



Campaign to Protect
Rural England
Standing up for your countryside



MAKING THE LINK

Integrating land use and transport planning through Public
Transport Oriented Development

Foresight Paper No.6

Campaign to Protect Rural England: Housing Foresight Series

The objective of the Campaign to Protect Rural England's Housing Foresight Series is to provide evidence-based research papers that support innovative policy solutions to critical housing issues.

The purpose of the series is not to set out the Campaign to Protect Rural England's official policy position on the future delivery of housing. Rather, it explores a number of 'blue-sky' policy solutions with the aim of inciting and provoking wide ranging discussion over the future shape of housing policy.

With this in mind, we welcome comment on the policy solutions identified within the Housing Foresight Series.

Our research papers are designed to examine different areas that are impacting upon the delivery of housing in England. We welcome any recommendations on subject matters for these papers. Please email trinleyw@cpre.org.uk

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6. **Making the Link: Integrating land use and transport planning through Public Transport Oriented Development (Published: July 2016)**

The research for the Housing Foresight Series has been funded by the Gloucestershire Branch of the Campaign to Protect Rural England. We are grateful for this financial support.



Contents

Executive summary	Page 04
1.0 Introduction	Page 05
2.0 Policy context	Page 06
2.1 Previous density policy	Page 07
2.2 What is transit oriented development	Page 08
2.3 Public transport oriented development	Page 08
3.0 Why do we need PTOD?	Page 09
3.1 Stemming urban sprawl	Page 09
3.2 Communities	Page 09
3.3 Environmental benefits/reduced carbon emissions	Page 10
3.4 Economic agglomeration	Page 11
3.5 Economic agglomeration in medium-sized towns	Page 12
3.6 Demographic shifts	Page 13
4.0 A suggested approach	Page 14
4.1 Density	Page 14
4.2 Diversity	Page 18
4.3 Design	Page 19
4.4 Car parking	Page 19
4.5 Cycle routes	Page 20
4.6 Transport infrastructure	Page 20
5.0 Policy recommendations	Page 21
5.1 Identification of areas suitable for higher-density development	Page 21
5.2 PTOD coordination between authorities	Page 22
5.3 Reduced business rates for local enterprises	Page 23
5.4 Tax increment financing	Page 24
6.0 Case studies	Page 26

Executive Summary

- Public transport oriented development – a term introduced within this paper - is an approach that seeks to integrate land use and transport planning in a sustainable manner.
- Recent changes in Government policy have favoured a more joined-up approach to land use and transport planning. Most notable is the National Planning Policy Framework (NPPF) consultation proposal that planning authorities should develop higher density residential housing around commuter hubs. The plan, however, is vague and unfocused. The Government must set out its ideas in more detail.
- Several factors support the need for joint land use and transport planning, and, if done well, economic and environmental benefits can result from more compact communities with a range of amenities.
- This cannot be achieved by a 'one-size-fits-all' approach, however. Development must be context-specific, appropriate in scale and enhance the local environment. In particular, this paper examines how joint land use and transport planning might be approached in medium to small towns.
- Combining plans for land use and transport planning requires effective coordination across many authorities and incentives are needed to encourage this. The sub-national transport bodies, now emerging through devolution, have an important role to play here, and the regional spatial frameworks must set out how these bodies will engage with local authorities and with their targets, as set out in local plans.
- Several tools are needed to support effective planning. This paper considers how local authorities can identify more suitable sites for development through mechanisms that link locations to transport and other facilities.
- This paper also explores how PTOD can be incentivised and recommends tax increment financing as a mechanism that can provide the investment required for infrastructure development.
- It is vital that local communities engage with the process. This can be encouraged through providing facilities for respective communities and by fostering opportunities for local businesses and jobs.
- This paper calls for business rates relief in those areas near public transport hubs where high density development is proposed, similar to that in the Enterprise Zones.

1.0 Introduction

This paper, the sixth in the Campaign to Protect Rural England's (CPRE) *Housing Foresight* series, seeks to add to the evidence base on the potential of coordinated land use and transport planning. Effective coordination can result in better access to, and take up of, public transport through the development of high density residential areas close to stations/commuter hubs. This joined-up approach also fosters compact communities with a range of amenities on one site, which are accessible on foot, resulting in vibrant communities with opportunities to provide green spaces that can improve the quality of life. By siting homes and other amenities around public transport hubs, there is less need for cars and for development land. This combined approach is known technically as transit oriented development (TOD), a term coined in the United States. The concept, while not new, is currently attracting renewed interest in England. In particular, the December 2015 consultation on proposed changes to the National Planning Policy Framework (NPPF)¹ discussed 'increasing residential density around commuter hubs'. And back in 1994, *Planning Policy Guidance (PPG) 13*, set out the same objective.² This guidance put forward good principles for the integration of land use and transport planning but its impact has been described as mixed, with many developments built in areas only accessible by car.³

The UK has traditionally lagged behind many European countries in embracing integrated land use and transport planning. Whether a joined-up approach can be achieved through a shift in culture remains to be seen. Devolution, with central government devolving powers to the new combined authorities, is gathering pace in England, however. This presents an exceptional opportunity to make a step change on joint land use and transport planning through the shift in planning powers that it will facilitate.

¹ Department for Communities and Local Government. *Consultation on Proposed Changes to National Planning Policy*, 2015 Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/488276/151207_Consultation_document.pdf

² Department of the Environment, & Department of Transport. *Planning Policy Guidance: Transport (PPG13)*, HMSO, March 1994

³ Taylor, I, Sloman, L. *Thriving Cities: Integrated land use & transport planning*. Passenger Transport Executive Group, 2011

2.0 Policy context

The Government's 2015 productivity plan, *Fixing the foundations: creating a more prosperous nation*, highlighted significant potential for new homes to be built around commuter hubs and also spelled out the Government's plan to use powers under the Cities and Local Government Devolution Act 2016 (the Devolution Act) to deliver high-density development in designated areas.⁴

⁴ HM Treasury. *Fixing the Foundations: Creating a more prosperous nation*, 2015

⁵ Department for Communities and Local Government. *Consultation on Proposed Changes to National Planning Policy*, 2015 Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/488276/151207_Consultation_document.pdf

⁶ The Heritage Alliance. *DCLG Consultation on Proposed Changes to National Planning Policy – Response*, 2016 Available at: <http://www.theheritagealliance.org.uk/tha-website/wp-content/uploads/2014/07/DCLG-Cons-on-changes-to-NPP-22.02.16-FINAL-1.pdf>

⁷ Wildlife and Countryside Link. (2016) *Wildlife and Countryside Link response to the consultation on proposed changes to national planning policy*. Available at: <http://www.wcl.org.uk/docs/220216%20WLCL%20Response%20to%20NPPF%20consultation.pdf>

⁸ Department for Transport. *Cycling and Walking Investment Strategy*, 2016 Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/512895/cycling-and-walking-investment-strategy.pdf

In late 2015, the Government consulted on proposed changes to the NPPF, which sets out the Government's planning policies for England and how local authorities should apply them. Among these changes was an expectation that local authorities would plan for more high-density development around commuter hubs.⁵ The document's definition of commuter hub is open to interpretation and some submissions to the NPPF criticised this lack of clarity (for example, those from the Heritage Alliance and Wildlife and Countryside Link).^{6,7}

The Devolution Act offers significant opportunities to integrate land use and transport planning. In much of rural England, these are currently controlled by different departments and different tiers of local government, although it should be noted that unitary authorities were imposed on large areas of the England towards the end of the last Labour administration, notably the North East, Cheshire and Cornwall. As well as facilitating local government reorganisation through measures such as setting up unitary and combined authorities, the Devolution Act provides for sub-national transport bodies. These will have statutory powers to prepare transport strategies for their respective areas and to coordinate, or even take over, transport functions.

The Bus Services Bill and the Cycling and Walking Investment Strategy are also relevant. The former is expected to give greater powers to local authorities to coordinate bus services. The latter's objective is to encourage investment and planning around areas of high potential for cycling and walking, such as rail stations. It remains to be seen whether this strategy will be able to meet its stated ambition to 'make cycling and walking the natural choice for shorter journeys, or as part of a longer journey'.⁸ If provided with enough financial and political support, it has the potential - when combined with Public Transport Oriented Development (see section 3.2) as well as other measures - to foster a more sustainable approach to transport in England.

It is also worth noting that joint land use and transport planning can help Government achieve wider policy targets. As will be addressed later, compact development is more sustainable per head of population than dispersed development. Compact development can help the Government meet the targets for greenhouse gas emissions set out in the Climate Change Act 2008. From CPRE's perspective, compact development reduces pressure for development in the countryside, including the Green Belt.

2.1 Previous density policy

While these recent policy measures are a clear indication that the Government is keen on more high-density development close to commuter hubs, it is worth mentioning that previous planning policy did try to address overall housing density levels.

In 1998, after a long period in which dispersed and low-density development was prevalent, the then Office of the Deputy Prime Minister commissioned the Urban Task Force (UTF) to set out how the millions of new homes required could be provided without threatening the Green Belt or other areas of countryside, as well as to create a vision for revitalising English cities. The UTF report set out a number of recommendations, some of which were adopted in 2000, including minimum density guidelines and limits on car parking space for new builds.⁹

But while these policies were successful in achieving more high-density housing, good design was not always a feature. Density was the priority and open space often not provided. In practice, at local level density targets were often set without reference to public transport infrastructure and accessibility, or, because maximum densities were discouraged, developers were able to argue for higher densities than were necessarily appropriate in less accessible locations.

The Government's recently stated intention to match high-density housing with nearby commuter hubs could mark an evolution in this approach. This paper will consider how joint land use and transport planning can be achieved in a sustainable manner in a range of settlements, such as medium-sized metropolitan areas and towns, and more suburban areas.

⁹ Department for Communities and Local Government. (2000) Planning Policy Guidance 3: Housing. Available at: http://www.housinglin.org.uk/_library/Resources/Housing/Policy_documents/PPS3.pdf

2.2 What is transit oriented development?

Transit oriented development (TOD) is an American term, coined by Peter Calthorpe in 1993 in *The Next American Metropolis: Ecology, community, and the American dream*. However, its antecedents can be traced back to post-war development in Sweden, where satellite towns planned along the lines of Stockholm's underground system had high levels of residential density, with shops and other services nearby.¹⁰

A new development must meet several criteria in order to be deemed a form of TOD, including mixed land use, pedestrian-friendly design and housing close to public transport. The California Department of Transportation defined TOD as: 'moderate to higher-density development, located within an easy walk of a major transit stop, generally with a mix of residential, employment and shopping opportunities designed for pedestrians without excluding the auto'.¹¹

In its broader definition, TOD can be described as an approach that seeks to: 'synchronize the urban life, cities and their urban activities with public transportation systems, infrastructures and operations'.¹²

This paper draws strongly on the principles and success factors associated with TOD. However, TOD is focused mostly on the regeneration of urban sites near to stations in large cities. We believe that joint land use and transport planning needs to occur across a range of scale and we are interested in exploring how this can be introduced in order to improve connectivity and benefit smaller towns and cities, and more suburban areas.

2.3 Public transport oriented development (PTOD)

We would like to introduce a new term that we will use throughout the paper, public transport oriented development (PTOD), which we believe is more applicable to the English context and which better reflects the need to approach joint land use and transport planning across a range of scale.

¹⁰ Hickman, R, Peter Hall, P. Moving the City East: Explorations into contextual public transport-orientated development. *Planning Practice & Research* 2008; 23 (3), 323-339

¹¹ Chatman, D G. *Transit-oriented Development and Household Travel: A study of Californian cities*, 2006. Available at: https://www.researchgate.net/profile/Daniel_Chatman/publication/228391163_Transitoriented_Development_and_Household_Travel_A_Study_of_California_Cities/links/02e7e5261637340815000000.pdf

¹² Stojanovski, T. *Bus Rapid Transit (BRT) and Transit Oriented Development (TOD): How to transform and adjust the Swedish cities for attractive bus systems like BRT? What demands BRT?* KTH Royal Institute of Technology, 2013

This paper will contribute to this emerging direction of planning policy and aims to provide some initial recommendations for planning authorities embarking on PTOD. This is relevant in our view, as evidence suggests that higher-density development around urban public transport hubs is already happening, as the Home Builders Federation pointed out in its evidence to the Communities and Local Government Parliamentary Select Committee on the NPPF.¹³

The Bilfinger GVA report for the Royal Town Planning Institute (RTPI) was the first attempt to map the spatial dimensions of growth in England.¹⁴ The initial findings must be treated with caution because of the methodological limitations (the study examined housing permissions granted, rather than completions). Of 12 selected UK city regions and 165,000 housing units, almost 75% were located within 10 kilometres of a major employment cluster and almost 13% within an 800 metre distance of a railway, light railway or metro station. Significant differences across city regions were recorded, however.

3.0 Why do we need PTOD?

3.1 Stemming urban sprawl

High-density development near to high-quality public transport services can potentially reduce urban sprawl and is a more efficient use of land. This form of development encourages building on brownfield sites and reduces pressure for development in the countryside, on greenfield and Green Belt sites.

3.2 Communities

PTOD can also make communities more attractive places in which to live. Better design, green spaces, less traffic and less noise all add up to a better quality of life. DEFRA research estimates the social cost of road noise as between £7 billion and 10 billion a year.¹⁵

¹³ House of Commons Communities and Local Government Committee. *Department for Communities and Local Government's consultation on national planning policy*. Third Report of Session 2015–16. Available at: <http://www.publications.parliament.uk/pa/cm201516/cmselect/cmcomloc/703/703.pdf>

¹⁴ GVA Bilfinger. *The Location of Development: Mapping planning permissions for housing in twelve English city-regions*. Royal Town Planning Institute, 2016

¹⁵ Department for Environment, Food & Rural Affairs. *Noise Pollution: Economic analysis, 2014* (online) Available at: <https://www.gov.uk/guidance/noise-pollution-economic-analysis> (Accessed 27 April)

3.3 Environmental benefits/reduced carbon emissions

Another inherent benefit is the potential for reducing carbon and other emissions, such as particulates, through increased use of public transport and less use of cars. Effective PTOD can result in less reliance on congested roads. PTOD encourages sustainable living through prioritising walking and cycling within higher density, mixed use neighbourhoods, where a range of facilities are available, providing opportunities for employment, health and leisure.

Aspects of green urbanism and high-density development can be brought together around public transport hubs, as Cervero and Sullivan outlined in their research into the relationship between green urbanism and TOD.¹⁶ Hammarby Sjöstad in Sweden was one of three cities that came as close to matching the ideal of a 'green TOD' as possible. The assessment of the city included evaluation of an environmental impact profile, commissioned by the City of Stockholm. This found that in 2002, when Hammarby Sjöstad was approximately half-built, it had already achieved a 32%-39% reduction in overall emissions and pollution, a 28%-42% reduction in non-renewable energy use and a 33%-38% reduction in ground-level ozone compared with similar communities. (A more recent evaluation would probably show greater reductions.)

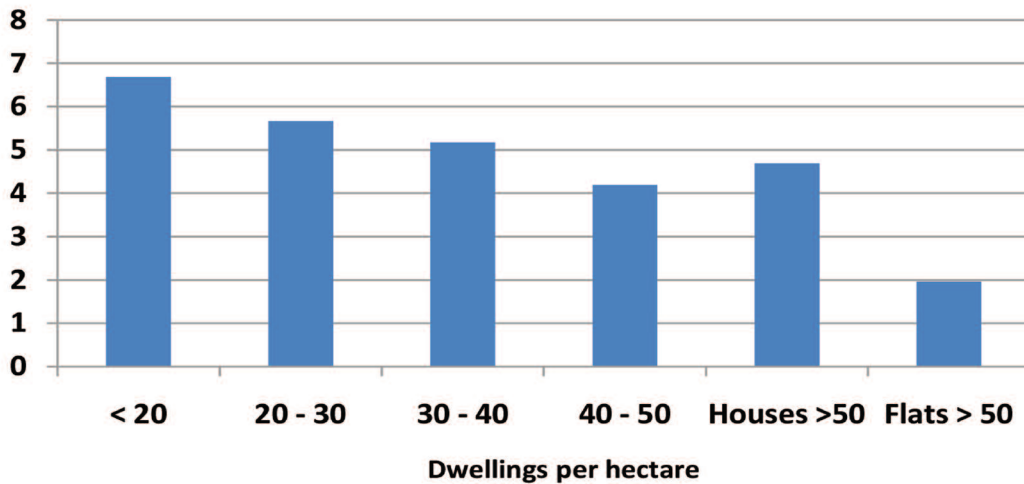
¹⁶ Cervero, R, Sullivan, C. Green TODs: Marrying transit oriented development and green urbanism. *International Journal of Sustainable Development & World Ecology* 2011; 18 (3) 210-218

Paradox of intensification

While there are clearly many benefits from concentrating higher-density development close to public transport hubs, the policy can also result in increased congestion in specific sites, a potential effect that planners must bear in mind. In his work on urban transport, Melia developed the 'paradox of intensification' concept. His research shows that while higher-density residential housing does reduce car use, the relationship is not linear. If population density is doubled, the overall traffic generated by each household is not halved.¹⁷ A concentration in motor traffic can occur in intensified areas and therefore those who might drive least (in the concentrated areas) will suffer more from pollution.

¹⁷ Melia, S. *Urban Transport Without the Hot Air. Volume 1: Sustainable solutions for UK cities*. UIT Cambridge, 2015

Average daily vehicle movement rates of new private developments



Source: Melia, S et al. (2011) The Paradox of Intensification. *Transport Policy*, 18 (1). pp. 46-52. Available at: http://eprints.uwe.ac.uk/10555/2/melia-barton-parkhurst_The_Paradox_of_Intensification.pdf

The above chart demonstrates the fixed relationship between density and traffic. Melia describes how areas of flats are 16 times denser on average than the least dense band of houses, but people in the houses generates only 3.4 times the vehicle movements per dwelling than those in the flats.¹⁸ Melia does suggest a number of responses by which policy-makers might reduce the impact of this intensification, one of which is more radical measures to cut car use and improve the urban environment of intensified areas.¹⁹

¹⁸ Melia, S. et al. The Paradox of Intensification. *Transport Policy* 2011; 18 (1) 46-52

¹⁹ Melia, S. *Urban Transport Without the Hot Air. Volume 1: Sustainable solutions for UK cities*. UIT Cambridge, 2015

3.4 Economic agglomeration

Concentrating employment in a single area brings significant economic benefits. Buchanan, in a study of the economic impact of high-density development and tall buildings in central business districts, refers to quantified evidence that that a doubling of employment density within a given area can lead to a 12.5% increase in output per worker.²⁰

²⁰ Buchanan & Partners. *The Economic Impact of High Density Development and Tall Buildings in Central Business Districts*. British Property Federation, 2008

Connectivity naturally fosters economic growth: a key economic benefit of high-density development around transport hubs is a reduction in overall congestion. At the present rate of increase, congestion will cost the UK economy an estimated staggering £307 billion between 2013 and 2030.²¹ Development around public transport hubs also generates business, investment and employment, all of which contribute to economic growth.

²¹ INRIX. *Traffic Congestion to Cost the UK Economy More Than £300 Billion Over the NEXT 16 Years*, 2014. (online) Available at : <http://inrix.com/press/traffic-congestion-to-cost-the-uk-economy-more-than-300-billion-over-the-next-16-years/>. (Accessed 3 May 2016)

3.5 Economic agglomeration in medium-sized towns

Improved transport infrastructure and the development of housing nearby have economic agglomeration effects, and while these can persist for medium and small towns, the impact has been found to be less significant outside metropolitan areas.

In their study of the secondary centres of economic activity in the East Midlands, Atherton and Price developed a typology of secondary centres which included a small rural location, a vibrant market town and a well-connected commuter town. They found that connectivity to large urban centres was a determinant of economic performance, particularly in relation to participation in the labour market. This finding supports the need to provide medium and small towns with good transport. The same study found lower levels of firm agglomeration in remote rural areas compared with the more accessible rural areas, with fewer companies based in these areas.²²

²² Atherton, A, Price, L. *Secondary Centres of Economic Activity in the East Midlands – Summary Report*. Enterprise Research and Development Unit, 2009



3.6 Demographic shifts

Demographic shifts are also a strong rationale for increasing residential density. As Melia points out, the number of people whose adult children have moved out of the family home (known as 'empty nesters') as well as couples without children, has been steadily increasing.²³ Indeed, 64% of British households consisted of only one or two people in the 2015 study, yet flats make up only 20% of the housing stock.

²³ Melia, S. *Urban Transport Without the Hot Air. Volume 1: Sustainable solutions for UK cities.* UIT Cambridge, 2015

There is a need to match housing to smaller households rather than the traditional nuclear household, and this fits well with higher-density development around commuter hubs.

Number of people living in household by tenure, 2013-14

Tenure	Number of people living in household						total
	one	two	three	four	five	six or more	
	<i>percentages</i>						
Own outright	33.8	48.6	10.7	4.5	1.5	0.8	100.0
Buying with mortgage	16.0	30.3	19.9	24.1	7.2	2.6	100.0
All owner occupiers	25.2	39.7	15.1	14.0	4.3	1.6	100.0
Local authority	39.9	25.5	16.9	10.8	4.3	2.6	100.0
Housing association	41.6	26.7	13.4	10.1	5.6	2.6	100.0
All social renters	40.9	26.2	14.9	10.4	5.0	2.6	100.0
All private renters	25.5	32.8	19.5	14.8	4.8	2.5	100.0
All tenures	28.0	36.0	15.9	13.5	4.5	2.0	100.0

Source: English Housing Survey: <https://www.gov.uk/government/statistical-datasets/tenure-trends-and-cross-tenure-analysis>

4.0 A suggested approach

This section sets out some guiding principles that we recommend local authorities consider when embarking on the joint planning of land use and transport infrastructure.

Firstly, we recommend that planning should use a 'brownfield first' approach when allocating land for residential development, including that linked to local transport infrastructure. It must be recognised, however, that this will not always be appropriate or possible, and that greenfield development may sometimes be necessary.

²⁴ Huston, S et al. De-risking Transport-oriented Development Regeneration. *Journal of Urban Regeneration and Renewal* 2012; 5 (3) 1-12

²⁵ Smart Growth UK: A Sustainable Approach <http://www.smartgrowthuk.org/> (accessed 4 May)

The three 'Ds' are rules commonly associated with effective TOD and they also provide a useful guide to this part of the analysis. They are: density, diversity and design.²⁴ This approach is consistent with the principles of Smart Growth which has been defined as a 'sustainable approach to planning that emphasises compact and accessible urban communities and which opposes urban sprawl and car dependency'. It seeks traditional ways of planning towns based around local services, ease of walking and cycling and good public transport, especially rail-based.²⁵

4.1 Density

It is crucial that densification respects the character of the local area. In less urban settings such as market towns, for example, high-rise buildings will be out of place. It is well known that incongruent high-rise developments are unpopular. Joint research by the Prince's Foundation and Create Streets, which involved communities in the consultation processes, found that of four principal concerns around community development, the first was 'too many tall or large buildings'.²⁶

²⁶ The Prince's Foundation for Building Community. *Housing Communities: What people want*, 2014

²⁷ Savills. *Solving London's Housing Crisis*, 2015 (online). Available at: http://www.savills.co.uk/research_articles/186866/187152-0. (Accessed 20 April 2016)

It is also important to note that higher densities are not achieved exclusively through high-rise tower blocks. Terraced houses and traditional streetscapes with mansion blocks can also provide higher density homes and can fit into both urban and suburban locations.²⁷ Local authorities must consider these options when they want to increase density in medium and small towns.

While much of the TOD literature focuses on development around large stations in cities, some guidelines refer to adapting a development to the specific location. In *The New Transit Town: Best practices in transit-oriented development*, Dittmar and Poticha outline how TOD can be planned according to six different typologies, based on American classifications:

1. Urban downtown
2. Urban neighbourhood
3. Suburban town centre
4. Suburban neighbourhood
5. Neighbourhood transit town
6. Commuter town ²⁸

²⁸ Dittmar, H, Poticha, S. Defining Transit-Oriented Development: The New Regional Building Block. In Dittmar, H, Ohland, G, (Eds) *The New Transit Town: Best Practices in Transit Oriented Development* (pp. 19-40). Washington, DC: Island Press

For each of these, Dittmar and Poticha set out a land use mix and a minimum level of density.²⁹

²⁹ Ibid

For example, the urban downtown typology density guideline is set at a minimum of 60 units per hectare and the housing types 'multi-family' and 'loft' are outlined, with appropriate modes of transport. For the suburban neighbourhood, however, a minimum density of 12 units per hectare is recommended (although it should be noted that this is in a UK context: Americans tend to have more space and are used to low-density levels). The housing types recommended for the suburban neighbourhood are multi-family, town home and single family.³⁰

³⁰ Currie, G. *Strengths and Weaknesses of Bus in Relation to Transport Oriented Development*, 2008. Available at: <http://reconnectingamerica.org/assets/Uploads/bestpractice077.pdf>

Australian TOD Guidance

Guidance for TOD practitioners in Queensland, Australia (see table on next page) also provides a helpful contextual model of how different typologies can be approached (Australian definitions of density will also differ markedly from those in England).

Predominant development scale

Type	Core (within 200m of the station)	Primary walking catchment (within 400m of the station and core)	Secondary walking catchment (within 800m of the station and core)	Density range (dwellings per hectare)
City centre	High rise	High rise	High and medium rise	100+ / 300+
Activity centre	High and medium rise, depending on context	Medium rise, depending on context	Medium and low rise, depending on context	40+ / 140+
Specialist	Medium rise, depending on function	Medium rise, depending on function	Medium and low rise, depending on context	40+ / 120+
Urban	High and medium rise	Medium rise	Medium and low rise, depending on context	60+ / 180+
Suburban	Medium rise	Medium and low rise, depending on context	Low rise	30 – 80 / 100+
Neighbourhood	Medium and low rise	Low rise	Low rise	30 – 60 / 80+

Development scales

The TOD guidance for Queensland, Australia, also covers the following development scales:

High rise	Medium rise	Low rise
Over 10 storeys	Between 4 and 10 storeys	Up to 3 storeys

Source: Queensland Government. Transit Oriented Development Guide. Available at: <http://rti.cabinet.qld.gov.au/documents/2009/dec/tod%20publications/Attachments/tod-guide%5B1%5D.pdf> ³¹

³¹ Queensland Government. *Transit Oriented Development Guide*, 2005

As the predominant development scale table shows, the suggested density diminishes as the land type moves from city centre to outer-lying neighbourhoods.

PTOD for England

We can also look to DEFRA's rural/urban classification of local authorities for different typologies of place. DEFRA's approach, produced together with DCLG and the Government Statistical Service, puts output areas (the lowest level of measurement possible through census data) into one of four urban domains or six rural ones.³²

³² Government Statistical Service. *The 2011 Rural-Urban Classification for Output Areas in England*, 2015 Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/427114/RUC_OA_leaflet_May2015.pdf

Within the local authority districts classification, hub towns are defined as built-up areas with a population of 10,000-30,000. They are recognised as having an important role in rural communities, delivering much needed connections, services, employment and businesses.³³ In less metropolitan areas, local authorities should focus on hub towns as potential sites for PTOD, with any development carried out in accordance with the local context and subject to environmental constraints, such as Green Belt and Area of Outstanding Natural Beauty (AONB) designations. We include hub towns in our suggested typology below. Where stations are in output areas that are classified as rural (a population of under 10,000), low-rise residential density will be more appropriate. Moving up the scale to hub towns and stations in output areas in more urban locations, medium-rise and high-rise densities are appropriate.

³³ Department For Environment, Food & Rural Affairs. *2011 Rural-Urban Classification of Local Authority and Other Higher Level Geographies for Statistical Purposes*, 2014 Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/307939/2011_Ruralurban_statistical_classification_for_local_authorities_intrim_results_-_hub_towns_.pdf

Typology	Population band	Indicative density levels
Smaller than hub towns (rural areas)	10,000 or under	Low rise
Hub towns	10,000-30,000	Moderate rise of up to five stories (subject to heritage or landscape considerations)
Urban with city and town		Medium rise
Predominantly urban		High and medium rise

These are, however, only suggested guidelines. Planning authorities will also need to consider other local factors, especially heritage and landscape designations. It is important to be flexible and avoid a one-policy-fits-all approach. The term 'commuter hub' as set out in the NPPF consultation is unhelpful.

In terms of scale, the NPPF consultation recognised 680 commuter hubs around which planning authorities would be expected to deliver higher levels of residential density.³⁴ The methodology involved identifying major train or coach stations in a built-up area with a population of more than 50,000. However, there are clearly opportunities for PTOD in places that fall under this threshold and especially for hub towns, which can act as a link to surrounding rural communities.

³⁴ Department for Communities and Local Government. *Consultation on Proposed Changes to National Planning Policy*, 2015 Available at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/488276/151207_Consultation_document.pdf

4.2 Diversity

In order to promote mixed communities and to win the support of the existing communities where PTOD is taking place, the new development should provide a range of accommodation for different types of households: couples, families and single individuals of different economic status. Developments should also include a range of uses, including shopping and employment premises.

4.3 Design

It is crucial that PTOD contributes to the existing townscape of less urban areas. New development should be woven into the existing fabric. As the Heritage Alliance said in its NPPF consultation submission, commuter hubs can often be in the middle of historic towns and conservation areas, where densification may be less appropriate.³⁵ One of the four main themes about the built environment to emerge from the Prince's Foundation and Create Streets research was people's concern that their town or village would lose its sense of identity.³⁶ It is vital that planning around stations engages the local population and enhances, rather than damages, the existing townscape. Neighbourhood planning approaches are recommended.

4.4 Car parking

There is evidence that in new developments, reduced residential parking space can help to reduce car usage³⁷ and encourage walking and cycling, but there must also be facilities for public and active travel. Merely restricting residential car parking will not necessarily reduce car use, and PTOD proposals must also ensure that any restriction on car parking does not result in overspill in surrounding areas.³⁸

Another intervention that can facilitate reduced residential parking requirements is the provision of car clubs through new developments. A recent study found that car clubs in cities can help with obtaining planning permissions for high-density developments that have insufficient land for parking and would otherwise need underground parking to be built at high cost, or for developments with limited off-street parking space in high-to-medium density urban areas.³⁹ Car clubs can bring several benefits to PTOD, including reducing the impact of traffic and the pressure on parking. There is also evidence that car clubs in new urban developments can have wider benefits in terms of forging a network of clubs in a locality.⁴⁰

³⁵ The Heritage Alliance. *DCLG Consultation on Proposed Changes to National Planning Policy – Response*, 2016. Available at: <http://www.theheritagealliance.org.uk/website/wp-content/uploads/2014/07/DCLG-Cons-on-changes-to-NPP-22.02.16-FINAL-1.pdf>

³⁶ The Prince's Foundation for Building Community. *Housing Communities: What people want*, 2014

³⁷ Transport for London. *Residential Parking Provision in New Developments. Travel in London Research Report*. London: Transport for London, 2012

³⁸ WSP Parsons Brinckerhoff. *Does Car Ownership Increase Car Use?* Berkeley Group, 2013

³⁹ Melia, S et al. *Car Clubs in New Developments: A review of experience and good practice in low car and car free developments (2003-2014)*. Carplus, 2016

⁴⁰ Ibid

4.5 Cycle routes

High-quality cycle routes that link to stations also have potential for high-density developments and planning authorities should identify them. Countries such as China and Germany are seeing a surge in electric bikes, which increase both the range of cycling and the range of people who are able to cycle. Authorities should also consider 'filtered permeability', which allows full cycling and walking into and through an area, but restricts access and passage for motor traffic.

4.6 Transport infrastructure

The UK has several medium-sized cities, such as Oxford and Exeter, where PTOD could be developed with better transport infrastructure between and within these cities.⁴¹ There is a good rationale for developments near stations and other interchanges in medium-to-small towns. Previous recent developments have been on the outskirts of these towns, encroaching onto surrounding greenfield sites.

Existing transport infrastructure could be also used more efficiently or disused rail lines reopened. CPRE-commissioned research examined the case for reopening a second main rail line in Devon and Cornwall. The results showed that bringing the line back into use would deliver significant benefits to Okehampton and Tavistock, as well as the surrounding rural area.⁴² Rural areas could be reinvigorated by reopening the line, helping local businesses, including tourism, and housing development would be encouraged, resulting in affordable accommodation for young people who need better transport connections to the local employment hubs of Plymouth and Exeter.⁴³ PTOD must have frequent public transport infrastructure in place to support development. In medium-sized metropolitan areas and towns, there may be scope to open disused rail lines to encourage PTOD.

⁴¹ Falk, N, Harman, R. *Swift Rail and Growing Cities. Tramways and Urban Transit.* January 2016, pp.15-18

⁴² Greengauge 21. *Rural Reconnections: The social benefits of rail reopening.* CPRE, 2015

⁴³ Ibid



5.0 Policy recommendations

5.1 Identification of areas suitable for higher-density development

The TOD definition includes a circumference from the commuter hub/transit station designating the area that the development should cover. Typically, this is expressed as a ten minute walking distance, 800 metre distance or half-mile radius from the transport hub around which the TOD is based, known as a 'ped shed' (see Hess and Lombardi and Huston et al ^{44,45}).

However, within any PTOD catchment area, some locations will be more or less connected to nearby public transport stations, depending on the urban design and street layout. Consideration must be given to how accessible transport stations would be to proposed new, higher-density development.

London has pioneered ways of allocating new housing in line with local transport. The Public Transport Accessibility Level (PTAL) methodology is included in the London Plan. Areas are graded on a nine point accessibility scale, which includes measures such as walking time to the stop, number of services available and frequency of services at that stop.⁴⁶ PTAL has come in for criticisms however, as it is unable to factor in where transport services go to. More recently, the Access to Opportunities and Services (ATOS) approach, which measures access to essential services through public transport and/or walking, has been taken up by TfL. ATOS examines accessibility to employment, education, health services, quality food shopping and open spaces.⁴⁷

This paper recommends that guidance should be provided to help authorities to develop ATOS in order to facilitate PTOD. This method should also aim to increase public participation in the planning process through open data maps that could be modelled on a forward view of, for example, five, 10 and 20 year projections for development scenarios. This would allow the public to engage with local development plans more fully, as well as helping to embed a cultural shift towards PTOD. It would also help achieve the Planning Practice Guidance objectives about robust transport evidence bases in plan-making and decision-taking.⁴⁸

⁴⁴ Hess, D, Lombardi, P. Policy Support for and Barriers to Transit-Oriented Development in the Inner City. *Transportation Research Record: Journal of the Transportation Research Board 2004*; 1887, 26–33

⁴⁵ Huston, S et al. TOD development in theory and practice: the case of Albion Mill. In: *Proceedings from the PRRES Conference, 2012. 18th Annual Pacific-Rim Real Estate Society Conference, Adelaide, Australia, (1-11). 15-18 January 2012*

⁴⁶ Transport for London. Measuring Public Transport Accessibility Levels – summary, 2010 Available at: <http://data.london.gov.uk/dataset/public-transport-accessibility-levels/resource/86bbffe1-8af1-49ba-ac9b-b3eacaf68137#>

⁴⁷ Cooper, S et al. *Measuring the Accessibility of Opportunities and Services in Dense Urban Environments: Experiences from London*. Association for European Transport and contributors, 2009. Available at: <http://abstracts.aetransport.org/paper/index/id/3310/confid/15>

⁴⁸ Department for Communities & Local Government. *Transport Evidence Bases in Plan Making and Decision Taking, 2014*. (online) Available at: <http://planningguidance.communities.gov.uk/blog/guidance/transport-evidence-bases-in-plan-making/transport-evidence-bases-in-plan-making-guidance/>. (Accessed 3 May 2016)

⁴⁹ UK Authority.com. *Government to Make Bus Firms Publish Open Data, 2016* (online). Available at: <http://www.ukauthority.com/news/6098/government-to-make-bus-firms-publish-open-data>. (Accessed 10 May 2016)

⁵⁰ Environment Audit Committee. *Written Evidence Submitted by the Mayor of London and Transport for London, 2012* (online). Available at: <http://www.publications.parliament.uk/pa/cm201314/cmselect/cmenvaud/201/201vw28.htm> (Accessed 10 May 2016)

⁵¹ Thomas, R, Bertolini, L. *Defining Critical Success Factors in TOD Implementation Using Rough Set Analysis. The Journal of Transport and Land Use.* (In Press scheduled for 2017; 10 (1) 1-16)

⁵² HM Treasury. *Fixing the foundations: Creating a more prosperous nation*, 2015

⁵³ Infrastructure and Projects Authority. *The National Infrastructure Delivery Plan 2016-2021*. HM Treasury, 2016

⁵⁴ Royal Town and Planning Institute. *Strategic Planning: Effective cooperation for planning across boundaries*. Royal Town and Planning Institute, 2015

This form of planning should be made easier by The Bus Services Bill, which will require private transport operators to publish data on routes, fares, timetables and delays.⁴⁹

Open data maps available to the public could also be used to assess the potential levels of new developments' connectivity to transport infrastructure and wider using walking or cycling modes only, as TfL has done, using ATOS to produce isoline maps showing active travel accessibility.⁵⁰

5.2 PTOD coordination between authorities

TOD research is often carried out by evaluating developments on case study sites. Such research frequently shows that joining up planning activity across different levels of the governing authority is an important enabler. For example, analysis by Thomas and Bertolini showed that political stability at the national level and relationships between key decision-makers in the region were among the most significant factors in implementing TOD successfully.⁵¹

This finding is of particular interest in terms of the opportunities for PTOD in the context of devolution. While each devolution model will vary in terms of the specific powers devolved, much future transport policy will probably be developed at sub-national level. As pointed out in the Government's Productivity Plan, economic growth, both in cities and local communities, can be driven by integrated transport systems that meet the needs of residents and businesses.⁵²

The Government's National Infrastructure Delivery Plan 2016-2021 sets out that the 'Homes and Communities Agency will work with Network Rail and local authorities to bring forward land around stations for housing, commercial development and regeneration, and announce sites for specific sites shortly'.⁵³

Underneath this national activity, the emerging combined authorities will be the next tier that will need to embed PTOD. One key mechanism in achieving this is the respective spatial frameworks. It should be incumbent on these sub-regional frameworks to ensure that sub-national transport plans take into account relevant local plans. Local plans and Local Transport Plans (if they continue to exist) should identify public transport hubs and demonstrate reciprocal consideration about the appropriate levels of housing density that can be developed close to the site.

In its report on strategic planning, the RTPI points out that while the Planning Inspectorate has the power to reject local plans on the basis of a lack of cooperation, this is a negative mechanism to guard against 'non-planning' rather than a positive mechanism to encourage joint working.⁵⁴

The nature and pace of devolving power to combined authorities varies on a case-by-case basis, making uniform measures unworkable. However, a positive mechanism to ensure that combined authorities are producing sub-national transport plans in line with housing plans, as set out in local plans, could provide a way forward.

5.3 Reduced business rates for local enterprises

Part of the TOD concept is that developments create and support employment opportunities, as well as providing the transport to travel to places of employment. TOD allows for the development of local businesses such as shops, cafés and offices near to the transit/commuter hub.⁵⁵

To help foster local development and help local businesses grow, there could be scope for local businesses to benefit from reduced business rates in a similar manner to that available in Enterprise Zones.⁵⁶ Support for local businesses should provide employment opportunities for local populations and at the scale of medium and small towns also promote local economic development. Public benefits of this kind can help convince the more sceptical elements in the community of the benefits of mixed land use and of the changes being made.

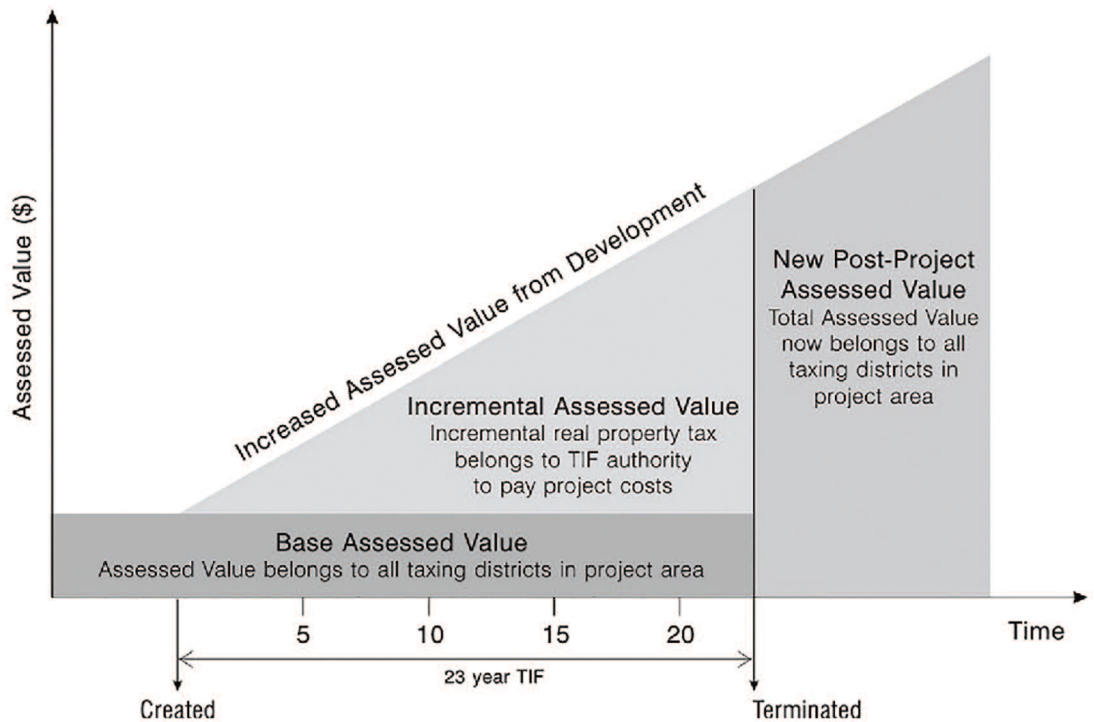
⁵⁵ Bajracharya, B et al. Regulatory and Incentive Mechanisms to Implement Transit Oriented Development (TOD) in South East Queensland. In Troy, P (ed) *Proceedings of the 2nd Bi-annual National Conference on the State of Australian Cities*, 30 November–2 December 2005. The Urban Research Program, Griffith University

⁵⁶ HM Government. *Looking for a Place to Grow your Business? What are Enterprise Zones?*, 2016 (online) Available at: <http://enterprisezones.communities.gov.uk/about-enterprise-zones/>. (Accessed 6 May 2016)

5.4 Tax increment financing

Several financial incentives are described in the TOD literature. One is tax increment financing (TIF), which enables a local authority to trade anticipated future tax income for a present benefit.⁵⁷ TIF is a popular funding mechanism for infrastructure development in the USA.

⁵⁷ Squires, G, Lord, A D. The Transfer of Tax Increment Financing (TIF) as an Urban Policy for Spatially Targeted Economic Development. *Land Use Policy* 2011; 29: 817-826



⁵⁸ Baker, T. et al. Policies on the Move: The transatlantic travels of tax Increment financing. *Annals of the American Association of Geographers* 2016; 106 (2) 459-469

Source: Tom Baker et al⁵⁸

⁵⁹ Burroughs, L. *Removing Obstacles to Brownfield Development*. CPRE, 2015

TIF was a policy recommendation in the second CPRE *Housing Foresight Paper: Removing Obstacles to Brownfield Development* as a mechanism through which complex brownfield sites could be developed.⁵⁹ TIF is still in its infancy in the UK and, as previously argued, were it to be extended in a way that secured a longer term revenue stream for local authorities and allowed them to retain the proceeds of business growth, not currently the case, it could unlock new development.⁶⁰

⁶⁰ Ibid

⁶¹ Dallas Economic Development. *TOD Tax Increment Financing District: Project plan & reinvestment zone financing plan, 2010* Available at: http://www.dallas-ecodev.org/wpcontent/uploads/2012/04/TOD_TIF_plan.pdf

The use of TIF to spur PTOD would require public-private partnership which often features in the TOD literature as a key criterion for success. Pioneered in the USA, a good example can be found in Dallas where a 'TOD TIF District' has been established around a series of light rail stations. These areas contained undeveloped parcels of land, which would not have been accessible without public assistance.⁶¹

Dallas TOD TIF district



Source: <https://www.minnpost.com/cityscape/2010/10/public-funding-exhausted-dallas-turns-private-partners-and-tif-build-new-rail-tran>

The obvious drawback to TIF is that it is speculative, with revenues dependent on the resulting developments. To help mitigate this risk, a range of tenures should be planned, including affordable units. This will also contribute to the development of sustainable TODs, which are inclusive, mixed communities. As high-density development near public transport hubs gathers pace, other regulatory and financial levers should be considered in order to aid its progress. A Centre for London report on ways of developing large housing sites suggested exempting local authorities from stamp duty land tax when they buy land for development.⁶²

The proposed NPPF policy on higher-density development around commuter/transit hubs does risk creating an obstacle for planning authorities because demarcating land close to a commuter hub as suitable for development is likely to lead to an increase in land prices, a negative impact identified in Australia.⁶³

⁶² Brown, R, Wilson, B. *Going Large: Making the most of London's big sites*. Centre for London, 2016

⁶³ Bajracharya, B et al. Regulatory and Incentive Mechanisms to Implement Transit Oriented Development (TOD) in South East Queensland. In Troy, P (ed) *Proceedings of the 2nd Bi-annual National Conference on the State of Australian Cities*, 30 November–2 December 2005. The Urban Research Program, Griffith University

CAUSE – The Campaign Against Urban Sprawl in Essex: Case Study

CAUSE is a residents' campaign that advocates for development in North Essex to take place in sustainable locations linked to infrastructure. It should be noted that neither CPRE nationally nor CPRE Essex necessarily support the CAUSE proposal: it is offered here as a case study representing an approach that follows some principles of PTOD contrasted with a more traditional urban extension proposal.

⁶⁴ CAUSE. *Visions for Growth: Colchester Metro Town "Pearls on a necklace"*, 2016 Available at: <http://www.cause4living.essex.com/wpcontent/uploads/2015/09/Overview-Colchester-Metro-Plan.pdf>

North Essex requires a considerable amount of new housing, with a need for almost 50,000 new homes identified in plans for the area around Colchester over the next 15 years.⁶⁴ Colchester is highly car dependent, with nearly 70% of residents travelling to work by car, compared with under 40% in Cambridge, for example.⁶⁵

⁶⁵ Office for National Statistics. *2011 Census Analysis, Method of Travel to Work in England and Wales*, 2013 Available at: <http://webarchive.nationalarchives.gov.uk/20160105160709/http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcn%3A77-295663>

The authorities are proposing a new development west of Colchester, to be called West Tey. CAUSE objects to this on two grounds:

- i. It would require the upgrading of the A12 and A120, as well as extra mainline train capacity.
- ii. There would be very limited benefit to the local area, with West Tey encouraging commuting to London by car and rail.⁶⁶

⁶⁶ CAUSE Ibid

Proposal

CAUSE has put forward an alternative proposal: a 'metro town' for east Colchester, which would result in a network of sustainable communities through better connectivity. The plan, which refers to a 'string of pearls' for the area, is based on the following tenets:

- i. It would make use of existing and underused transport infrastructure through more frequent trains running on the Colchester-Clacton electrified railway. This would create the opportunity for a chain of settlements linking jobs, housing and infrastructure, potentially delivering 6,000-8,000 dwellings within a 10-minute walking catchment of high-quality public transport within the 15-year plan.
- ii. A new rail station at Essex University would encourage the eastward urban extension of Colchester, with a 10-minute express bus service to the town centre.
- iii. Growth in other settlements across the Colchester borough/Tendring district would be sustainable.⁶⁷

⁶⁷ Ibid

The proposed metro town clearly meets a number of PTOD criteria: development land within a ten-minute catchment of stations is available and the plan includes increasing the frequency of transport services, with a local service every 15 minutes and a through service to the Anglia main line every 30 minutes.⁶⁸

⁶⁸ Ibid

The proposal recommends it is delivered by a joint development corporation, similar to that envisaged for Garden Cities. This approach relies on collecting land value uplift resulting from development consent to fund infrastructure.⁶⁹

⁶⁹ Ibid

This paper's policy recommendation on the use of tax increment financing (TIF) is one example of how to extract the anticipated land value uplift of a development project.

The developers assumed medium density within walking catchments, on average about 35-40 dwellings per hectare (DPH), which in practice could be higher close to the stations and lower further away, but all within a 800 m walking catchment, thus providing a range of different types of housing around each station.

Objections

CAUSE has encountered the following arguments from Colchester planners:

i. New settlements of 10,000 dwellings plus are sustainable, therefore a 'string of pearls' of smaller settlements relying on other locations for higher-order facilities is unsustainable.

ii. A new settlement on land put forward by landowners in the 'Call for Sites' process is deliverable, whereas one on other land is not, regardless of whether landowners might subsequently come forward once they knew their land was part of a planning proposal.

CAUSE disagrees with both of these objections. In relation to the first, it argues that settlements consisting of 3500 homes are large enough to support primary education and healthcare facilities, and also making better use of the existing railway brings key facilities such as employment hubs (in this case, the university), secondary schools and hospitals within easy reach.

In response to the second objection, CAUSE argues that landowners will be willing to sell land at 20-100 times its agricultural value and that there is still plenty of time for this to be negotiated. West Tey cannot be built until after the A120 has been expanded to a dual carriageway, which cannot happen until 2025 at the earliest.

Alconbury Weald, Cambridgeshire

Case Study

Alconbury Weald is the largest brownfield development of its kind in southern England. The former airfield site was bought in 2009 by Urban&Civic and construction is still under way.

⁷⁰ Urban&Civic. *Key Information: Homes and Living 04*. Available at: http://www.alconbury-weald.co.uk/sites/default/files/2/file_downloads/Key%20info_homes.pdf

⁷¹ Ibid

⁷² Cambridge News. *The Alconbury Weald Project*, 2014. (online) Available at: <http://www.cambridge-news.co.uk/Alconbury-Weald-Project/story-22802676-detail/story.html>. (Accessed 26 April 2016).

⁷³ HM Government. *Looking for a Place to Grow Your Business, Alconbury Weald*, 2016 (online) Available at: <http://enterprisezones.communities.gov.uk/enterprise-zonefinder/alconbury-enterprise-campus-enterprise-zone/> (Accessed 28 April 2016).

⁷⁴ Urban&Civic. *Key Information. Homes and Living. 04*. Available at: http://www.alconbury-weald.co.uk/sites/default/files/2/file_downloads/Key%20info_homes.pdf

⁷⁵ Urban&Civic. *Key Information. Transport. 02 Alconbury Weald*: http://www.alconbury-weald.co.uk/sites/default/files/2/file_downloads/Key%20info_transport.pdf

⁷⁶ Ibid

⁷⁷ Ibid

The land use mix includes schools, shops and sports facilities, and there will also be high-quality broadband for residents working at home. Homes will be built to high environmental standards, minimising operational carbon impacts. The design seeks to foster a green and pleasant living environment with community allotments, orchards, woodland, playing fields and playgrounds.⁷⁰ Other factors that will make the site an attractive place to live include walkable neighbourhoods, design that will help crime prevention, good place-making and low carbon living.⁷¹

Recognised as an Enterprise Zone, the development benefits from reduced business rates, thus stimulating business growth.⁷² Several high-tech firms have already moved to the site's flagship Incubator building, which opened in January 2014.⁷³

A design inquiry identified the need for more family-sized accommodation and this is reflected in the predominance of medium- and lower-density housing. However, 10% of total housing is reserved for apartments in higher-density areas close to local amenities and transport interchanges.⁷⁴

A range of transport options has been built in, following extensive modelling. Planning has sought to reduce car usage. As part of the overall transport provision, a guided bus route will connect the site to Huntingdon, St Ives, Cambridge and Peterborough. A public transport spine will also run through the development, providing alternatives to cars within the site, as well as outwards from it.⁷⁵

Good cycling facilities are provided and the intention is to encourage short cycling trips, particularly under five kilometres, where the journey might otherwise have been made by car. Cycle-hire hubs will be introduced at key educational, employment and retail sites, as well as being linked to transport interchanges with bus and future rail links.⁷⁶ At least 70% of homes will be within easy walking distance (400 m) of public transport and land has been reserved for a new rail station.⁷⁷



Source: http://www.davidlock.com/pdf_resource/mk-office-location-map/

Watford Junction Case Study

Watford is a town in Hertfordshire with a population of around 90,000. Its local authority boundaries are tightly drawn around the built-up area – it is the only non-London council whose boundaries are entirely contained within the M25 – and it is surrounded by Green Belt. Despite these constraints, the town has strong ambitions for growth, building upon its diverse employment base, which includes manufacturing and services; its vibrant shopping and leisure facilities, and its high level of accessible public transport.

Watford Junction is the main railway station, with mainline services to London Euston, Gatwick Airport, Milton Keynes, Birmingham and the North; local services to St Albans, and London Overground services to parts of London via Willesden Junction. Future proposals include extending the Metropolitan Line from the nearby Watford terminus to connect with Watford Junction (expected to open in 2018) and a new Crossrail branch from Tring via Watford Junction. The station is also served by local and regional bus services, including connections to Luton and Heathrow Airports, and is within easy walking distance of the town centre, as well as a business district, an industrial area and a thriving local shopping centre.

Despite this, a large area of land, comprising former railway sidings and low-grade commercial premises, much of which is unused or poorly used, has gone largely to waste for decades, despite the best efforts of Watford Borough Council to encourage the landowners, mainly Network Rail, to make better use of the 15 hectare site.

⁷⁸ Colin Buchanan and Partners & Watford Borough Council. *Watford Junction Development Brief*, 2014 Available at: https://www.watford.gov.uk/downloads/file/304/watford_junction_development_brief_2004

⁷⁹ Watford Borough Council. *Adopted Local Plan Core Strategy*, 2013 Available at: https://www.watford.gov.uk/downloads/file/2/adopted_core_strategy_low_respdf

Redevelopment plans began to be drawn up in the early 2000s, with a first brief produced in 2004.⁷⁸ Later proposals included a high-rise landmark building comprising a mix of homes, businesses and a hotel, which the town's mayor famously asserted should be 'a Gherkin, not a pickle'.

The site was designated as of strategic importance in the council's local plan, and now forms Special Policy Area 2 in the adopted core strategy.⁷⁹ This says:

In order to create and deliver a sustainable transport hub to meet the travelling needs of the borough the council will support a major mixed use regeneration scheme providing new residential (1,500 units), social, commercial and retail, café and leisure facilities providing in the order of 1,350–2,350 new jobs, enhanced rail infrastructure and other supporting facilities.

The scheme will have at least two key activity nodes; for example one focused on the enhanced station provision and the other extending and reinforcing the role of the existing district centre. The two retail/leisure nodes will be linked by a key pedestrian route through a new mixed use neighbourhood allowing for the additional retail, café/restaurant and leisure opportunities necessary to support the new residential and commercial areas. The scheme will aim to provide new station facilities and improve the existing station facilities, provide new transport infrastructure resulting in an enhanced multi-modal transport interchange for train, tram, London underground, taxi, bus, cycling and pedestrians.

Proposals

The development scheme should include the following land uses and infrastructure items:

- new station interchange building and access bridge
- improvements to the existing station, including accommodating the Croxley Rail Link and Abbey Line improvements
- car parking and other transport / access improvements
- residential – approximately 1,500 units
- offices
- an appropriate scale of retail, café and restaurant floor space
- hotel and conference facilities
- commercial leisure facilities
- social facilities such as general practitioner and adult care services
- primary school provision (either on the site or in the vicinity of the site) to support the new population introduced into the area

- other commercial uses that are considered suitable for an enhanced district centre and that do not unduly impact on the town centre;
- communal or district heating systems with the potential to expand the system into adjoining areas
- open space and links to nearby green infrastructure

Frustratingly, the development of this potentially groundbreaking scheme, which could meet more than one-third of the borough's outstanding housing needs for the plan period, is continually being postponed. This appears largely to be the result of changing ideas about the future uses of the station itself and the railway services that will run through it, as well as failure to reach agreement over the future of some existing users of the site, which, in turn, has led to a failure to agree a workable masterplan.

Getting the Watford Junction proposal out of the planning stages and into construction (after at least 12 years of discussion) could be a key testing ground for a number of recommendations in this paper, as well as a target for the Government's £1 billion brownfield development fund.

CPRE is an environmental charity campaigning for a beautiful and living countryside that everyone can value and enjoy.

We aim to defend the countryside from damaging development by:

- influencing national and local planning policy relating to housing
- promoting appropriate brownfield development
- promoting examples of sustainable urban and rural development and good practice
- influencing the approach of the Government towards the countryside and planning

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July 2016



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