Greater Brighton & Coastal West Sussex Background Papers

Background Paper 3
Transport System

May 2015

Nathaniel Lichfield & Partners
Planning. Design. Economics.

Greater Brighton

COASTAL WEST SUSSEX and GREATER BRIGHTON STRATEGIC PLANNING BOARD

Greater Brighton & Coastal West Sussex Background Papers

Background Paper 3 - Transport System

In association with

May 2015

Nathaniel Lichfield & Partners
14 Regent's Wharf
All Saints Street
London N1 9RL

nlpplanning.com

Registered Office:
14 Regent's Wharf
All Saints Street
London N1 9RL

Contents

1.0 # Introduction

1.1 The Greater Brighton Economic Board ('the Economic Board'), working in partnership with the Coastal West Sussex and Greater Brighton Strategic Planning Board ('the Strategic Planning Board'), commissioned a series of background papers to provide evidence and inform future decision-making for the Greater Brighton and wider Coastal West Sussex area ('GBCWS').

1.2 The three background papers focus on:

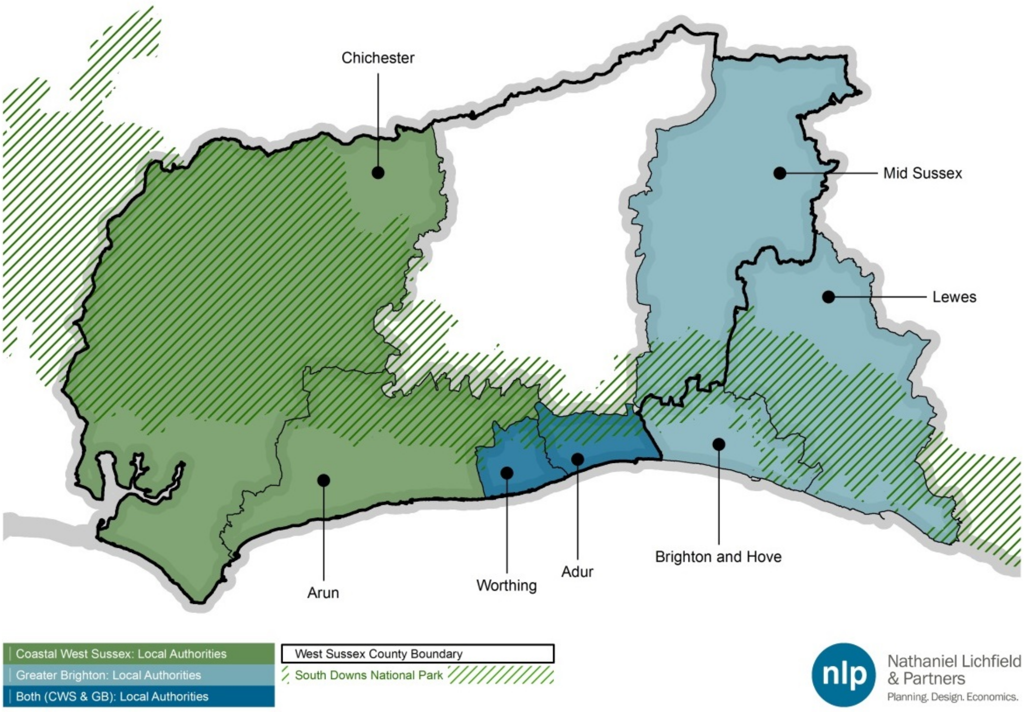
1. Economy
2. Housing Market
3. **Transport System (this paper)**

1.3 The papers have been developed by Nathaniel Lichfield & Partners ('NLP') in association with Interfleet Transport Advisory ('ITA'). An overarching Executive Summary has also been produced to accompany the individual papers.

Background

1.4 Greater Brighton and Coastal West Sussex together comprise seven local authorities and parts of the South Downs National Park Authority (SDNPA) as shown in Figure 1.1. **'Greater Brighton'** includes Brighton & Hove, Adur & Worthing, Lewes and Mid Sussex. **'Coastal West Sussex'** refers to Adur & Worthing, Arun and Chichester. It should be noted that Adur & Worthing are included within both geographies.

Figure 1.1 Spatial Definition of Greater Brighton and Coastal West Sussex



1.5 The **Greater Brighton Economic Board** was established in March 2014 to bring together city region leaders, business partners, universities, further education partners and the Coast to Capital Local Enterprise Partnership (LEP) to unlock barriers to the economic prosperity of the Greater Brighton City Region. The Board has been formally recognised by Government and forms a key aspect of the LEP's distributed governance and accountability structure for the delivery of the LEP's Strategic Economic Plan and Growth Deal.[1]

1.6 The Local Planning Authorities within the Coastal West Sussex and Greater Brighton area formed the **Coastal West Sussex and Greater Brighton Strategic Planning Board** to identify and manage spatial planning issues that impact on more than one area, and support better integration and alignment of spatial and investment priorities.[2]

Purpose of the Background Papers

1.7 The brief for the project identifies that achieving long term sustainable growth across Greater Brighton and the wider Coastal West Sussex area will depend on addressing key strategic issues – notably employment land, housing, transport and other infrastructure – in an integrated and deliverable way.

1.8 At the 29 July 2014 meeting, the Economic Board agreed that three background papers should be commissioned which aim to support the Board to develop a greater understanding of the Greater Brighton and the wider Coastal West Sussex area around the three themes of economy, housing market and transport system.

1.9 Concurrent to this, the Strategic Planning Board is in the process of refreshing its Local Strategic Statement (LSS)[3] which sets out long term strategic planning and investment priorities for an overlapping (although not contiguous) geography. It is the intention that a new Coastal West Sussex and Greater Brighton Local Strategic Statement will be prepared jointly with the Economic Board (under the auspices of the Officer Programme Board). This will draw upon the background papers to define priorities for the period 2015-2025, and support future funding bids and Local Plans through helping to facilitate meeting the Duty to Cooperate.

Structure of the Paper

1.10 The remainder of this paper is structured as follows:

- Section 2.0 outlines the **approach and methodology**.
- Section 3.0 examines the role of transport in providing **access to labour markets** across the region.

[1] Greater Brighton City Deal, Deputy Prime Minister's Office, 12 March 2014, https://www.gov.uk/government/publications/city-deal-greater-brighton

[2] The Strategic Planning Board comprises Adur and Worthing, Arun, Brighton & Hove, Chichester, Lewes, Mid Sussex, West Sussex County Council and the South Downs National Park Authority.

[3] Local Strategic Statement, October 2013, http://www.coastalwestsussex.org.uk/wp-content/uploads/FINAL-Signed-LSS-for-CWS-Gtr-Brighton-30-Jan-14.pdf

- Section 4.0 explores how transport gaps may constrain **access to markets and services** including non-work related trips.
- Section 5.0 considers the role of non-car modes and how **increasing sustainable transport options can create capacity** to accommodate economic growth.
- Section 6.0 draws together the thematic analysis to identify **potential opportunities and actions**.

2.0 Approach and Methodology

This section details the approach and methodology adopted by NLP and ITA for the purposes of preparing each of the background papers.

Approach

2.1 As noted in section 1.0, the purpose of the background papers is to help stakeholders within Greater Brighton and Coastal West Sussex consider how addressing strategic issues relating to the economy, housing market and transport can help achieve *"long-term sustainable growth"* for the area.

2.2 This analysis is being undertaken against the backdrop of significant change within the global economy, with a shift towards knowledge-based goods and services as the main drivers of productivity and economic growth. There is an increasing focus on innovation, flexibility and rapid adaptation to change so that economic assets can be used most efficiently and effectively (particularly in the context of competing locations).

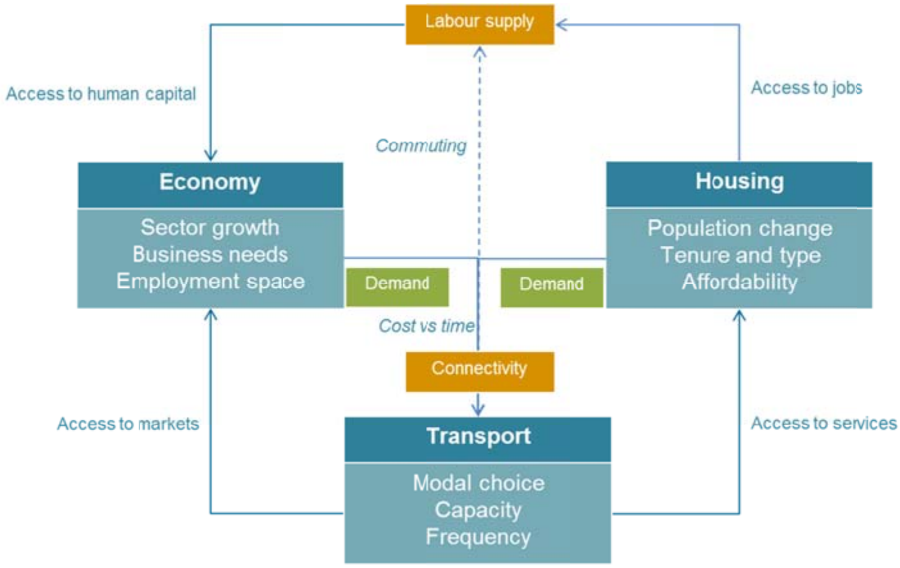
2.3 Markets tend to operate across administrative geographies, and there has been recent attention on assessing needs across functional economic market areas.[4] Sub-regions and greater metropolitan areas are identified as drivers of growth because of their role supporting clusters and agglomeration economies. The geographic proximity of economic assets and infrastructure can increase productivity through sustaining high-growth sectors and innovation, whilst the presence of universities and urban amenities tends to attract higher skilled workers and support new business creation.

2.4 This means growth of wider sub-regions is highly inter-dependent because they access shared labour and housing markets, transport networks and commuting patterns, and proximity to large institutions such as universities. Figure 2.1 outlines some of these inter-relationships to examine the role of the economy, housing market and transport system as drivers of economic growth:

- Economy – the scale and concentration of businesses and sectors, and particularly the extent to which clusters of related or complementary activities can drive support innovation and new business creation;
- Housing market – a major determinant of access to labour supply and human capital that supports economic growth, but also as a source of demand for goods and services;
- Transport system – transport is critical to determining the relative physical connectivity between businesses, suppliers, workers and consumers, and the costs, time and reliability of these connections.

[4] See for example Planning Practice Guidance, paragraph 13

Figure 1.2 Inter-relationships between Economy, Housing and Transport Drivers of Growth



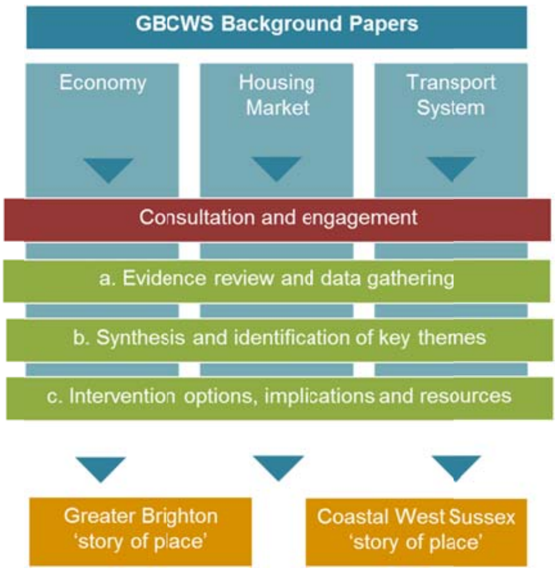
Source: NLP/ITA analysis

2.5 In combination, these drivers are major determinants of long-term growth. Analysing the local assets and dynamics related to each, as well as their interactions with each other, provides a basis for identifying actions and developing strategies that will help support an integrated approach to supporting long-term growth.

Methodology

2.6 The process for preparing the background papers has followed a three-stage methodology as set out in Figure 2.2, informed by stakeholder consultation and engagement at a number of stages.

Figure 1.3 Outline Approach for Background Papers



Source: NLP

a. Evidence review and data gathering

2.7 The preparation of the background papers has been underpinned by a series of key questions for the purposes of interrogating each of the economy, housing market and transport system topic areas:

- Economy: How big is the economy? What are the key sectors? How is the economy changing? What is the growth potential of the area? What is the skills profile of the area's labour force?
- Housing market: How is the housing market area defined? What are the migration patterns within and without the area? How do house prices and affordability ratios vary across the area? What is the planned future supply of housing across the area?
- Transport system: Where do people travel to work outside of the area? Where do people travel within the area? How do people travel, and how has this changed? What are the known transport constraints? Where is transport investment proposed?

2.8 The analysis draws upon existing evidence prepared at local authority, county and Local Enterprise Partnership scales supplemented by latest national datasets where available. It should be noted that this is not necessarily an exhaustive literature review but is based on a filtering of the existing evidence of most relevance to the analysis at the strategic level.

2.9 An important consideration for any work of this type is that it is inevitably a point-in-time assessment. This study has incorporated the latest data and other evidence available at the point of preparation. The accuracy and sources of data derived from third party sources have not been checked or verified by NLP or ITA.

b. Synthesis and identification of key themes

2.10 This stage involved drawing together the existing research alongside new analysis to identify a number of key 'themes' for the purposes of considering the dynamics of both Greater Brighton and Coastal West Sussex and the future growth potential of these areas individually and on a combined basis.

2.11 These themes have emerged from consideration of the economic position and potential of the area, and the factors most relevant to its economic performance. Across each topic this included an assessment of:

- the key features of Greater Brighton and Coastal West Sussex and the factors and trends that have influenced the area's position today;
- what strengths have driven the area's past economic success (including whether they will continue in the future) and what weaknesses or barriers challenge the area's economic success (and whether these challenges/barriers are likely to worsen or improve in the future);

- the inter-relationships between the Greater Brighton and Coastal West Sussex and their wider hinterland, in order to understand how these could affect the economic performance of the area and how this could change in the future.

c. Intervention options, implications and resources

2.12 From the review of key themes, the relevant intervention options, implications and resources have been identified. This involves describing potential economic growth ambitions for Greater Brighton and Coastal West Sussex and the priorities for action that might be required to deliver them. These relate to areas where there is a potential role for public sector intervention to address market failures or to leverage resources to help support sustainable growth, through to broader advocacy of an integrated approach to strategy on the economy, housing and transport.

2.13 An important consideration is that Greater Brighton and Coastal West Sussex do not function in isolation from surrounding areas, and these wider relationships are relevant to all of the economy, housing market and transport themes. It should therefore be noted that, while the analysis focuses on Greater Brighton and Coastal West Sussex, factors arising from adjoining areas will be also be relevant. This is particularly in the context of the future growth potential of areas including the Gatwick Diamond, South Hampshire and Greater London.

2.14 It should be noted that the evidence, analysis and implications set out within the three papers do not take account of any future decisions by national Government regarding a potential second runway at Gatwick Airport, a decision on which is currently anticipated in 2015.

Consultation and Engagement

2.15 Across each of the stages, consultation and engagement has been undertaken with a range of stakeholders from across Greater Brighton and Coastal West Sussex. Those consulted included relevant offices within each of the local authorities, including specialists within economic development, housing, planning policy and transport.

2.16 This consultation process was designed to ensure that each of the background papers benefited from access to latest evidence and data but also from qualitative inputs from relevant experts. Consultation took place through a number of formats, including presentations to Board and Officer Group meetings, roundtable discussions at a stakeholder workshop held in Worthing in February 2015, as well as some individual interviews. In addition, this work was coordinated through a Steering Group comprising representatives of the Economic Board and Strategic Planning Board.

3.0 Access to Labour Markets

Transport networks support the productivity and success of urban areas and their catchments, by getting people to work, supporting deep and productive labour markets and allowing businesses within the area to reap the benefits of agglomeration.[5]

3.1 Within the study region Brighton & Hove and Chichester are the principal employment centres and have grown significantly faster than the area average since 2001 (approximately 10% above the Greater Brighton City Region average of 15%). Outside of the study region, Gatwick/Crawley and London have become increasingly important as employment destinations. It is expected that around 57,000 jobs will be created in the Greater Brighton and Coastal West Sussex area up to 2031 with a continued focus on Brighton & Hove, Chichester and Mid-Sussex.

Table 3.1 Employment Forecasts to 2031

Local authority	Share of growth	No of Jobs
Brighton & Hove	28.8%	16,440
Chichester	20.2%	11,540
Mid Sussex	18.3%	10,425
Arun	13.4%	7,830
Worthing	10.5%	5,970
Lewes	5.0%	2,830
Adur	3.8%	2,220

Source: Experian / NLP analysis

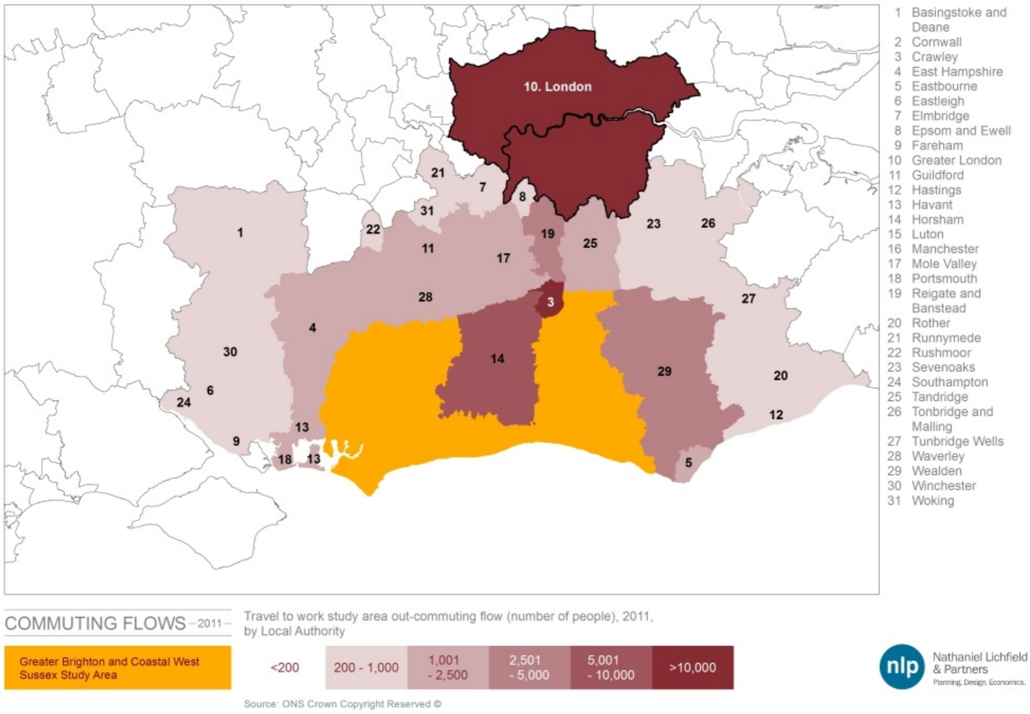
3.2 Improving access between workers and jobs will have productivity benefits for firms who can access a larger potential workforce with a deeper set of skills. It also has benefits for those seeking employment or looking to progress their careers, through a wider choice of job opportunities.

3.3 As such the challenge is for those "successful" areas to spread the positive benefits of employment growth by expanding access across more of the Greater Brighton and Coastal West Sussex area. In turn, wages from higher value jobs will be spent across the broader area, leading to local multiplier effects.

3.4 The 2011 Census journey to work data supports this assessment with respect to jobs locations and reveals two key dynamics at play: over 35,000 daily journeys between the region and Gatwick/Crawley and Central London showing a reliance on the north-south links; and significant journeys into Brighton & Hove and Chichester. For example, 32% of Lewes based workers and 33% of Adur workers commute to Brighton & Hove.

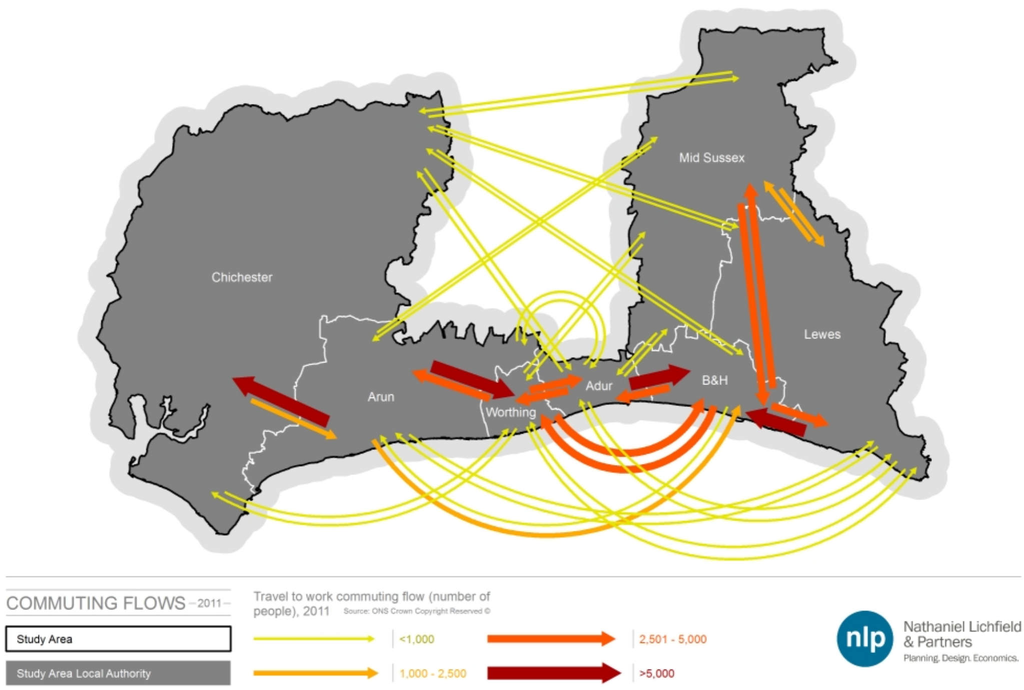
[5] A key finding of The Eddington Transport Study, Rod Eddington, December 2006

Figure 3.1 Out-Commuting Flows from the Region, 2011



Source: 2011 Census / NLP analysis

Figure 3.2 Internal Commuting Flows in the Region, 2011



Source: 2011 Census / NLP analysis

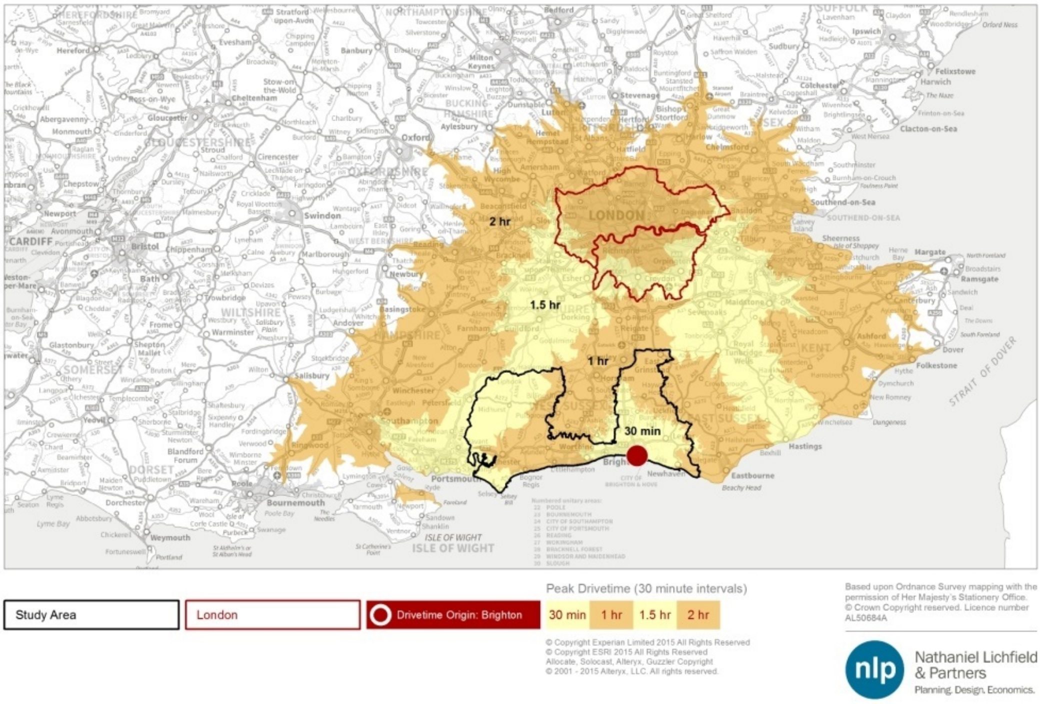
3.5 Most journey to work trips within the Greater Brighton and Coastal West Sussex Region are local – either within individual districts (55% of all workers in 2011 and in Chichester a notable 88%) or between neighbouring districts.

This may in part reflect choice: living close to work/working close to home but also may reflect a relative lack of accessibility beyond immediate districts.

3.6 When considering access to labour catchment areas it is helpful to use isochrones as an indicator. These reflect the distance one can travel to/from a specific node in peak and off peak conditions. The figures below show road accessibility to the two city centres within the study area, which highlights the important role of the A27.

3.7 During the peak, the 60 minute drivetime band to the west of central Brighton & Hove can be as close as Worthing, only 12.5 miles away, while the far west of the sub-region can take as long as 1.5 hours, beyond most workers' desire to commute. The key corridors for east-west journeys are the A259 and the A27 while the A23, recently improved north of Bolney, shows access to Brighton and Hove from the southern edge of Crawley, within 30 minutes.

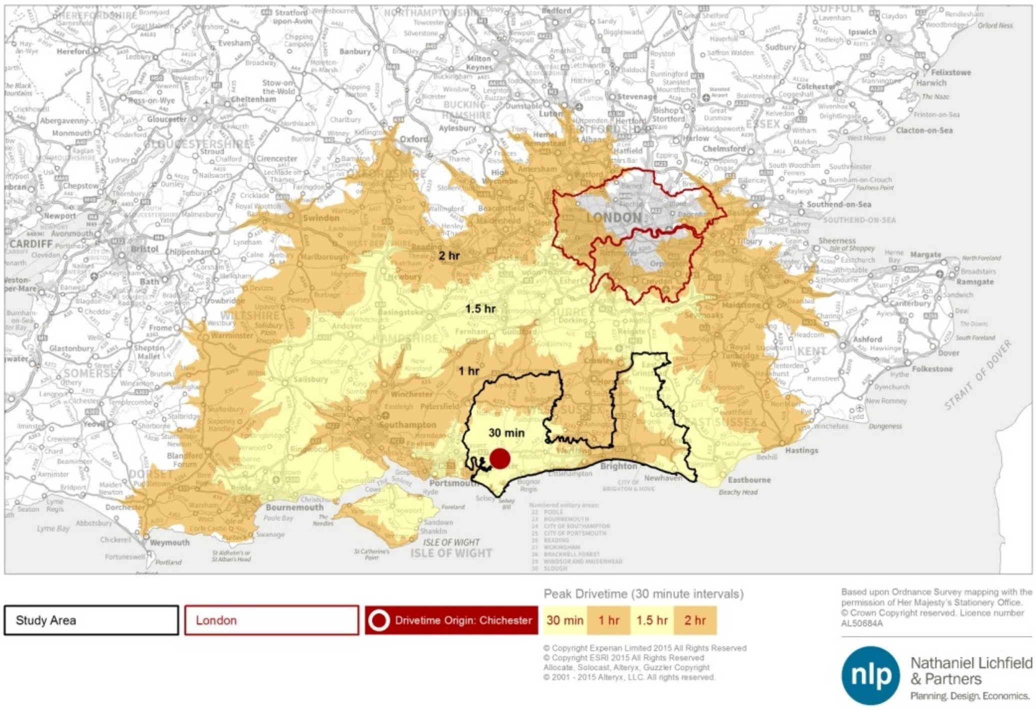
Figure 3.3 Brighton Peak Drivetime Distance



Source: ITA analysis

3.8 The isochrones map for peak travel originating in Chichester city shows high levels of 30 minute drivetime accessibility across the CWS region but notably hits the one hour boundary at Worthing. Greater Brighton is at the outer reaches of that hour band making accessing the employment centre of Greater Brighton from the far west of Coastal West Sussex much more difficult.

Figure 3.4 Chichester Peak Drivetime Distance

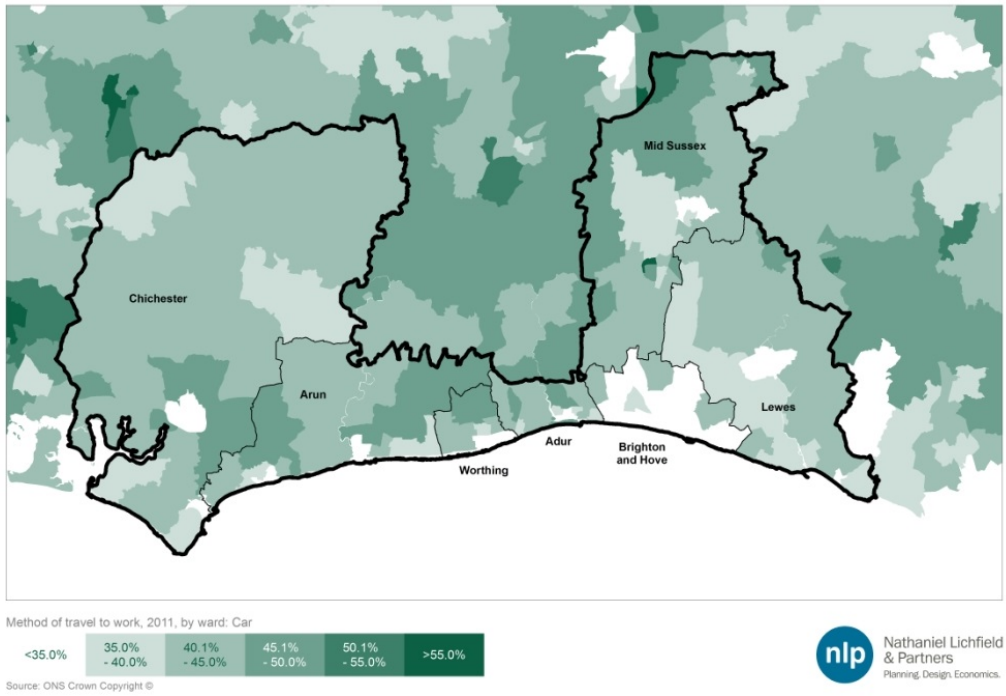


Source: ITA analysis

Public Transport and Access to Jobs

3.9 The role of public transport, especially rail, in extending labour market catchment is also important to sustainable growth objectives. Many, especially younger, workers don't have access to a car and parking is a more expensive and scarce resource in Brighton & Hove and, to an extent, Chichester, than it is in the rest of the study area. However as Figure 3.5 overleaf shows, it is apparent that the reliance on car in wider CWS is much greater than that of Greater Brighton and Chichester reflecting supply of alternative modes and the very different urban/rural splits.

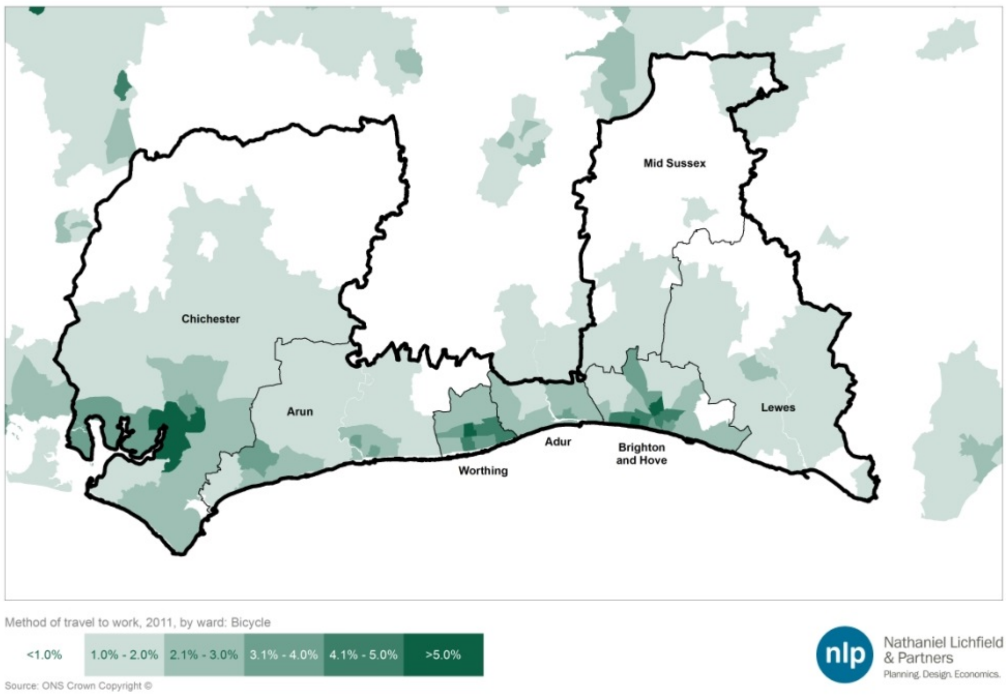
Figure 3.5 Car journeys to work 2011



Source: 2011 Census / ITA analysis

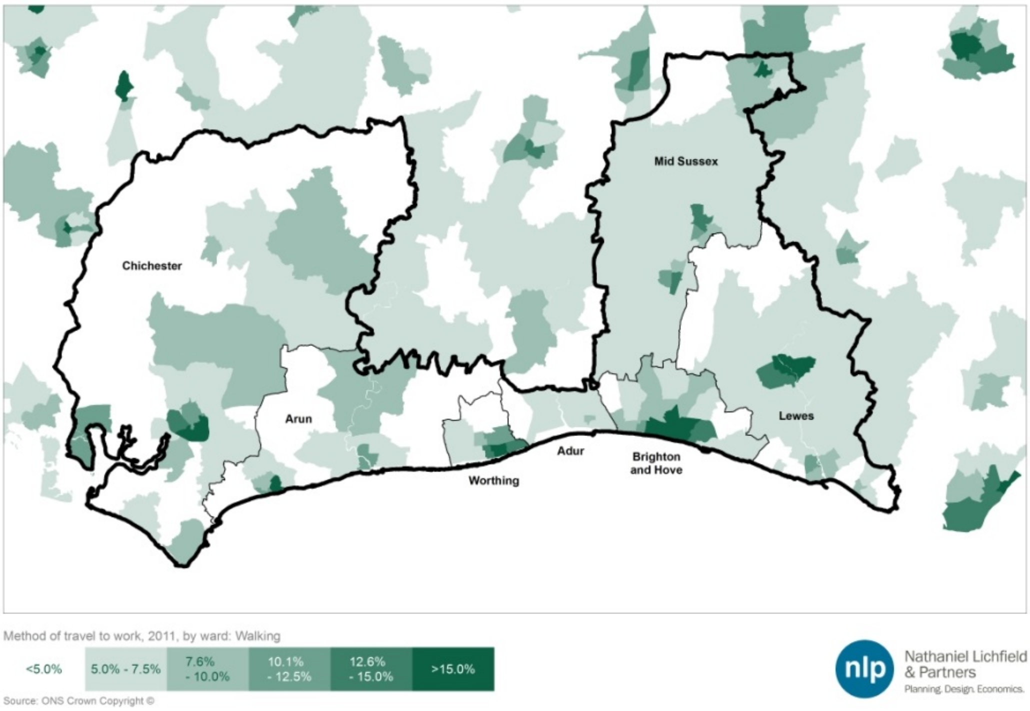
3.10 The sharp contrast in non-car mode journeys in Figure 3.6 below. Mapping these journeys shows the importance of alternative modes in the urban areas with Brighton, Worthing and Chichester showing much higher cycling and walking modal share and Brighton in particular having very high bus utilisation.

Figure 3.6 Bicycle journeys to work 2011



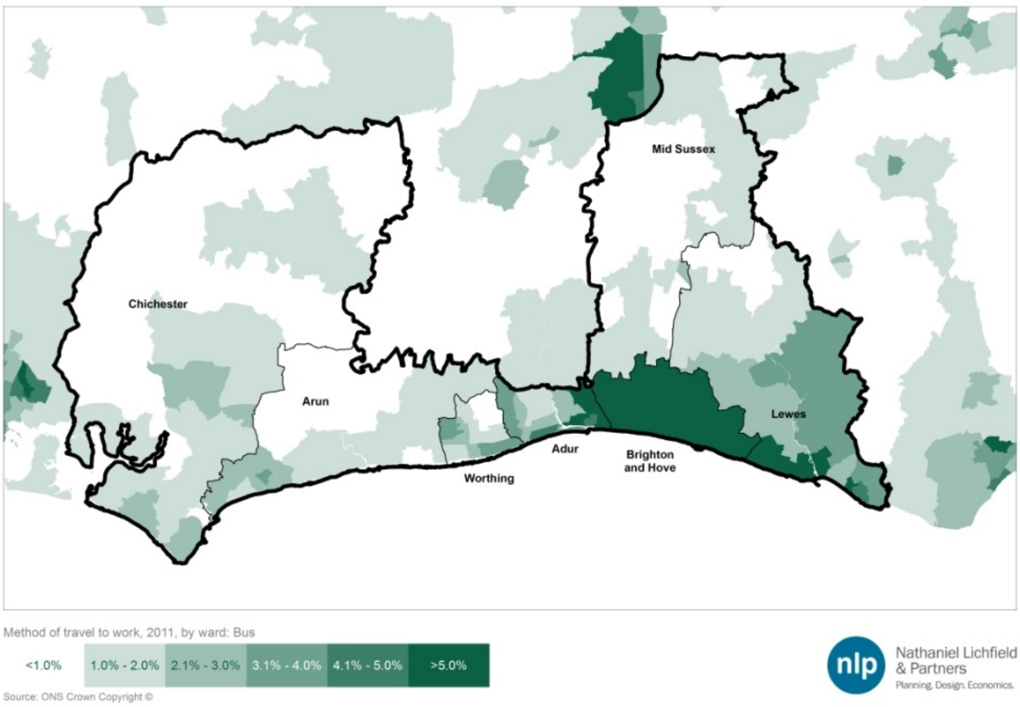
Source: 2011 Census / ITA analysis

Figure 3.7 Walking journeys to work 2011



Source: 2011 Census / ITA analysis

Figure 3.8 Bus journeys to work 2011

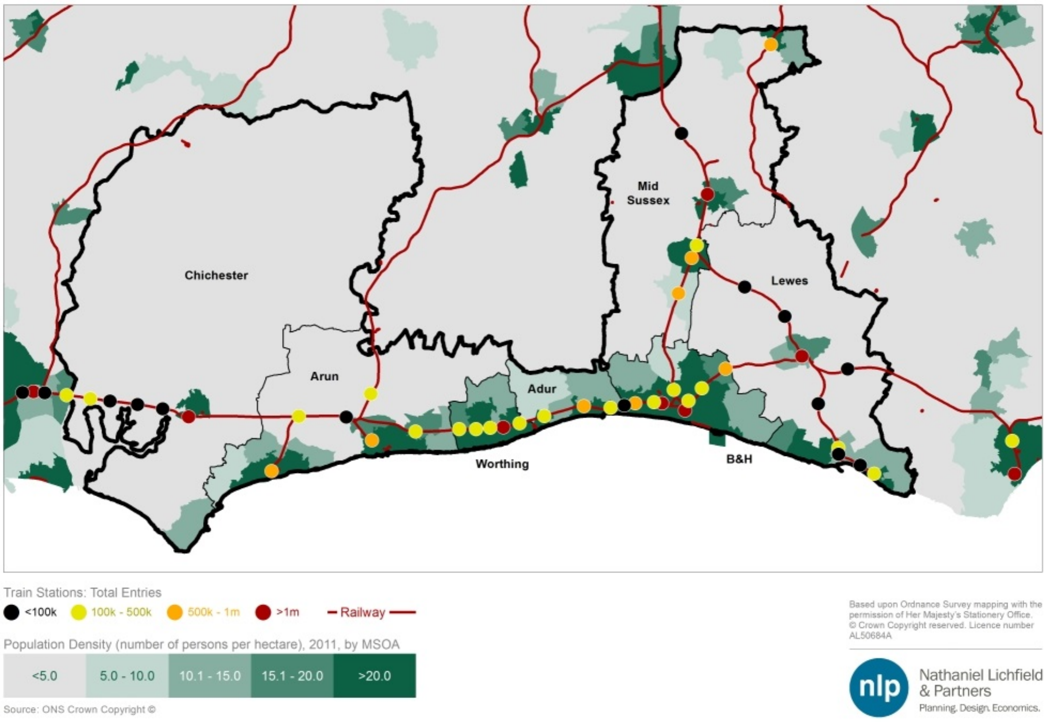


Source: 2011 Census / ITA analysis

3.11 Figure 3.9 demonstrates the current significance of north-south rail links by showing station usage across the region. The map also illustrates the positive correlation between station usage and population density. Key stations are unsurprisingly in more densely populated areas although the influence of the West Coastway further west, towards Portsmouth, is less strong, reflecting the slow journey times between economic centres in the west of the study area. With the need to increase the access to labour, it is likely that both north-south and east-west rail corridors will need capacity enhancement.

3.12 Journey times between Brighton and Chichester are unattractive for work journeys especially when considering the whole journey (e.g. access and egress time, waiting time and the rail journey itself). The paucity of express services as well as the east-west connectivity across Brighton which requires a change of train can act as a significant barrier for those considering work further afield. Journey times from Chichester to Lewes are up to 90 minutes and access to Newhaven circuitous.

Figure 3.9 Station usage and population density 2011



Source: 2011 Census / ITA analysis

Barriers to Travel-to-Work

3.13 As well as journey time, there are other barriers for travel-to-work purposes. Among the key factors are:

1 Reliability of network – the A27 and its feeder roads are prone to congestion and poor network resilience with resulting impacts on the economy as well as quality of life.[6] Bus networks can also be prone to

[6] "The analysis of available reliability and delay data indicates problems along the route that impact on the efficient and safe movement of people and goods and have consequential effects on the environment and local communities.", A27 Corridor Feasibility Study Summary, Department for Transport March 2015

unreliability from congestion, in urban areas, although much as been done to promote bus priorities, particularly in Brighton & Hove. Most recent data on 'Right Time' performance indicates that Southern Trains delivered just 50.4% of train journeys on time across the last year, compared with 65% nationally.[7] Lack of confidence about journey times acts as a constraint to job seekers from looking further afield. Better confidence in commuting journey times could improve flexibility in both the housing and labour markets.

2 Cost – the overall cost of a journey is often a barrier to travel and for those seeking work, the cost of either parking at your destination or individual journeys on public transport can be particularly significant. Drawing on research around the country, it is evident that in particular lower paid workers find stored value or season tickets unattractive due to up-front cost and therefore are penalised with higher fares.[8] This can require policy intervention to enable access to jobs across the economic spectrum.

3 Last mile impacts – the drivetime isochrones as well as the feedback from workshops demonstrates the significant barrier that the final mile connection has on peak-time accessibility. A relatively straightforward journey for 10 miles can be stifled in the last mile with congestion in employment centres deterring those who might otherwise be attracted to city centre employment. In Brighton & Hove, between Jul 2007 and Dec 2014, average AM peak road speeds on locally managed A roads declined from 17.7mph to 16.2mph which equates to an 8.5% increase in congestion.[9] The equivalent figures for West Sussex were 31.3mph to 30.1mph (4% increase in congestion) and East Sussex 29.6mph to 28.8mph (3% increase in congestion) with the mix of urban/rural roads across the counties underplaying changes in average speeds in urban areas.

Summary

3.14 The level of employment growth expected in the Greater Brighton and CWS areas is expected to be around 57,000 by 2031. The existing local labour markets cannot fulfil all requirements and as such both Greater Brighton and Coastal West Sussex will need to create an environment where transport constraints are minimised as a determining factor in labour market choices.

3.15 This will require region-wide considerations of the barriers outlined above and development of solutions which will increase connectivity for all. Examples of this will include considering the trade-offs between better express rail services and the current "metro" style service provision, particularly on West Coastway and for the Brighton Mainline. Improvements to the A27, particularly in CWS

[7] http://www.networkrail.co.uk/about/performance/

[8] "Ticket To Thrive" PTEG February 2015 and "Understanding the DLR Market" The Railway Consultancy/Interfleet Transport Advisory, July 2013

[9] HMSO/DfT data underpinning congestion incentive element of Integrated Transport Block Grant allocation

and around the Brighton & Hove bypass, have a major role to play in reducing journey times and their variability and enhancing access to more jobs.

4.0 Access to Markets and Services

Other UK regions, particularly those mixed rural and urban economies, have carried out research to establish the importance of connectivity within a region.[10] In most cases, policy statements focus on the importance of improving intra-regional metropolitan connections as well as improving core urban travel in order to spread economic activity and housing pressures.

4.1 The previous section focused on access to jobs and the challenges that the region faces in terms of widening labour markets, this chapter focuses on other trips and the competing demands for travel. This includes business and work trips, off-peak service related trips and particularly visitor/amenity related trips. Constraining these trips can negatively impact the regional economy

4.2 There is evidence that the economic cohesion of the Greater Brighton and Coastal West Sussex area is limited by poor connectivity. Travel opportunities are constrained by a number of transport service and infrastructure supply issues. These constrain economic activity through limiting access to customers/markets across the region. The lack of regional connectivity also affects the visitor market which may be constrained through perceptions of lack of access (including the intra-regional leisure market).

4.3 With continuing population and economic growth planned across Coastal West Sussex and Greater Brighton, the opportunity exists for local businesses to serve this bigger market more effectively. Specific opportunities are set out below.

Improving Journey Times

4.4 Improving journey times in both peak and off-peak will bring markets closer together allowing local business to access customers previously considered beyond their reach. This might apply to B2B service companies, for example, or to retail investments needing a wider hinterland catchment. It will also benefit businesses needing to expand by extending opportunities to access affordable commercial space: a key issue identified by stakeholders. For example, start-ups which are culturally aligned to Brighton & Hove may currently consider leaving the sub-region to expand. Better connectivity can play a part in allowing local expansion, aligned with medium-size, affordable workspace and access to skilled labour. Bringing key strategic sites (e.g. Enterprise Bognor, Newhaven etc) closer from an accessibility perspective could encourage otherwise footloose business to remain in the area.

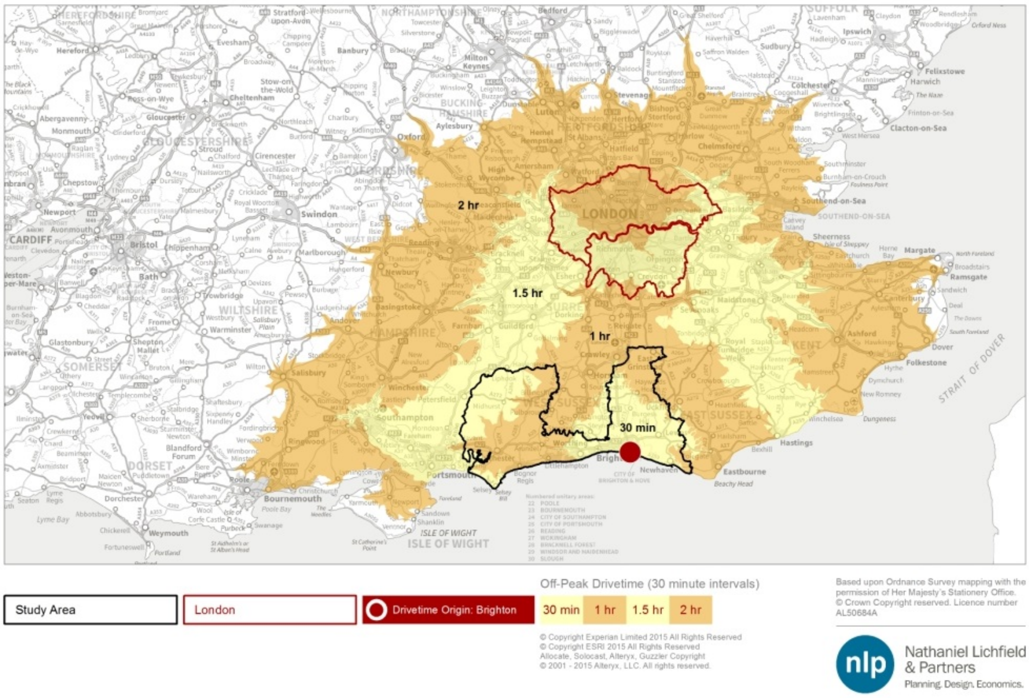
[10] See for example “The Importance of Transport Connectivity in Support of Regional Economic Development” Association for European Transport and Contributors, 2009. “A Metro for Wales’ Capital City Region” Cardiff Business Partnership and Institute of Welsh Affairs, 2011. It should be noted that the creation of the Great Western Cities Region in 2015 linking Bristol, Cardiff and Newport increases the emphasis on regional connectivity as a means to increase economic activity.

Improving Access for Off Peak Journeys

4.5 The West Sussex Local Transport Plan specifically highlights the traffic-related problems at Arundel during weekends and holidays. This is reiterated in the 2013 Arundel Neighbourhood Plan which has the aspiration to improve the historic town centre's attractiveness to both residents and visitors through the mitigation of traffic congestion.[11]

4.6 Analysis of off-peak driving times shown in Figures 4.1-4.3 below shows that as expected, the catchment for off-peak movements is wider than at peak times but the spread from Brighton & Hove is still constrained to the west, beyond Worthing. The 30 minute, off-peak drivetime catchment for Worthing encompasses Brighton & Hove but is further constrained to the east with Lewes and Burgess Hill being at the very edge of the boundary. Being able to move the 30 minute band further to the east and west would demonstrate an increase in market size and encompass significant non business related journeys such as access to coastal towns and the South Downs National Park.

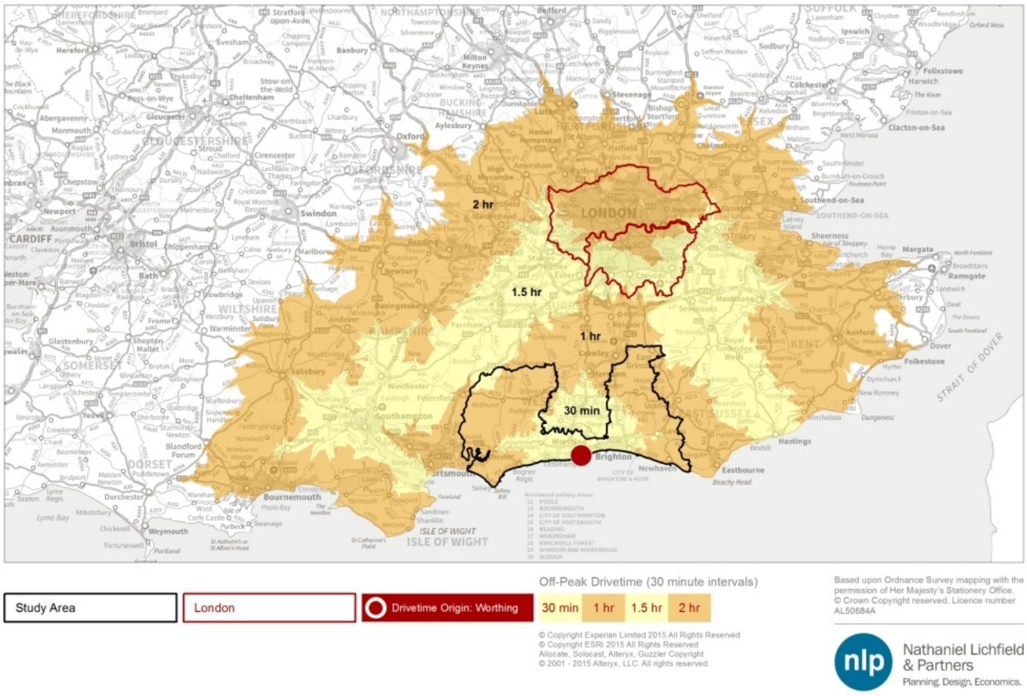
Figure 4.1 Brighton & Hove off-peak drivetimes



Source: ITA analysis

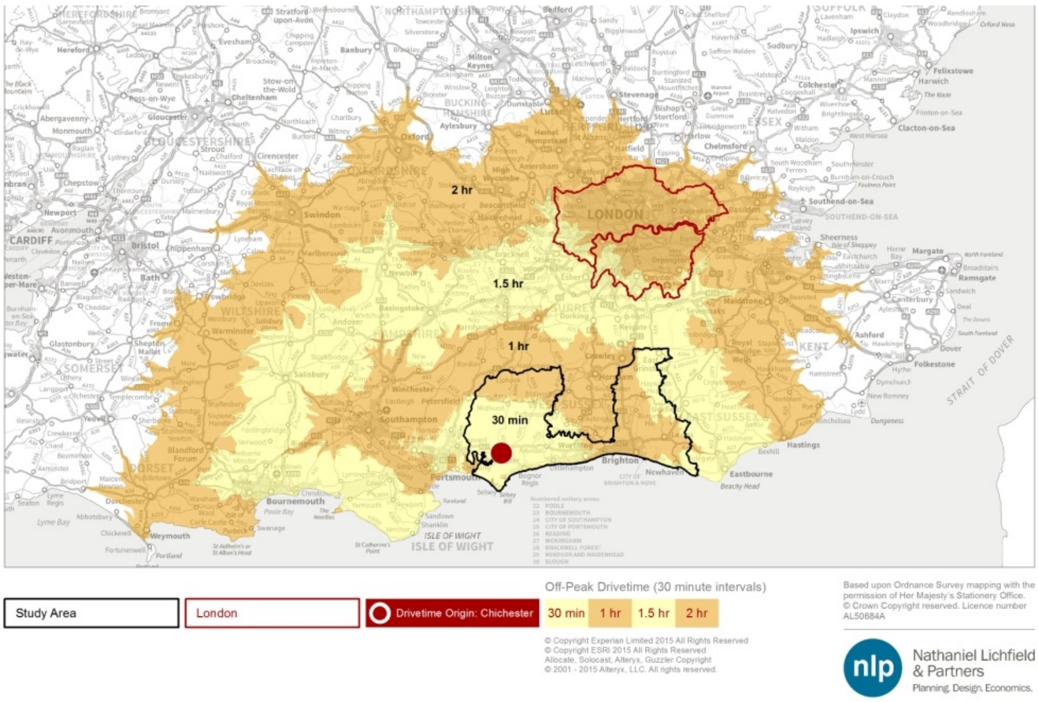
[11] Arundel Neighbourhood Plan 2014 – 2029, Arundel Town Council November 2013

Figure 4.2 Worthing off-peak drivetimes



Source: ITA analysis

Figure 4.3 Chichester off-peak drivetimes



Source: ITA analysis

Improving Movement of Through Traffic from Ports

4.7 Allowing through traffic (e.g. port-related) to move more quickly and efficiently through the area would reduce environmental impacts and improve connectivity for the port hinterland. This in turn could encourage increased volumes through ports and, in turn, may generate expanded employment and goods supply opportunities.

4.8 With Shoreham aspiring to grow its portfolio of construction and project-related traffic, solutions are being sought to address its access constraints. Newhaven is also implementing an investment plan which will facilitate the creation of port employment sites, the construction of the Newhaven Port Access Road and enable more diversified traffic to pass through the port (an improved ferry service is being introduced for the summer and there are plans for a deep water berth).

4.9 Enabling port gateways through additional hinterland investment reduces the negative impacts of port activities in urban areas while maximising economic opportunities. These economic opportunities can also facilitate the investment in transport services required to ensure connectivity with the economic hub of Brighton & Hove and increase potential for agglomeration.

Encouraging Sustainable Visitor Trips

4.10 Research indicates that leisure travellers are more averse to changing trains[12] and therefore more direct (off-peak) rail access to parts of the South Downs National Park (SDNP) could facilitate more integrated, sustainable visitor trips. For example, a direct service between Brighton & Hove and Horsham, via the Arun Valley, would encourage visits to the SDNP and to seaside destinations.

Summary

4.11 This section has identified the current constraints of the GBCWS area in providing area wide connectivity and in particular the limitations of car and rail modes in accessing markets and services beyond the near hinterland. This supports the conclusions made earlier which identified barriers to labour markets across GBCWS.

4.12 To match the forecast economic and housing growth will be the need to increase the range and depth of services and amenities available to residents and businesses. Transport intervention opportunities will include integrated packages of transport measures including highway improvement schemes, consideration given to the enhancement of public transport and the development of walking and cycling networks that support economic growth and improve strategic access for all.

[12] The Passenger Demand Forecasting Handbook 5.1 refers to the barriers to travel which leisure users may perceive from having to change trains when making occasional trips (familiarity reduces this significantly). This perception also increases with age which may fit with the day-tripper demographic of the SDNP.

5.0 Increasing Capacity through Sustainable Transport

The significant progress made by Brighton & Hove in encouraging non-car journeys to work goes hand in hand with the economic growth being experienced within the City. Jobs grew by nearly 27% between 1997 and 2014 and GVA per capita is 47% above the study region average at £43,900. Increasing sustainable transport choices will create greater capacity within the transport network across Greater Brighton and Coastal West Sussex to accommodate planned growth.

5.1 In addition to creating capacity in "overheated" urban economies, increasing non-car based modal share may also help smaller town centres. Research has identified that high street turnover increases by between 5% and 15% following investment in schemes to improve the public realm (London Development Agency, 2010) and that people who travel to the shops on foot, by cycle or by public transport spend as much, if not more than those who travel by car.[13]

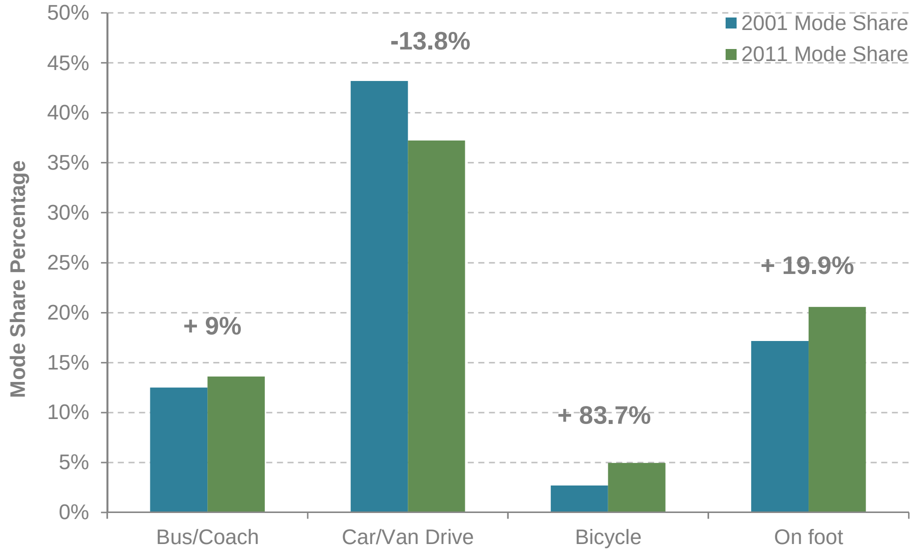
5.2 In addition to facilitating inter-urban journeys, Greater Brighton has a dense rail network that plays an urban "metro" role between Lewes and Worthing and as far north as Haywards Heath and enables local economic activity.[14] The rail network's potential role in facilitating longer intra-regional journeys needs examination. This includes consideration of the wider impact of reinstating the Lewes-Uckfield line which has the potential to increase local connectivity as well as provide additional route capacity and resilience for the north-south corridor.[15] The 2009 examination of the business case for this route showed poor value for money (BCR <1) but the Government has recently announced further funds to develop this as an option. Brighton & Hove has a dense, high quality and successful bus network that provides at least a 10 minute daytime frequency for 85% of passengers.[16]

5.3 Outside of Brighton & Hove the bus plays an important social and economic role, although services are obviously much less frequent in rural areas. Supported network budgets have come under pressure in the current financial climate. For example, significant cuts in services and a fare increase of up to 30% are due to be implemented in Lewes District in April 2015. Funding constraints might make more critical opportunities for local authorities to engage with developers to "pump prime" bus services to new developments in order to encourage early adoption of mode shift rather than waiting for critical mass to make services viable. This is particularly the case for areas such as Toads Hole Valley where housing development is planned remote from existing services (and it is recognised that bus improvements are planned).

[13] Creating Growth: Cutting Carbon, 2011, Department for Transport
[14] "Metro' rail services are characterised as frequent services focused on serving an urban area and its suburban limits
[15] Although the latter will also rely on capacity solutions at East Croydon and infill electrification north of Uckfield
[16] Source: Brighton & Hove Bus Company

5.4 Brighton & Hove has seen significant increases in non-car mode use with a doubling of cycle mode share for journeys to work between 2001 and 2011 (from 2.7%) of all journeys to 4.9%.[17] Both walking and bus commuter trips have increased over the decade while car use has declined by 14% from 43% of modal share to 37%). Bus usage in Brighton & Hove is among the highest in the UK outside of London with 167 journeys per head of population.[18]

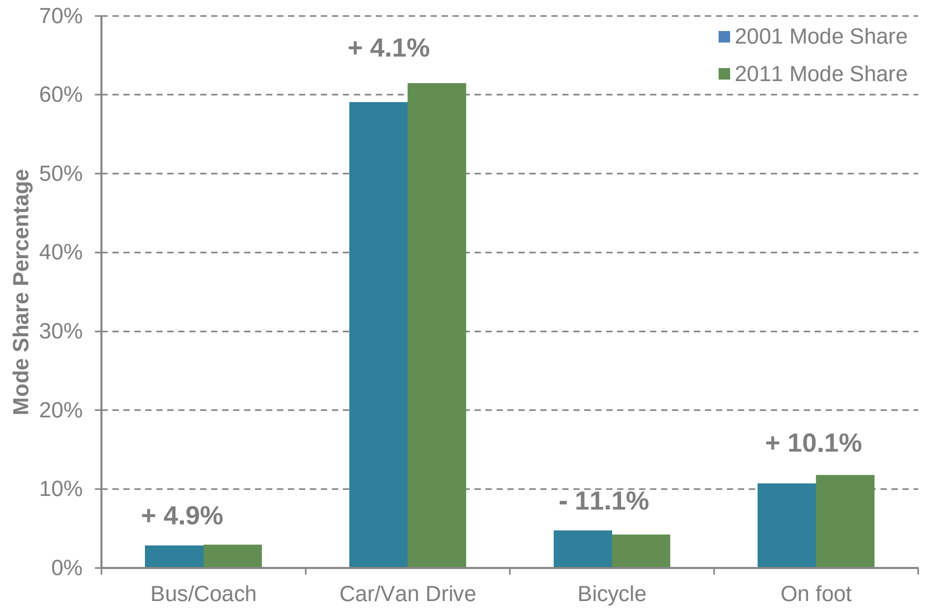
Figure 5.1 Brighton & Hove Journey to work mode share 2001-2011



Source: 2001 and 2011 Census / ITA analysis

5.5 By comparison, the CWS area has seen modest changes in mode share.

Figure 5.2 Coastal West Sussex Journey to work mode share 2001-2011



Source: 2001 and 2011 Census / ITA analysis

[17] 2001 & 2011 NOMIS Census Data

[18] National Bus Statistics 2013/14, Department for Transport

5.6 In addition to being a focus of economic activity, Brighton & Hove is also a significant attractor for young people for both employment and education. This supports the trend towards non-car based modal choice as car ownership continues to drop among young people. National Travel Survey statistics between 2000 and 2013 show a decline of 25% in full driving licence holders aged between 17-20 and 12% for 21-29 year olds.[19] Reasons given for this decline are usually based on cost and as such non-car modes will be more important. This in turn gives rise to a requirement to cater for non-car modes in terms of both traffic engineering and other infrastructure such as storage, secure parking etc. The Brighton & Hove LTP3 highlights the importance of cycling in particular and the designation of Cycling Town which brought funding for cycling infrastructure and resulted in a 27% increase in cycling between 2006 -2009. The new draft LTP demonstrates an ongoing commitment to sustainable and non-car modes and the City has secured funding for improving the cycle network on east-west routes and for a bike share scheme[20].

5.7 If growing businesses look to relocate some or all of their functions to other locations within the study region, increasing travel mode choice will also support growth. With cycle to work journeys being attractive up to a range of 5 miles[21] and an average national commute of 9 miles[22] there remains scope to increase numbers choosing to cycle to work.

5.8 Research into barriers to increasing cycling reveals that there a number of key issues some of which can be addressed either through policy or investment:

- Concerns about the physical environment, particularly the perceptions of safety: nearly all surveys refer to respondents who perceive that roads are dangerous with not enough speed restrictions or dedicated, segregated cycle lanes.[23]
- Security: in urban areas in particular, a lack of secure cycle storage both at home or at work is a deterrent.[24]
- Workplace facilities: provision of shower and changing facilities by employers.

5.9 Further work with both strategic site developers for both housing and commercial development and businesses to address issues of bike storage, changing facilities, safe routes, avoiding busy main roads will remain important to enable more people to choose cycling for everyday journeys.

5.10 It is noteworthy that East Sussex County Council has been successful in establishing ‘East Sussex ‘Wheels2Work’ through the procurement of a provider to establish a social enterprise to operate the scheme, to ensure the long-term sustainability of the project. This has initially been funded by the

[19] National Travel Survey 2013, Department for Transport
[20] Draft Local Transport Plan 2015, Brighton & Hove City Council
[21] Brighton & Hove Local Transport Plan 3, 2011, Brighton & Hove City Council
[22] National Travel Survey 2013, Department for Transport
[23] Climate Change and Transport Choices, 2011, Department for Transport & Barriers to Cycling, CTC, C-PAG and Southampton City Council, 1997
[24] Online survey for Transport for Greater Manchester, 2011

Local Sustainable Transport Fund (LSTF) secured by the County Council, and further expansion of the scheme will be undertaken which provides a means of increasing mobility through a moped, motorcycle and electric cycle hire service. Schemes such as these enable non-car owners to access employment further afield. This could also apply to those strategic sites which are not well served by public transport. WSCC, B&H and the SDNP have also benefited from the LSTF.

5.11 Drawing on experience in peer group cities such as Norwich, Bristol, Cambridge and Bath, there are opportunities that work well elsewhere in encouraging non-car mode usage. Park and Ride is one such popular policy: for example more than 1.6m trips annually are made by park and ride bus to Cambridge. Finding suitable sites has been an historic constraint in Brighton & Hove. Nevertheless, the more comprehensive bus priority network now in place in the City would make the commercial operation of park and ride more viable than in the past. Intercepting inter-urban traffic to use park and ride potentially takes pressure off parking and highway capacity as well as rail services.

Summary

5.12 There has been significant progress in enabling people to access more sustainable transport modes in Brighton & Hove. Key questions moving forward are: how far can this be extended in the City? How much progress can be made in this regard in the suburban and rural parts of the study area? The evidence suggests that this is critical in breaking the link between economic and traffic growth and therefore promoting sustainable economic growth.

6.0 Future Opportunities and Actions

This section draws together the implications from the preceding analysis to identify future opportunities and actions in support of promoting long-term sustainable growth across Greater Brighton and Coastal West Sussex with particular reference to the transport system.

6.1 All three papers reflect the diversity of the Greater Brighton and Coastal West Sussex region. In transport terms this is demonstrated by high levels of short and medium length trips being made by car (particularly along the A27) together with significant levels of non–car travel in urban centres such as Chichester and Brighton & Hove. With economic growth largely focused in the East and West of the region, and a third of all jobs focused on 5% of the land area it is unsurprising that there are high levels of localised congestion which in turn constrains economic growth, access to employment and quality of life.

6.2 The region is both enhanced and constrained by the proximity of National Park and sea which, as the economy grows, forces planners to consider difficult choices because of the high quality landscape and townscape environments across the area.

6.3 The transport needs of the Greater Brighton and Coastal West Sussex Region have been broadly assessed from the perspective of future economic and housing growth. In order to support jobs and match housing forecasts, three particular areas where transport has a role to play have been identified:

1. Improvements to the A27: evidence suggests that this represents a significant constraint on east-west travel for business and commuting travel. Moving forward across the study area, housing and strategic site location will increase traffic on key strategic routes and the A27 (as well as the A259 and connecting roads), will be a focus for growth.
2. Rail and bus provision: both north-south and east-west rail provision can help support growth and increase the in-scope geography for those seeking work or new business locations. The role of bus in improving connectivity for Adur, Worthing, Brighton & Hove and Newhaven can also support the development of housing and employment.
3. Mode shift: Brighton & Hove has seen high levels of economic growth as well as shifts to non-car based modes. Enabling more mode shift across GBCWS, particularly in other urban areas may also support sustainable growth by creating headroom in the relationship between economic and traffic growth.

6.4 These three broad areas of interest also highlight the challenge that GBCWS faces with respect to the trade-offs required. These choices will require further appraisal. For example, creating a more attractive rail service across the area with express services may compromise the “metro” nature of existing Greater Brighton rail services or require significant investment in order to create an enhanced service which meets both local and longer distance needs.

6.5 These choices will need to give due weight to national policy: for example, DEFRA's guidance on road building through National Parks states:

"there is a strong presumption against any significant road widening or the building of new roads through a (National) Park unless it can be shown there are compelling reasons for the new or enhanced capacity and with any benefits outweighing the costs significantly"[25]

6.6 The SDNPA has a position statement on the A27, which recognises that:

"...a balance needs to be struck - nationally - between the need for accessibility and mobility and the need to safeguard the National Park landscapes and communities."[26]

6.7 Understanding the role of transport in linking strategic sites and housing to opportunities also requires the ability to blend transport policy (fares management, integrated ticketing, parking) with investment (removal of pinchpoints, creation of rail capacity and increased bus service provision).The area is already seeing opportunities for increasing integration and supporting economic growth with blended investment. For example, the flood defence funding for Newhaven unlocks brown field development sites and will potentially increase demand for transport services between Brighton & Hove and Newhaven.

6.8 Based on a high level view of job growth and planned housing and applying an assumption of 1.2 jobs per household it is anticipated that the smaller authorities of Lewes and Adur will be increased net exporters of workers by 2031 as housing growth is planned to outstrip internal job growth. Brighton & Hove, Chichester, Worthing and Mid-Sussex are unlikely to be able to supply enough labour for planned growth within their own areas with Brighton & Hove falling short of internal incremental supply by up to 4,000 jobs.

6.9 Thus it is the neighbouring authorities that will need to supply labour to those employment centres. For example, based on planned housing growth, Arun may address Chichester and Worthing’s labour supply deficits while Lewes and Adur could meet approximately half of the core City’s labour supply requirement. However, this also makes no assumptions about jobs being taken up by workers from outside the region.

6.10 In order to understand the transport impact of planned growth and housing, the current journey to work mode shares for those districts which would supply labour have been mapped. This demonstrates where, in each mode, pinchpoints are likely to occur. For example, both Adur and Lewes are expected to provide an additional 1000 workers into Brighton & Hove by 2031. Arun is expected to provide 3-4,000 workers to Chichester and Worthing. The current journey to work modal shares are shown in Table 6.1.

[25] English National Parks and the Broads - UK Government Vision and Circular, 2010

[26] Position Statement on A27 route corridor, South Downs National Park Authority http://southdowns.gov.uk/wp-content/uploads/2015/03/A27-Position-Statement-following-28-October-NPA-meeting.pdf

Table 6.1 Modal Shares for Travel to Work Journeys, 2011

	Rail	Bus	Road
Adur – Brighton & Hove	11%	12%	67%
Lewes – Brighton & Hove	7%	25%	63%
Arun - Chichester	5%	5%	86%
Arun - Worthing	5%	3%	86%

Source: 2011 Census / ITA analysis

6.11 Taking into account that car travel may become relatively less attractive as parking provision is unlikely to increase proportionately to job growth in urban areas, it is expected that the following transport links will become pinchpoints:

a local (stopping) rail services between Worthing and Brighton & Hove

b bus capacity on A259 Newhaven-Brighton & Hove

c bus capacity on A27/A270 Lewes-Brighton & Hove

d A27 and A259 road capacity Shoreham-Brighton & Hove

e road capacity on A259 from Newhaven to Brighton & Hove

f A27/A270 road capacity from Lewes to Brighton & Hove

g A259 road capacity Bognor-Chichester

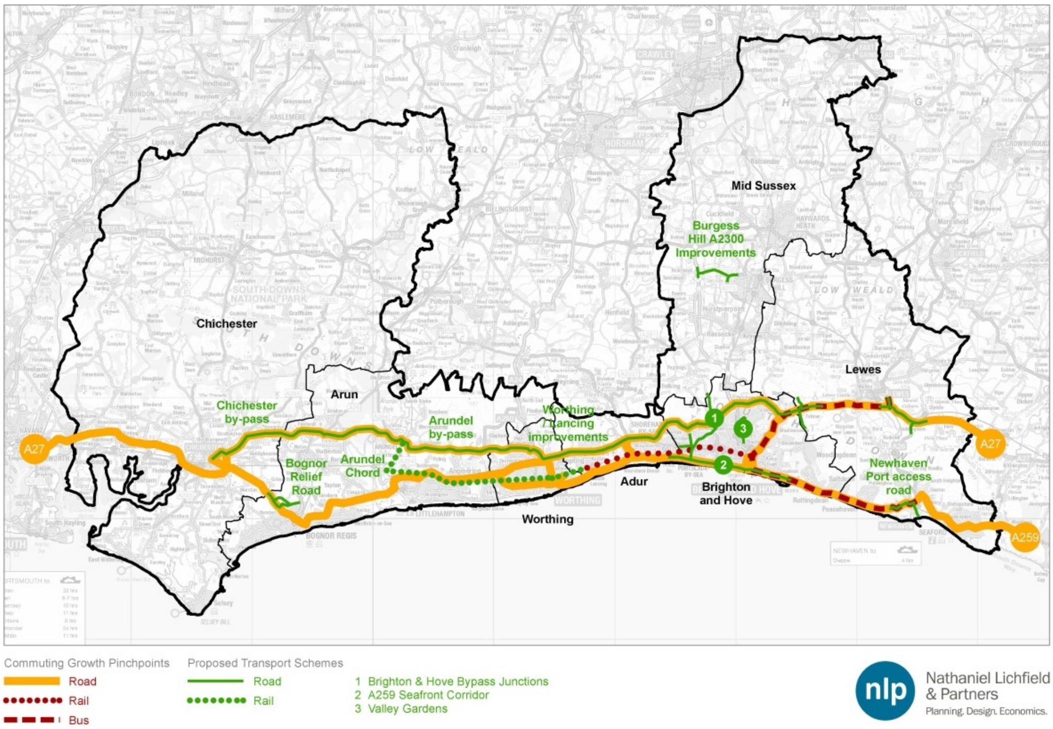
h A259 road capacity Bognor-Worthing

i A27 road capacity Arundel-Chichester

j A27 road capacity Arundel-Worthing

6.12 With knowledge of proposed transport schemes, understanding of where growth will occur and the transport network, it is possible to map schemes to capacity. The figure below shows commuting growth pinch points for road, rail and bus as well as proposed schemes. This map demonstrates very clearly the need for a co-operative approach to transport planning across the three statutory authorities as the current schemes cannot release enough capacity into the network to encompass all the planned growth. The proposed schemes will relieve particular, known pinch points but a more integrated and multimodal approach will be required.

Figure 6.1 Commuting pinchpoints and proposed transport investment



Source: ITA analysis

Opportunities and Actions

6.13 Based on forecasts of growth and the aspirations to maximise opportunities across the region, three key themes have been identified which have been outlined in the earlier sections of this paper. While it is not within scope to appraise individual transport schemes and each proposed scheme will be required to go through the usual evaluation process, opportunities for transport improvements have been considered against these themes. Table 6.2 below shows an assessment of the opportunities identified through workshops and the evidence base against the themes.

6.14 It is recognised that not all these opportunities will prove to be feasible or value for money. They nevertheless represent an important output from this background paper and can help guide any consideration of transport strategy across the Greater Brighton and Coastal West Sussex areas. Core opportunities are denoted by '✓✓' whereas an opportunity which is a contributing factor is denoted by '✓'.

Table 6.2 Potential Opportunities to Support Transport Strategy Implementation

Strategy element	Theme 1: access to labour	Theme 2: improving area-wide connectivity	Theme 3: improving non-car mode choice	Delivery Stakeholders
A27 pinch point relief: E-W/Brighton incl Brighton by-pass junctions	✓✓	✓✓		Highways Agency, DfT, Local Authorities,
Removing bottlenecks around ports		✓✓		Local Authorities, Port Authorities, Port owners (if not owner)
West Coastway -Brighton rail capacity	✓✓	✓✓	✓✓	Network Rail, DfT, TOC, Local Authorities
Brighton Mainline capacity	✓✓	✓✓	✓✓	Network Rail, DfT, TOCs, Local Authorities
Service pattern improvements: B&H, mid-Sussex and Crawley/Gatwick	✓✓	✓✓	✓✓	Network Rail,DfT, TOCs, Local Authorities
East of Brighton rail service improvements	✓✓	✓✓	✓✓	Network Rail, DfT, TOCs, Local Authorities
Rail journey time improvements	✓✓	✓✓	✓✓	Network Rail, TOCs, DfT,Local Authorities
New direct route services via schemes such as Arundel Chord	✓✓	✓✓	✓✓	Network Rail, DfT, TOCs, Local Authorities
Last mile peak-time access to larger urban areas:				Highways Agency, Local Authorities, bus operators, developers
- Traffic flow management through ITS and transport choice	✓	✓✓		
- Park & Ride options	✓	✓✓	✓✓	
Non-car mode choice:				Local authorities, developers, local business,
- Improvements to way finding, pedestrian			✓	

Strategy element	Theme 1: access to labour	Theme 2: improving area-wide connectivity	Theme 3: improving non-car mode choice	Delivery Stakeholders
prioritisation, safe havens - Bicycle friendly traffic engineering - Quiet/safe route creation - Residential and workplace secure storage - City bike schemes for business travel - Wheels2Work expansion	✓ ✓ ✓ ✓✓	✓ ✓ ✓ ✓ ✓	✓ ✓ ✓ ✓✓ ✓✓	(e.g. new tenants on strategic sites), potential sponsors
Integrated ticketing	✓	✓✓	✓✓	Local Authorities, bus operators, TOCs,
A review of bus fares and affordability	✓✓	✓	✓	Local authorities, operators
Mixed mode choice for port access (remove pedestrian/commercial vehicle conflict)			✓✓	Local Authority, Port Authorities, Port operators
Improvement in freight route management		✓✓		Highways Agency, local authorities, Port Authorities, Port operators

Source: ITA analysis

Monitoring Outcomes

6.15 Key to understanding the success of any strategy is clearly stating desired outcomes and identifying the right metric against which success can be judged. As identified earlier in the paper, that there is a gap in the overall literature which sets out a clear strategy for transport in the Greater Brighton and Coastal West Sussex area. This also means that metrics are not gathered at this area level but either at the sub-region (e.g. the Coast to Capital LEP or County Council) or local level (e.g. individual local authorities). As part of an overall need for greater coherence between the local partnerships, agreement on which metrics to be collected will be needed. Table 6.3 overleaf highlights some metrics that could be collected in order to measure progress against objectives.

Table 6.3 Potential Monitoring Indicators

	Theme 1: access to labour	Theme 2: improving area-wide connectivity	Theme 3: improving non-car mode choice
Isochrones: peak driving times to/from employment centres	✓		
Isochrones: off-peak driving times across the region		✓	
Average journey to work distance	✓		
Average journey to work time	✓		
Non-car use in journey to work across the region		✓	✓
Non-car, travel to work at key strategic sites	✓		✓
Road capacity measurements peak/off peak	✓	✓	
Passenger numbers on peak rail services	✓		✓
Passenger numbers on off-peak rail services		✓	✓
Average length of rail journey (E-W)	✓	✓	
Right time rail performance		✓✓	✓

Source: ITA analysis

Nathaniel Lichfield & Partners Ltd.
14 Regent's Wharf, All Saints Street
London. N1 9RL

T: 020 7837 4477
E: info@nlpplanning.com
nlpplanning.com

Interfleet Transport Advisory
5th Floor, 9a Devonshire Square
London. EC2M 4YN

T: 020 7105 3700
E: groupcommunication@interfleet.co.uk
interfleetgroup.com