



Midlands Highway Alliance Plus
MHA, MSIG, WMHA: Moving Forwards Together

(Breakout)
11:30 to 12:35

Sustainability and Carbon Reduction

Wednesday 13 October 2021

Change travel behaviour?

Peter Wright, AECOM, Transport Planning Europe
Carbon and Climate Emergency Champion



Peter.wright1@Aecom.com

The role of designers and engineers in changing travel behaviour?

OR What can we do to reduce carbon in transport?

OR Will it reduce carbon faster?

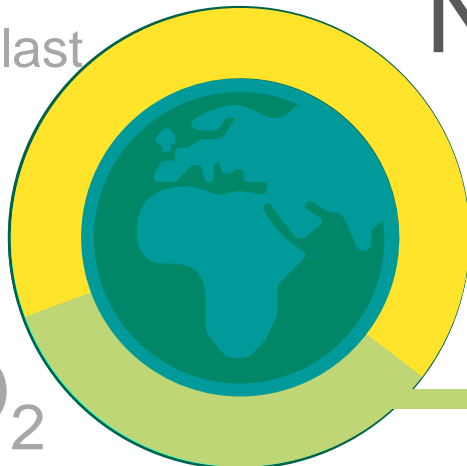
More on
this later!

First, what is Net Zero? The UK government defines Net Zero as...

“...emissions from homes, transport, farming and industry will have to be avoided completely or - in the most difficult examples - offset by planting trees or sucking CO₂ out of the atmosphere.”

90% heat

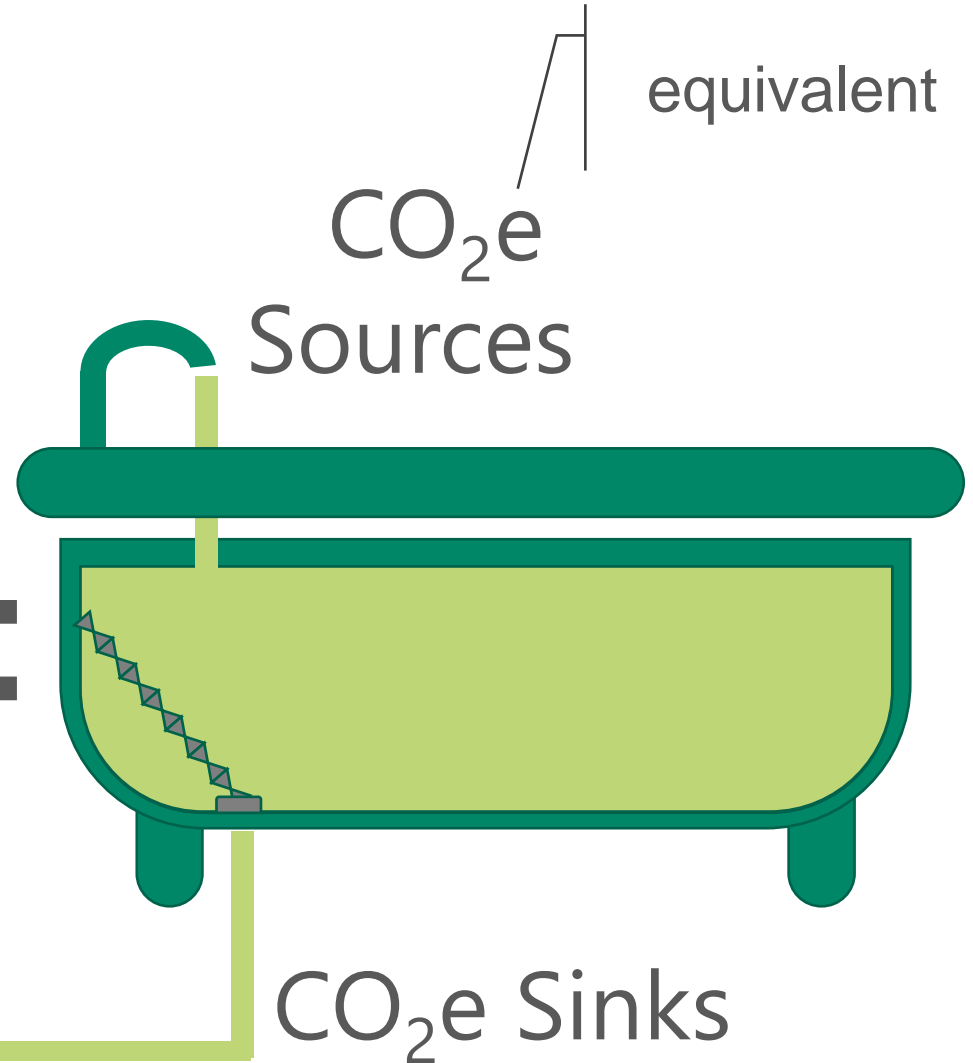
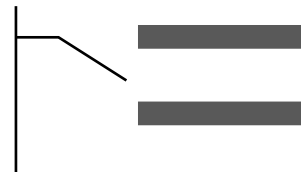
absorbed in last
50 years
by oceans



1/3 CO₂

removed by oceans

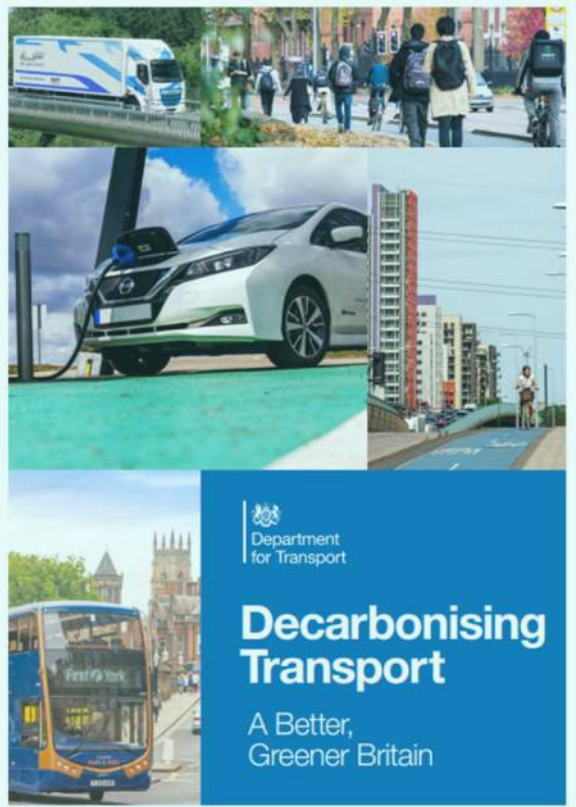
Net Zero



Distracting quote alert!

*“It’s not about stopping people doing things: **it’s about doing the same things differently.** We will still fly on holiday, but in more efficient aircraft, using sustainable fuel. **We will still drive on improved roads, but increasingly in zero emission cars.** We will still have new development, but it won’t force us into high-carbon lifestyles.”*

Foreword and Press Releases
Grant Shapps



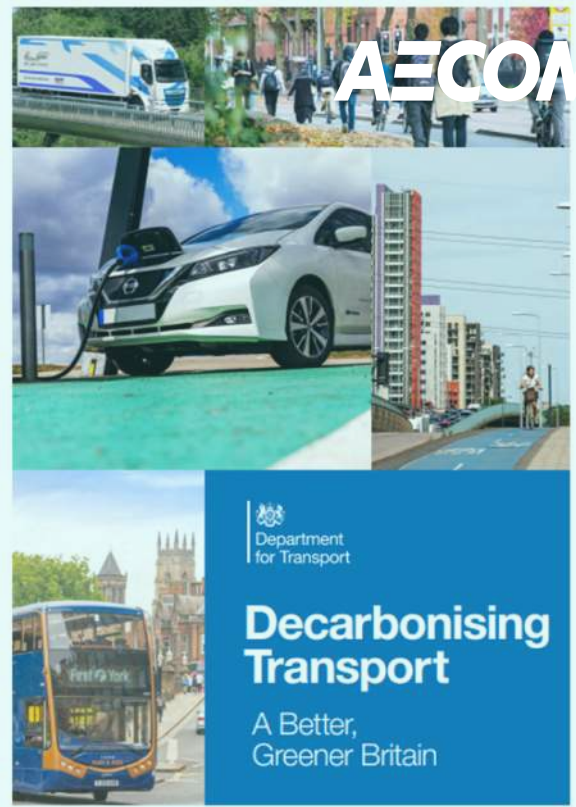
Department for Transport
Decarbonising Transport
A Better, Greener Britain



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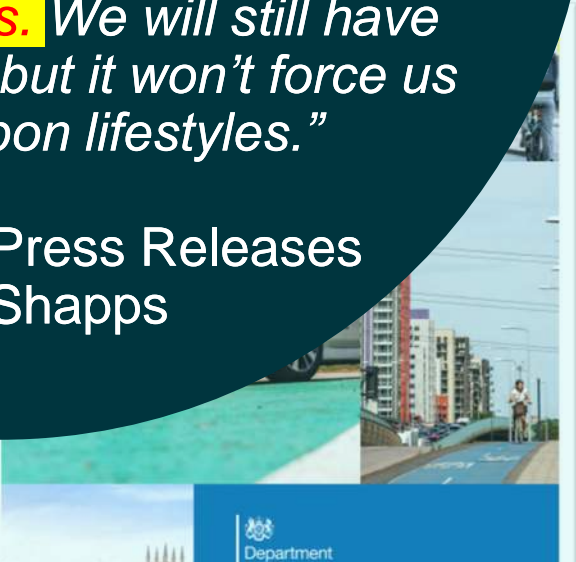
Department for Transport
Decarbonising Transport
A Better, Greener Britain



Delivering a better world
Department for Transport



Department for Transport



Department for Transport

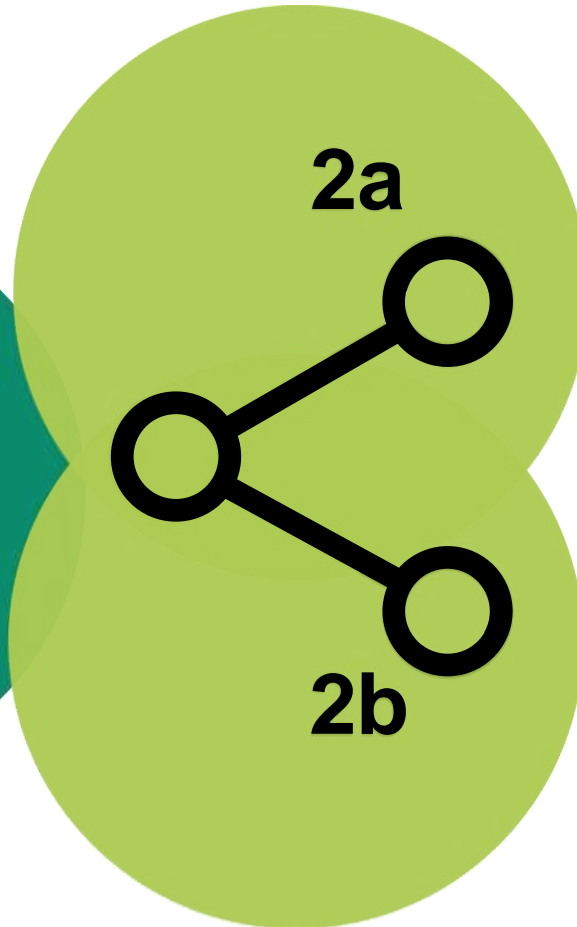
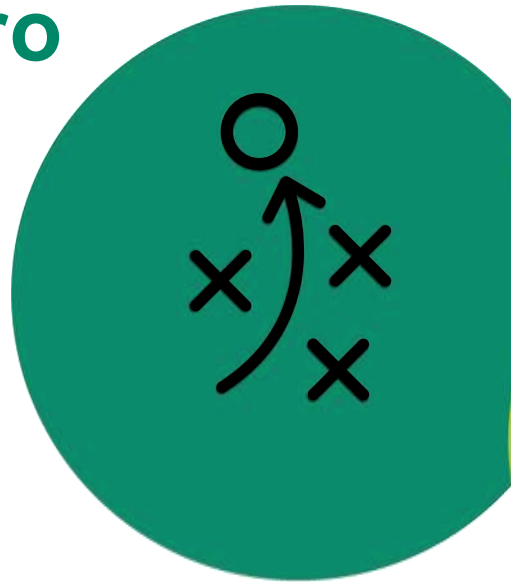


Department for Transport
[aecom.com](https://www.aecom.com)

Two parts to the plan – with other accompanying documents

Part 2: The plan in detail: commitments, actions, and timings

Part 1: Path to net zero

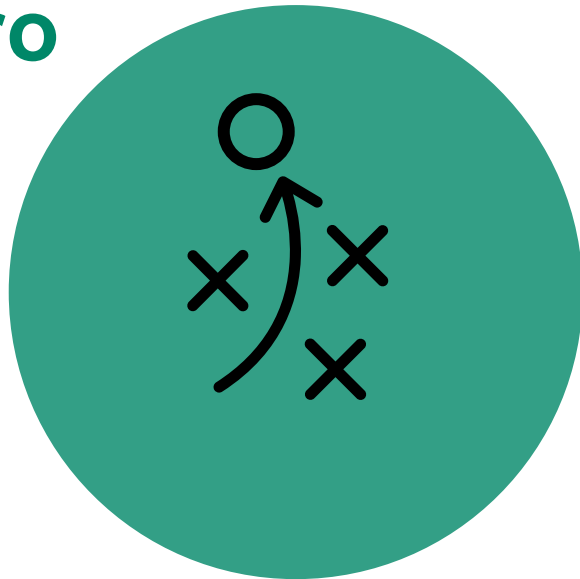


2a: Decarbonising all forms of transport

2b: Multi-modal decarbonisation and key enablers

Part 1: Our path to net zero

Part 1: Path to net zero



- a) Clean transport is better transport
- b) How will we deliver this?
- c) The impact of this plan on transport's emissions

Quote

“Much of the change needed to deliver net zero for the transport sector is already underway and makes sense even without the global imperative of climate change”

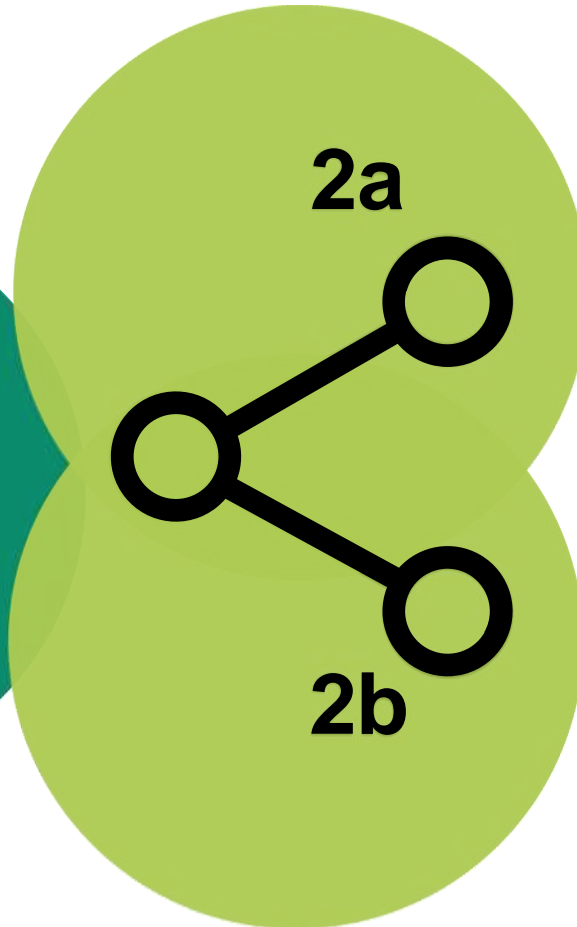
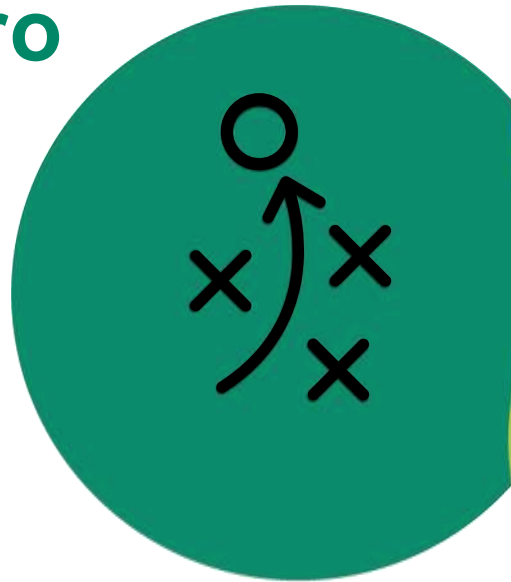
Response

If this is the case, then why hasn't it been happening already?

Two parts to the plan – with other accompanying documents

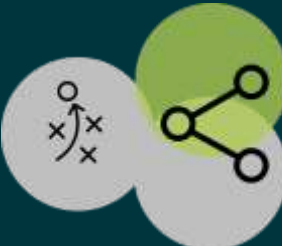
Part 2: The plan in detail: commitments, actions, and timings

Part 1: Path to net zero



2a: Decarbonising all forms of transport

2b: Multi-modal decarbonisation and key enablers



Part 2a: Decarbonising all forms of transport

Zero emission buses and coaches

A zero emission fleet of cars, vans, motorcycles, and scooters

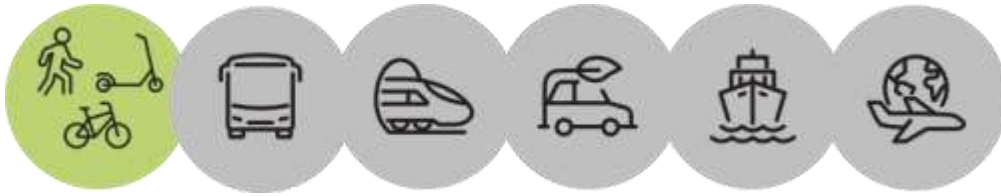
Accelerating aviation decarbonisation



Increasing cycling and walking

Decarbonising our railways

Accelerating maritime decarbonisation



- Whilst walking and cycling are top of the list of things to do – the timescales are by 2040 and previously announced £2bn funding is dominated by cycling investment
- For comparison c.£1bn cycling investment in London since 2013 and still far from “Dutch-style”
- The importance of walking as part of a cultural change – particularly through place-making and safer routes – is fundamental for delivering wider behaviour change

I will come back to your role in delivering that cultural change

Department
for Transport

Gear Change: One Year On



Check out case studies in *Gear Change: One Year On* report

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1007815/gear-change-one-year-on.pdf

A reminder...transport is responsible for more than one quarter of all CO₂ emissions in the UK (most savings have come from energy supply)

Transport was the largest emitting sector in the UK in 2019, responsible for over a quarter of emissions

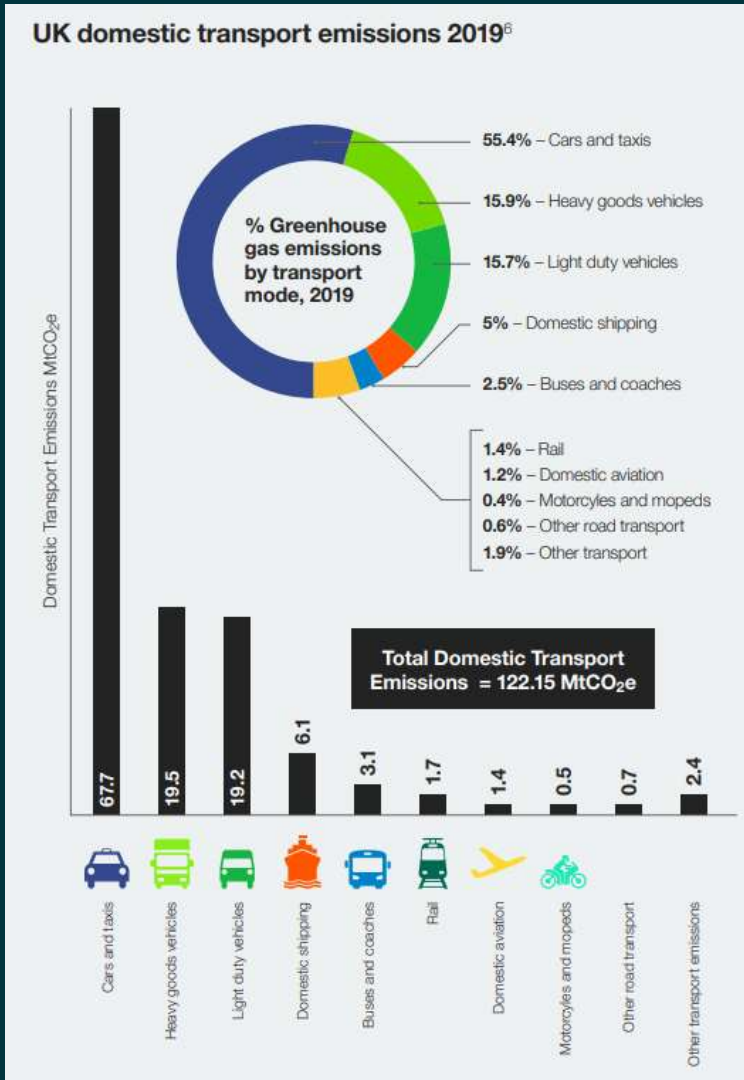


Others include Public, Industrial Processes and the Land Use, Land Use Change and Forestry (LULUCF) sectors. The percentages may not sum to 100% due to rounding.

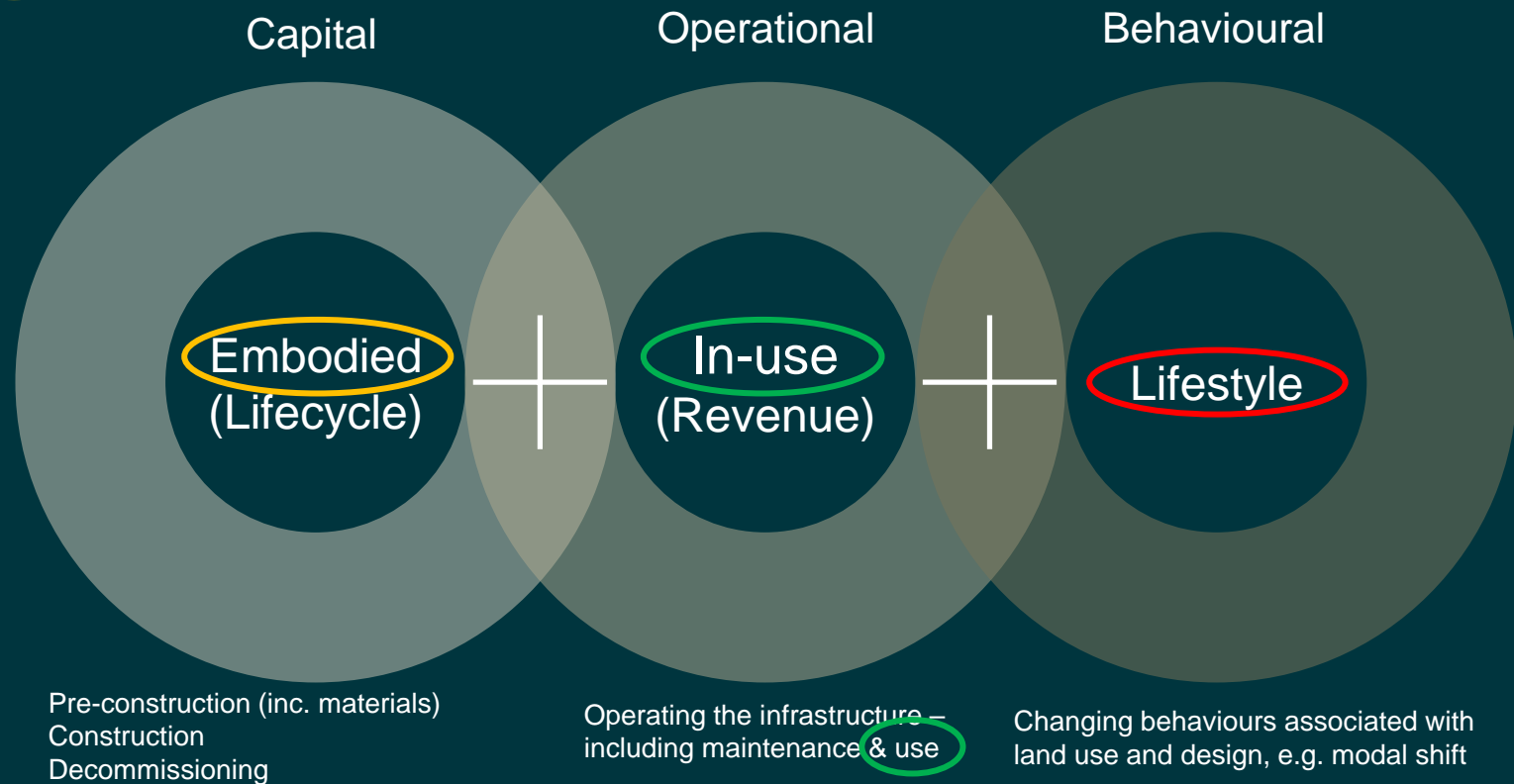
Energy supply delivered the largest reduction in emissions in the UK from 2018 to 2019, as power stations continued to reduce coal use

	2018-2019 % change	1990-2019 % change
Total greenhouse gas emissions	↓ 3%	↓ 44%
Transport	↓ 2%	↓ 5%
Energy supply	↓ 8%	↓ 66%
Business	↓ 3%	↓ 32%
Residential	↓ 1%	↓ 14%
Agriculture	↑ 1%	↓ 13%
Waste management	↓ 1%	↓ 71%
Other	↑ 2%	↓ 73%

Whilst emissions come from infrastructure construction, transport use and changes in behaviour, the plan only covers “direct” or “tailpipe” emissions*



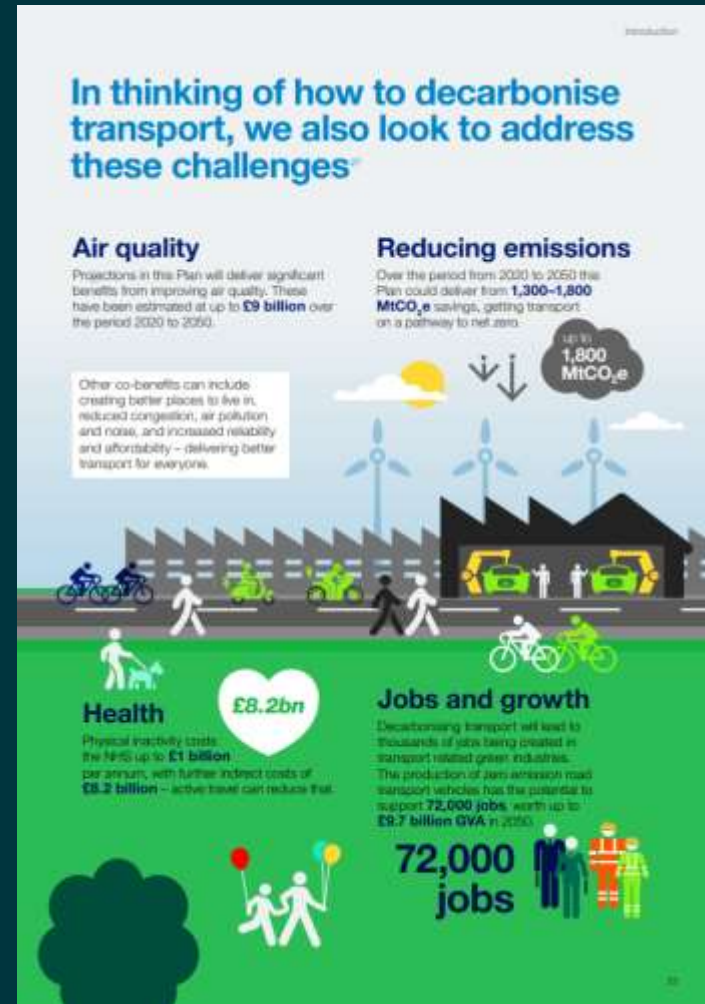
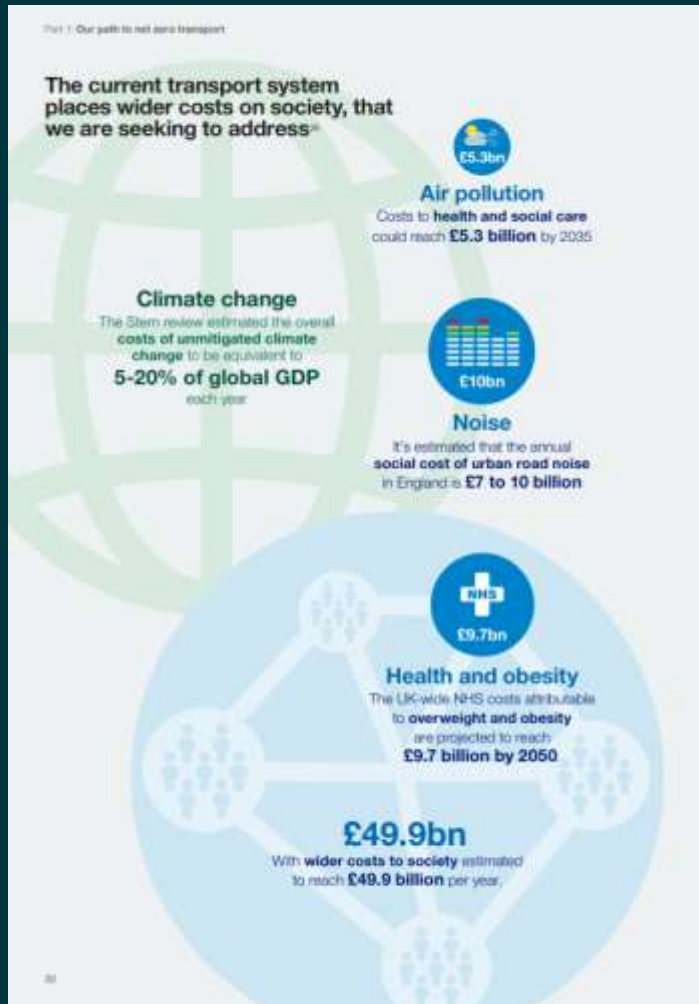
- *In scope of plan
- Limited opportunity
- Carbon Management Programme[^]



[^] DfT programme for whole carbon of infrastructure projects at a portfolio level

NB: GHG emissions associated with power generation are considered in Energy White Paper

The TDP recognises there are wider co-benefits from decarbonising transport that should be factored in to decision-making



Air quality

Noise

Congestion

Health

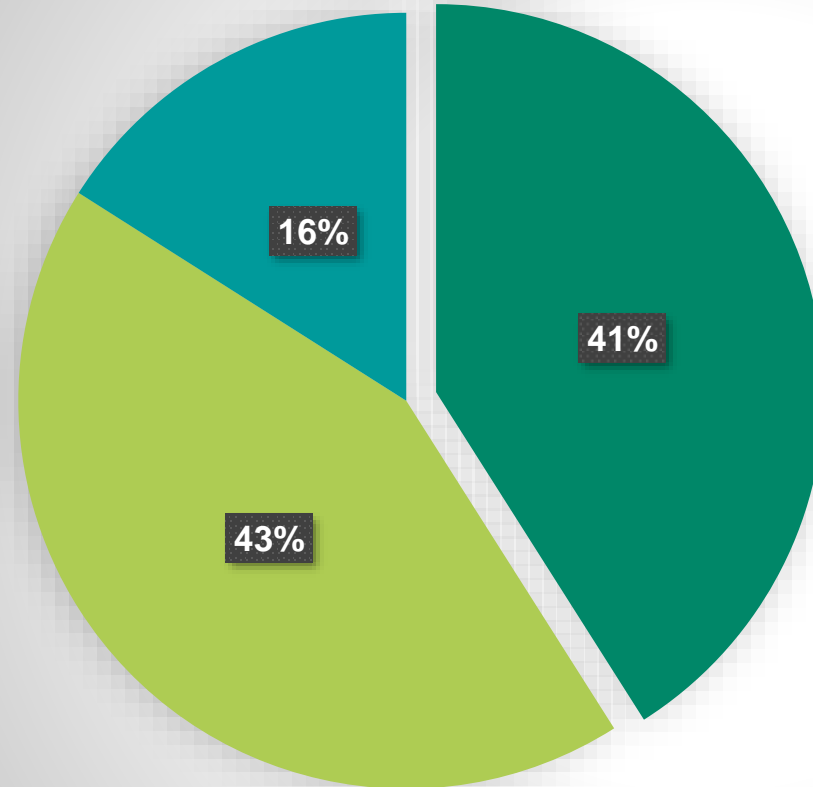
Jobs & growth

43% of all urban and town centre journeys...



Less than **2 miles**

The UK CCC suggest 59% of transport emission reductions need to come from societal behaviour change – business needs to be “unusual” for that to happen



- Low carbon technologies or fuels, not societal / behavioural changes
- Measures with a combination of lowcarbon technologies and societal / behaviour changes
- Largely societal or behaviour changes

i.e. there is no way we will meet our carbon commitments without a reduction in the amount we drive

Whilst the roads programme can be reviewed, the prospects of it changing without pressure are not particularly high...

*“continued investment in our roads...will remain as necessary as ever to ensure the functioning of the nation and to reduce the congestion which is a major source of carbon. **Almost half of our £27 billion programme** for England’s strategic roads, though often described as for roadbuilding or capacity expansion, is in fact for **renewing, maintaining and operating the existing network, or for funds to improve safety and biodiversity, deliver active travel schemes and tackle noise or pollution.**”*



50%+ is for capacity



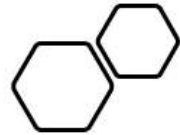
Focus of legal challenge(s)

Promotion and travel planning can lead to targeted changes in behaviour



Travel planning advice from 2018 to 2020 to:

- Residents;
- Business / Employees;
- Job Seekers; and
- School Leavers.



We promote walking, cycling and scooting to schools.

Photos: Cycle shelter installations, and student banner competitions: Derby and Nottingham



Daniel Godfrey
daniel.godfrey@aecom.com

Promotion and travel planning can lead to targeted changes in behaviour



Travel planning advice from 2018 to 2020 to:

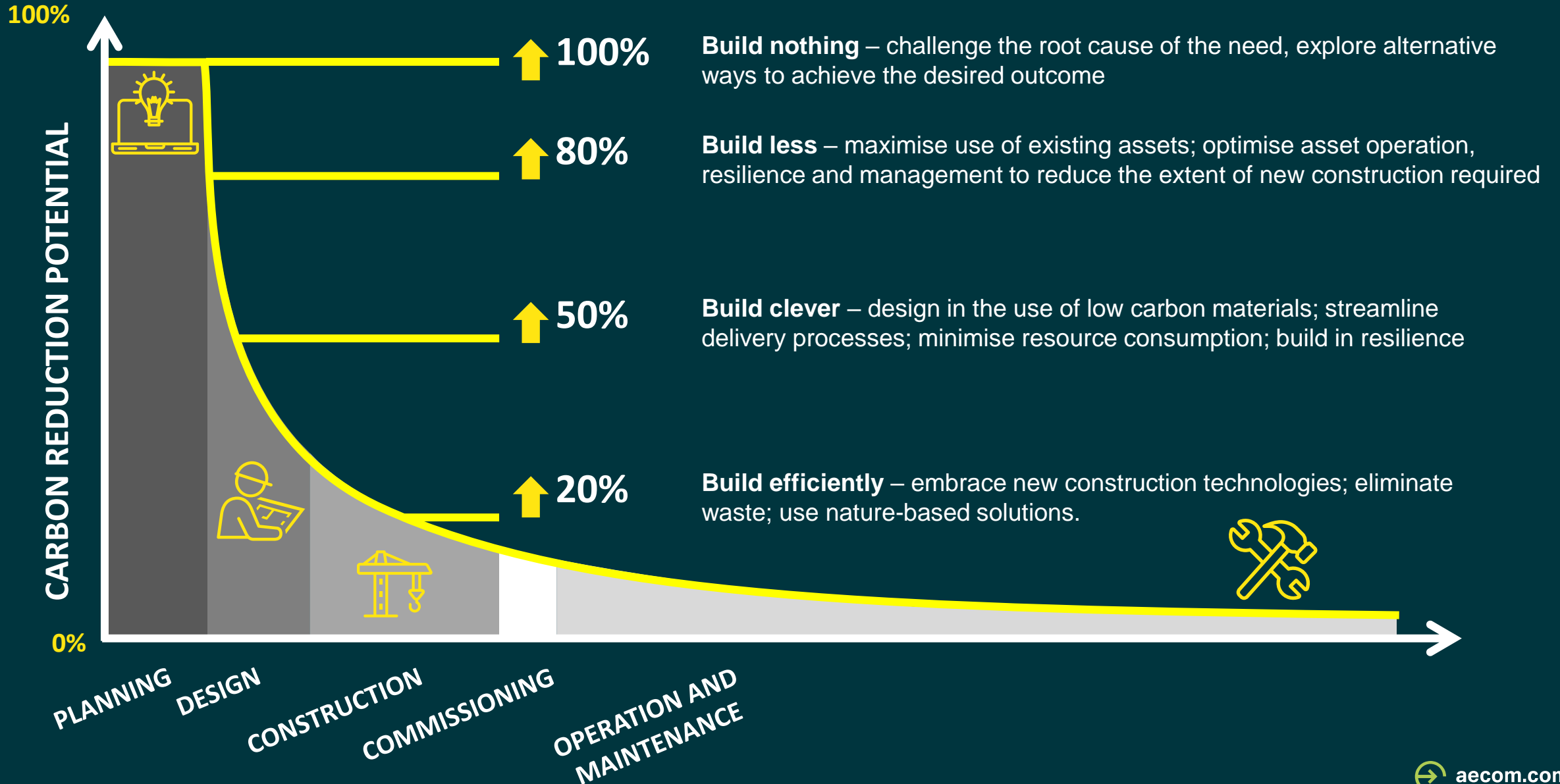
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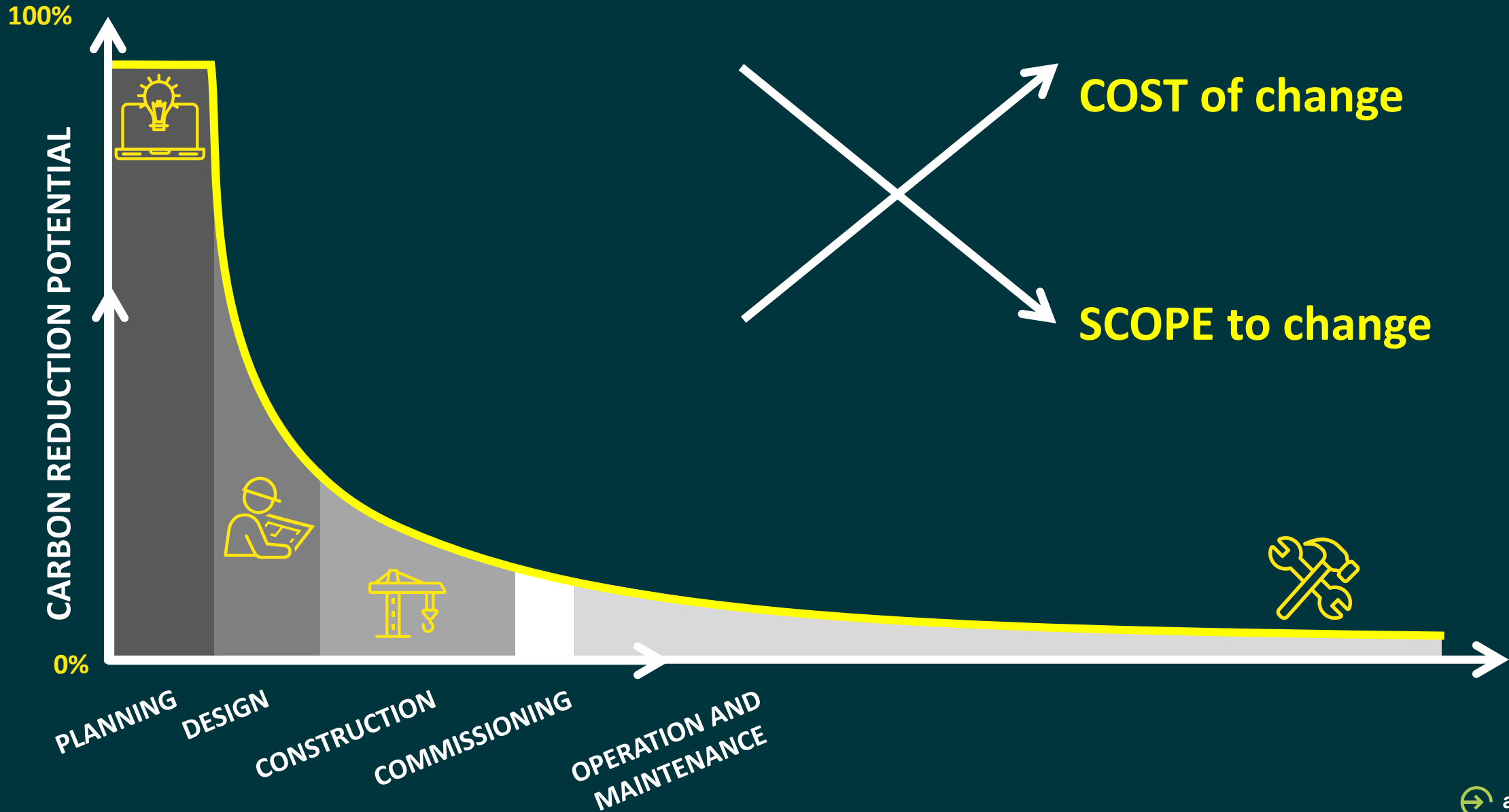
REALITY CHECK:
Travel planning will NOT deliver all changes in behaviour needed!

Daniel Godfrey
daniel.godfrey@aecom.com

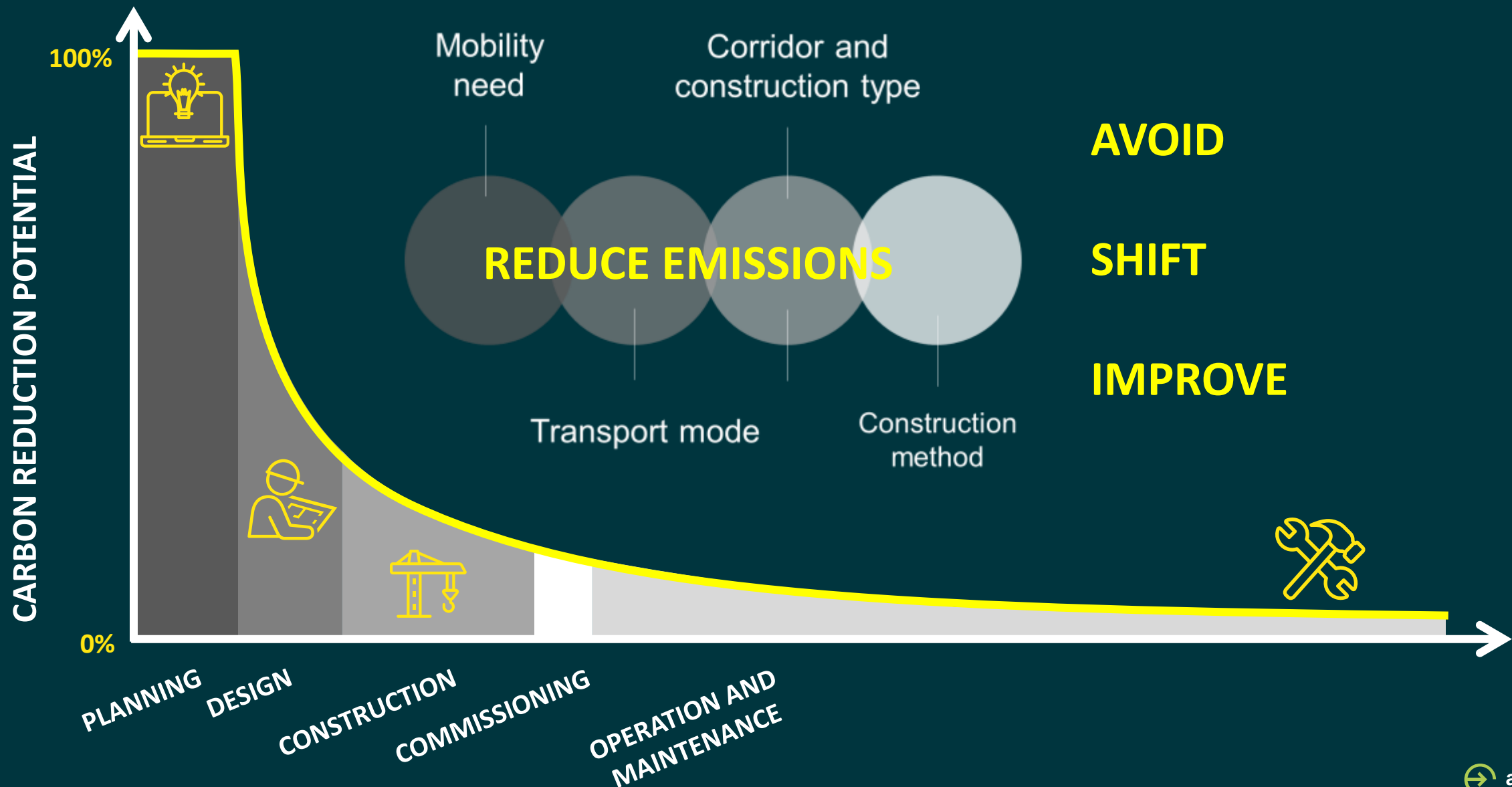
The biggest opportunities to reduce carbon and build in resilience are up front



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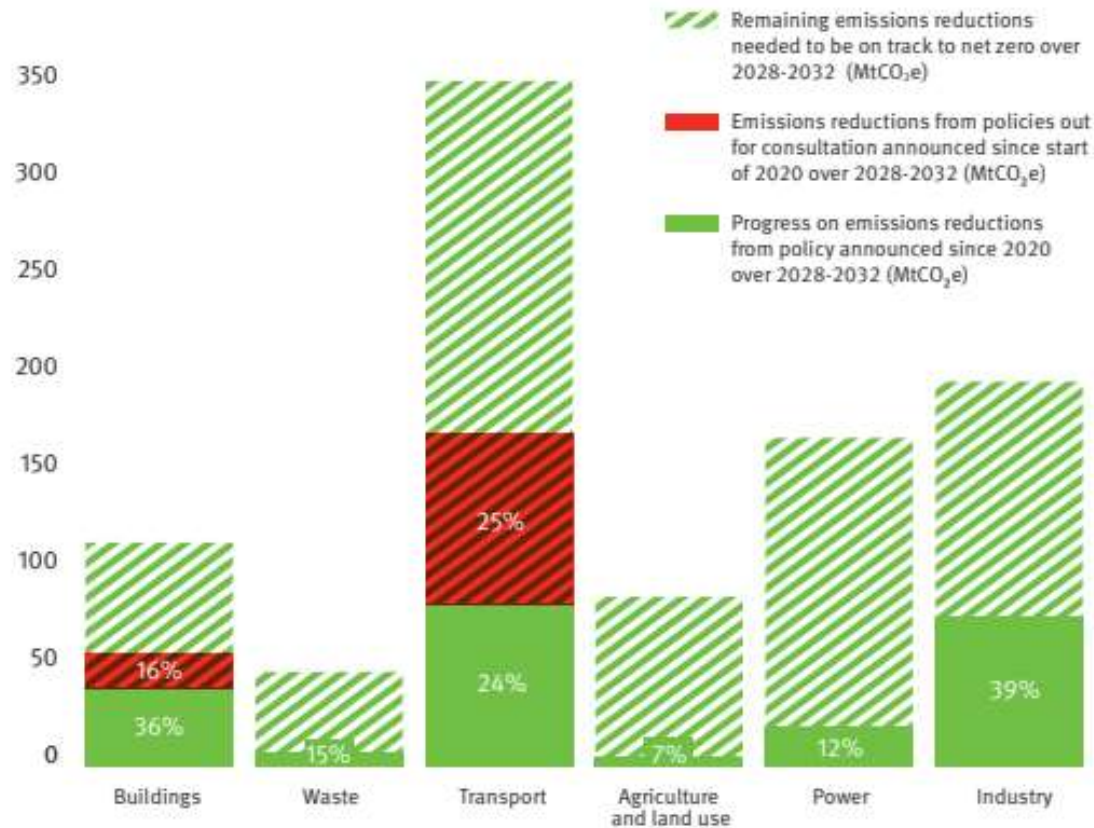


The biggest opportunities to reduce carbon and build in resilience are up front



The gap to meet transport emission targets by 2032 is stark – with a lot of policy requirements (including behaviour change) still to be decided

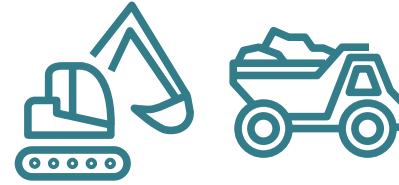
Impact on emissions projections in 2028-32 from new policies by sector since the start of 2020¹⁰



What do highway/street designers and engineers need in their toolbelt to drive changes in travel behaviour and tackling the climate emergency?



Travel plans for contractors



Construction and materials



Overcome (Un)conscious bias



Repair and maintenance



Cycle Superhighways – Transport for London

AECOM have been involved in the design and delivery of multiple cycle superhighway corridors in London since their inception in 2010 to the present day

Involved in the evolution and development of CSH from the initial blue bike lanes in 2010 through to current full segregation

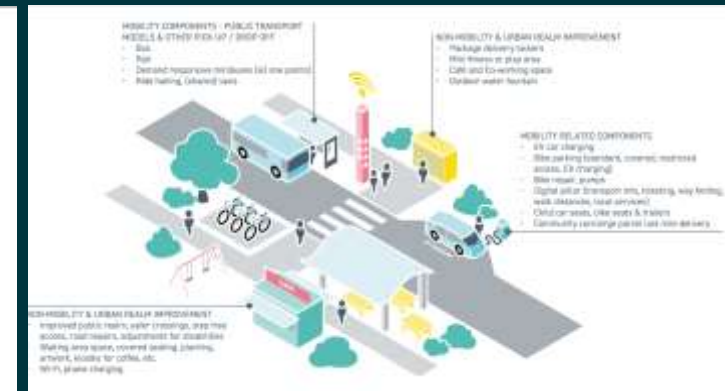
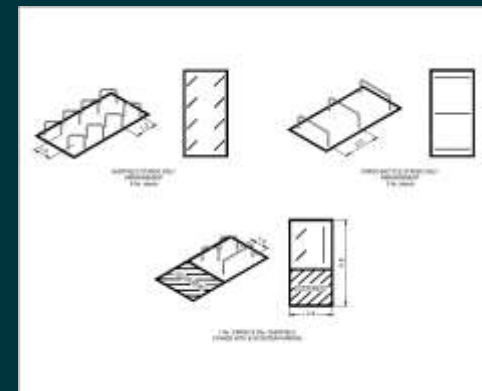
Services provided include:

- Optioneering and concept design
- Detailed design
- Transport modelling and assessment
- Utility diversions and traffic management
- Site supervision and contract management



Future Transport Zones (FTZ) – West of England Combined Authority (WECA)

- Supporting WECA as part of multiple project teams within the FTZ programme funded by Department for Transport
- Testing and trailing future transport approaches
- Collaborative teams with WECA, Atkins & WSP
- **Mobility Hubs**; developing the concept, identifying trial sites and designing new form of multi-modal interchange with shared modes, public transport and community facilities
- **E-Scooter trials**; seconded project management services

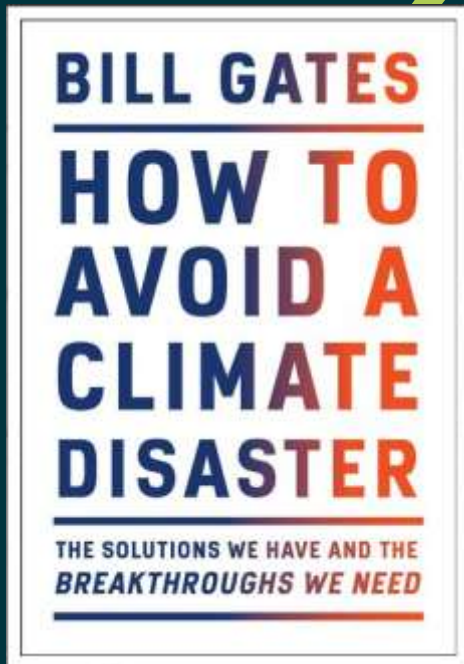


A40 Smart Corridor - Oxfordshire

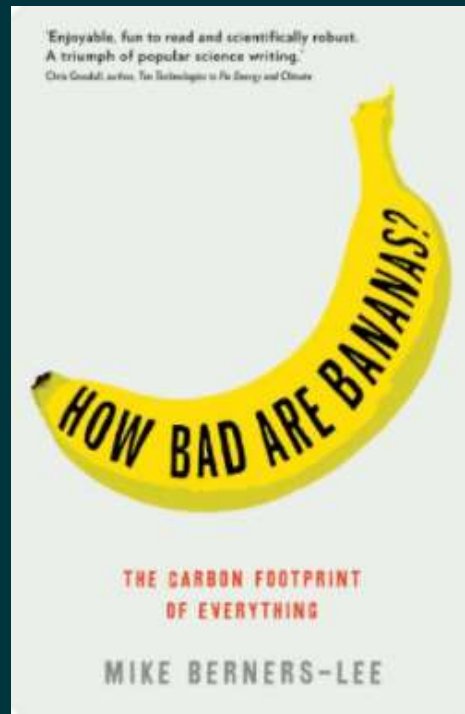


- Upgrade of 12km along A40 corridor in Oxfordshire to support new homes and economic growth
- Funded by Homes England and Oxfordshire County Council
- Improvements include:
 - Upgrade sections to dual carriageway
 - New dedicated bus lanes
 - Upgraded pedestrian facilities and new crossings
 - New and upgraded pedestrian and cycle facilities
 - New junctions including traffic signals and roundabouts with ped/bike crossings
- Transportation services included optioneering, assessment, feasibility and preliminary design
- C£4.5 million in fees

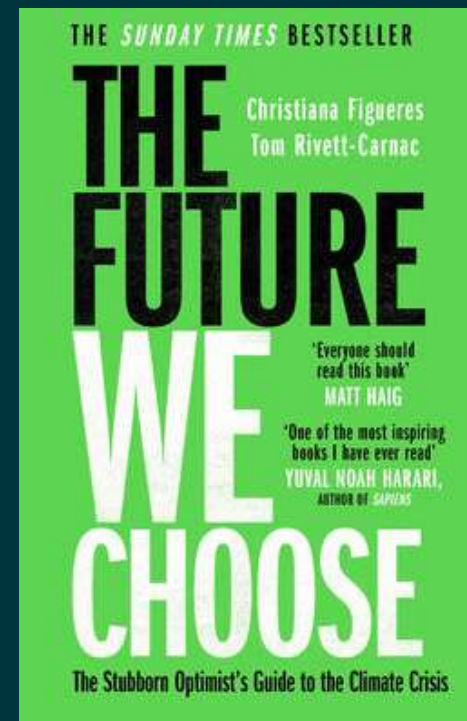




51 Billion
Zero



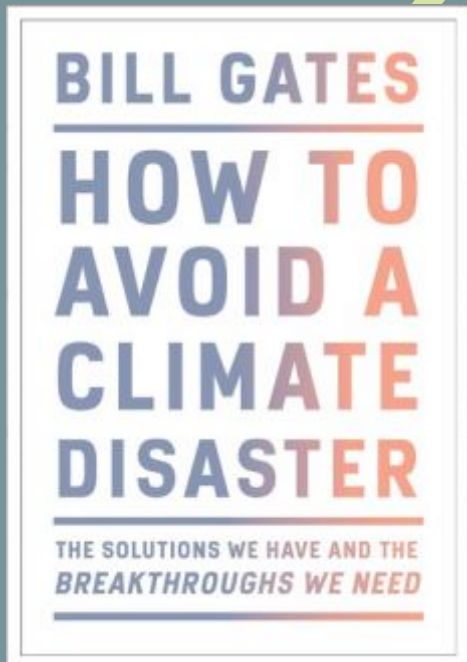
10-tonne
lifestyle
carbon
budget



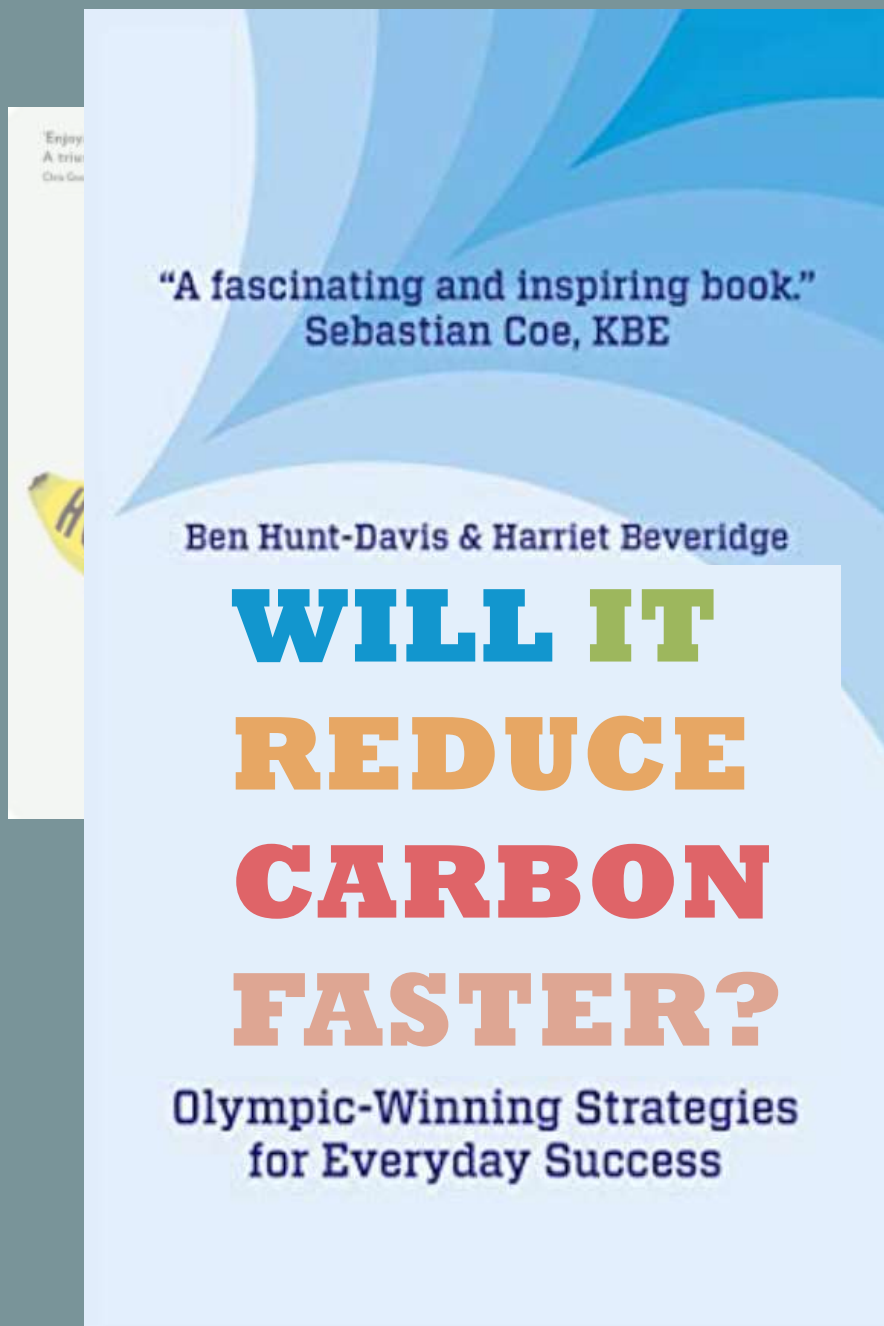
Personal
steps to
take



Questions to
meet
challenging
goals



51 Billion
Zero

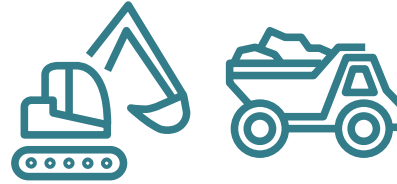


Questions to
meet
challenging
goals

What do highway/street designers and engineers need in their toolbelt to drive changes in travel behaviour and tackling the climate emergency?



Travel plans for contractors



Construction and materials



(Un)conscious bias ahead



Repair and maintenance



Discussion: What should be in the designer/engineer “Superhero” toolbelt?

Examples



Examples

Thank you

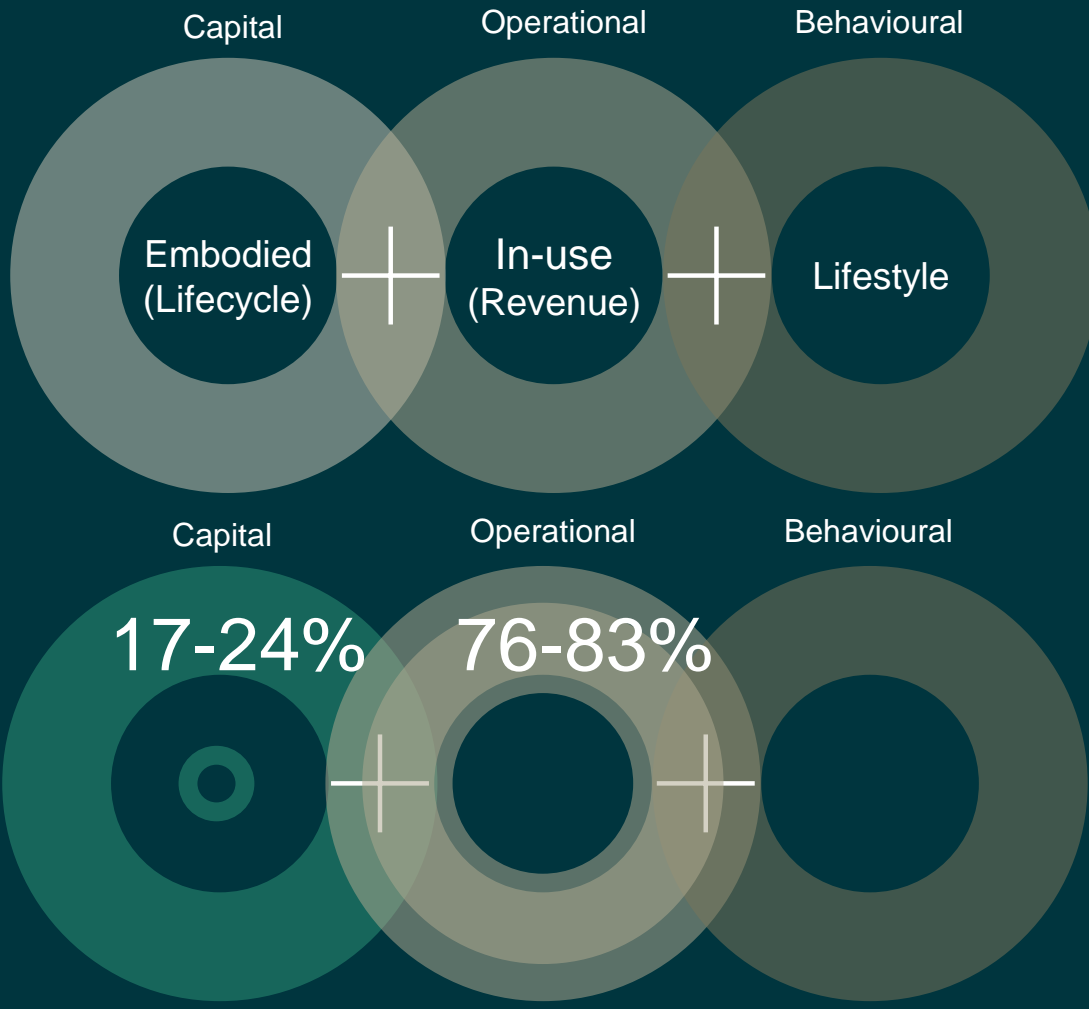
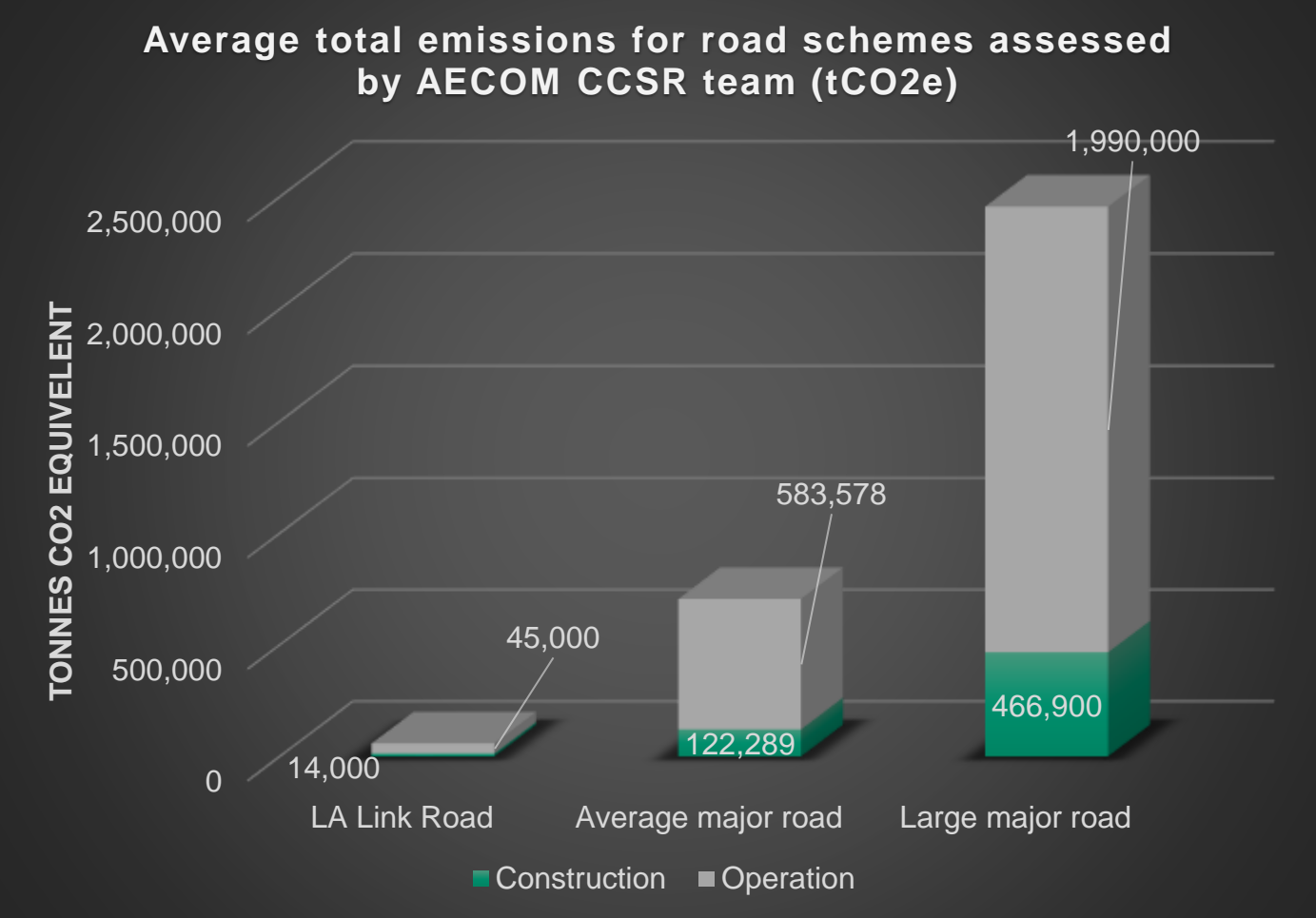
Discussion and questions?

Peter.wright1@aecom.com

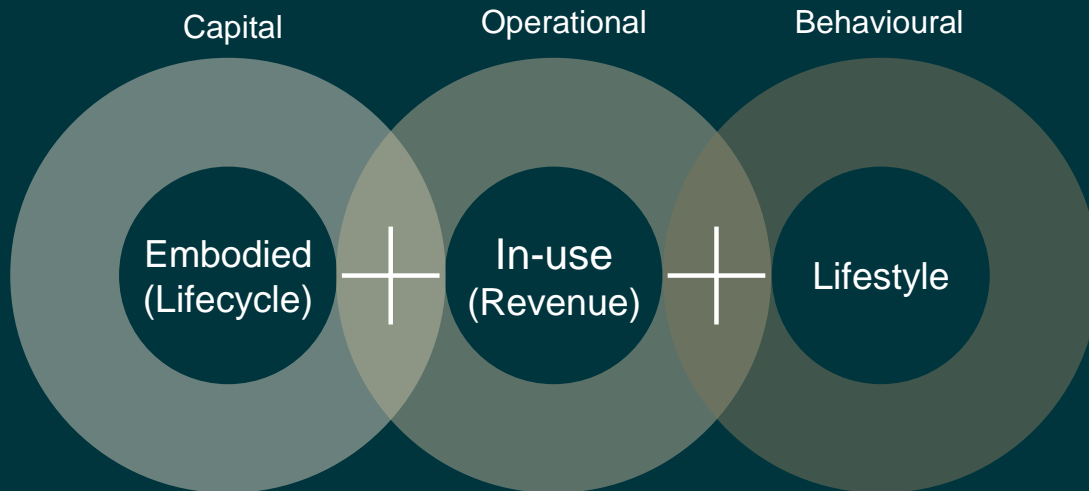
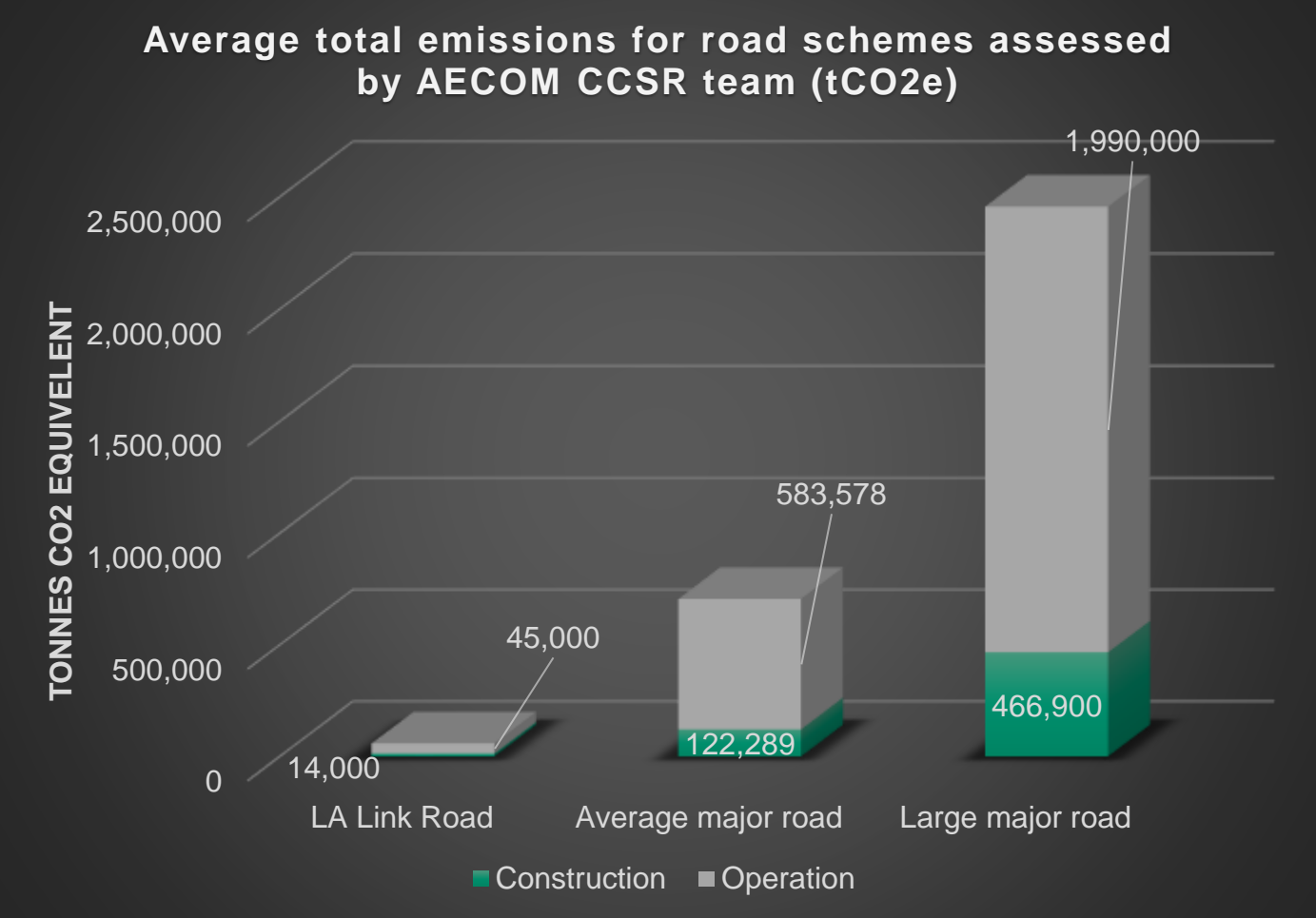


Annex 1 – where do road emissions come from?

Currently, use and maintenance of roads are responsible for c.80% of estimated CO₂e emissions from major road schemes



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Capital: 17-24%
 Operational: 76-83%

