

Modelling the Emissions Impacts of Transport

Beth Schuck

 **MRCagney**

BETTER TRANSPORT • BETTER PLACES • BETTER CHOICES



**There are many possible
changes which can reduce
emissions**

**Reduce
Car VKT**

**Increase
Public
Transport
Ridership**

**Improve
Vehicle
Efficiency**

**Increase
Cycling
Mode Share**



The infographic features a central text block surrounded by numerous blue circles of varying sizes. Some circles contain text, while others are empty. The text circles are arranged in a roughly circular pattern around the center, with some overlapping. The background is white.

There are many possible changes which can reduce emissions

... and even more ways to achieve these changes

Fuel Tax

Reduce Car VKT

Work From Home Incentives

Increase Public Transport Ridership

Increase Frequency

Import Restrictions

Improve Vehicle Efficiency

Cycleways

Increase Cycling Mode Share

Bike Share Schemes

Electrification

Transport2030 - An Emissions Model

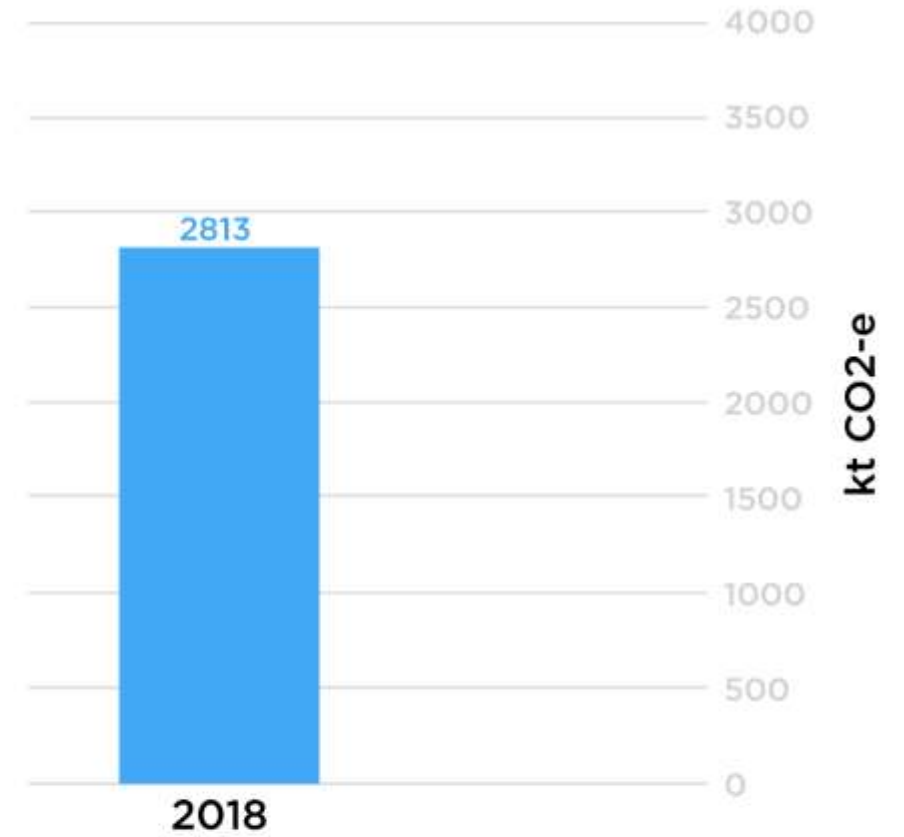


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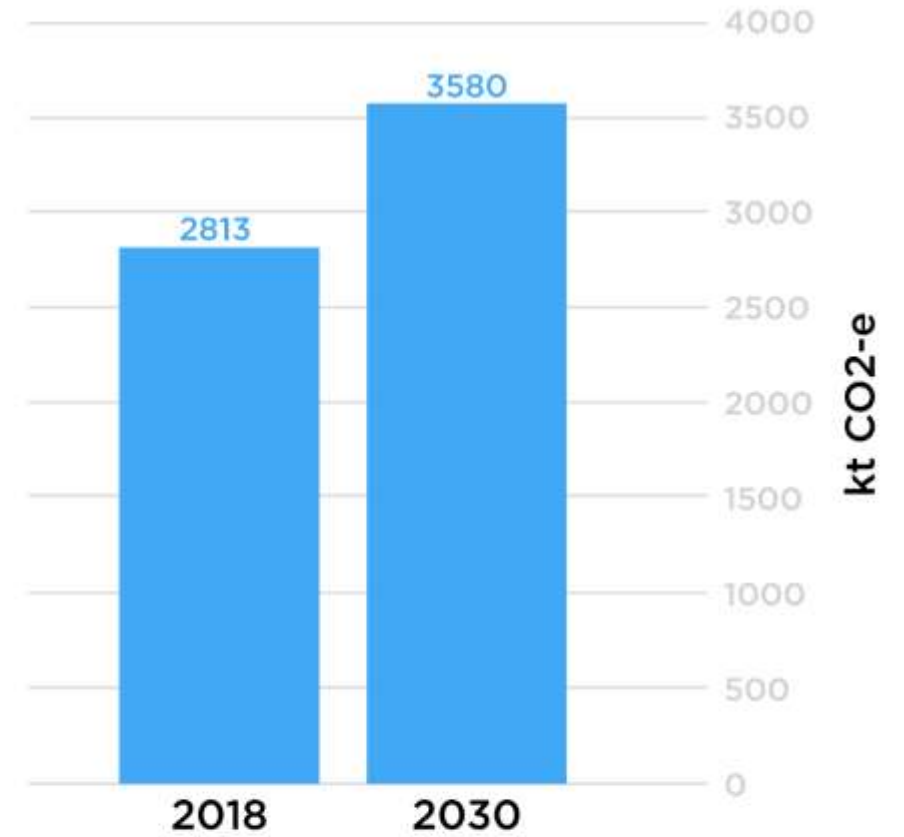
Baseline - 2018

Annual Emissions from Passenger Transport in Auckland



Baseline - 2030

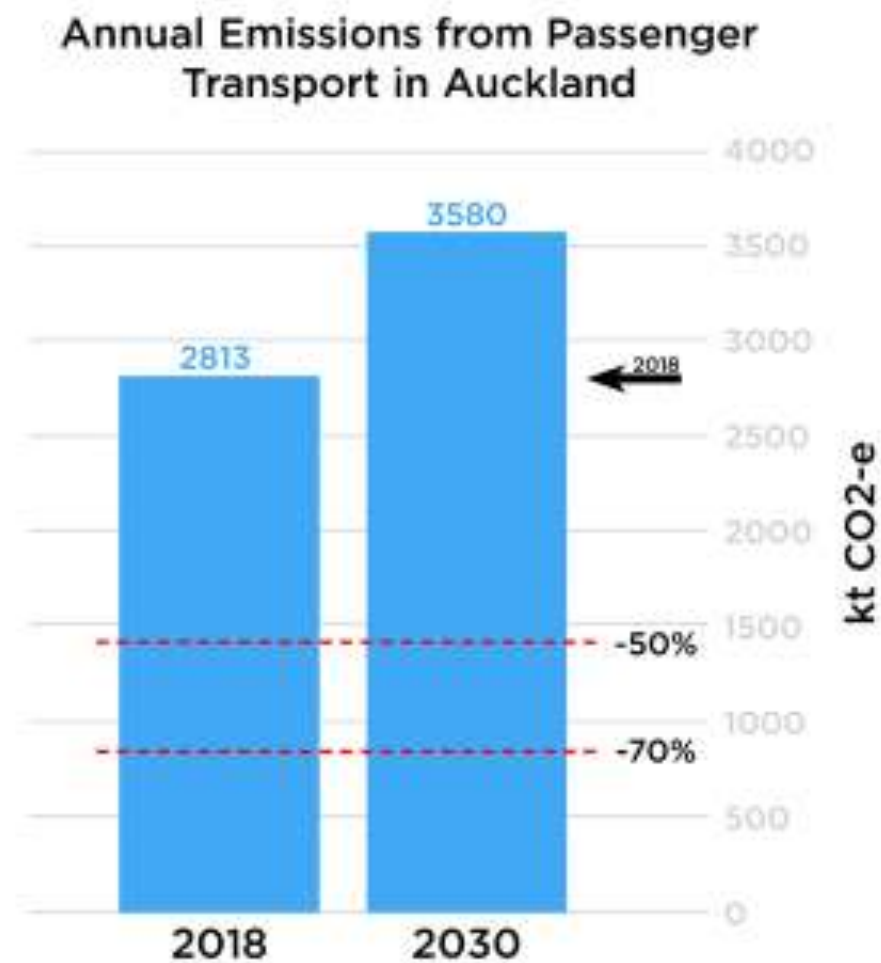
Annual Emissions from Passenger Transport in Auckland



Emission Reduction Goals

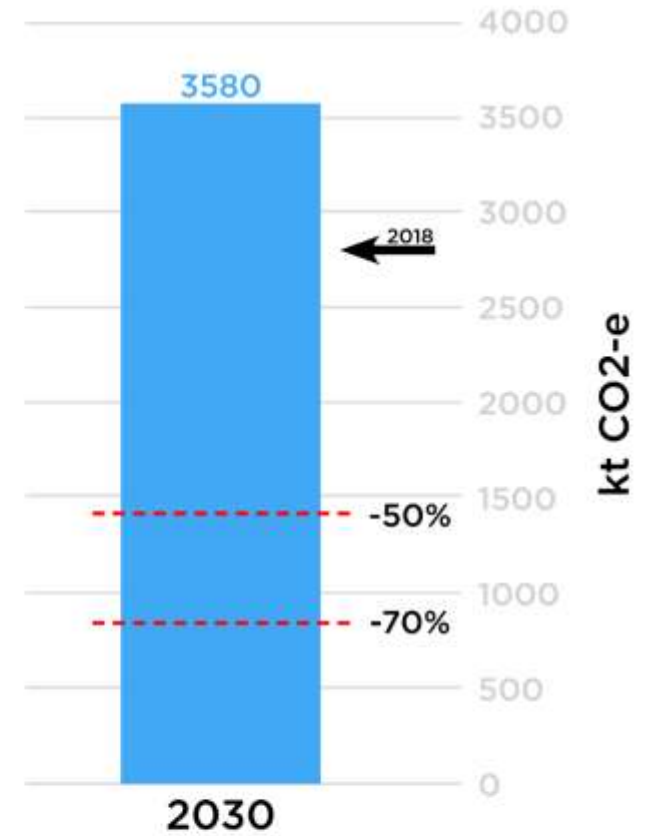
Te Tāruke-ā-Tāwhiri - Auckland's
Climate Plan

The 1Point5 Project



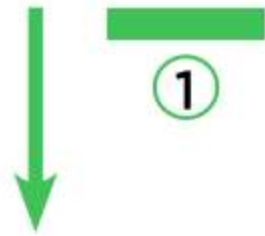
Emissions - Scenario One

Annual Emissions from Passenger Transport in Auckland



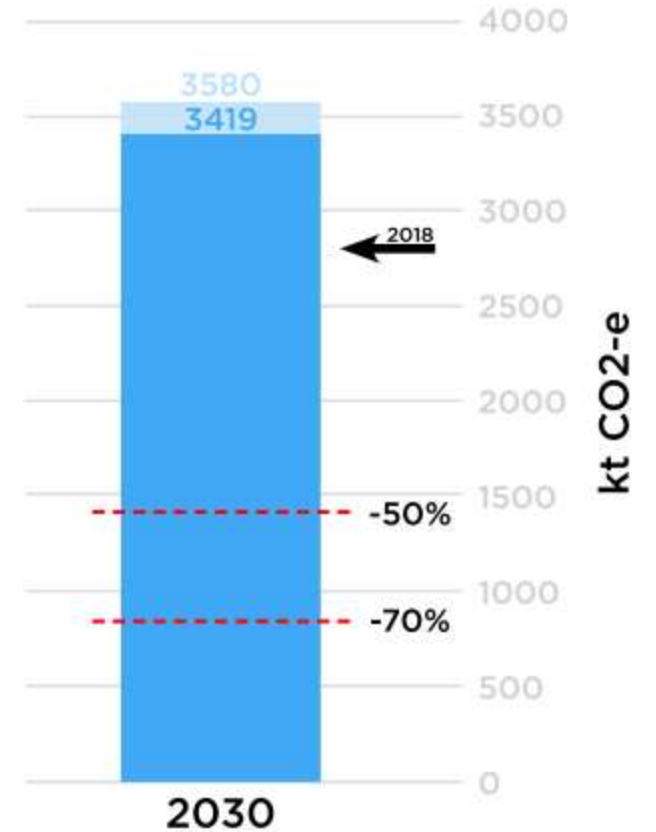
Emissions - Scenario One

① Public Transport Projects



- City Rail Link
- Airport to Botany
- Eastern Busway (AMETI)
- New Lynn-Onehunga Busway
- Airport-City Light Rail
- Northwestern Light Rail

Annual Emissions from Passenger Transport in Auckland



Emissions - Scenario One

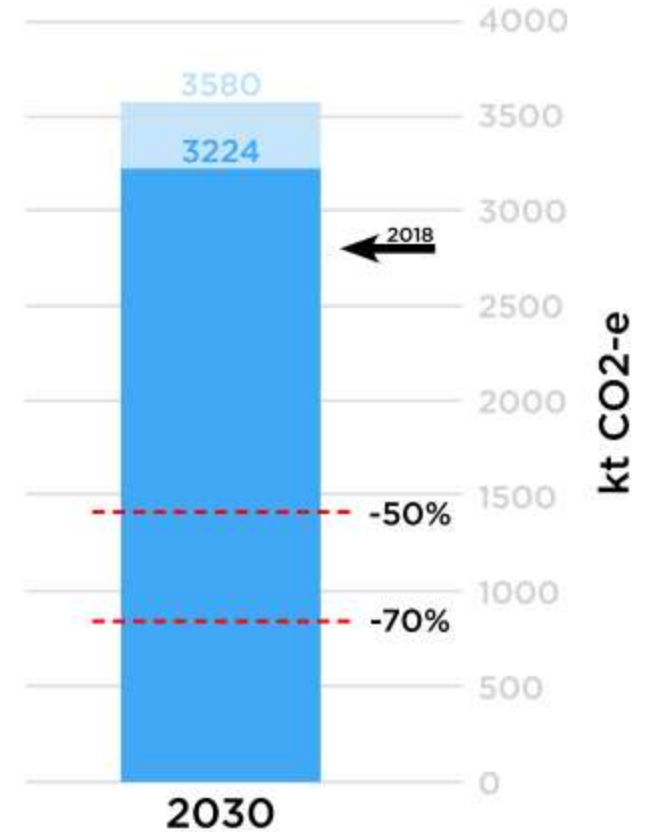
① Public Transport Projects

② Ridership Increase



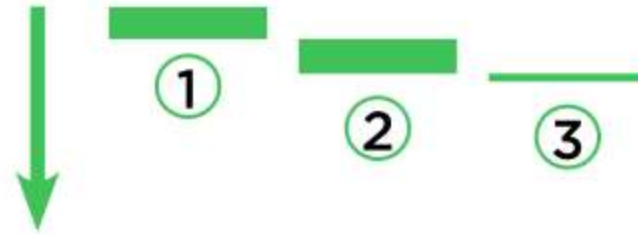
- 200% Increase in Public Transport Ridership

Annual Emissions from Passenger Transport in Auckland



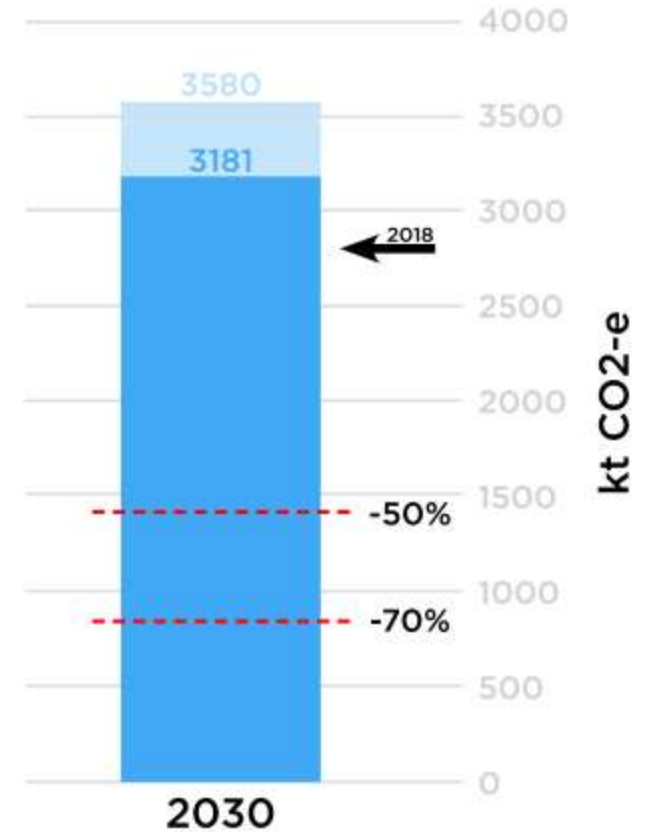
Emissions - Scenario One

- ① Public Transport Projects
- ② Ridership Increase
- ③ Bus Electrification



- All new buses electric from May 2021

Annual Emissions from Passenger Transport in Auckland



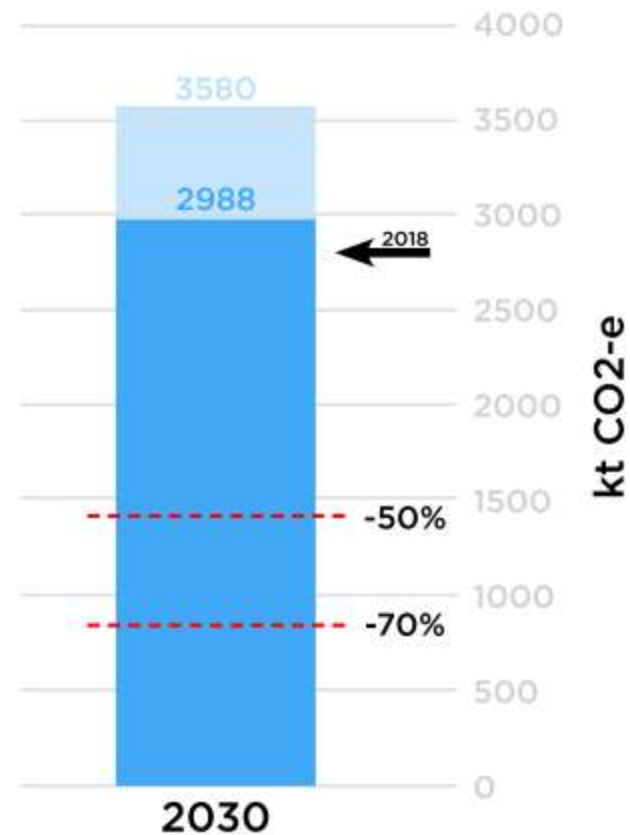
Emissions - Scenario One

- ① Public Transport Projects
- ② Ridership Increase
- ③ Bus Electrification
- ④ 10x Cycling Increase



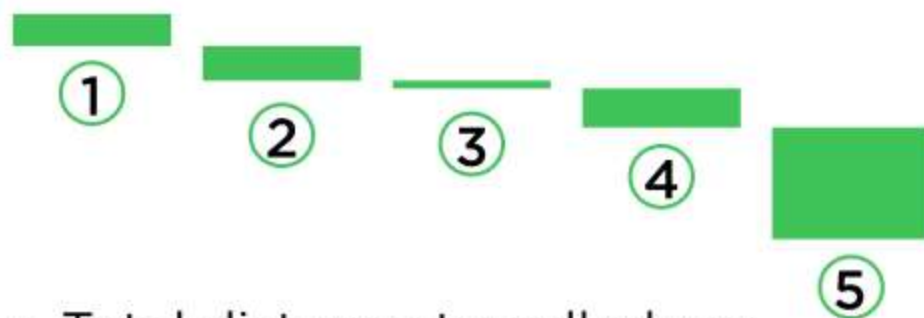
- Cycling distance travelled annually increased to 10 times current distance

Annual Emissions from Passenger Transport in Auckland



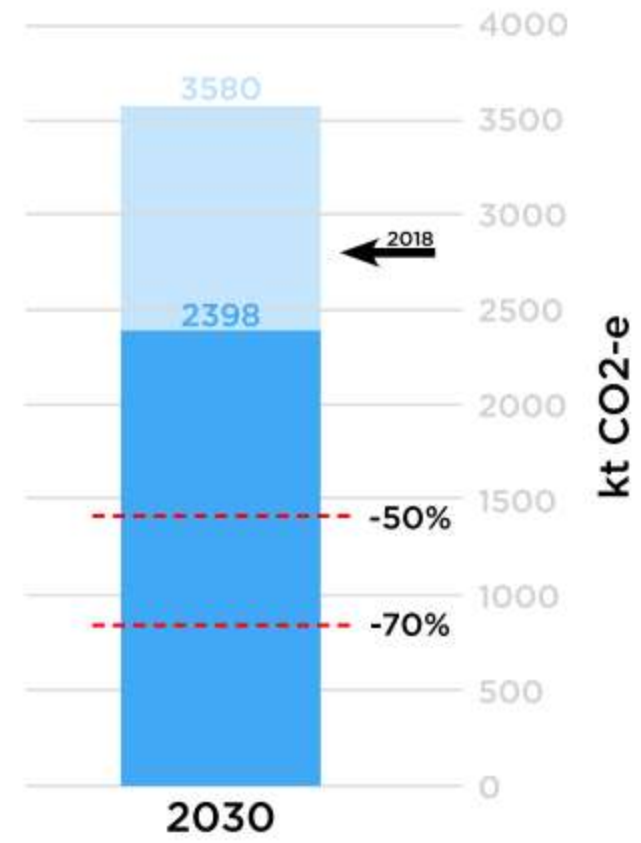
Emissions - Scenario One

- ① Public Transport Projects
- ② Ridership Increase
- ③ Bus Electrification
- ④ 10x Cycling Increase
- ⑤ 20% Reduction in Trips Taken



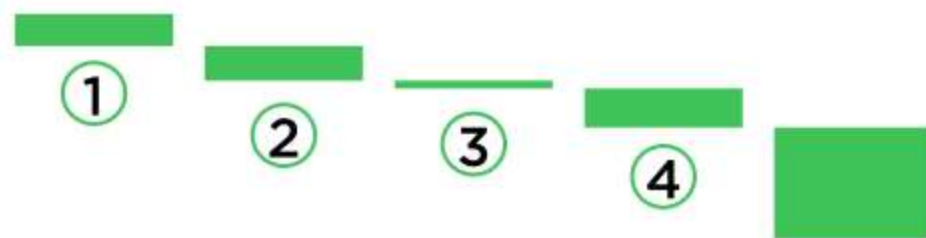
- Total distance travelled per person annually is decreased by 20%

Annual Emissions from Passenger Transport in Auckland

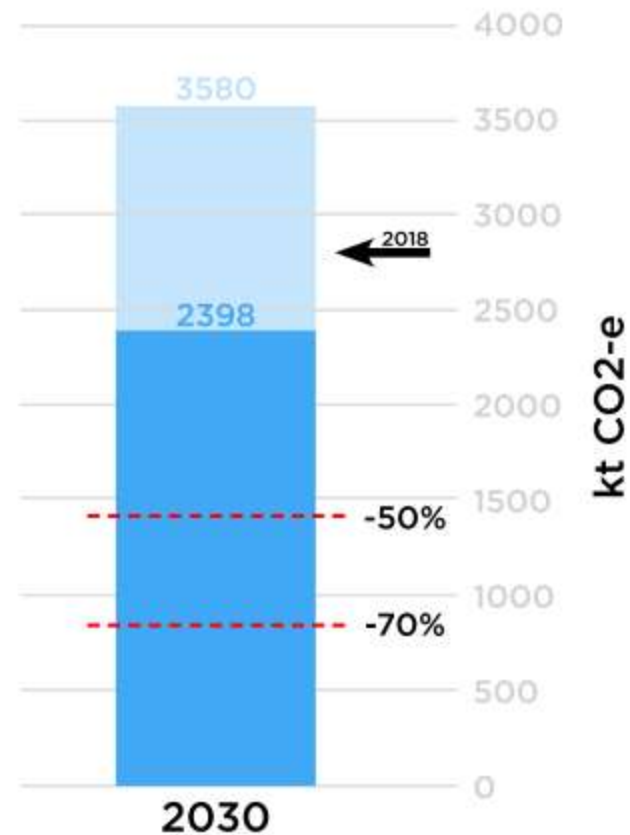


Emissions - Scenario One

- ① Public Transport Projects
- ② Ridership Increase
- ③ Bus Electrification
- ④ 10x Cycling Increase
- ⑤ 20% Reduction in Trips Taken

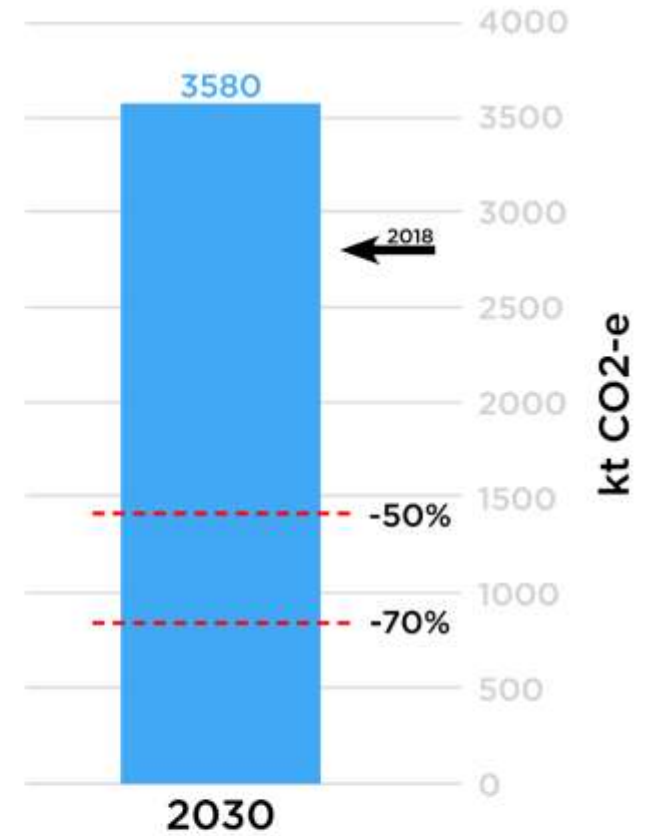


Annual Emissions from Passenger Transport in Auckland



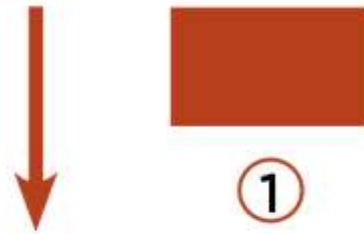
Emissions - Scenario Two

Annual Emissions from Passenger Transport in Auckland

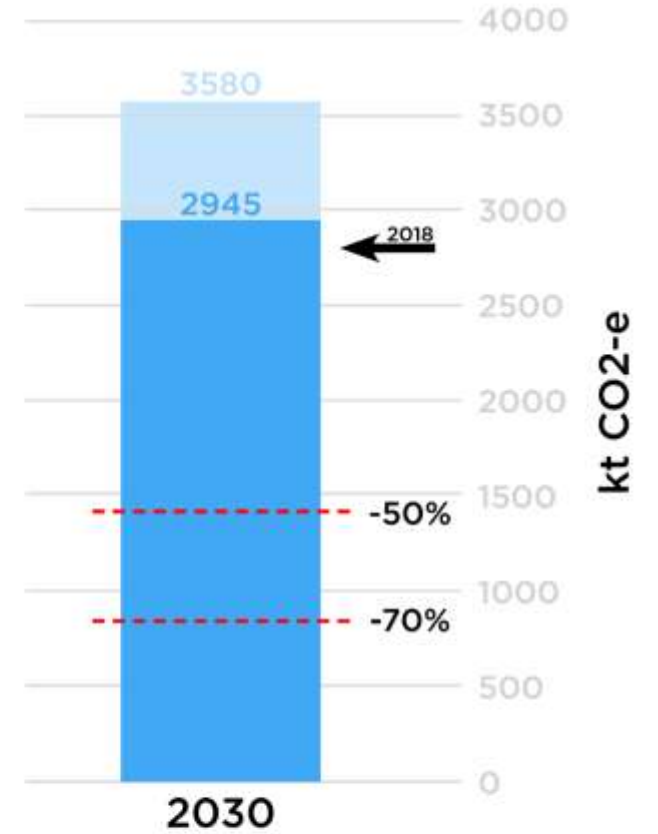


Emissions - Scenario Two

① 20% Car Electrification



Annual Emissions from Passenger Transport in Auckland



Emissions - Scenario Two

① 20% Car Electrification

② 30% Efficiency Increase

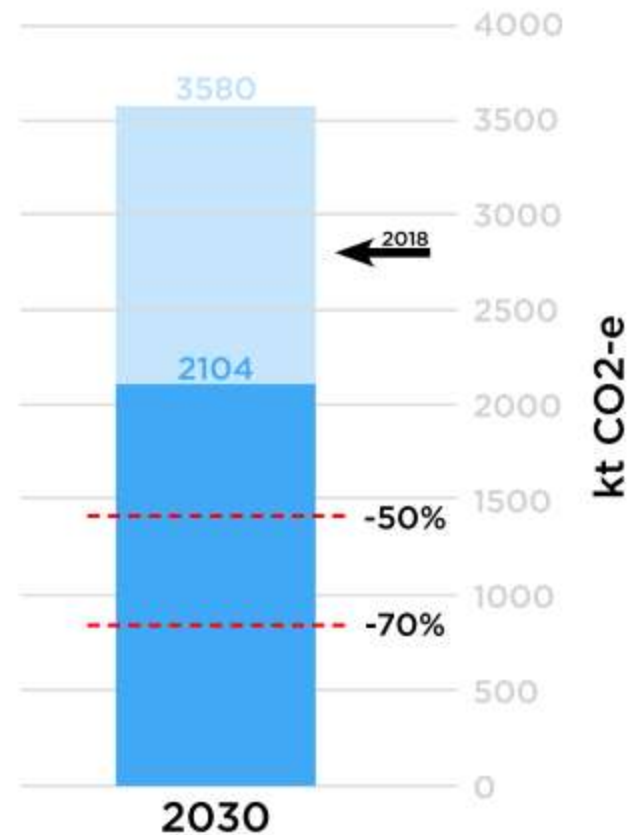


①

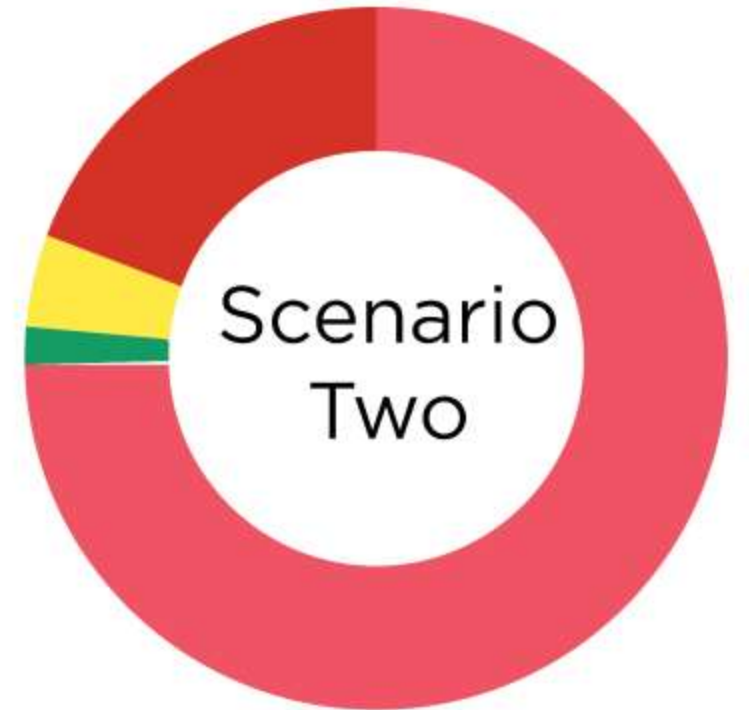
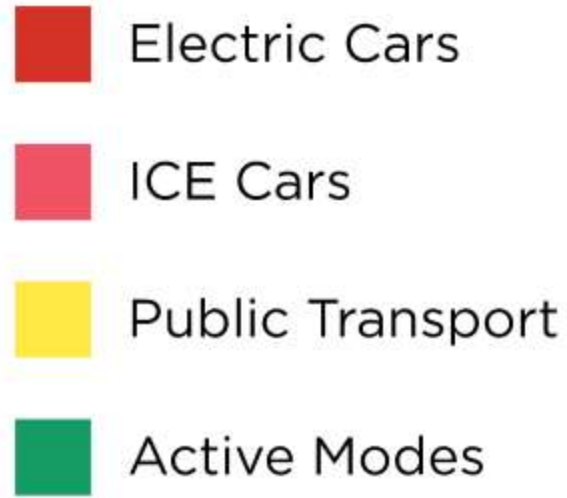
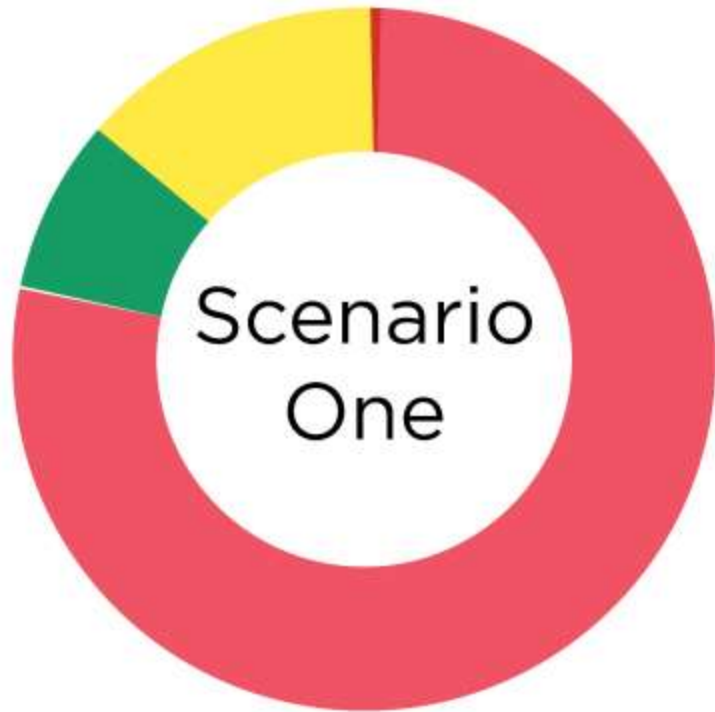


②

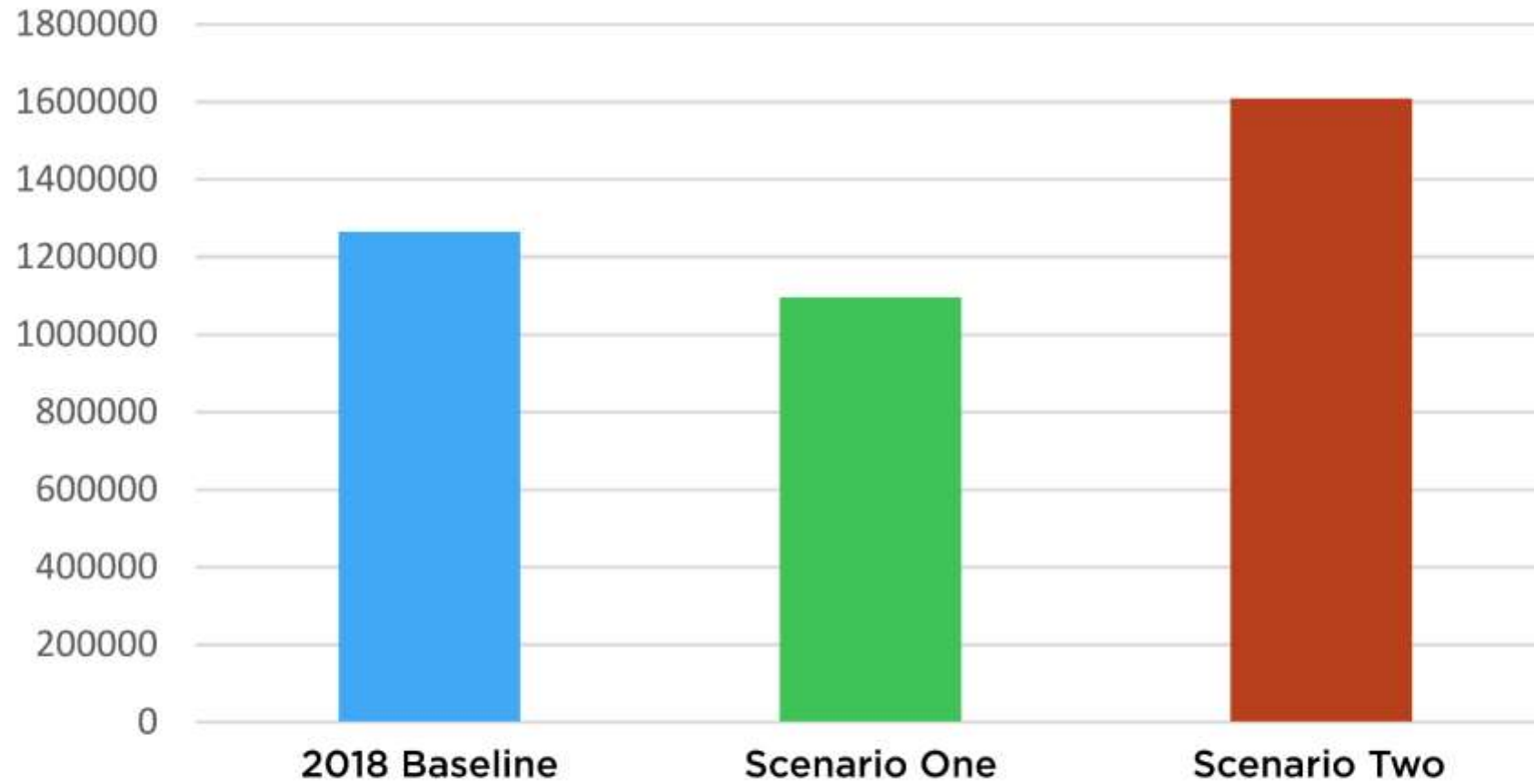
Annual Emissions from Passenger Transport in Auckland



Proportion of Passenger Distance by Mode

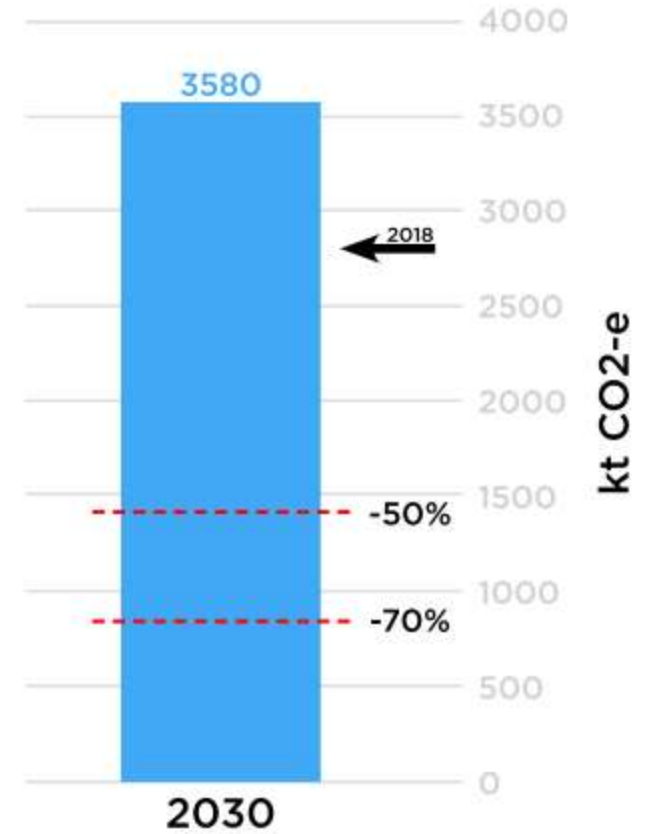


Cars on the Road



Emissions - Combined Scenario

Annual Emissions from Passenger Transport in Auckland

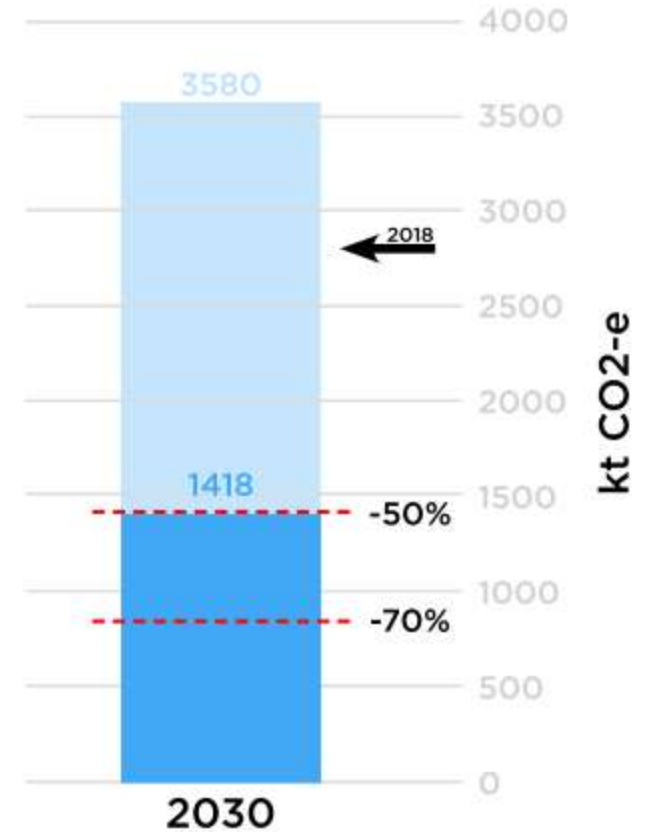


Emissions - Combined Scenario

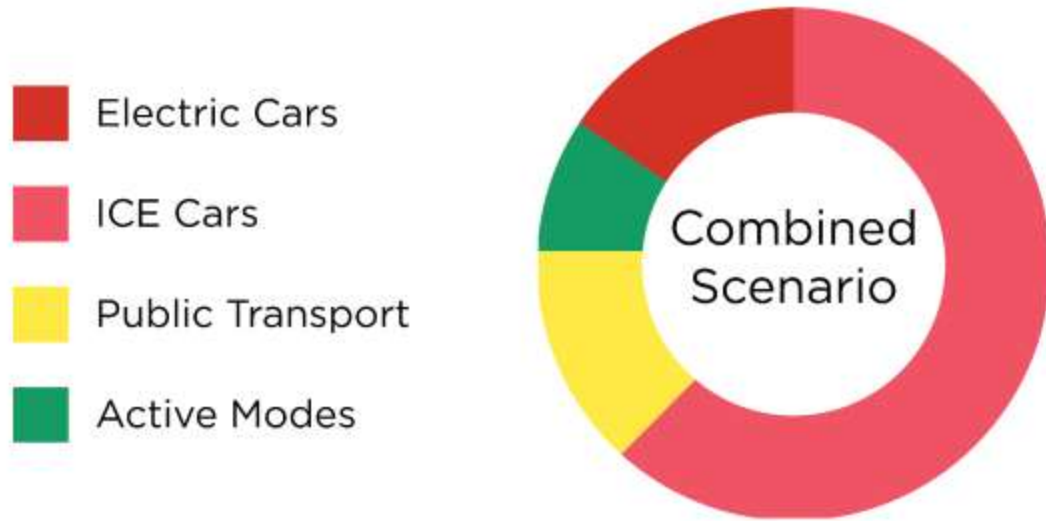
- 1 Public Transport Projects
- 2 Ridership Increase
- 3 Bus Electrification
- 4 10x Cycling Increase
- 5 20% Reduction in Trips Taken
- 6 20% Car Electrification
- 7 30% Efficiency Increase



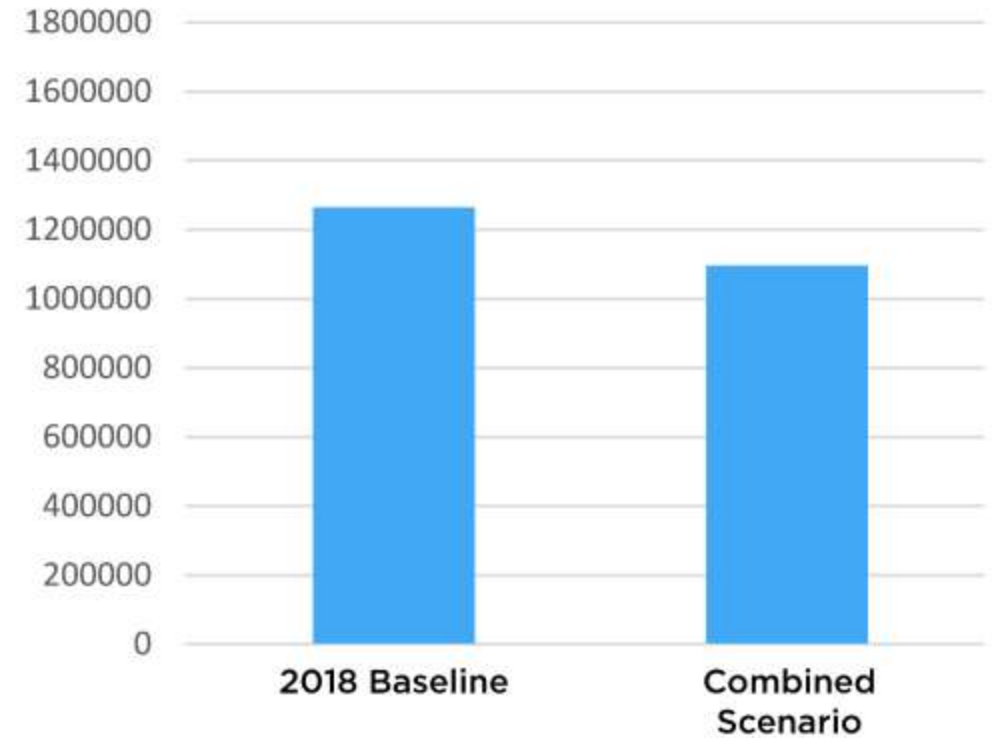
Annual Emissions from Passenger Transport in Auckland



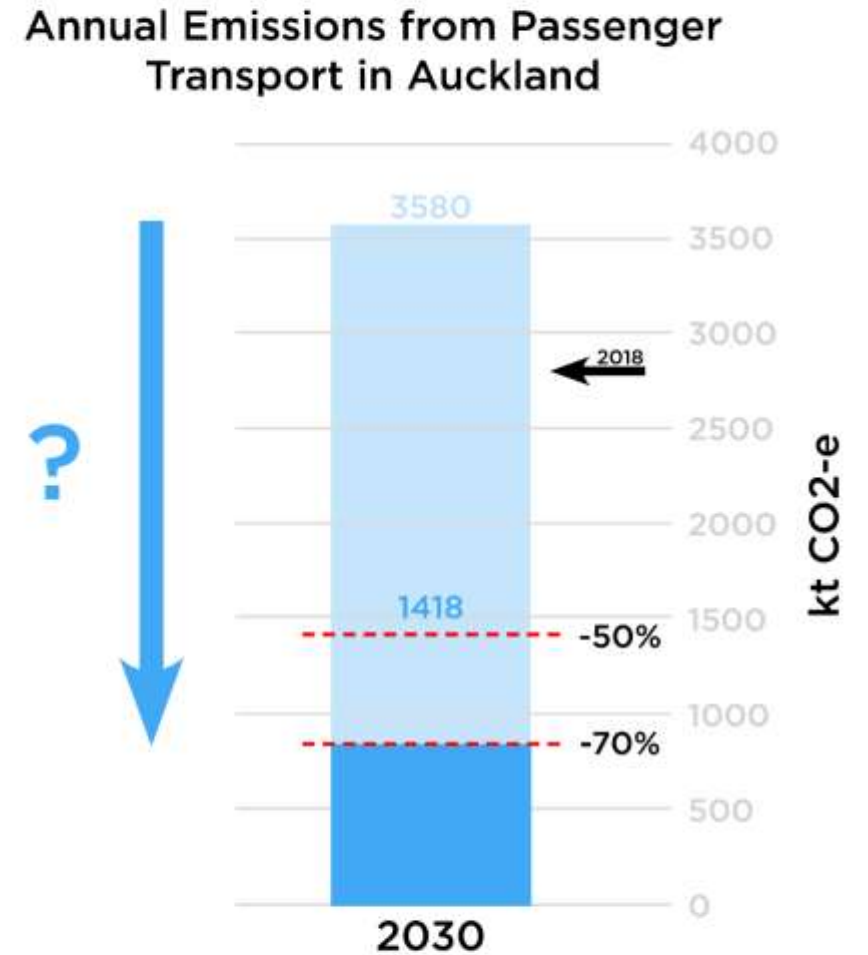
Proportion of Passenger Distance by Mode



Cars on the Road



Can we get there?



- **Think bigger than big**



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BETTER TRANSPORT • BETTER PLACES • BETTER CHOICES

- **Think bigger than big**
- **Many good answers**



- **Think bigger than big**
- **Many good answers**
- **Good decisions require good information**



Try for yourself:
transport2030.org



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