

CPCA Local Transport & Connectivity Plan

Decarbonisation Workshop

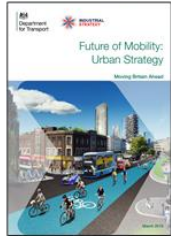


The national context & timeline

Figure 1: The Three Phases of the UK's Transport Decarbonisation Policy



“
The climate emergency will shape policy across the UK.”



“
Britain is on the verge of a transport revolution.”
Jessie Norman, MP

Phase 2: Reflection

- **Initial period of reflection – so you declared a Climate Emergency: What Next?**
- July 2020 – DfT publishes Gear Change to promote walking & cycling
- December 2020 – Government publishes the Construction Playbook
- March 2021 – Mission Zero for Transport published by Transport Scotland committing to reducing emissions by 75% by 2030 and net zero by 2045
- June 2021 – Welsh Government announcement freeze on new roads projects
- July 2021 – Transport for the North targets “near-zero” surface transport carbon by 2045
- July 2021 – National Highways publishes its roadmap to Net Zero by 2050
- July 2021 – DfT publish the TDP publication confirming ban of petrol / diesel cars & vans by 2030, HGVs by 2040 and a Net Zero rail network by 2050 and linking future local transport funding to the production of an LTP with quantifiable carbon reductions
- COP26 is hosted in Scotland in Nov 2021 and declaration to transition to 100% zero emission cars and vans by 2040
- DfT published Carbon Management Guidance for Tier 1 and 2 Transport schemes in **November 2021**

“
Around 60% of Local Transport Authorities haven't updated their LTPs for over a decade and a lot of policy context has changed.”
Department for Transport



- March 2019 – DfT publishes the Future of Mobility and launches four Future Mobility Zones
- May 2019 – UK Government becomes the first nation in the world to declare a climate emergency
- Oxford Dictionary chooses climate emergency as the word of the year
- 2019 sees over 400 declared climate emergencies across the UK Local Government sector with Net Zero targets ranging between 2030 and 2050

Phase 1: Declarations

“
I believe that the struggle for decarbonised transport, clean development and clean air is as important as the struggle for clean water was in the 19th century.”

Grant Shapps MP



“
We need to shift away from spending money on projects that encourage more people to drive.”
Lee Waters, Deputy Minister for Climate Change

“
Together, we will work towards all sales of new cars and vans being zero emission globally by 2040, and by no later than 2035 in leading markets.”

Phase 3: Action

- Much anticipated **Levelling Up White Paper** published in February 2022 reaffirms Governments commitment to linking future local transport funding to the production of an LTP with quantifiable carbon reductions
- DfT announce the publication of **Local Transport Guidance and supporting guidance on Quantifying Carbon Reduction**. Consultation scheduled for Summer and publication in late 2022. LTAs required to produce an LTP this parliamentary term
- DfT publish **Electric Vehicle guidance** during 2022 requiring LTA's to have a strategy in place this parliamentary term
- DfT are due to launch their **Future of Transport: Rural Strategy** during 2022 following consultation in late 2021
- National Highways to integrate net zero into their statutory consultee response to planning applications in 2022
- The Transport Select Committee report on National Road Pricing on 4th Feb 2022: **DfT & HMT must jointly establish an arm's-length body tasked with recommending an alternative road charging mechanism to replace fuel duty and vehicle excise duty by the end of 2022**
- NIC's **National Infrastructure Assessment** to be published in 2023 and set out infrastructure needs and recommendations for the next 10-30 years including reaching net zero

Two relevant transport carbon targets

15% reduction in vehicle kilometres

- As recommended by the **Cambridgeshire & Peterborough Independent Commission on Climate** and approved by the **Combined Authority Board** in June 2021

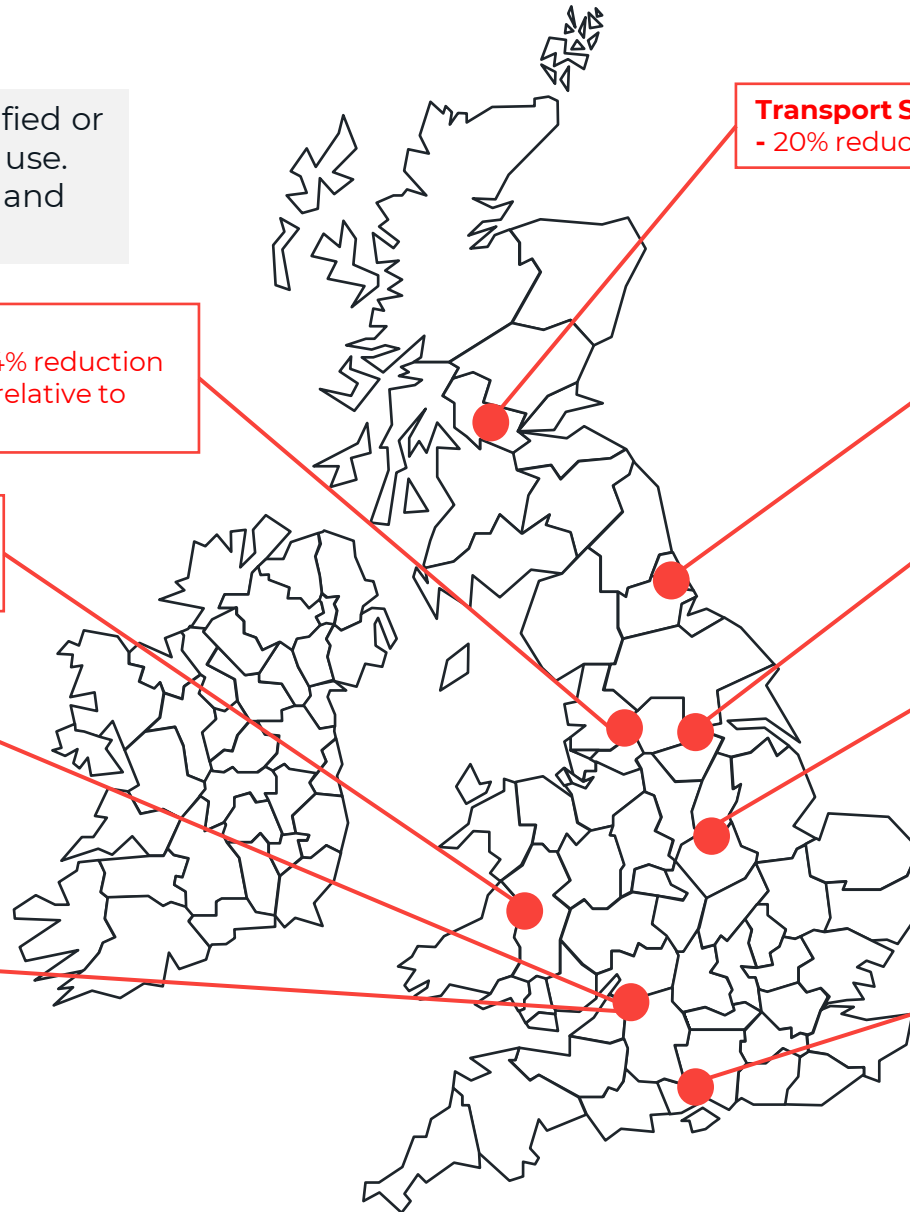
Identifying level of ambition to align with national carbon budgets & legal targets

- As determined by **government** & their statutory advisor on climate change, the **Climate Change Committee (CCC)**

TRANSPORT OUTCOMES NEEDED

What are others doing?

A number of other authorities have identified or committed to the need to reduce vehicle use. Some have evidence bases to inform this and how it will be achieved.



Transport Scotland
- 20% reduction in car kms by 2030

Newcastle City Council
- Transport is 29% of city emissions
- Sets out a 28-step plan for transport

WYCA
Private car use must decline by 21-38%

Midlands Connect Decarb Study
- A 'size of the challenge' piece demonstrating that 309 MtCO₂e needs saving from current transport baseline, pledging to develop further evidence around potential solutions

Hampshire
- Aspiring to reach a 10% reduction in car vkms

TfN
- Suggest between a 3-14% reduction in car distance travelled relative to baseline growth

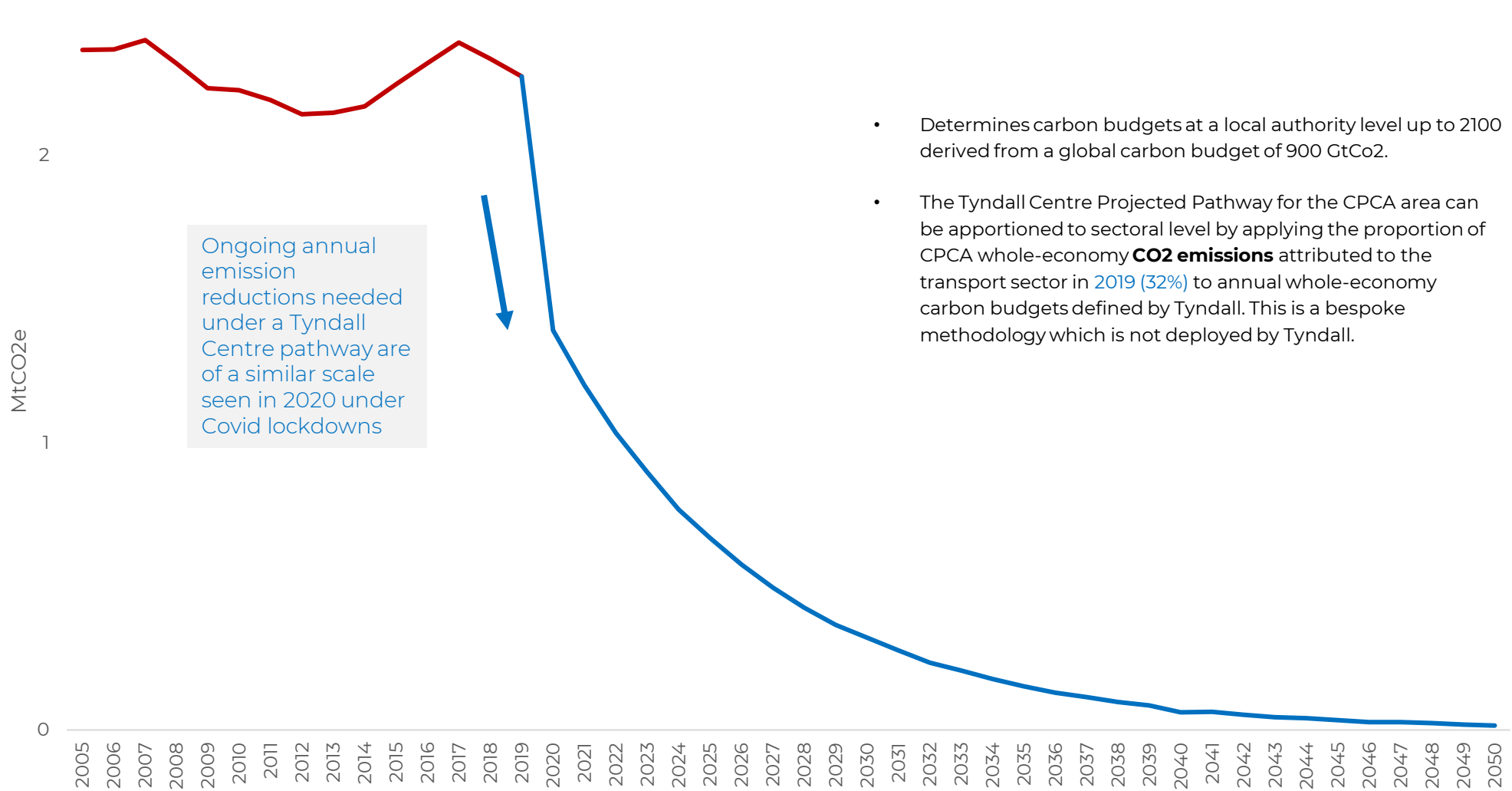
TfW
- reduce the number of car miles travelled per person by 10% by 2030

WECA (with WSP)
- Decarbonisation study has identified ambitious reductions in car use are needed to achieve decarbonisation commitments

Bristol
- 'Bristol net zero by 2030: The evidence base' report identified a nearly 50% reduction in car miles is needed to achieve for Net Zero by 2030

CPCA TRANSPORT DECARBONISATION PATHWAYS

What pace of transport decarbonisation is needed according to the Tyndall Centre?

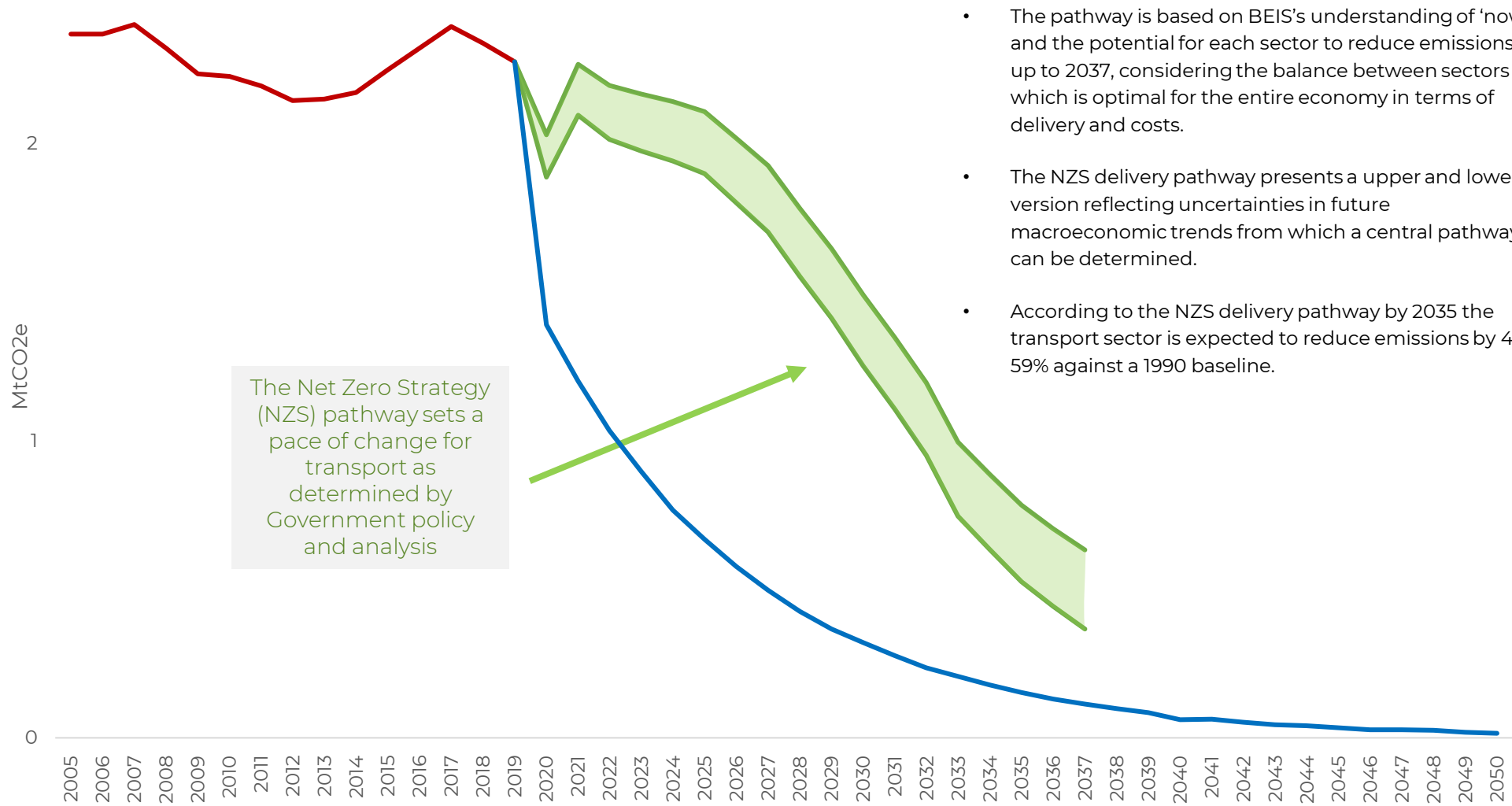


- Determines carbon budgets at a local authority level up to 2100 derived from a global carbon budget of 900 GtCO₂.
- The Tyndall Centre Projected Pathway for the CPCA area can be apportioned to sectoral level by applying the proportion of CPCA whole-economy **CO₂ emissions** attributed to the transport sector in 2019 (32%) to annual whole-economy carbon budgets defined by Tyndall. This is a bespoke methodology which is not deployed by Tyndall.

- BaU Forecast (EV+15% reduction in VKT)
- BaU Forecast (EV)
- BaU Forecast (CAS)
- BEIS BaU Forecast (TAG)
- Sixth carbon Budget Balanced Net Zero Pathway
- Net Zero Strategy Delivery Pathway
- Tyndall Centre Transport Projected pathway

CPCA TRANSPORT DECARBONISATION PATHWAYS

What pace of transport decarbonisation is needed according to the UK Government?

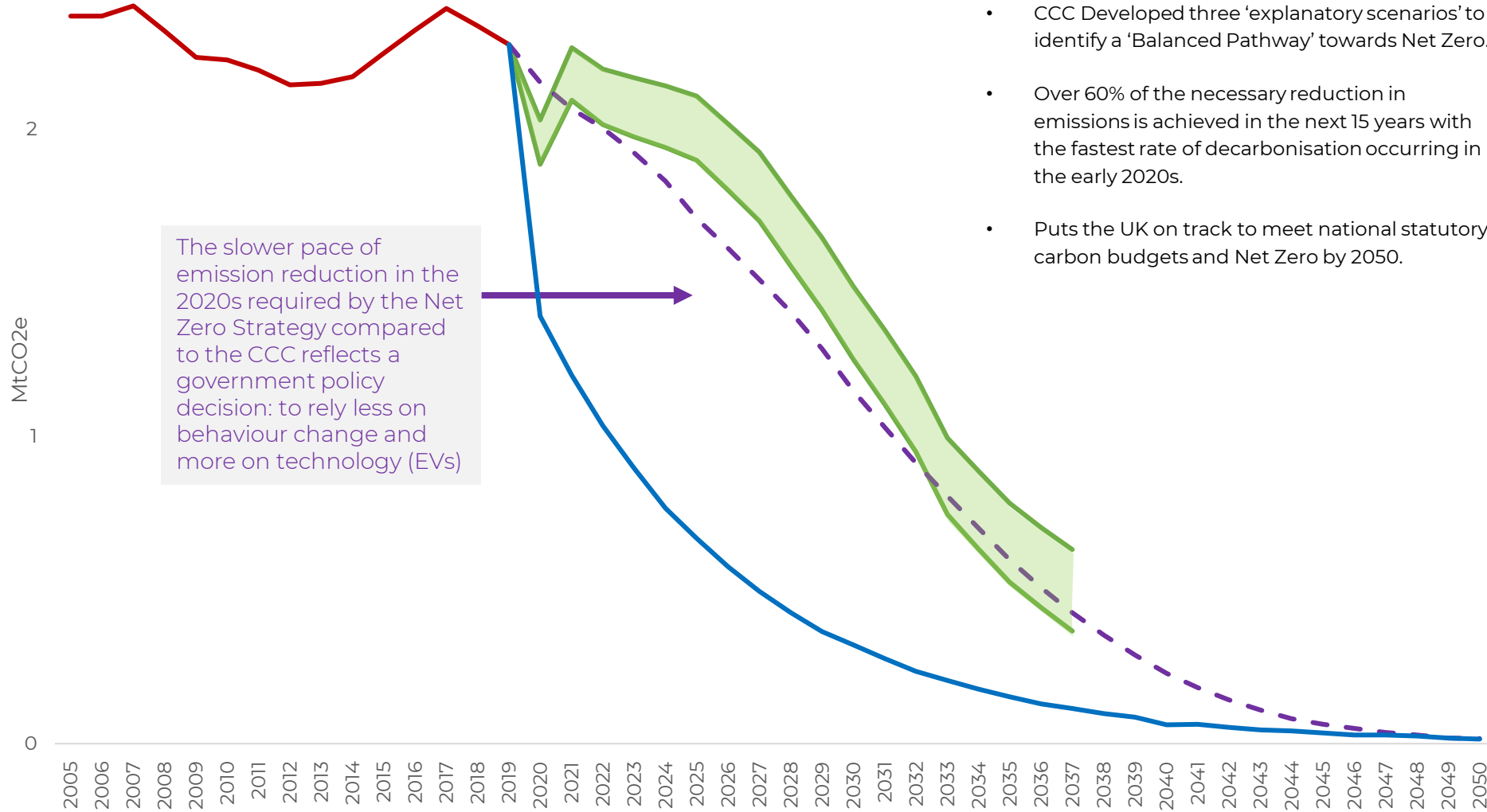


- The pathway is based on BEIS's understanding of 'now' and the potential for each sector to reduce emissions up to 2037, considering the balance between sectors which is optimal for the entire economy in terms of delivery and costs.
- The NZS delivery pathway presents a upper and lower version reflecting uncertainties in future macroeconomic trends from which a central pathway can be determined.
- According to the NZS delivery pathway by 2035 the transport sector is expected to reduce emissions by 47-59% against a 1990 baseline.

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CPCA TRANSPORT DECARBONISATION PATHWAYS

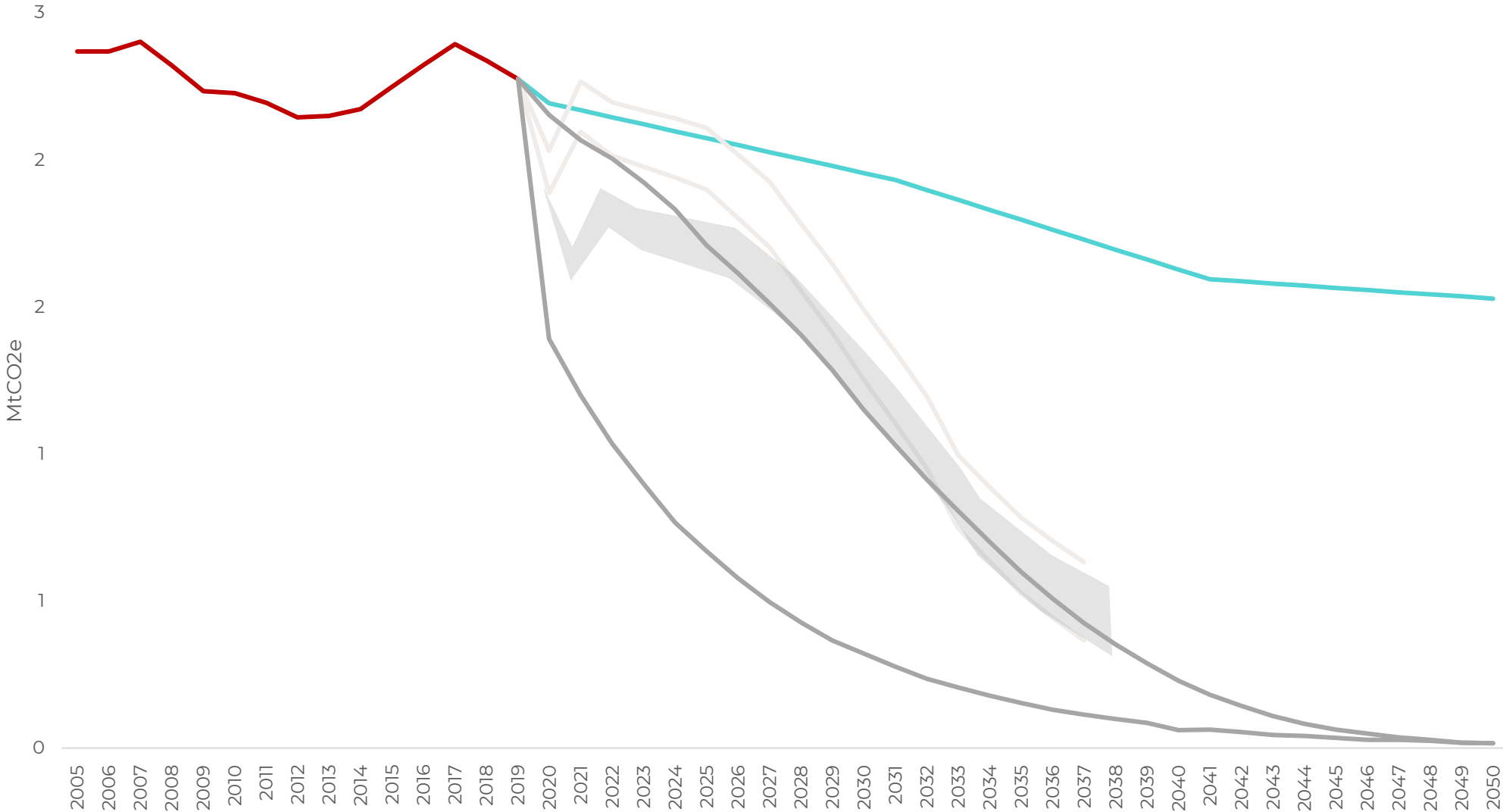
What pace of transport decarbonisation is needed according to the CCC?



- CCC Developed three 'explanatory scenarios' to identify a 'Balanced Pathway' towards Net Zero.
- Over 60% of the necessary reduction in emissions is achieved in the next 15 years with the fastest rate of decarbonisation occurring in the early 2020s.
- Puts the UK on track to meet national statutory carbon budgets and Net Zero by 2050.

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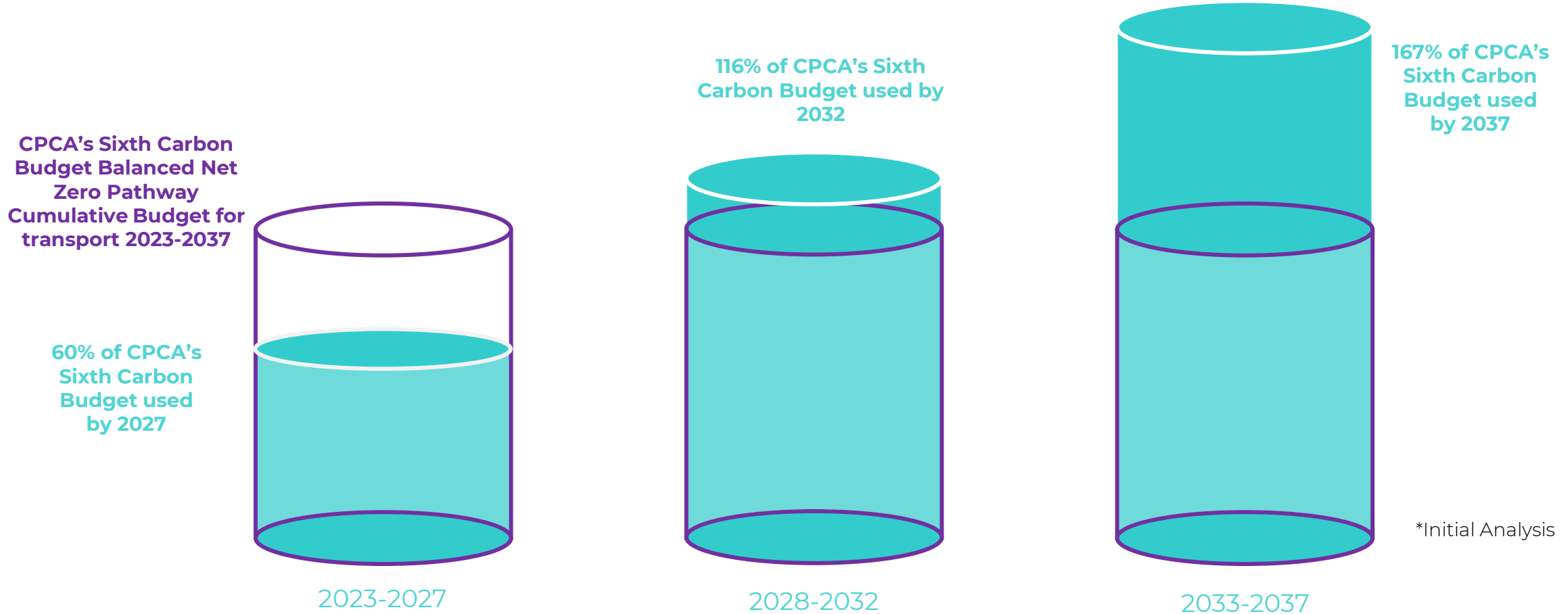
IDENTIFYING THE IMPLEMENTATION GAP



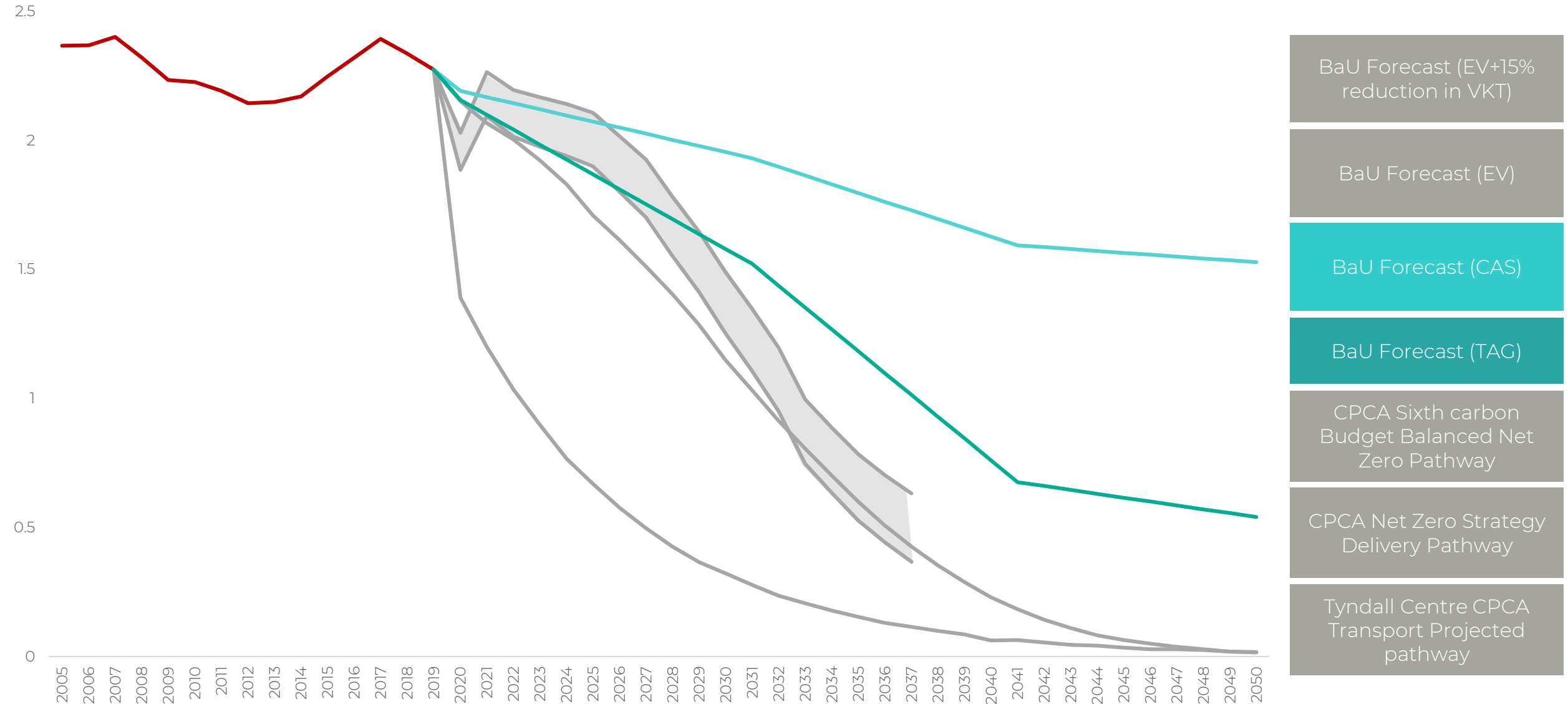
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SIZE OF THE CHALLENGE

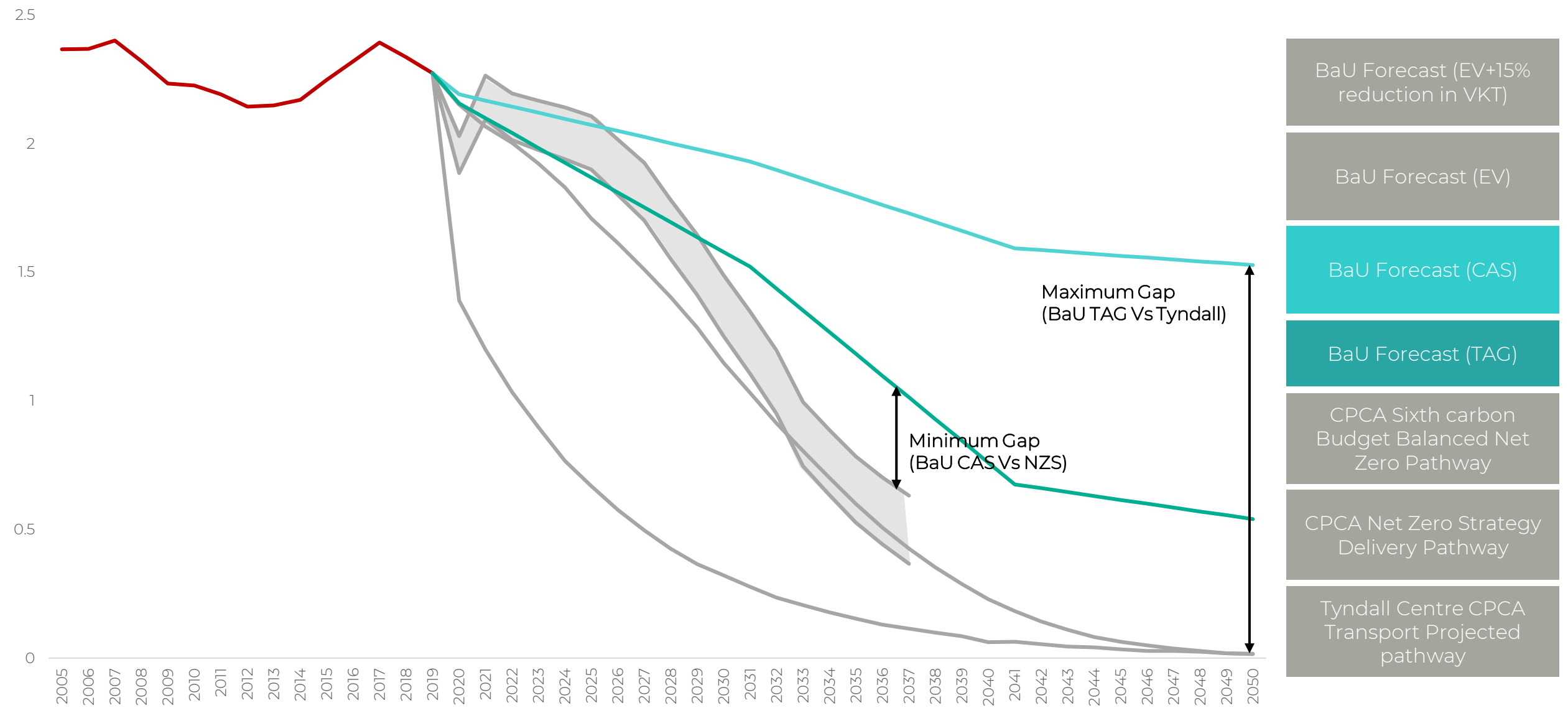
The **Business as Usual (BEIS Aligned) emission forecast** would exceed transport carbon budgets derived from the **CCC's Sixth Carbon Budget Balanced Net Zero Pathway** by 2032



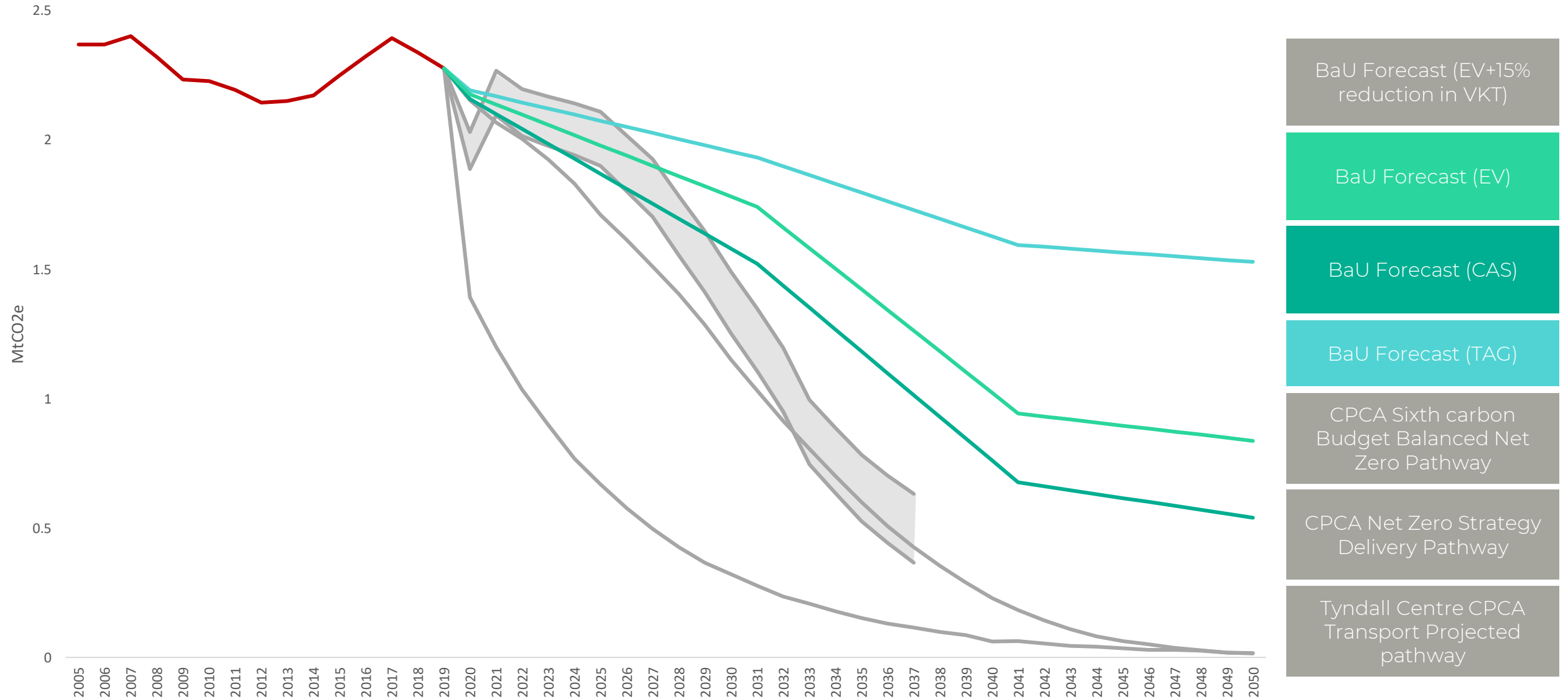
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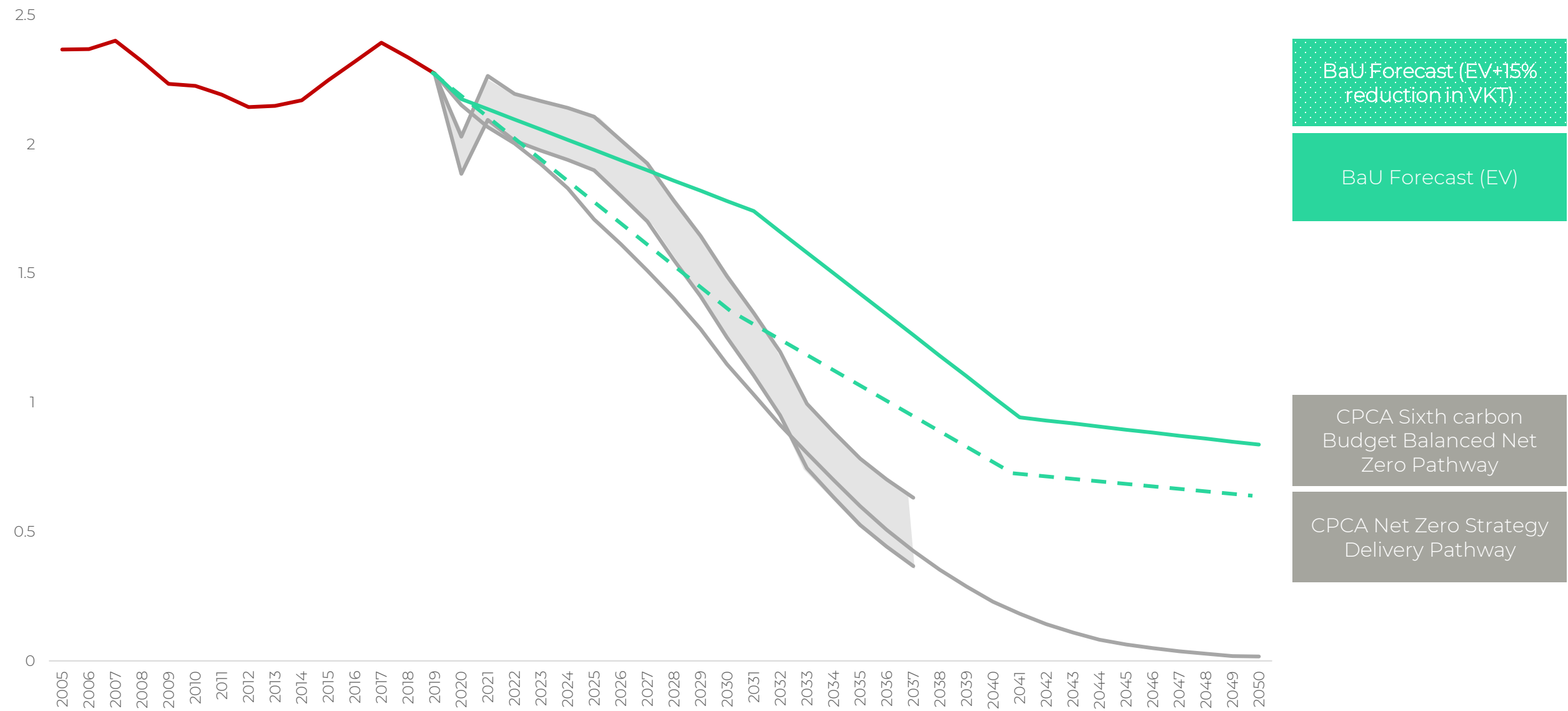
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CPCA Per Capita Emissions by LA Area (place of origin)

Local Authority Summary 2019

Road traffic

Local Authority	2019 tCO ₂ e	Population (mid 2019)	Per Capita
Cambridge	117,768.64	125,625.10	0.9
East Cambridgeshire	318,578.59	89,993.60	3.5
Fenland	140,118.31	102,597.80	1.4
Huntingdonshire	440,605.07	178,169.70	2.5
Peterborough	352,230.69	203,477.90	1.7
South Cambridgeshire	514,150.93	158,395.10	3.2
CPCA	1,883,452.21	858,259.20	2.2

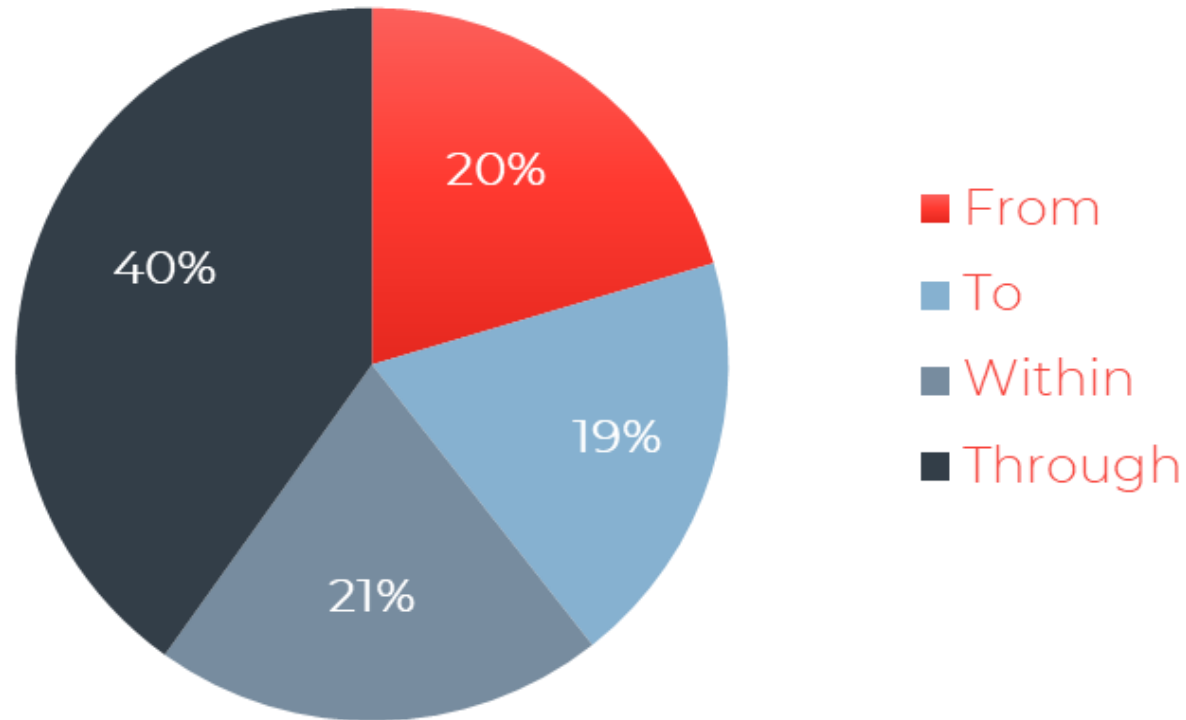
Local Authority Summary 2050

Road traffic

Local Authority	2050 tCO ₂ e	Population (mid 2050)	Per Capita
Cambridge	60,794.79	125,589.83	0.5
East Cambridgeshire	194,971.20	100,753.82	1.9
Fenland	118,323.17	122,566.98	1.0
Huntingdonshire	296,074.04	195,017.88	1.5
Peterborough	266,907.15	241,414.78	1.1
South Cambridgeshire	317,629.91	167,885.49	1.9
CPCA	1,254,700.26	953,228.77	1.3

CPCA Emissions by Origin & Destination

Vehicle emissions: Proportion by trip genesis

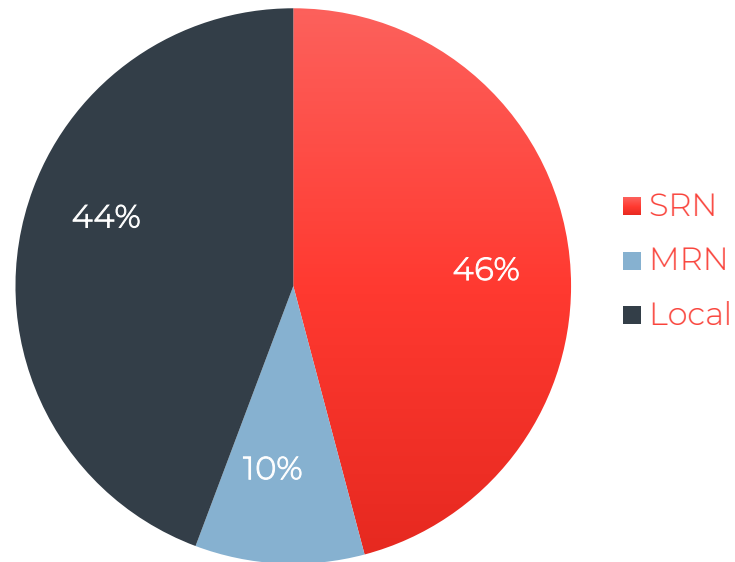


40% of vehicle emissions within CPCA are apportionable to through trips (journeys which start and finish outside of the combined authority administrative boundary) in the baseline year.

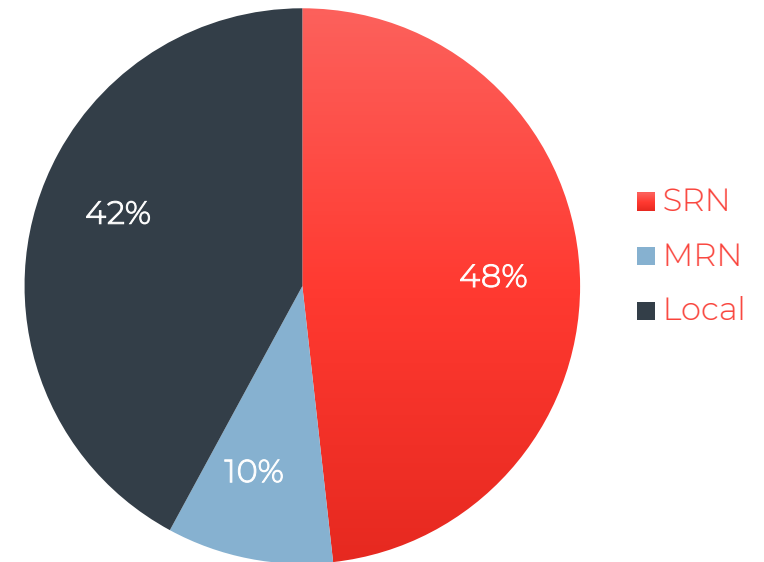
These emissions are unlikely to be greatly impacted by the commitments of the LTCP.

CPCA Emissions by Road Type (network)

Vehicle emissions by road type: 2019

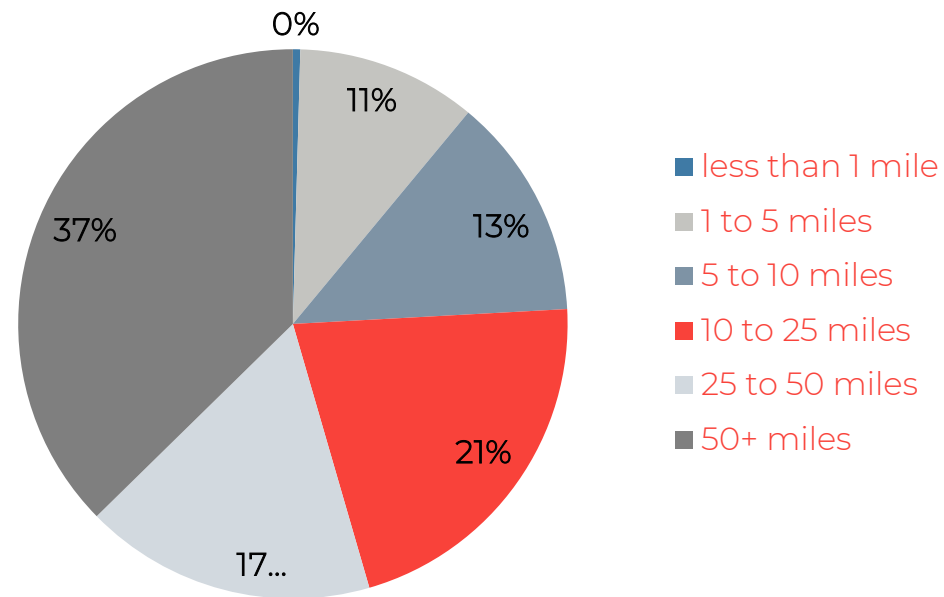


Vehicle emissions by road type: 2050

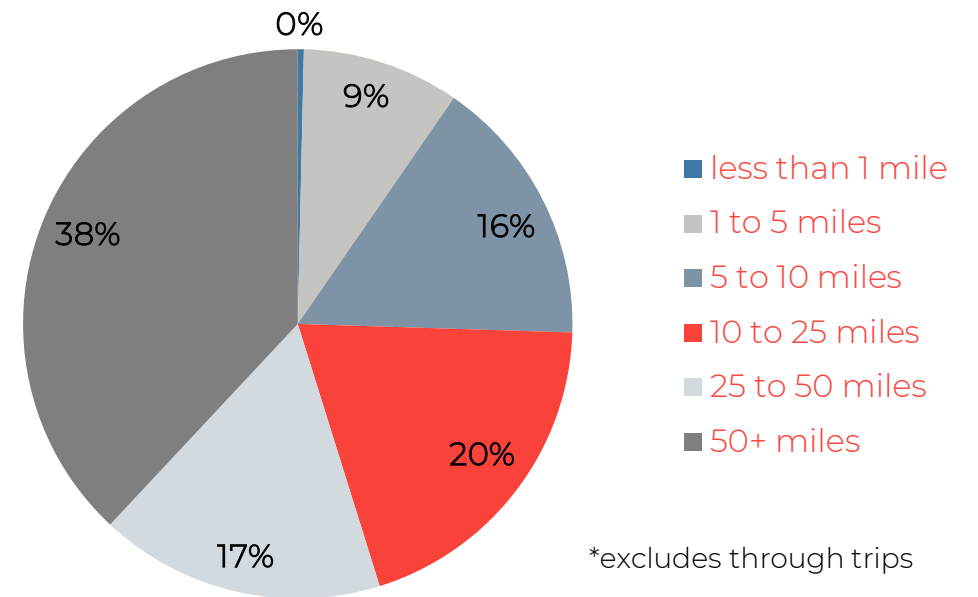


CPCA Per Capita Emissions by Trip Length (journey)

Vehicle emissions by trip length: 2019

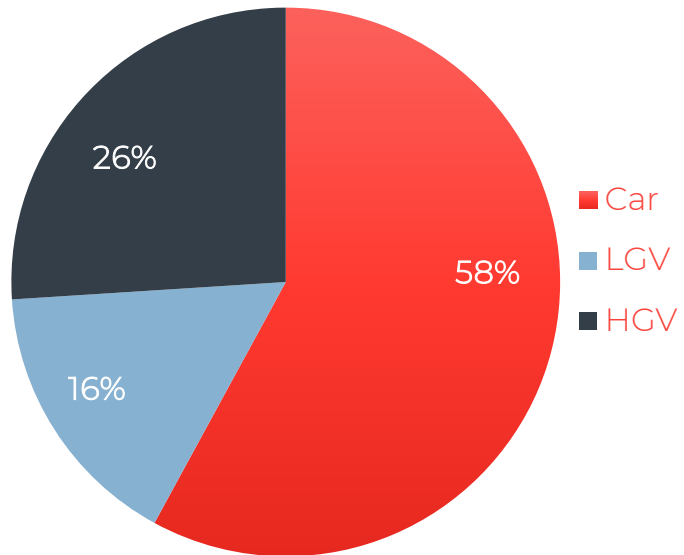


Vehicle emissions by trip length: 2050

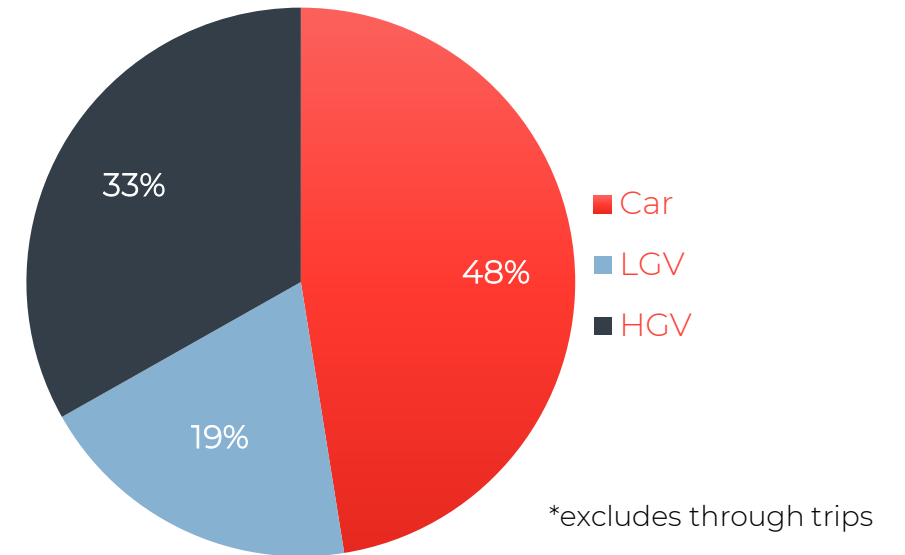


CPCA Emissions by Mode

Emissions by mode: 2019



Emissions by mode: 2050



LTCP PORTFOLIO REVIEW

Decision 1: Do I need to travel?
How far do I need to travel?

Decision 2: Which mode of
transport will I use?

Decision 3: Can I take
a more efficient/
alternative fuel
vehicle?



Smart Infrastructure, land use planning, ecommerce, digital services, home-based services.	Encouraging a modal shift to active modes and public transport	Improved efficiency and alternative fuel vehicles
Avoid	Shift	Switch
0%	48%	10%
Proportion of LTCP portfolio		

SHIFT SCHEMES

Reduce car-use and encourage a MODAL SHIFT towards public transport and active modes



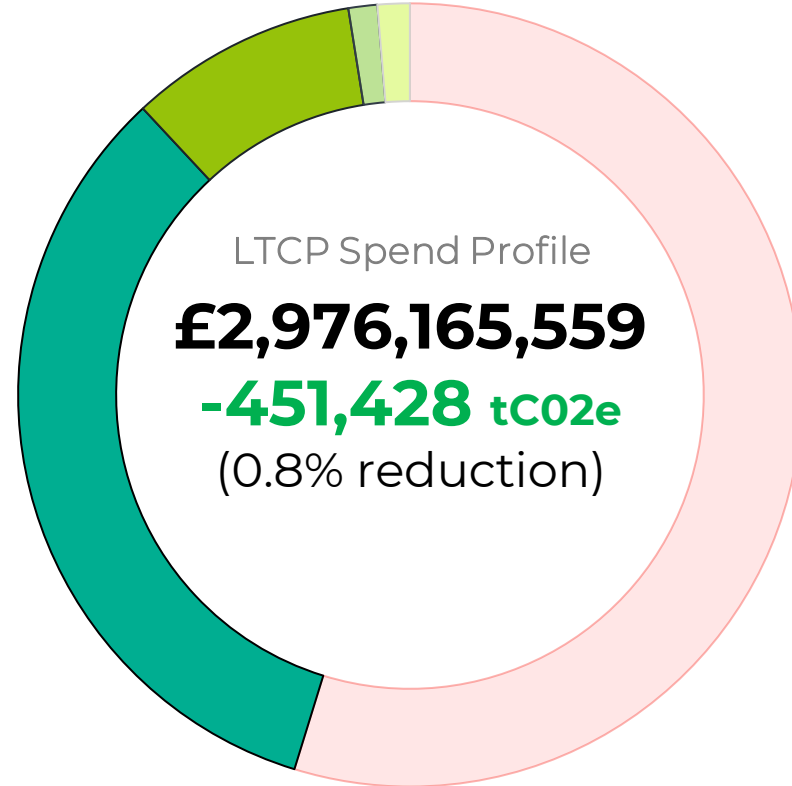
£284 million (9%)
4/6 schemes
-64,306 tCO2e



£1.004 billion (33%)
6/8 schemes
-347,381 tCO2e



£35.8 million (1%)
16/19 schemes
-837 tCO2e



IMPROVE SCHEMES

£40 million (1%)
3/10 schemes
- 40,959 tCO2e



£1.651 billion (55%)
16/19 schemes

The impact of **SHIFT** measures has the potential to be greater than reported due to in-combination benefits.

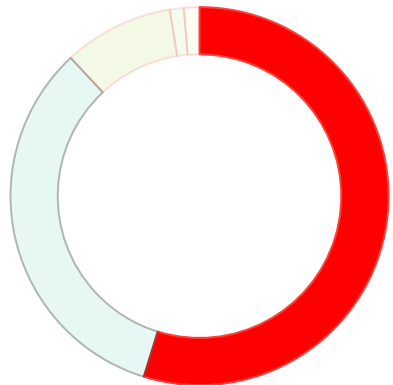
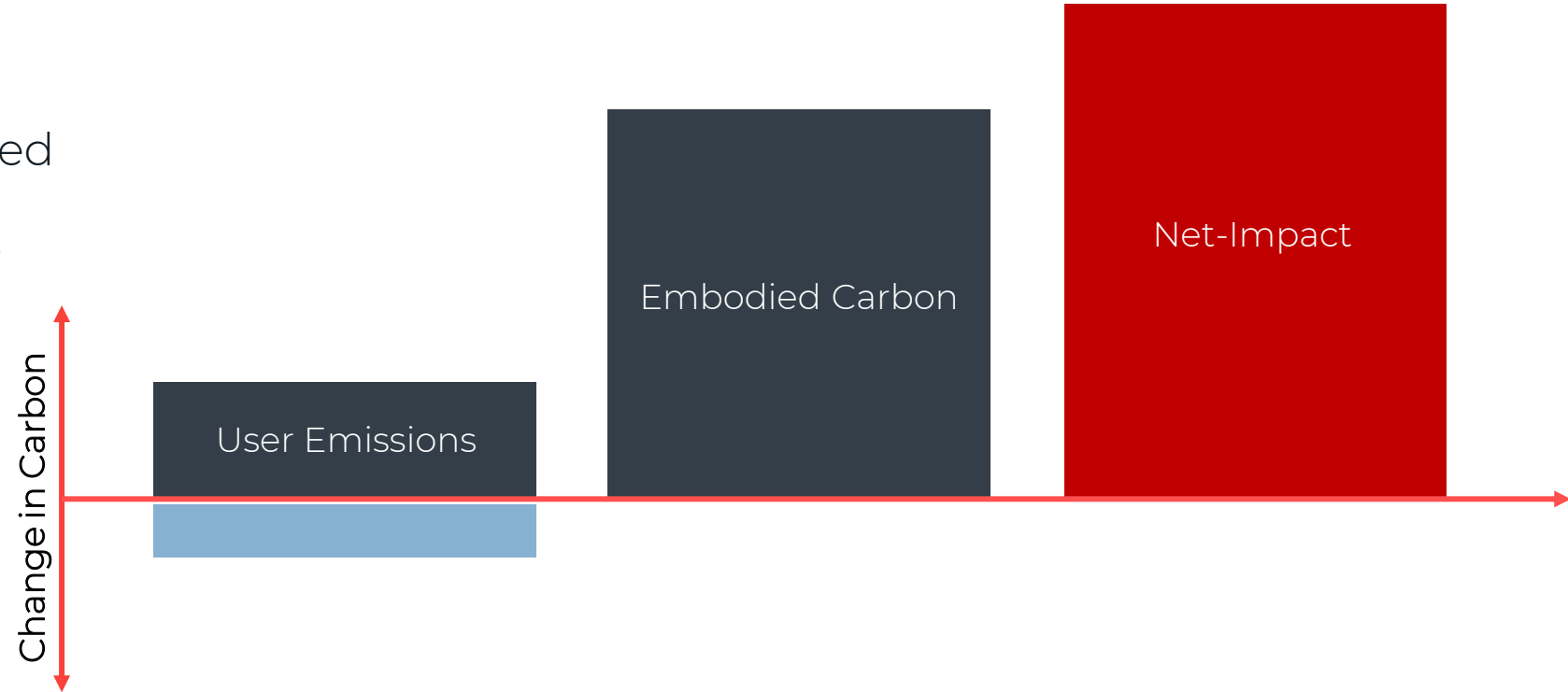
HIGHWAY SCHEMES (£1.6bn)

RISKS TO QUANTIFICATION

Carbon assessment require detailed traffic modelling which is not considered proportionate at LTCP strategy level.

Not required as part of QCR

Highway schemes do not comply with avoid, shift, reduce.



INDUCED DEMAND

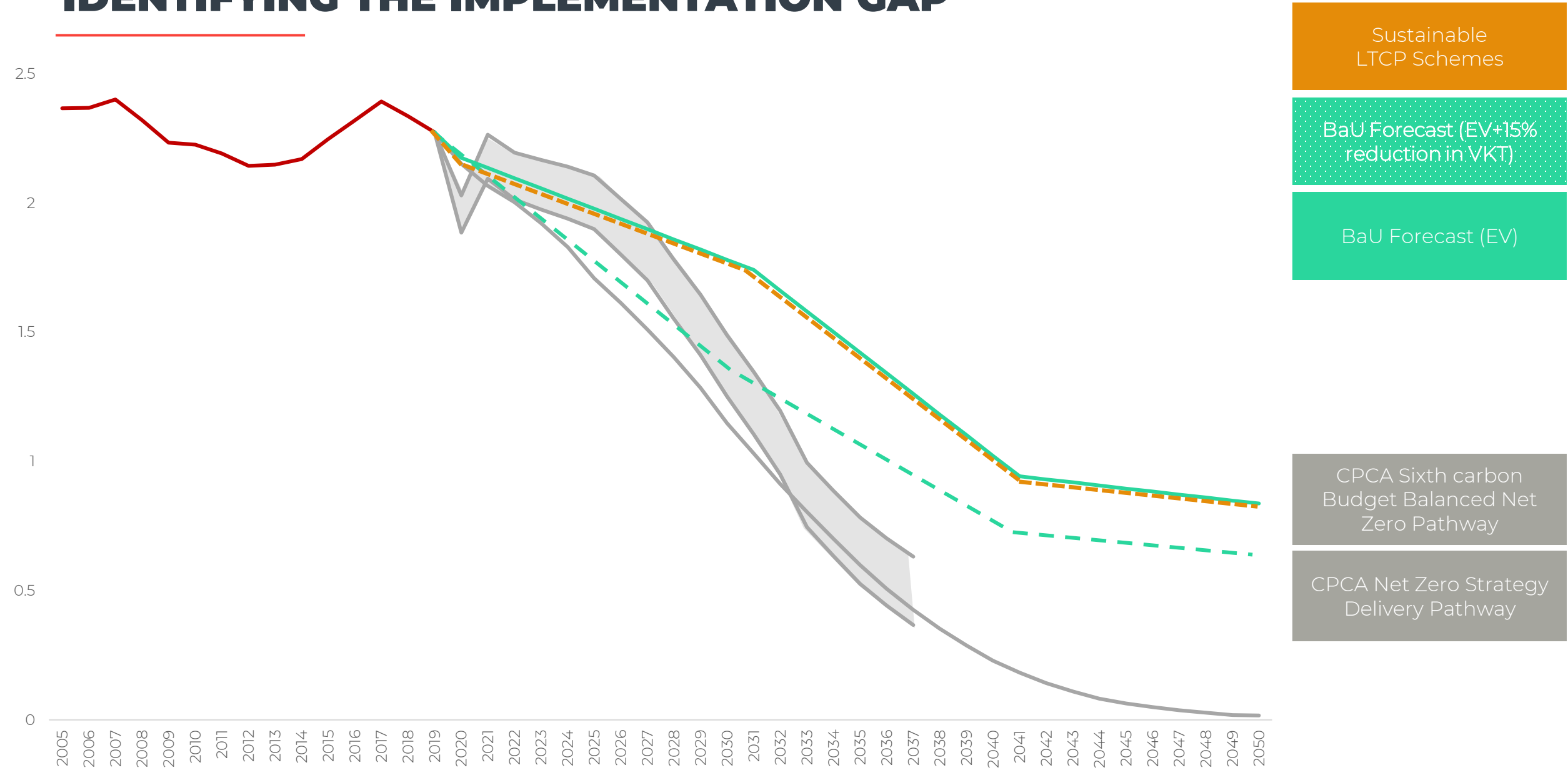
42% of schemes will increase capacity for vehicular travel

A141 / St Ives (£365m), A10 (255m), A47 Dualling (63.6m)

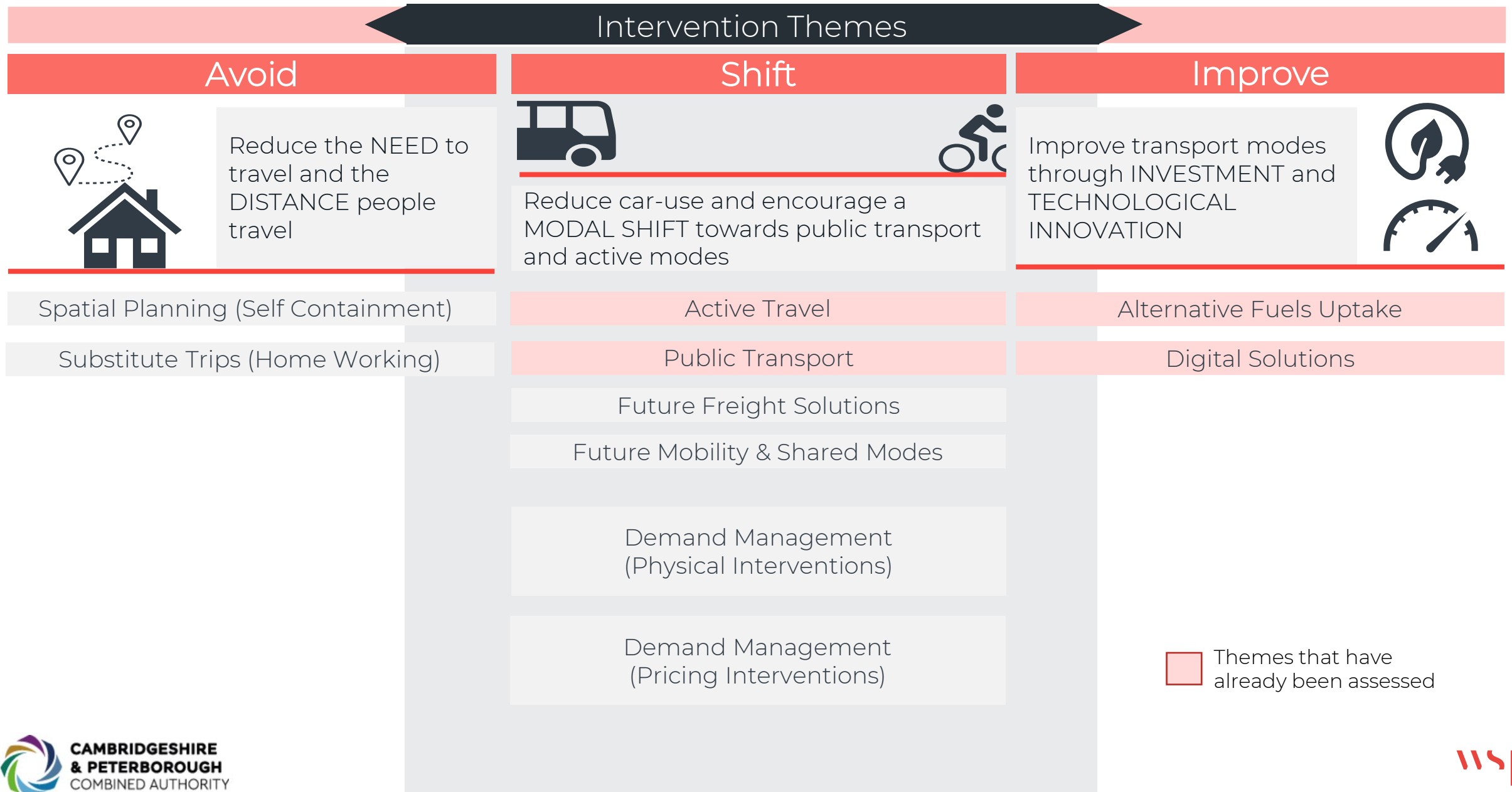


Risk highway schemes can lead to a net increase in carbon against BaU
Worst case +1%

IDENTIFYING THE IMPLEMENTATION GAP



NARROWING DOWN INTERVENTIONS NEEDED



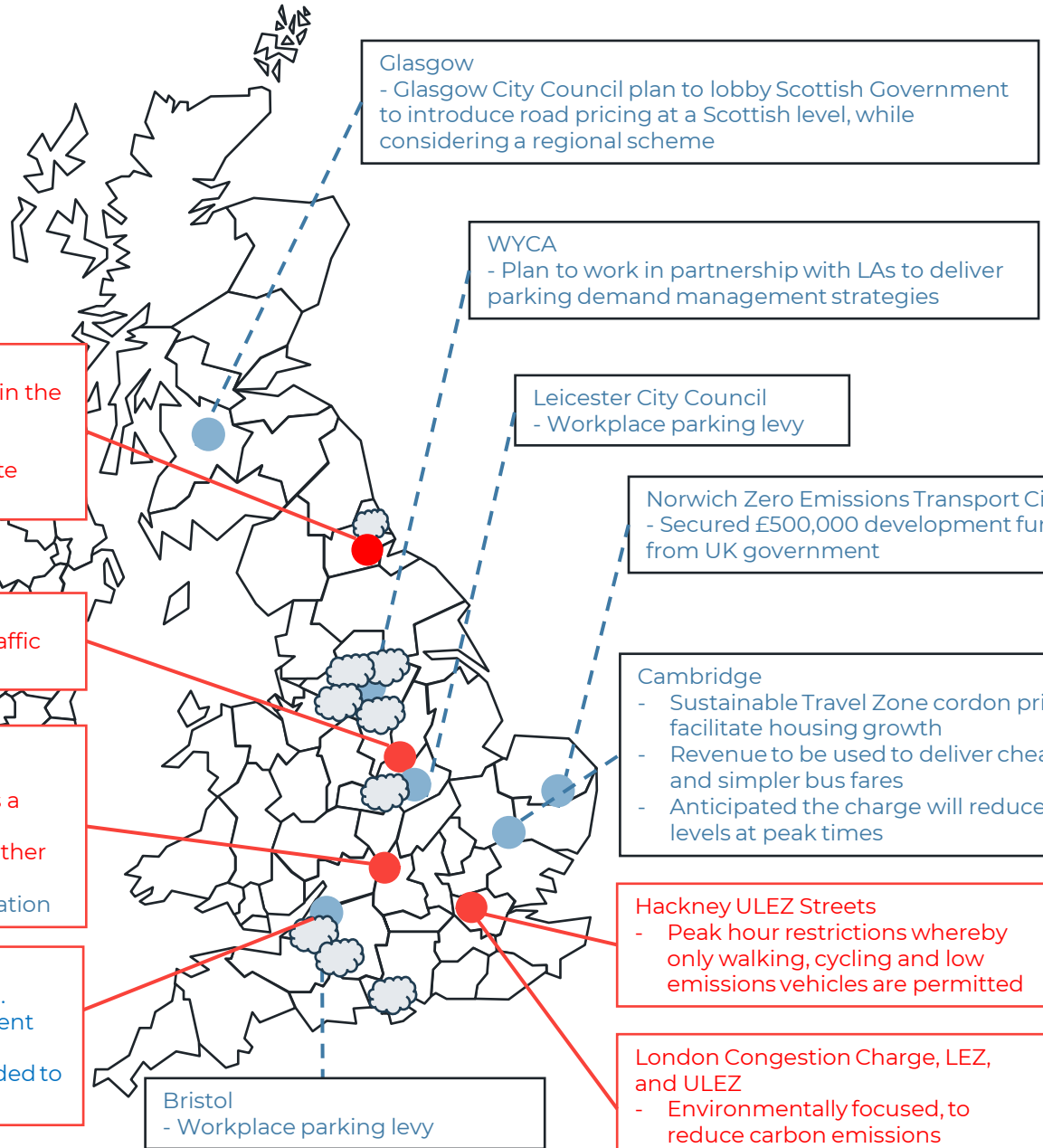
INTERVENTIONS

What are others doing?

Increasingly, others are considering or delivering demand management measures

- Under consideration / in development
- Implemented
- ☁ Clean Air Zone (current & future)

Demand management, implemented to date, have considered decarbonisation as secondary to achieving other policy goals.

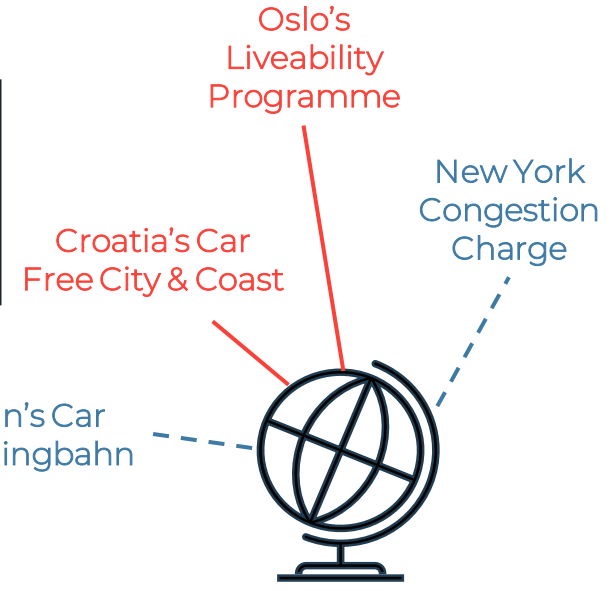


Durham
- First congestion charge to be introduced in the UK
- Daily charge of £2 Monday to Saturday
- To reduce congestion, pollution, and create safer streets

Nottingham Workplace Parking Levy
- Revenue generation scheme to reduce traffic congestion during commuting hours

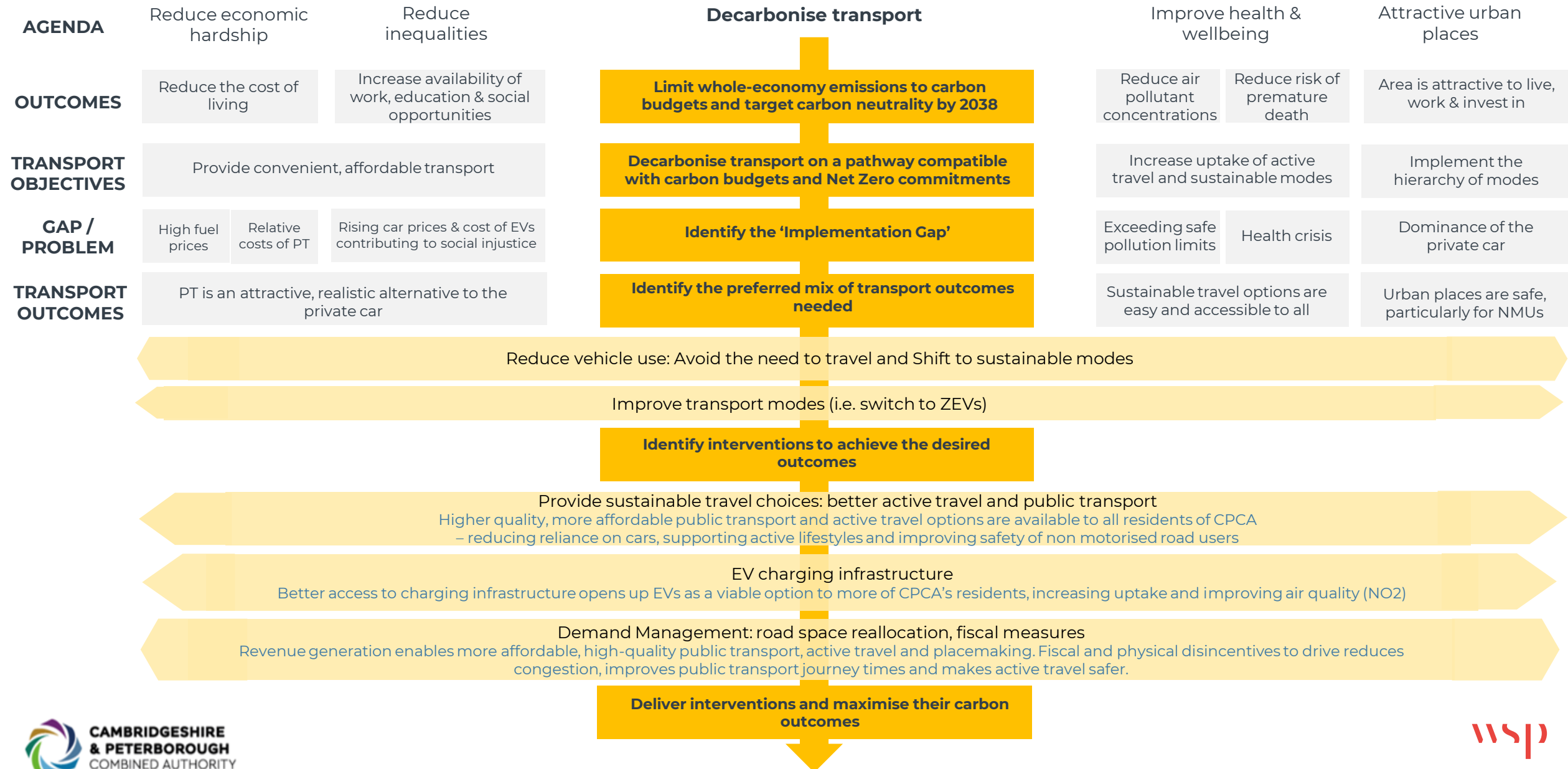
Oxford
- Zero Emission Zone
- Introduced Feb 2022 for the city centre as a pilot scheme
- Intention to widen the zone subject to further assessments and consultation
- Workplace Parking Levy- Under consideration

WECA (with WSP)
- Ongoing decarbonisation study with WSP. Concluded ambitious demand management needed, such as congestion charging
- Exploring intensity of fiscal measures needed to achieve decarbonisation commitments



Wider Policy Crossover

Transport decarbonisation interventions can support wider policy outcomes



OTHER STAKEHOLDER INTERVENTIONS

Not all transport emissions within CPCA are within CPCA's direct control. What action is needed from others?

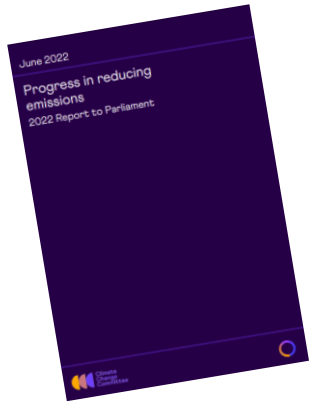


- Reducing emissions from the Strategic Road Network
 - National Highways Net Zero Highways strategy
 - Net Zero maintenance and construction by 2040
 - Net Zero road user emissions by 2050



- National Road User Charging
 - UK Government Inquiry (Dec 2020)
 - Transport Select Committee
 - Zero emission vehicles shouldn't mean zero tax revenue
 - Replacement of fuel duty and vehicle excise duty
 - In support of other policy objectives:
 - Encouraging active travel
 - Decarbonising transport
 - Increasing transport infrastructure investment

"It will be necessary for the UK to introduce some form of road pricing to fill the fiscal hole that will be left by the erosion of fuel duty, and to prevent the low costs of electric vehicles leading to increased congestion."



- Reducing rail emissions
 - Network Rail have committed to a carbon neutral railway by 2050 (2045 in Scotland)
 - At present, 42% of the rail network is electrified. Network Rail's strategy sets out that 13,000km of railway line needs to be electrified by 2050. Between 2021 and 2050, that means that 448km will need to be electrified each year.



NARROWING DOWN INTERVENTIONS NEEDED

