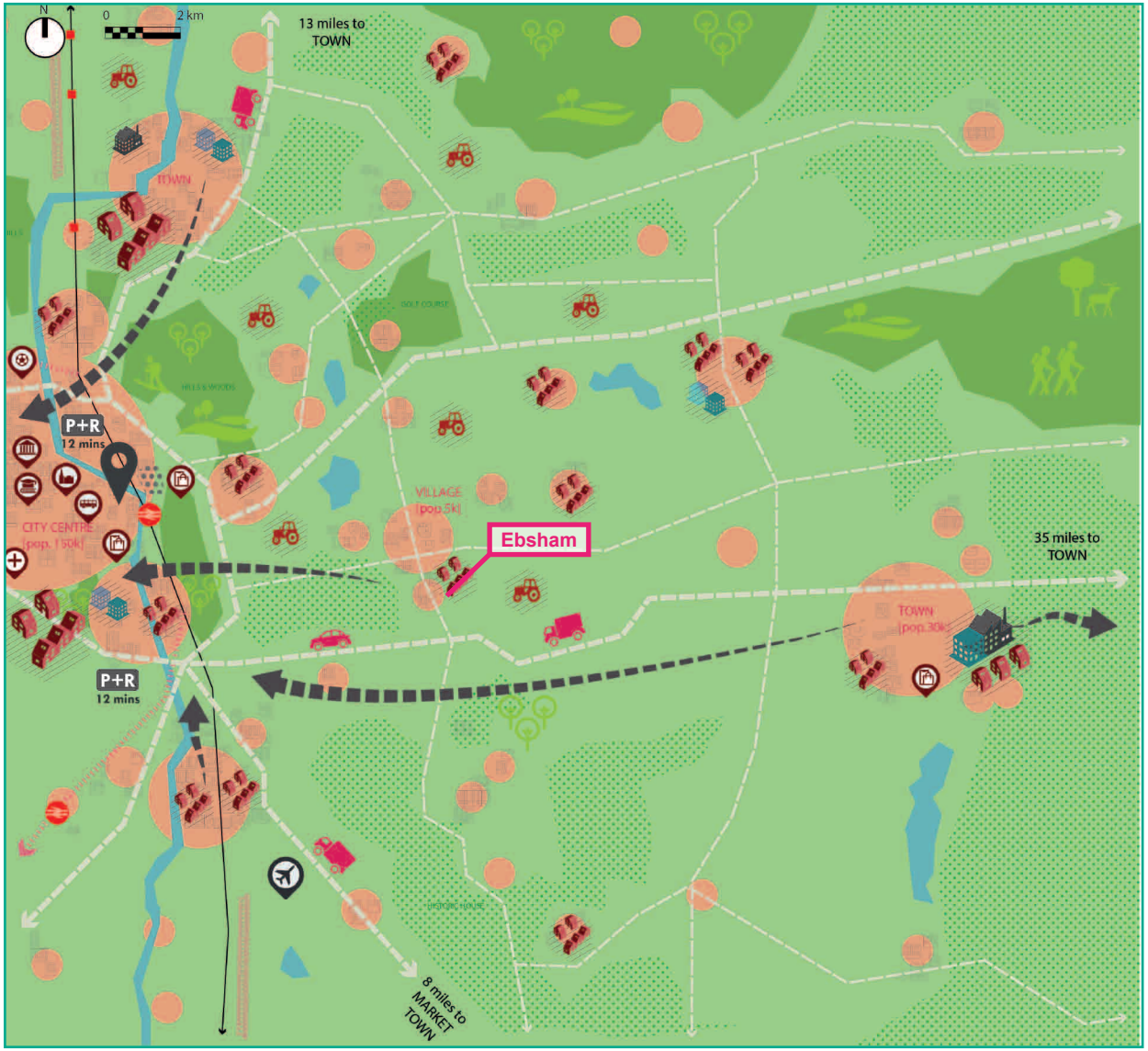
# A pathway to reducing surface transport emissions in Ebsham, a village in the growing county of Monteshire




**Population and housing:** A village of approximately 5,000 people, located within commuting distance of a regional city, and set within a rural county with a dispersed settlement pattern and poor self-containment. High housing need, combined with a lack of brownfield sites and the small size of existing settlements, has created pressure for new standalone towns and villages on green field sites. However, much of the county is designated for landscape and ecological protection or as part of the Green Belt.

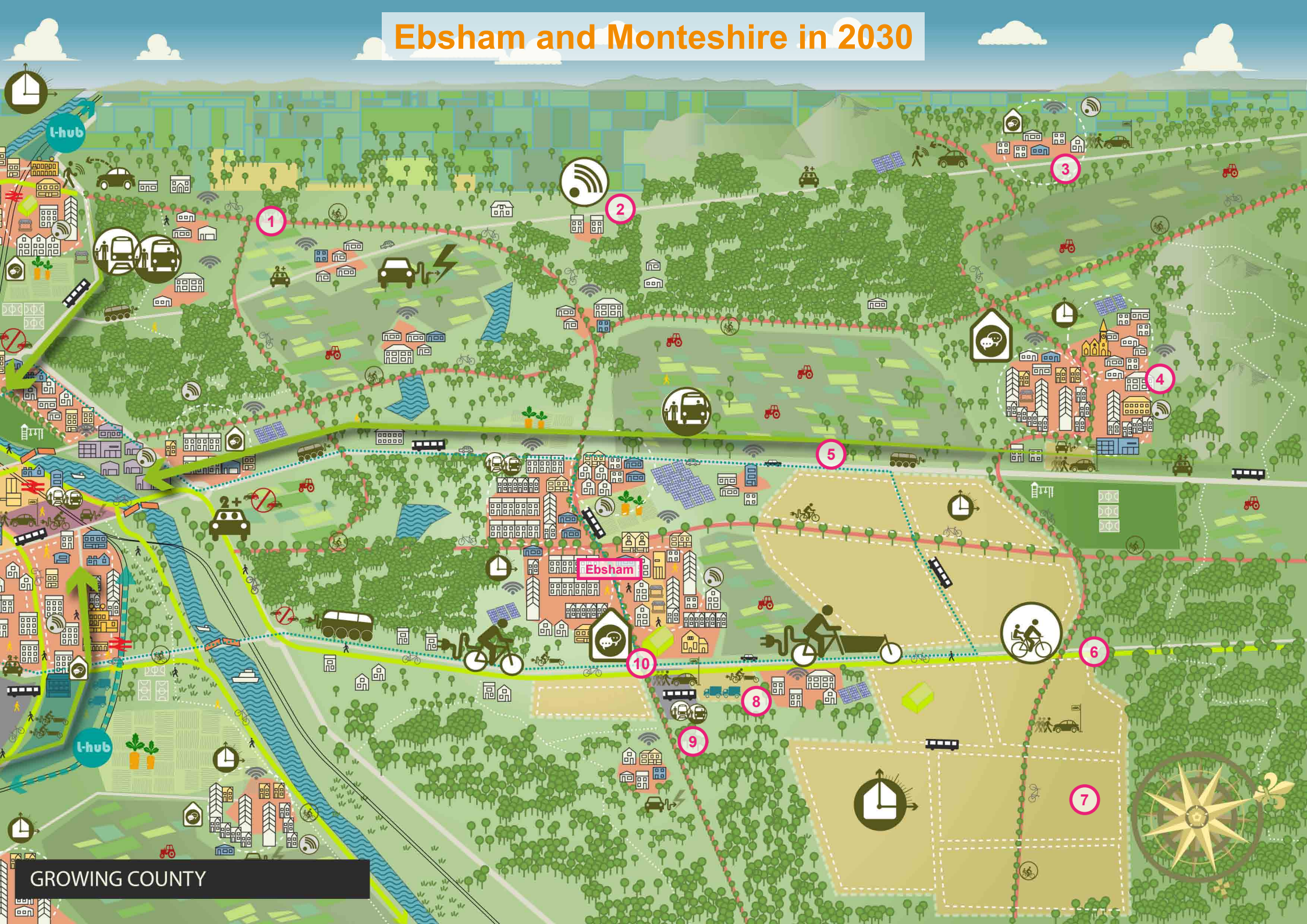
**Economy and employment:** A skilled and prosperous area with a high proportion of jobs in professional services, education, retail and healthcare.

**Travel and transport:** There is significant out-commuting from Ebsham and other small towns and villages in Monteshire to employment sites in the nearby city. The public transport network is weak: most areas are not served by the rail network, and bus services are slow and infrequent. Active travel infrastructure is very limited.

This information pack is one of four place typologies created by the RTPI to identify and test the impact of interventions to reduce surface transport emissions. To see the other typologies, and read the main report, visit **rtpi.org.uk/netzerotransport**

RTPI
Royal Town Planning Institute

# Ebsham and Monteshire in 2030



# Legend

**Land use**
- Low carbon renewal zone
- Carbon negative growth zone
- Strategic mobility hub
- Strategic logistics hub

**Landscape**
- Farmland
- Open countryside
- Parks / open space
- Allotments

**Access**
- Railway / train station
- Road network
- Rail logistics connection
- Local logistics connections
- Movement corridors
- Strategic cycle route
- Pedestrianised streets
- Public square
- EV public transport
- Living lanes

**Buildings**
- Community work hub
- Gigafactory
- Make space
- Repurposed out of town
- Local markets

**Substitute trips**

**Active travel infrastructure**
- Cycle friendly
- Pedestrian friendly

**Logistics infrastructure**
- e-Cargo bike
- Home delivery
- Ground drone

**Land use planning**
- Co-working
- Mixed use
- 15-minute neighbourhood

**IT infrastructure**
- Online tasks
- Home working
- Broadband / 5G

**Shift modes**

**Shared mobility**
- e-Bikes
- Car clubs
- Vehicle to grid technology
- Mobility hubs
- Carpool

**Modern public transport**
- DRT
- AV EV shuttles
- Public / shared modes

**Street design and access restrictions**
- Car-free centres
- Drop-off / pick-up priority
- Freight restrictions
- Last mile connectivity
- Segregated cycle highway

**Switch fuels**

**EV charging infrastructure**
- EV charging off-street
- EV charging on-street
- Fast EV charging
- EV taxi

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# What's changed?

By 2030, the county of Monteshire has put net zero transport at the heart of its growth, while protecting and enhancing the rural character of its villages (such as Ebsham) and surrounding countryside. Areas of growth are planned to achieve high levels of self-containment and facilitate local living from the outset. Growth is designed with a post-Covid economy in mind, with space for home working in every new dwelling and co-working and administrative hubs planned for every neighbourhood to reduce the need to travel.

Car ownership is discouraged through the design of the public realm and the 'decoupling' of private parking from new home sales. Active and public transport are increasingly the most convenient, affordable and desirable option for travel outside the neighbourhood, with shared car clubs and demand responsive transport providing for journeys where active and public transport are not an option.

Fast and direct connectivity between areas of growth and the largest trip generators in the nearby city has been provided along strategic mobility corridors that prioritise public transport, active travel and multioccupancy vehicles. Strategic corridors connect into an enhanced rural mobility network via existing towns and new multipurpose mobility hubs that are providing social and community spaces alongside transport infrastructure.

Secondary country roads have been repurposed as car-free 'living lanes' that enable residents of smaller towns and villages to access essential services, facilities and mobility hubs by bike without fear of fast moving traffic. They have also increased the range of walking routes and outdoor spaces available for recreation and leisure.

The resilience of the smallest towns and villages has been enhanced through digital upgrades to enable home working and online service delivery. Community owned energy networks are being created to charge vehicles using locally generated electricity and generate revenue for further investment in local services and infrastructure. The historic role of the village store is being reinvented through the 'village pop-up', with local knowledge and expertise harnessed to provide a sustainable mix of services and activities that are relevant to the community.

### Key features of the vision

1. Living Lanes - repurposed country lanes provide a network of routes for active travel to enable safe cycling between villages and mobility hubs
2. Excellent 5G / WiFi connectivity provided to rural locations to enable home working and digital services delivery such as online GP appointments and e-learning
3. Smaller communities retrofitted along 15 minute neighbourhood principles to increase resilience with adaptable community space and low-traffic centres
4. 15-minute neighbourhoods including local amenities such as shops, doctors and schools
5. Integrated, frequent and affordable public transport on strategic mobility corridors
6. Strategic cycle routes with segregated lanes, secure bike parking and lockers at key nodes enable people of all ages and abilities to cycle for everyday journeys
7. A carbon negative growth zone located on a high-quality public transport route and designed around principles of local living and net zero emissions.
8. Logistics hubs enable more efficient use of road space and facilitate last-mile delivery by more sustainable modes
9. Mobility hubs providing shared mobility such as eBikes and car clubs, as well as the provision of EV charging points
10. Community work hubs provide 'pop up' space for a range of uses

## A 79% surface transport emission reduction pathway for Ebsham

**2020 transport carbon budget and a 'do nothing' scenario**

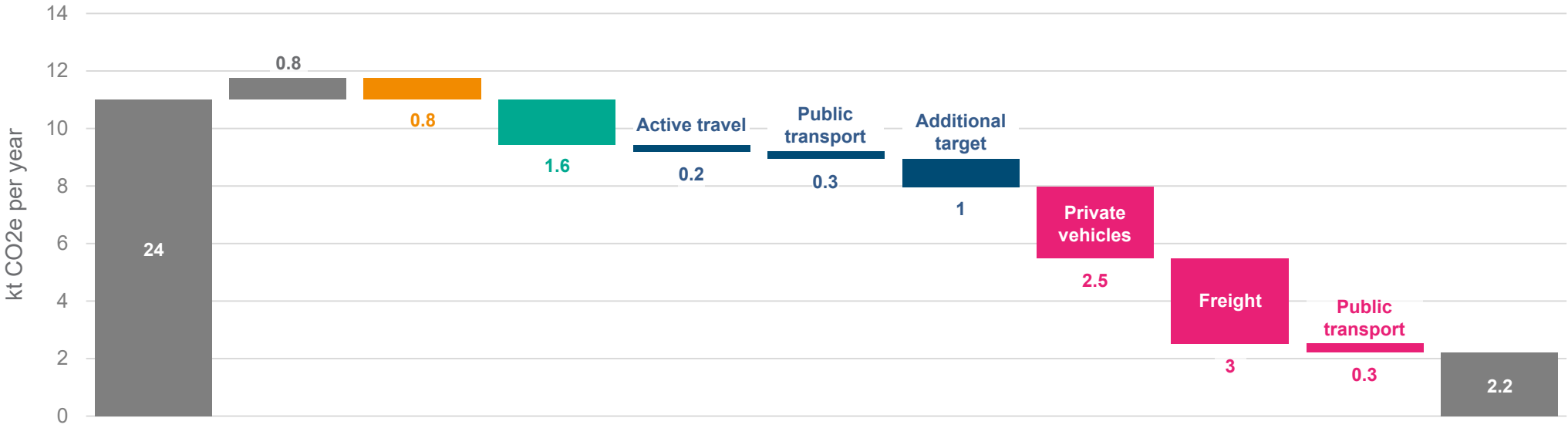
The left hand column shows total surface transport emissions in 2020. Under a 'do nothing' scenario, with no national or local action, emissions in Ebsham rise by 0.8 ktCO2e / year, with new development creating additional trip demands.

**Step 2: Substitute trips**

Trips are substituted through digital, transport and land use planning interventions. These reduce travel demand and associated transport emissions by 1.6 ktCO2e / year.

**Step 4: Switch fuels**

Private vehicles, public transport and freight switch to zero carbon fuels in line with the projected UK national pathway up to 2030. This reduces emissions by the remaining 5.8 ktCO2e / year.




**Step 1: Negative carbon developments**

All development in Ebsham is located and designed to generate zero emissions from transport, and to potentially facilitate the removal of carbon from the wider transport network. This cancels out the emissions growth under the 'do nothing' scenario.

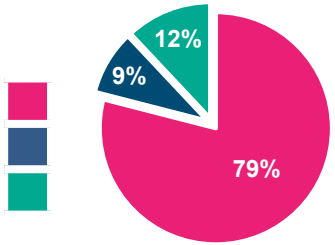
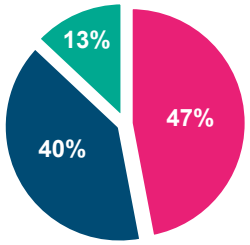
**Step 3: Shift modes**

Vehicle trips are reduced by switching modes to active and public transport, based on current UK best practice benchmarks. This reduces transport emissions by 0.5 ktCO2e / year.

Under the 'additional target', trips are further reduced through increased mode shift to active and public transport, based on more ambitious assumptions that exceed current UK benchmarks. This reduces transport emissions by a further 1 ktCO2e / year.

**2030 transport carbon budget under a 'do everything' scenario**

A 79% reduction achieved, with a further 21% reduction needed to achieve net zero by 2050.

| Travel data | 2020 | 2030 |
|---|---|---|
| **Mode share**<br>Private vehicles<br>Public transport<br>Walking and cycling |  |  |
| **Proportion of journeys made by walking and cycling** | Under 5 miles: 44%<br>Over 5 miles: 7% | Under 5 miles: 50%<br>Over 5 miles: 11% |
| **Average journey length** | 7.62 miles | 6.7 miles |

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