CIHT

Better planning, better transport, better places

AUGUST 2019

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Foreword

This advice, led by CIHT in collaboration with TPS and RTPI, is the result of a great deal of work by professionals interested in creating better places by better integrating planning and transport.

The advice is designed to complement guidance from the Ministry of Housing, Communities and Local Government and we are pleased to see the increasing working relationship between the ministry and the Department for Transport. We also applaud the recognition that professionals have a key role to play in addressing the integration of new development and transport.

Better planning, better transport, better places also provides practical solutions to tackling the challenge of climate change and reducing greenhouse gas emissions.

We would like to express our thanks to all those people who have supported the development of this advice, in particular the members of the working group which was chaired by Lynda Addison OBE FCIHT.

We look forward to instilling this advice across our professional networks to ensure the issues covered are addressed in practice.

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Executive summary

For the last 20 years, governments have attempted to encourage a more sustainable approach to transport within spatial planning but have made limited progress.

Car parking and traffic still dominate housing developments. Sustainable access to local services is poor. Sustainable approaches to transport are largely non-existent. The way we currently travel and the continued growth in road traffic are damaging our health, harming our towns, and contributing to climate change.

Our quality of life depends on transport and easy access to jobs, shopping, leisure facilities, and services. We need an efficient and integrated planning and transport system to not only support a strong and prosperous economy but to reduce carbon emissions. As a sector, we are not achieving these goals.

The current planning practice is not delivering the best outcomes. New developments frequently fail to achieve sustainability because of their locations, the approaches taken to provide access, or the attitudes of everyone involved in their planning and delivery. Far too many examples still exist where the long since discredited approach of 'predict and provide' is used to the detriment of planning better places.

The government, professionals, and communities recognise the need for change. The revised National Planning Policy Framework of February 2019 (NPPF) has moved national policy in the right direction, but practice must also change significantly in a number of ways if we want future developments to provide healthy, successful places for people to live in.

Integrating sustainable transport into new developments is key to achieving that outcome, but three key barriers stand in the way:

- Local authorities are not setting out a vision for development in their Local Plans that includes setting accessibility and mode share targets to which developers and promoters can respond.
- Limited practical examples demonstrate how to deliver sustainable transport outcomes which reinforce risk-averse approaches.
- Collaboration between planning and transport regulatory and delivery bodies is either insufficient or ineffective.

This advice document focuses on the critical practical steps that can be taken by planning professionals, developers, advisers, and local councils to overcome these barriers, from developing a strategic or Local Plan to delivering a development. It not only works within the context of current planning legislation and the NPPF but also provides recommendations for the government for improving current policy.

Through this advice, creating places that meet the requirements of the 21st century in terms of all the critical elements of environmental, economic, and social sustainability, and responding to climate change, while also effectively delivering the homes needed will be possible. The effective integration of planning and transport is fundamental to achieving this objective.

Our quality of life depends on transport and easy access to jobs, shopping, leisure facilities, and services. We need an efficient and integrated planning and transport system to not only support a strong and prosperous economy but to reduce carbon emissions.

Recommendations for improving current practice

CIHT believe in radically improving the outputs and outcomes of planning and transport by working differently and more intelligently. This starts with a clear vision to create better places for people to live in and is achieved by adopting new approaches at the strategic level and when it comes to planning individual developments. The key changes needed are as follows:

Create a clear vision

1. Local plans must commit to a compelling and clearly expressed place-based vision that has sustainable transport as well as health, climate change and environmental needs integrated from the start.

2. Strategic and Local Plan producers must create collaborative partnerships with strategic stakeholders, transport service providers, and local communities that go far beyond statutory consultation.

3. Local Plans must include clear accessibility and mode sharing requirements. A clear statement of the minimum quality of accessibility by sustainable modes to offer a credible choice must be made.

4. Local Plans must make the best use of existing planning policy to develop a sustainable planning strategy. This includes effectively exploiting the NPPF and securing support from Highways England, Network Rail, and subnational transport bodies.

5. Local Plans must be capable of evolution and flexibility when delivering larger or innovative schemes but must always maintain consistency with the vision and objectives.

6. We must fully abandon predict and provide models of transport planning, and assess the Local Plan against health and well-being, lifestyle, and environmental criteria (including carbon emissions) – not just standard demographic and transport information.

7. We must use robust scenario testing to ensure site allocations are viable and deliverable in terms of meeting sustainability and mode share targets.

8. Our supporting evidence base must demonstrate where the transport capacity presents opportunities as well as constraints to the Strategic and Local Plan.

Deliver the Plan

9. Local authorities should be prepared to drive and manage the implementation of the Plan rather than simply reacting to planning applications. This will require establishing clear ongoing collaborative mechanisms for the management and monitoring processes required.

10. The Infrastructure Delivery Plan (IDP) accompanying the Local Plan should set out what is required, when, and (for at least the first five years) how it could be funded where this is practical.

11. The IDP should be developed in collaboration with a wider range of stakeholders. It should be reviewed and updated as required but maintain consistency with the vision and objectives.

12. The Statements of Common Ground prepared by plan makers should include the extent and duration of joint work with the transport authorities and providers to inform and evidence collaboration throughout the plan-making process, in particular agreement on what transport investments and interventions are required and deliverable in support of the plan strategy.

13. Community Infrastructure Levies and Section 106 policies should support strategic elements of the sustainable transport network, and these must be prioritised over additional road capacity.

Manage new developments

14. Development proposals should describe how they support the Local Plan's place-based vision for access and movement, taking account of viability, deliverability, resilience to changes, and explicit sustainable development outcomes.

15. Development proposals should recognise that the level of accessibility to existing or potential transport services and the opportunity to include new services in large development areas are key determining factors.

16. Development proposals should assess alternative land-use and transport options to define the optimum sustainable transport strategy. They should also present evidence to demonstrate a reasonable prospect that the preferred option can be delivered.

17. The government and the Planning Inspectorate should put greater weight on transport- and movement-related evidence and more consistently regard how access and movement are facilitated by more sustainable means.

Section A: The context

1. Introduction

1.1. Who produced this?

This advice is the outcome of several debates and the increasing frustration of a wide range of organisations and opinion formers who have identified that the current practice leads to more car-based development, contrary to the stated aims of national planning policy and contributing to unhealthy lifestyles and climate change.

To address this, the Chartered Institution of Highways and Transportation (CIHT) set up a working group, drawing in a wide range of professional bodies and stakeholders to create new advice on the integration of planning and transport, the aim of which was to work within the current government and legal framework but secure better implementation. The group includes local authorities, the private sector (both developers and consultants), the Transport Planning Society (TPS), the Royal Town Planning Institute (RTPI), academics, and transport operators.

1.2. Who is it for?

The aim of this guide is to provide practical advice for everyone involved in the planning process and to inform any new national planning guidance from the government but focuses on the planning regime in England. It has been written to guide a wide range of audiences, including the following:

- Local communities responding to local planning policy documents or developments
- Professionals in the public sector, including transport planners and engineers
- Politicians and their advisers
- Professionals in the private sector, including developers, landowners, and their advisers

1.3. Why is it needed?

The objective of this document is to set out how the transport planning process can support the delivery and scale of economic and housing growth required by the government while delivering more sustainable transport and planning outcomes for people and places. It does so in the context of the revised National Planning Policy Framework (NPPF) 2019[1] and relevant legislation. This document focuses on how to apply policy and regulation requirements in a way that delivers considerably better outcomes that are more consistent with sustainable development.

The government has set an ambition to deliver 300,000 houses per year.[2] However, in many areas with high housing demand, the capacity to deliver growth without seriously degrading the performance of transport networks is already constrained by a lack of transport capacity. Additional development risks exacerbating congestion, poor air quality, green house gas emissions and overcrowding on public transport. Housing that is poorly located and inaccessible by sustainable transport modes either locks residents into long and expensive journeys on congested roads which leads to socio-economic marginalisation and degrades our natural environment.

Poorly located and designed new development seriously hinders healthy lifestyles. Physical inactivity directly contributes to one in six deaths in the UK, drives rising levels of obesity, and is the fourth largest cause of disease and disability. It costs society an estimated £7.4 billion a year[3] and places the national healthcare system under increasing financial strain. Transport journeys also create dangerously high levels of air pollution in many towns and cities, contributing to an estimated 40,000 premature deaths per year.[4]

Better transport planning would support the viability and quality of public transport and ensure value for money for investments in walking and cycling, together with wider economic, environmental, and social benefits.

Over time, patterns of dispersed and car-dependent settlement growth, coupled with underinvestment in public transport and active transport infrastructure, have left many parts of the country with poor accessibility and connectivity. This increases infrastructure costs[5] and weakens labour market productivity,[6] which prevent towns and cities from reaching their full potential.

[1] Ministry of Housing, Communities, and Local Government (2019), National Planning Policy Framework, MHCLG.
[2] Ministry of Housing, Communities, and Local Government (2018), Government announces new housing measures, MHCLG.
[3] Public Health England (2017), Health matters: Obesity and the food environment, Public Health England.
[4] Whitehouse, A. (2016), Every breath we take: The lifelong impact of air pollution, Royal College of Physicians.
[5] Trubka, R. et al. (2010), The Costs of Urban Sprawl — Infrastructure and Transportation, Royal Australian Institute of Architects.
[6] Andersson, M. et al. (2017), Unlocking Regional Growth, CBI.

More people now make long journeys by car, as a result of which congestion currently costs the UK over £12 billion per year,[7] projected to rise. These journeys also contribute to the UK's carbon footprint; transport is the largest emitter of greenhouse gases by sector.[8] Transport-related emissions are still rising, eclipsing the gains made by increased fuel efficiency. Unless this changes, the UK will struggle to meet its legal and international obligations to tackle climate change despite a transition towards electric vehicles. Nor will the electrification of personal mobility demonstrably resolve the congestion and social costs of isolation and inactive lifestyles.

While we accept the importance and urgency of providing new homes, this should not result in housing development at any cost. The government wants quality housing of the right kind in the right places. This means not just good design but also development that is easily accessible by modes other than car. Developments should support healthy local economies as well as lifestyles, in turn creating and enhancing communities and addressing wider global environmental challenges.

Substantial evidence shows that this is not happening.[9] In fact, as part of the research underpinning this report, the authors found barely any UK developments outside London or the major urban centres where genuinely good practice could be highlighted.

We believe that it is possible to plan, design, and build genuinely sustainable developments that will help the government achieve its target for new homes while promoting health and well-being, social inclusion, reducing carbon emissions and supporting economic growth.

1.4. What better planning for transport can achieve

For housing delivery: by unlocking sites for development and ensuring that existing transport networks can sufficiently cope with additional demand. Greater clarity over the location and phasing of transport investment and developer requirements leads to applications for new development being easier, faster, and less expensive to deliver, requiring less major road infrastructure and generating fewer objections from local communities. Better transport supports greater social equity by ensuring that people can access jobs, services, and leisure opportunities without the need for cars.

For public health: by enabling compact, higher-density, and mixed-use patterns of development. This encourages more people to incorporate physical activity into their daily journeys, improving productivity and dramatically reducing ill health.

For sustainable economic growth: by improving connectivity between housing and labour markets and realising economies of agglomeration. This creates high-quality urban environments that are accessible by walking, cycling, and public transport and that attract knowledge-intensive industries who want easy access to ideas, information, and skilled employees. Compact, dense settlements also reduce overall infrastructure costs.

For emission reductions: by shaping settlement patterns to reduce the need to travel by car and maximising accessibility to low-carbon modes of transport.

For innovation, international competitiveness, and an improved quality of life for UK residents: by building on existing progress in using big data and modelling to understand the relationship between transport and land use and helping professionals to influence development patterns, density standards, infrastructure investment, and travel behaviours in support of better transport outcomes. This takes place in the context of rapid changes to transport technology, where electrification, automation, smart ticketing, and mobility services transform how people travel. We need an integrated approach to transport and land-use planning to maximise the benefits of this transition, for example by considering how best to use redundant parking spaces in a future with more ride sharing and automation.

As new strategic planning authorities and subnational transport bodies emerge across the country, they provide opportunities to better coordinate development and transport investment to support wider social outcomes, such as health and equality. Elsewhere, local authorities must collaborate to achieve the same ends. As cities, towns, and nations around the world grapple with the same issues, the UK has a critical opportunity to export both knowledge and professional services in support of better planning for transport and to build 21st-century best practice examples.

[7] Centre for Economics and Business Research (2014), The future economic and environmental costs of gridlock in 2030, CEBR.
[8] BEIS (2018), 2018 UK Greenhouse Gas Emissions, Provisional Figures.
[9] Foundation for Integrated Transport (2018), Transport for New Homes: Project Summary and Recommendations.

2. Working with current planning policies to achieve better developments

The government's view of what 'sustainable development' means for the planning system is outlined in the National Planning Policy Framework (NPPF). The overarching message of the NPPF is to promote growth that is, development in a 'sustainable' manner, and it considers the economic, social, and environmental roles that the planning system must play to deliver sustainable development.

Sustainable development in a transport context means creating places that maximise accessibility by walking, cycling, and public transport. This is not practiced despite a range of consistently supportive policies in the NPPF. Instead, policies are frequently being interpreted in a way that continues to foster car-dependent lifestyles.

The following paragraphs identify the key policies in the NPPF that can be used to support sustainable transport in the planning process, particularly when local authorities put together their Strategic or Local Plans, which set the local vision for development. This begins with a summary of policies from Chapter 9 of the NPPF, which deals with transport explicitly, before exploring other relevant sections of the framework.

Topic	NPPF Chapter and Paragraphs
2.1 Promoting sustainable transport	Chapter 9
2.2. Plan making	Chapter 3
2.3. Delivering a sufficient supply of homes	Chapter 5
2.4. Building a strong, competitive economy	Chapter 6
2.5. Promoting healthy and safe communities	Chapter 8
2.6. Making effective use of land	Chapter 11
2.7. Meeting the challenge of climate change	Chapter 14

2.1 Promoting sustainable transport

In Chapter 9 of the NPPF, paragraphs 102 to 104 clarify that transport issues should be considered from the earliest stages of plan-making and development proposals, with active involvement from local highways authorities, other transport infrastructure providers and operators, and neighbouring councils. The NPPF states that planning policies should align strategies and investments for sustainable transport with development patterns, managing growth so that

a) the potential impacts of development on transport networks can be addressed,

b) opportunities from existing or proposed transport infrastructure and changing transport technology and usage are realised (for example in relation to the scale, location, or density of development that can be accommodated),

c) opportunities to promote walking, cycling, and public transport use are identified and pursued,

d) the environmental impacts of traffic and transport infrastructure can be identified, assessed, and considered (including appropriate opportunities for avoiding and mitigating any adverse effects and for net environmental gains), and

e) patterns of movement, streets, parking, and other transport considerations are integral to the design of schemes and contribute to creating high-quality places.

On the positive side, these paragraphs state that policies should minimise the number and length of trips and provide for high-quality walking and cycling networks along with supporting facilities. However, paragraph 103 also suggests a lower threshold for sustainable transport for smaller-scale developments and those in rural areas. It states, 'Significant development should be focused on locations which are or can be made sustainable through limiting the need to travel and offering a genuine choice of transport modes. However, opportunities to maximise sustainable

transport solutions will vary between urban and rural areas.' The term 'significant' is not defined in the NPPF, so it is up to individual local authorities to define it based on local circumstances and their vision for the future.

The NPPF urges a creative approach at the strategic level to allocate sites for development. Local Planning Authorities (LPAs) must therefore demonstrate that their land-use allocations are capable of being well-served by sustainable transport modes. It is for the local authority to determine what is 'significant and acceptable' in relation to sustainable transport. This should be used as an opportunity rather than a formulaic approach.

Paragraphs 105 and 106 of the NPPF cover parking standards. The current framework permits authorities to impose maximum parking standards – but only where they are necessary to manage the local road network or optimise density – rather than reduce car ownership or encourage a shift towards sustainable transport. This must be considered in the context of the local transport strategy.

With regard to considering individual development proposals, paragraph 108 of the NPPF states that sites and development proposals should be assessed from a transport perspective to ensure that

a) appropriate opportunities to promote sustainable transport modes can be or have been taken up, given the type of development and its location,

b) safe and suitable access to the site can be achieved for all users, and

c) any significant impacts from the development on the transport network (in terms of capacity and congestion) or on highway safety can be cost-effectively mitigated to an acceptable degree.

The language used in this paragraph does not provide strong grounds for promoting sustainable transport, with terms like 'appropriate opportunities', 'significant impact', and 'acceptable degree' left open to interpretation. Therefore, local authorities should use their own Strategic and Local Plans to promote sustainable transport.

Paragraph 109 states, 'Development should only be prevented or refused on highways grounds if there would be an unacceptable impact on highway safety, or the residual cumulative impacts on the road network would be severe.' To date, no definition of 'severe' exists, although consideration is given to define a clear, quantifiable threshold to support policymakers, decision takers, and promoters. However, the NPPF does, by implication, point to a shift in approach compared to current practice, emphasising strategic approaches above and within Local Plans that also consider sustainable transport solutions. Local Plans should, therefore state how development applications will be assessed, clarifying that impact on the local road network and/or safety are not the only criteria.

Chapter 9 also references to the need to plan for sustainable transport at a strategic scale and its role in reducing congestion and emissions, avoiding and mitigating environmental impacts, and improving air quality and public health. These themes are reflected in other chapters of the NPPF (see below) and must be exploited in the Local Plan.

2.2. Plan making

Chapter 3 of the NPPF discusses strategic planning for housing, employment, and infrastructure across local authority boundaries. Paragraph 20 strengthens the requirement for plans to contain strategic policies that 'set out an overall strategy for the pattern, scale, and quality of development'. It explicitly states that these policies should sufficiently provide for housing, employment, retail, leisure, and transport, along with other infrastructure and measures to address climate change mitigation and adaptation.

The strategic policies in a Local Plan should include provision for access and movement, economic growth and development, carbon reduction, air quality, social inclusion, and public health components as well as those directly related to housing, employment, and infrastructure.

Paragraphs 21 and 22 indicate that these strategic policies should look ahead over a minimum 15-year period, address relevant cross-boundary issues, and respond to opportunities arising from major infrastructure improvements. They require that where these issues create the need to look across boundaries, this is done consistently with a clear set of shared goals and actions to be addressed through the plan-making process, set out in published Statements of Common Ground.

Paragraphs 24 to 27 strongly steer plan makers, infrastructure providers, and others towards early and ongoing engagement on cross-boundary issues. When read alongside paragraph 104, these points clarify that plan making and policy development should involve local highways authorities as well as other transport infrastructure providers and operators.

2.3. Delivering a sufficient supply of homes

Chapter 5 of the NPPF emphasises the need to demonstrate a five-year supply of deliverable housing sites together with a longer-term supply of developable sites. This reflects a strong political imperative to find sites to meet housing needs, which are unlikely to change in the foreseeable future. If LPAs are unable to demonstrate a five-year supply of housing sites, the Local Plan is considered to be out of date, and it can be very difficult to resist development in unsustainable locations. Consequently, local authorities must identify sufficient housing sites during the plan-making process.

To comply with other aspects of the NPPF, the locations of development sites should be assessed in terms of their sustainability, including transport. Paragraph 65 states, 'Strategic policy-making authorities should establish a housing requirement figure for their whole area . . . which reflects the overall strategy for the pattern and scale of development.' This refers back to the requirement in paragraph 20, which says the 'overall strategy' should provide for issues such as transport infrastructure and climate change mitigation. Paragraph 72 also notes that when planning for larger-scale development, strategic policy-making authorities should identify where housing needs can be sustainably met by considering opportunities from existing or planned investment in infrastructure.

2.4. Building a strong, competitive economy

Chapter 6 of the NPPF highlights the need to support economic growth and productivity, including the sustainable growth of the rural economy. Paragraph 84 notes that the development needs of rural businesses and communities may be on locations not well-served by public transport and emphasises the need to make them more sustainable by improving public and active transport access.

2.5. Promoting healthy and safe communities

Chapter 8 of the NPPF strengthens the connections among active transport infrastructure, urban design, and public health. Paragraph 91 states that planning policies and decisions should promote social interaction through 'mixed-use developments, strong neighbourhood centres, street layouts that allow for easy pedestrian and cycle connections within and between neighbourhoods, and active street frontages' and enable and support healthy lifestyles through 'the provision of safe and accessible green infrastructure, sports facilities, local shops, access to healthier food, [and] allotments and layouts that encourage walking and cycling'.

2.6. Making effective use of land

Chapter 11 of the NPPF contains several paragraphs that steer towards development in locations and at densities that support accessibility by public and active transport. Paragraph 118c emphasises the 'brownfield first' stance by stating that planning policies and decisions should 'give substantial weight to the value of using suitable brownfield land within settlements for homes and other identified needs'. Paragraph 112 states that when considering appropriate densities, planning policies and decisions should take into account 'the availability and capacity of infrastructure and services – both existing and proposed – as well as their potential for future improvement and the scope to promote sustainable travel modes that limit future car use'. Paragraph 123 shows how plan makers can avoid sanctioning low-density housing in areas with a shortage of developable land, for example by setting minimum-density standards for city and town centres and other locations well-served by public transport.

2.7. Meeting the challenge of climate change

Transport is the largest and fastest-growing emitter of greenhouse gases by sector. Chapter 14 of the NPPF addresses this, with paragraph 148 stating that the planning system should 'shape places in ways that contribute to radical reductions in greenhouse gas emissions' and paragraph 149 stating that plans should take 'a proactive approach to mitigating and adapting to climate change' in line with the objectives and provisions of the Climate Change Act 2008. This reference to the Climate Change Act makes the objective of net zero carbon dioxide emissions by 2050 and the interim targets of the act clearly relevant to planning authorities, and they should shape policies that help reduce carbon dioxide emissions.[10]

Paragraph 150b states that new development should be planned in ways that 'can help to reduce greenhouse gas emissions, such as through its location, orientation, and design'. When considered in the context of the Climate Change Act and the need for radical reductions in emissions, this means that planning policies and decisions should influence the location and layout of development to reduce the need to travel, particularly by private car, and secure the highest possible share of trips made by sustainable travel. The transition to electric vehicles (EVs) does not weaken this emphasis as EVs do not reduce greenhouse gas emissions from transport unless accompanied by the rapid decarbonisation of the power sector.[11]

[10] Bicquelet et al. (2018), Rising to the Climate Crisis: A Guide for Local Authorities on Planning for Climate Change, RTPI and TCPA, p. 9.
[11] Harris, J. (2018), Settlement Patterns, Urban Form and Sustainability, RTPI, p. 25.

3. Barriers to better planning

The NPPF sets out the economic, social, and environmental roles that the planning system must play to deliver sustainable development, including policies intended to direct development towards sites that best facilitate travel by the most sustainable modes of transport. Rarely does this happen in practice. In this section, we identify some of the barriers preventing sustainable planning and examine how they could be broken down.

They include the following:

The scourge of 'predict and provide': The use of outdated assessment methodologies and the failure to exploit alternatives based on deciding what scenario, vision, and objectives are sought for a place before testing how best to deliver them

Late consideration of transport needs: Transport often considered too late in the plan making and development of design processes

Inflexible housing need assessments: Focus on the local delivery of housing numbers to the exclusion of transport-related factors

Site allocations: Appraisal criteria for identifying and assessing development sites that give insufficient weight to sustainable transport

Lack of expertise: Lack of confidence among participants in the development arena in their ability to deliver quality places as well as address housing numbers and sustainable transport provision

Transport and development investment priorities:

Fragmented organisation and governance: The division between the governance and delivery of planning and development activity and transport infrastructure and services among a wide range of bodies and organisations

The impact of funding reductions: Lack of resources in both the private and public sectors

Poor community engagement: Communities, politicians, developers, and supporting professionals often considering car dependency as unavoidable

3.1. The scourge of 'predict and provide'

Government transport policies have traditionally focused on predicting future demand to provide capacity ('predict and provide') but in recent years have contemplated new approaches which may provide the opportunity for change by seeking to consider uncertainty more explicitly.[12]

The work carried out by CIHT under the FUTURES[13] banner, for example, has suggested a better approach would be to 'decide and provide', with the use of scenario modelling as a technique to decide what sort of outcomes should be set and provide the transport solutions to deliver those outcomes.

This new approach has been used in New Zealand, and Transport Scotland has investigated its use in developing the country's latest transport strategy.

A similar approach has been recommended to the government by the recent foresight report on the future of mobility.[14]

The government's forecasting of future traffic levels has started to consider uncertainty. Other approaches adopt a similar departure from 'predict and provide' such as 'vision and validate'.[15]

3.2. Late consideration of transport needs

The NPPF is supposed to be applied as a whole, but within the document, planning and transport are very much within their own silos, so transport is often considered too late in the plan-making and development design processes.

Without a clear transport vision, the narratives and strategies set out in Local Plans, transport interventions, and proposals are limited to simply 'connecting the dots' between developments, often retrofitted after a decision has been made about the preferred development strategy or how a new development is to be brought forward.

Too often, the approach is one of mitigation rather than of the incorporation of sustainable transport as an integral part of the development strategy or proposal.

[12] Lyons, G. (2018), Handling uncertainty in transport planning and decision making, report of a roundtable discussion.
[13] Lyons, G. (2016), Uncertainty ahead: Which way forward for transport, CIHT Futures.
[14] Taylor, B. et al. (2019), A time of unprecedented change in the transport system, Government Office for Science.
[15] Jones, P. M. (2016), Transport planning: Turning the process on its head — From 'predict and provide' to 'vision and validate', presented at: Radical Transport Conference.

3.3. Housing need assessments

The government has created a methodology for objectively assessing housing needs in a given area based on a number of metrics, including past trends of population growth and housing completions. However, it does not consider either existing or planned infrastructure capacity, key cross-boundary corridors, or growth aspirations of the area. By contrast, an LPA must consider constraints like land-use designations and the statutory protection of landscapes and environmental assets when they are attempting to meet their objectively assessed housing needs.

LPAs – working closely with transport authorities, bodies, and operators – need to work out whether there are transport infrastructure deficits in their area that will require substantial investment to allow the housing need to be accommodated without deleterious impacts on the safe and reliable operation of transport networks or on other issues like air quality. If this is the case, then high levels of transport investment must be identified, and the development strategy will need to influence and be influenced by the infrastructure capital programmes of major transport infrastructure providers and operators.

The present planning system does not give equal weight to transport constraints as it does to other constraints, such as the presence of the Green Belt or other protected land. If an LPA can demonstrate that its capacity is constrained by a lack of urban capacity or by land-use or ecological constraints, its housing need can be exported to neighbouring authorities. This typically leads to development sites being even more remote from the economic activity that has generated the need for new housing, resulting in more extended journeys.

This is aggravated further by the high level of protection afforded to the Green Belt. The NPPF explicitly sets out the 'very special circumstances' that warrant the review of Green Belt boundaries and extent and clarifies that these can only be altered through a review of the Statutory Development Plan.[16] The presumption in the NPPF is that when evaluating sites, those outside the Green Belt should be preferred to sites that could accommodate housing needs closer to where the need arises but are within or near the inner edge of the Green Belt.

However, if an LPA cannot address its housing need without placing severe demands on transport systems and there exist no credible interventions to improve transport provision, it does not have the option of exporting its housing need to another authority. The assumption is that the need must be addressed, irrespective of its impact on transport in the area.

3.4. Site allocations

Local authorities must ensure that land allocated for development is not just suitable and achievable but also deliverable. As a result, if suitable sites are put forward by landowners and other bodies (including surplus public sector land), it can unduly influence the development strategy. A clear vision and a driving narrative must be established early in the plan-making process, which leads to an appropriate development strategy that enables submitted sites to be properly assessed on the basis of clear criteria.

Local authorities without an adopted Local Plan or that are unable to demonstrate a five-year supply of housing land are vulnerable to speculative planning applications on land that has not been allocated. However, the NPPF also requires Plans to be responsive to changing circumstances, so any foreseeable risks to delivering the housing trajectory should be identified well before the Plan is submitted.

Sites included in a Local Plan are expected to offer a 'suitable' location for development, as defined by the NPPF. While Chapter 9 of the NPPF provides general support for locations that promote sustainable transport, these policies are worded in a manner that affords them less weight in the planning balance than policies that promote development, protect heritage assets, or restrict development on Green Belt land.[17] This can mean that 'suitable' locations come to be defined as those where localised traffic impacts can be mitigated to an acceptable degree rather than locations that maximise accessibility by sustainable modes of transport.

3.5. Lack of expertise

Developers often propose sustainable transport options at the outline-planning stage, but their delivery depends on a wide range of people and organisations working together. These bodies frequently answer to different timescales, responsibilities, and stakeholders.

[16] See paragraphs 143–147 of the NPPF.

[17] For example, paragraph 102 of the NPPF says that opportunities to promote walking, cycling, and public transport use should be identified and pursued and that the environmental impacts of traffic and transport infrastructure be identified, assessed, and taken into account. This is a much weaker policy than for protecting green belts.

Within planning departments, transport specialists are rarely employed to support the development management function, and these teams generally have significantly less knowledge of and expertise in sustainable transport than traffic or highway issues. Further, a shift towards specialisation means that transport engineering has come to focus on issues such as capacity, safety, and time saving. Wider public objectives like emissions, health and well-being, and inclusivity are not considered key issues.[18]

Tools to quantify development impacts are available, but a lot of reliance is placed on the TRICS database,[19] which draws its evidence from existing neighbourhoods or from traffic models that are car and history based. Both have relevance in examining historical traffic impacts on particular roads and junctions but not for the future introduction of more sustainable transport options.

In addition, transport operators often have little or no capacity or understanding of how to engage with and suitably inform the development management function, and when they do give assistance, it is not always consistent or timely. Operator input is often needed to help define and cost packages of improvements, but their ability to offer this is highly constrained by a lack of resources.

The emphasis on viability in the NPPF can mean that changing economic conditions during the development process (such as above-inflationary rises in material costs) result in lower financial contributions for sustainable transport and place making as these are often regarded as less important than contributions for affordable housing or traffic mitigation. Even when funding is available for sustainable transport, different timescales or constraints set up by construction phasing can mean that a development is completed and occupied before the new or improved transport services are operational.

3.6. Lack of coordination of transport and development investment priorities

The right transport infrastructure can help to create better and more prosperous places. However, transport investment decisions are too often framed in terms of network maintenance or the need to mitigate the impact of development on highways.

This is reflected in the government's appraisal methodology, WebTAG,[20] which tends to direct investment towards interventions that improve highway journey times rather than those that encourage modal shifts or unlock sites for growth and development in more sustainable ways. Investment decisions are also made on a case-by-case basis, with projects appraised individually and funding allocated on a competitive basis. Government funding structures reinforce single mode–focused schemes. It is often easier to obtain government funding for a single-mode infrastructure, (e.g. a road that will support car use) than to do so for a complex multimodal project that may include not only elements of hard infrastructure (e.g. new roads and bike lanes) but also other interventions such as education and behaviour change programmes or free bus passes.

For English regions, there is often a disconnect between the Highways England road investment strategy (RIS) and local transport and spatial planning. At the local level, infrastructure proposals on the Strategic Road Network (SRN) set out in the RIS are usually seen as background context, so little consideration is given to them and how they might impact on Local Plans in many places. Mechanisms exist for practitioners to ensure this does not happen, but both the tools for examining impacts and the availability of suitably qualified staff prevent integration.

Reliance on car-based traffic models and TRICS analysis results in sustainable transport modes being an afterthought. However, Highways England does have separate designated funds applicable to sustainable transport improvements on or around the SRN.[21] These funds will be available in the Roads Period (2020–2025) and can assist local authorities to achieve wider network benefits as well as environmental improvements.

The NPPF expects plans to coordinate the delivery of infrastructure and to consider how opportunities arising from future transport investment can be realised.[22] However, the 15-year horizons of Local Plans and the weight of evidence required to support them typically make it difficult to anticipate the delivery of major or nationally significant infrastructure projects with any degree of accuracy or certainty, even when the project is supposed to be delivered within the Local Plan period.

[18] CIHT has taken an industry lead in this sector. See our reports A Transport Journey to a Healthier Life and Routes to Diversity and Inclusion Toolkit for more information.
[19] See more at www.trics.org.uk.
[20] Department for Transport (2018), Transport Analysis Guidance.
[21] Highways England (2015), Highways England Delivery Plan 2015–2020.
[22] NPPF (2019), paragraphs 8a, 16, 20, 22, 25, 26, 28, 34, 72, and 103.

Any misalignment of housing trajectories with transport capacity growth creates serious local issues and can give rise to major legacy issues at the start of the next round of plan making. The need to greatly accelerate housing delivery in the immediate term makes it even more difficult to synchronise transport investment and networks with housing and population growth. This is especially true where investments involve heavy rail or trunk roads.

Evidence and experience demonstrate that development strategies that anticipate the delivery of transport infrastructure projects or in any way depend on them to be delivered create problems that can delay the planning process.[23] The result is typically that housing is delivered well in advance of infrastructure, with consequent severe impacts on existing local transport infrastructure. Alternatively, it can lead to development strategies being undeliverable. This, in turn, is likely to lead to development being brought forward outside the plan-led system, where little scope exists to make effective coordinated investments in sustainable transport systems, further aggravating car dependency and congestion.

3.7. Fragmented organisation and governance

To create sustainable development, two key policy areas must work together: planning and transport. One reason this does not work as well as it should is that the policy areas are separated both at the central government level (each being the responsibility of a different government department) and often also at the local level, where separate authorities are responsible for planning and transport. In two-tier authorities, transport and land-use planning functions are separated between the county council and district councils, but even within unitary authorities, transport and planning functions are often separated and accountable to different committees and directorates. The typical separation of policy and operational functions aggravates this.

In addition, strategic transport planning and commissioning functions are now increasingly being subsumed within combined authority or mayoral structures, which lack the institutional history and delivery capacity and experience held by established bodies. The same applies to other local authority functions that should have a real stake in sustainable transport (e.g. clinical commissioning groups).

This has been further exacerbated by the privatisation and deregulation of public transport operators, which has resulted in an often complex mix of different operators and regulatory or commissioning bodies that all need to work together to plan and deliver integrated sustainable transport.

3.8. The impact of funding reductions

Between 2010–2011 and 2017–2018, local authorities saw spending reductions of 52.8% on planning and development, 45.6% on housing services, and 37.1% on highways and transport.[24] When coupled with continual changes in planning policy over 30 years, these cuts have weakened the powers and resources of planners to perform leadership and coordinating roles.[25,26] The result is a more complicated and more uncertain planning system, with a reduced ability to ensure that development is well planned and connected to transport. With a lack of good practice examples of sustainable transport, all parties tend to revert to past practice as they cannot demonstrate that a different approach will deliver the desired outcomes.

3.9. Poor community engagement

The planning process is lengthy and complex, and local communities often find it difficult to understand and feel left out of the process. Community engagement is fundamental to making a good Local Plan and also to good decision-making when applications for development are submitted. However, pressure on resources and on delivery can mean that it is not given adequate attention.[27]

Transport and accessibility to services are frequently at the forefront of local debate. However, both at the Strategic/Local Plan level and when dealing with specific development applications, there is a tendency for the community to want to maintain traditional levels of vehicle access and parking. Like other parties, they do not have the confidence that sustainable transport solutions can deliver the outcomes they want. Currently, there is a vicious circle as no-one will take the 'risk' to change practice, so we have very few good practice examples as demonstrated in the 2018 Transport for New Homes report, which includes an example from the Netherlands.[28]

[23] Armitt, J. et al. (2018), National Infrastructure Assessment, National Infrastructure Commission.
[24] Morse, A. (2018), Financial sustainability of local authorities, National Audit Office.
[25] Adams, D. et al. (2016), Delivering the Value of Planning, RTPI.
[26] Slade, D. et al. (2019), Serving the public interest? The reorganisation of UK planning services in an era of reluctant outsourcing.
[27] Beuret, K. et al. (2015), Involving the Public and Other Stakeholders, CIHT.
[28] Transport for New Homes (2018), Project Summary and Recommendations, p. 26.

Section B: Taking the right approach

4. Sustainable planning at the strategic level

The best way to create sustainable places, and mitigate climate change is by ensuring that the right principles are enshrined in local planning policies from the outset. The main mechanism for this is the Strategic/Local Plan, a collection of documents that set out the planning strategy for a local planning authority area or wider. The Local Plan identifies where future development should take place to meet the local (and national) need for homes, businesses, shops, and other services plus the infrastructure to support them. It also decides which areas should be protected from development because they are valued by the locals or have environmental or heritage qualities that should be conserved.

The Strategic/Local Plan sets the framework for any development in the area, from the identification of potential sites to the criteria that individual developments must meet. A well-constructed, robust Local Plan is a powerful tool for ensuring that future development meets the vision of the local community. Conversely, if sustainable development is not at the heart of the Local Plan, the community may be vulnerable to new development that does not meet their needs.

This section examines in detail how to create a Local Plan that will encourage sustainable development and incorporate sustainable modes of transport and accessibility. It includes advice on ensuring that

- the Local Plan's vision and strategic objectives establish a framework for managing change over a minimum of 15 years that is explicitly based on the principles of sustainability and provides an effective framework for consistent, coherent delivery,
- the developers and landowners are brought into the vision and understand and deliver the quality of places established by the Local Plan, and
- the local communities and stakeholders are engaged in developing the vision for their area, understand the rationale behind it, and feel that their needs and concerns have been considered.

4.1. Creating a local plan

This section covers the main elements of a Local Plan that meet the objectives of delivering sustainable development, particularly where they depart from current practice. It focuses on ways to integrate planning and transport to achieve better outcomes for people and places within current government policy and regulation by working differently and more intelligently.

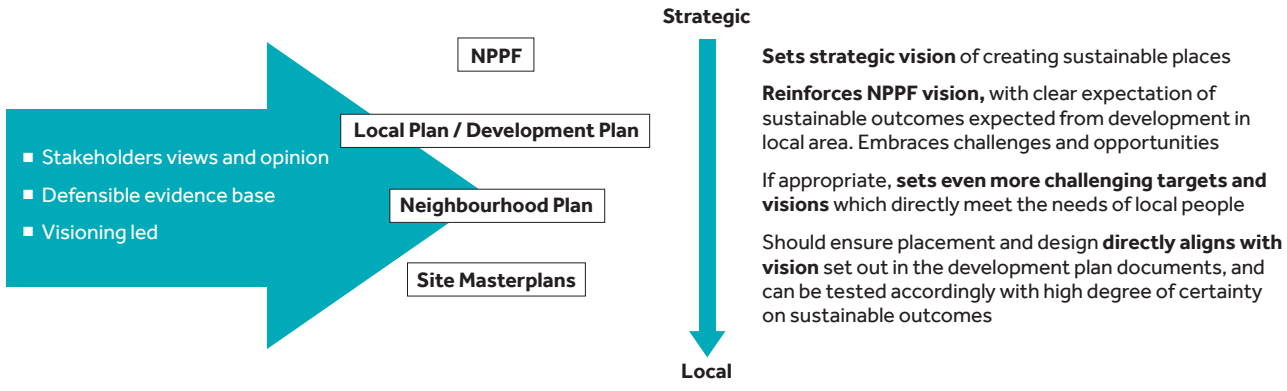

Figure 1: *The linkages among the different parts of the planning process and the importance of looking at all levels beginning with the vision.*

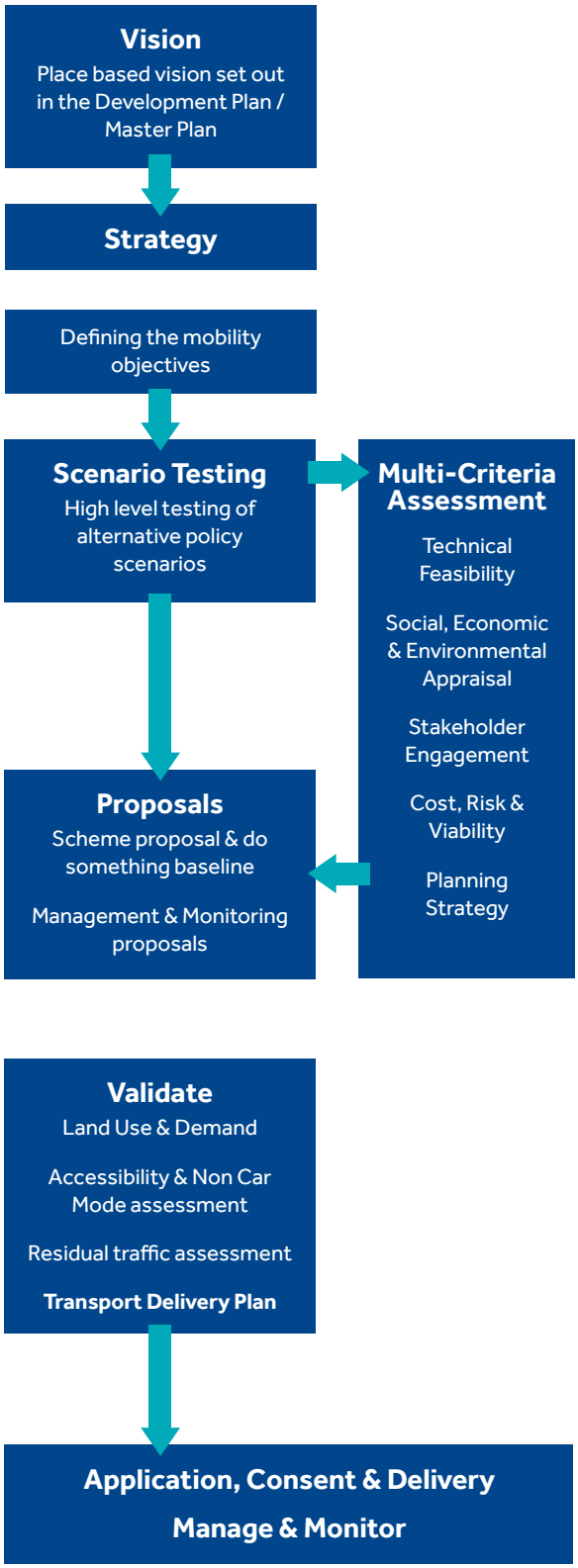

Figure 2: *The planning process and its relationship to the transport evaluation process.*

a. Define the geographical area

To establish a clear vision for an area, it is critical to identify the geographic area that the Local Plan covers and ensure that the vision is both appropriate to that area and deliverable. The area may be the same as that of a single local authority, but in many cases, it will be more appropriate to look at the functional geography of an area involving one or more neighbouring authorities. This is particularly the case when transport and accessibility are considered alongside other infrastructure. Whether this can be achieved will depend on a wide variety of considerations, but there should be active discussion with relevant bodies on this issue.

If only the local authority area is to be included, arrangements should still be made to consider the interrelationship with the vision and the strategic objectives of adjacent areas. Those authorities will need to be part of the ongoing dialogue, especially in terms of the evidence base, needs assessment, and infrastructure proposals.

b. Set place-based objectives for developments

The key place-based objectives for developments should be to deliver maximum sustainable transport accessibility while delivering new (and affordable) homes. All new developments should put people rather than vehicles at their heart. They should facilitate easy access to day-to-day services and be designed to prioritise walking, cycling, and the use of public transport to provide real choices for everyone.

This is likely to be more cost-effective for the public sector and the developer as well as be better for the people. A local spatial plan that focuses on the functionality of places as well as the quality of life for residents will integrate a transport strategy with development proposals to improve accessibility. Truly sustainable development requires the planning system to orientate development so that new homes and jobs are close to shops, services, and public transport nodes and existing places are made more sustainable.

Effective place making requires the following:

- Transport networks need to be rebalanced in favour of more sustainable modes. This principle should underpin any soundly based Local Plan strategy and be overtly embedded in it.
- Development needs to be focused in the most accessible locations where the most journeys can be made on foot or via cycle or public transport.

- Transport considerations need to be fundamental throughout the planning process and not retrofitted later.

- The focus needs to be on maximising 'accessibility' rather than levels of 'mobility' and supporting opportunities for people to choose not to travel by car.

- Development needs to be focused on where transport infrastructure and services already exist rather than on new infrastructure to support remote locations.

c. Understand the cost of transport provision

Transport and movement directly affect all socio-economic activities to a greater or lesser extent. Movement creates its own very significant social, economic, and environmental impacts. Transport infrastructure involves major costs in both provision and maintenance, especially for dedicated high-quality facilities. Public transport involves high operational costs.

The cost of making major changes to or extending or reinforcing transport networks represents a potentially significant constraint on development strategies. So it is essential that plan makers have a clear and well-informed view of to what degree and how cost-effectively specific transport measures can be provided and over what timescales. This insight needs to be drawn directly from transport infrastructure and service providers and be based on a clear understanding of how costs and other barriers to delivery may be influenced by other constraints or opportunities.

The scale of development being anticipated across England, set against typically limited capacity in existing networks to accommodate growth, makes it increasingly likely that development strategies will generate the need for investment in major infrastructure.

One of the fundamental objectives of plan-making bodies is to de-risk the delivery of any necessary development as far as possible. This means that they must properly prepare and, where necessary, recognise other stakeholders' input into the transport evidence base as well as understand the effectiveness, feasibility, and costs of any potential transport interventions early in the formulation of the Local Plan.

d. Choose the right sites

The process of selecting sites for development should not be driven by developers or land owners; it should be driven by the local authority. However, the process should be informed by developers. Site allocation driven purely by the availability of land is likely to result in a highly unsustainable pattern of development. However, site allocation processes carried out without reference to the availability of the land or the potential to assemble the site will result in plans that are undeliverable or unsound during examination in public (EiP). The more complex the land ownership, the earlier the processes of site assembly (both informal and formal) needs to start.

LPAs should set a vision of the spatial form of development they want, undertake strategic site identification and site assembly feasibility exercises, and then establish effective development policy frameworks across the allocation where necessary. They should establish explicit criteria for evaluating proposed sites, a key element of which is transport accessibility.

In large existing urban and metropolitan contexts, development planning is likely to include restructuring poor-quality urban neighbourhoods close to city centres (e.g. Irk Valley, Greater Manchester) or large-scale employment-to-residential redevelopment (e.g. Ashmore Lake, Trafford Wharf) (see Appendix 1 for relevant case studies).

Outside these areas, the LPA will need to steer development and its effective design and delivery of sustainable to urban extensions and new settlements. The alternatives may create developments too small to generate enough internal trip attractors (e.g. employment, shops, schools) and too remote from existing trip attractors, meaning residents have to travel outside the development for work and leisure activities.[29]

This needs to be achieved through action by the local authority. If sites are left to come forward individually, they are unlikely to have the infrastructure needed to support sustainable transport, local shops, or local services. These need to be planned to maximise the sustainability of the site.

In a time of reduced resources and added pressures for local authorities, this is not easy, but identifying potential sites is an important part of the plan-making process

[29] Melia, S. (2018), Local Transport Summit, University of the West of England.

that will result in a more deliverable and sustainable spatial strategy as well as demonstrate that no stone has gone unturned at the subsequent EiP of the plan.

Taking a strategic approach to site identification is challenging for an individual local authority and is easier and more effective to do at the city/region level or in conjunction with neighbouring authorities. Strategic land promotion companies can also perform this role by actively seeking highly sustainable sites. Collaboration between LPAs and active strategic land companies in their area could be an approach that delivers sites in highly sustainable locations on high-quality transport networks.

If the LPA can identify more sites than are needed to meet the identified housing needs, it creates an ideal opportunity to plan for development in locations with a good existing transport network and to have a deliverable spatial strategy. Without a strong and clear spatial strategy, LPAs are at risk of being resigned to sites that appear to offer 'easy wins' in policy terms, including new settlements that might deliver high housing numbers but are in poorly connected locations. Transport problems then risk being addressed purely by Section 106 contributions and public sector funding, which would not have been as necessary if more appropriate locations were chosen in the first instance. The full environmental and social costs of car-orientated development are rarely given sufficient consideration given the pressure on LPAs to meet local housing supply requirements.

Ensuring development proposals align with a clear sustainable connectivity vision is a critical starting point. All the plans within the hierarchy (e.g. Neighbourhood Plans, Local Transport Plans, action area plans, associated growth strategies) should coherently and consistently reinforce the vision set out in the Strategic/Local Plan. These documents should not only highlight specific sustainable accessibility challenges and opportunities but also provide insights into local stakeholder attitudes and opinions towards transport provision in the area and the improvements they would like to see delivered.

Delivering a Local Plan with a spatial strategy that focuses on sites with access to good existing transport networks is more challenging in areas with a pre-existing lack of credible sustainable transport choices or in urban contexts where it is difficult to find enough sites to meet the identified housing need. Where the housing trajectory demands an immediate and sustained high level of housing delivery, there exists a danger that almost all sites being promoted are considered for allocation in the Local Plan simply to meet the housing target, with consideration of accessibility falling far down the list of screening criteria.

When considering sites, LPAs, consultants, and developers should not focus simply on journey times and traffic congestion data and modelling. They should consider all the agreed place-based objectives to achieve the vision, including the broader economic and social benefits of improved transport, such as wider worker catchments, improved work–life balance resulting from reduced commuter times, improved health, easier school runs, and greater viability for existing businesses. A virtuous circle can be created in which development in sustainable locations drives up the viability of public transport services to those locations, creating the opportunity to further improve services and living conditions.

4.2. Ensure the Local Plan is deliverable

Local Plans must be deliverable over the plan period, and plan makers must show how they intend to do that. This section covers some of the issues that need to be considered to ensure the plan can be delivered, particularly those relating to sustainability and accessibility.

a. Align transport and development plans

The NPPF requires Local Plans to identify and protect, where there is robust evidence, sites and routes that could be critical to delivering infrastructure that widens choices and realises opportunities for large-scale development.[30] However, plan makers should not assume that this infrastructure can be delivered within the first 10 years of the plan period, unless there is compelling evidence that the transport project is fully funded and has passed the majority of statutory milestones, including securing any required land.

Local Plans must start from a realistic position as to what strategic transport infrastructure can be delivered within the Plan period and when. This needs to be clarified in the local authority's IDP.[31] It should set out in

[30] See paragraph 104c of the NPPF.

[31] A regularly updated document published as part of the evidence base to the Local Plan and critical to delivery. It identifies the key infrastructure required to support growth, resulting from housing and employment allocations.

five-year tranches how infrastructure provision relates to the housing delivery projections and site allocations accepting that funding will become increasingly uncertain in the later tranches.

To understand the costs and deliverability of transport-related projects, they need to be properly defined. Any transport infrastructure projects identified for delivery within the first five years of the Plan ought to be close to implementation, with all major design work complete and funding streams secured in principle.

For the second five years of the Plan period, transport projects and interventions must be clearly identified, together with the outcomes they are intended to achieve. Reasonable efforts should be made to demonstrate, through a discussion with infrastructure and service providers, that no major technical or economic 'showstoppers' exist. At this stage, outline requirements for funding major transport schemes should be identified, together with an assessment for how that funding will be obtained. Great care should be taken if the housing trajectory relies on the delivery of a project in years five to ten if the land required for the transport infrastructure is not under the control of the local authority or development promoter.

Plan makers can rely more on planned major transport infrastructure in the final five years of the plan if the land is available, but caution needs to be exercised about unduly tying the development strategy to locations dependent on this infrastructure except in a broad-brush manner. While Local Plans can (and should) signal how longer-term infrastructure delivery is likely to present opportunities for large-scale development in the final years of the Local Plan period, firm allocations might be better left to a review of the Local Plan once delivery trajectories are more certain. The NPPF expects Local Plans to be reviewed every five years, which aligns with five-year asset management periods for major infrastructure providers. If these criteria cannot be met, it is highly unlikely that a relevant, proportionate and up-to-date transport evidence base is in place to support the Local Plan.

Synchronising the delivery of infrastructure with the housing trajectory places further challenges on planning and transport authorities. Phasing development with infrastructure may well demand that new development allocations and associated infrastructure be phased in five-year periods. It may also be appropriate to consider carefully how far major links, interchanges, and transport service improvements associated with a single development can be delivered with or in advance of housing to prevent infrastructure deficits building up or to prevent development stalling on the site. This may be as simple as setting clear trigger thresholds for completing a major spine road or setting out how committed transport projects can be expected to create capacity to accommodate the necessary housing allocations.

If a third-party forward funding of transport provision is required, this should be made clear in the evidence base of the Local Plan and in any site-specific policies governing how this funding will be brought forward.

The likely cost of transport projects or interventions needs to be established in a transparent, robust, and timely manner to properly inform the Plan's vision and strategy. These costs should be independently verifiable if they do not come directly from the relevant transport infrastructure providers and/or operators.

The difficult balance necessary to allow plans to be both 'ambitious' and 'deliverable' demands that cost evidence be supplied by the parties in the best position to assess the delivery costs and risks and who also are likely to control the investment of funds. Aligning Plan strategies with the investment strategies of Network Rail and Highways England is, therefore, of particular relevance in some localities, and the certainty of the delivery of major infrastructure by these bodies must be understood.

b. Provide the evidence

Plan makers must prepare a high-quality and proportionate evidence base that is fit for purpose when assessing the needs and issues for communities and places. It must provide an effective basis for evaluating the options for change over the life of the Plan.

The transport evidence base must offer credible and robust evidence to identify transport-related opportunities and constraints to the development strategy within the Plan. It should challenge the traditional 'predict and provide' methodology that leads to car-dominated environments by utilising methodologies which are forward facing.

Transport evidence should support and inform a Plan's overall vision rather than be produced with the primary aim of legitimising a predetermined development strategy. Retrofitting a set of transport solutions in this manner rarely leads to outcomes that support the wider objectives of the NPPF or, in all probability, the strategic objectives the Plan is attempting to achieve.

The evidence base should establish the baseline of understanding for ongoing work by all stakeholders, including developers, transport infrastructure and service providers, and education and healthcare organisations. This broad audience includes non-specialists, so the material should be presented in a manner that all stakeholders can readily understand. From this baseline, stakeholders can work up proposals that cover the period during Plan preparations and beyond to ensure, within five years of the Plan being adopted, a high level of certainty that transport and development projects align.

The transport evidence base should also be sufficient in scope and robustness to inform swift identification of alternative strategies or sites if the Plan does not prove to be deliverable as anticipated. It should also include wider non-transport but relevant information (e.g. on health, carbon, pollution, demographics).

In preparing the transport evidence base, the first step is to establish the current level of performance of all modes of transport infrastructure and services across the Plan area and then consider the wider issues. This includes the following:

- **Key links and connections** (including those that cross into adjoining areas), particularly those where sustainable modes exist and are already providing attractive or relevant alternatives to car use
- **Major gaps in connectivity**, including walking, cycling, and public transport networks and travel demands that extend beyond the plan area
- **Levels of capacity** and what headroom exists on key links and nodes at peak times for all modes
- **Resilience of key road, rail, and other networks** as a whole and in particular areas where capacity issues already exist or are anticipated
- **Reliability of journey times**, wherein delays and the degree of variance in journey time should be mapped
- **Levels of safety** associated with all modes and users
- **Air quality issues**, how far they are directly transport related, and where statutory thresholds are breached or close to being breached

The immediate opportunities presented by existing sustainable transport infrastructure and services needs to be understood. This will require early input from infrastructure providers (such as Network Rail) and service operators as well as other stakeholders such as walking and cycling groups. It should include current committed and foreseen investment programmes.

Gaps in infrastructure and service provision need to be identified, and stakeholders should be engaged to discuss potential opportunities and address specific problems and bottlenecks, especially when this aligns with a strategy to shift away from single-occupancy car use.

All transport strategies that support developments should set clear targets to achieve substantial increases in the quality and connectivity of sustainable transport networks. These should be considered holistically and make provisions to maximise intermodal interchange, including to and from cars where appropriate. Typically, this should aim to leverage the potential to shift away from single-occupancy car use within existing developments to provide the greatest capacity headroom to accommodate new trips that will unavoidably require using the highways network.

Where a significant mode shift is required, it should be ambitious but evidentially deliverable, both in terms of achieving behavioural change and also in the amount of additional capacity required to accommodate what may be substantial additional passenger volumes, especially at peak times. Public transport networks in particular have relatively little peak-capacity headroom. A clear and transparent estimate of the improvements in peak capacity needed (including increases in service speed and productivity) should be provided and include the support of the relevant infrastructure providers and operators. This is especially important where a rapid increase in public transport use is expected.

The role of land promoters and developers in producing the transport evidence base is important, and they should not be marginalised or discounted, not least because they can allocate significant resources to the process of compiling comprehensive and detailed evidence in support of proposals.

c. Use the Local Transport Plan

Local Transport Plans (LTPs) should be a key starting point for the evidence base for a Local Plan. However, local transport authorities (LTAs) should be ready to update LTP strategies, policies, and projects that

relate to the Plan area, including for cross-boundary infrastructure and services. This may necessitate the review of the LTPs in its entirety, especially where

- very high development numbers are required,
- an extensive provision of major new infrastructure is necessary to accommodate the Plan strategy without unacceptable transport-related impacts, or
- mitigating the impacts of travel demand is likely to require a stronger policy, such as managing the demand for single-occupancy car use to avoid congestion or measures to address air quality issues.

This means that LPAs and LTAs should, at the outset, have a clear and realistic view of their own legal competencies and responsibilities. Many issues arising from meeting the objectively assessed requirements for development can be contentious and politically challenging, but all public-sector bodies should expect and be expected to discharge their statutory and wider responsibilities by acting consistently in the widest public interest.

The number of potential sites that are required to be identified within Local Plans is unprecedented in recent years. Few if any localities can accommodate the unconstrained use of cars over the Plan period within existing local urban networks or on major interurban and strategic links. Therefore, the transport evidence base should set out targets that need to be achieved for walking, cycling, and public transport to accommodate growth from within new developments and also from existing neighbourhoods and development. This is essential to create sufficient network capacity to sustainably and efficiently accommodate demand for travel over the Plan period.

Strategic objectives and policies for transport should consider emerging technologies and help facilitate their take-up where this supports the objectives of the NPPF (e.g. electric car charging points or strategic multimodal interchanges). But the promotion of new technology needs to be managed within the context of achieving the best place-based, people-focused solutions.

Plans where the development strategies, strategic objectives, policies, and development allocations are not properly informed by transport evidence and do not follow a clearly articulated and robust transport narrative are not an appropriate basis on which to plan for the future development needs of the area.

All transport evidence must stand up to scrutiny, not least the costs, timing, and deliverability of major elements of enabling infrastructure. This is especially important for development proposals on a strategic scale or where a Plan strategy involves a large amount of development across a number of smaller sites within a locality or along a corridor, where major capital transport schemes are required. The level of rigour and robustness of evidence needs to be proportionate to the risks associated with non-delivery, and LTAs should be ready to challenge developer-led proposals that involve major capital investments, with regard to effectiveness, cost, deliverability, and achievable timescales.

d. Work with the Infrastructure Delivery Plan

A key element of any Local Plan is the IDP. Any transport infrastructure and service improvements needed to achieve the place-based vision of the Strategic/Local Plan should be supported by an IDP in which these interventions are suitably defined and robustly costed for at least the first five years. The responsibility for funding and delivering projects needs to be clearly defined while keeping in mind that there may be third-party private sector funding, for example from transport operators. It is vital that the Plan strategy and its supporting IDP are fully and explicitly 'owned' by all stakeholders involved in their delivery and fully interrogated during EiP.

There are many ways to secure developer funding for infrastructure, including planning conditions, obligations under Section 106, and the Community Infrastructure Levy (CIL). Plan makers should be clear on which mechanisms will be used to fund private sector transport interventions and how far they can expect to rely on external funding.[32]

There should also be clarity about the sequence of priorities for allocating developer funding to ensure that funding for transport measures will be available to the level and at the time required. Funding for sustainable transport should especially be included as a high priority.

Funding polices should incentivise sustainable transport, for example promoting a levy for transport that is directly proportional to the number of car trips generated and equal to the cost of taking that number of trips off the network. This would incentivise the delivery of the most sustainable sites and dis-incentivise the delivery of the least sustainable sites. Section 106 could also be structured to meet sustainability aims.

[32] Department for Transport (2018), Capturing housing impacts in transport appraisal.

CIL funds provide an opportunity to deliver much-needed transport infrastructure, especially given good collaborative work at an early stage in two-tier authorities. Upper- and lower-tier authorities can work together to identify specific pieces of infrastructure that would mitigate the impacts of developing a group of sites.

e. Examination in Public (EiP)

All Local Plans go through an EiP by an inspector appointed on behalf of the Secretary of State. The inspector will interrogate the transport objectives, strategy, and measures in the Plan as well as perform the following:

- Ensure the transport evidence base is proportionate, relevant, and up-to-date and has the support of key transport infrastructure providers and operators and the LTA
- Identify the key transport-related risks to delivery of the overall Plan strategy (especially the housing trajectory and the identified five-year supply of housing land) and ask questions regarding these risks and the consequences if implementation is delayed or unachievable
- Establish how far the local authority and other relevant transport organisations own the evidence base and the policies and proposals in the Plan relating to transport, particularly their funding and implementation
- Establish, for large-scale allocations and major transport schemes, the specific role of transport measures and projects provided to facilitate their delivery, as well as how far these measures are likely to align with and support the wider transport-related strategic objectives of the plan

Plan-wide and strategic transport issues and policies, including cross-boundary issues, are generally raised early in the examination process, not least to ensure that any 'duty to cooperate' arrangements with other authorities have met statutory requirements and to inform the examination of site- and project-specific issues at a later stage.

It will take longer for the transport evidence base, policies, and proposals of strategic plans covering a number of LPAs and/or a complex city region to be appropriately tested than in the case of a single, more rural LPA, where development strategies are less dependent on transport-related matters.

4.3. Set strategic objectives for sustainable transport

The Strategic/Local Plan should state clearly in its strategic policies its approach to sustainable transport and its objectives over the life of the Plan. These should be consistent not only with the NPPF requirement for sustainable development but also with the vision for the local area, as established through the collaborative process and reflecting the local area and its issues.

The following paragraphs cover the main issues associated with developing the strategic objectives for transport that will inform the Local Plan.

a. Strategic land-use and transport options

As a primary principle, development strategies should steer development towards the following:

- high-quality sustainable transport provision;
- a highly credible choice of transport modes, with those that are sustainable being the most attractive;
- a demonstrably deliverable shift towards walking, cycling, and public transport; and
- for both existing and new development to be considered when setting the aspirations over the Plan period.

Rather than trying to retrofit sustainable transport measures to a Plan or manipulating sustainable transport provision to serve development proposals in a contrived manner, they should be built as far as possible on existing transport infrastructure and services. For example, proposals that would involve a complex and counter-intuitive safe walking or cycling route or require a major diversion of a bus route would conform with neither the spirit nor the letter of the NPPF.

A good practice is to identify opportunities to secure net benefits to sustainable transport provision through the delivery of new links and services where these do not currently exist. These opportunities can be on any scale, from providing a missing link in a cycleway within a proposed development site to helping deliver longer-term improvement on a strategic walking or cycling corridor (such as along a canal side or a former railway line) to a major new high-quality interurban bus corridor. The scale and nature of the options will fundamentally affect the deliverability of the transport strategic policies.

The NPPF sets transport infrastructure explicitly among the key matters that strategic policies need to address.[33] It equally clarifies that these policies should encompass identified cross-boundary issues.[34] It is therefore vital that Local Plans establish and incorporate a clear strategic transport policy framework to underpin the proposed development strategy. These, in common with all other strategic policies, should reflect strongly and explicitly the evidence already prepared and analysed.

Transport matters should carry appropriate evidential weight when considering development strategies during the evolution of the Local Plan and its strategic objectives, and this should then be followed through to individual sites. They should be included in the initial consideration of broad issues, opportunities, and constraints within the Plan area, alongside physical constraints and policy designations, including the Green Belt.

Strategic objectives for transport should be set in Strategic/Local Plans and reflect, as far as possible, those in the LTP as well as the broader objectives spelled out in paragraphs 103–105 of the NPPF. These objectives should be tailored to the localities covered by the Plan, recognising that context will vary across the Plan area. Strategic objectives for transport should also ensure that social, economic, and environmental impacts and opportunities presented by transport and movement are fully addressed, cross-referring to other key goals of the Plan where local circumstances make this particularly relevant.

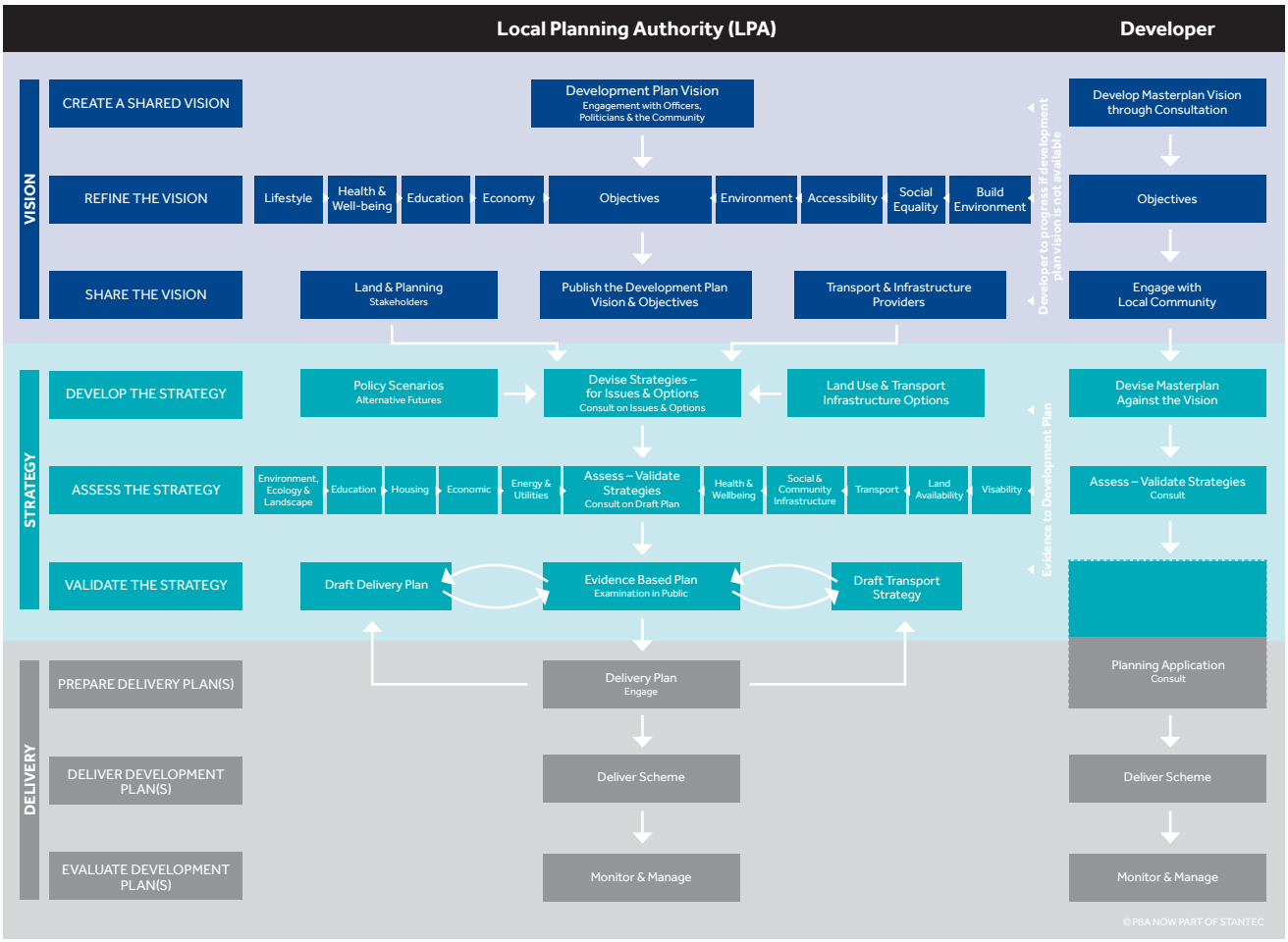

Figure 3: *PBA (now part of Stantec) (2019), Places First: Creating Communities Fit for the Future – Volume 2.*

[33] See paragraph 20b of the NPPF.
[34] See paragraphs 21 and 24–27 of the NPPF.

Within the Plan, the LPA should ensure that transport issues are higher up and integrated into their agenda as well as include a transport strategy for new and existing communities that states the aspiration for transport in terms of mode share and mode shift, together with a clear rationale. It should also include details of the networks for all modes and service capacity that will be required to address current deficiencies and cater for new development.

Each place is unique and must define its vision and strategic policies in the context of the views of the locals and current issues. Visions will vary depending on the geographical and spatial context.

b. Strategies for urban contexts

There are typically more credible travel options in urban areas. Trip lengths and demand mean that walking, cycling, and public transport are relevant choices for many more trips or can be made more relevant with clearly identified interventions. The range and quality of options for active travel and public transport can reduce the need for car parking to the same standards as may be necessary elsewhere.

Local authorities in urban areas can shape towns and cities through transport policy and decide which types of policy measures are introduced. Figure 4 outlines some of those policies and their results.

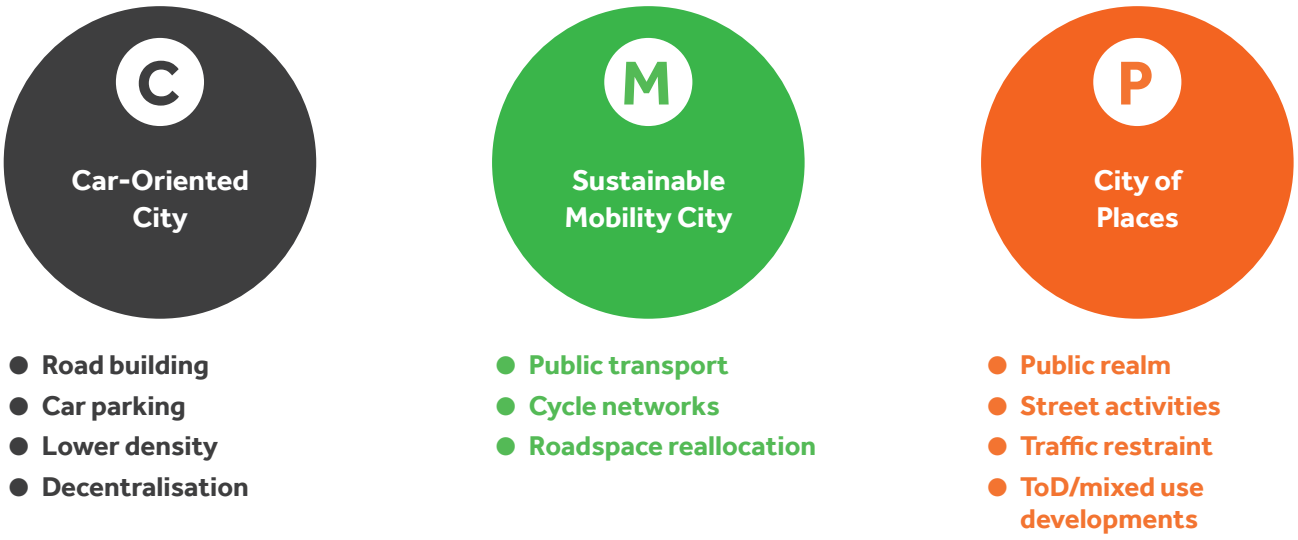

Figure 4: *How do policy perspectives shape cities?*

Jones, P. M. (2018), Urban Mobility: Preparing for the Future, Learning from the Past, CREATE.

The NPPF recognises that the availability of sustainable transport choices within larger urban areas is far from evenly distributed and urges development strategies to consider concentrating development in the most accessible locations. It also introduces, albeit implicitly, the established principles of 'transit-oriented development' since it directs planners towards developing at higher densities around public transport nodes and along key public transport corridors.

Set against this, the complexity and intensity of movement patterns in urban areas and a legacy of underinvestment in walking, cycling, and especially public transport mean that sustainable transport networks and services are often already under significant strain, with effective capacity exceeded during much of the day. Therefore, particularly good collaboration with transport providers is likely to be required in metropolitan areas and their immediate hinterlands to establish how much peak capacity is available within existing systems and how much it is foreseen or foreseeable that this can be increased. The presence of an existing frequent public transport service should not be taken to mean that peak capacity is available or can be easily provided when site allocations are being considered.

The busiest highway corridors within urban areas offer particularly rich opportunities for development but also generally present some of the biggest challenges relating to conflicts among different modes and the tension between maintaining and enhancing the quality of the place while facilitating effective access and movement. Space in road corridors is often at a premium, and the detailed design of buildings and spaces as well as the interfaces between them requires a consummate degree of skill and a very strong set of overarching objectives to steer the design process.[35] Thus, an appropriate set of strategic transport objectives and policies is essential in the Local Plan.

Enhancing the provision of walking, cycling, and public transport is likely to require restraining the demand for car use and parking in urban areas. Strategically rebalancing transport systems and use towards sustainable modes must be clearly tied to wider objectives; if this is to be achieved, making a bold place-led vision is essential. Consultation documents for the Local Plans should demonstrate how this vision might look and work, including carefully considered, relevant examples.

c. Strategies for rural contexts

The NPPF urges participants in plan making to recognise that urban and rural contexts differ.[36] However, this does not absolve plan makers from trying to maximise the scope for sustainable transport when they evaluate development strategies and potential sites for allocation.

Indeed, in more rural localities, where sustainable transport (and public transport in particular) is limited, strategic approaches can help to catalyse a step change in the availability and relevance of public transport, with benefits stretching along extended corridors and having an impact across a wider rural area. This is entirely consistent with NPPF policy for rural areas,[37] where development in villages is recognised as having a potential role in supporting local services, and the availability of services serving a wider number of settlements.[38]

In rural areas, access to primary, secondary, and post-16 education is likely to be a major issue for local authorities and residents. Any significant development is likely to result in an increase in the number of entitled secondary-age students and should, wherever possible, be directed towards locations where walking and cycling to school are credibly achievable or where there public transport options exist or can be provided. Primary children should be able to walk easily and safely to school.[39] The availability of transport to health services is equally critical.

d. Strategies for interurban corridors

Sustainable transport connectivity should not just be focused on walking or cycling opportunities within five kilometres of a proposed development. Genuine choices can be offered to several key destinations given an existing or potential high-quality interurban public transport corridor. These corridors can offer significant potential to effect a mode shift away from single-occupancy car journeys.

Incremental urban extensions are increasingly difficult to integrate in a manner that provides for efficient movements by public transport. They usually lie away from existing or potential direct public transport routes. These generally follow key arterial routes. Urban extensions frequently require entirely new public transport services but often do not generate enough additional demand for the services to be self-sustaining. Where existing urban morphology significantly constrains access to and movement within an urban extension, there is a still greater risk that sustainable transport routes will not follow natural desire lines or integrate properly with existing local movement patterns along radial corridors.

This causes difficulties where successive urban extensions in the same broad direction have led to an 'onion skin' urban structure over time. Such problems are exacerbated where there have been historic attempts to design a defensible edge to the urban area, but new development subsequently needs to be built beyond it. Even where urban edges are relatively permeable, it is often impossible to serve the enlarged neighbourhood with a single coherent and efficient sustainable transport network. Vehicular movement can be seriously compromised, making it harder to develop efficient bus routes.

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[35] Bradbury, A. et al. (2007), Manual for Streets, CIHT and DfT.
[36] See paragraph 103 of the NPPF.
[37] See paragraphs 83 and 84 of the NPPF.
[38] See paragraphs 78–80 of the NPPF.
[39] Living Streets (2016), How to Get More Children Walking to School.

In addition, even where one household member makes a local journey by walking or cycling, other residents likely have regular peak-time destinations (e.g. school or work) much farther away in a larger urban centre and/or another settlement. Focusing development where there are credible public transport options for longer journeys is likely to be particularly important as a means of cost-effectively limiting the transport impacts of development on major existing congested road corridors.

Where sustainable transport corridors – and bus routes in particular – extend beyond the urban edge, there are usually more transport choices for the first residents of a development if it is located adjoining or either side of an arterial route. This is particularly true for smaller settlements, which would not be able to sustain high-frequency commercial bus networks on their own. Proximity to an arterial route means a possibility to offer a credible public transport choice for both local and longer distance movements, although this depends on the particular town or village and its proximity to existing transport routes.

This is especially relevant in areas where larger settlements cannot realistically absorb growth by further major incremental expansion, of late an increasingly significant difficulty. In these circumstances, plan makers can no longer direct the bulk of development needs towards the edges of the largest settlements.

Similarly, locating new development along arterial corridors adjoining an existing urban area is not always practical or appropriate. It can lead to 'lobes' of development attached to the existing area and thereby accelerate the perceived rate of urban sprawl. A better option may be to use interurban corridors to anchor the expansion of discrete settlements, including existing villages and smaller towns.

e. Strategies for new settlements

New settlements can enable development needs to be met in relatively unconstrained locations. They can provide new developments and communities built to match 21st-century standards rather than estates 'tacked onto' towns and villages. They can also assist in directing development to places where infrastructure of all kinds has more capacity.

However, by definition, they detach new development from areas where employment, services, and amenities already exist. They can easily lead to people having to make long journeys to meet even basic day-to-day needs, and the distances and nature of these journeys risks making driving essential for all but the most confident and committed.

In addition, entirely new settlements take long to become established to a scale that supports a full range of local services. Residents who move in during the initial phases are likely to be reliant on travelling some distance outside the settlement to meet most needs before facilities are established within the development. For some requirements, such as secondary education, this may give rise to a permanent requirement to travel more than five kilometres, creating longer-term liabilities for the local education authority as well as increasing car dependence for school movements.

It should not be assumed that the strategic scale of new settlements is necessarily sufficient to provide the critical mass of demand needed for new public transport infrastructure (such as stations) or services. This is especially true if a new settlement is sited away from an existing public transport corridor. Generally, the scale of development necessary to support even the most basic level of bus service (once an hour) will give rise to disproportionately high levels of car use, creating greater pressure on existing networks and seriously undermining the principles set out in the NPPF.

Development strategies involving new settlements must place existing and potential high-quality public transport links at the centre of the site appraisal process and incorporate the advice of public transport operators and, where relevant, Network Rail. It should be based on a clearly agreed set of service quality standards that the operator(s) agree(s) is deliverable and sustainable in the longer term.

Instead of building completely new settlements, it may be preferable to expand selected existing smaller settlements in a sensitive way, creating a clear sense of place and taking advantage of existing or the early provision of facilities such as primary schools and convenience stores as well as any existing bus services, especially those that can credibly be boosted in frequency and/or speed.

4.4 Appraise the options

There are numerous reasons why we are not consistently achieving sustainable transport through planning, resulting in negative economic, social, and environmental impacts. Our current methodologies for appraisal at both the Local Plan and individual site levels

are not fit for purpose. There is a growing consensus that, while continuing to use practices based on 'predict and provide', will not support the delivery of sustainable places and high-quality development.[40]

Transport planning decisions are typically made based on what works or what travellers are thought to want, thereby perpetuating historical patterns of provision and demand. Changing attitudes and policy priorities cannot be delivered by an approach that largely looks backwards. Unless transport planners can confidently demonstrate how strategies can be adopted to deliver a different future, based on more sustainable living patterns, the delivery of car-based communities will persist. Therefore, the way transport assessments are carried out needs to change and focus on meeting place-based objectives.

Emerging technology and changing behaviour are making traditional transport forecasting and appraisal techniques unviable.[41] The past is no longer a guide to the future, and we can no longer make predictions about future travel demands with any confidence, so we need to view transport provision through another lens. We can still use some of the same methods to assess alternative strategies designed to achieve a desirable future rather than to predict a future to design to. The options that come out of the assessment process need to be stress-tested through the lens of alternative possible future scenarios to arrive at a preferred approach that can be secured through planning.

Recent research suggests a way forward through vision-based methods, whether we are 'deciding and providing'[42] or pursuing a 'vision and validate'[43] approach; both approaches require being clear about what we want to achieve and then exploring how it can be delivered in a robust manner.

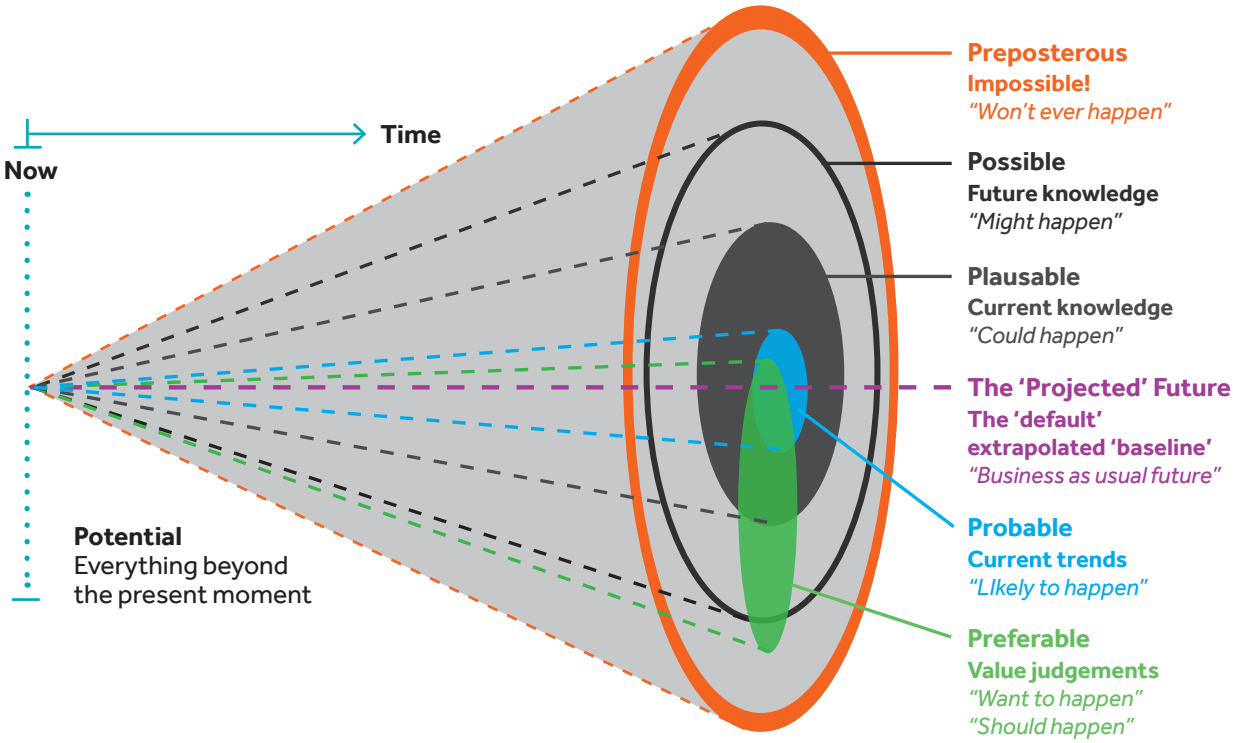


Figure 5: *Lyons, G. (2016), Uncertainty ahead: Which way forward for transport, CIHT Futures.*

[40] Transport for New Homes (2018), Project Summary and Recommendations.
[41] Lyons, G. (2016), Uncertainty ahead: Which way forward for transport, CIHT Futures.
[42] Lyons, G. (2014), Future demand: Summary report — Project Report, New Zealand Ministry of Transport.
[43] Jones, P. M. (2016), Transport planning: Turning the process on its head — From 'predict and provide' to 'vision and validate', presented at: Radical Transport Conference.

a. Multi-criteria assessment

The table shows the distinct types of indicators that might be used to justify investment and measure success under the three policy perspectives

C: car-based	M: SUM-based	P: place-based
Average network speeds	PT frequency and reliability	Time use in transport modes
Day-to-day variability	Access to bus stops and stations	Intensity of street activities
Vehicle congestion	Safety and security	Time spent in local area
Car parking availability	Seamless travel	Value of high quality public space
Road traffic accidents	PT modal split	Health of the population
Noise	Walking/cycling modal shares	Social interaction
Air pollution	Door-to-door travel times by mode	Social equity and inclusion
		Community severance

Figure 6: *Examples of 'measures of success' associated with each policy perspective.*

Jones, P.M. (2018), Urban Mobility: Preparing for the Future, Learning from the Past, CREATE

The process of stress-testing alternative land-use and transport options through different scenarios is fundamental to devising an effective, sustainable, and deliverable plan, as is a multi-criteria assessment that considers a wide range of planning and delivery factors. The appraisal process needs to be iterative, with the evolution of policies and scenarios set against a clear vision with key indicators.

Where tools do not yet exist to quantify the impact of different policy packages on achieving some of the place-based objectives, rather than be excluded, these impacts can be assessed using a subjective assessment, for example a five-point scale (e.g. severely adverse, adverse, neutral, slightly positive, and very positive).

A risk-based assessment should be used when considering the factors that will affect delivery, where the likelihood of the risk and its potential impact can be scored. This will help with deciding how a plan can best be delivered and enable better management and risk mitigation.

Figure 6 shows different measures of success for an urban area based on a range of land-use and transport proposals together with indicators showing their success in achieving place-based objectives. In a multi-criteria approach, the options would also be assessed against economic, environmental, and social objectives, such as impact on health and activity levels, CO2, mode share, etc.

It may be helpful to provide comparative examples to establish indicative accessibility (active travel and public transport) and potential mode share targets for a particular type of Plan area, which can then be adapted and made site specific.

b. Establish transport constraints and opportunities

The effective evaluation of development options requires relevant evidence as well as views from local communities and other relevant public bodies and service providers. Transport infrastructure and service providers should be ready to make clear submissions to plan makers and development promoters as to where they see opportunities. These should be included in the transport networks set out in the Strategic/Local Plan and the IDP as well as part of any CIL or Section 106 provisions.

Irrespective of whether these opportunities are identifiable at the level of the Plan as a whole or in support of specific development proposals, they should be captured in the evidence base. A synthesis of all the opportunities arising from existing and potential transport improvements should form the basis of a coherent and overarching narrative in support of delivering the strategic transport objectives of the Plan.

It may be appropriate to structure the spatial strategy and strategic policies around identified major transport and movement corridors, particularly where transport corridors and links strongly define the urban environment. It will also be appropriate where transport corridors currently or potentially provide strategically important links, such as a major railway junction or an estuary crossing.

However, assumptions should never be made about levels of transport capacity, particularly the scope for extension, diversion, or alteration in public transport services or networks. The operational and commercial feasibility of potential new stations or additional stops at existing stations should be established directly with Network Rail and the relevant train-operating companies.

Transport infrastructure and service providers should offer timely, consistent, and comprehensive advice that can be relied on by other stakeholders when determining the distribution of new development.

They should try to ensure the following:

- Assumptions and rationales underlying proposed transport strategies and projects are made as plain as is realistically possible, having regard to commercial and operational constraints and sensitivities.
- Levels of uncertainty are explicitly signalled, including the impact on potential outcomes of alternative budgets and costs and/or external influences, including possible synergies with investments and requirements elsewhere in the Plan area and beyond.
- A corridor-based improvement in infrastructure and/or services could unlock significant development opportunities across a number of settlements or sites. This is clearly signalled to plan-making bodies as early as possible and before the first consultation under Regulation 18.[44]

Infrastructure providers and service operators should be the primary source of evidence for the following:

- Capacity exists in the existing infrastructure and public transport services at peak times. This includes not only key links or corridors but also junctions, nodes, and interchanges (such as bus stations).
- Bus or regular coach services can be diverted or extended to serve a site or locality.
- Infrastructure or service capacity (including service frequency) can be technically and/or commercially uplifted within the timescales required by the housing trajectory or at any time within the Plan period.
- The likely costs of measures to enhance capacity or provide links and accessibility to specific transport networks and services can be established.

Where a divergence of view exists between a public body or development promoter and the relevant infrastructure providers and/or operators, the weight attachable to the evidence by a plan maker or decision taker (including the Planning Inspectorate) should be proportionate to the degree and depth of direct operational exposure the party supplying evidence has to the assets or services in question.

c. Incorporating major infrastructure

Development strategies can and should take advantage of opportunities to deliver comprehensive and cost-effective transport infrastructure or service improvements. This is particularly relevant where public transport infrastructure providers and service operators have clear aspirations to bring forward new connections or services within the Plan area.

Where substantial transport infrastructure is likely to be needed or services are likely to require extensive augmentation or extension, a multi-criteria and place-based approach should be used to test development strategy options. The relative costs of providing a level of service consistent with the Plan's strategic objectives should be established objectively for a number of locational scenarios to establish an appropriate development strategy that credibly and cost-effectively delivers the outputs and outcomes the Plan requires. For example, if a certain bus service frequency is necessary to deliver a credible choice of transport in a given category of settlement or for a development of a certain scale, this should be set out transparently and tested across all the sites being allocated.

Development plan strategies should never be unduly influenced or steered by the need to fund new transport infrastructure schemes. If the need for new transport

[44] Local Plans General Procedures Regulations (England and Wales) (2015).

capacity and links has already been identified and their justification is largely unrelated to demand arising from new development, it should be taken forward and funded independently of the developments but should be included in the Local Plan's IDP and routes protected where necessary.

It is generally inappropriate to rely on a Local Plan development strategy to fund such projects. They are rarely deliverable through development as the amount of development typically cannot provide the costs of the infrastructure. The scale of development required to generate sufficient capital contributions creates additional demands that may exceed the additional capacity provided by the scheme. It is also likely to skew the provision of development into a single large-scale allocation or a location that may not be the most sustainable option. Also, if the delivery of new homes depends on the completion of the new transport infrastructure and this is delayed on viability or technical grounds (or both), this risks the development becoming stalled, putting the housing trajectory in jeopardy.

Existing major transport infrastructure can act as a constraint on identifying strategic directions for growth. Major transport corridors are likely to act as barriers to local movement and accessibility and can cause serious local severance problems. This particularly applies to railways and the SRN. Effective plan making can help address this by incorporating new crossings, not just new highways but also sustainable transport links, including footways and cycle ways, which increase permeability and make it more convenient to walk or cycle. In many cases, sustainable travel infrastructure can integrate existing and proposed development across these barriers much more readily and cost-effectively.

Early engagement of transport infrastructure providers[45] with promoters and plan makers is essential to de-risk the delivery of plan allocations. The technical, financial, and other issues (such as the impact of a crossing on the function of a transport corridor or its heritage value) associated with crossing transport infrastructure need to be fully understood early in the plan-making process. The costs and complexity of overcoming the severance impacts of transport infrastructure of all kinds can easily be underestimated, especially where it is required to provide access to a potential development site. For example, a canal or navigable river will present specific challenges to opening up a site or an area for strategic development.

The NPPF makes it clear that plan makers and decision takers must consider National Policy Statements, including the National Infrastructure Assessment, and they should consider the location and timing of nationally significant transport projects. However, plan makers and other stakeholders, including developers, should evaluate how far they can rely on these projects being delivered. The route and delivery timescales associated with major projects must be reasonably certain. By their nature, nationally significant infrastructure will generally deliver capacity improvements and important new strategic links only towards the end of the Plan period. Where there is a degree of uncertainty regarding funding or the timing of delivery, it may still be appropriate for a major transport project to influence the location of development in the later years (10–15) of the Plan period or establish the basis for the broad direction of longer-term spatial strategy beyond the Plan period. This may be particularly relevant where Green Belt designations are under review.[46]

4.5 Get stakeholders on board

A place-based approach to development means that the local authority's development strategy should align with strategies for other issues, including health and well-being,[47] the environment, the economy, energy, and viability. The evidence base should consider all these strategies so that they inform the Local Plan over time. It should be an iterative and complementary process. Like many of the proposals in this document, it depends on collaboration and on the culture and attitudes of key people and organisations and their willingness to work together for a common vision and its delivery.

a. Collaborative and strategic partnerships

The NPPF sets out a clear requirement for effective and ongoing joint working between plan-making authorities and other key stakeholders.[48] A good Strategic/Local Plan will be based on this collaborative process and identify all the key players that have been involved. This should be set out in a statement of community

[45] Network Rail and Highways England will generally be involved, but others such as Canal & River Trust and heritage railways where their assets are involved also need to be.
[46] See paragraphs 135–138 of the NPPF.
[47] See Ewens, A. et al. (2015), A Transport Journey to a Healthier Life, CIHT.
[48] See paragraphs 16 and 24–27 of the NPPF.

involvement. The effectiveness of close collaboration will be evident not only in the evidence, policies, and proposals within the Plan, but also in the IDP and the longer-term delivery plan.

It is almost impossible to arrive at an appropriate Local Plan strategy without effective joint working and collaboration between the LPA and the relevant transport authorities and operators. In the worst case, the following will occur:

- The spatial characteristics of the Plan will be driven primarily by land availability.
- Development will proceed in a piecemeal fashion.
- Density will be driven by developer preferences rather than considerations of sustainability or the best use of land.
- There will be little appreciation for the economics of providing public transport services or the impact on trip patterns of slow build-out rates.
- Transport authorities and operators will be presented with a fait accompli and asked to provide infrastructure and services to support the new developments, which can be an impossible task.

To avoid this, LPAs should engage with relevant transport authorities at an early stage of Plan development before site selection is settled. Transport authorities should consider the nature of trips associated with potential sites (in particular the number of car trips that would be expected given the potential for walking, cycling, and public transport) and, where circumstances allow, identify opportunities where development might enable new public transport services to run viably.

The process should not just be one-way. Transport authorities and operators also need to extend their view beyond that of traditional transport planning and consider the nature of development itself. Transport planners need to take an interest in matters such as the spatial pattern of development, the density and layout of development, and urban design, all of which will have an important effect on the way people travel.[49]

This should not be a cause of conflict. Communities that plan makers aspire to create often match the communities that transport planners favour – walkable, dense, and well-served by local facilities and viable public transport services. The onus is on the LPA and the transport authority to build relationships and facilitate discussions that will bring about mutually favourable outcomes.

The LTP will be a vital source of evidence in the development of the Local Plan, but again, the process should not be one-way. The development of the LTP and its delivery will be informed and influenced by the emerging pattern of spatial development set out in the Local Plan. This reinforces the need for collaboration to be a two-way process.

In most cases, collaboration around the provision of transport will consider many other stakeholders in addition to the LTA, including the following:

- Neighbouring transport authorities (particularly in locations with strong cross-border trip patterns)
- Network Rail and Highways England
- Public transport operators
- Health authorities and public health bodies

All these bodies likely have views on the supportability of identified development sites and will be key to establishing the criteria for the acceptability of sites as well as the strategic targets for development.

The process of joint working, early engagement, and collaboration will be important across all sectors, particularly during site selection. In this way, rather than a spatial plan being driven primarily by land availability, a balance will be achieved that encourages sustainable development.

Good collaboration is complex and demanding. It needs to be 'worked on' over time.[50] Current arrangements already allow for cross-boundary collaboration and extensive consultation on planning and transport proposals, but experience shows that the outcomes do not necessarily ensure that housing and its associated infrastructure is delivered in the best place, in the right way, and in the right timeframe. Part of the reason is that local public opinion has a strong influence on political

[49] Stagecoach Bus (2017), Bus Services and New Residential Developments.
[50] Addison, L. (2015), 'Chapter 4.4: Building collaborative partnerships' in The handbook of planning for health and well-being by Barton, H., & Gran, M., Routledge.

support, so decisions are often, understandably, parochial rather than strategic in nature. The development process is inextricably constrained by narrowly defined boundaries around development sites that discourage wider stakeholder input across a broader base. This tends to inhibit strategic decision making that embraces wider policy issues than the immediate impact of an individual site. The Plan/vision should cover a spatial area that makes functional sense and be planned in collaboration with other LPAs, transport authorities, and other key stakeholders, resulting in a coherent document and delivery plan. The partnership should collaborate to develop a clear place- and people-based evidence base covering the issues and opportunities currently and over the life of the Plan. This should inform the development of a clear strategic vision that all stakeholders can buy into.

The basic premise when seeking transport interventions and solutions is to focus efforts around a common set of shared place-based objectives and outcomes rather than traditional 'silos' defined by organisational boundaries. This demands a shift in thinking and practice among all participants towards more collaborative working and delivery, involving a range of stakeholders across a range of sectors.

Very often, a broad range of organisations and sectors share similar transport issues and challenges but are unable to implement viable solutions in isolation on cost grounds or because they lack the skills or capacity. However, good access to public services, healthcare, education, training, and employment is a common objective in achieving well-being and prosperity. By combining resources and systematically, rigorously, and logically identifying and assigning risks, interventions that previously were unaffordable are much more likely to become viable and provide better outcomes for all concerned.[51]

The demand for travel commonly and increasingly extends across local authority boundaries and over hinterlands around major urban and metropolitan areas. Under the statutory duty to cooperate, plan makers must consider influences beyond their boundaries, not least in regard to the potential need to 'export' the delivery of objectively assessed housing needs beyond their boundaries, or to accommodate those of other authorities. Increasingly, these relationships are becoming more complex, to the extent that an LPA or plan-making body can address development requirements and impacts arising from multiple directions.

If transport issues and strategies cross boundaries or have to meet wider policies or national requirements and involve major capital investment over long timescales, they likely require Strategic/Local Plans to follow transport infrastructure planning and commitments. These include Network Rail and Highways England investment programmes which are unlikely to be significantly influenced by the Plans. Any large site allocations need to be considered in this context to ensure they can adequately and sustainably be accessed from all directions as required and at a level appropriate to the scale of development. The timing of provision of access must be a key factor in the timing of any development activity to ensure sustainable access is available from the beginning.

Establishing collaborative partnerships would help mitigate any unintended adverse consequences of individual land-use decisions on wider policy initiatives. They should help create a suitably ambitious and challenging vision to underpin an effective and deliverable Local Plan development strategy.

Collaborative partnerships need to share a joint vision, goals, and objectives, with an unambiguous commitment to frictionless delivery within an agreed timeframe. Partnership agreements need to transcend local authority boundaries, working instead within identifiable functional geographic areas that encompass the major spatial relationships for travel and economic development.

Whoever is best placed to deliver each element of the agreed short-, medium-, and long-term strategy should be empowered and trusted to do so in the confidence that their individual organisational priorities are not jeopardised. This is different from 'consultation' on an organisation-by-organisation basis, which can result in losing sight of key social, economic, and environmental objectives that require a more holistic assessment. Evidence shows that savings of up to 40% can be made by avoiding the traditional adversarial process.[52]

With this in mind, planning authorities additionally need to engage with the full range of 'place shapers' and the key suppliers, such as Local Enterprise Partnerships,

[51] See Appendix 1: Case study 1: New approach to place shaping in Northampton.
[52] See Appendix 1: Case study 1: New approach to place shaping in Northampton.

land owners, utility companies, education authorities, universities, community transport, the police, prisons, the NHS, and potential developers.

Importantly, the attitude towards risk in engaging with potential developers needs to be relaxed considerably if all parties are committed to the same outcome. A forward-thinking planning authority should not consider itself compromised by engaging constructively with developers in pursuit of good development.

If a collaborative partnership is formed to develop the vision and objectives and to support the development and delivery of the Local Plan, it also provides an effective base for developing and implementing the IDP.

The last 10 years have seen the emergence of the 'total transport'[53] approach towards delivering transport, which could be adopted in shaping the Strategic/Local Plan. Total transport recognises that the movement of people and goods transcends traditional and often artificial boundaries and barriers between organisations and authorities. It is, in theory, a very straightforward and logical approach to transport delivery which, if implemented correctly, can save partner organisations money, bring in extra income, avoid costs, remove the duplication of effort, improve efficiency, reduce bureaucracy, and enhance services.

Another reason for collaborating is that local authorities can combine their technical capacity and skills, particularly in the planning and transport fields.

Those with statutory responsibilities for planning and transport are increasingly likely to find it advantageous to collaborate and exchange skills and resources. This will also facilitate a more strategic approach to transport and planning to help achieve better and healthier economies, localities, and communities. It need not undermine political decision making of the constituent local councils but should ensure a more effective delivery mechanism that reaps the benefits of scale, avoids the duplication of effort, ensures the consistency of approach, and adopts and shares compatible models and technology with flexibility to adjust as circumstances change. Sharing models and technology alone over a much wider base would make significant financial savings for local authorities and developers alike.

An effective partnership requires considerable investment by each party. Plan makers should recognise the challenges involved in engaging with the identified relevant partners, including convincing them of the importance and potential impacts of involvement. It also requires stakeholders understand that participation is in their own organisations' interest.

Many organisations and key post holders within the transport sector have very limited understanding of the planning system. Its quasi-legal format and complexity discourages engagement, so a degree of education may be required to help some stakeholders understand the needed input and resulting benefits.

While a 'duty to cooperate' already exists for plan makers on cross-boundary matters, collaborative working is less apparent when it comes to more locally discrete issues. Often the plan-making authority is not the same as the authority that sets out the LTP. LPAs may see the LTP as simply a background document to the Local Plan or something that says where infrastructure to support the development set out in the Local Plan will go.

It should be integral to and developed alongside the spatial strategy. Similarly, LTPs are often developed without collaboration with the LPA. This highlights the need for a broader vision for a place, shared by all partners. Collaboration between those creating the LTP and those creating the spatial strategy is regarded very highly by Local Plan Inspectors.

More active engagement between local authorities and the Department for Transport on each other's strategies is also important for forthcoming plans and programmes. The same is true for Highways England and Network Rail and local bus, tram, and rail operators.

b. Community engagement

Collaboration is essential for not only adjacent authorities and other agencies but also the community. It needs to be more than 'consultation'; communities should be engaged effectively in each part of the process, from developing the vision to understanding the implications of implementation. Engagement within the Local Plan process is critical if the Plan is to include a more sustainable approach to transport, where influencing behaviour and attitudes will be critical for effective delivery.

[53] See Appendix 1: Case Study 6: Total Transport for a further explanation.

Engaging communities is most effective and meaningful at the very early stages of the plan-making process, when the main challenges and constraints are clearly articulated and individuals, organisations, and identifiable communities are given clear opportunities to shape key objectives and priorities. By engaging comprehensively at these initial stages, all stakeholders gain confidence that the Plan strategy addresses their personal and wider community concerns.

In this situation, communities should not be seen as just people living in the area. Businesses also need to be engaged at plan level (such as through chambers of commerce), where sectoral clusters are identifiable within the Plan area, within business and industrial parks, and where issues and concerns will be shared across organisations.

There will also be a need to engage with other identifiable groups, not least sections of the population who find it difficult to engage with the planning process. Involving local communities in identifying areas of constraint and concern regarding transport and accessibility can help to pinpoint areas on which to focus immediate and longer-term interventions. It also creates a basis for dialogue about potential sustainable transport objectives and solutions and to clarify that the unrestrained use of private cars is not an appropriate basis for an achievable planning or transport strategy.

Once community aspirations and concerns are clearly understood, subsequent stages of plan making can be focused on addressing them. This includes the nature and scope of the transport evidence base as well as the identification of potential transport interventions and their likely impacts on the quality of life and the economic health of the localities concerned.

Keeping communities informed at all stages of plan making should go beyond merely signalling the stages the Plan has reached in its development. It should also explain what the evidence base demonstrates, where significant challenges and risks exist, and why decisions have been taken, both on the development strategy and on the specific allocations selected.

5. Sustainable planning for individual developments

The vision identified in the Local Plan needs to be carried through to individual developments. A clearly defined Local Plan will go a long way towards ensuring the sustainability objectives are achieved as development is delivered throughout the Plan period.

5.1. Creating a site development framework

Site development frameworks and the submission of planning applications are the key components of delivery for individual developments, and both should be used to pursue the wider vision, objectives, and policies of the Local Plan. It is important that site development frameworks focus on permeability and local service provision within development sites and their immediate surroundings. Things to consider include the following:

- Ensuring, through the definition of Local Plan policies, that local community facilities (e.g. convenience shops, schools, health facilities, childcare facilities, cafés/pubs, restaurants, sports and leisure facilities) are embedded within desired development locations. This maximises the opportunity for trips to be internal (i.e. within site/area boundaries or nearby) and reduces the travel distances that can otherwise be 'designed into' new development allocations.
- Designing new places in line with Sport England's active design guidelines so that public transport and walking and cycling networks permeate through development areas and into existing communities in a safe, convenient way.[54]

A key challenge for all development plans is keeping them up to date, and the same applies to site frameworks and planning briefs. Changing economic conditions and wider impacts (e.g. changing environmental legislation) make it important to remain flexible when considering site framework options to

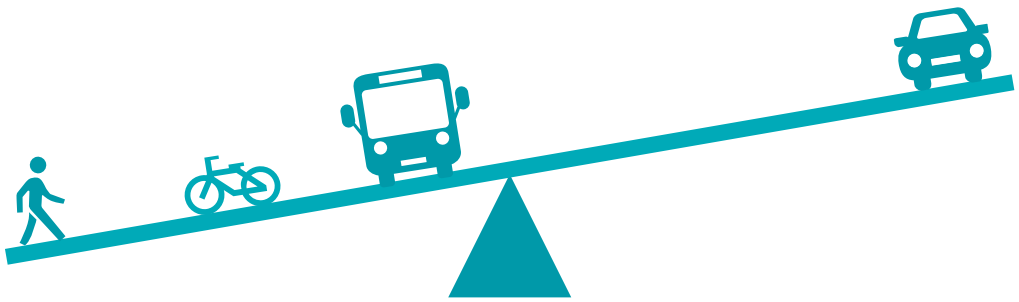
[54] See Appendix 1: Case study 1: New approach to place shaping in Northampton.

provide the opportunity for the greatest chance of success. With regard to transport connectivity and accessibility, plans should be in place for the evolution and enhancement of wider sustainable transport options, but these should not necessarily be contingent on one essential piece of infrastructure coming forward at a particular stage in the development cycle (where the funding and delivery of this infrastructure is beyond the responsibility of a single development).

Local authorities should set out clear and credible plans for how development and specific sites will contribute to sustainable transport goals and how individual developments can help to meet wider connectivity/accessibility aspirations including in the IDP. The proposed sustainable transport networks and mode share targets in the Plan should guide the site framework. For example, it is essential to avoid isolated development, which creates ribbons of development without ensuring seamless connectivity among them on foot, bicycle, and public transport. Principles of well-prepared walking and cycling routes through development should accord with wider CIHT guidelines on walking[55] and cycle route[56] development.

Decisions taken at every stage of the planning process should be led by the latest available data sets and supplemented with new data collection and analysis wherever necessary to illustrate key decisions. As a general point of principle, they should seek to tip the balance towards more sustainable outcomes, making sustainable choices more attractive than (or as attractive as) private car trips for most journeys. For example, any route within the development should always seek to be quicker, easier, and cheaper by sustainable modes than the private car.

Furthermore, when using aggregated data sets, such as travel-to-work data from the census, it is important to look at trends in detail. For example, at a district level, existing levels of cycling may appear high, but this often masks a distance effect, with high levels on adjacent urban centre boundaries and much lower levels in more rural areas. Similarly, supply side accessibility profiles for public transport can sometimes paint an overly optimistic picture of the level of provision depending on which input parameters are fed into the model. Truly sustainable development works because the sustainable networks meet the needs of the locals for their daily trips.



Site masterplans should seek to 'tip the balance' in favour of sustainable modes, objectively tested through a proper examination of evidence from elsewhere and local circumstances. For example any route within the development should always seek to be quicker, easier and cheaper by sustainable modes than the private car.

Figure 7: Tipping the balance in favour of sustainable transport options.

[55] Phillpotts, M. (2015), Planning for Walking, CIHT.
[56] Gallagher, R. et al. (2014), Planning for Cycling, CIHT.

Currently, for most local developments, trip generation databases (such as TRICS) are used to predict future travel demands by car. As they are historically based, this simply perpetuates ever-increasing car use. Consideration should therefore be given to challenging the average figures derived from these tools so as to avoid the risk of applying 'predict and provide' methodologies, which will always favour highway-based improvements, often at the expense of sustainable modes. If a 'vision and validate' or 'decide and provide' approach is to be applied, as advocated here, a completely different approach to forecasting uncertain futures will be required. This should start with a vision of what the development seeks to achieve, including mode share, and then establish the required design parameters and sustainable transport interventions, stress-tested under different future drivers-of-demand scenarios.

A simple rule to apply at the early visioning stage is as follows: planning for people will result in places for people; planning for cars will result in places dominated by cars. A simple hierarchy of provisions set out in planning documents provides a useful reference point for the approach that should be followed at the individual development level, as with mode share targets and proposed networks. Where the policy states that sustainable modes are prioritised, the networks on which people will walk, cycle, and use public transport should be considered before any highway layout is planned. Every effort should be made to ensure that the capacity, layout, and design of these 'sustainable' networks meet the 'reasonable needs' of local residents so that new communities have a genuine opportunity to embrace more sustainable travel habits from the outset. This also ensures that developments are future-proofed and that where future behaviour change programmes are implemented, there is a reasonable alternative to promote.

This process should embrace all stakeholders, including developers, many of whom will look for progressive planning policies to help them deliver exemplary development. The codes of conduct for those working in the built environment, as outlined in Healthy Places: Code for Councils,[57] make it clear that local authorities have a duty to create attractive, healthy places that are well planned and promote clean air, where streets are safe and designed for all users, applying the latest professional advice and research. They also have a statutory obligation to address the Climate Change Act targets. Transport for London has produced a document that highlights an approach to planning streets and places with a focus on health.[58] Authorities should ensure these principles are embedded and tested in the development planning process and should support developers to provide places that meet these key requirements and decline those that do not.[59]

All development should contribute to improving sustainability, and improvements should be monitored so that as wider networks emerge over time through site developments, they can be promoted to local communities as a continuous network of routes. In most cases, when sustainability is properly considered from the outset of the planning process, improvements can be achieved in a cost-effective way. Cost-effectiveness and viability are key considerations, and when reviewing the impact of sustainable travel interventions, it is important to properly weigh up the opportunity costs associated with the alternative provision for private cars, for example in terms of highway capacity and parking.

In addition, local highway authorities should not 'double count' the level of transport provision expected from development. It is not appropriate to seek high levels of highway-based mitigation based on worst-case transport model forecasts and also seek high levels of sustainable transport provision as, once the highway capacity is delivered, sustainable travel targets are unlikely to be met.

It is important not to overlook the potential for larger developments to facilitate transformational improvements in walking, cycling, and public transport accessibility for existing communities as well as new growth areas. It can be powerful to know how people

Planning for people will result in places for people; planning for cars will result in places dominated by cars

[57] Urban Design Group (2018), Healthy Places: Code for Councils Key Statutory Duties, Common Law Duties and Current Guidance.
[58] Transport for London (2018), Healthy Streets for London.
[59] CIHT. (2018), Creating better Streets: Inclusive and accessible places.

currently travel for regular trips in their local area, for example to work, using data derived from the latest available census or origin-destination data. Using this as a baseline enables transport planners to forecast what impact significant sustainable transport investments – such as segregated cycle routes, dedicated bus priority to support new services, or a new railway station – could have on local residents, employees, and visitors as well as occupiers of the new developments.

5.2. Managing the development process

The effective delivery of the Plan and its vision will only be achieved through a consistent and coherent application of the Plan policies, even despite pressure to do otherwise. If the Plan has been well founded, well evidenced, and robust as well as based on clear collaboration, it should provide the evidence to defend its delivery through the development management process and the submissions of applications. Collaboration will have to be maintained with key partners, especially those involved in transport delivery, if sustainable transport solutions are to be at the heart of all proposals, but all the groundwork should be in the Plan and the IDP.

To facilitate the development management process, the following conditions must be met:

- **The vision should be aligned and delivered consistently through the wider development planning assessment process.** Local Plans should set out the conditions and obligations required to secure the necessary outcomes. Strategic allocations should be informed by and evidenced alongside these requirements.

- **The level of accessibility to existing or potential transport services or the opportunity to include new services in large development areas should be a key determining factor in assessing planning applications.** The Local Plan should include a clear statement of the minimum quality of accessibility by sustainable modes to offer a credible choice in the local context and ensure development proposals satisfy these criteria for accessing key local destinations, such as shops, primary schools, and health facilities.

- **Development proposals should describe how they support the Local Plan's place-based vision for access and movement.** This should take account of viability, deliverability, resilience to change, and explicit sustainable development outcomes.

- **Transport assessments for sites should assess alternative land-use and transport options under different scenarios to define the optimum sustainable transport strategy and give it priority.** They should also present evidence to demonstrate a reasonable prospect that the preferred option can be delivered.

- **Transport and planning authorities should clarify that they do not support any methodologies based on a 'predict and provide' approach.** These should require an approach that focuses on how to deliver the sustainable transport options highlighted in the Plan and support the Plan's mode share targets.

By the time a planning application is received, deliverability and viability should have been demonstrated at the Local Plan EiP for all allocated sites. However, the issue is likely to be raised again at the application level as part of the submission and negotiation, particularly if there are any funding or Section 106 agreements associated with transport provision. There is therefore a need to fully understand the deliverability of sites promoted through the Local Plan process. This encompasses suitability (including sustainability), availability, and achievability (including the viability of development).

Peripheral or remote sites can often seem attractive in terms of achievability. Vacant sites – often in a single control, with few physical constraints or ground contamination issues – can superficially appear to be straightforward to develop, particularly in comparison with complex urban sites or others in more sustainable locations. However, these sites can have significant barriers to deliverability, not least in the necessity to provide transport infrastructure to the site, given its remoteness from day-to-day destinations. Allocating peripheral or remote sites is highly likely to result in an exceptionally car-dependent pattern of development.

These sites are very difficult to serve with relevant and commercially sustainable public transport options because services are less likely to be competitive with journey times by car, trip demands are likely to be split among multiple destinations, and the costs of operating services to even the most popular destinations will reflect the long distances involved. Many local authorities have entirely eliminated budgets to support bus services that are socially necessary but not financially viable, and even where they do exist, these services are only likely to represent a credible choice for people with no car access.

For this reason, it is critical that LPAs engage collaboratively with bus operators to help identify the sites most likely to maintain a successful bus service. Ideally, a site should be able to take advantage of existing direct and reasonably frequent commercial bus services from the outset. This may tip the balance in favour of developing along interurban bus corridors rather than incremental peripheral expansion in the form of progressive urban extensions that can be difficult to integrate with existing development and commercial bus networks. The scale and density of development will also be a crucial factor in determining what new public transport services may be viable.

The speed and capacity of many rail services and their relative attractiveness as a mode choice for a wide range of people makes them a very appealing basis for the transport and spatial strategy of an area. Sustained investment is planned to be made in rail infrastructure and services across most of the UK, leading to substantial increases in capacity and connectivity over the next few years. Where this will be provided within the Plan period, with evidence supplied by Network Rail and train-operating companies, it makes sense to take the fullest possible advantage in Plan strategies.

However, the capital costs and delivery timescales of railway infrastructure can mean a high risk of delivery. The business case for rail investments also demands very high sustained passenger volumes, which will, in most cases, be greatly beyond the ability of a locality to sustain if limited or no service is currently offered. It is even less likely that the largest of site allocations could, on its own, justify a new station, much less building or reopening a rail line, without a much wider strategic justification.

A Local Plan strategy or site allocation that relies on new rail services and infrastructure is open to challenge if it involves new stations or requires significant investment in line capacity not already identified and committed within Network Rail's forward capital planning. The planning horizons for rail typically extend beyond the end of Plan periods, and the capacity of the rail sector to manage anything beyond its current commitments is difficult to predict.

The delivery of a development is more likely to be compromised if it requires significant transport infrastructure improvements that require additional funding. This funding can rarely be guaranteed at the plan-making stage, so deliverability is often questionable. Furthermore, if a development does proceed on this basis, it is likely to deliver significantly less affordable housing if overall development viability is to be achieved.

A strong spatial strategy to guard against this scenario, with development located close to urban areas with efficient public transport networks, is significantly less costly in terms of infrastructure provision and transport-related Section 106 contributions.

6. Monitoring, evaluation, and review

Ongoing, robust monitoring and evaluation of planning and transport strategies and plans is essential. Far more should be done to ensure the effectiveness of interventions and to deliver community visions.

The speed of change in society and technology makes monitoring and evaluation essential to ensuring that development and delivery plans reflect the current and future situation as far as possible. As part of this approach, it would be helpful to establish a new strategic database of the different geographies across the country that builds on information currently used in preparing planning and transport documents (e.g. the LTP) and makes use of existing local databases to form a strategic integrated data set. This would help to provide targeted plans and strategies that are meaningful to local communities rather than basing planning and transport solutions on a 'one size fits all' set of policies. New evaluation tools and assessment methodologies should evolve from this data, which is flexible enough to change as new data comes forward.

It is advisable to maintain a risk register for the implementation of the Local Plan as this would help senior planners and members to understand and address the risks and issues that could prevent progress in a timely fashion. There is also a place for a regular audit of how the policies and targets within the Plan are being met, and local authorities should have some form of independent review so they can accurately assess the likelihood of achieving their Plan's objectives.

A delivery body made up of those who collaborated in the Local Plan development should be created. This body will lead the monitoring and review as well as cover the wide range of aspects relevant to devising the vision, developing a Plan based on people, their needs and sustainability objectives, and the Plan's integrated delivery.

7. The future: Changing the planning process

This advice is based on exploiting the existing NPPF and accompanying regulations to deliver sustainable development and transport. There are, however, several changes that we believe would further improve the entire process but are outside the scope of the NPPF and current regulations. These include the following:

- The Local Plan should only be found 'sound' if it has a clear strategic vision encompassing accessibility and transport ambitions.
- Requirements for sustainable transport and accessibility should have the same weight as the requirements to demonstrate a deliverable five-year supply of housing and protecting the Green Belt.
- Guidance and training should be given to planning inspectors to ensure that both Local Plans and individual developments effectively consider sustainable transport to secure sustainable development outcomes as an integral part of the EiP and planning appeals.
- The Local Plan and transport strategy should be integrated so that they are subject both to EiP and to viability and deliverability tests. Inspectors should be trained to do this and it is perfectly possible, even in two-tier authorities as joint working and collaboration is fundamental to an effective Local Plan, as is cross-boundary work.

Any further guidance from the government needs to better support local authorities, communities, and developers to deliver sustainable transport solutions and should include advice on more effective place-based or vision-led methodologies. Current guidance does not give local authorities sufficient confidence to move away from car-led development to secure more sustainable options, including locational factors.

The government needs to provide clear messaging that supports authorities in pushing for sustainable transport solutions and acknowledges the requirement of new methodologies, rejecting submissions which reinforce previous practices prioritising the car. It also needs to reinforce the essential requirement for collaboration in the field of transport.

The government, with the support of professional bodies, should ensure that the knowledge, experience, and proficiency needed to deliver sustainable transport within Local Plans is a core subject to be tested as part of the Chartered Transport Planning Professional (TPP) qualification as well as built into the planning qualification. This should begin to address the skills shortage.[60]

[60] See more about becoming a Chartered Transport Planning Professional on the CIHT website here.

Appendix: Case studies

Case study 1: Iwade planned village expansion, Swale, Kent

In the 1990s, the small village of Iwade was relieved of heavy volumes of through traffic on the A249 trunk road to and from the Sheerness, with the opening of a major bypass. The road had had an enduring deleterious effect on the character and the atmosphere of the village. However, the main bus route on and off the Isle of Sheppey used this road and served the village. Swale is also a short distance from the Kemsley railway station, on the Sittingbourne-Sheerness line.

The Swale Borough Council, along with two regional developers, saw the opportunity to consolidate the

fragmented village, address the physical legacy of the trunk road, and introduce some new and greatly improved facilities for the community by a planned expansion of the village, involving up to 1,200 new homes. This was taken forward in the Local Plan adopted in 2000, with an initial quota of 550 homes to be delivered within the Plan period, but acknowledging the potential to accommodate longer-term growth. This was formalised through a review of the Local Plan in 2008, which allocated another 400 homes. Formal development briefs were used to steer development quality.

The most recent Local Plan, adopted in 2017, recognised the need to do more, including improving public transport. As a result, after 20 years of growth, another 600 homes are to be added as well as a second phase to the village centre. Since 1998, over 1,600 new homes will have been accommodated in the village.

Improvements to bus service frequencies at Iwade are relatively easy to deliver and greatly assisted by the fact that a large proportion of the major allocations in the 2017 Local Plan are also sited on the existing bus corridor. Major employment has been sited east of the A249 over recent years, and at less than two kilometres away, this is well within cycling distance, although a junction upgrade is required. More employment and residential allocations have been made nearby. The bus service is especially important as the rail service is limited in frequency and the two stations on the line are not located close to all existing and new homes.

The principles pioneered at Iwade are increasingly being pursued elsewhere in Kent, to a great extent taking advantage of the relatively dense rail network, with lines that run parallel to both the A2 and the A20 and corridors which also accommodate interurban bus services.

Substantial development has also been allocated recently in the form of planned village expansions within Swale and in Maidstone Borough. This reflects the increasing difficulty in finding unconstrained sites that are appropriate to accommodate objectively assessed housing needs within or adjoining larger settlements.

The difficulties in increasing rail frequencies makes it likely that boosting local bus services will be the best way to address local travel needs.

Key learning points are as follows:

- Expanding existing villages consolidates and improves service provision for existing and new residents.
- Some local services, including a modest but credible level of public transport provision, are available to new residents at the outset to several significant destinations.
- Unsightly previously developed and underused land can often be identified in these contexts.
- The case to further improve public transport on existing corridors is greatly strengthened when further employment and residential growth is directed elsewhere on that corridor. The fact that a rail line or bus service already exists helps demonstrate, anchor, and facilitate the benefits of a corridor-based strategy and indicates that larger centres also exist nearby.
- The close geographic proximity of a large settlement in the area greatly assists in making all sustainable modes more relevant and attractive.

Case study 2:
New approach to place shaping in Northampton

The University of Northampton has relocated its edge-of-town campus into a new state-of-the-art facility in the centre of Northampton, representing an investment of over £300 million in the town, which helps support the local community. The university has established an ambitious vision for higher education, which takes on board place-shaping activities that enhance the town of Northampton. It has embraced the notion of sustainability in every aspect of its thinking, including in its design, methods of educating using new technologies, energy efficiency, movement, and accessibility in a bold move to help shape Northampton into a more attractive place to live, work, and visit. This is in recognition that an attractive town will translate into more students and more income to provide a win–win scenario.

The new campus, which opened in September 2018, is used by 14,500 students and 2,500 academics and support staff but has fewer than 800 car parking spaces. A comprehensive travel plan was developed and linked with the travel plans of other key stakeholders, including local councils, the NHS, and major organisations located in the town centre. Just under 1,000 students live on campus and so do not need to use transport to attend their teaching sessions. Staff are being encouraged to develop smart working practices, supported by technology, that facilitate flexible working patterns, minimising the impact on transport routes.

The new location aims to enhance the town and generate additional wealth through student spending. Campus facilities are available to town residents, and the grounds and riverside walk are open to the public. Working with the borough and county councils, the university is involved in a number of initiatives such as the enterprise zone and supporting local management and resident associations. Future plans include co-located activities within the cultural quarter, such as shared arts facilities.

The university is also funding the town's first permanent park and ride service and is making the service available to partner organisations, such as the county council, to help tackle congestion and air quality issues. The university also owns its own public transport bus service, Uno Bus, which not only transports students and staff but also operates on a commercial basis and provides socially necessary services.

The concept of a university in the town centre allowed Northampton University to reaffirm its commitment to the local community through partnerships with various groups. Students and the NHS share gym facilities, operated by a leisure trust at the local hospital. The university also works in partnership with the local police force to support campus security. In addition to the student hall of residence in the town centre, the student union has also been relocated there and includes a training space, a coffee shop, a nightclub, and bars that are open to the public on designated nights, supporting the night-time economy of the town.

The university is investing more in transport and planning solutions to support place-shaping activities than the relevant statutory authorities because it makes sense. Sharing risk and resources in new and innovative ways has helped ensure that the outcome and vision for the town shared by all stakeholders is delivered much more smoothly than would otherwise have been achieved. This has gone far beyond the requirements of a traditional S106 agreement linked to the planning application.

Nick Petford, vice chancellor of the University of Northampton, says,

"Universities are playing an ever-increasing role in helping to shape local communities by developing ambitious proposals to make them more attractive places to live, work, and visit. The importance of wider stakeholder engagement, including universities, in the planning and transport process to encourage the implementation of innovative and sustainable solutions should not be underestimated. The University of Northampton is immensely proud of its role in supporting the growth and development of Northampton through the collaborative way in which it has developed and implemented its fantastic new campus in the enterprise zone and the way in which we have engaged with a wider cohort of stakeholder[s] to our mutual benefit."

Case study 3: A new settlement in the Midlands

This example demonstrates the problem of not considering transport from the beginning and is not untypical of many decisions on new developments and settlements made over the last 10 years or more. In the late 1980s, a local authority found that the most appropriate way to address the demand for new housing in villages was to create an entirely new settlement in a locality that avoided the impact of new development on existing rural communities.

The search for a site for the new village, initially of 450 dwellings, was undertaken through a call for proposals as part of the preparation of a new Local Plan and focused on the edge of the borough, close to its boundary. The scale of development was pegged to perceive a clear understanding of the thresholds of population needed to support local services or the internalisation of movements within the settlement.

By the time the settlement was allocated in the Local Plan in 1995, it had grown to 600 dwellings. The allocation included a local shop and scope for rural business units but no provision for a primary school.

The site was over two kilometres by car from the nearest significant local services, the safest walking and cycling route longer, and used an existing bridleway. The nearest station and town centre are beyond any comfortable cycling distance.

The policy for the development included the requirement for a bus service to the local town operating up to every 10 minutes at full build-out, but no mechanism was set out for how this could or would be secured. The site is a considerable distance from any commercial bus service, so when building started, there was just an infrequent rural service close to the edge of the site.

There were increasing concerns that the costs of necessary infrastructure would render the whole project unviable and undeliverable, but a planning application was submitted in the late nineties that sought to enlarge the project scope to over 750 homes to assist deliverability. This included building the local centre and community hall, incorporating retail premises, and anticipating a public house but no aspiration for a primary school. Land to accommodate this was included subsequently before permission was granted.

After a slow start, up to five developers were active on site simultaneously, and the development was substantially complete by 2013. It had been enlarged again in terms of dwellings, and a primary school was built. Health facilities and some retail stores as well as a nursery and café have subsequently come to the village.

Despite the local authority's policy aspirations, the site of the development, its scale, its internal structure, and its approach to internal circulation have all strongly mitigated against the provision and use of public transport. The bus service has never exceeded an hourly daytime frequency to two local towns, which was achieved by diverting a pre-existing service into the development. This involved a substantial diversion of the route and circulating around the development along streets not designed for full-sized buses.

After a short period of developer funding, the entire cost of the bus service reverted to the highway authority, who only managed to maintain the hourly frequency with substantial public subsidy. Following budget cuts, this ceased. The bus operator elected to operate the service commercially, carrying students to secondary schools rather than having them travel on dedicated school buses.

In the absence of credible walking, cycling, and public transport options, this new settlement is exceptionally car dependent, even though more facilities are available on the development than had initially been anticipated. Key learning points are as follows:

- Peripheral development strongly entrenches car dependence.
- Locating new settlements offline of strong, established public transport corridors/hubs militates against providing relevant choices.
- New settlements can and should seek to sustain a full range of local services, although the settlement size needed to sustain convenience retail and a pub/restaurant/café is significantly higher than it used to be – at least 1,200 dwellings.
- Effective site access and circulation strategies for sustainable modes are as important for new settlement developments as they are for any other.

Case study 4: Irk Valley, Greater Manchester

Within urban areas, a different approach, focused on regeneration, has to be taken. The scale of that regeneration is important. A good example where comprehensive regeneration and urban restructuring provide sustainable development at scale, which supports the provision of effective infrastructure, is within the Irk Valley, to the north of the Manchester city centre. Here, thousands of houses will be delivered on a mosaic of brownfield sites and low-intensity employment sites in a way that will deliver an attractive neighbourhood in a location with good walking, cycling, and public transport connections to the city centre. The quality and nature of the transport infrastructure proposed has only been possible by both the public and private sector working together across a number of separate sites to provide the critical mass. Had the sites been considered separately, the support would not have been available for the more comprehensive approach to the transport provision.

Case study 5: Kingswood, Adversane, West Sussex

In some situations, both authorities and the private sector are beginning to look at proposals differently. As yet, this has not been tested through any form of inquiry, so the outcome is not yet known. However, it highlights that a change of approach is being actively pursued, utilising that outlined in the CIHT FUTURES report.[60]

Kingswood is a proposed new sustainable settlement located between Pulborough and Billingshurst on the A29, approximately nine and a half miles south-west of Horsham. The proposed settlement is for 3,500 homes with new modern workspace for 3,500 jobs as well as two new primary schools, a secondary school, a range of sport and leisure activities, and community facilities for a population of 10,000 people.

The anticipated timeline for the delivery of Kingswood is over a 20-year period, up to 2043. The timelines involved reinforced that people will be living and working very differently in the future.

The key questions to be answered were as follows:

- What type of place are we creating?
- What kind of activities do we need to travel for?
- How will we provide for mobility?

Scenario planning was carried out as part of the planning and transport strategy development process, which enabled the multidisciplinary team to explore the impact of a range of plausible futures. Societal changes, trends, the use of technology, and the issue of how we will meet United Nations Sustainable Development Goal 11 to support a low-carbon future were all considered in the plausible futures along with the traffic growth scenarios set out in the Department for Transport Road Traffic Forecast 18 report (October 2018).

[60] Lyons, G. (2016), Uncertainty ahead: Which way forward for transport, CIHT Futures.

Case study 6:
Network Northamptonshire - Total Transport

Implementing a total transport approach requires some effort, but the benefits are considerable.

Key steps include the following:

- The local government should take a lead role in developing the concept.
- Potential partners should be identified at the chief executive level to achieve corporate buy-in.
- A memorandum of understanding should be prepared for partner organisations to sign at cabinet member and chief officer level to gain commitment.
- Formal approval as appropriate through decision-making arrangements of parent organisations should be gained.
- A lead officer should be identified to coordinate activities and drive through any actions in collaboration with peers in partner organisations.
- A steering group should be established with agreed terms of reference.
- A programme of activities and a timetable should be developed and agreed by all parties together with the identification of appropriate resources and lead organisations to undertake the actions.
- Formal reports and regular updates should be prepared and shared with and across the governance structures and decision makers of partner organisations throughout.
- Formal monitoring and evaluation processes should be established and reported regularly to partners.

Led by the County Council, this project is being undertaken in close liaison with the Universities of Northampton and Hertfordshire, who are providing research and analytical expertise along with the overall project management support.

Key to the project is the identification of synergies which can be achieved by coordinating effectively the current disparate efforts of a large number of organisations in the public, voluntary and even private sectors which currently commission and promote the transport of staff, visitors and the public to serve their own needs and the needs of the wider community. Delivering these services more effectively should result in reductions of expenditure, an improvement in service, better 'value for money' and increased usage, or a combination of all or some of these.

While a number of approaches could have been taken, the Network Northamptonshire model involved the creation of a voluntary partnership of all the stakeholders using a memorandum of understanding setting out the objectives to be achieved by working together. Using powers in the Local Transport Act, 2008, such a partnership has enabled the County Council to deem it as being 'in the public interest' to identify opportunities for co-ordination and co-operation which might not normally be possible.

Full text and more information available at www.networknorthamptonshire.co.uk

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