



Vision Led Planning

How to plan development and transport infrastructure more sustainably

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Version number

Final v1.5; issued April 2025

Citation

The preferred citation for this report is:

Hopkinson L, Lodge N, Parkin J, Parker J, Buchan K, Clark B, Hiblin B, Joseph S, Milner D, Raggett J, Steer J & Todd C (2025) *Vision Led Planning: how to plan development and transport infrastructure more sustainably*. A joint report by Transport for Quality of Life; ITP; Centre for Transport and Society, University of the West of England, Bristol; Jon Parker Consultancy; and partners.

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Acknowledgements

This report is a joint initiative of the Centre for Transport and Society at the University of the West of England, Bristol; ITP; Jon Parker Consultancy; Transport for Quality of Life; and partners. It was not externally funded.

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Cover: Climate Innovation District, Leeds, courtesy of [CITU](#)
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What is this guide, and who is it for?

This guide is intended to help plan development and transport infrastructure by using an approach that limits road construction and car travel – an approach that helps grow prosperity; meets decarbonisation objectives; and delivers more sustainable, accessible, equitable and healthy communities. This can help achieve the Government's five missions to secure prosperity, reach net zero, and improve safety, opportunities and health.

The guide is intended to assist everyone who is in any way connected with development and transport infrastructure planning.

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“The move to a vision-led planning system is a once in a generation shift in practice for the transport planning profession. This report provides a vital contribution to increasing our understanding as to how this new approach can, and has, worked effectively in practice. It marks an important first step in developing the tools and techniques necessary to resolve many of the unsatisfactory outcomes of car-centric development that has too often dominated in recent decades. Essential reading for all transport planners.”

Mark Frost, Policy Director, Transport Planning Society

1. What is the issue?

Policy makers involved in development and transport planning face a number of challenges. Many roads are congested or have safety issues, while traffic can blight the lives of people living near roads. Policy makers also face development pressures – the need to find space for new housing and stimulate local economies, while not adding to local traffic problems.

In most cases policy makers look to new roads to solve these problems rather than considering a full range of options.¹ Contrary to commonly held assumptions, there is a lack of evidence that building new and widened roads solves congestion², improves safety³ and creates economic growth.^{4,5} Instead, building new road capacity often fails to solve the problems it is designed to address, and can sometimes make things worse by encouraging additional car travel – often simply moving traffic congestion elsewhere.

Increasing road capacity creates growing car-dependency which undermines public transport services and the safety and attractiveness of walking or cycling. It also leads to a range of other problems, as outlined in Section 3. To meet housing targets, new roads are often advocated in order to open up land for development. Because Local Plans are often largely focussed on such roads and do not successfully deliver better travel options, they undermine wider social and environmental policy objectives.

Conversely, there is robust evidence that investing in sustainable travel can create prosperity⁶ and ease congestion by reducing the number of vehicles on the road⁷, and that speed reductions are a cost-effective way to reduce road collisions.^{8,9} Section 5 provides examples of high-quality housing and other developments from around the UK that were facilitated by investment in sustainable travel rather than roads.

We need a new approach to address congestion; improve road safety; and facilitate new developments that offer better, sustainable and cost-effective travel options. This new approach can deliver economic prosperity, healthier communities and improved local environments. In addition, many of these alternative options may be quicker and cheaper to deliver than large-scale road schemes that take time to develop.

We also need a more rounded set of objectives for transport planning. A narrow focus on traditional forms of economic growth tends to perpetuate a focus on the needs of certain demographics, namely ‘white collar’ people of working age. These essentially represent a minority but receive most of the emphasis in planning new developments and infrastructure. As a result, the needs of children, students, the elderly, stay-at-home parents, and those with fewer socio-economic opportunities (all of whom positively contribute to the economy) are not catered for by transport investment. We need a fairer transport system.

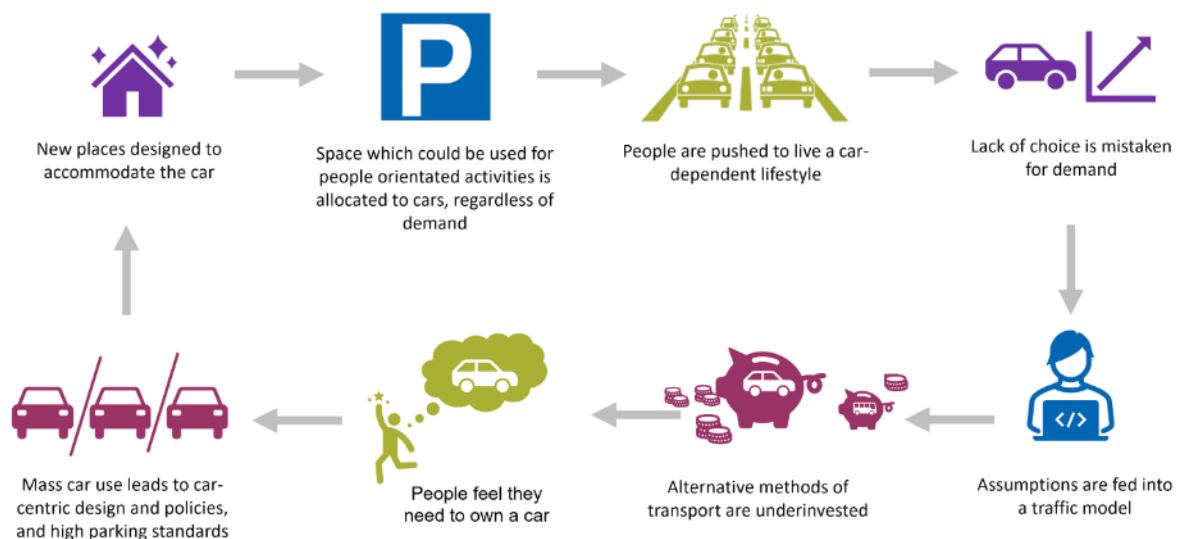
2. How did we get here?

“If you plan for cars and traffic, you get cars and traffic. If you plan for people and places, you get people and places.”¹⁰

Car dependent development and road network expansion has prevailed at the national and local level. This is despite the fact that, since 1998, transport and planning professionals have been working in a policy environment that theoretically seeks to prioritise walking, cycling and public transport, and to reduce the demand for car use.¹¹ Achieving this is even more pressing now, given the need to decarbonise the UK transport system and to reduce pressure on an overstretched NHS, where deaths and serious injuries from road collisions, levels of inactivity and air pollution are adding to its burdens. In reality, there is a mismatch between the stated policy position and the assessments and decisions made by practitioners and politicians.

How did we get here? Figure 1 shows the self-reinforcing cycle of car-dependency, where people are forced to live a car-dependent lifestyle, this lack of choice is mistaken as demand for cars, ownership and use, and these assumptions are fed into traffic models that produce results suggesting more roads are needed. Or as one report summarising the current approach puts it: ‘*Computer Says Road*’.¹²

Figure 1: The self-reinforcing cycle of car dependency (© ITP)



Rather than planning for the future we want, many of the underlying causes of this unhealthy cycle of development lie in a now discredited ‘predict and provide’ approach, and an over reliance on models, projections and cost benefit analyses which do not properly account for uncertainty and wider impacts. There is also a lack of investment in alternative ways of travelling.

Predict and provide

The conventional approach to transport assessment has revolved around predicting vehicle generation and providing highway solutions. The first question generally asked is “*how many vehicles will this place generate?*”, rather than, “*what do we want this place to be?*” Because of the focus on the growth in car travel, which is

perceived as easily measured (not necessarily accurately), models are used to predict future demand for roads and parking. The result is additional road capacity, in turn inducing and encouraging further car use.¹³ Funds and space are squeezed, and people have little other choice as to how they can travel. Although the Government maintains that it has moved away from a predict and provide model, a cross-party group of MPs has raised concerns that the national planning regime perpetuates that approach.¹⁴

Full range of options not considered

These failures are occurring because the current planning approach does not effectively consider the full range and scale of infrastructure and other options. Transport appraisal should begin by considering a wide range of options to address a defined problem, and should include all modes, all types of infrastructure, regulation, pricing and other ways of supporting necessary travel while influencing behaviour and demand.¹⁵ In practice, it is common for only a limited range of options, generally alternative routes for new roads, to be considered and appraised. If alternatives are assessed, decision makers generally don't seriously consider them or accept them as suitable to address the issues, due to a lack of evidence illustrating this. Design guidance has not universally kept up with policy and is often outdated, placing disproportionate emphasis on the needs of vehicles rather than planning for people and places.

Section 7 lists a number of reports which help build the case for alternative packages of measures to be considered in place of road schemes. These reports make many of the same points, namely that:

1. Non-road options weren't properly considered, or if they were, lacked ambition.
2. As well as solving congestion, the alternative packages proposed would better contribute to wider economic, social and environmental goals.
3. The road options would exacerbate many of the existing challenges and undermine public transport and active travel solutions.

Over-reliance on traffic models and projections

The steady increase in car demand over time is partly due to national policies that have encouraged car growth and underfunded alternatives. It is reinforced by traffic forecasts that assume inexorable growth in car use. For example, none of the eight scenarios in the Department for Transport's (DfT) most recent traffic projections involves reduction in all traffic over the period 2015-2040.¹⁶ Plans for road capacity expansion follow accordingly. Future congestion is anticipated on the existing road network because of traffic growth forecasts, and the benefits of new roads are derived from reducing this future congestion. However, these forecasts have repeatedly overestimated growth in traffic. See Appendix 1 for more details. To address this the House of Commons Transport Committee has recommended that for national road schemes the DfT should model and report on a wider range of scenarios, including traffic reduction and increased rail patronage.¹⁷

Despite the problems with the forecasts, decision makers treat traffic models (and generally only the central 'core' scenario) as the future scenario to be catered for, and overly rely on the idea of certainty when there is actually no certainty in any of

the scenarios. There is future uncertainty in economic conditions, changing travel trends, advances in technology, changes in government policy, as well as the impacts of climate change, to name a few.

To compound matters, none of the latest traffic projections are consistent with carbon reduction targets.¹⁸ To be aligned with UK climate legislation, motor vehicle traffic will need to reduce by at least 20% by 2030 (relative to 2018).¹⁹ The transition to electric vehicles is not happening at a pace that creates a large enough reduction over the next critical decade, and in any case electric vehicles still generate carbon over their lifetimes, as well as particulate and noise pollution (see Appendix 2).

Over-reliance on cost benefit analysis

A major part of transport appraisal is a 'benefit-to-cost ratio' (BCR) that is supposed to show whether the scheme represents value-for-money. This leads to a focus on metrics which can be measured in financial or numerical terms, such as journey time savings. These often account for the majority of the benefits of a road scheme²⁰ but are not necessarily applicable to other modes. For example, many people like cycling and walking enough that they choose to do it with no time or destination in mind, or choose a longer train so that they can get their laptop out and enjoy a coffee; very few choose to use roads in this way.²¹ As an example of how considerations could be different, the Welsh Government does not consider reducing journey times a strategic objective. In Wales, BCRs must both include and exclude travel-time savings, in order to more usefully aid judgement within the wider appraisal process.

For many road users it is journey time reliability, not time savings, that matters. Businesses in particular need more predictable journey times in order to work out how many vehicles to put on the road, but reliability isn't part of the appraisal system. The impacts of journey time savings for motorists on other modes (which are undermined by faster car travel) is also not considered.

Some impacts of roads (e.g. on biodiversity or community severance) or the benefits of public and active travel (e.g. quality of life or social cohesion) are harder to measure and/or monetise, and so are missing from the BCR calculation. This bias towards measurable metrics and road schemes, where journey time savings can be demonstrated, and the neglect of wider impacts, often leads to highly questionable BCR results.²² Ironically, road schemes often provide poor value for money when their wider impacts are accounted for. By contrast, the benefits of active travel and public transport improvements often far outweigh the costs.

The Treasury Green Book²³ makes clear that value-for-money is possible only when expenditure is on policies and projects that support the Government's aims and objectives. The latter should include wider social and environmental objectives, particularly legally binding carbon targets, but often these are trumped by economic objectives.

There is a widely held consensus between the professional bodies involved that these issues are important and remain unresolved. For example, those representing local government practitioners (LGTAG), the Transport Planning Society, the Royal Town Planning Institute and the Chartered Institution of Highways & Transportation (CIHT) made a joint submission to the Green Book Review in 2020.²⁴ This called for major reform, including development of genuine alternatives and for greater

emphasis on the Strategic Case to filter out schemes which run counter to national objectives such as active travel and net zero.²⁵

The same bodies are clear that the impact of traffic generated by increasing road capacity is either underestimated in the case of cars or not done at all in the case of heavy goods vehicles (HGVs). The latter are very important on the Strategic Road Network and their omission has a significant impact on reducing benefits such as congestion, and on increasing disbenefits such as casualties (especially fatalities).

Siloed funding

Funding for new sustainable transport infrastructure and services is limited, and the funding which exists is generally competitive and siloed, causing policy makers to focus on single infrastructure solutions rather than allowing them to deliver a more integrated transport offer.

Car-centric planning

The planning system is still heavily geared towards car-dependency, with car-centric design and policies and high parking standards. This is exacerbated by housing targets and low-density design which often lead to new roads being built to open up land for development. Even in the rare cases where housing and new development are planned around mass transit, this is often delivered after the homes have been built²⁶, rather than at the outset before travel habits are formed. The latter is the norm in many places in Europe.²⁷ Local authorities rarely set accessibility and mode share targets in their Local Plans and collaboration between planning and transport experts is either insufficient or ineffective.²⁸

3. What has this led to?

The impacts of the current approach are significant and pervasive. They are summarised in Figure 2, with more details in Appendix 2.

Figure 2: The impacts of the current transport planning approach (© ITP)

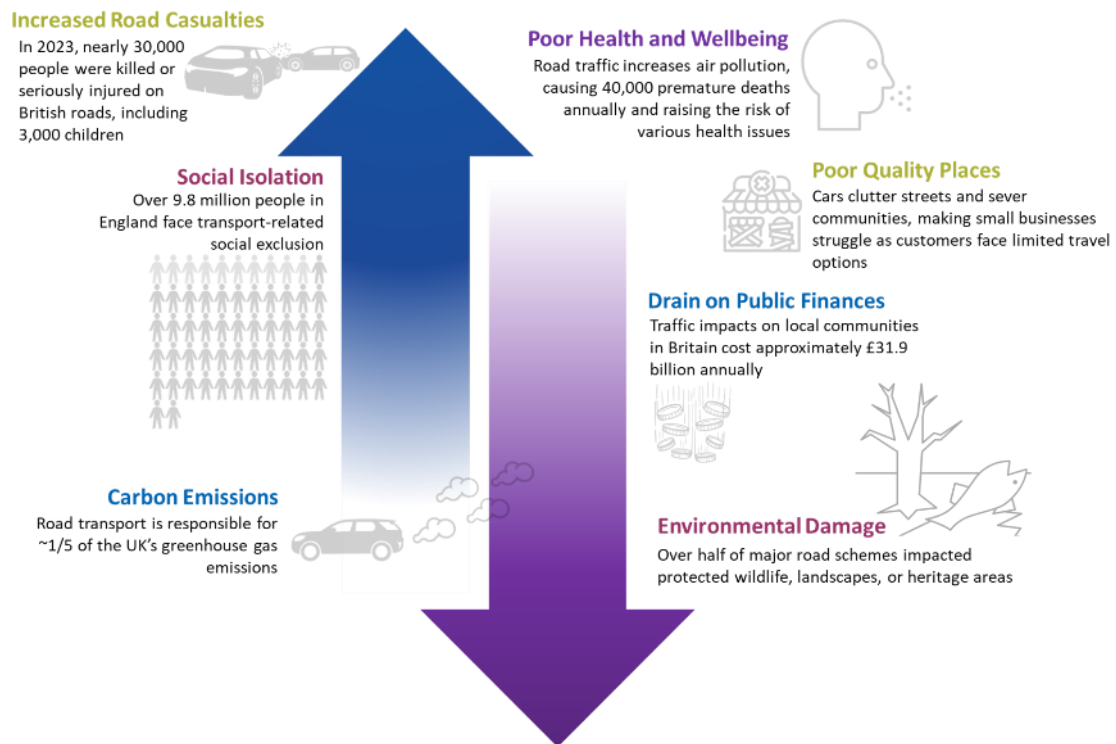


Figure 2 shows that the impacts of the current approach include:

- **Growing car dependency, with the risk of locking this in for years to come.** Increasing car-dependency then undermines public transport services and the safety and attractiveness of walking or cycling.
- **Poor health and wellbeing.** Road traffic causes air pollution and generates noise, which are associated with a wide range of health problems.
- **Carbon emissions.** Road building will ultimately generate more traffic and increase carbon dioxide emissions. Improving 'traffic flow' to reduce congestion and emissions is often a short-lived outcome and ultimately only encourages faster and more traffic.
- **Poor quality places.** Cars and roads clutter streets and the public realm, generate noise and vibration, sever communities and take up valuable space.
- **Social isolation.** Increasing car dependency and reduced public transport services mean that many people in the UK are unable to reach jobs, shops and services due to a lack of adequate alternatives to the car.
- **Increased road casualties.** Tens of thousands of people are killed or seriously injured every year on Britain's roads. In fatal collisions between drivers and pedestrians or cyclists it is almost always the pedestrian or cyclist who dies.

- **Environmental damage.** Many major road schemes have impacted areas of national or local value for wildlife, landscape or heritage.
- **Drain on public finances.** The spending on new roads adds up to billions of pounds a year.

It is better to spend money maintaining the existing road network and find more cost-effective and less damaging ways to improve access for everyone. Such improvements will benefit everyone, including drivers and those without access to cars.

4. How can we do it differently?

Rather than defaulting to new or bigger roads every time, could we plan transport in a cheaper, more effective and more sustainable way? The answer is yes!

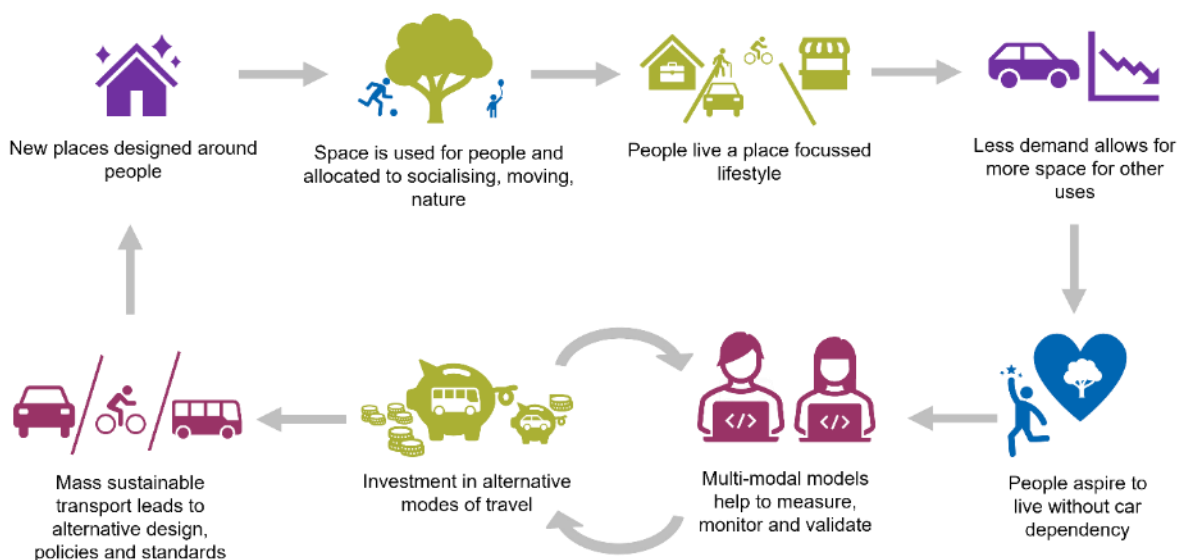
The vision led approach

Rather than focussing on cars and roads – and inevitably predicting and providing for them – the vision led approach starts with a collective ambition for how a place could look and feel. When communities are asked how they would like their local area to function, rarely do people directly ask for bigger junctions or wider roads. At the heart of their visions are places which are attractive, prosperous, safe, healthy, and easy to get around.

The vision led approach considers how transport and travel choices directly or indirectly influence these factors and sets out the interventions needed to achieve the right outcomes. Rather than a linear ‘inputs’ and ‘outputs’ modelling approach, the vision led approach is iterative and holistic, embracing flexibility, learning from past mistakes and adapting to uncertainty. It is important to note that it does not advocate for spending less on transport infrastructure. Instead, investment is redirected to accommodating alternatives and unlocking latent demand for those modes of travel.

While ‘vision led’ is an emerging term, it represents the art of the possible and a step change in attitudes towards transport planning and design. Considering the alternative future – one where roads and cars continue to grow – doing anything differently, even if it comes with uncertainty, is better than not acting at all. Figure 3 demonstrates the virtuous circle of vision led planning.

Figure 3: The virtuous cycle of vision led planning (© ITP)



Defining the goals and priorities

Over and above providing for a means of travel, investment in transport infrastructure has many economic, social and environmental consequences. Each of these three aspects needs to be considered at the planning stage. A clear definition

of the overall goals for investment is required. For example, such goals may include: healthiness, resilience, equality, cohesive communities, prosperity, vibrant culture, and global responsibility.²⁹ Llwybr Newydd, the Wales Transport Strategy, is driven by the need to deliver social equity and meet climate targets, and includes an explicit recognition of the need for fewer cars on the roads and more public transport, walking and cycling.³⁰ An alternative approach is to consider priorities, for example, improving digital connectivity so that travel is not always necessary, increasing the public transport and active travel mode share, or enhancing freight accessibility.³¹

Defining a roads policy

A good way of ensuring that the road option does not become the default approach is to define the circumstances in which roads may be constructed. A detailed expert review for the Welsh Government developed four **purposes** for which roads may be built, modified or replaced in Wales.³²

1. Shifting trips to sustainable transport to reduce carbon emissions.
2. Reducing casualties where they are high, through small-scale changes.
3. Adapting roads to the impacts of climate change.
4. Supporting prosperity by providing access to development sites that will achieve high sustainable transport mode share.

These purposes are supported by four **conditions** for new roads, that the scheme should:

1. Minimise carbon emissions in construction.
2. Not increase road capacity for cars.
3. Not lead to higher vehicle speeds that increase emissions.
4. Not adversely affect ecologically valuable sites.

These purposes and conditions are equally important and relevant to England and should be adopted as guiding principles when any road scheme is proposed. This would provide consistent and objective criteria to guide decision makers when considering a proposed new scheme.

Warning: There is a danger of greenwashing with the term ‘vision led’ being used to describe a vision of bigger roads to reduce congestion. A 2023 draft of the Government’s strategic planning policy for nationally significant road and rail schemes was described by one expert as “predict and provide core, surrounded by decarbonisation language”.³³ There is also a danger that vision statements, transport strategies and local transport plans by regional and local transport bodies can espouse a vision led approach while continuing to deliver an essentially roads-based strategy.³⁴

5. What does vision led planning look like?

There are numerous examples in Europe of large developments planned around sustainable transport rather than cars.³⁵ These include large settlements such as the Merwede district of Utrecht in the Netherlands, which is planned to be a green, car-free district for 12,000 people³⁶; and the urban extension of 11,000 homes in Freiham in Munich, Germany, built around a metro, frequent bus services and walkable civic facilities.³⁷

Many of these developments are built to greater densities than is typical in the UK, which cuts the likelihood of driving, enables better public transport and makes more destinations accessible by foot or bike. They can be achieved with low- or medium-rise buildings (3-5 storeys) in attractively designed developments with a mix of homes and large amounts of green space.³⁸ Others have made the case for building at 'gentle densities' to use less land and build more sustainably.³⁹

Research into areas such as these in Europe has shown that they are not somehow predisposed to fewer cars or roads, but rather many European countries have different political and financial objectives to the UK. The planning authorities in these countries have often shown greater commitment to a vision, even where there is initial apprehension from the public.

Although such developments are rare in the UK, outside London, and alternatives to roads are seldom considered or funded in the UK, this section lists nine case studies (with more details in Appendix 3). These include developments that were planned around pedestrians to be car-free at street level, or had less emphasis on car access (car-light) than is usual in the UK. These show that cost-effective, vision led development, based on high quality design, can provide a better quality of life for residents than car-based development.

5.1. Alternatives to new road capacity

Alternatives to the M4 relief road near Newport, Wales: A proposed £1.6 billion, 14 mile, six-lane scheme designed to tackle congestion on the M4. After the Welsh Government decided not to proceed with the road due to its high cost and environmental impacts, a Commission was established to look at alternatives. A delivery unit was set up in 2021 to progress plans for new rail, bus and active travel infrastructure that would form a network of alternatives for South East Wales. As of 2024, detailed work designing and consulting on five new rail stations had been completed, and the Welsh Government was working with the UK Government to agree a pipeline of rail infrastructure priorities and take forward the other recommendations.

5.2. Car-free housing developments

Climate Innovation District, Leeds (partially complete): This is a European-style development of 955 low-carbon homes located a short walk from Leeds city centre. The low-rise, high-density riverside design encourages walking, cycling and play. The development includes a pedestrian bridge across the river, linking to the

riverside cycle path. It creates a car-free environment with underground, centralised car parking with spaces for an electric car club, and plentiful free on-site bicycle storage. Although required to provide a minimum number of parking spaces (around a third of the homes), the developer expects to be able to repurpose some of them on completion of the development.

One Brighton, Brighton: Opened in 2009, this 172-unit housing development was the UK's largest private car-free development. With Brighton train station 4 minutes' walk away, only four car spaces were provided. Not only did this save construction costs, but it also provided more space for apartments and made the development more attractive commercially.

5.3. Car-light developments

Goldsmith Street, Norwich: This award-winning local authority led development of 105 affordable Passivhaus homes is a 10-minute walk from the city centre. Its low-rise, high-density design prioritises pedestrians through good streetscape design, which promotes small children's play. The design incorporates narrow streets that are easy to navigate, as well as a traditional 'ginnel' running through the centre of the development. The 80 parking spaces (less than one per home) are located around the perimeter of the residential neighbourhood.

Duncombe Square, York (in development): Part of a city-wide Passivhaus social housing programme using the same architects as Goldsmith Street (above). This development is for 34 homes, a 20-minute walk from the city centre, planned around green open space. Shared 'ginnels' at the back of the homes allow access for bicycles and create a safe space for children to play. There will be 19 parking spaces (0.55 spaces per home).

Trent Basin, Nottingham (partially complete): A riverside development of over 500 low energy homes and apartments, 10 minutes by bike to the railway station and city centre. Part of a 250-acre regeneration project, it is designed to be car-free in some areas, such as the central green space and car-free courtyards and routes. It also includes a mobility hub. The paths in and around the site will connect to a proposed footbridge across the river.

Western Villages, Edinburgh (in development): A city council led development of 444 mixed tenure, net zero homes planned within a masterplan that places great emphasis on pedestrian and cycle movements, as well as has electric car charging, car club access points and public transport. The maximum car parking provision proposed is 0.25 spaces for every home.

Kirkstall Forge, Leeds (in planning): A 57-acre brownfield development, 3.5 miles from Leeds city centre, with outline planning permission for up to 1,450 new homes, plus offices, retail and leisure, and a primary school. The development's masterplan has been designed to discourage car use, facilitated by the opening of a dedicated railway station (6 minutes from central Leeds) and onsite car club.

Hartree, Cambridge (in planning): a 48-hectare brownfield development in North East Cambridge for around 5,600 homes, shops, workplaces, education, community and leisure facilities, and open spaces. Developed by Landsec and TOWN, working with Cambridge City Council and Anglian Water, it is designed to be in large part,

free of cars. Streets will enable walking, cycling and low-carbon modes of transport with excellent bus connections and easy access to Cambridge North Station.

The CIHT's [Better Planning, Better Transport, Better Places](#) advice document provides case studies of developments which used a more vision-led approach to transport.

6. What else do we need to do?

The suggestions being made require a change in orientation for the conception, planning, design and appraisal of developments and road schemes.

Governance: A more holistic approach is required to bring together relevant stakeholders to consider the nature of the problem to be solved, and the scope of potential solutions.

Joint strategic planning: The planning of schemes needs collaboration between local highway authorities and other relevant transport and planning bodies. Transport networks are continuous across administrative boundaries and planning needs to be agnostic to artificial boundaries.

Design: In relation to highway design, roads that support public transport and active travel, as opposed to roads that simply support car travel, will be different. The speed limits and design speeds may be lower, and the cross-sections may be different. Indeed, many walk, cycle and public transport trips may be better served by taking alternative or more direct routes than those which are provided by existing (often historic) road alignments, and so traffic-free and dedicated infrastructure is equally important to plan for. There is a need to estimate embodied carbon, and to develop feedback in the design process so that the schemes with the least embodied carbon are selected.

Funding: Long term funding settlements are needed for sustainable and integrated travel, to allow local authorities to plan for the most appropriate transport infrastructure and services in their areas, as well as to build the capacity required to deliver these. This will avoid the inefficiencies and unfairness of competitive funding. Having a single integrated transport and accessibility funding pot, rather than separate pots for different modes, will allow effective solutions to be properly planned and delivered.

Carbon: Changes in carbon emissions from traffic on roads result primarily from changes in volumes and speed of traffic, and induced traffic. These will vary widely from scheme to scheme. While electric vehicles will reduce emissions, the issue is one of timing and the need to reduce emissions by 68% by 2030 relative to 1990.⁴⁰ The electrification of freight is far behind even the slow progress made in private cars (only 3% of the cars on Britain's roads in 2024 were EVs). There needs to be a wider recognition amongst professionals of the need for immediate action to reduce carbon rather than relying on targets in the distant future.

Climate adaptation: Transport infrastructure is at risk from high temperatures, flooding, wildfires, high winds and other extreme weather events.⁴¹ Individual infrastructure needs to be made more climate resilient, but there will also be a need for adaptation to climate change if transport services are to be maintained in the event of disruption from extreme weather.⁴²

Knowledge and skills: Professionals in all relevant bodies need to recognise their role in conceiving schemes that are different to the schemes of the past. They may well need to develop new skills in relation to infrastructure design. The lack of knowledge and skills in sustainable transport design and procurement is a known issue across England. There needs to be much better training and capacity building within local authorities, and within their supply chain and amongst developers.

7. Resources

Reports on alternatives to roads

There are a number of well researched reports which put forward sustainable packages of measures as alternatives to roads, including:

[Transport Fit for Future Generations](#) by [University West of England \(UWE\)](#), [Sustrans](#) and the [New Economics Foundation](#) for the Welsh Future Generations

Commissioner, which provided a package of integrated transport solutions as an alternative to a M4 relief road designed to address congestion.⁴³ This compared the proposed relief road with a comprehensive package of public transport and active travel measures. The analysis showed that the alternative transport package would not only significantly out-score the new road but would cost less.

[A New Transport Vision for the Sussex Coast](#) by [ITP](#) and [UWE](#), which provided a comprehensive package of measures designed to address congestion, as an alternative to proposed road capacity increases on the A27 near Arundel.⁴⁴ It used a 'vision and validate' approach based on (1) encouraging the use of sustainable transport; (2) provision of alternatives to cars; (3) integrated development planning; (4) demand management, e.g. parking strategy; (5) support for highway network operation, e.g. highway improvements, speed management; (6) promotion of coordinated strategies; and (7) marketing and communications.

[Car-Free Low Carbon Travel for Longendale and Glossopdale](#) by [MTRU](#), which provided a sustainable package of measures including public transport, walking, cycling and controls on HGVs, as an alternative to the A57 Links Road (previously the Trans Pennine Upgrades), designed to address congestion.⁴⁵ This followed an earlier [Trans-Pennine Routes Feasibility Study 2015](#) report which developed a package of travel demand management measures and Smarter Choices.⁴⁶

[Stepping Off the Road to Nowhere](#) by [Create Streets](#) and [Sustrans](#) and supported by [ITP](#), which provided an alternative development approach for a large housing extension to Chippenham, based around public transport and walking/cycling and a much reduced road scheme.⁴⁷ This was based on a real plan for 3,500 homes planned around a £75 million road scheme. Using a vision led approach, the scheme was redesigned via a range of 'Big Moves' to achieves the same number of homes with a far smaller loss of greenfield land, and with healthier and lower carbon transport options (more details in Appendix 3).

[Connecting South West England: in place of A303/A358 widening](#) by [Greengauge21](#) for [Transport Action Network](#), which proposes using some of the £2.5 billion saved by cancelling the A303 Stonehenge and A358 schemes to invest in rail, bus and active travel instead.⁴⁸ This includes delivering a showcase integrated public transport network across Wiltshire–Dorset–Somerset–Devon; enhancing the capacity and capability of the Salisbury–Exeter railway; and opening new stations and enhancing services to deliver sustainable housing expansions.

[Improving Safety on the A66](#) scheme by [Keith Buchan](#)⁴⁹ for [Transport Action Network](#), which considered whether the safety problem had been correctly identified; whether a package of targeted solutions had been proposed; and the likely impact of the current scheme. It found that no account had been taken of the impact of the

scheme on HGV traffic, and recommended a series of alternative relatively low-cost safety measures that could be implemented immediately.

[High Capacity Alternatives to a Road-based Lower Thames Crossing](#) by [Jonathan Roberts Consulting](#) for [Transport Action Network](#), which explores other options for crossing the Thames near Dartford.⁵⁰ This sets out measures to transform transport in the south and east of England, which could unleash rail freight, transform public transport and kickstart growth in the Thames Gateway. Transport Action Network's companion document [Essex-Kent Superlinks](#) suggests that this could deliver more bang for buck than the £10 billion Lower Thames Crossing, at lower cost, and with the new planning reforms could be delivered faster.⁵¹

Advice to guide decision-making

It is important to have challenging questions that guide decision making. The following are helpful questions to ask, which are expanded upon in Appendix 5.

1. Has the case for a change to transport provision been made?
2. Is the scheme aligned with the goals, ambitions or priorities defined?
3. Have all the options been considered?
4. Is the scheme robust in different possible financial and environmental futures?

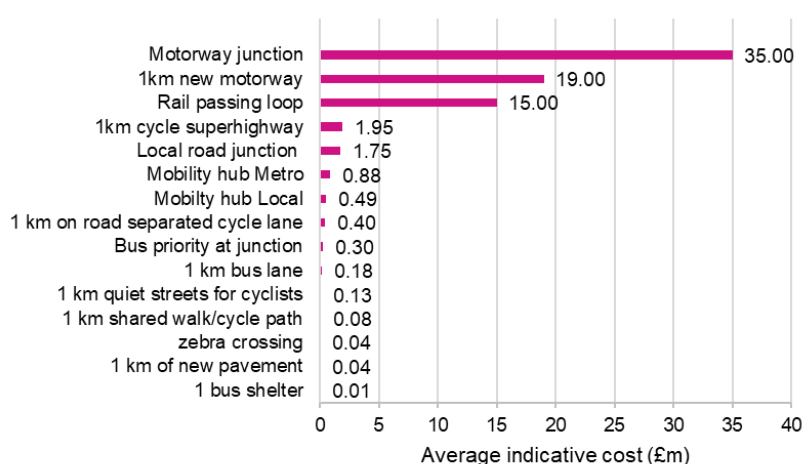
There is also a helpful [checklist for new housing developments](#) from Transport for New Homes.⁵²

CIHT's [Better Planning, Better Transport, Better Places](#) provides advice for planning professionals, developers, advisers and local communities, to encourage a more sustainable approach to transport in Local Plans. It includes recommendations for creating a clear vision, delivering the plan and managing new developments.⁵³

Costings

Figure 4 shows average indicative costs for infrastructure drawn from various sources (with more details in Appendix 6).

Figure 4: Average indicative costs for transport infrastructure (£ million, updated to 2024 costs where possible)



This shows that the funding for 1km of new motorway could deliver a rail passing loop, 10 zebra crossings, 10km shared walking/cycling paths, 10 bus shelters, 10 km quiet streets and 10 km bus lane; or four local mobility hubs or a 10km cycle superhighway.

Useful organisations

In addition to the organisations involved in the reports listed above, others who may be able to help can be found on Transport Action Network's [website](#).

8. Conclusions

Car dependent development and road network expansion has prevailed at the national and local level despite a stated policy position to promote walking, cycling and public transport and reduce car use. A cycle of car dependency has arisen due to car-centric development and the underfunding of alternative means of travel, leaving many people no choice but to drive. This is exacerbated by an over-reliance on traffic models, projections and cost benefit analyses which are often biased towards new road schemes; and the failure to consider and fund a full range of alternative solutions. This has led to a range of social and environmental problems, and the spending of billions of pounds on new roads which often fail to solve the problems they were meant to address.

Rather than focussing on new roads and cars, we need a new vision led approach which starts with a collective focus on the future we want, and a vision of places which are attractive, prosperous, safe, healthy and easy to get around. This will lead into consideration of how transport and travel choices affect these factors and how best to achieve these outcomes.

To do things differently we need to define the priorities at the planning stage, as well-designed transport infrastructure and services can help achieve many economic, social and environmental goals. We also need a set of clear purposes and conditions for which roads may be built, modified or replaced, and clear questions to guide decision makers. We recommend that the purposes and conditions adopted by the Welsh Government are equally relevant and important for England and should be adopted here.

There are many examples of what vision led planning looks like across the UK – with packages of new rail, bus and active travel infrastructure being delivered in South East Wales; and examples of developments designed around pedestrians and people rather than cars.

To deliver vision led planning we also need a number of other factors: joint working across disciplines and administrative boundaries; new design guidelines that better support public transport, walking and cycling and take account of climate change; long-term funding settlements for sustainable and integrated travel; and an upskilling of professionals in sustainable transport design and procurement.

This report provides some resources that can support policy makers – detailed reports that set out the case for alternative packages of sustainable travel measures and some indicative costings for different types of infrastructure.

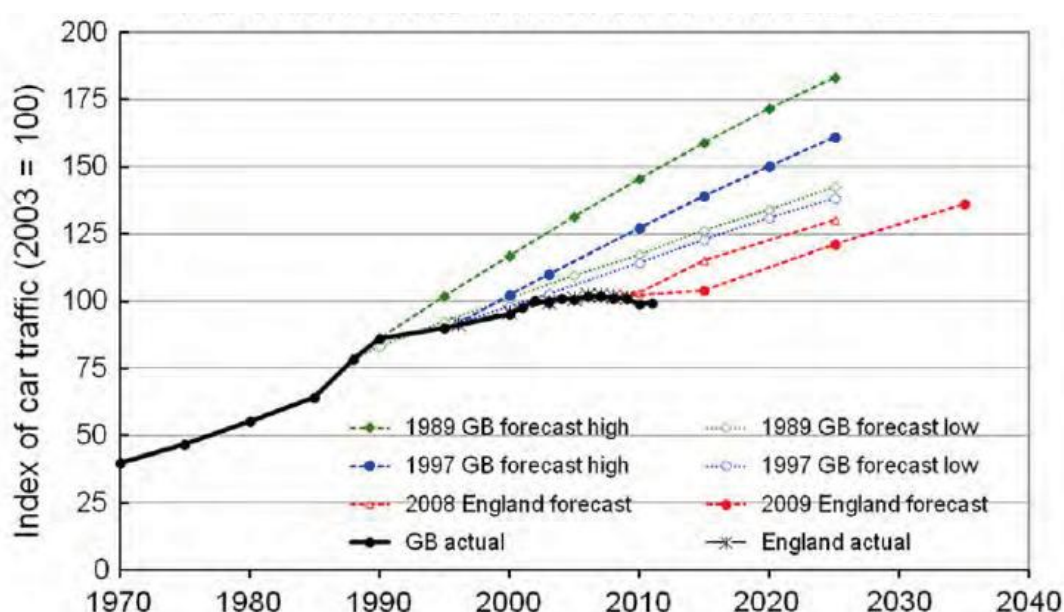
Rather than defaulting to new or bigger roads each time, we can plan transport in more cost effective, sustainable and fairer ways, to improve access for everyone, including drivers and people without cars.

Appendix 1: Issues with government traffic forecasts

Periodically DfT produces updated forecasts or projections on future road travel demand. The latest projections were published in 2022 and include long-term projection data of road traffic, congestion and emissions in England and Wales from 2025 to 2060. Forecasts are produced using the National Transport Model, incorporating economic and demographic data and evidence on travel behaviour and the factors influencing it.

Analysis of historical forecasts have shown that these greatly overestimate future road travel demand, as shown in Figure 1.1. This shows that even the 'low' forecasts projected far higher traffic demand than actual out-turn volumes.

Figure 1.1: Comparison of the Department for Transport's traffic forecasts, with actual out-turn traffic volumes (1989-2009) [Source: Phil Goodwin]



One problem is that there is no complete 'low' forecast combining all the minimising factors, such as behaviour change plus low economic growth. Even the behaviour change forecast is frequently ignored and not run as a sensitivity test. Nor are more direct means of managing demand included as alternatives, such as workplace parking charges, parking controls generally or other pricing.

While more recent projections (2022) have provided scenarios with more moderate growth in car traffic, all assume a growth in future car traffic by 2050, of between 5% and 56%, as shown in Table 1.1 below. The core scenario, which is used in most traffic modelling, assumes traffic mileage in England will increase by nearly a third by 2050 relative to 2015.

The table also shows the reduction in carbon emissions projected between 2015 and 2030 for the various scenarios range between a 21% and 38% reduction. None of these are compatible with the Climate Change Committee's (CCC) 7th carbon budget⁵⁴ which assumes a 40% reduction in surface transport emissions in the UK between 2015 and 2030 (itself a weakening of the 6th carbon budget which assumed a 45% reduction in surface transport emissions in the UK over the same period).

While the CCC figures are for the UK as a whole and include rail emissions, it is expected that the reduction for traffic in England will be similar if not more ambitious. This suggests that none of the scenarios in the 2022 traffic projections are aligned with the CCC's carbon budgets.

Table 1.1: Change in all vehicle traffic in England between 2015 and 2050 and change in carbon emissions between 2015 and 2030 (from DfT Traffic Projections 2022)⁵⁵

SCENARIO FROM 2022 TRAFFIC PROJECTIONS	CHANGE IN ALL VEHICLE TRAFFIC IN ENGLAND 2015-2050	CHANGE IN CARBON EMISSIONS BETWEEN 2015-2030
Behavioural change	5%	-30%
Core	29%	-24%
High economy	44%	-21%
Low economy	18%	-25%
Mode-balanced decarbonisation	15%	-38%
Regional	29%	-24%
Technology	56%	-35%
Vehicle-led decarbonisation	36%	-35%

Appendix 2: Impacts of the current approach to transport planning

Car dependent development: Numerous reports have catalogued Britain's growing car dependency⁵⁶ and the risk of locking this in for years to come. The New Economics Foundation have found that car-dependency in Britain has risen steadily since 2009, with new homes being more car-dependent than older homes, a trend which is present in all regions outside London.⁵⁷ A joint report by the Royal Town Planning Institute and LandTech Ltd found that while 96% of new homes can reach a town centre within a 20-minute drive, only 66% have the same access using public transport and 47% within a 20-minute walk.⁵⁸ This increasing car-dependency then undermines public transport services and the safety and attractiveness of walking or cycling.

Unattractive and poorly designed places: Cars and roads are not just polluting and expensive, the storage and movement of cars clutter streets and public realm, generate noise and vibration, sever communities and take up valuable space. Ambitions for more liveable places, where people can access services to meet their day-to-day needs, are undermined by the sprawling effects of roads and parking. In turn, small and local businesses struggle to be commercially viable because the people they need to reach live further away and have limited travel options to reach them.

Social isolation and reduced quality of life: Increasing car dependency and reduced public transport services mean that many people in the UK are unable to reach jobs, shops and services due to a lack of adequate transport alternatives to the car. This can contribute to social isolation and reduced quality of life.⁵⁹ Transport for the North estimates that over 9.8 million people in England alone are at risk of transport-related social exclusion, and one third of these people are in the North of England.⁶⁰ The Institute for Public Policy research has demonstrated the role of transport in creating a fairer and healthier society.⁶¹

Failure to reduce carbon emissions: Transport (including international aviation and shipping) is responsible for around a third of the UK's greenhouse gas emissions – with road traffic responsible for about a fifth.⁶² Road building will create more motor traffic demand and increase emissions.⁶³

Worsening health and wellbeing: Road traffic is responsible for around 80% of nitrogen dioxide in areas where legal limits of this air pollutant are exceeded.⁶⁴ Air pollution, much of it associated with road traffic, is estimated to cause around 40,000 premature deaths a year.⁶⁵ While exhaust emissions are reduced with the transition to electric vehicles, non-exhaust emissions (brake, tyre and road surface wear) account for the majority of deadly particulate matter emissions from road traffic including EVs, and will become more dominant in future.⁶⁶ Fine particulate matter (PM2.5) is widely understood to be the pollutant that is the most damaging to health but much of England and Wales is currently not meeting WHO PM2.5 guidelines.⁶⁷ Road traffic noise is associated with an increased risk of heart disease⁶⁸, stroke, obesity and diabetes, as well as sleep disturbance and annoyance, with night-time noise a particular risk for cardiovascular disease.⁶⁹

Increased road casualties: Nearly 30,000 people were killed or seriously injured on Britain's roads in 2023, a slight increase from 2022.⁷⁰ Nearly 3,000 were children under 16. For anyone aged 5-25, road death is the single biggest cause of death.⁷¹ Cars are the mode by far the most frequently involved in fatal collisions and are more likely to kill vulnerable road users. In 2019 three people in motor vehicles were killed in collisions between cars and pedestrians/cyclists compared to 517 pedestrians and cyclists killed.⁷²

Damage to the natural environment: More than half (49 out of 86) of all major road schemes built between 2002 and 2016 affected areas that were nationally or locally protected because of their wildlife, landscape or heritage value.⁷³ Over the same period, there were 14 major road schemes that damaged ancient woodland; six schemes that impacted Sites of Special Scientific Interest; 11 schemes that affected Areas of Outstanding Natural Beauty and three schemes that were within or close to National Parks.⁷⁴ This habitat loss and fragmentation does not include the massive impact to wildlife caused by roadkill, noise and light pollution.⁷⁵ Nearly a fifth of England's waterways are failing to meet water quality targets are due to contaminants from roads.⁷⁶ A recent White Paper shows that 'toxic cocktail' includes heavy metals, oil, microplastics and hundreds of other chemicals.⁷⁷

A drain on public finances: As well as being environmentally damaging, unnecessary or counter-productive, the current programme for road capacity enhancement is unaffordable. The cost of just 16 road schemes is £15 billion.⁷⁸ Official estimates have suggested the next phase of the strategic road programme (Road Investment Strategy 3, RIS3) could cost around £30 billion.⁷⁹ This cost estimate does not include the additional spending on local roads by local government, the spending on the Major Roads Network and Local Large Major roads and spending on roads from the Housing Infrastructure Fund. This spending adds up to billions of pounds a year.⁸⁰ Rather than spending billions on new roads, it is better to spend money fixing, maintaining and adding resilience to the existing road network and finding less damaging and more cost-effective ways to improve access for everyone, including those without access to cars. Schemes to introduce walking and cycling facilities and public transport infrastructure are invariably significantly cheaper than road-based schemes, yet can have equal or greater benefits and transport equal or greater numbers of people. Further, management schemes on the Strategic Road Network targeting road casualty reduction are cost effective and an order of magnitude cheaper than major infrastructure.⁸¹ Such improvements will benefit everyone, including drivers.

The total monetised costs of the impacts of traffic on local communities in Britain, including reduced wellbeing and other externalities, is estimated to be around £31.9 billion per year.⁸²

Appendix 3: Case studies of vision-led planning

A3.1. Alternatives to new road capacity

Alternatives to the M4 Relief Road near Newport, Wales

The M4 relief road was a proposed 14 mile, six-lane scheme designed to tackle congestion on the M4 near Newport, Wales. It was controversial partly due to its high cost of £1.6 billion and partly due to the potential impact on the Gwent Levels, a nationally important wetland area.

In 2019, the Welsh Government decided not to proceed with the M4 relief road and established a South East Wales Transport Commission to look at alternatives to reducing congestion on the M4. The final report had nearly 60 recommendations, centred on public transport, to be delivered through five packages: infrastructure, network policies, behaviour change, governance, and land use and planning.⁸³

A delivery unit (called the Burns Delivery Unit) was set up in 2021 to progress plans for new rail, bus and active travel infrastructure that would form a network of alternatives for South East Wales. According to the unit's third progress report⁸⁴, they have carried out detailed work designing and consulting on five new rail stations on the South Wales Mainline, with Transport for Wales completing feasibility work which indicated a strong business case. As rail infrastructure is not a devolved responsibility, the Welsh Government is now working with the UK Government to agree a pipeline of rail infrastructure priorities. The Welsh Government is continuing to take forward work on the other recommendations and is funding over £2m of work in 2023/24, including on network improvements in and around Newport, sustainable travel projects in Monmouthshire and a longer-term programme to create a sustainable travel corridor between Newport and Cardiff.

A3.2. Car-free housing developments

Climate Innovation District, Leeds⁸⁵

Developed by the property developer CITU, the Climate Innovation District in Leeds is a European style development of 955 low-carbon homes in Leeds city centre. These were the first houses to be built in Leeds city centre in over 90 years. Around a third of the properties were built or occupied as of early 2025.

The car-free design, based on European models, is particularly innovative for the UK outside of London. Located a short walk from Leeds city centre (Leeds train station is six minutes by bike), next to the river Aire, the low rise (3-5 storeys) but high density (>100 dwellings per hectare) design encourages walking, cycling and play, and is focussed on parks and shared gardens. It creates a car-free environment with underground, centralised car parking, with spaces allocated for a popular electric car club and plentiful free on-site bicycle storage. CITU are very supportive of the city's e-bike hire scheme, which they would like to see expanded across the city. Although required to provide a minimum number of 340 parking spaces (i.e. around a third of the homes), CITU are expecting to be able to repurpose some of these on

completion of the development. The development includes a pedestrian bridge across the river, which links the north and south sides of the city, connects the development, and links phase one to the riverside cycle path. Regular Dutch-style river taxis which operate on the river are popular.

In early 2023 CITU received planning permission for a car-free school, and in early 2025 were in the process of securing funding and furthering design works. The company says that a car-free landscape is a big draw for people, and while some customers find the idea of purchasing a parking space challenging, they are able to understand the many benefits to how CITU approach their travel strategy. CITU has other similar low-car developments in Kirkstall, Leeds and Kelham Island, Sheffield.

One Brighton, Brighton

Opened in 2009, the 172-unit One Brighton housing development was the UK's largest private car-free development. Designed by architects Feilden Clegg Bradley and built as a joint venture between developers BioRegional Quintain and Crest Nicholson, it aimed to set a benchmark for sustainable living and design. With Brighton train station a 4-minute walk away, only four car spaces were provided. This saved construction costs, saved residents money, provided more space for apartments, and made it a more attractive commercial decision. According to a case study in 2014, the lack of parking has not caused any issues. The council has incorporated many of its features into wider planning policy, and uses One Brighton as an example for other developers of the art of the possible.⁸⁶

A3.3. Car-light developments

Goldsmith Street, Norwich⁸⁷

The award-winning Goldsmith Street in Norwich is a development of 105 affordable homes, led by Norwich City Council. It is one of the largest Passivhaus schemes in the UK, designed for quality, sustainability and low energy use.⁸⁸ It is a 10-minute walk from Norwich city centre, in an area blighted by poor post-war planning, with a design that prioritises pedestrians. The development is low rise but achieves high densities (83 dwellings per hectare) through good streetscape design. Inspired by the popular housing of the nearby 19th Century Golden Triangle, the architects Mikhail Riches re-introduced narrow streets that are easy to navigate with only 14m between blocks (with careful design to avoid overlooking from building into another).⁸⁹ A re-interpretation of a traditional 'ginnel' runs through the centre of the scheme, merging into a secure communal garden. The 80 parking spaces (less than one per home) are located around the perimeter of the residential neighbourhood. The high-quality streetscape and landscape design promotes safe small children's play, and the homes overlook two significant areas of car-free landscaping.

Duncombe Square, York

York City Council is planning a city-wide Passivhaus housing programme inspired by the award-winning Goldsmith Street in Norfolk (case study 4). Three sites were in the design and planning stages in 2024, including one at Duncombe Square, 20 minutes' walk from York city centre, which was designed by Mikhail Riches (the Goldsmith

Street architects).⁹⁰ Thirty-four homes are planned around green open space with planters and communal growing beds. Shared ‘ginnels’ at the back of the homes allow access for bicycles and create a safe space for children to play.⁹¹ There will be 19 parking spaces (0.55 spaces per home) – three of them for residents living in the wheelchair accessible homes and a further two for visitors. The other 14 will be issued parking permits on a first come first served basis. Completion is anticipated in summer 2025.⁹²

Trent Basin, Nottingham⁹³

Trent Basin is a riverside neighbourhood of over 500 low energy homes and apartments in Nottingham, only 10 minutes by bike to the railway station and city centre. It is part of a 250 acre regeneration project on the north bank of the River Trent. It is designed to be car-free in some areas, such as the central green space and car-free courtyards and routes, and also includes a mobility hub, but it is not entirely car-free. The paths in and around the site will connect to a proposed footbridge across the river. New homes are being released through to 2027 following completion of the new bridge.

Western Villages, Edinburgh

A development of 444 mixed tenure (social, rental and private) homes at Western Villages, Edinburgh, are planned within a masterplan that places great emphasis on pedestrian and cycle movement and has electric car charging, car club access and public transport. Car parking across the development is limited.⁹⁴ The maximum car parking provision proposed is 25% (one space for every four residential units).⁹⁵ The development is led by the City of Edinburgh Council in partnership with Glasgow-based contractor CCG (Scotland) and architect Cooper Cromar. The homes are designed to a ‘Net Zero Home’ energy standard. This development forms part of a larger Granton Waterfront regeneration project of 3,500 homes (social, rental and private).

Kirkstall Forge, Leeds⁹⁶

Kirkstall Forge is a 57 acre development, 3.5 miles from Leeds city centre, with outline planning permission for up to 1,450 new homes, plus offices, retail and leisure, and a primary school. It is being developed by CEG. The redevelopment of this brownfield site has been made possible due to the opening of a dedicated railway station in 2016, which is a 6-minute journey from central Leeds. The development masterplan has been designed to discourage car use, aided by the railway station and onsite car club, which will lower the carbon footprint of those living and working here.

Hartree, Cambridge⁹⁷

Hartree is a planned new urban district for North East Cambridge. Comprising a 48-hectare brownfield development for around 5,600 homes, shops, workplaces, education, community and leisure facilities, and open spaces. Developed by Landsec and TOWN, working with Cambridge City Council and Anglian Water, it is designed to be in large part, free of cars. Streets will enable walking, cycling and low-carbon modes of transport with excellent bus connections and easy access to Cambridge North Station.

Appendix 4: Stepping Off the Road to Nowhere report

This report investigates a real plan for a new housing extension of 3,500 homes to the market town of Chippenham, planned around a £75 million road scheme.⁹⁸ Create Streets, in partnership with Sustrans and ITP, have redesigned the infrastructure, transport interventions and masterplan using the £75m Housing Infrastructure Fund road budget, via a range of 'Big Moves' using a vision-led transport planning approach, rather than the standard 'predict and provide' traffic model. This approach achieves the same number of homes with a far smaller loss of greenfield land, and with healthier and lower carbon transport options. The summary table of their nine 'Big Moves' is reproduced below.

Table 4.1: Cost breakdown of Big Moves for redesign of a housing extension

WHAT	COST	IMPACT
1 Intensify masterplan for higher densities with 2-4 storey dwellings ^(a)	£0m	Reduced land take
2 In-fill underused brownfield land with remediation and street votes ^(b)	£2.5m	More homes within the existing town
3 A rail passing loop at Melksham	£15m	More trains at commuter frequency – less congestion
4 Improve streets within new development (down from initial £75m) ^(c)	£10m	Accommodate expansion and road connectivity
5 Contribution to an improved high frequency bus network for 5 years ^(d)	£7.5m	More use of sustainable transport choices enabled – less congestion
6 Create car clubs and mobility hubs	£3m	Enable shifts to more sustainable transport choices
7 Contribute to town centre revitalisation and improvements	£10m	Improved town centre for existing and new residents
8 Support local businesses during development phase ^(e)	£6.25m	Provision of more amenities for new residents within walking distance
9 Protected cycle links from new developments to key locations in town	£11m	More active travel and less car use
Contingency/inflation or money returned to the Government	£9.75m	
TOTAL	£75m	

(a) Increasing the density from a very low level of 21 dwellings per hectare to 58 homes per hectare (using a 'gentle' density of 2-4 storeys per dwelling), by reducing parking requirements to one parking space per house; providing more terraced homes; reducing back-to-back distances, reducing the size of highway infrastructure and increasing site coverage; and providing more amenities and services within walking distance.

(b) Intensifying the existing town with consent.

(c) [Wiltshire County Council's costs of highways works](#) demonstrates the number and types of improvements that can be made with £10m.

(d) Based on a combination of capital and revenue costs over 5 years for a range of bus service improvements based on figures from the 2016 Chippenham Transport Strategy.

(e) Based on a 50% discount on business rates in the new development (assuming annual business rates of £20,000) for 125 retail or commercial premises over five years.

Appendix 5: Questions to ask when considering a new road

When a new road scheme or new car dependent development is proposed it is worth considering the following questions (and possible answers) to shed light on the rationale and to potentially reveal flaws in the case.

Q1. What is the stated reason(s) for the proposed new road?	
	Ease congestion
	Unlock capacity for housing or other development
	Improve air quality by easing idling / queuing cars
	Reduce air pollution from a given area
	Remove traffic from a given area (e.g. a bypass)
	Facilitate economic growth
	Regenerate a deprived area
	Improve safety for <i>all</i> modes
	Providing essential access to new development
Q2. Has the appraisal taken a holistic approach and looked beyond transport planning metrics?	
	Has the role of the road in placemaking been thoroughly considered?
	Will people have equal opportunities to access services?
	Does it remove barriers to travel in the local area?
	Could it lead to people being healthier and happier?
	Does the scheme align with the local vernacular or design code?
Q3. Have alternatives have been thoroughly considered?	
	Alternative modes, e.g. new walking, cycling or public transport infrastructure
	Relocating the development nearer to existing services, or better served by existing infrastructure
	Building new facilities nearer to people, so that the need to travel longer distances is reduced, e.g. health centres, shops, schools
	Demand management, e.g. parking policies and pricing, high occupancy vehicle lanes, road user charging, ULEVs
	Behaviour change and Smarter Choices, e.g. integrated ticketing, park and ride, car clubs, mobility hubs
	Integrated development planning
	Highway management, e.g. speed restrictions
	Marketing and communications
Q4. Are the assumptions made about the future sound?	
	Are the assumptions based around achieving a stated vision?

Have a range of scenarios been considered, e.g. in traffic modelling and economic appraisals?
Do any scenarios assume that traffic may start to reduce or displace?
Are the assumptions supported by qualitative appraisals of metrics which cannot be easily measured in numbers, e.g. happiness or health?
Q5. Has the cost of the new road(s) been appraised?
The monetary benefits of the road outweigh the costs
The monetary benefits of the road outweigh the costs of alternatives, e.g. sustainable travel infrastructure
The benefits of the road have been considered qualitatively against the qualitative benefits of alternatives, e.g. sustainable travel infrastructure
The cost / benefits of alternatives are higher
The cost / benefits have not been presented
Q6. What is the estimated change in traffic (including freight traffic) within 10-15 years compared with doing nothing / no development?
Higher
No change
Lower
No estimations provided
Q7. Have the carbon (or equivalent) emissions of the scheme been estimated?
Increase in carbon emissions
No change in carbon emissions
Reduction in carbon emissions
No estimations provided
Q8. Does the new road(s) accommodate other users?
Is there dedicated provision for walking?
Is there dedicated provision for cycling?
Is there dedicated provision for buses?
Is there segregation between modes?
Is the route of the road the same route that other modes would logically take?

Appendix 6: Outline costings table

Additional costs for local road junction, bus priority and mobility hubs in Figure 4, courtesy of ITP.

ALTERNATIVE	TYPICAL COSTS ^(a)	WHERE TO FIND FURTHER INFORMATION
Walking/cycling improvements	For 2017 cycle interventions	Costings report for the Cycle City Ambition programme ⁹⁹
		Propensity to Cycle tool ¹⁰⁰ – an evidence base to inform cycling investment
	For locally specific schemes	See your Local Cycling and Walking Investment Plan (LCWIP)
Bus improvements	For 2021 locally specific improvements	See your local Bus Service Improvement Plan proposal – every highway authority produced one in 2021 to bid for government funding
Rail improvements		Summary of published studies on rail capital costs ¹⁰¹
	£15m	Rail passing loop (from Create Streets report – see Appendix 4)
Highway improvements		Wiltshire County Council's costs of highway works provides a breakdown of the costs of types of highway improvements ¹⁰² (from Create Streets report – see Appendix 4)

(a) All costs can be updated for inflation using the Bank of England [inflation calculator](#).

Endnotes

- ¹ Black C (2025) [Highways Investment Remains Government Focus for its Housing Vision](#). LinkedIn post, 10/02/25.
- ² Professor Phil Goodwin has pointed out that it has been known since 1925, and demonstrated in multiple subsequent reports, including in the seminal 1992 [SACTRA report](#), that new roads generate traffic. Goodwin P. (2006) [Induced Traffic Again. And Again. And Again](#). Local Transport Today, 450, 24 August 2006.
- ³ In the short term it is unlikely that new roads will reduce casualties: out of fifteen large road schemes examined, half showed an increase in collisions over a short time period following scheme completion. In the long-term new roads may increase the number of casualties because they generate more traffic. Sloman, L., Hopkinson, L. and Taylor, I. (2017). [The Impact of Road Projects in England](#). Report for CPRE, March 2017.
- ⁴ Melia, S. (2018) [Does road building boost the economy? The claim has never been proven](#). Blog for Campaign for Better Transport, 21/03/18.
- ⁵ An analysis of road schemes that had been justified on the grounds that they would boost the local economy, found that three quarters had weak or no evidence of economic benefits, and, where there was evidence, it was not clear the benefits were very significant or what was intended. Sloman, L., Hopkinson, L. and Taylor, I. (2017). [The Impact of Road Projects in England](#). Report for CPRE, March 2017.
- ⁶ Hopkinson et al. (2024) [The key to prosperity is a greener transport system](#). Transport for Quality of Life, Radical Transport Policy 2-pager. March 2024.
- ⁷ Natcen Social Research (2020) [Impact of interventions encouraging a switch from cars to more sustainable modes of transport. A rapid evidence assessment \(REA\)](#). December 2020. Report for Department for Transport.
- ⁸ The latest police recorded collision stats, covering July – September 2024, show collisions on Welsh roads at their lowest level for that quarter since records began, including during the pandemic. Welsh Government (2025) [Safest summer on Welsh roads, new statistics show](#). Press release, 30/01/25.
- ⁹ Davis A and Jones S (2022) [The value of prevention – casualty reductions in switching from a 30mph to 20mph speed limit, default in Wales](#). Edinburgh: Transport Research Institute, Edinburgh Napier University.
- ¹⁰ Fred Kent (2005) <https://www.pps.org/article/transportationasplace>
- ¹¹ Department for Transport (1998) [A New Deal for Transport: Better for Everyone](#). This White Paper sets out Government's priorities for transport policy, representing a fundamental shift in emphasis relative to the objectives of earlier policies. There has been no stated revision to that policy of promoting sustainable transport and reducing car use since.
- ¹² Create Streets (2022) [Computer Says Road](#). Briefing paper. February 2022.
- ¹³ See endnote 1.
- ¹⁴ House of Commons Transport Committee (2023) [Draft revised National Policy Statement for National Networks](#). Ninth report of session 22-23, 17/10/23.
- ¹⁵ Much of the process that is detailed in the official guidance is sensible and involves, for example, establishing the need for an intervention, identifying objectives, identifying interventions, and considering a wide range of options. Department for Transport (2018) [Transport Analysis Guidance. The Transport Appraisal Process](#). May 2018.
- ¹⁶ Department for Transport (2022) [National Road Traffic Projections](#) (NRTP).
- ¹⁷ House of Commons Transport Committee (2023) [Draft revised National Policy Statement for National Networks](#). Ninth report of session 22-23, 17/10/23.
- ¹⁸ In all scenarios in the 2022 National Road Traffic Projections (NRTP) (including the two 'lower carbon' scenarios, the predicted reduction in carbon emissions from road transport will fall by only 19-35% between 2018 and 2030, while the Climate Change Committee's 6th Carbon Budget requires a 47% reduction in surface transport over this period.
- ¹⁹ Anable, J. (2024) [Decarbonisation pathways for UK transport. IPPR Progress Review](#). Volume 31, Issue 3. The great enabler: Transport's role in tackling environmental crises and delivering progressive change. November 2024.

²⁰ For example, in a comparison of the appraisal of three alternative transport projects in North West England, over 90% of the 'benefits' of the road scheme were due to notional time savings, while the cost of increased CO2 was put at less than 1% of the time saving benefits. Hickman R. and Dean M (2017) [Incomplete cost – incomplete benefit analysis in transport appraisal](#). Transport Reviews, 2017, DOI: 10.1080/01441647.2017.1407377

²¹ Dyson, P. and Sutherland, R. (2021) [Transport for Humans: Are We Nearly There Yet?](#) Pub: London Publishing Partnership.

²² Cost benefit analysis has been criticised repeatedly for its perverse logic, double counting, and the high importance given to time savings of a few minutes for millions of motorists, which generally account for the vast majority of predicted monetised benefits from road schemes. By contrast many of the environmental and social impacts of new roads are not costed (e.g loss of amenity, loss or degradation of habitat or species, visual impacts, loss of heritage etc.), and the assigned 'cost' of carbon emissions is severely underestimated and costs of carbon emissions in future years are heavily discounted. It is argued that all of this makes the accuracy and ethics of the economic appraisal highly questionable. Hopkinson, L. and Sloman, L. (2019) [Getting the Department for Transport on the right track](#). Briefing for Friends of the Earth, May 2019.

²³ On p131 it states that the benefit-to-cost ratio needs to be judged '*in the context of the proposal's role in supporting government policies and strategies of which it is a part, and its fit with wider public policies*'. H M Treasury (2022) [The Green book: central government guidance on evaluation and appraisal](#).

²⁴ Local Government Technical Advisers Group (LGTAG), Transport Planning Society, Chartered Institution of Highways and Transportation and Royal Town Planning Institute (2020) [Joint letter to DfT on Green Book reforms](#). 17/06/20.

²⁵ Transport Planning Society (2018) [Response to the DfT's consultation on appraisal](#).

²⁶ The Brabazon development is a new planned brownfield development in North Bristol for over 6,500 new homes together with office and industrial space, built on a former airfield. The development is designed to help reduce reliance on car travel with metrobus and local buses serving the area along with a new planned train station. The developer intends the scheme to be an exemplar in terms of reducing the need to travel by private vehicle. The local Council is yet to approve the most recent outline application. Best practice would involve planning, funding and implementing the mass transit connections (in addition to committed Metrobus and the rail station schemes) before the site is built out. Brabazon (2024) [The revised masterplan to transform Brabazon has been approved](#). Press release, 20/02/24; YTL Developments (2022) [Planning Statement](#). Brabazon Masterplan, planning submission. April 2022. Additional information from South Gloucestershire Council

²⁷ Transport for New Homes (2023) [A very different model of development](#). Blog, 30/11/23.

²⁸ CIHT (2019) [Better planning, better transport, better places](#). Advice document.

²⁹ These are the goals of the [Well-being and Future Generations \(Wales\) Act 2015](#).

³⁰ [Llwybr Nwydd: The Wales Transport Strategy 2021](#) has the following aims: (1) Good for people and communities (e.g. Improving air quality; reducing noise; encouraging healthy active travel; increasing safety); (2) Good for the environment (e.g. Reducing greenhouse gas emissions by reducing demand, supporting low-carbon infrastructure through modal shift, maintaining and enhancing biodiversity and increasing ecosystem resilience); (3) Good for the economy and places (e.g. Using the Sustainable Transport Hierarchy; considering the built environment and public realm; creating a more sustainable system for distributing goods); and (4) Good for culture (e.g. Enabling people to enjoy arts, sports, and natural and cultural heritage using sustainable transport; protecting and enhancing the historic environment in transport interventions.)

³¹ Some transport priorities to consider could include the following (1) Improve technology and digital connectivity, so that travelling to meet day-to-day needs is not always necessary; (2) Provide means for sustainable travel; (3) Support sustainable travel choices; (4) Align the costs of sustainable travel with car travel; (5) Allow people and goods to move easily from door to door by accessible, sustainable transport; (6) Enable people to work at or near to home; (7) Increase the active travel mode share; (8) Increase the public transport mode share; (9) Enhance accessibility for freight; (10) Make sure land-uses are mixed; (11) Make sure land-uses are at the appropriate density.

³² Welsh Government (2023) [Welsh Government response to the roads review](#).

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- ³³ Evidence submitted by Professor Phil Goodwin to the Transport Select Committee. See endnote 17.
- ³⁴ For example, [Midlands Connect's Strategic Transport Plan](#) aims "to make the Midlands region fairer, greener and stronger" while promoting 20 large scale road projects. Similarly, Oxfordshire County Council has a groundbreaking [Local Transport and Connectivity Plan](#) with a traffic reduction target while continuing to invest in new roads that will increase traffic.
- ³⁵ SDG21 [Car-free settlements and neighbourhoods in Europe](#).
- ³⁶ Mark Koehler Associates (undated) [Merwede Utrecht: District of the future](#). Webpage.
- ³⁷ Transport for New Homes (2023) [A very different model of development](#). Blog, 30/11/23.
- ³⁸ Many desirable Georgian and Victorian three storey streets and squares achieve densities of 80-100 dph. CPRE (2006) [Compact Sustainable Communities](#). 2nd edition, November 2006.
- ³⁹ Create Streets and Sustrans (2024) [Stepping off the road to nowhere](#). 10/03/24.
- ⁴⁰ The UK's Nationally Determined Contribution (NDC) under the Paris Agreement is for a [68% reduction in carbon emissions by 2030 relative to 1990](#). This doesn't include International Aviation and Shipping. The Climate Change Committee have recently recommended a reduction of 81% by 2035. CCC (2024) [CCC advises 81% reduction in emissions by 2035](#). News release, 26/10/24.
- ⁴¹ Climate Change Committee (2023) [Investment for a well-adapted UK](#). January 2023.
- ⁴² Greengauge21 (2024) [Why the nation needs a climate change adaptation strategy for transport](#). Comment, 22/05/24.
- ⁴³ The Future Generations Commissioner for Wales, in partnership with the Centre for Transport and Society (CTS), University of the West of England, Sustrans and New Economics Foundation (2018) [Transport Fit for Future Generations](#). September 2018.
- ⁴⁴ ITP in association with the University of the West of England (2017) [A New Transport Vision for the Sussex Coast](#). Report for the South Coast Alliance for Transport and the Environment (SCATE), December 2017.
- ⁴⁵ Buchan, K. (2022) [Low carbon travel for Longendale and Glossopdale](#). Report for CPRE Peak District and South Yorkshire for submission to the inquiry on the A57 Links Road. September 2022.
- ⁴⁶ Buchan, K. (2022) *op cit.* footnote 10.
- ⁴⁷ Create Streets and Sustrans (2024) [Stepping off the road to nowhere](#). 10/03/24.
- ⁴⁸ Greengauge21 (2025) [Connecting South West England: in place of A303/A358 widening](#). Report for TAN. January 2025.
- ⁴⁹ Buchan K (2025) [Improving safety on the A66 - faster, cheaper](#). Submission from Transport Action Network. February 2025.
- ⁵⁰ Jonathan Roberts Consulting (2025) [High capacity alternatives to a road-based Lower Thames Crossing](#). Report for Transport Action Network, February 2025.
- ⁵¹ Transport Action Network (2025) [Essex-Kent Superlinks - smarter, cheaper alternatives to the Lower Thames Crossing to turbocharge Essex and Kent](#). Call to action by Transport Action Network to the UK Government, February 2025.
- ⁵² Transport for New Homes (2019) [Checklist for new housing developments](#). Version October 2019.
- ⁵³ CIHT (2019) [Better planning, better transport, better places](#). Advice document.
- ⁵⁴ Climate Change Committee (2025) [The Seventh Carbon Budget](#). See full dataset. 26/02/25. This suggests under the Balanced Pathway emissions from surface transport should be 68.55 MtCO_{2e} in 2030 relative to emissions of 114 MtCO_{2e} in 2015. The Sixth Carbon Budget suggested surface transport emissions in 2030 should be 62 MtCO_{2e}.
- ⁵⁵ Department for Transport (2022) [National road traffic projections](#). 12/12/22.
- ⁵⁶ Transport for New Homes (2022) [Building car dependency](#).
- ⁵⁷ Kiberd, E. and Straňák, B. (2024) [Trapped behind the wheel. How England's new builds lock us into car dependency](#). Report by the New Economics Foundation. November 2024.
- ⁵⁸ RTPI and LandTech Ltd (2024) [The Location of Development 4. Sustainable transport and the location of residential planning permissions, 2012-2021](#).
- ⁵⁹ Lucas, K., Stokes, G., Bastiaanssen, J. and Burkinshaw, J. (2019) [Inequalities in Mobility and Access in the UK Transport System](#). Future of Mobility: Evidence Review, Foresight, Government Office for Science. March 2019.
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- ⁶¹ Donkin, A., Childs, M. and Marmot, M. (2024) [Transport's role in creating a fairer, healthier country](#). IPPR Progress Review. Volume 31, Issue 3. The great enabler: Transport's role in tackling environmental crises and delivering progressive change. November 2024.
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