

# Decarbonising Rural Transport

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# Overview

- Introduction
- Net Zero
- Decarbonising rural transport
- Way forwards

# Cambridgeshire in context



The 22 largest settlements of the county of Cambridgeshire, with cities in bold, and district centres in yellow.



**3.3%**  
Average annual employment growth within the Combined Authority area 2010-16



**194,000**  
The population of Peterborough, the 4th fastest growing city in the UK



**13**  
The ratio of house prices to earnings in Cambridge



**341**  
Number of patents per 100,000 people in Cambridge, the highest in the UK



**50%**  
The percentage of UK Grade 1 agricultural land which is found in the fens



**£200**  
The gap between mean weekly pay in Fenland and South Cambridgeshire



**1.28%**  
The percentage of UK population living in Cambridgeshire and Peterborough



**1.37%**  
Percentage of UK Gross Value Added stemming from Cambridgeshire and Peterborough

# Net Zero Cambridgeshire 2045: Our Net Zero Vision

- In 2021 the Joint Administration “committed to putting climate change and biodiversity at the heart of the Council’s work and to be more ambitious than ever before about the work needed to tackle the climate and environmental crises.”
- Updated Climate Change and Environment Strategy published 2022
- Includes updated vision, targets, priorities, evidence base and action plan

We will live in climate adapted and zero carbon homes

Our lives will be powered with 100% renewable energy

Our communities will be more resilient to the impacts of climate change and will have space for nature to thrive

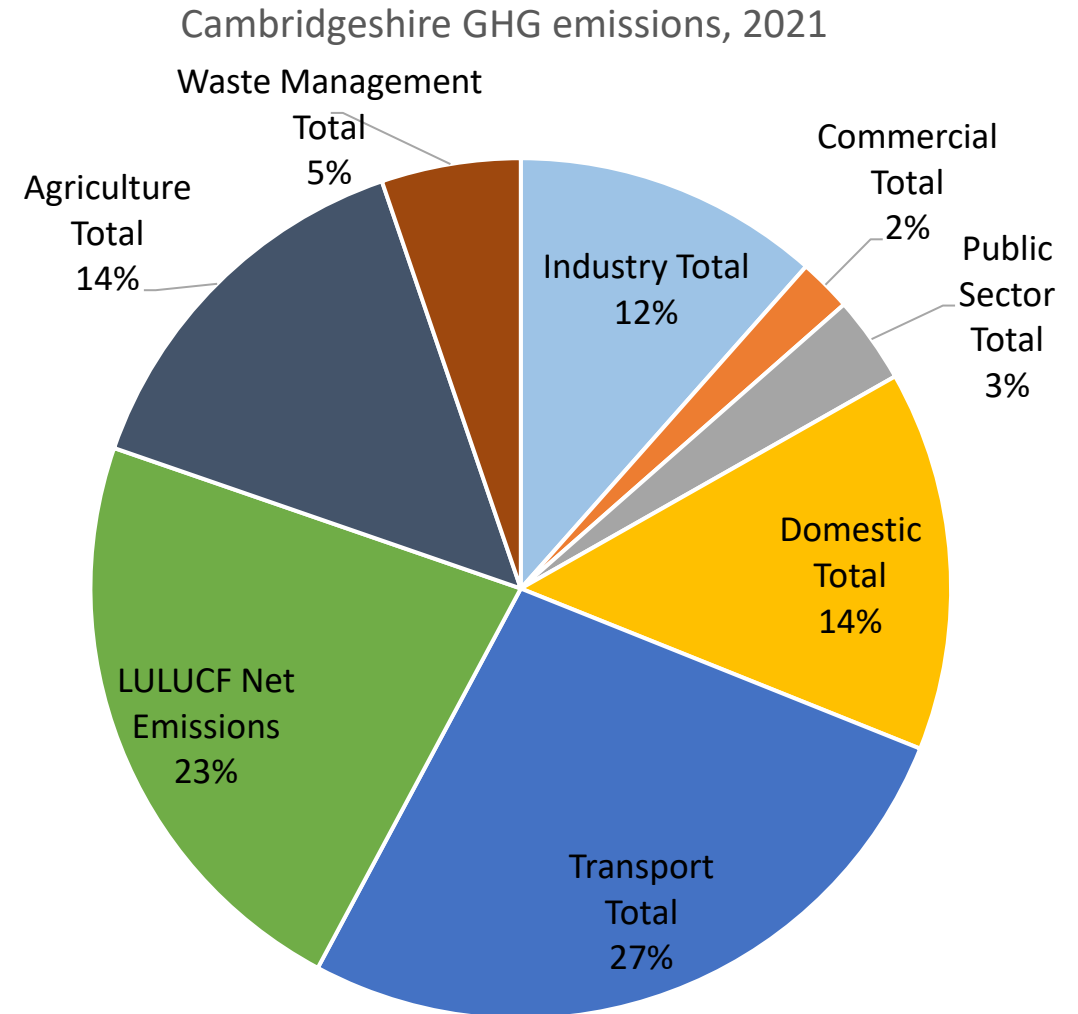
Our health will be better, and we will have easy access to sustainable, local transport and green space

We will have a circular economy that provides access to affordable low and zero carbon products and services



# Cambridgeshire Greenhouse Gas Emissions - Headlines

- New dataset with 2021 data, published by DESNZ in June 2023 (there is always a two-year lag in publication)
- GHG emissions have increased in most areas of the UK in 2021, compared to 2020.
- UK wide GHG emissions increased by 5.9%.
- Increases are mostly due to easing of Covid-19 restrictions and colder temperatures.
- Cambridgeshire county-wide GHG emissions in 2021 were **6.78m tonnes CO<sub>2</sub>e**
- 6.1% increase since 2020 (revised 2020 total now 6.4m tCO<sub>2</sub>e)
- 24.9% reduction since 2005
- Transport is now highest emitting sector in the county, with LULUCF in second place



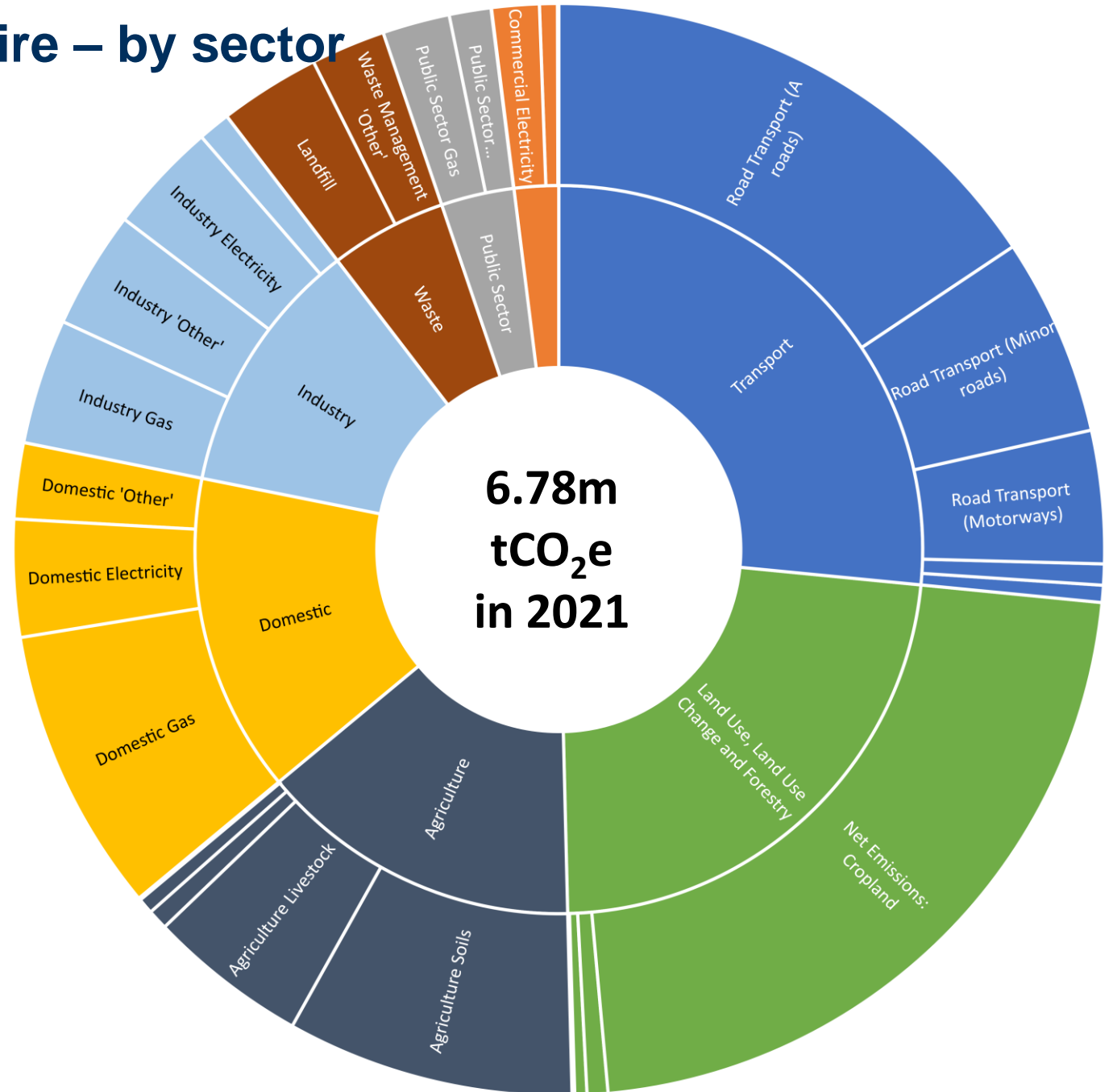
LULUCF = Land use, land use change and forestry



## GHG emissions in Cambridgeshire – by sector

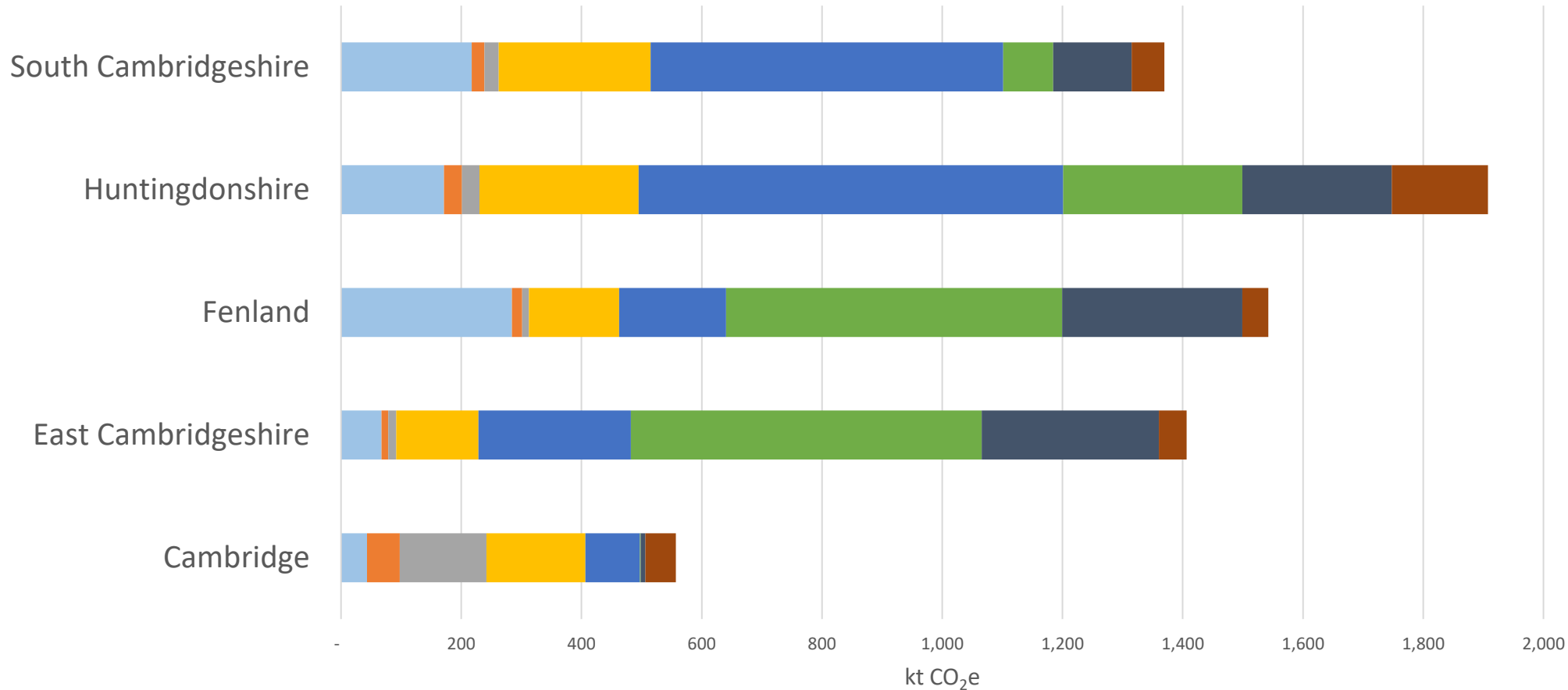
- 2021 data (this is the most recent year of data)
- Transport is now highest emitting sector (27%) with 1,814 kt CO<sub>2</sub>e, most of that is from A roads.
- Land use, land use change (LULUCF) in second place (23%), 1,524 kt CO<sub>2</sub>e, mostly from cropland.
- Agriculture third (14%, 981 kt CO<sub>2</sub>e) mostly from soils
- Domestic fourth (14%, 968 kt CO<sub>2</sub>e) mostly from gas use

(1 kt = 1,000 tonnes)



# GHG emissions by District

Cambridgeshire GHG emissions, 2021



- High share of LULUCF emissions in East Cambs & Fenland, due to peatland areas.
- High transport emissions in Hunts & South Cambs, due to major roads in these areas.
- Smaller footprint in the City.

LULUCF = Land use, land use change and forestry

# Policy Direction - Decarbonisation

- Gear Change (July 2020)
- LTN1/20 (July 2020)
- National Planning Policy Framework (2021)
- 'Net Zero' Strategy: Build Back Greener (2021)
- The Environment Act (2021)
- Transport Decarbonisation Plan (DfT, 2021)
- Levelling Up the United Kingdom (2022)
- Bus Back Better (2022)
- Combined Authority Sustainable Growth Ambition Strategy (2022)
- Cambridgeshire County Council Climate Change and Environment Strategy (2022)
- Transport Business Case Guidance (December 2022)
- Combined Authority Local Transport and Connectivity Plan (emerging)



# Decarbonising Rural Transport

- Public Transport
- Active Travel
- Electric Vehicles
- Avoid Travel
- Work From Home
- Connectivity
- Growth Pressures
- Reduction in network: 'use it or lose it'
- Most investment in urban areas
- Affordability / low car ownership
- Suits some employment
- Broadband availability
- Accessibility
- Quality Places

# Scoping and evidence base

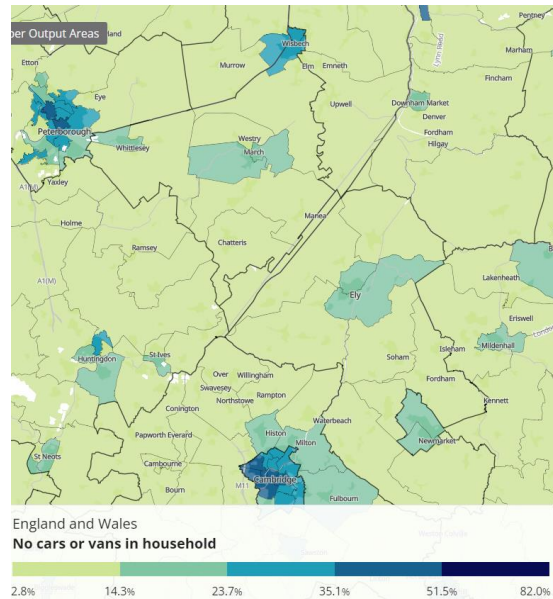
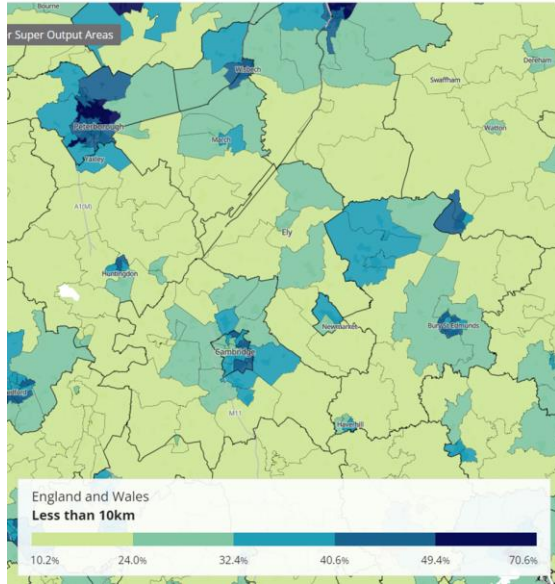
## Assumptions

- Test 'Classic' decarbonisation solutions
- Investment secured in Greater Cambridge
- Rural areas key to our growth and must not be left behind
- In house demographic / economic review
- Case studies or projects
- Areas for further investigation
- Initial area of review - Fenland

## Sources

- Census
- Emerging Local Transport and Connectivity Plan
- Cambridgeshire and Peterborough Independent Commission on Climate
- CCC Climate Change and Energy Service
- Business Intelligence Team

# Initial findings

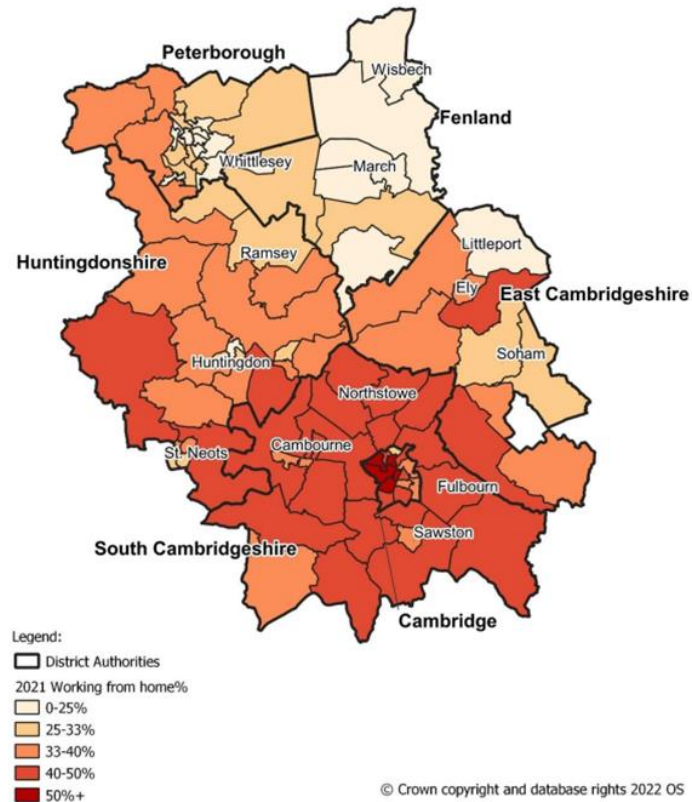


- Plenty of data available
- Highlighted differences between Districts
- Demographics and Car Ownership
- High car dependency due to:
  - Distance between where people live and their destinations
  - Types and location of some employment mean workers are currently dependent on private car/van and/or car sharing to access, with lower levels of remote working e.g. construction, social work, food production
  - Lack of public transport as a viable option
  - Many of the villages are long distances from market towns which means active travel is less viable for many
- Poor health – health is a barrier to active travel uptake due to poor health. Walking or cycling is seen as not possible due to disability, low mobility or low fitness levels, exacerbated by poor safety/ease of active travel options.

# Areas for further review

Figure 3: Proportion of Workforce Working Remotely, Census 2021.

Census 2021: Cambridgeshire and Peterborough Proportion Workforce Working From Home (MSOA).



Looking for opportunities:

- short journeys?
- low car ownership?
- employment types?
- other districts

Identifying areas 'in scope'

- Better understanding of the issues
- Looking at total carbon / trips by district
- Reviewing strategic road network trips
- Remaining carbon is 'sticky' - but worth it

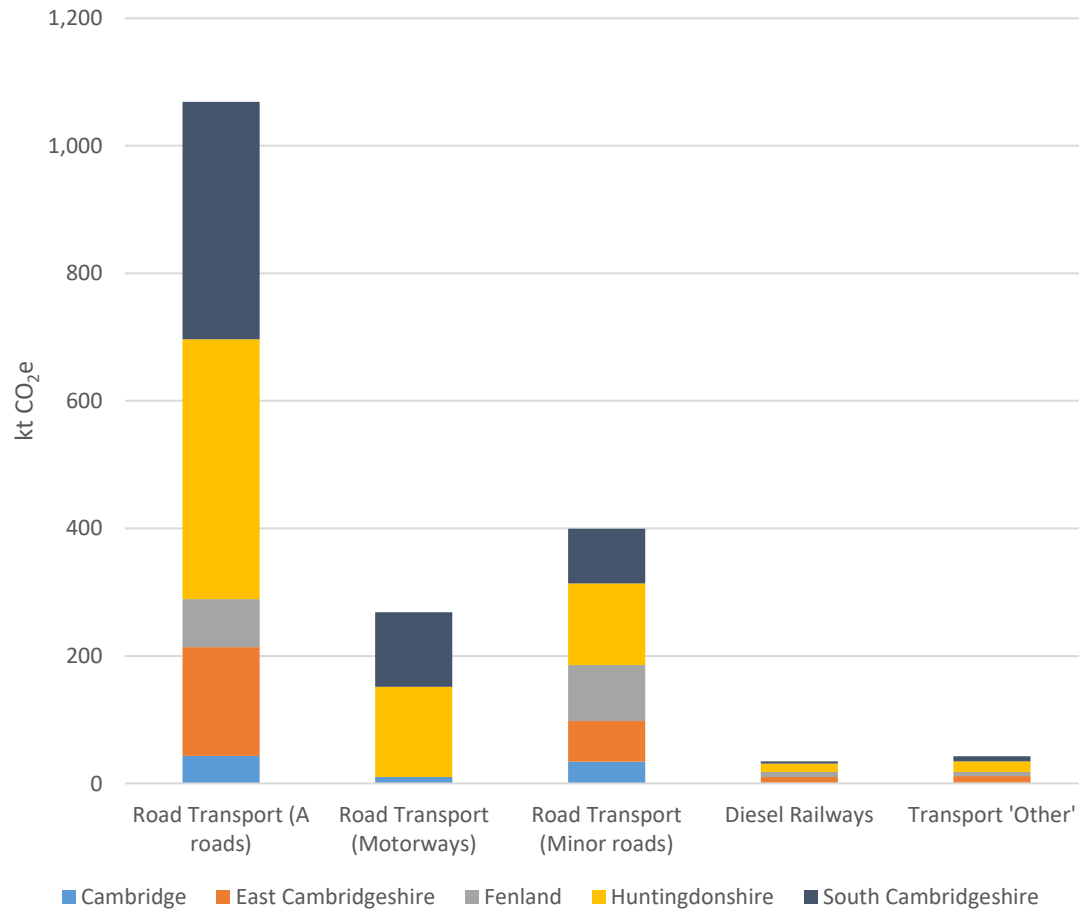
Conclusion

- More needs to be done than modal shift

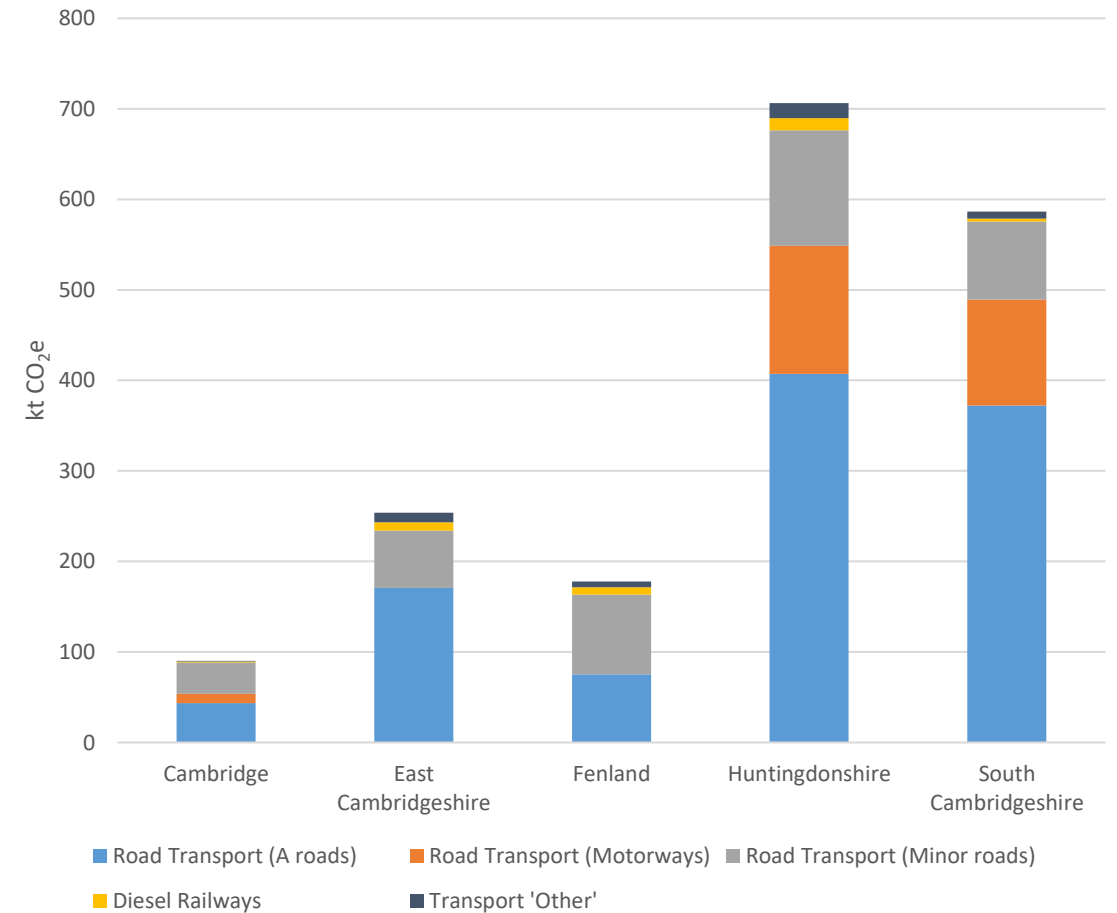
# Transport emissions

39% of the county's transport emissions are in Huntingdonshire and 32% in South Cambridgeshire.

Cambridgeshire GHG emissions from transport, 2021



Cambridgeshire GHG emissions from transport, 2021



59% of the county's transport emissions are from A roads.

# Conclusions

## Thoughts from the review

- Hypothesis worth exploring
- Reviewing from first principles builds evidence base
- Rural areas are challenging to decarbonise
- Needs more than a switch to electric vehicles
- Need to focus on what you can control
- Different role for transport planners?
- Sharing knowledge
- Partnership working essential
- Clarity on roles and responsibilities
- Understanding and maximising funding
- Case making and evidence
- Cross boundary working
- What can be done now?
- It's hard – but worth doing
- Develop pilots and case studies



## Project work

- Carbon assessment in transport projects, and reports to Council and Combined Authority
- Major investments still required (A10, A141, Cambridge South, Greater Cambridge Partnership, Ely North)
- Bus reform work exploring Demand Responsive Transport in rural areas
- LEVI funding to pump-prime charging network
- Key drivers are central to Council policy, and emerging LTCP
- Behaviour change work could complement physical projects
- Lots more work to do to develop potential projects