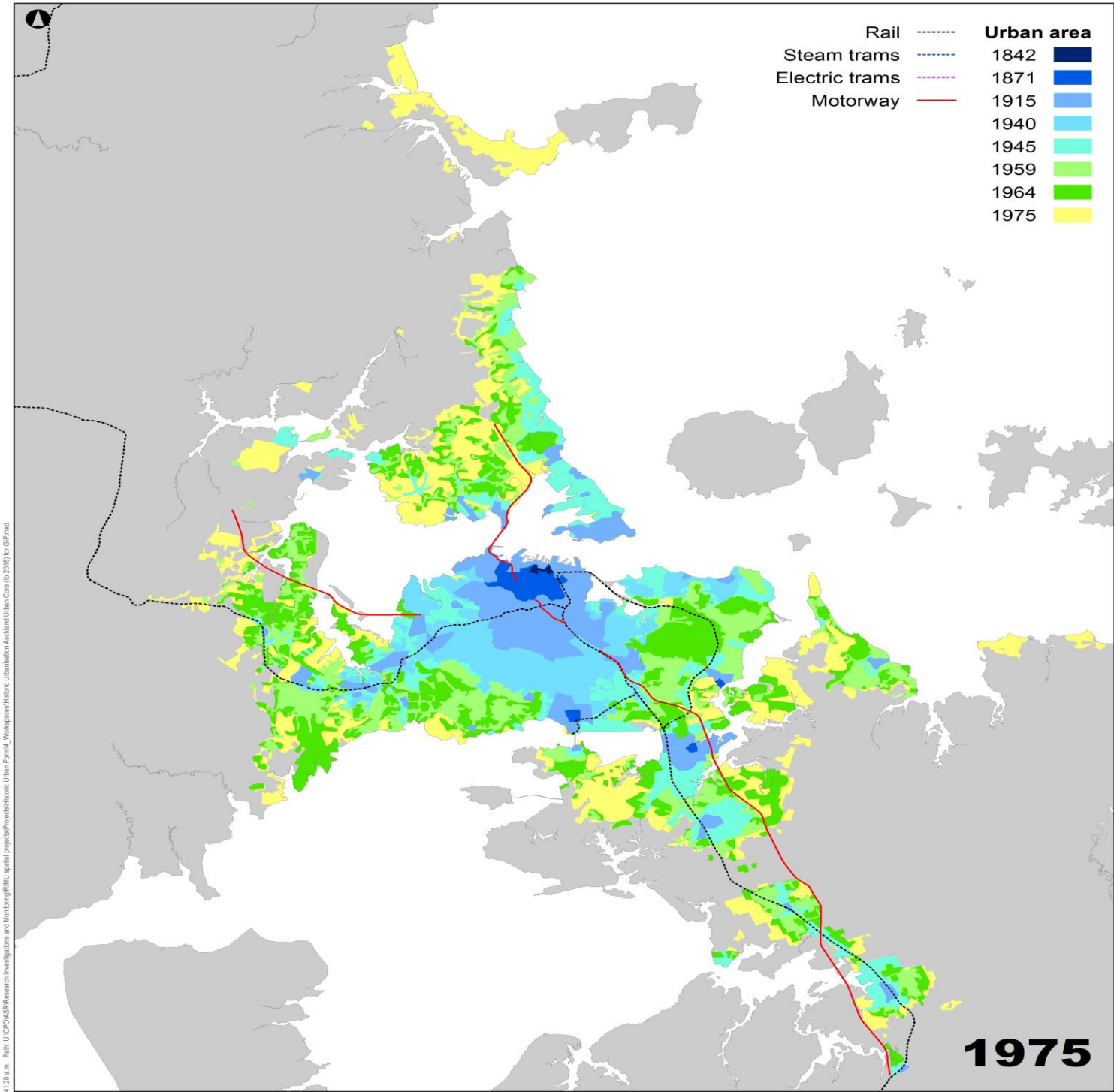
© 1728 s.m. Pdf: U:\CPO\BRResearch\Investigation and Monitoring\BIMU spatial project\Psychiatrists Urban Form\ Workshop\essays\_Urbanisation\_Auckland Urban Core (p. 2016) for GIPind



**1959**

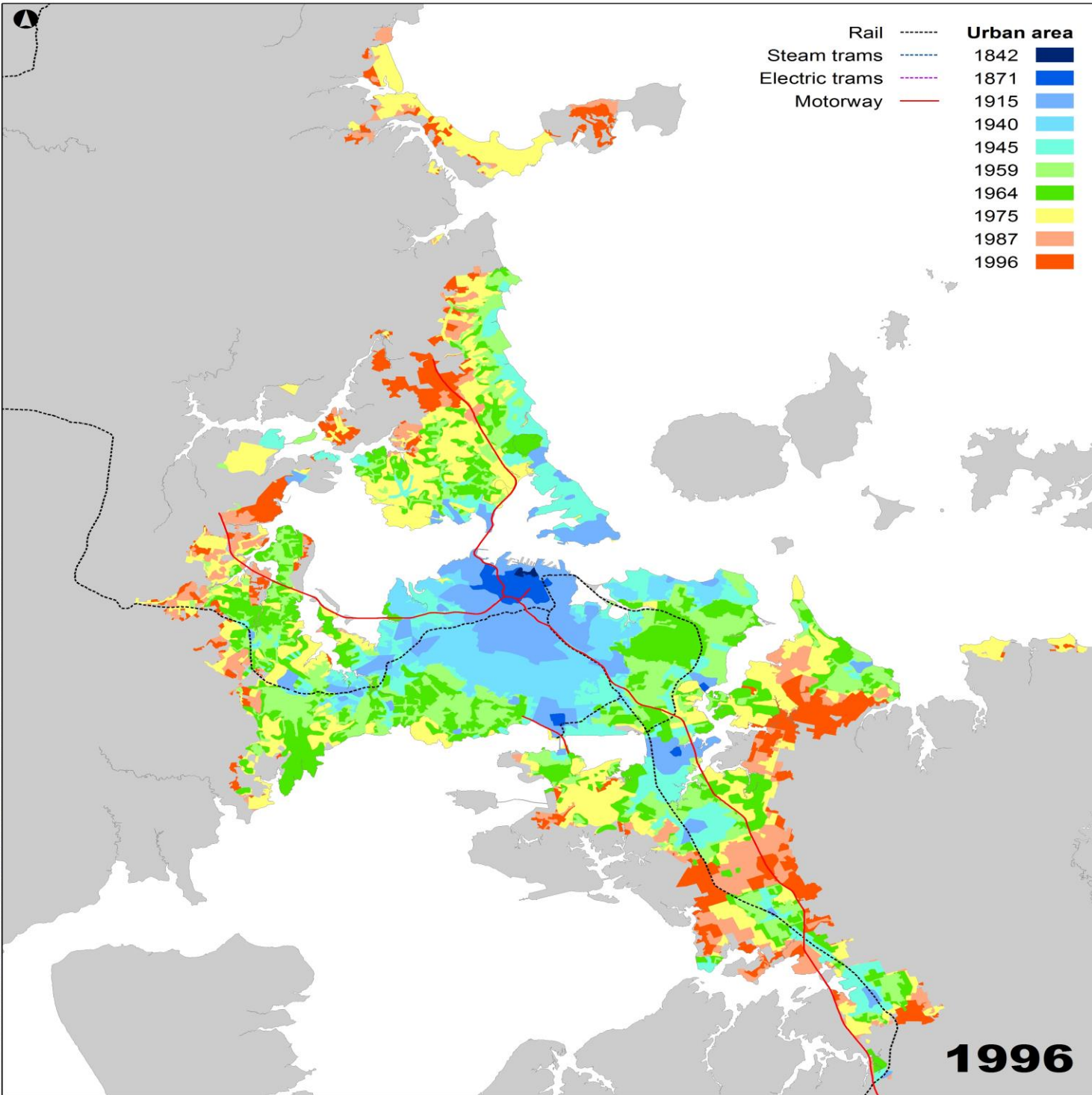
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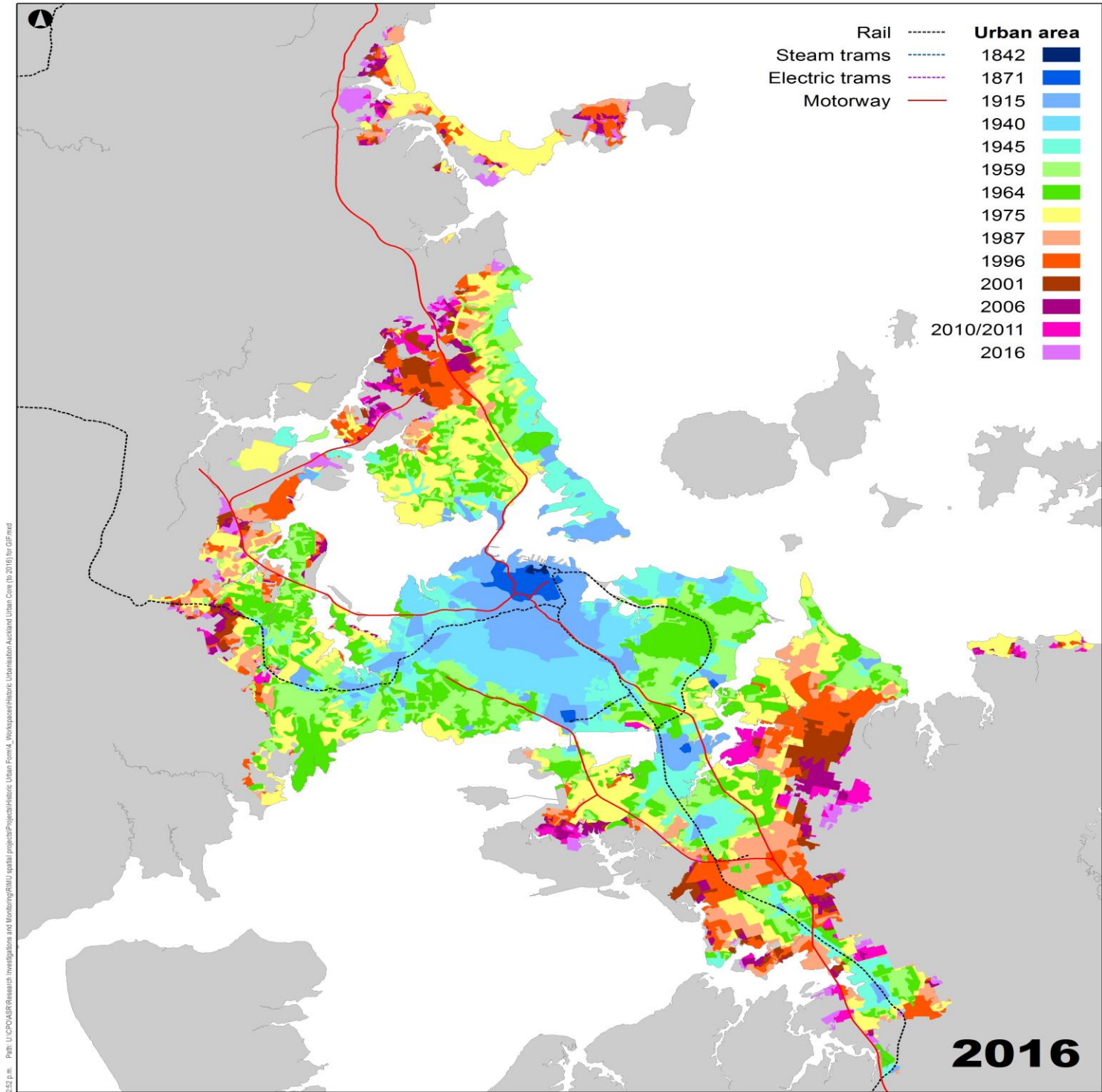


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**1975**







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**2016**