

An aerial photograph of a beach. The top half of the image shows deep turquoise ocean water with white foam from breaking waves. The bottom half shows a wide expanse of golden-brown sand. The horizon line where the water meets the sand is irregular and jagged due to the waves.

# Turning the tide

Andrew Jackson









78.5%



1.2%



# The NZ landscape

Nation

Transport

Outcomes





# Population increases and urbanisation are putting pressure on our current networks

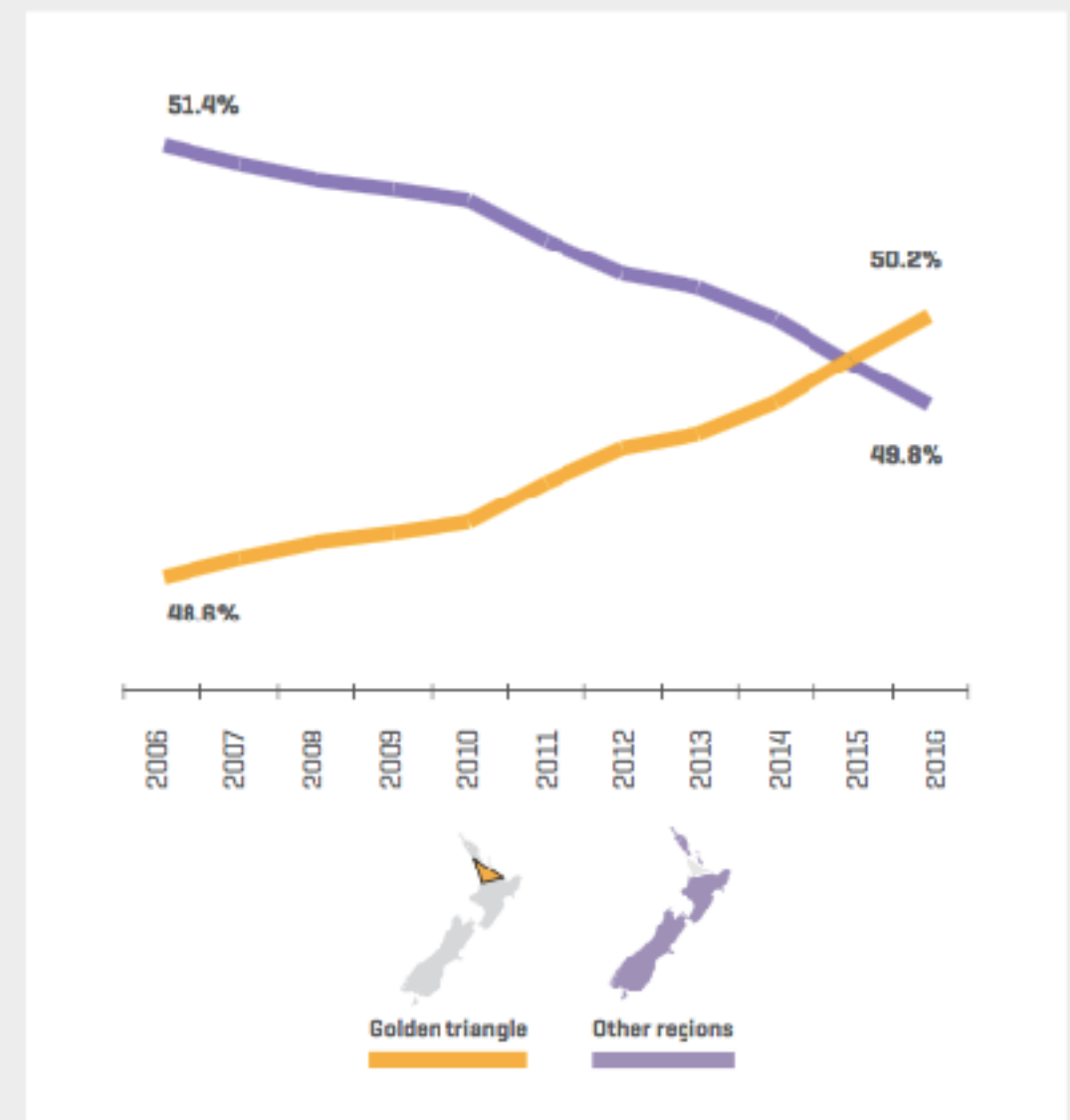
New Zealand population



New Zealand's population was 4.7 million in 2016, an increase of 12% over ten years.



Figure 1.5: Distribution of the population between the golden triangle and other regions<sup>16</sup>



Nation

Transport

Outcomes

# Sensitivity Analysis

## High Population Growth

Year	2022/23	2027/28	2032/33	2037/38	2042/43
Medium Growth	5,157,300	5,389,100	5,594,400	5,769,200	5,922,500
High Growth	5,300,000	5,800,000	6,300,000	6,700,000	7,100,000
Difference in %	3%	8%	13%	16%	20%

Nation

Transport

Outcomes



# The ageing population will create new demands on transport service providers and reduce rural revenues

Total NZ Medium Case	65+ Years	All other age groups combined
2011-2021 (8.9%)	40.3%	4.1%
2011-2031 (17.9%)	88.5%	7.1%

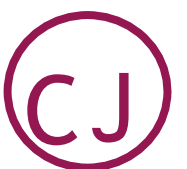
Between 2011 and 2031, only 11 TAs will experience less than a 100% growth of their 65+ demographic:

- 2 will experience more than 95% growth (Christchurch; Whangarei)
- 3 will experience 60–63 % growth (Waikato; Palmerston North; Waimakiriri)
- 3 will experience 44–46% growth (Wellington; Selwyn; Tauranga)
- 3 will experience 36–37% growth (Auckland; Hamilton; Queenstown)

Nation

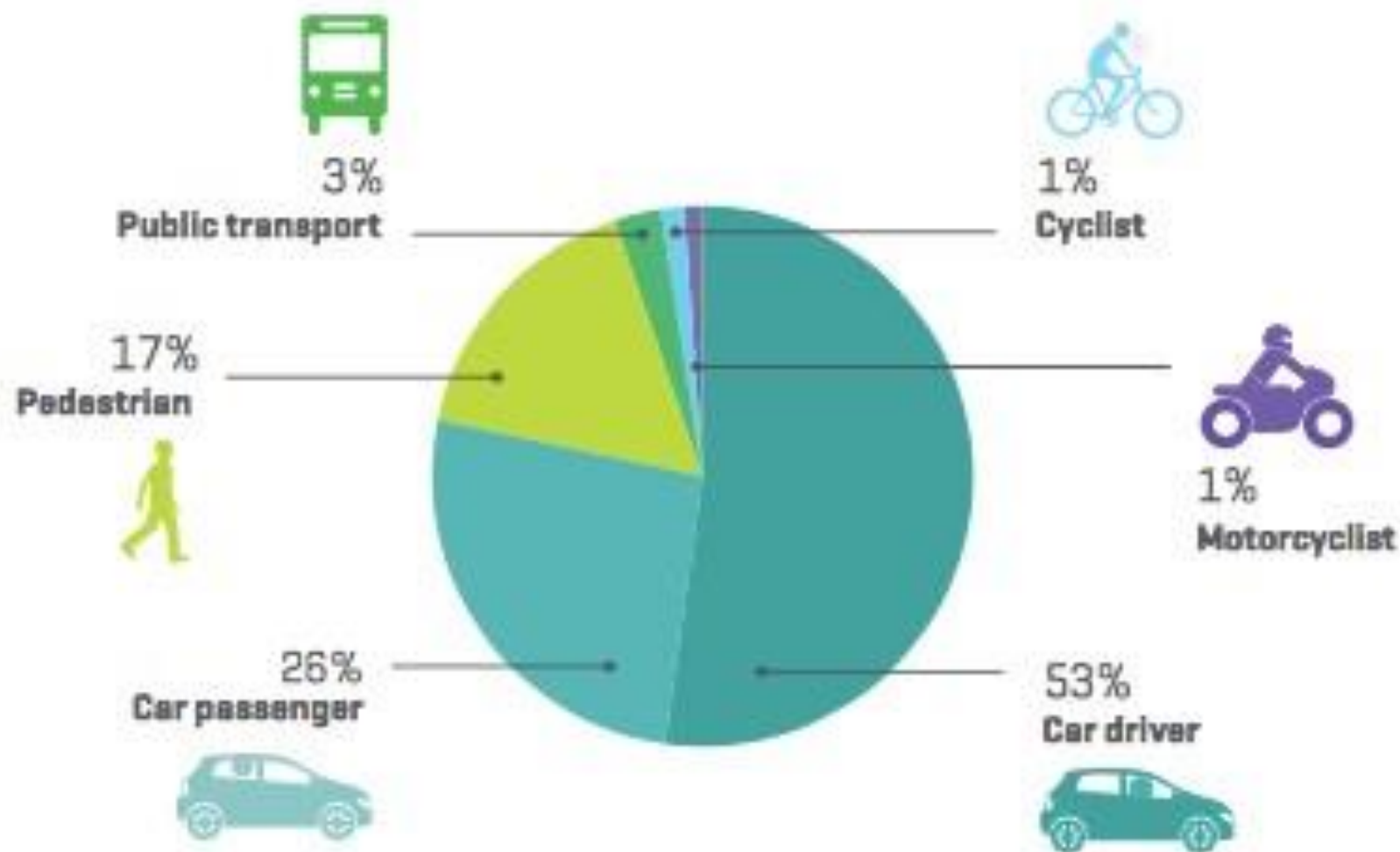
Transport

Outcomes



# Most people trips are by car

## Use of transport modes for trip legs for household travel [aged 5+]

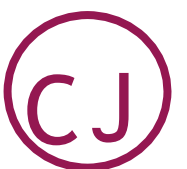


2010/14

Nation

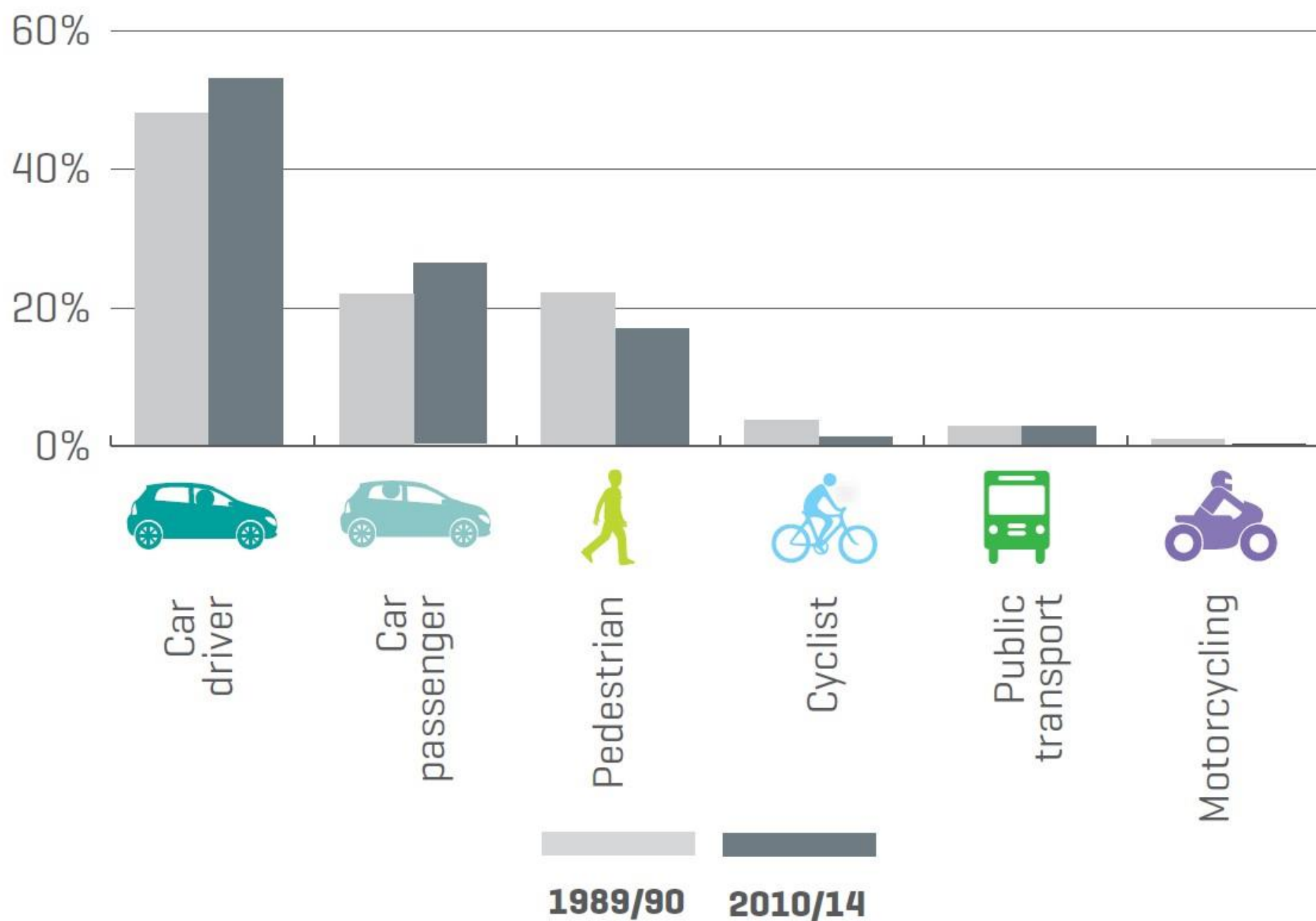
Transport

Outcomes





Over time, car use has grown. Use of all other modes has declined.



Nation

Transport

Outcomes

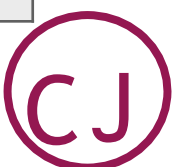
# Latest survey - sees more car use and decline in shared travel

Mode	12/13	17/18	2015/2017	2015/2018
Pedestrian	16.8	16.7	12.4	11.9
Cycling	1.2	1.2	1.2	1.3
Bus	2.3	2.4	3	2.5
Train	0.4	0.5		
Light vehicle	52.7	53.5	57.5	59.5
LV passenger	25.8	24.8	24.7	23.9

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Transport

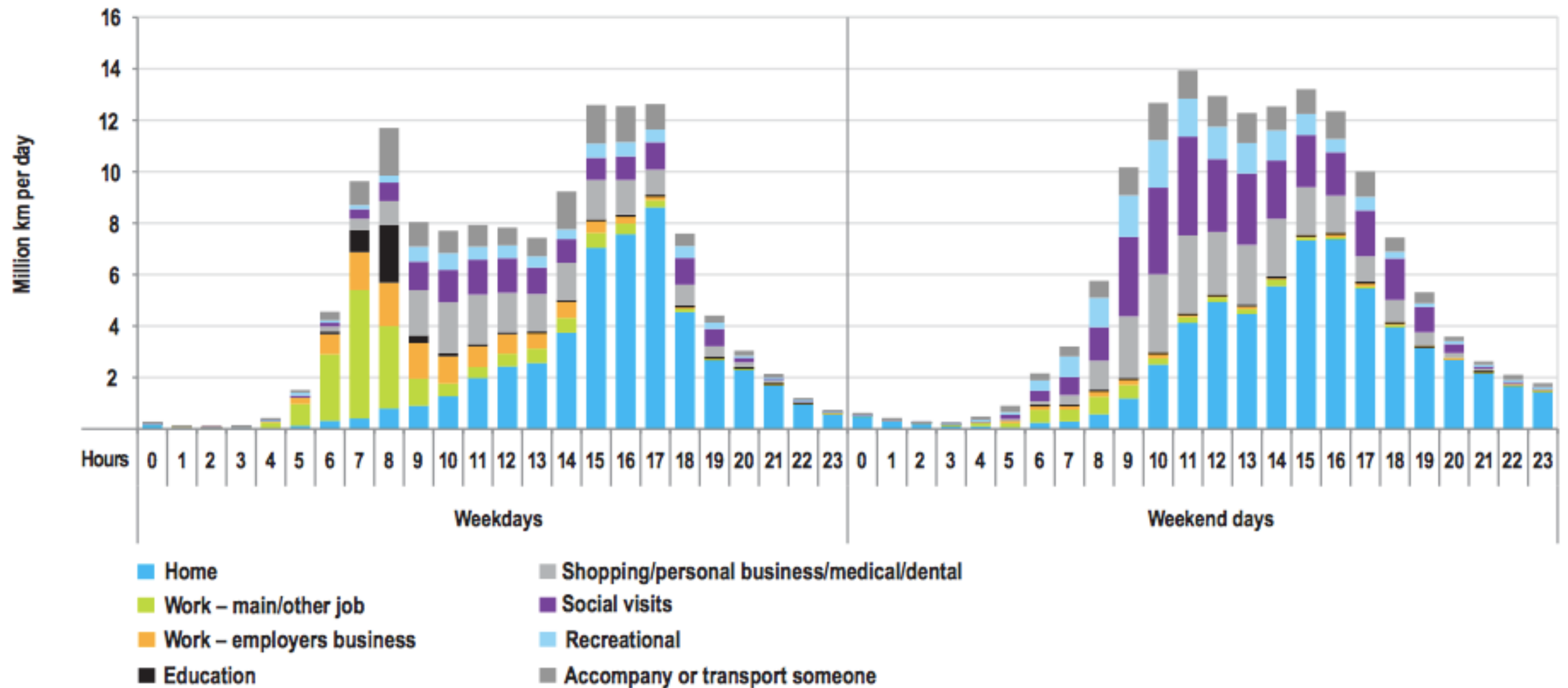
Outcomes





# Weekends peak use

Figure 12: Average distance per day by purpose and time of day (2010–2014)

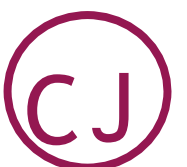


Nation

Transport

Outcomes

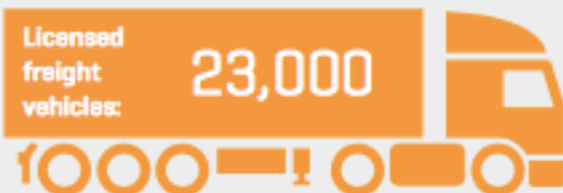
24%



# Freight movements are forecast to increase more than 50% by 2040

## Road freight

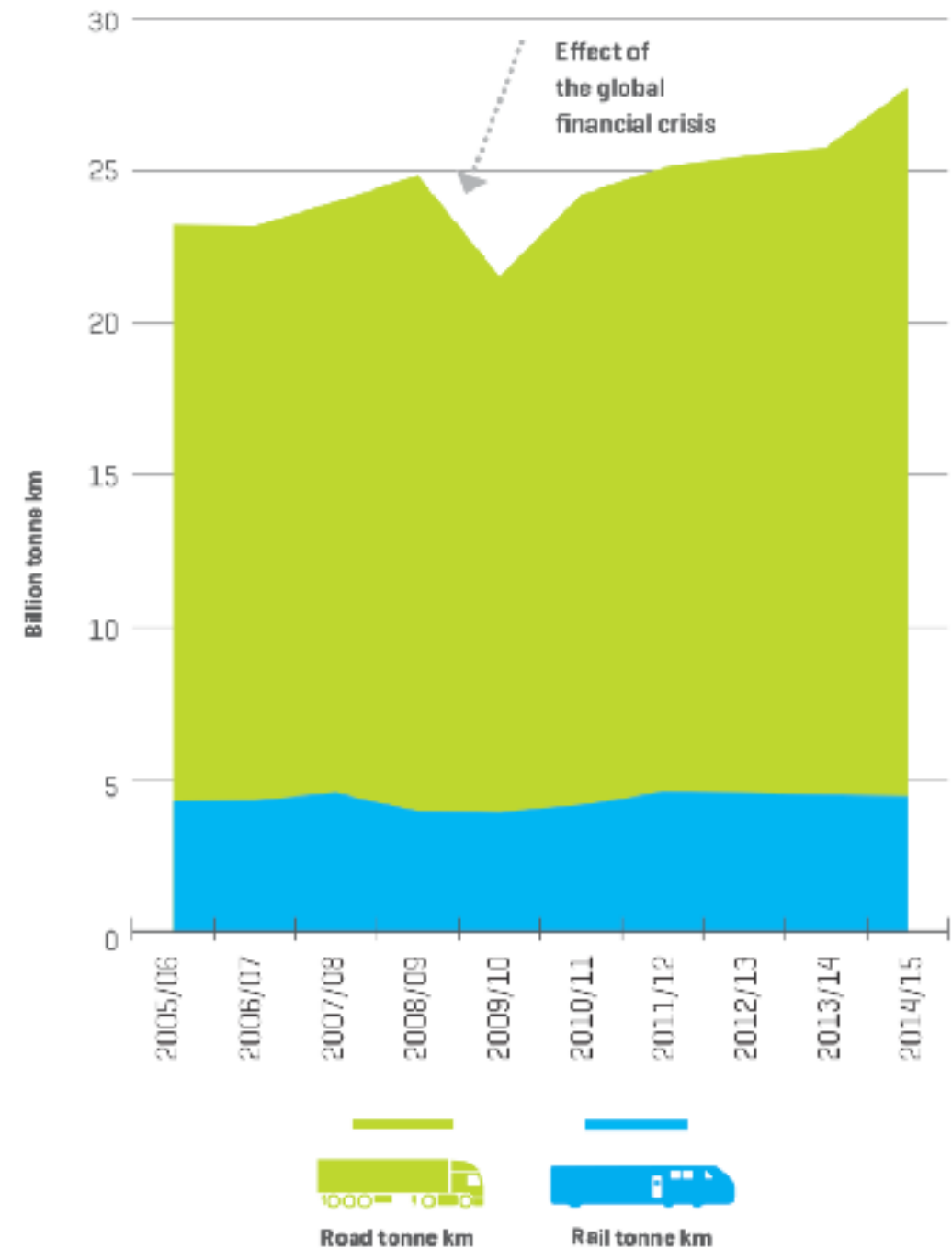
Road freight is the dominant form of freight transport and accounts for 84% of land-based freight by tonnage carried by distance. There are about 4,500 private operators in the road freight industry and about 23,000 licensed freight vehicles.



## Freight operators

There are approximately 4,500 private operators in the road freight industry, many contracted to larger firms.

Most are locally based and family-owned businesses with fewer than five trucks.



Nation

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# Political - evolving priorities

	GPS 2015	GPS 2018	Outcomes
Social		Increased access to social opportunities, enables choice	Inclusive access
Economic	Economic productivity	Increased access to economic opportunities	Inclusive access
			Supporting economic activity
	Value for money	Value for money	with efficient movement
Environment		Environment reduce green house gas and healthy environment	Environmental sustainability
		(access resilient)	Resilient and Secure
Human	Safety	Safety	Healthy and safe

# No clear measures for new goal?

Bikes  
Cars

Urbanisation

Safety

Sustainability

Liveability



Trees	Trees	Trees		Trees	Trees
Paths	Pavement	Pavement	Pavement	Ped areas	Shared urban areas
			Bike Lanes	Bike lanes	
	Road	Vehicle lanes	Segregated slower lanes	Fewer lanes	AV corridors
		PT corridors	PT corridors	PT corridors	
Stables	Parking	Paid parking	Paid parking	Paid parking	AV waiting zones
Troughs	Fuel stations	Fuel stations	Fuel stations	Fuel stations	
				e charging	e charging

Nation

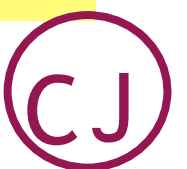
Transport

Outcomes

Speed



Access







\$130m

\$80m

\$20m

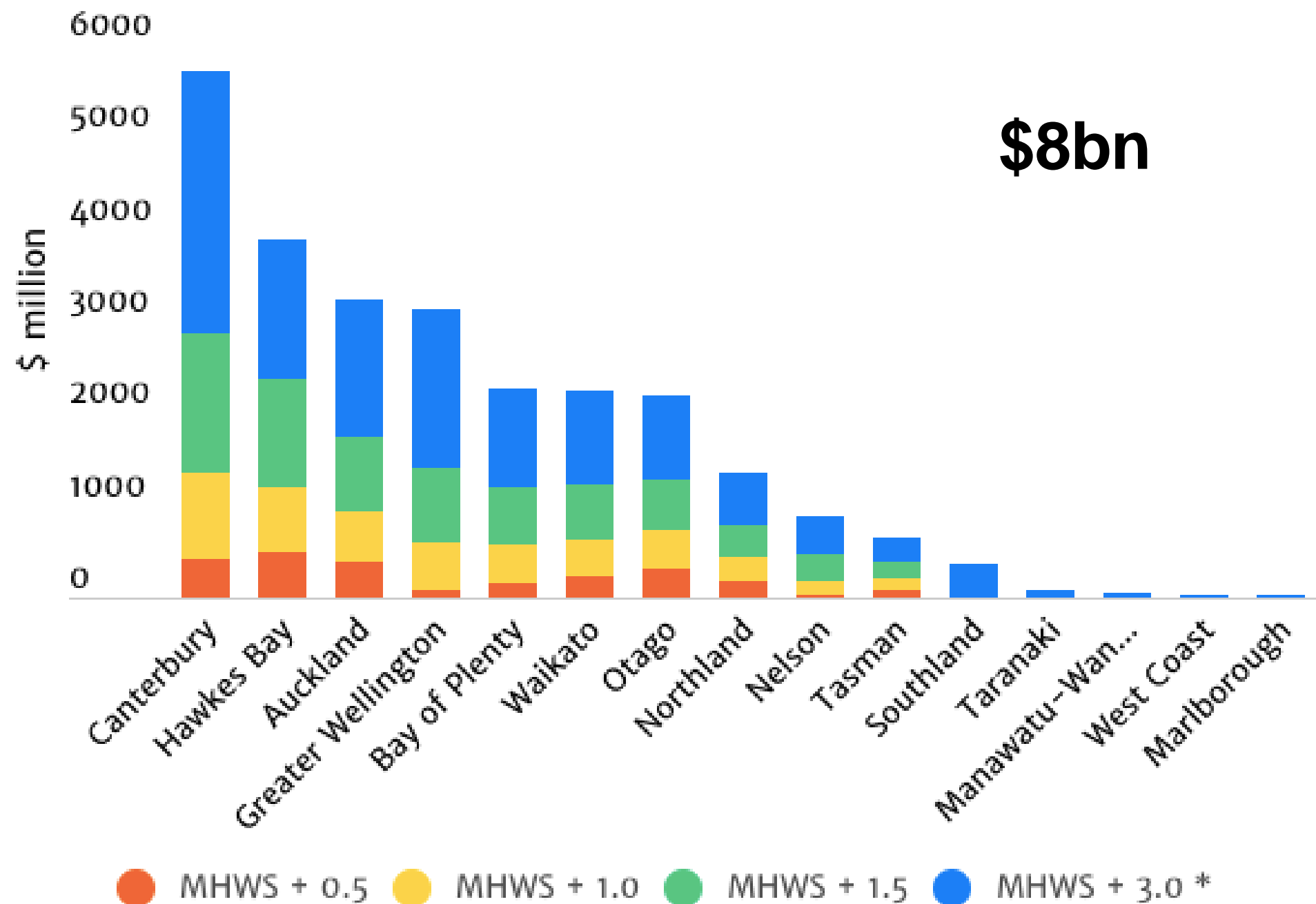
Nation

Transport

Outcomes



## Total replacement value for three waters, roading and buildings/facilities – by region

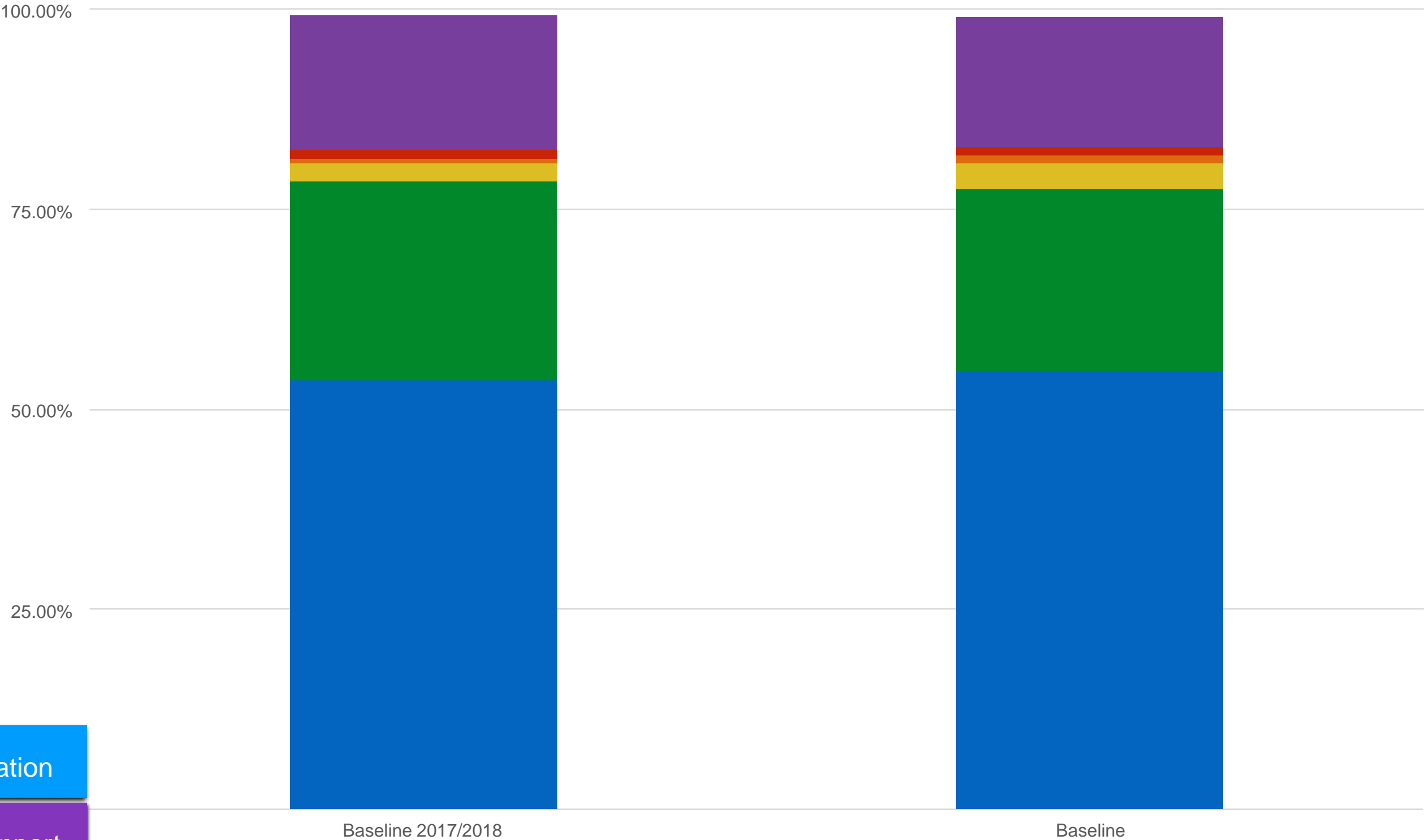


Nation

Transport

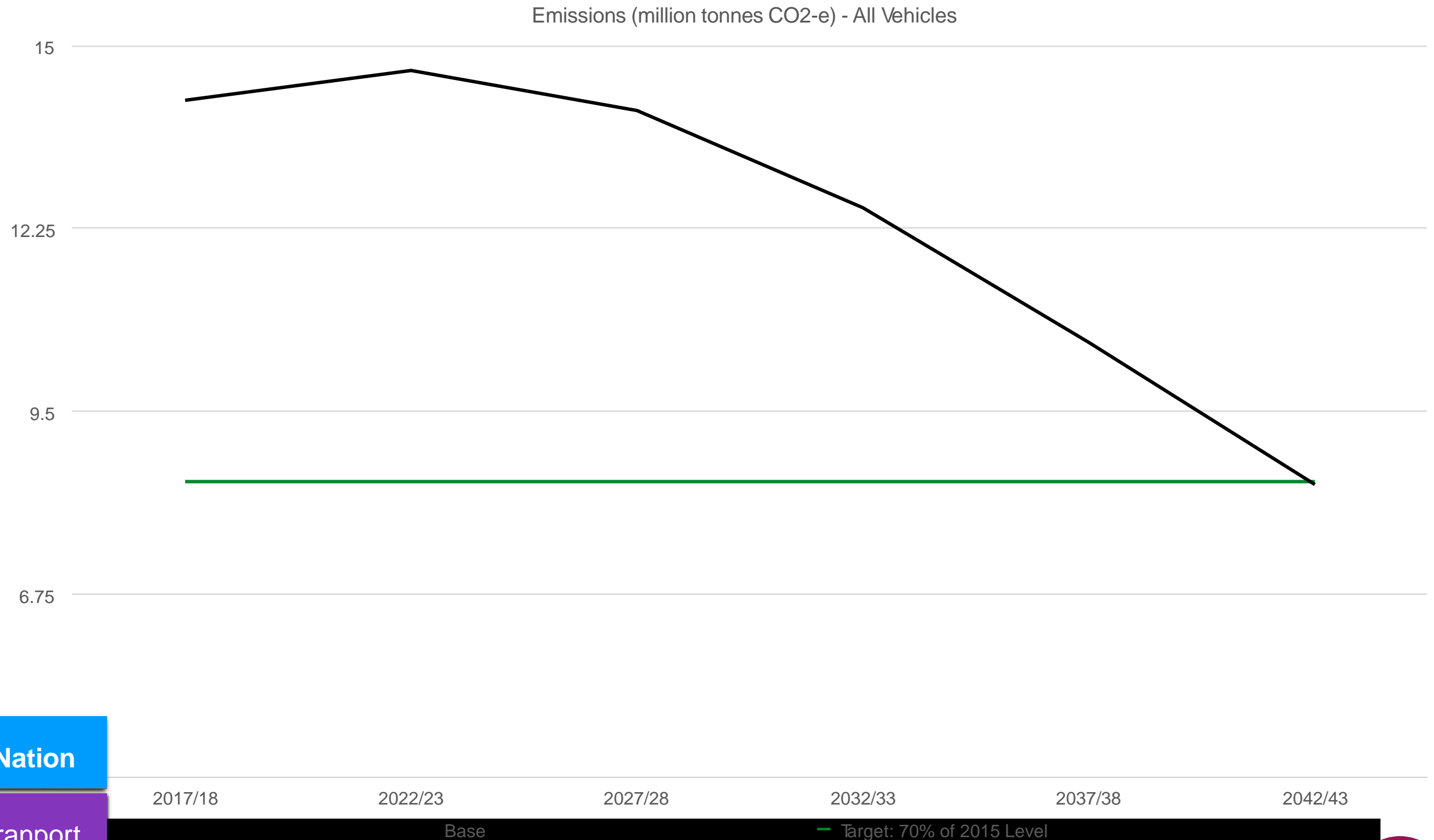
Outcomes

# Projected percentage of trips by mode in 2042/43

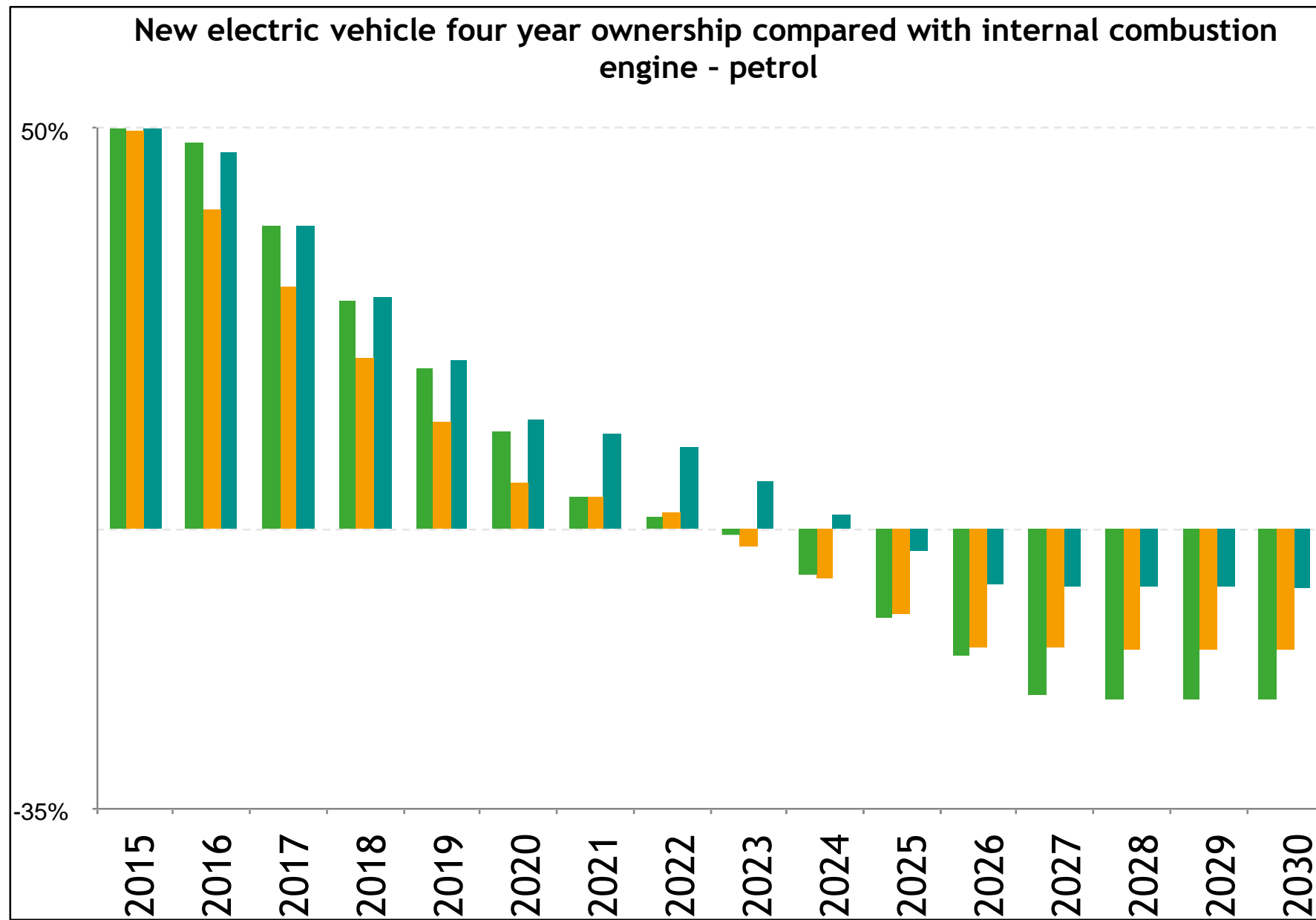




# Current trends - Emission



# Carbon from transport is increasing - will EVs solve it?



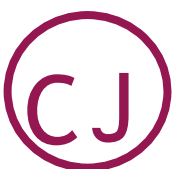
Source: Ministry of Transport

**KEY**  
BEV – pure EVs  
PHEV – Petrol (P)  
PHEV – Diesel (D)

Nation

Transport

Outcomes



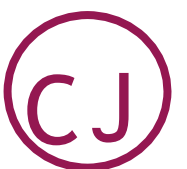
# Possible EV uptake?

	2018	2019	2020	2021	2022	2023	2024	2030	2042	2048
<b>Ambitious</b>	12,000	16,000	32,000	64,000	128,000	256,000	450,000	2,000,000	4,000,000	
<b>EV entering</b>		Double	Double	Double	Double	Double	100%			
<b>Moderate</b>	12,000	20,000	40,000	70,000	110,000	160,000	220,000	800,000	2,800,000	4,000,000
<b>EV entering</b>			10%	15%	20%	25%	30%	60%		

Nation

Transport

Outcomes



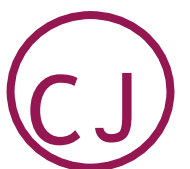




Nation

Transport

Outcomes



# Regular physical activity reduces your risks of

Cardiovascular disease by 35%  
Breast cancer by 20%  
Colon cancer by 30%

Premature death by 30%

Dementia by 30%  
Depression by 30 %  
Type 2 diabetes by up to 40%

Nation

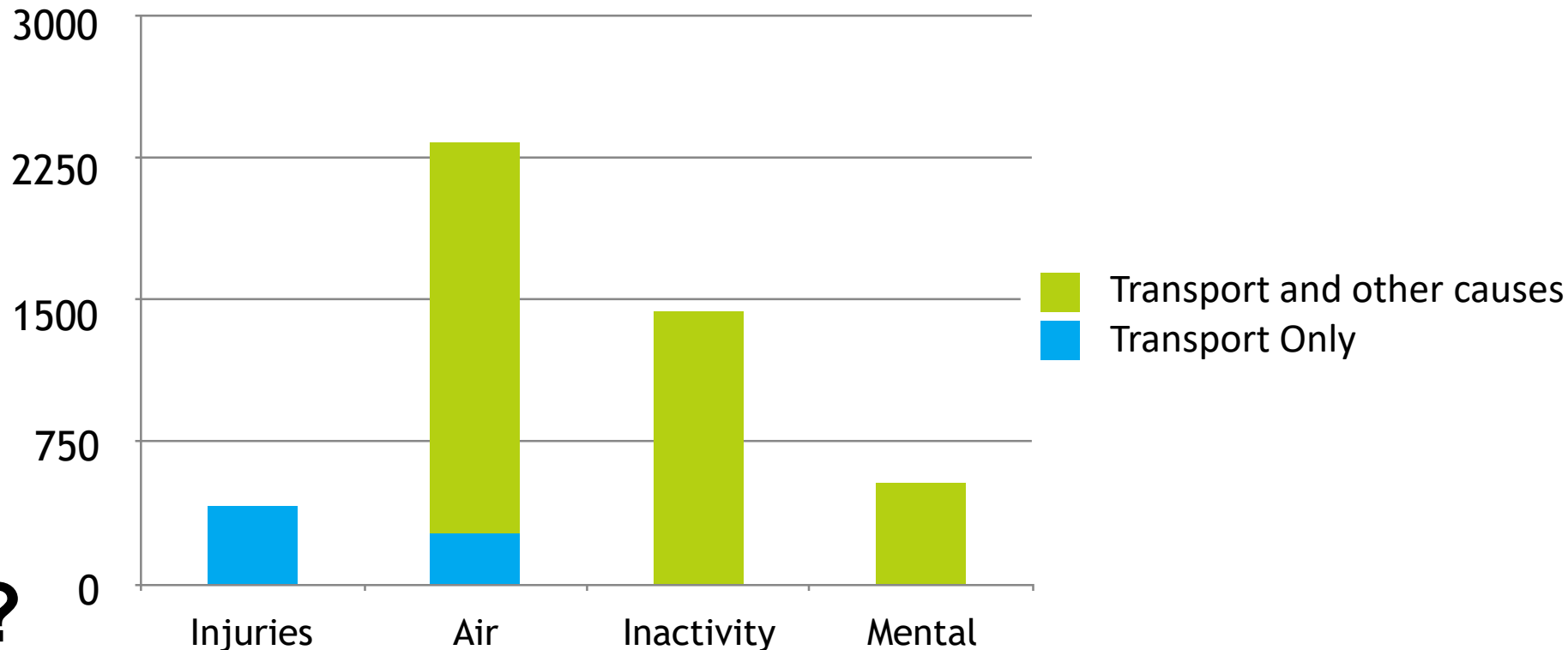
Transport

Outcomes

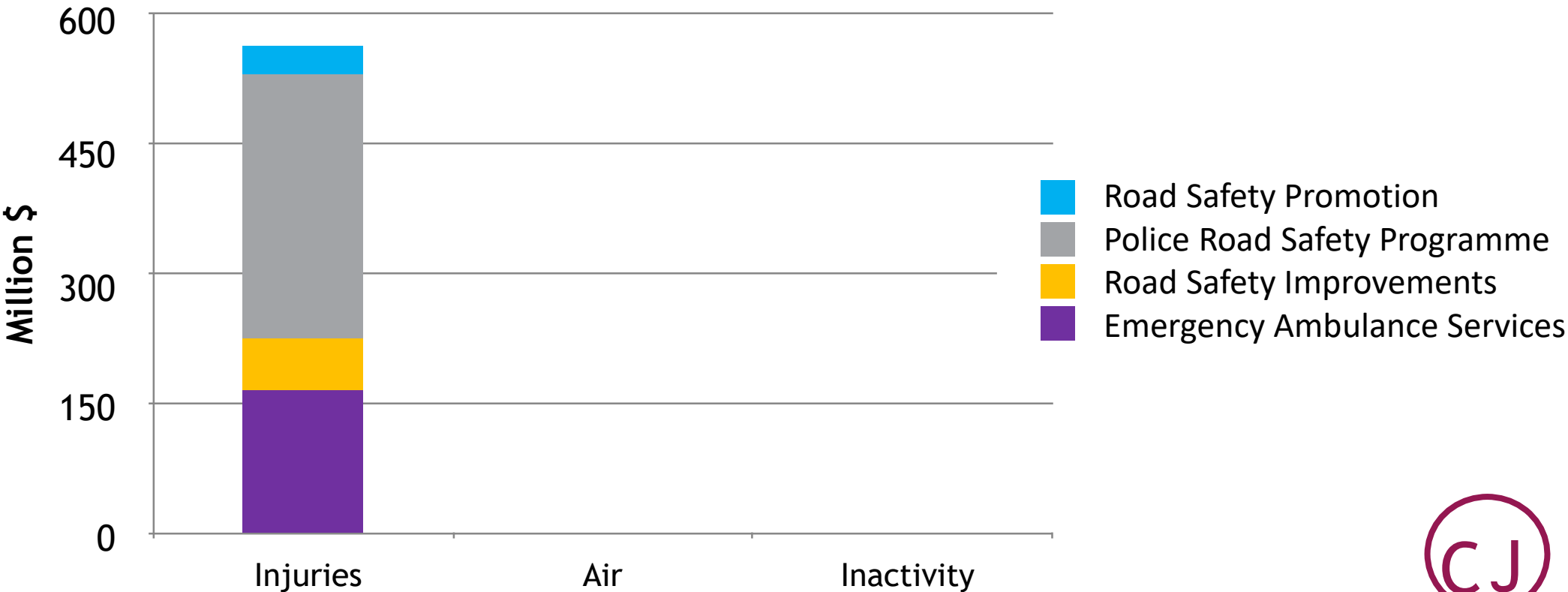


Do we have the right balance in our investments?

Fatalities



Investments





# What do we mean by Maas?

## Five levels of MaaS

### For the user

- Information of transport choices available to the customer
- Common payment platform for the customer

### Of the transport system

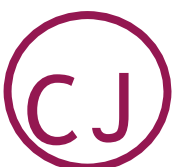
- Coordinated services
- Management of services (pricing)
- Integration of the services (one algorithm to rule them all)



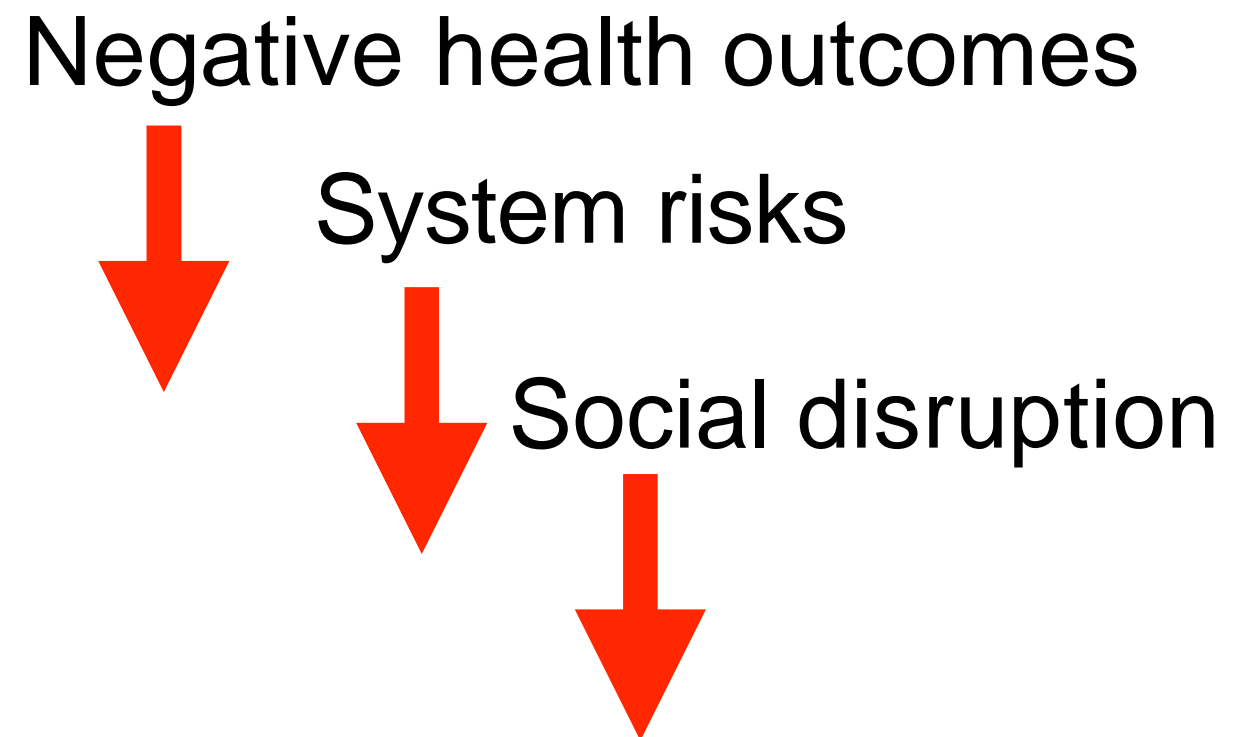
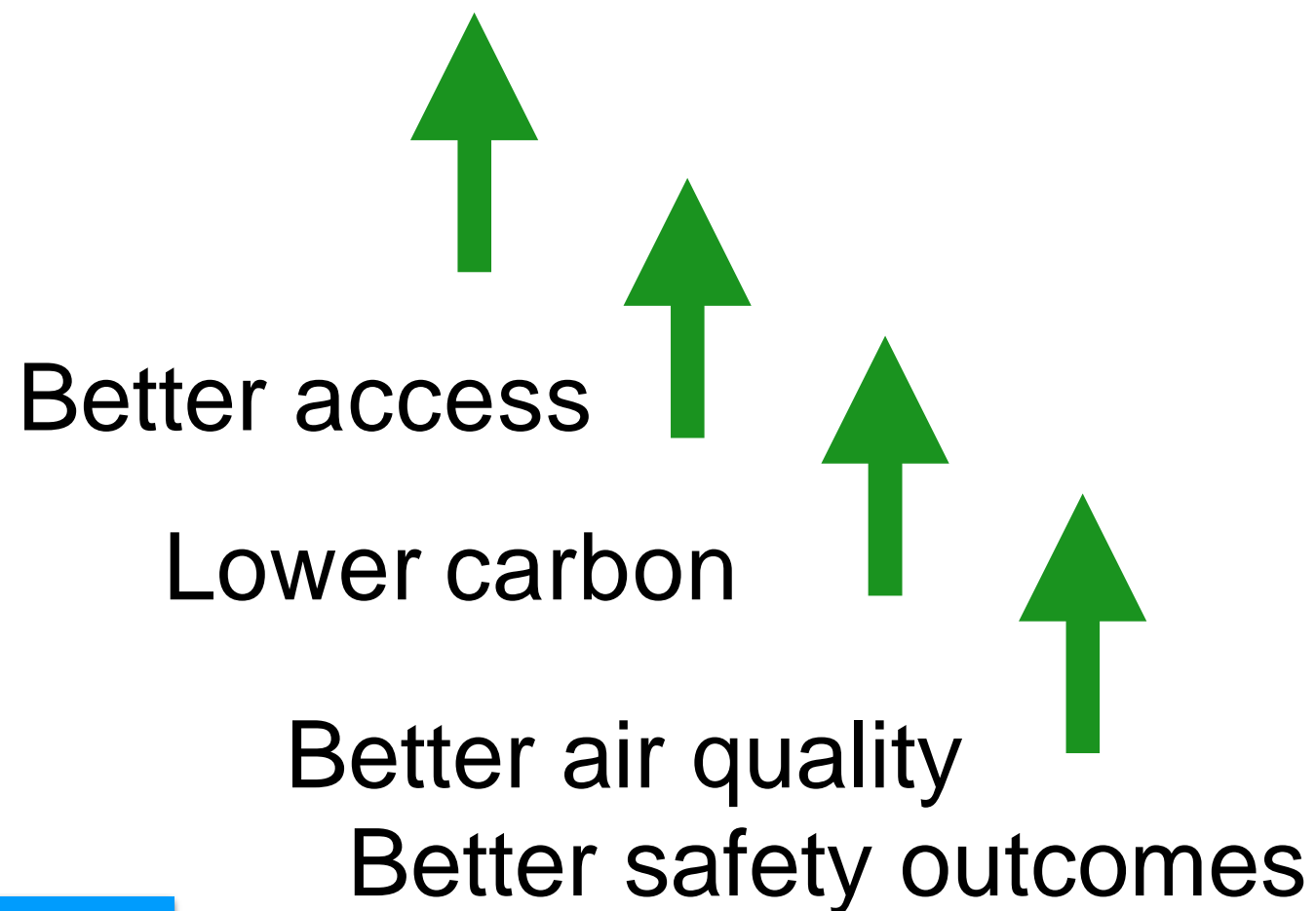
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Transport

Outcomes



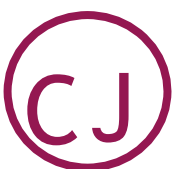
# EV AVs



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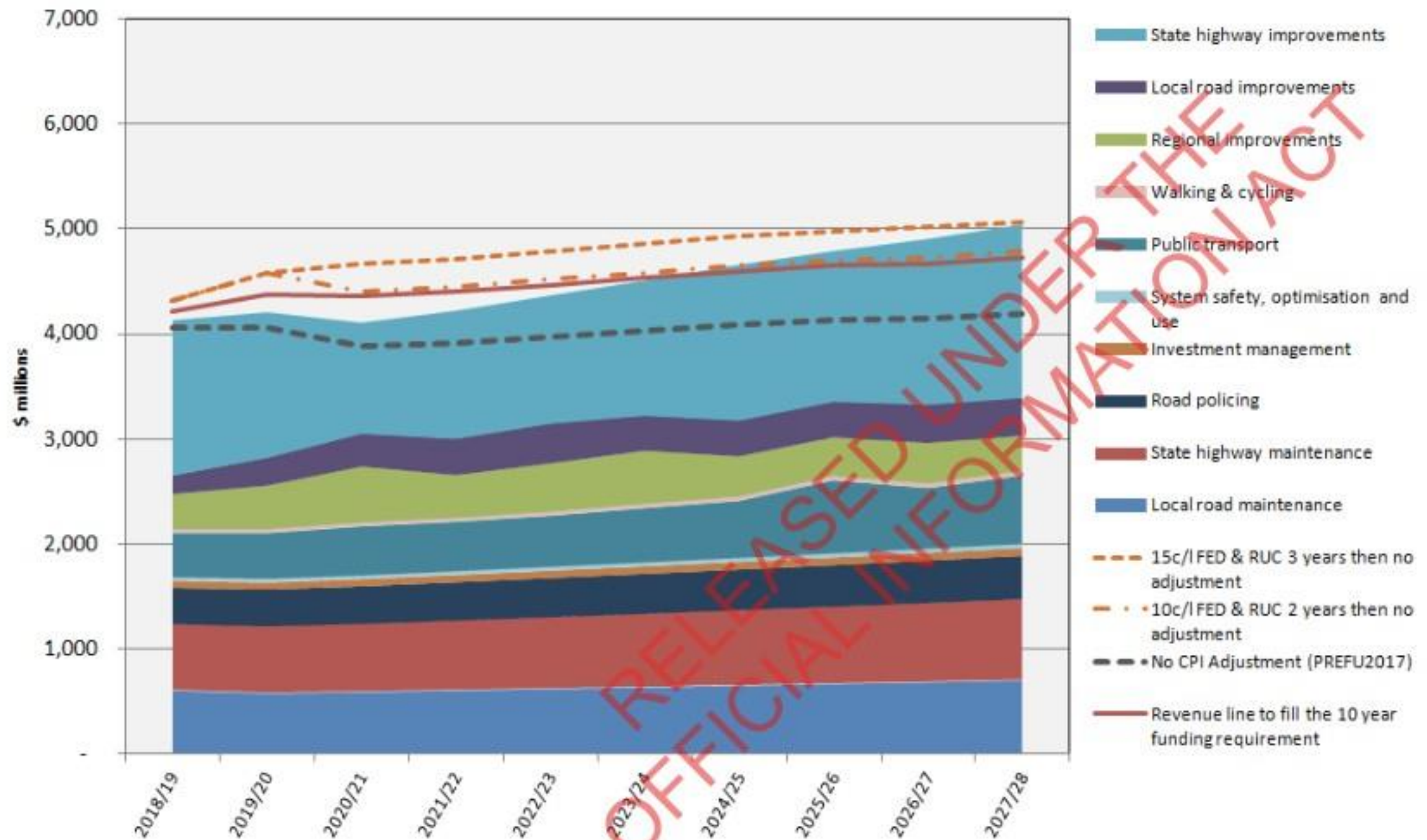
Transport

Outcomes



## Base case

Previous NLTP plan settings, full cost of East-West Link, improvements on state highway \$17.4b programme



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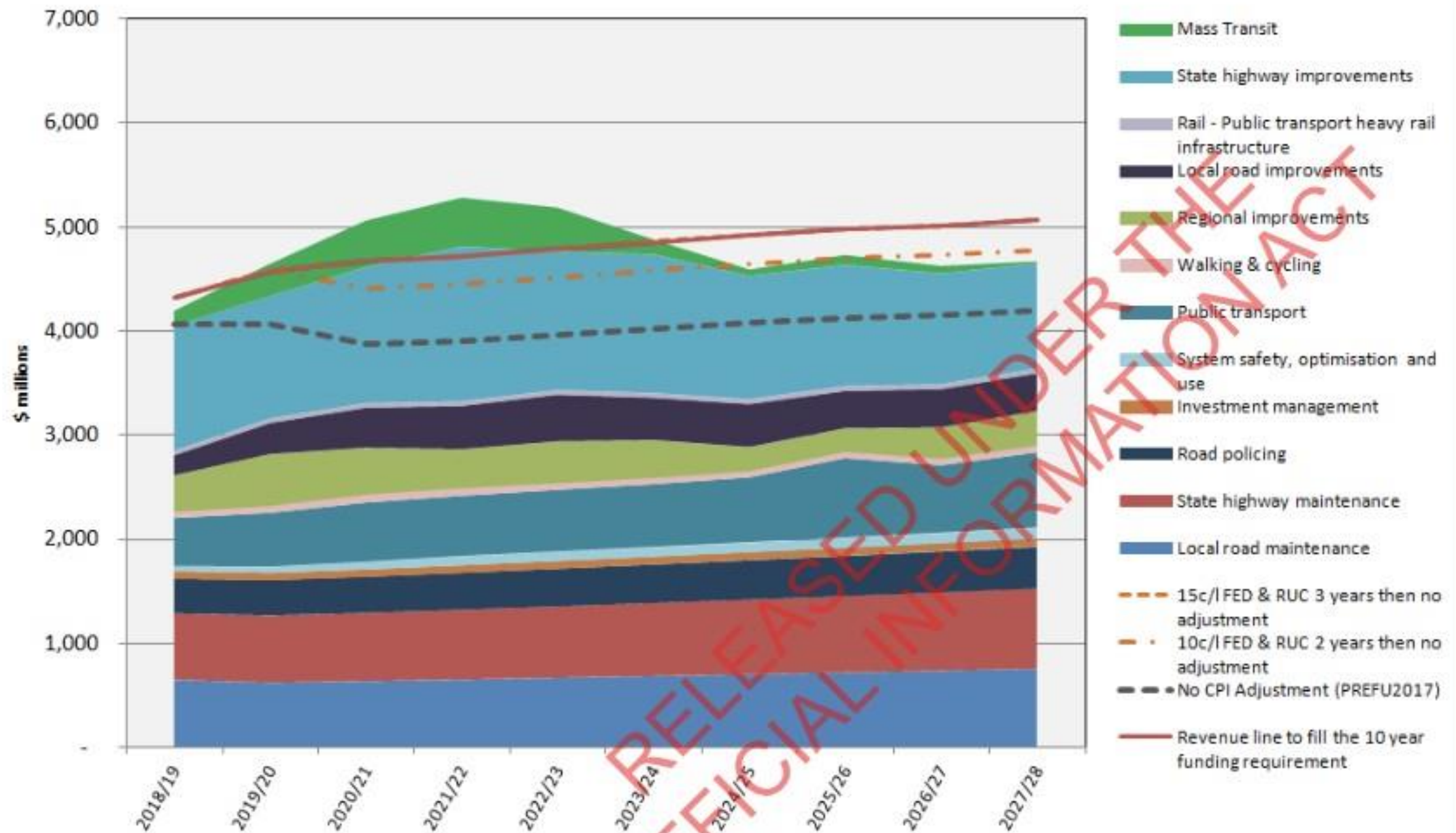
Transport

Outcomes



## Mass transit PAYGO 51% NLTF, \$15b SH programme

MT (CBD-Airport only), increased PT and system safety optimisation & use, footpath maintenance, 75% FAR local road safety



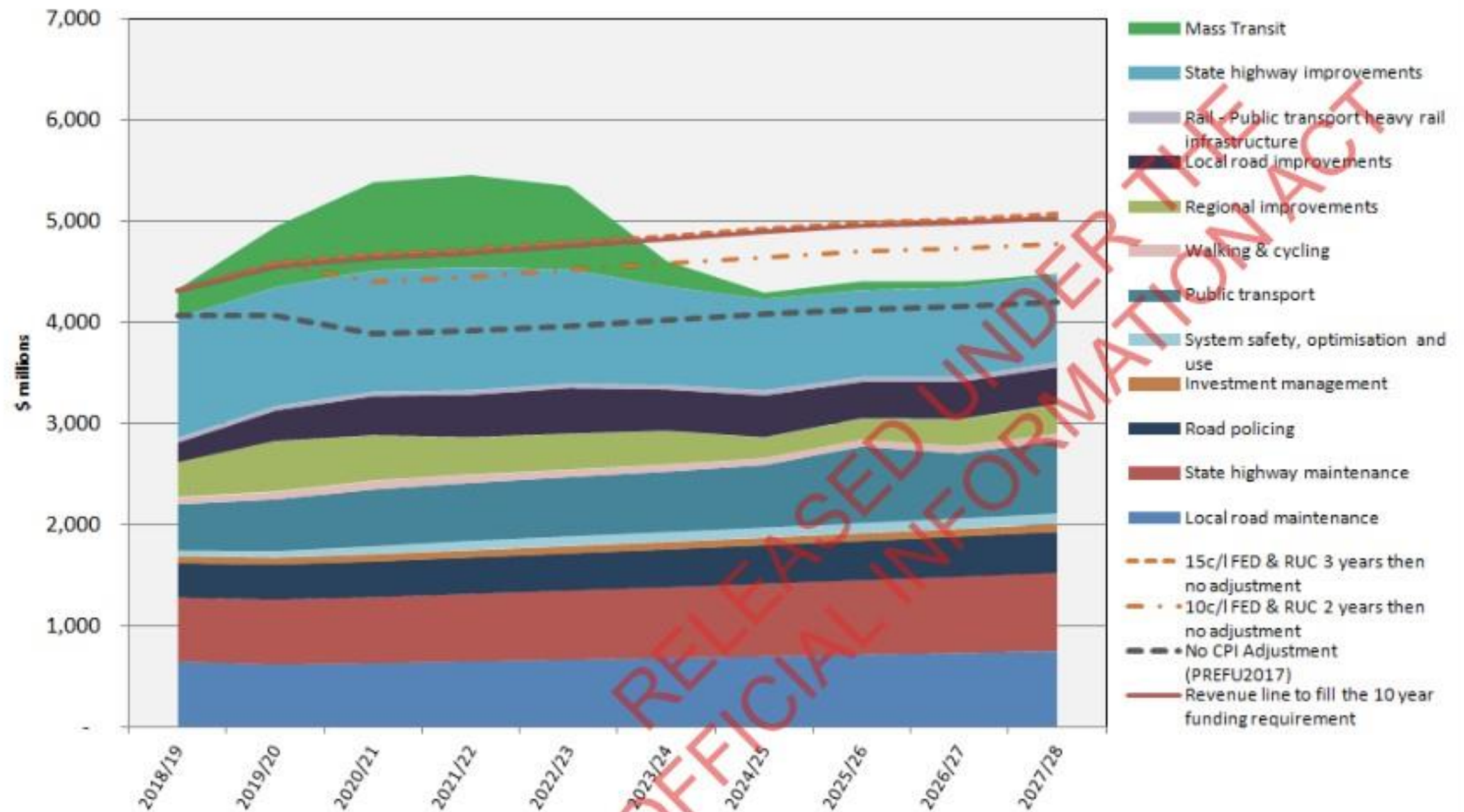
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Transport

Outcomes

## Mass transit PAYGO 100% NLTF, \$13b SH programme

SH programme restricted to High results alignment plus Medium priority safety & environmental projects.



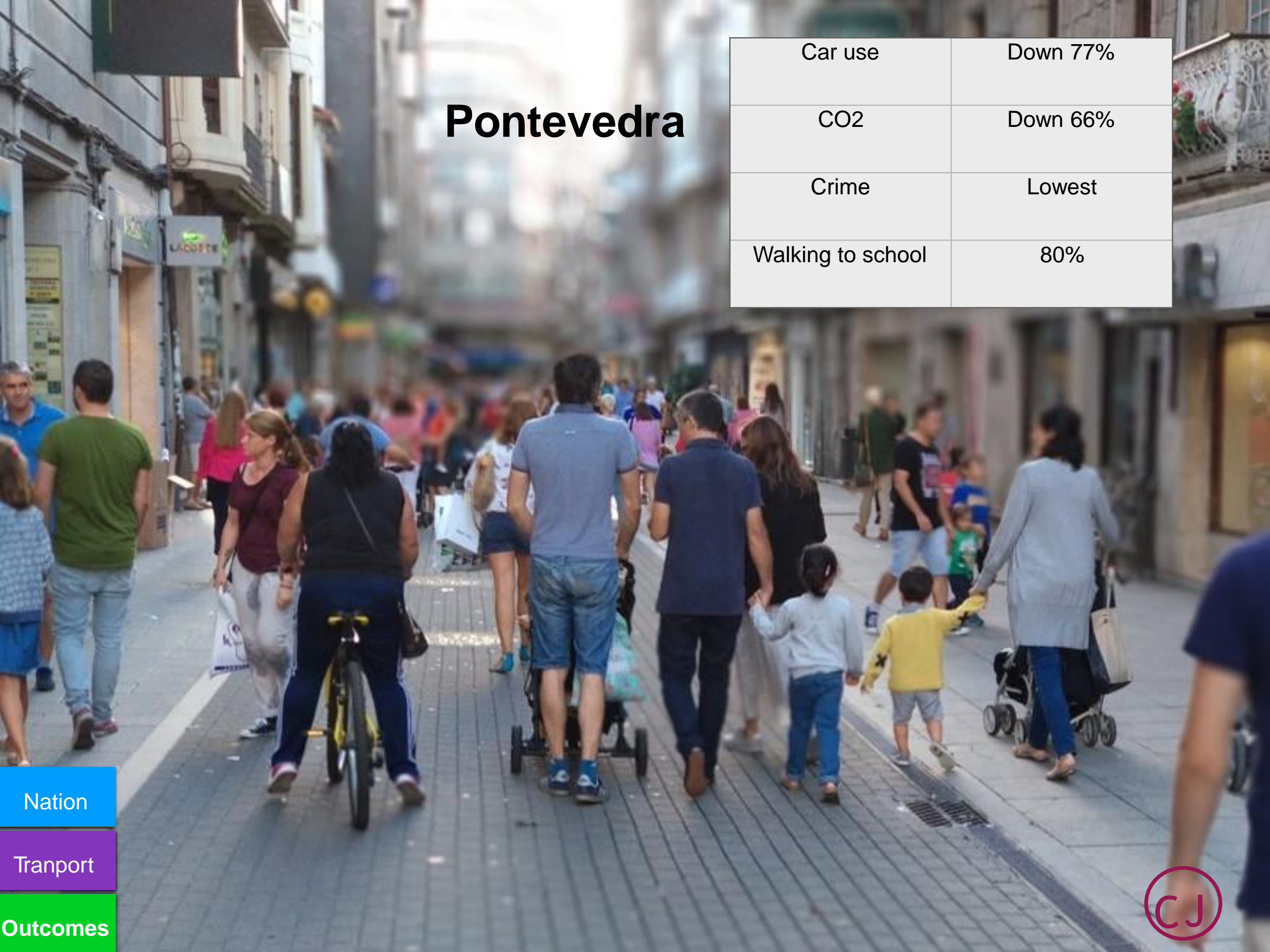
Nation

Transport

Outcomes







# Pontevedra

Car use	Down 77%
CO2	Down 66%
Crime	Lowest
Walking to school	80%

Nation

Tranport

Outcomes





