

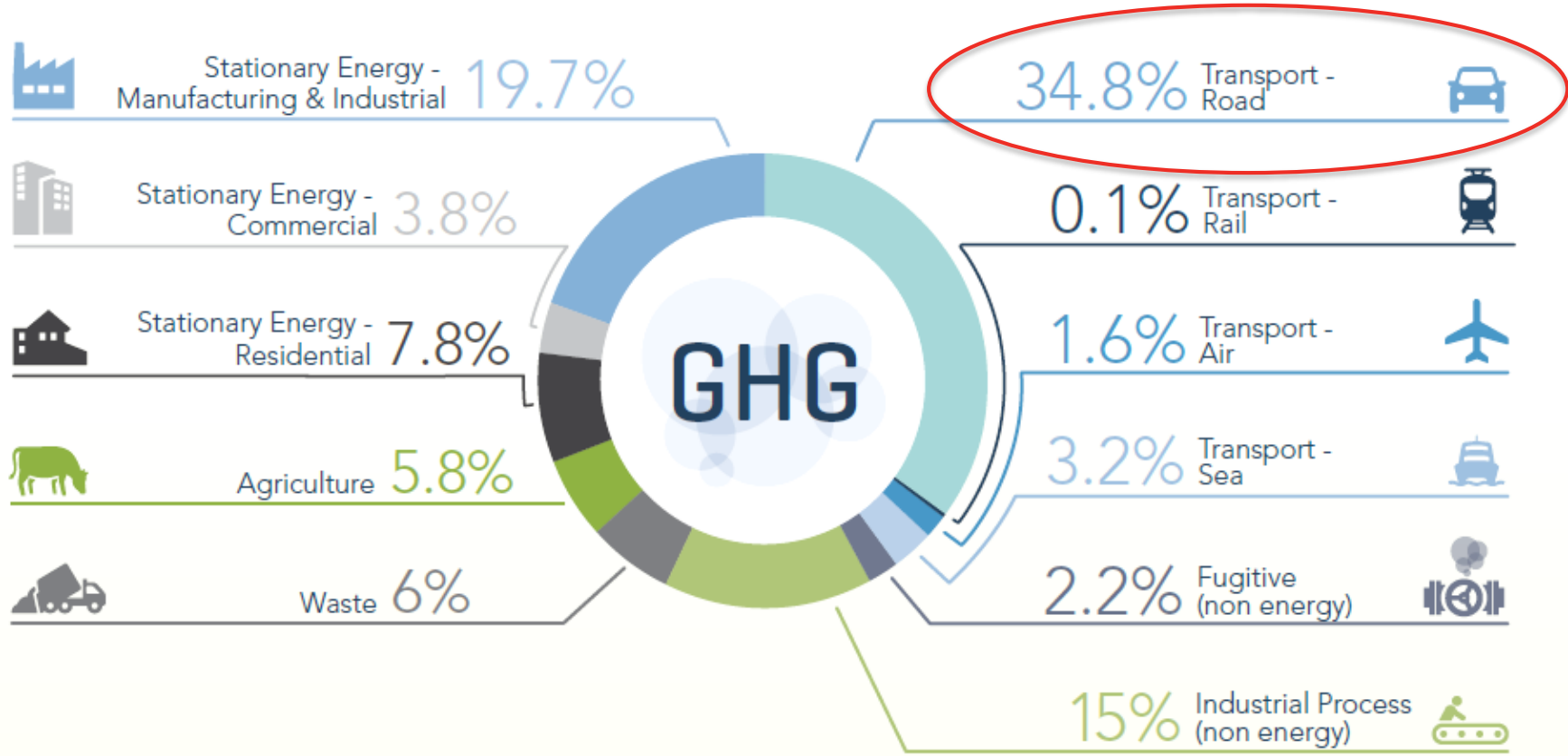
# Energy use across Auckland's transport system

Cynthia Gillespie, Chief Strategy Officer

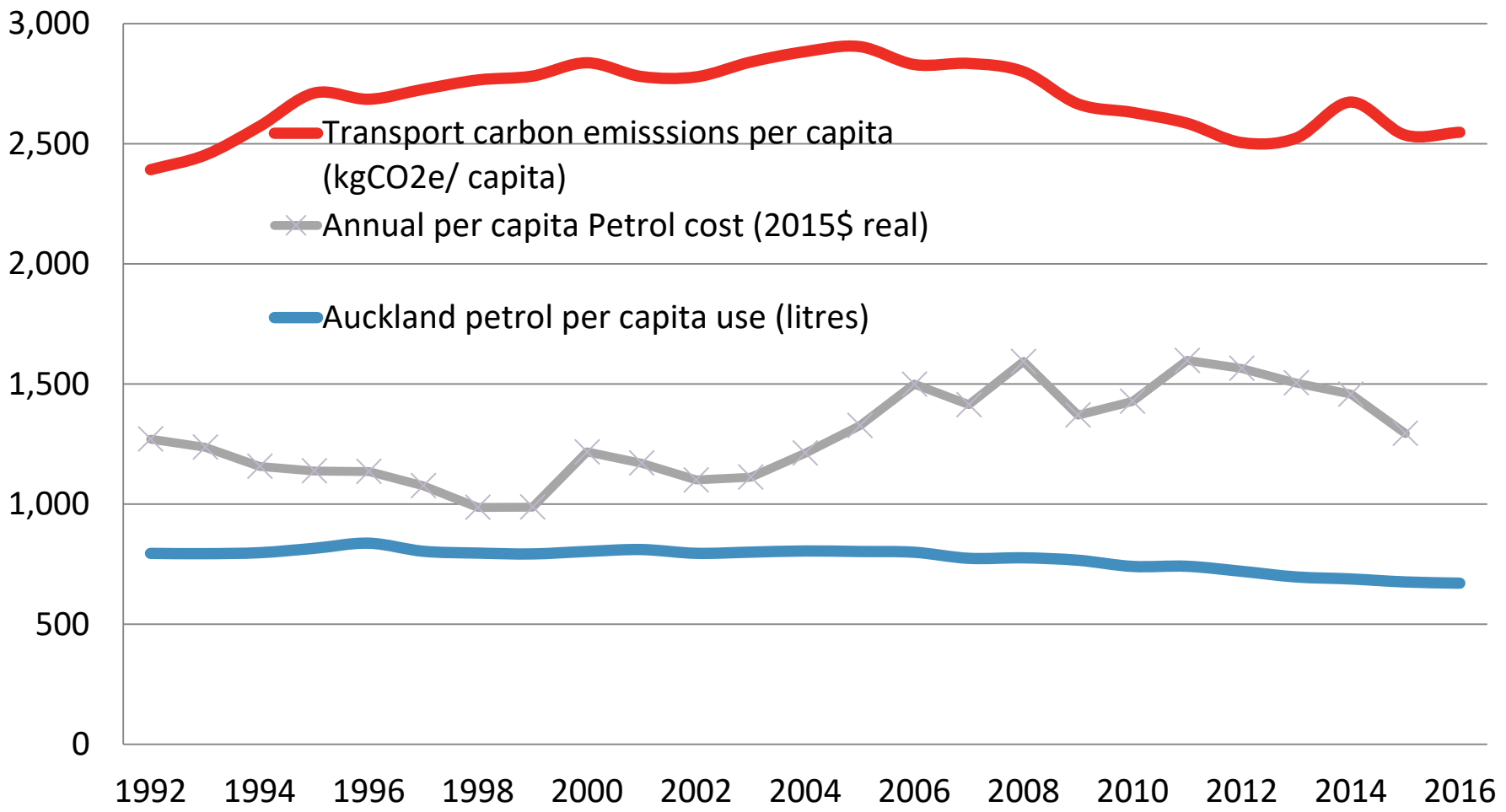
19 February 2018



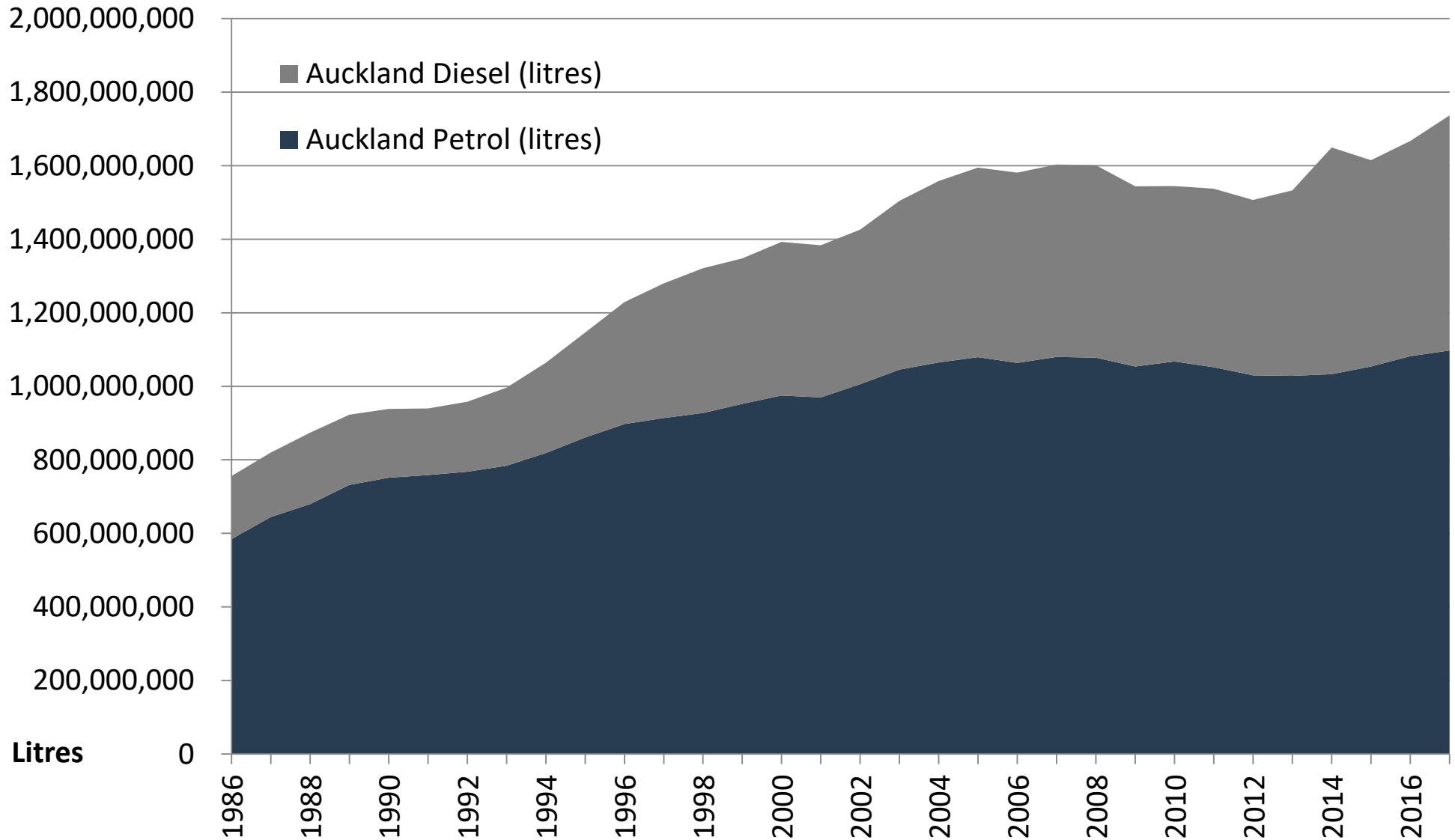
# Greenhouse gas emissions in Auckland



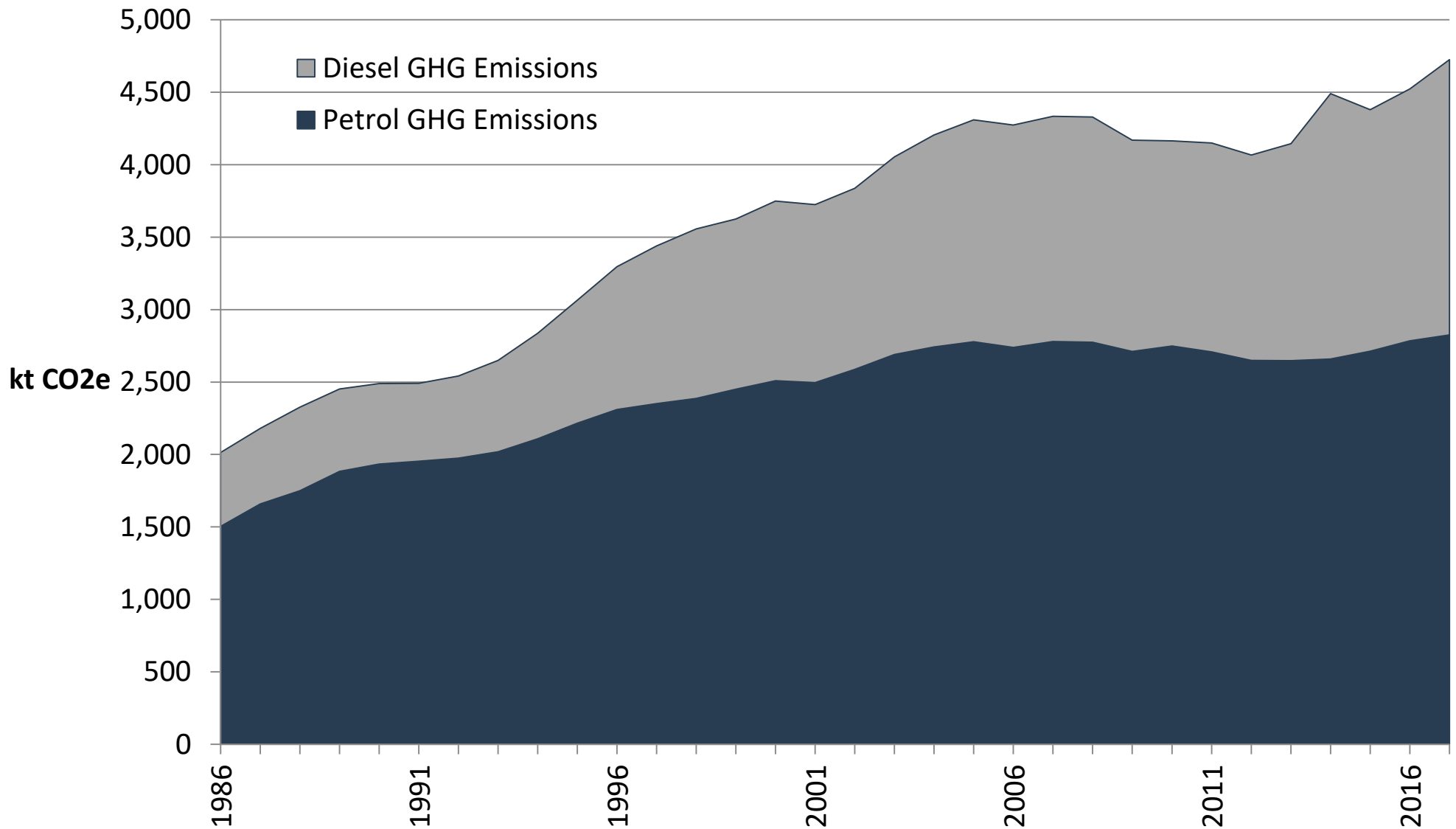
# Transport emissions, fuel use and petrol cost per capita



# Auckland's transport fuel use



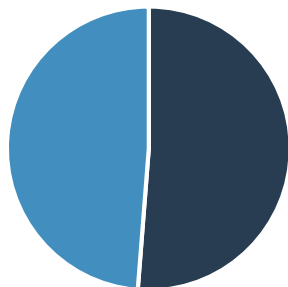
# Auckland's transport CO<sub>2</sub> emissions



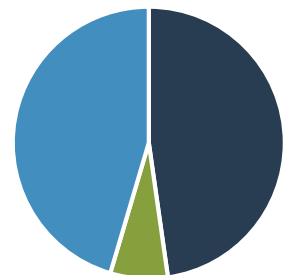


# Motorised Mode Share - PT

City Centre  
Peak Mode share

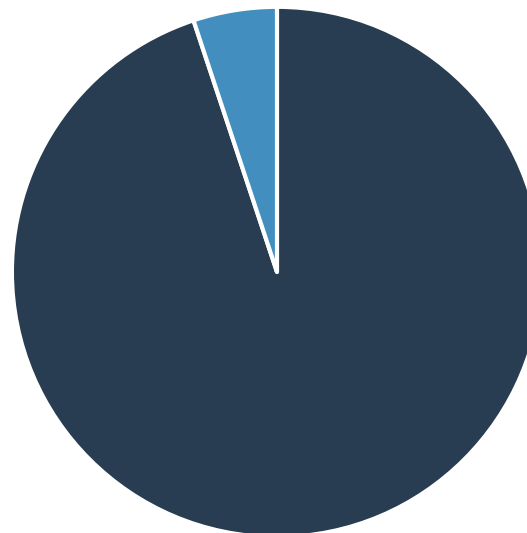


■ Private Vehicle ■ Transit Passengers



■ Private Vehicle ■ Active Transport  
■ Transit Passengers

Regional  
vkt and pkt

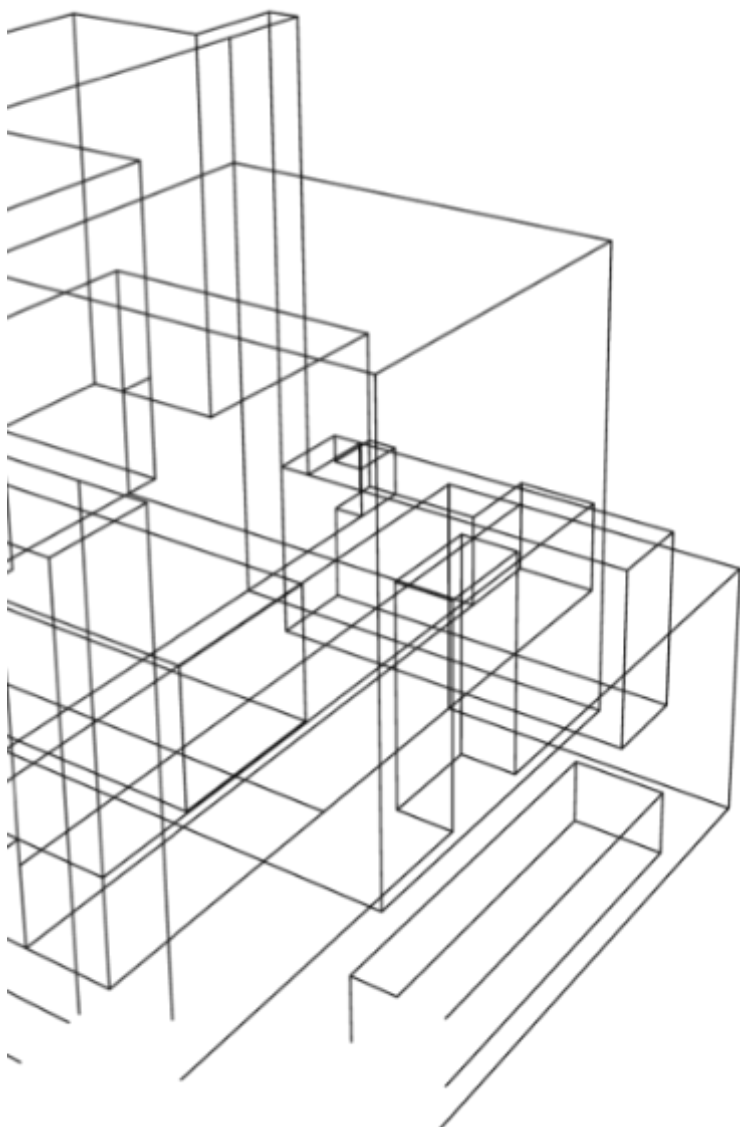


■ Private Vehicle ■ Transit Passengers





# AT's Sustainability Framework



## Four core goals...

1. Conserve and enhance the environment
2. Meet the health and social needs of Aucklanders
3. Foster jobs, growth and economic productivity
4. Celebrate Auckland's unique cultural identity

## Create changes with measurable outcomes in

1. Land use and transport
2. The existing network
3. Low emission transport choices
4. Design and construction
5. Financial stewardship
6. Innovation and technology
7. Our own organisation

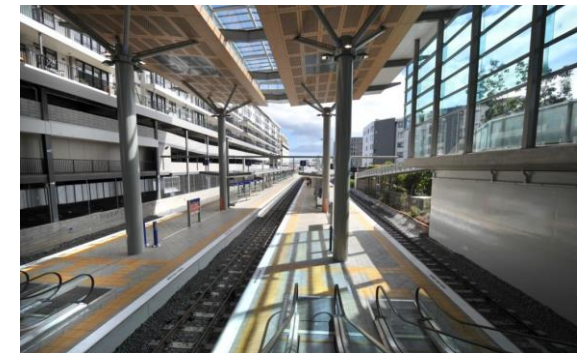
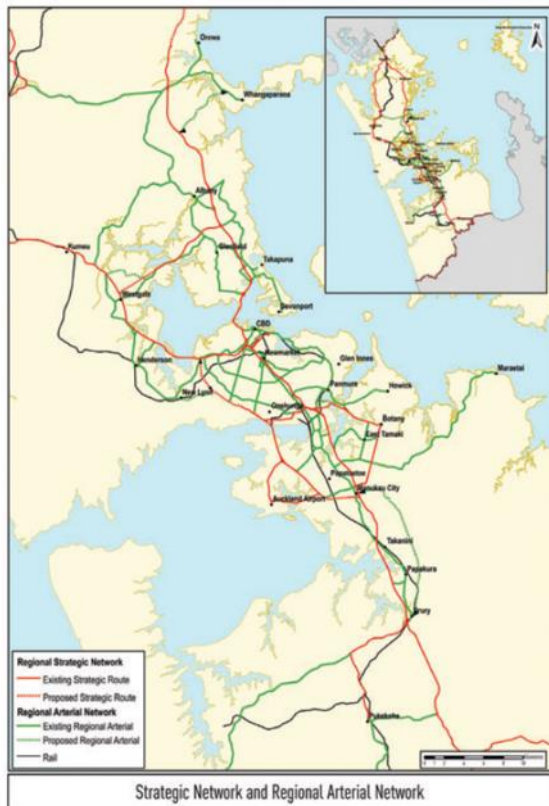
# AT's thinking on energy across Auckland's transport system



Planning to support a low emissions **transport network**

Transitioning to a low emissions **public transport fleet**

Making our assets and **infrastructure energy-efficient**







# **Planning to support a low emissions transport network**



# Transforming the way we travel



## Reducing the demand for travel



Focus growth in centres with good access to public transport.



Reduce the number and length of trips.



Transport pricing tools, e.g. road pricing, workplace travel planning.

## Increasing the use of public transport, walking and cycling



Introduce new frequent bus network and electric trains.

Integrate ticketing and fares.



Improve cycling infrastructure.



More busways and bus lanes and priority at traffic signals.

Construct City Rail Link.

## Improving transport efficiency to reduce the consumption of fuel



Encourage more efficient vehicles.



Enable more efficient freight movement; establish freight consolidation centres.

## Moving away from use of fossil fuels



Switch from fossil fuels to clean alternatives.

Encourage biofuels and electric vehicles.

Rely less on imported fuel.



Convert the public transport fleet and public sector vehicle fleet to alternative fuels.



Develop an electric vehicle charging network.

# Reducing the demand for Travel



- Development encouraged around key rail stations through key projects like City Rail Link
- Smart Transport Pricing Project Underway
  - Previous work indicated a ~10% in vehicle kilometres travelled



Phase One Report:

## The Congestion Question

Could road pricing improve Auckland's traffic?

#congestionquestion



# Increasing the use of Public Transport, Walking & Cycling

- Making cycling and walking more attractive, easier and safe
- Providing better connections to public transport
- Optimising signals in popular walking and cycling places

## More public transport

- Electric trains, buses, ferries
- AT HOP even easier - new apps, text info and updates
- Delivering the City Rail Link
- Developing Mass Rapid Transit

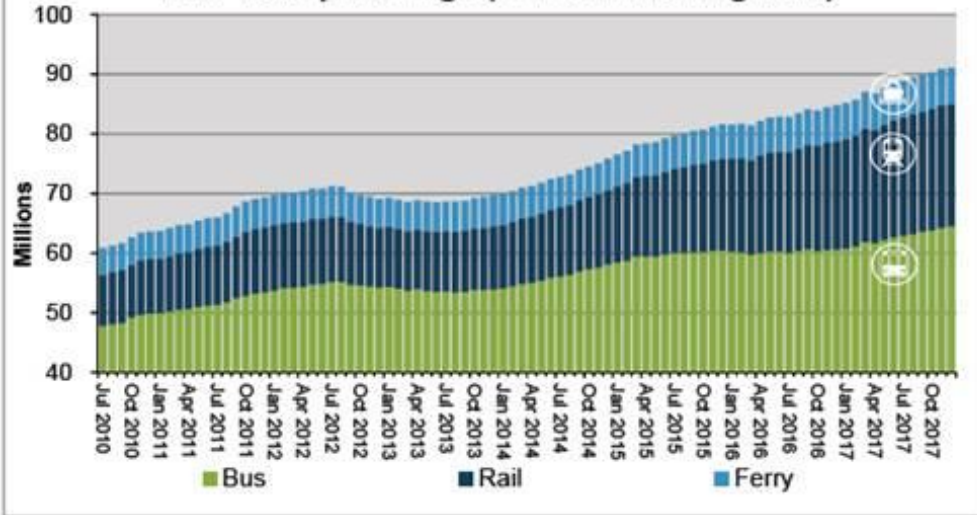




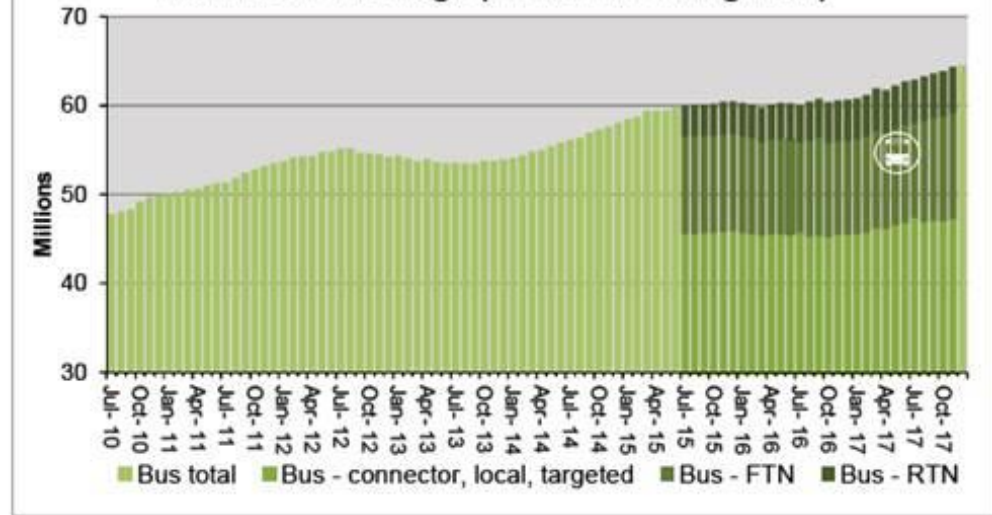
# Public Transport Patronage



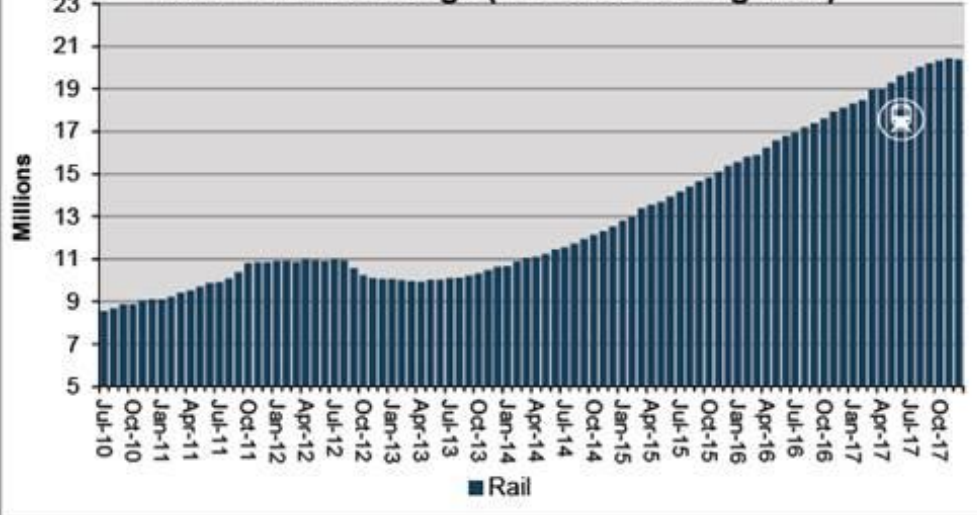
### 1.3.1 Total patronage (12 month rolling total)



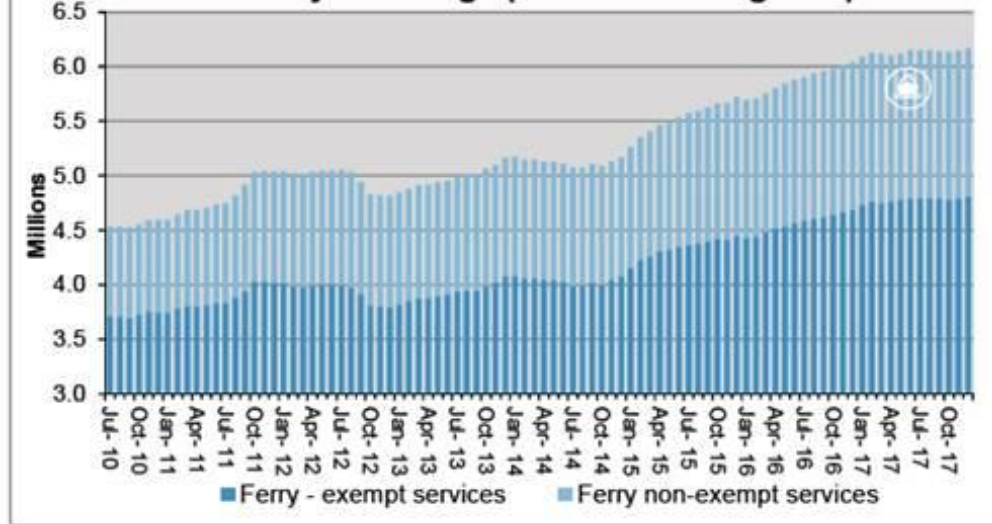
### 1.3.2 Bus Patronage (12 month rolling total)



### 1.3.3 Train Patronage (12 month rolling total)



### 1.3.4 Ferry Patronage (12 month rolling total)







# Increasing the use of Public Transport

## Energy and carbon benefits through rail trips avoided

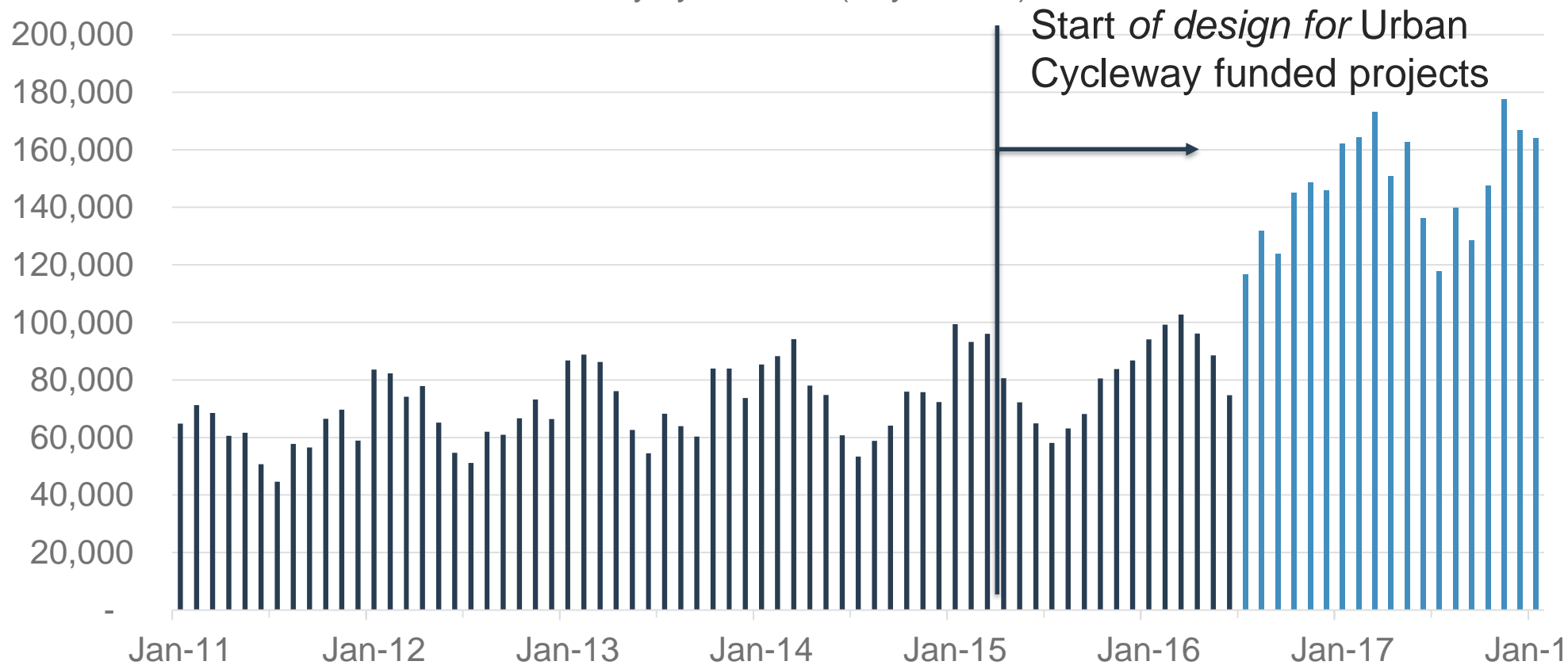
- 19m rail trips p.a.
- 13.8m car trips avoided
- 110m km car travel avoided
- 15m litres of petrol and diesel saved
- 33 kilotonnes greenhouse gas emissions saved





# Cycling uptake

Total monthly cycle count (City Centre)



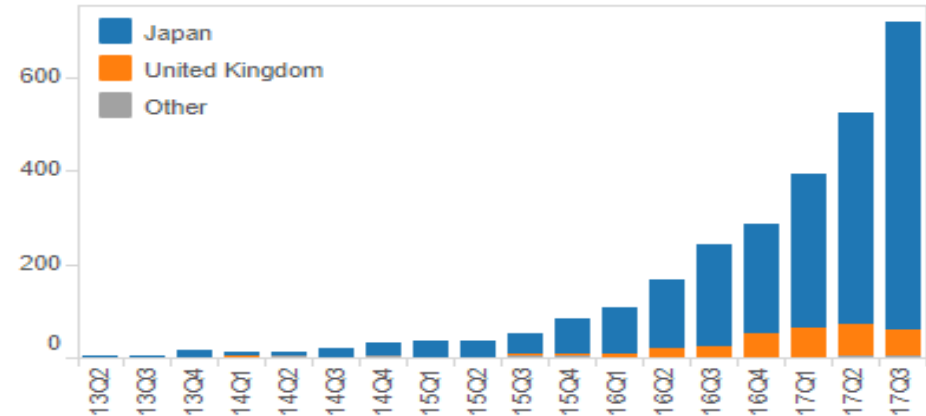


# Moving away from fossil fuels

## Auckland Context

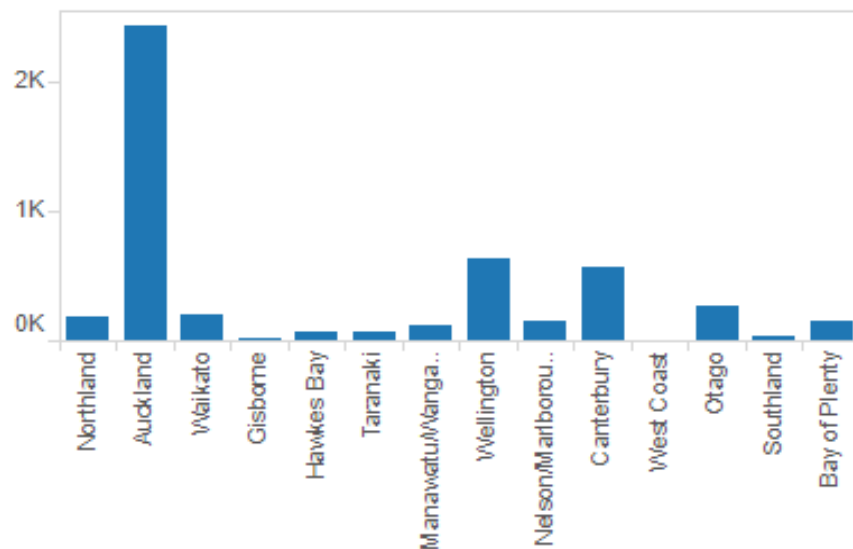
Most of the growth light EV fleet is second hand Japanese imports

Quarterly light used EV registrations - country of origin

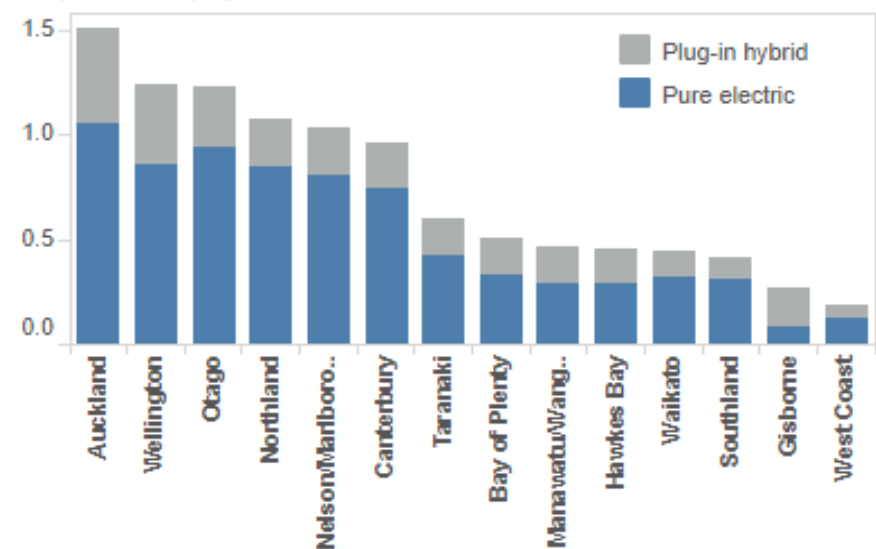


Highest total and per capita EV ownership levels in NZ are in Auckland (Sept 2017)

Regional EVs - based on owner location



EVs per 1000 popn - based on owner location





# Moving away from fossil fuels

## What AT has underway

- Supporting 60 Electric Vehicle Charging points across AT car parks
- Public – Private working group for light electric vehicles and sharing best practice
- Low emissions bus roadmap
- Fossil free streets Declaration
- 20 new EV's - the largest purchase of any local or central government department to date. 2025 target for entire EV fleet.





# Auckland is a member of C40



92  
affiliated cities



25 %  
of global GDP



1 in 12  
people worldwide

10,000

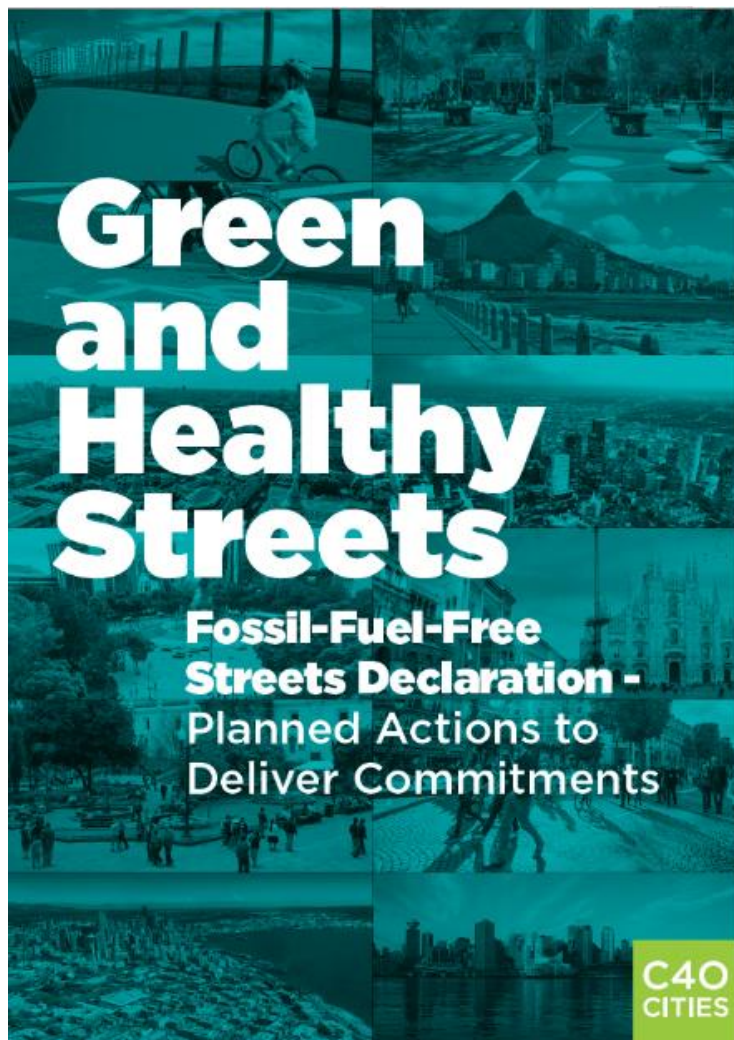
actions to combat climate  
change







# Moving away from fossil fuels



## Our C40 commitments:

- Procure, with our partners, only zero emission buses from 2025
- Ensure that a major area of our city is zero emission by 2030;
- Transform our cities through people-friendly planning policies;
- Increase the rates of walking, cycling and the use of public and shared transport;
- Reduce the number of polluting vehicles on our streets;
- Begin the transition away from fossil fuels;
- Accelerate the shift to zero emissions vehicles and reduce vehicle miles in our cities.

# Policy helps...



To set direction for different aspects that contribute to low emissions transport network

e.g.

- Enhanced Land use e.g. Unitary Plan
- Government, Council and Auckland Transport direction for Investment
- Modal priority for people movement
- For electric vehicles, standards and charging



# Technology helps

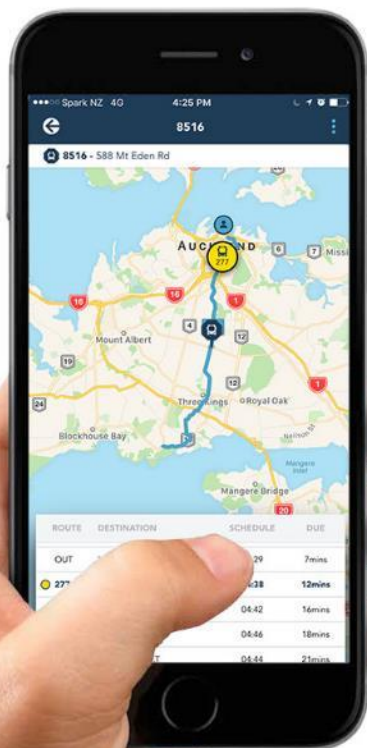
## AT Mobile App

Using technology to improve the convenience and efficiency of our transport choices...

...including new and better ways of managing parking,

...with a greater customer focus

...and a greater network focus.



### Real Time Tracking

Track your bus or train in real time



DOWNLOAD FREE





# **Transitioning to a low emissions public transport fleet**



# Working towards a near-zero emissions fleet by 2040

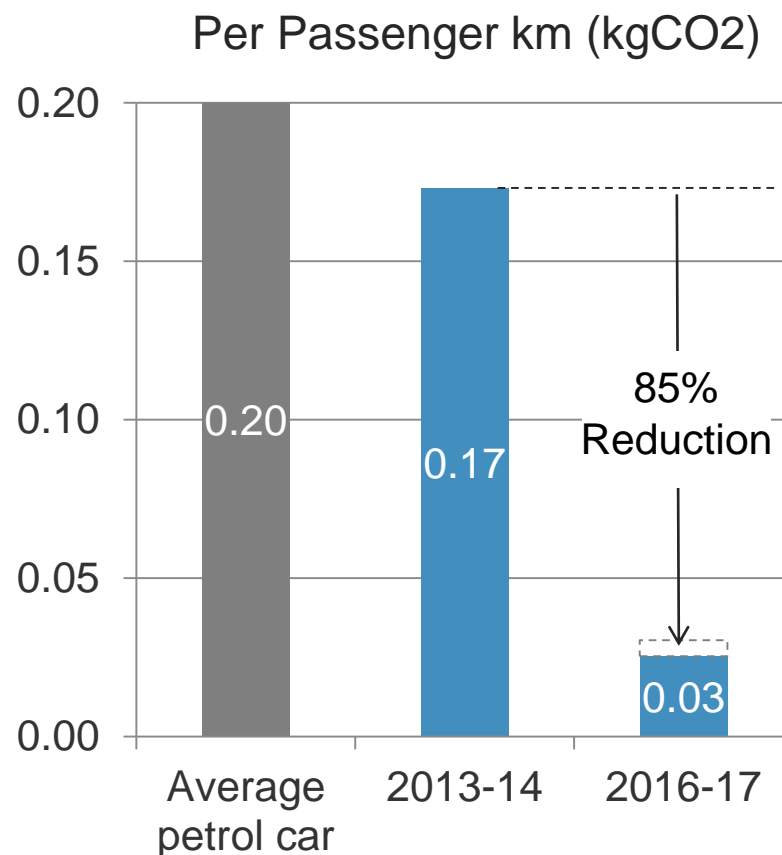
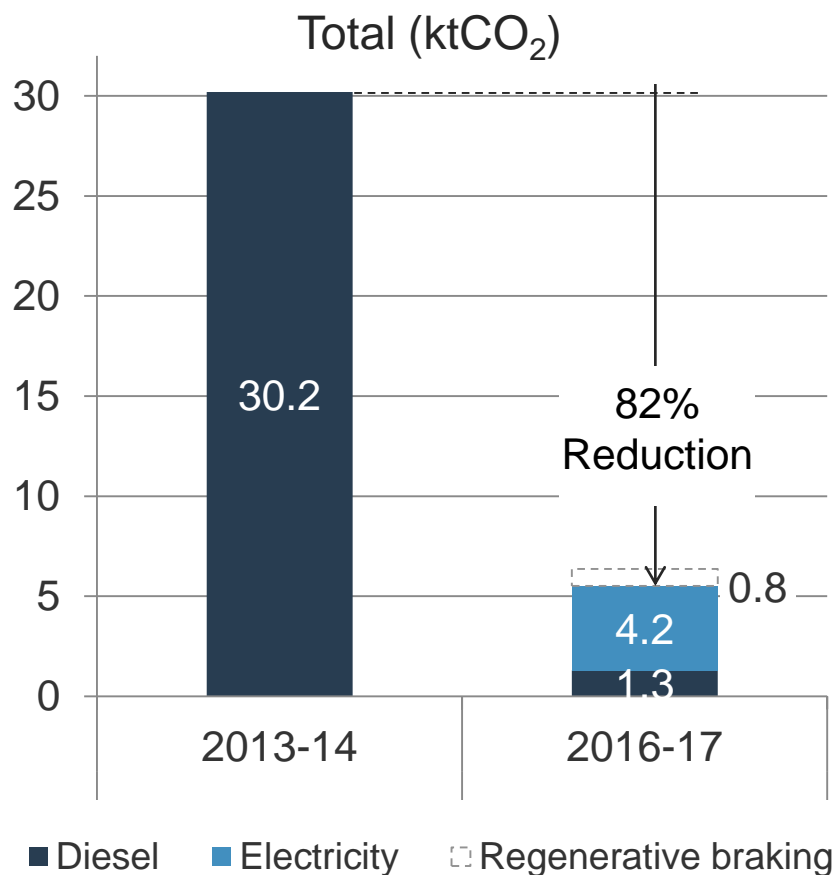
- Increasing electrification of the train network saves 9m litres of diesel p.a. and reduces greenhouse gases by 90% per passenger per km.
- 15 new electric trains to add to the existing 57 electric trains.
- Clean Bus Roadmap & Low Emissions Roadmap for AT's own fleet.
- Trialling of two electric buses in March 2018







# Carbon reductions through rail electrification



# Making our assets and infrastructure energy-efficient



# Energy-efficient initiatives for assets and infrastructure

- LED Street lighting Retrofit
  - 110,000 streetlights in total
  - Stage 1 replaced 44,000 traditional HPS lights with LEDs saving 2,763 tCO<sub>2</sub>e for 2015-18.
- Signed EECA agreement - energy audits of our remaining sites found 70% of our power load is lighting
- Traffic signals – retrofitted to LED
- PT facilities – LED lighting standards
- Carparks – retrofitting to LED
- Solar-powered bus stops and signs
- Signed up to the C40 global energy minimisation pact in partnership with Auckland Council.

## and coming up...

- More energy requirements in supplier agreements.
- Stage 2 LED Street lighting.





# Thank you.