

A141 Huntingdon Northern Bypass

Existing Conditions Report

Cambridgeshire and Peterborough Combined Authority

21 July 2021

Final



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1. Introduction

Atkins has been commissioned by the Cambridgeshire and Peterborough Combined Authority (CPCA) to develop a Strategic Outline Business Case (SOBC) for the A141 Huntingdon Northern Bypass scheme. This follows on from previous work undertaken by Skanska on behalf of the CPCA.

This Existing Conditions Report is one of two such reports, focusing on the A141 area to the north of Huntingdon, with the other report focusing on the whole of St Ives town, Houghton and Wyton.

This Existing Conditions Report presents the strategic context for the A141 Northern Bypass scheme to demonstrate a case for change and will inform further assessment including preparation of a Strategic Outline Business Case (SOBC). This report draws upon information and data from a variety of existing sources:

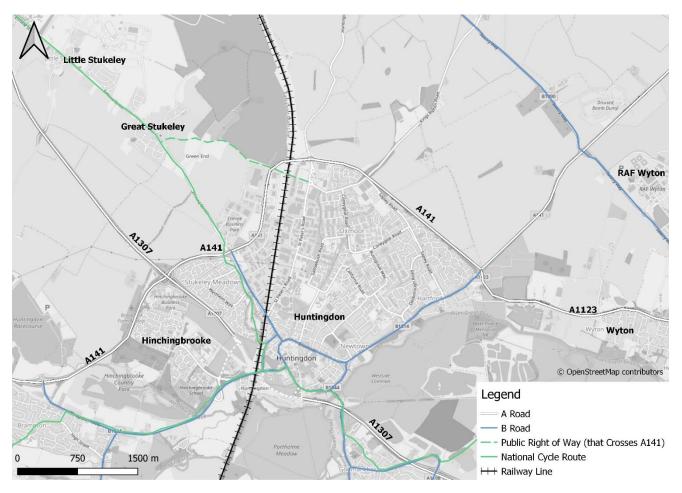
- Previous work undertaken by Skanska and Capita, namely the:
 - 'A141 and St Ives Transport Study Option Assessment Report' (July 2020), referred to in this Report as the Skanska A141 Stage 1 Report; and
 - The draft 'Stage 1: Existing Conditions and Data Collection Report' (April 2019), referred to in this Report as the Skanska A141 Stage 1 Existing Conditions Report;
- Huntingdonshire Local Plan to 2036 (adopted May 2019) and supporting evidence base including the Strategic Transport Study and Infrastructure Delivery Plan;
- The Cambridgeshire and Peterborough Local Transport Plan (2020);
- Cambridgeshire and Peterborough Independent Economic Review (CPIER) (September 2018);
- Cambridgeshire and Peterborough Local Industrial Strategy (July 2019);
- Cambridgeshire and Peterborough Skills Strategy (June 2019);
- Cambridgeshire and Peterborough Strategic Spatial Framework;
- Doubling Nature: A Vision for the Natural Future of Cambridgeshire and Peterborough in 2050 (Natural Cambridgeshire)
- Net Zero Cambridgeshire (Cambridgeshire County Council and CUPSE) (October 2019);
- Huntingdon: A Prospectus for Growth (Huntingdon Masterplan) (Metro Dynamics in partnership with Huntingdonshire District Council (HDC) and CPCA);
- Magic Map, produced by the Department for Environment, Food and Rural Affairs (DEFRA); and
- National Planning Policy Framework (February 2019).

This report focuses on the area surrounding the existing A141 to the west and north of Huntingdon, as shown in Figure 1-1, along with key features of the transport network of particular relevance to this study.

Note: the A14 to the south of St Ives has recently been downgraded to the A1307 following the completion of the Huntingdon Southern Bypass as part of the A14 Cambridge to Huntingdon Improvement Scheme. This report refers to the A1307 throughout.



Figure 1-1 - Local Context Map



The remainder of this report sets out the existing conditions as follows:

- Chapter 2 sets out the local socio-economic and demographic profiles;
- Chapter 3 details the existing transport network including its performance. It also sets out the planned transport projects that are relevant to the study;
- Chapter 4 summarises the main environmental and physical constraints that will influence future option development during the SOBC;
- Chapter 5 considers future developments, constraints and the impact of growth on the transport network;
- Chapter 6 presents the policy context for the scheme; and
- Chapter 7 summarises this report and presents the case for change.



Socio-economic and Demographic Context

This Chapter sets out the local socio-economic and demographic profiles relevant to the A141 study. It illustrates the economic activity that the transport network supports, and some economic and social challenges and opportunities that a transport investment could help to address. This will in turn help to shape the scheme development in response to those challenges and opportunities.

2.1. Overview

Huntingdon has a population of 24,000¹, the majority of whom live between the A1307 to the south, the A141 to the west and north and the River Great Ouse in the east, as shown previously in Figure 1-1. Huntingdon is located centrally within Huntingdonshire with villages and small towns, such as Ramsey and Warboys, to the north and the market towns of Godmanchester and St Neots to the south and St Ives to the east.

Huntingdonshire has a predominantly rural geography with a sparse population density (1.9 people per hectare²). The majority of the district's population are concentrated in the market towns of Huntingdon, St Neots, Ramsey and St Ives.

Recent housing growth has mainly been concentrated around the district's main towns including Huntingdon. Huntingdonshire's population grew by 21% in the 20 years leading up to the 2011 Census³ and is forecast to grow by a further 7% up to 2036. This suggests that future growth is predicted to be slower but is still likely to be significant. The population growth is mainly driven by housing pressures in and around Cambridge and London leading to people seeking more affordable housing further afield⁴.

The CPIER was produced by the Cambridgeshire and Peterborough Independent Economic Commission, on behalf of the CPCA and Cambridge Ahead. It provides an economic overview of the CPCA area and sets out findings for the future of the district framed by the CPCA's growth target of doubling Gross Value Added (GVA) over 25 years. For Huntingdon this means increasing their output by over £1bn per annum from £1.22bn GVA in 2017⁵. It shows that there has been significant net in-migration to Huntingdonshire from South Cambridgeshire, Hertfordshire and north London. However, as house prices increase in the district there is also net out-migration northwards⁶.

2.2. Economic Profile

2.2.1. Economic Patterns

The Huntingdonshire Local Plan cites that 64%⁷ of the district's economically active residents live and work within Huntingdonshire and identifies a requirement for 14,400 additional jobs by 2036 to accommodate predicted population growth (Policy LP1).

The district has strong economic, and therefore commuter, relationships with Cambridge to the south east, Peterborough to the north and Bedford to the south-west. There are a number of strategic connections by road and rail that make London and other employment hubs easily accessible.

Figure 2-1 and Figure 2-2 show commuter trips to and from Huntingdon respectively, by all modes.

¹ Huntingdonshire Local Plan to 2036 (page 11)

² Huntingdonshire Local Plan to 2036 (page 7; 2.3)

³ Census 2011 – Quoted in Huntingdonshire Local Plan to 2036 (page 7: 2.4)

⁴ Huntingdonshire Local Plan to 2036 and CPIER

⁵ Metro Dynamics - Huntingdon: A Prospectus for Growth (page 3)

⁶ CPIER (Figure 8, page 29)

⁷ Huntingdonshire Local Plan to 2036 (page 7; 2.4)



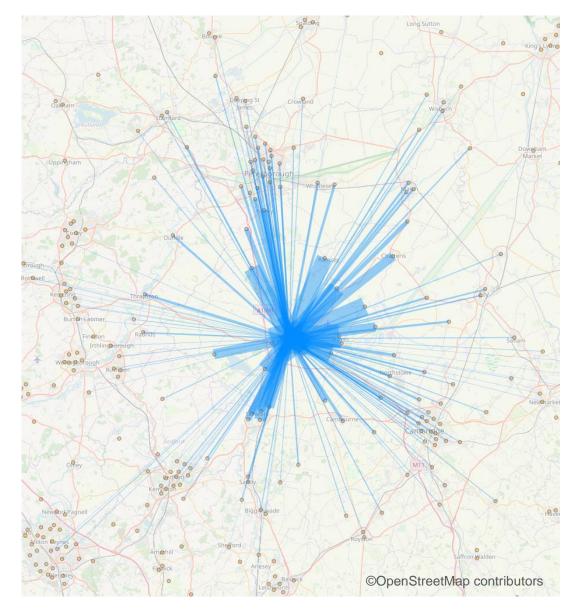


Figure 2-1 - Commuter trips to Huntingdon (012) by all modes8

Figure 2-1 shows that trips to Huntingdon for work by all modes originate from across Cambridgeshire, Northamptonshire, Bedfordshire and north Hertfordshire. Similar patterns are seen when looking at commuting trips by car only. A large proportion of these trips, accessing Huntingdon by car, are likely to use sections of the A141 around Huntingdon to access their final destination. A significant number of trips originate from the north east of Huntingdonshire, including from Ramsey and Warboys, and from further afield including Chatteris and March. Commuting trips from these origins are likely to use the A141 corridor to access Huntingdon.

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⁸ Census 2011 via Datashine. Oliver O'Brien & James Cheshire (2016) Interactive mapping for large, open demographic data sets using familiar geographical features, Journal of Maps, 12:4, 676-683 DOI: 10.1080/17445647.2015.1060183; MSOA Huntingdon 012 was chosen as it includes Huntingdon town centre which is considered to be representative of trips to/from the area of study



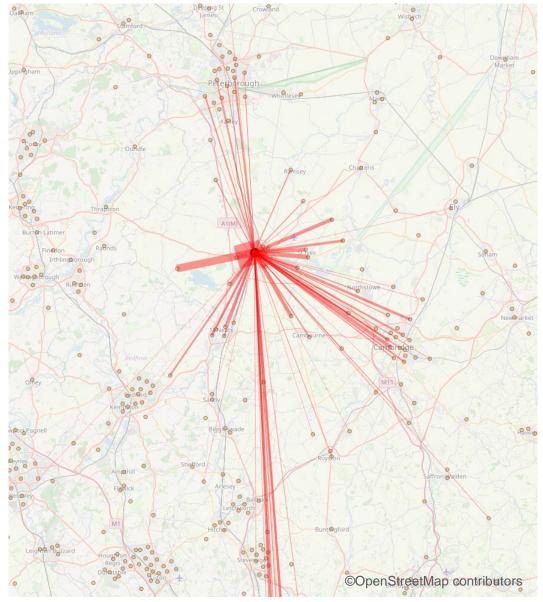


Figure 2-2 - Commuter trips from Huntingdon (012) by all modes⁹

Figure 2-2 shows that trips from Huntingdon for work by all modes are more concentrated on specific destinations including Cambridge and South Cambridgeshire, Peterborough, London and other destinations within Huntingdonshire. Trips to London are almost entirely undertaken by rail and car journeys are most prevalent for all other destinations. A large proportion of these trips, originating from Huntingdon, are likely to use sections of the A141 around Huntingdon to access their final destination, particularly those accessing St Ives, Somersham, Bluntisham, Warboys and Ramsey.

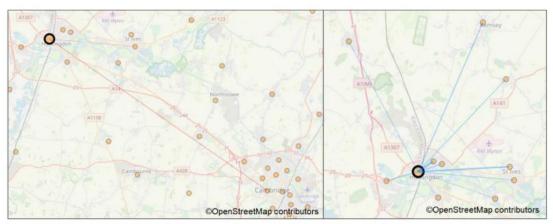
A smaller number of commuter trips by sustainable modes have Huntingdon as their origin or destination. Figure 2-3 and Figure 2-4 show commuter trips **to and from Huntingdon** by public transport and active modes respectively.

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⁹ Census 2011 via Datashine. Oliver O'Brien & James Cheshire (2016) Interactive mapping for large, open demographic data sets using familiar geographical features, Journal of Maps, 12:4, 676-683 DOI: 10.1080/17445647.2015.1060183

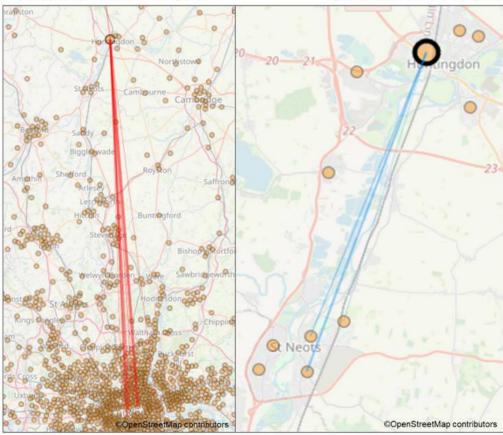


Figure 2-3 - Commuter trips from and to Huntingdon (012) by public transport¹⁰



By Bus/Coach from Huntingdon

By Bus/Coach to Huntingdon



By Rail from Huntingdon

By Rail to Huntingdon

Figure 2-3 shows that a small number of commuter's travel to St Ives and Cambridge by bus for work. Trips to Huntingdon by bus are more local, from surrounding villages and towns including St Ives, Ramsey, Sawtry and Godmanchester. Trips from Huntingdon by rail are almost entirely to London, with a small number travelling north to Peterborough. Trips to Huntingdon by rail are again more localised, with St Neots being the sole origin. It is important to note that the 2011 Census data precedes the opening of the Cambridgeshire Guided Busway which carries around 3 million trips per year and has likely had an impact on the volume of people travelling

¹⁰ Census 2011 via Datashine. Oliver O'Brien & James Cheshire (2016) Interactive mapping for large, open demographic data sets using familiar geographical features, Journal of Maps, 12:4, 676-683 DOI: 10.1080/17445647.2015.1060183



from Huntingdonshire to Cambridge by bus.¹¹ The 'Cambridgeshire Guided Busway Post-Opening User Research'¹² report from September 2012 presented results of guided busway passenger interviews and boarding/alighting counts and estimated that 551 busway trips originated at St Ives Park and Ride. The vast majority of these trips had destinations in Cambridge including within the City Centre (234), at Addenbrooke's (96) and at Cambridge Regional College (55). Since 2012 there has been a 25% ¹³ increase in frequency of services between St Ives and Cambridge during peak hours. Busway ticket sale data from January 2020 (Services A and B) shows a 75% increase in total ticket sales when compared to total sales in January 2012¹⁴ (Services A, B and C).

Figure 2-4 shows commuter trips from and to Huntingdon (012) by active modes.

Figure 2-4 - Commuter trips from and to Huntingdon (012) by active modes¹⁵



Cycle from Huntingdon

Cycle to Huntingdon



On foot from Huntingdon

On foot to Huntingdon

Figure 2-4 shows, as expected, that active mode trips to and from Huntingdon for work are concentrated within Huntingdon and to/from St Ives, Godmanchester, the Hemingford's and Brampton.

¹¹ Greater Cambridge Mass Transit Options Assessment Report (2018), https://cambridgeshirepeterborough-ca.gov.uk/assets/Combined-Authority/Item-2.1-Additional-report-Greater-Cambridge-mass-transit-options-assessment-report-January-2018.pdf

¹² Atkins (2012) 'Cambridgeshire Guided Busway Post-Opening User Research', Cambridgeshire County Council, Section 5.2, Table 12.

¹³ Opening scheduled services compared to April 2021 timetabled services.

¹⁴ Busway patronage data provided by Stagecoach

¹⁵ Census 2011 via Datashine. Oliver O'Brien & James Cheshire (2016) Interactive mapping for large, open demographic data sets using familiar geographical features, Journal of Maps, 12:4, 676-683 DOI: 10.1080/17445647.2015.1060183



2.2.2. Economic Challenges and Opportunities

The Huntingdonshire Local Plan identifies a number of key economic challenges and opportunities, as summarised in Table 2-1.

Table 2-1 - Economic Challenges and Opportunities

Challenges	Opportunities		
Improvements to key transport infrastructure are key to support economic growth. With the A14 improvements complete and the proposals for the A428 upgrade being developed, these schemes provide significant opportunity for the region by relieving congestion and providing valuable strategic connections to unlock economic growth. Effective local access to these routes is essential and at present, congestion on the A141 is a significant challenge to this.	Locally accessible strategic transport links make Huntingdonshire an attractive location for business. Recent and planned improvements to these links, as well as local connections, will serve to further increase the attractiveness of the district.		
More jobs are required in high value industry sectors. Diversification into professional and scientific sectors is required to attract highly skilled workers to the district.	Economic success of Cambridge and its proximity to the district presents opportunity to provide complementary services and strengthen the connection between the two districts. Huntingdon is already increasing its reach in the life sciences sector alongside the success of Cambridge16.		
Decline in working age population as a proportion of total population which is caused by an aging, less economically active population.	Expansion of high speed broadband enables more people to work where they live and therefore reduce the pressure on the transport network.		
Advantagl from the Handfundersking Local Plants (2000 from 200)			

Adapted from the Huntingdonshire Local Plan to 2036 (page 20)

In summary, Huntingdonshire has a history of traditional industry but is starting to diversify, attracting more highly skilled workers and large businesses. Alconbury Enterprise Zone is proposed to accommodate 8,000 new jobs by 2036 with an emphasis on technology, innovation, advanced manufacturing and engineering and will provide space for small and medium sized businesses. This presents the opportunity to further strengthen industry connections to Cambridge. Good strategic transport connections, which have been strengthened by the completion of the A14 Huntingdon to Cambridge improvements, are further increasing the attractiveness of the district to live and work. However, further infrastructure improvements, to relieve congestion on already constrained sections of the network and provide local connections, are required to unlock sustainable economic growth.

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¹⁶ Cambridge and Peterborough Combined Authority (2019) *Cambridgeshire and Peterborough Local Industrial Strategy* (page 29 and 30)



2.3. Social Profile

The Huntingdonshire Local Plan cites a number of social challenges and opportunities within the district. Those relevant to this study are summarised in Table 2-2.

Table 2-2 - Social Challenges and Opportunities

Challenges	Opportunities
20,100 new houses are required to meet population forecasts by 2036 (Policy LP1). With significant housing growth comes the challenges of accommodating additional travel demand on an already congested local network in a sustainable way.	New development provides an opportunity for positive design, creating a physical environment that: Supports active lifestyles; and Is accessible to all.
Need for local infrastructure to support development including education, health and social facilities, and transport. Alongside site-specific Section 106 commitments, the Community Infrastructure Levy (CIL) has been adopted by Huntingdonshire which provides a mechanism to obtain funding from developers to ensure that infrastructure is provided alongside developments17.	Positive health impacts for the A14 upgrade for key locations as a result of improved air quality will make the district a healthier place to live and work.
Social exclusion within rural villages as a result of lack of access to private and public transport. These people are often forced into car ownership as they feel they have little alternative to access employment and other key services.	n/a

Huntingdonshire Local Plan to 2036 (page 21/22)

The key social challenge for Huntingdonshire is to provide the housing required to accommodate population growth coupled with the infrastructure necessary to ensure that new developments are built in a sustainable way. Although a significant challenge, substantial housing growth also provides an opportunity to ensure that sustainable transport design is at the heart of new developments, making them accessible to all and providing healthy places to live and work.

2.4. Other trip attractors in the A141 area

As well as being a significant trip attractor for employment, Huntingdon also serves a wider social function within the district. Primary and secondary schools and Cambridge Regional College within the town are likely to attract trips both from within Huntingdon and the surrounding towns and villages, particularly from those settlements without education facilities. These trips are likely to use all, or some of the A141 for their journey to/from Huntingdon.

Huntingdon is also likely to attract a significant amount of leisure trips, whether that be for sports, shopping, sight-seeing or visiting friends. These are likely to be particularly concentrated in the town centre retail area and along the river front. Trips to Huntingdon for sports activities are likely to be concentrated along St Peter's Road and at Huntingdon Town Football Club, off Kings Ripton Road.

2.5. Socio-economic and demographic summary

This Chapter has provided an overview of the socio-economic and demographic context for Huntingdon and Huntingdonshire. It has set the context and identified the challenges of growth ambitions over the next 25 years. Huntingdon has strong economic connections to Peterborough, London and Cambridge, as well as the market towns within Huntingdonshire including St Ives and St Neots. These connections, particularly to Cambridge, have only strengthened in recent years.

Car is the most dominant mode for commuting trips to and from Huntingdon, with the exception of trips to London. The dominance of car travel leads to congestion in the district, particularly on the A141 corridor to the

¹⁷ CPIER (2018) (page 68)



north and west of Huntingdon. This has been identified as a significant challenge to achieving the high growth ambitions for the district. However, proposed housing growth, particularly at Alconbury Weald, provides an opportunity to develop a transport network, in advance of planned growth, that works both locally for residents and employees in Huntingdon but also on a wider scale for strategic connections beyond the district. The A141, as one of the main connections to the strategic road network in the district has a significant role to play in this.



3. The Transport Network

This Chapter considers the existing transport network, including the existing performance of the A141. An overview of the public transport and active mode network is also provided.

3.1. Transport Network

3.1.1. Highway Network

Role of A141

At a strategic level the A141 connects the A14, A1, Huntingdon and the towns of Chatteris and March with the A47 towards King's Lynn and the North Norfolk region. It has a strategic role in connecting these locations with each other and the rest of southern England. Section 2.2.1 showed the importance of the A141 in connecting these locations to Huntingdon for commuters, however the A141 plays a role in connecting journeys for all purposes.

At a local level, the A141 is a distributor road that follows the northern perimeter of Huntingdon from west to east. It not only connects Huntingdon and local villages to the Strategic Road Network (A14 / A1), but also provides a connection between the west of Huntingdon (including traffic from Hinchingbrooke and Brampton) and the east of Huntingdon (including traffic from Kings Ripton, RAF Wyton, the wider Fenland area to the north east and St Ives to the south east via the A1123).

The A141 connects to the A1123 leading to/from St Ives as a direct route between the two towns. Once the Huntingdon town centre links to the A1307 are completed, these will provide an alternative option.

The A141 is congested during peak periods (See Section 3.2). The CPCA and HDC recognise that there is an issue with capacity along this section of the A141 and have safeguarded an alignment for a possible bypass to alleviate these issues¹⁸.

A14 Improvement Scheme

The recently completed A14 Huntingdon Southern Bypass portion of the A14 Cambridge to Huntingdon improvements is now accessed via Brampton Hut Interchange to the west of Huntingdon, providing access to the Midlands and onward travel to the M1 and M6 motorways. The A14 improvement scheme was designed to increase the capacity of the highway between Cambridge and Huntingdon and also the capacity of the strategic freight route which has a national role connecting the port of Felixstowe with the Midlands, its distribution centres, and much of the UK beyond.

The A141 connects to the A14 and into this network, via the Brampton Hut Interchange, meaning that freight traffic from north east Cambridgeshire and King's Lynn utilises this route.

The impact of opening the new section of the A14 on traffic flows in and around Huntingdon, and on this project, has not yet been fully reflected because the section around Huntingdon was fully opened (all lanes running) during the Covid-19 pandemic, which is known to have changed travel habits and the number of vehicles on the network. In addition, the new link roads in Huntingdon, proposed as part of the A14 scheme, have not yet been constructed (see Section 5.5.1 for more detail). The completion of the scheme diverts A14 mainline flows to the south and southwest of Huntingdon, removing the reliance on the Spittals Interchange to facilitate interchange between A14 NB/SB, A14 WB/EB and the A1(M). The closure and removal of the A14 viaduct through Huntingdon means that vehicles approaching from the south will no longer be able to access the A141 via the Spittals Interchange directly and must route through the town using the new link roads (currently under construction) and A1307 or divert further afield instead. However, the A141 is expected to remain an important orbital east-west route around Huntingdon.

¹⁸ Cambridgeshire and Peterborough Combined Authority (2020) *The Cambridgeshire & Peterborough Local Transport Plan.* Page 112.



3.1.2. Public Transport Network

Huntingdon is currently served by both bus and rail, with a rail station in the town and numerous bus services.

There is a policy goal to support economic growth and environmental objectives by maximising public transport where possible. The Local Transport Plan, for example, aims to 'connect all new and existing communities sustainably so all residents can easily access a good job in 30 minutes by public transport'¹⁹.

Rus

Table 3-1 shows the bus, coach and guided busway services that serve Huntingdon. The bus services in the town provide good local connections to local neighbouring towns and villages. The Cambridgeshire Guided Busway service also offers bus connections between Huntingdon town centre and Cambridge city centre.

Table 3-1 - Bus, Coach and Guided Busway Services Serving Huntingdon²⁰

Service	Operator	Route Description
010	National Express Shuttle21	London to Peterborough, via Huntingdon
30	Stagecoach in the Fens Ltd.	Huntingdon, Warboys and Ramsey (via the A141 from Hartford roundabout)
35	Stagecoach in the Fens Ltd.	Via the A141 corridor between Huntingdon and Chatteris
46A	Dews Coaches	Hampton - Sawtry - Huntingdon
66	Stagecoach in the Fens Ltd.	Huntingdon, Brampton, St. Neots
400	Whippet	Spaldwick, Kimbolton, Grafham, Ellington and Huntingdon
401	Whippet	Leighton Bromswold, Hamerton, Alconbury Weston, Woolley and Huntingdon
478	Whippet	Romans' Edge, Godmanchester, Huntingdon
X2	Whippet	Huntingdon, Godmanchester, Papworth Everard, Lower Cambourne, Cambourne, Cambridge
X3	Whippet	Huntingdon, Godmanchester, Papworth Everard, Lower Cambourne, Cambourne, Cambridge
902	Stagecoach East	Peterborough, Sawtry, The Stukeleys, Huntingdon, St Ives
904	Stagecoach East	St Ives to Huntingdon
VL14	Villager Community Bus (Beds & Bucks)	Felmersham to Huntingdon and St Ives
The Busway Route A	Stagecoach in the Fens Ltd.	Ramsey, Warboys, St. Ives (+ Cambridge), Huntingdon (Monday to Friday peak times via Hartford roundabout)
The Busway Route B	Stagecoach in the Fens Ltd.	Huntingdon, St. Ives (via the A1123 and Hartford roundabout) and to Cambridge

Figure 3-1 illustrates the Stagecoach bus network serving the Huntingdon area. Services typically run along radial routes to/from the town centre and do not utilise the A141 around the northern perimeter of Huntingdon, although they do cross the A141 at several points.

The '30' and '35' services travel on the A141 in the study area towards Ramsey and Chatteris from the B1514 junction (Hartford roundabout). Similarly the Busway Routes 'A' and 'B' cross the study area at the Hartford roundabout. Service 46A and Busway Route 'B' cross the A141 while travelling along Ermine Street.

¹⁹ Cambridgeshire and Peterborough Combined Authority (2020) *The Cambridgeshire & Peterborough Local Transport Plan.* Page 11.

²⁰ 'Stage 1: Existing Conditions and Data Collection Report' (April 2019), page 48; https://www.stagecoachbus.com; https://www.go-whippet.co.uk; https://dews-coaches.com.

²¹ Service temporarily suspended as a result of Covid-19 – no indication on whether this will be reinstated (20/05/2021)



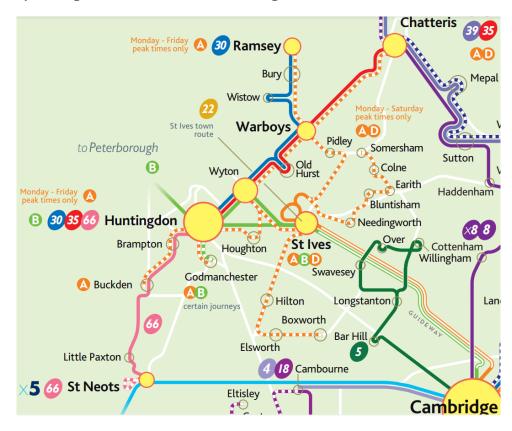


Figure 3-1 - Map of Stagecoach Services in the Huntingdon Area²²

Rail

Huntingdon Station is served by Thameslink and Great Northern rail services, providing frequent and direct services to Peterborough, London and Gatwick. It takes approximately 15 minutes to reach Peterborough by train, and services to London take around one hour. Rail services travel direct to Gatwick Airport in 120 minutes²³. Peterborough Station offers interchange to services bound for other key destinations such as Birmingham, Cambridge and Manchester.

3.1.3. Active Travel Network

Overall, where walking and cycling infrastructure is provided, it consists of shared-use footways of reasonable quality alongside carriageways. There are, however, a number of areas along the A141 where no provision is made for active modes. Lack of, or poorly maintained, infrastructure can lead to creation of informal routes along desire lines and/or discourage use of infrastructure if it is perceived to be dangerous. Indirect routes, not on desire lines, can lead to walking and cycling being seen as less convenient than the private car. Lack of perceived safety and convenience can both discourage use of sustainable modes.

There are shared-use footways alongside the A141 between the A1307 junction and the Washingley Road / Latham Road roundabout. The A141 between the Washingley Road / Latham Road roundabout and the Huntingdon Road / B1514 roundabout does not have a footway. There is also no dedicated cycling infrastructure provision along the A141 corridor itself.

Employees working to the north of the A141 on the Ermine Business Park can access their place of work via the pedestrian refuge area located on the splitter island, adjacent to the A141 / Ermine Street / B1044 roundabout. There are no signalised crossing points in this section.

The National Cycle Network (NCN) 12 route runs adjacent to Ermine Street and is separated from traffic between B1044 Stukeley Road / Wertheim Way roundabout and Great Stukeley village. There is also a public bridleway linking the Huntingdon Road / St Peters Road / Kings Ripton Road roundabout with Green End and

²² https://tiscon-maps-

stagecoachbus.s3.amazonaws.com/RouteMaps/East/NETWORK%20MAPS/CAMBRIDGESHIRE%20-%20OCT%202018.pdf

²³ https://ojp.nationalrail.co.uk/service/planjourney/search



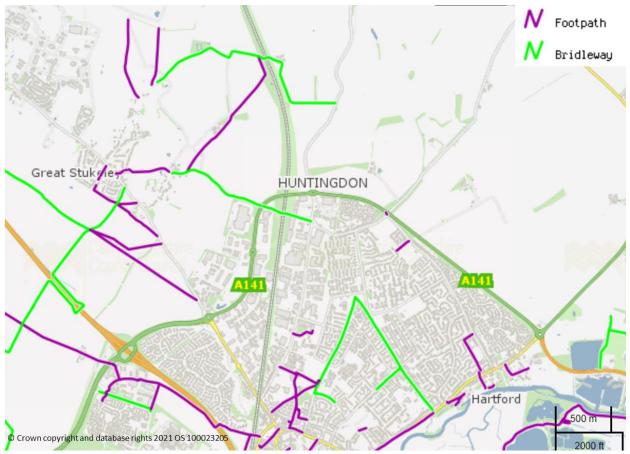
Great Stukeley although there is no formal crossing point across the A141. This bridleway links the Stukeley Meadows Industrial Area to the west of the railway line and the rest of Huntingdon to the east of the railway line.

The East Coast Mainline runs north-south through Huntingdon, between St Peters Road and the Stukeley Meadows Industrial Estate. Between the A141 to the north of Huntingdon and Ermine Street, near the town centre, there is only one crossing of the railway line for pedestrians and cyclists, off the Kings Ripton Road roundabout. This presents a significant severance issue for pedestrians and cyclists travelling between the east and west of the railway line, which is likely to discourage travel by these modes and lead to potentially unnecessary short single occupancy vehicle trips.

The Kings Ripton Road / A141 junction has a short section of footpath linking to Sapley Road, and the junction itself includes a signalised pedestrian crossing for journeys between Kings Ripton and Huntingdon. This is the only signalised crossing point on the A141 in the study area, of three total road crossings.

There are other Public Rights of Way in and around Huntingdon. However, NCN 12 and the public bridleways mentioned above are the only pedestrian and cycle routes that cross the A141 along the northern perimeter of Huntingdon. Figure 3-2 shows the Public Rights of Way in and around Huntingdon, including Great Stukeley.

Figure 3-2 - Public Right of Ways – Huntingdon (My Cambridgeshire Maps²⁴)*



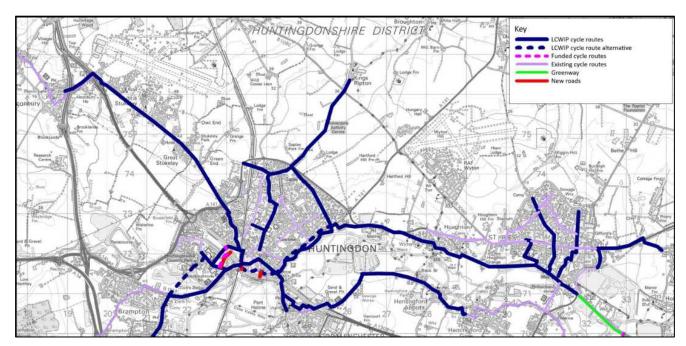
^{*}The green lines denote bridleways. The purple lines denote footpaths.

The Huntingdonshire Local Cycling and Walking Infrastructure Plan (LCWIP) is a strategic approach to developing high standard active travel routes across the district. There are 16 routes that Cambridgeshire County Council (CCC) are looking to improve, of which three have some interaction with the A141 corridor, as shown in Figure 3-3.

²⁴ Cambridgeshire County Council (2020) *My Cambridgeshire* https://my.cambridgeshire.gov.uk/mycambridgeshire.aspx [Accessed 02.11.2020].



Figure 3-3 - LCWIP Routes²⁵



LCWIP cycle routes cross the A141 corridor at two points:

- Along the Ermine Street corridor into the town centre from Alconbury; and
- At the Kings Ripton Road junction from a link to Sapley Way.

Additionally, the LCWIP cycle route between A141 / Washingley Road / Latham Road roundabout and A141 / Huntingdon Road / Abbots Ripton Road roundabout from a footpath over the rail lines meets the A141, and a public right of way leads towards Green End from across the A141.

It is noted that the LCWIP typically considers main corridors for improvement and inevitably will not cover all routes, particularly the more rural links connecting smaller areas of population which do not to get assessed in CCC's propensity to cycle tool. There are a number of these routes that could cross the existing A141.

CCC are likely to consult on the LCWIP routes in Spring 2021 but have already consulted with stakeholders including the districts and cycling groups.

Local policy also encourages active travel and considers it an opportunity to promote healthy lifestyles²⁶. Future schemes, including those associated with the A141 should therefore seek to accommodate active travel infrastructure to support policy.

Pedestrian and Cycle Count Data

The Cambridgeshire County Council *Traffic Monitoring Report (2019)* collects two-way traffic count data at 5 points in an outer cordon of Huntingdon, of which three are relevant to the study area. Data was collected between the hours of 07:00 and 19:00. Table 3-2 presents the data collected for pedestrians and pedal cycles at each of these three count sites, with the A141 junction near each.

Figure 3-4 illustrates the exact location of the three traffic counts.

²⁵ Cambridgeshire County Council (2020) Huntingdon and St Ives Cycle Routes

²⁶ Huntingdonshire District Council (2019) *Huntingdonshire's Local Plan to 2036.* Page 21.



Table 3-2 - Two-Way 2019 Traffic Count Data for Sites Near the A141 in Huntingdon²⁷

Site	Location Description	Pedestrian Count	Pedal Cycle Count
3	Stukeley Road – B1044 Stukeley Road/A141/Ermine Street junction	411	169
4	Huntingdon Road – Huntingdon Road/A141 junction	544	67
5	Main Street – B1514/A141/A1123 junction	142	154

Figure 3-4 - Two-Way 2019 Traffic Count Sites Near the A141 in Huntingdon



²⁷ Cambridgeshire County Council (2019) Road Traffic Data



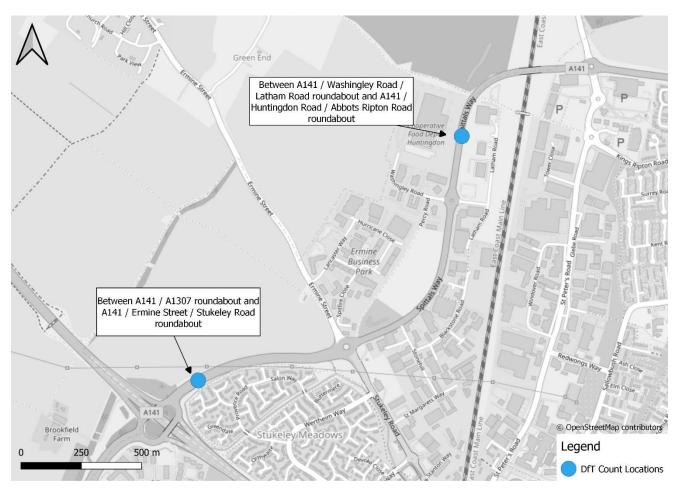
3.2. Existing Performance of A141

3.2.1. Traffic Flows

The Stage 1 Report has utilised 12-hour (07:00-19:00) manual classified turning count (CTC) data to show that the busiest part of the A141 is between Spittals Interchange and the A141 / B1044 Stukeley Road / Ermine Street roundabout, with a total two-way daily flow of 19,899 vehicles²⁸.

The Department for Transport (DfT) permanently monitor traffic flow along the A141 using manual classified counts (MCC) of which two are located between the A1307 junction and the A141 / A1123 roundabout. Table 3-3 shows the average daily flow of eastbound (EB) and westbound (WB) traffic at these locations in 2019. It also shows the proportion of traffic that are heavy good vehicles (HGVs). In addition, Figure 3-5 shows the location of MCC counts.

Figure 3-5 - DfT Count Locations



²⁸ Skanska (2020) A141 and St Ives Transport Study Option Assessment Report. Section 2.2.4 - Page 27.



Table 3-3 - DfT MCC Count Summary (2019)²⁹

Count Location	Annual Average Daily Flow (All Motor Vehicles)				HGV F	V Proportion (of total traffic)	
	EB	WB	Total	EB	WB	Total	
Between A141 / Washingley Road / Latham Road roundabout and A141 / Huntingdon Road / Abbots Ripton Road roundabout ³⁰	10,274	9,609	19,883	897 (9%)	657 (7%)	1,554 (8%)	
Between A141 / A1307 roundabout and A141 / Ermine Street / Stukeley Road roundabout ³¹	13,274	11,342	24,616	1,300 (10%)	1,113 (10%)	2,413 (10%)	

Table 3-3 shows that the A141 was carrying around 20,000-25,000 vehicles per day in 2019. The difference in flow between the two count locations is likely to be as a result of vehicles turning south into / out of Huntingdon via the A141 / Ermine Street / Stukeley Road roundabout or north towards the Stukeley villages and into the industrial area on Ermine Street.

On average 8-10% of vehicles on the A141 in 2019 were HGVs, which underlines the significance of the A141 in the wider context of freight traffic.

The A141 Stage 1 Existing Conditions Report also made use of CTC data collected at junctions along the A141 in 2016 and 2018, on a single weekday between the hours of 07:00 and 19:00. Figure 3-6 shows the location of each of the junctions at which data was collected.

Figure 3-6 - Key Junctions on A141



²⁹ Department for Transport (2020) *Road Traffic Statistics* https://roadtraffic.dft.gov.uk/#14/52.3419/-0.2311/basemap-countpoints [Accessed 02.11.20]

³⁰ ID number 77251

³¹ ID Number 17280



Table 3-4 - A141 Junction Traffic Flows³²

Map Reference	Junction	Total Vehicle Movements (07:00 – 19:00)	CTC Survey Year
A	Spittals Interchange	45,231	2018
В	A141 / Ermine Street / Stukeley Road	31,640	2016
С	A141 / Washingley Road / Latham Road	20,444	2018
D	A141 / Huntingdon Road / Abbots Ripton Road	27,707	2016
Е	A141 / Kings Ripton Road	17,867	2018
F	A141 / B1514 / A1123	30,937	2016
G	A141 / B1090 Sawtry Way	20,795	2018

Table 3-4 shows the total traffic flows at each of the seven junctions, with the year in which the data was collected. Data was collected for the hours between 07:00 and 19:00. The junction recorded as experiencing the highest traffic flows was Spittals Interchange with over 45,000 total vehicle movements recorded over a 12 hour period, which aligns with its previous status as an important interchange between the A14 and A141 and location near to the A1(M) junction, prior to completion of the A14 Improvement Scheme. Apart from Spittals Interchange, the A141 / Ermine Street / Stukeley Road and A141 / B1514 / A1123 junctions both experience approximately 31,000 total vehicle movements over a 12 hour period, which reflects their locations along key corridors into Huntingdon town centre.

Peak Turning Data and Select Link Analyses³³

Turning count diagrams prepared for the *A141 Stage 1 Existing Conditions Report* and select link analysis of the 2018 St Ives and Huntingdon Model (SIHM) in Paramics Discovery as referenced within the report are summarised here for the key A141 junctions described above. Note that the turning count diagrams show turning movements in the AM and PM peak hours for each junction individually, therefore the exact AM and PM peak hours vary between the different junctions. Note also that the survey collection year varies (see Table 3-4 above), therefore turning flows do not align between the junctions.

³² Stage 1: Existing Conditions and Data Collection Report' (April 2019), page 71

³³ Stage 1: Existing Conditions and Data Collection Report' (April 2019), pages 80-86



Figure 3-7 - Spittals Interchange (Junction A) Turning Counts

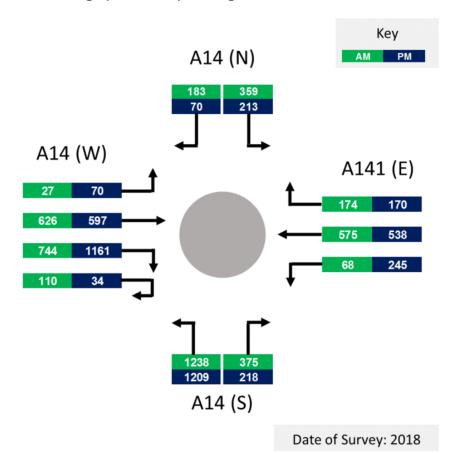


Figure 3-7 presents the turning counts in the AM (07:45-08:45) and PM (16:00-17:00) peaks of the Spittals Interchange junction. The highest traffic flows in each peak hour were between the A14 (S) and A14 (W) arms. In total over 1,000 vehicles turned onto the eastern A141 arm of the junction in each peak, and just under 1,000 entered the junction from the eastern A141 arm. It should be noted that traffic flows at this junction are likely to have been heavily impact by the opening of the A14 Improvement Scheme, as the detrunking of this section of the A14 and configuration changes at the junction mean that A14 mainline traffic flows will no longer access this junction from the south, and construction is currently ongoing to revise this section of the old A14 alignment to become a spur of the A1307 providing access into Huntingdon only.



Ermine Street

A141

A14

Figure 3-8 - A141 / Ermine Street / Stukeley Road (Junction B) Turning Counts

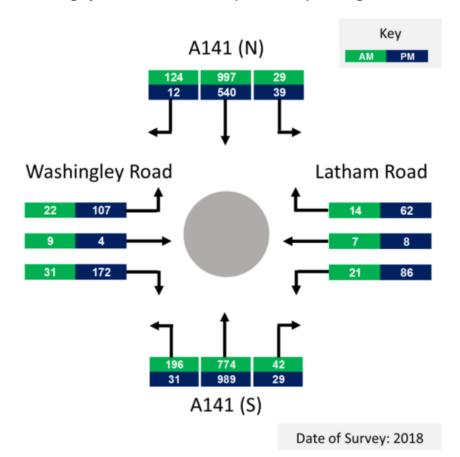
Date of Survey: 2016

Turning movements at the junction of A141 / Ermine Street / Stukeley Road for the AM peak (08:00-09:00) and PM peak (17:00-18:00) hours are shown in Figure 3-8. Although the dominant movements at the junction in both peak hours are the eastbound and westbound movements on the A141, significant traffic flows were recorded in both peak hours turning right from the A141 (W) towards B1044 Ermine Street, and turning right from A141 (E) to Ermine Street North, which suggests significant use of the junction to access the employment and industrial areas situated to the north and south of the A141 in this location.

Select link analysis of the junction summarised in the *A141 Stage 1 Existing Conditions Report* found that the AM peak traffic approaching from the B1044 is composed of 22% long distance traffic heading to the A14, 25% traffic heading north to the Stukeleys and the remainder is local traffic. It also suggested that in the PM peak over a third of traffic heads to the Stukeleys, and only 10% to the A14.



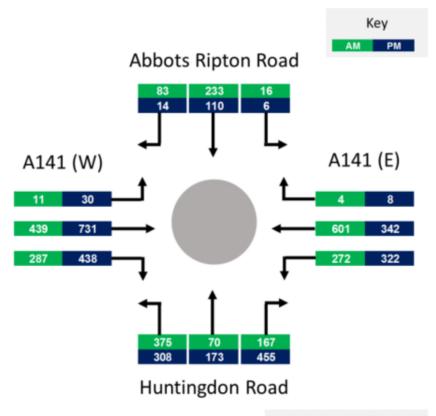
Figure 3-9 - A141 / Washingley Road / Latham Road (Junction C) Turning Counts



The AM peak hour for the A141 / Washingley Road / Latham Road junction was 07:45-08:45, and the PM peak hour was 16:45-17:45. Turning flows for these peaks are in Figure 3-9, showing that the dominant flows are northbound and southbound along the A141. Around 300 vehicles access Washingley Road in the AM peak, and a similar number exit from Washingley Road in the PM peak, highlighting its role as providing access to the employment areas to the west of the A141.



Figure 3-10 - A141 / Huntingdon Road / Abbots Ripton Road (Junction D) Turning Counts

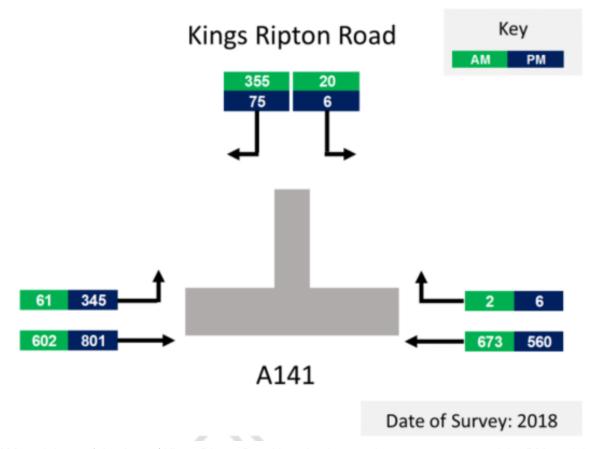


Date of Survey: 2016

A turning count diagram at the junction of the A141 / Huntingdon Road / Abbots Ripton Road for its respective AM peak (08:00-09:00) and PM peak (17:00-18:00) hours is displayed in Figure 3-10. The largest single movement in the count is along the A141 in both time periods, westbound in the AM peak and eastbound in the PM peak. However, the significant vehicle movements recorded into and out of Huntingdon Road in both peak hours highlights the role of Huntingdon Road, and this junction, as a key access to the town, with significant employment located along the length of St Peters Road.



Figure 3-11 - A141 / Kings Ripton Road (Junction E) Turning Counts

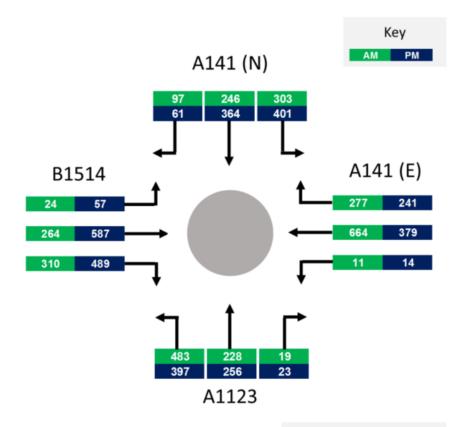


The AM peak hour of the A141 / Kings Ripton Road junction is stated as 07:30-08:30, and the PM peak hour is 16:45-17:45. Figure 3-11 shows that the dominant movement in both time periods is traffic travelling both eastbound and westbound along the A141. Tidal flows out of Kings Ripton Road to A141 (W) in the AM peak and the reverse movement in the PM peak are also clear.

The summary of select link analyses provided in the A141 Stage 1 Existing Conditions Report suggests that a proportion of the traffic turning out of Kings Ripton Road in the AM (5%) and into it in the PM (25%) are using the road to rat-run around the A141 / B1514 / A1123 junction (Junction F). This is further supported by Table 3-6 below, showing that the A141 / B1514 / A1123 junction operates closest to its maximum capacity in both the AM and PM peaks of all the key junctions.



Figure 3-12 - A141 / B1514 / A1123 (Junction F) Turning Counts



Date of Survey: 2016

Figure 3-12 shows that in the AM peak hour (08:00-09:00) the largest single movement is from the A141 (E) to the B1514. The same can be said for the reverse movement in the PM peak hour (17:00-18:00). Traffic between Huntingdon and St Ives and beyond will use the B1514 and A1123, and there are few vehicles making movements where this is not the most obvious route choice (for instance where the B1090 would be faster than using the A1123 to turn right at this junction and travel north).

The select link analysis taken from the *A141 Stage 1 Existing Conditions Report* predicts that the majority of vehicles travelling southbound in the AM peak hour on the A141 (E) arm of the junction are travelling to Huntingdon, with only 6% travelling further afield. Similarly, only 7-8% of vehicles travelling northbound in the PM peak were predicted to be travelling from outside Huntingdon, suggesting that the traffic arriving at this junction from the north is almost exclusively local commuter traffic accessing Huntingdon.



A141

Key

AM PM

B1090 Sawtry Way

B1090 Sawtry Way

B1090 Sawtry Way

B1090 Sawtry Way

A141

A141

Key

AM PM

B1090 Sawtry Way

A141

AN AM PM

B1090 Sawtry Way

A141

Figure 3-13 - A141 / B1090 Sawtry Way (Junction G) Turning Counts

Figure 5.16: B1090 Roundabout Turning Counts

Date of Survey: 2018

Figure 3-13 presents the turning flows at the A141 / B1090 Sawtry Way junction in the AM (07:30-08:30) and PM (16:45-17:45) peak hours. The heaviest movement at the junction is the tidal flow southbound on the A141 in the AM peak and northbound on the A141 in the PM peak.

The select link analysis from the *A141 Stage 1 Existing Conditions Report* suggested that in the AM peak a small proportion (5%) of vehicles travelling towards Kings and Abbots Ripton on the B1090 are bound for the A141 as a means of bypassing the B1514 junction (BP Roundabout). In the PM peak, a larger proportion (15%) of vehicles arriving from the Kings and Abbots Ripton direction originated on the A141.

Covid-19 Impact

Traffic flows since March 2020 have been significantly reduced nationally, as the general public has been urged to work and stay at home due to the Covid-19 pandemic. This will also have been the case around Huntingdon and the pandemic is likely to continue to affect travel behaviours well into 2021, particularly in the short-term. Statistics for Huntingdon³⁴, show that on average (between February and April 2021), public transport use was down approximately 40% compared to an early 2020 baseline³⁵. Access to workplaces, recreation and retail were both down by over 40% during the same period. Pedestrian footfall in Huntingdon in May 2021 was 25% lower than during the same month in 2019, but 129% higher than during May 2020, at the height of the Pandemic³⁶. ANPR motor vehicle counts in Huntingdonshire showed that in the seven days leading up to the 16th May 2021, traffic volumes were 8% lower than in October 2020³⁷.

^{34 2021-04-10} GB Cambridgeshire Mobility Report en-GB.pdf (gstatic.com) (accessed April 2021)

³⁵ 3 January – 6 February 2020

³⁶ Footfall Report (huntingdonfirst.co.uk) (accessed June 2021)

³⁷ May 2021 Cambridgeshire County Council Restart Dashboard



3.2.2. Journey Times

Using Trafficmaster data³⁸, the Stage 1 Report calculates average journey times for a period in 2016³⁹. Table 3-5 shows the average journey time difference between Spittals Interchange and A141 / Sawtry Way roundabout (by RAF Wyton) for the AM and PM Peak Hours, compared to the average inter-peak journey time for the same route⁴⁰.

Table 3-5 - Journey Times Delay on A141⁴¹

Direction	AM Peak Delay (08:00 – 09:00)	PM Peak Delay (17:00 – 18:00)
Eastbound	+23 seconds	+ 5 minutes 22 seconds
Westbound	+ 3 minutes 18 seconds	+ 4 minutes 44 seconds

Table 3-5 shows that there are long delays between Spittals Interchange and A141 / Sawtry Way roundabout in the peak periods. The AM peak eastbound traffic experiences relatively lower congestion compared to the AM peak westbound and PM peak eastbound and westbound traffic. The biggest delay however is during the PM peak period for eastbound traffic, which experiences an average delay of 5 minutes 22 seconds compared to the average journey time for the same route in the inter-peak period.

There is a need to improve journey times, especially during peak periods, along this route. This is supported by the CPCA Local Transport Plan which states that 'Improving journey times, both by road and rail, and reliability is important for businesses to access their markets, collaborators and supply chains. Improving journey times will also help to increase the geographical catchment from which to draw growing workforces, helping businesses to realise their full potential for growth.'42

3.2.3. Junction Capacity

The Stage 1 Report used the Cambridge Sub-Regional Model (CSRM2) to assess junction capacity along the A141 between Spittals Interchange and the A141 / Sawtry Way roundabout. The results show ratio of flow to capacity (RFC)⁴³ figures which indicates junction performance. For reference an RFC above 80% indicated that a junction is approaching its theoretical maximum capacity, whilst an RFC above 100% is operating beyond theoretical capacity.

It should be noted that utilising a strategic model such as CSRM2 does not provide accurate results for junction capacity, but it can provide an indication of junction performance⁴⁴. Note also that the RFC values represent the overall junction performance, and not individual arms. As a result, a junction's overall RFC could be below 100%, whilst specific movements perform worse.

Table 3-6 shows the RFC values for the junctions on the A141 between Spittals Interchange and the A141 / Sawtry Way roundabout. Figure 3-6 showed the locations of the junctions detailed in Table 3-6.

³⁸ Trafficmaster is a GPS source which is purchased from the DfT which is broken down into 15-minute segments.

³⁹ Specific dates not given in report.

⁴⁰ Inter-peak journey times are not provided in the A141 and St Ives Transport Study Option Assessment Report.

⁴¹ Skanska (2020) A141 and St Ives Transport Study Option Assessment Report. Para 2.2.4 – Page 28.

⁴² Cambridgeshire and Peterborough Combined Authority (2020) *The Cambridgeshire & Peterborough Local Transport Plan.* Page 12.

⁴³ RFC is a measure of highway performance. If an RFC value is over 100% the junction is considered to be over-capacity and therefore congestion is likely to occur.

⁴⁴ Atkins will seek to confirm baseline traffic flows and junction performance with the Paramics model.



Table 3-6 - RFC at Junctions on the A141 North of Huntingdon (2015)⁴⁵

Map Ref.	Junction	AM Peak	Inter Peak	PM Peak
А	Spittals Interchange	73%	81%	89%
В	A141 / Ermine Street / Stukeley Road	53%	48%	58%
С	A141 / Washingley Road / Latham Road*	17%	14%	13%
D	A141 / Huntingdon Road / Abbots Ripton Road	56%	54%	74%
Е	A141 / Kings Ripton Road	79%	82%	84%
F	A141 / B1514 / A1123	81%	63%	96%
G	A141 / B1090 Sawtry Way	40%	27%	45%

Peak period was not specified in the Stage 1 Report.

Table 3-6 shows that in 2015, all junctions were operating within capacity, although three of the seven junctions were nearing capacity (Spittals Interchange, A141 / Kings Ripton Road and A141 / B1514 / A1123), especially in the PM Peak.

The CPCA Local Transport Plan recognises that the A141 around the northern perimeter of Huntingdon is 'heavily congested' and there is a need for investment to help create a faster, more reliable journey for cars ²⁴⁶. In addition, the Local Transport Plan recommends improving the capacity of the A141 which will support local growth⁴⁷. Moreover, the Local Transport Plan identifies capacity issues as a threat to local growth as congestion increases journey time, reduces reliability and worsens air quality⁴⁸.

3.2.4. Road Safety

Collision data has been provided by Cambridgeshire County Council for the purposes of this study. Data provided covers the period from January 2015 to February 2021. Figure 3-14 shows the location of collisions within the A141 area by severity.

^{*}Figures for the A141 / Washingley Road / Latham Road junction are being reviewed and a further update may be subsequently provided

⁴⁵ Skanska (2020) A141 and St Ives Transport Study Option Assessment Report. Para 2.2.11 - Page 29.

⁴⁶ Cambridgeshire and Peterborough Combined Authority (2020) *The Cambridgeshire & Peterborough Local Transport Plan.* Page 109.

⁴⁷ Cambridgeshire and Peterborough Combined Authority (2020) *The Cambridgeshire & Peterborough Local Transport Plan.* Page 112.

⁴⁸ Cambridgeshire and Peterborough Combined Authority (2020) *The Cambridgeshire & Peterborough Local Transport Plan.* Page 54.





Figure 3-14 - Collisions recorded in and around Huntingdon (January 2015 - February 2021)

A total of 496 collisions occurred within the area between 2015 and February 2021, of which 407 were classified as 'slight', 79 were classified as 'serious' and 10 were fatal. Of the fatal collisions, two occurred on the A141 north of Huntingdon, one between the Hartford Roundabout and the B1090 roundabout, involving three vehicles and the other at the B1090/A141 roundabout, involving two vehicles. No particular causation factors were provided for these incidents.

A total of 10 serious collisions occurred on the A141 from the Spittal's Interchange to the B1090/A141 roundabout during the study period, all in different locations along the route. Table 3-7 summarises the collisions that occurred along the A141 by severity.

Table 3-7 - Collisions Recorded on the A141 in from 2015 to February 2021⁴⁹

Map Ref	Junction/ Link	Severity			
		Fatal	Serious	Slight	Total (Any Severity)
А	Spittals Interchange ⁵⁰	0	1	11	12
A-B	Spittals Interchange - A141 / Ermine Street / Stukeley Road	0	0	2	2
В	A141 / Ermine Street / Stukeley Road	0	1	10	11

⁴⁹ https://www.crashmap.co.uk/

⁵⁰ Including on-slips and off-slips



Map Ref	Junction/ Link	Severity				
		Fatal	Serious	Slight	Total (Any Severity)	
B-C	A141 / Ermine Street / Stukeley Road - A141 / Washingley Road / Latham Road	0	0	2	2	
С	A141 / Washingley Road / Latham Road	0	0	4	4	
C-D	A141 / Washingley Road / Latham Road - A141 / Huntingdon Road / Abbots Ripton	0	0	0	0	
D	A141 / Huntingdon Road / Abbots Ripton	0	1	5	6	
D-E	A141 / Huntingdon Road / Abbots Ripton - A141 / Kings Ripton Road	0	0	3	3	
Е	A141 / Kings Ripton Road	0	0	0	0	
E-F	A141 / Kings Ripton Road - A141 / B1514 / A1123	0	1	2	3	
F	A141 / B1514 / A1123	0	1	6	7	
F-G	A141 / B1514 / A1123 - A141 / B1090 Sawtry Way	1	4	3	8	
G	A141 / B1090 Sawtry Way	1	1	5	7	
Total		2	10	53	65	

Of the collisions summarised Table 3-7, four involved cyclists and none involved pedestrians. All four of the collisions involving cyclists occurred at the A141 / Ermine Street / Stukeley Road Roundabout (Junction B). This suggests that this junction is currently used by cyclists and improvements should be considered as part of future active travel measures to improve safety.

3.3. Transport Network Summary and Key Conclusions

This Chapter has summarised the existing transport network including the current infrastructure provision and performance of key junctions. The A141 is a strategic route connecting the A47 in north Cambridgeshire with the A14 and the rest of England. At a local level, the A141 is a distributor road that follows the northern perimeter of Huntingdon from west to east, whilst also connecting areas around Huntingdon, such as St Ives.

Overall, the existing highway network provides good connectivity, however the A141 is a busy route and is used by HGVs (8-10% of traffic) travelling between Fenland and North Norfolk, connecting with the A14. The route also experiences delay particularly eastbound movements travelling in the PM peak period when compared to average inter-peak period journey times. All junctions are reported to be operating within capacity, although three of the seven junctions were nearing capacity (Spittals Interchange, A141 / Kings Ripton Road and A141 / B1514 / A1123), especially in the PM peak. Local policy recognises that there are capacity



constraints along the A141 around the northern perimeter of Huntingdon and have safeguarded an alignment for a possible bypass to alleviate these issues⁵¹.

The busiest junction in the study area, Spittals Interchange, is likely to be significantly impacted by the A14 Improvement Scheme and is predicted to see reduced traffic volumes as it is no longer a key interchange for traffic using the A1(M), A14 and A141.

The remaining junctions along the A141 corridor are also congested. In particular, the A141 / B1514 / A1123 BP Roundabout junction is sufficiently congested in the AM and PM peak hours to cause 'rat running' using Kings Ripton Road/B1090 in order to avoid the junction, as evidenced by select link analysis of the SIHM. Select link analysis also highlights that the A141 sees high volumes of long-distance strategic trips as well as more local traffic.

There are good regional public transport connections from Huntingdon town centre. There are direct services to Peterborough and London via rail and good local connections between local neighbouring towns and villages via bus, with several bus operators in the town, however these run along radial routes to/from the town centre as opposed to orbital routes using the A141. The radial bus routes do however cross the A141 at several points. There is a policy aspiration to 'connect all new and existing communities sustainably so all residents can easily access a good job in 30 minutes by public transport'52 which is stated in the Local Plan.

Walking and cycling connectivity is reasonable along the existing A141 and surrounding routes with shared-use footways generally present alongside carriageways, however safe pedestrian and cycle crossing opportunities are limited. NCN 12, which runs adjacent to Ermine Street and is separated from traffic between B1044 Stukeley Road / Wertheim Way roundabout and Great Stukeley village crosses the A141, as well as a bridleway which links the Stukeley Meadows Industrial Area to the west of the railway line and the rest of Huntingdon to the east of the railway line. Active travel corridors crossing the A141 are currently well used by pedestrians and cyclists, as evidenced by the CCC count data.

Local policy also encourages active travel and considers it an opportunity to promote healthy lifestyles⁵³. CCC are supporting this policy by implementing a Huntingdonshire LCWIP which would result in upgrades to existing cycle routes along the existing NCN 12 route, the bridleway which crosses the A141 and alongside Kings Ripton Road.

⁵¹ Cambridgeshire and Peterborough Combined Authority (2020) *The Cambridgeshire & Peterborough Local Transport Plan.* Page 112.

⁵² Cambridgeshire and Peterborough Combined Authority (2020) *The Cambridgeshire & Peterborough Local Transport Plan.* Page 11.

⁵³ Huntingdonshire District Council (2019) *Huntingdonshire's Local Plan to 2036*. Page 21.



4. Physical and Environmental Constraints

This Chapter identifies the existing environmental, physical and planning constraints pertinent to the study.

4.1. Environmental Context

Initial consideration of environmental constraints was provided in the Stage 1 Report within Section 6.6 (Environmental Assessment)⁵⁴. This section summarises the findings from the Stage 1 Report that are relevant to this study, plus subsequent air quality information.

Air Quality

Huntingdonshire District Council produced the Air Quality Annual Status Report for the year 2019 in June 2020. The report states that Nitrogen Dioxide (NO2) continues to be the only pollutant that currently exceeds the objective level within the district and as such monitoring of NO2 levels are ongoing. The only current Air Quality Management Area (AQMA) within Huntingdon is an area 'encompassing approximately 2831 domestic properties affected by the A14, A141, B1044, B1514 and Huntingdon Inner Ring Road'55.

A slight rise in NO2 levels have been reported although 'the re-routed A14 will have a beneficial impact on the pollution levels currently experienced by many residents in Huntingdon'56.

New diffusion tubes to measure NO2 levels have been installed at Ermine Street, Huntingdon to monitor any increase in traffic along this route into Huntingdon following the A14 works. Ermine Street is not currently designated as an AQMA⁵⁷.

Ecology

An ecological desktop study was conducted by Skanska for assessing A141 improvements. The Stage 1 Report highlights that *'The most likely major impact is loss of habitats supporting protected and notable species and severance of habitats which is likely to be a significant negative adverse impact for some species'58.*

There is one Site of Special Scientific Interest (SSSI) to the north of Huntingdon called the Great Stukeley Railway Cutting although it is not considered to be a key designation⁵⁹.

The Huntingdonshire Local Plan identifies enhancements to biodiversity as an opportunity which can be achieved through careful planning⁶⁰.

Water Environment

A high-level assessment of the water environment was undertaken for the Stage 1 Report. The report states that river flooding is the dominant flood risk in the area although 'The current A141 road is not shown to be at significant risk of flooding from rivers (i.e. it is situated within Flood Zone 1).⁶¹' There is however a 'significant area of functional flood plain (Flood Zone 3b) between Huntingdon and St Ives which can be inundated fairly regularly during winter or high flows.⁶¹

The Huntingdonshire Local Plan has identified flooding as a key challenge for the local area going forward⁶². It is recognised that Huntingdon is situated between low lying fenland and the River Great Ouse which is susceptible to flooding.

Cultural Heritage

There are two Grade II listed buildings and two scheduled monuments (Roman Barrows) around the village of Great Stukelev⁶³.

⁵⁴ Skanska (2020) A141 and St Ives Transport Study Option Assessment Report. Section 6.6.

⁵⁵ Huntingdonshire District Council (2020) 2020 Air Quality Annual Status Report for the year 2019. Page 16.

⁵⁶ Huntingdonshire District Council (2020) 2020 Air Quality Annual Status Report for the year 2019. Page 7.

⁵⁷ Huntingdonshire District Council (2020) 2020 Air Quality Annual Status Report for the year 2019. Page 4.

⁵⁸ Skanska (2020) A141 and St Ives Transport Study Option Assessment Report. Section 6.6.12 - Page 275.

⁵⁹ Skanska (2020) A141 and St Ives Transport Study Option Assessment Report. Section 6.6.12 – Page 276.

⁶⁰ Huntingdonshire District Council (2019) Huntingdonshire's Local Plan to 2036. Page 21.

⁶¹ Skanska (2020) A141 and St Ives Transport Study Option Assessment Report. Section 6.6.12 - Page 305.

⁶² Huntingdonshire District Council (2019) Huntingdonshire's Local Plan to 2036. Page 21.

⁶³ Skanska (2020) A141 and St Ives Transport Study Option Assessment Report. Section 6.6.12 – Page 205 and DEFRA (2020) MAGIC map https://magic.defra.gov.uk/MagicMap.aspx [Accessed 27.10.2020]

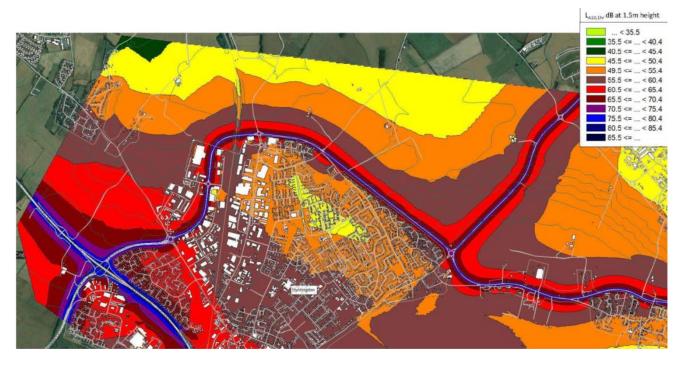


The Huntingdonshire Local Plan states that a key challenge is to conserve the historic environment, As such, schemes should seek to avoid identified areas where possible ⁶⁴.

Noise

A high-level assessment of road noise from the A roads around Huntingdon and St Ives was undertaken by Skanska to inform the Stage 1 Report. The assessment included 3D noise modelling which mapped the sound level at a height of 1.5m from the ground. Figure 4-1 shows a screenshot of the noise modelling results presented in the Stage 1 Report.

Figure 4-1 - Modelling Results for Noise Assessment (Stage 1 Report)⁶⁵



4.2. Physical Constraints

Physical constraints include existing features that a future scheme would have to avoid or mitigate the impact upon. These features can be either man-made (also known as human physical constraints), such as existing roads and railways, or natural barriers such as waterways and topography.

4.2.1. Human Physical Constraints

Housing and Development

The existing A141 runs east west to the north of Huntingdon. Most development is located to the south of the A141 with the exception of Ermine Business Park which is located on the north side of the A141. The remaining area north of the A141 is mostly agricultural, apart from a petrol station located on the A141 / A1223 / B1514 roundabout.

There are a number of farms located between Huntingdon and Kings Ripton, in addition to the Huntingdon Jubilee Park which is where Huntingdon Football Club is situated. A new crematorium is currently being built to the north of the football club.

As the housing and development is concentrated to land adjacent to the A141, severance caused by development is minimal and there are large areas of agricultural and greenfield land.

Transport Network

A key consideration for this study will be how a new transport scheme interacts with the existing infrastructure such local highways and railway lines.

⁶⁴ Huntingdonshire District Council (2019) Huntingdonshire's Local Plan to 2036. Page 21.

⁶⁵ Skanska (2020) A141 and St Ives Transport Study Option Assessment Report. Section 6.6.12 - Page 291.



In between the A1307 and A141 leading towards RAF Wyton there are three public highways that connect local villages with the town. These are Ermine Street, Huntingdon Road and Kings Ripton Road. There are also several private roads leading to the farms.

The East Coast Main Line runs north-south through Huntingdon and between Great Stukeley and Kings Ripton.

The National Cycle Network (NCN) 12 route runs adjacent to Ermine Street and is separated from traffic between B1044 Stukeley Road / Wertheim Way roundabout and Great Stukeley village. There is also a public bridleway linking the Huntingdon Road / St Peters Road / Kings Ripton Road roundabout with Green End and Great Stukeley although there is no formal crossing point across the A141. Public Rights of Way within the local area are shown in more detail in Figure 3-2.

Although most of the area of the north of Huntingdon is rural, there is a lot of severance issues caused by existing highways, both public and private, a major railway route and active travel routes. As such any future scheme would need to consider how these constraints can be mitigated.

4.2.2. **Natural Physical Constraints**

There are no major natural physical constraints in the area. There are no rivers and the topography shows a gentle decline from west to east of the study area. Fields are typically separated by drains rather than hedgerows.

Planning Constraints 4.3.

Figure 4-2 is an extract from the Huntingdonshire Local Plan Policies Map which shows that large sections of the area to the north and west of the existing A141 are allocated for mixed use development and as part of Alconbury Enterprise Zone. The area either side of the A141 to the west of Huntingdon is an 'established employment area'.

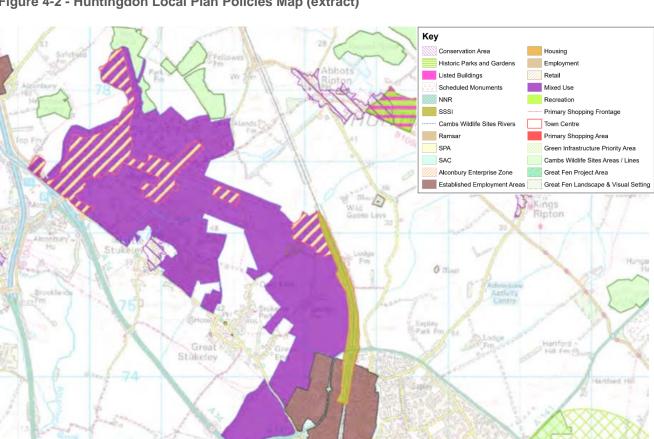


Figure 4-2 - Huntingdon Local Plan Policies Map (extract)



4.4. Constraints Summary and Key Conclusions

Local and regional policy, including the Huntingdonshire Local Plan and CPCA Local Transport Plan focus on the environmental impact of development and highlight a need to 'deliver a transport network that protects and enhances our natural, historic and built environments'66.

There are a number of environmental constraints within and around Huntingdon which need to be considered within future assessments, most of which are situated around Great Stukeley.

The most significant physical constraint is the railway which currently runs north-south through Huntingdon and between Great Stukeley and Kings Ripton. The SSSI is also located either side of the railway cutting.

A large part of the area around the A141 to the north and west of Huntingdon is allocated in Huntingdonshire's Local plan for mixed use development and Alconbury Enterprise Zone. Any transport scheme in this area would need to be cognisant of development plans and work with developers to find the best solution.

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⁶⁶ Cambridgeshire and Peterborough Combined Authority (2020) *The Cambridgeshire & Peterborough Local Transport Plan.* Page 11.



5. The Future

5.1. Local Plan Growth

As identified in Table 2-2, Huntingdonshire Local Plan identifies the need for an additional 20,100 new houses to meet population forecasts between 2011 and 2036, coupled with 14,400 additional jobs. A number of allocations are identified in Huntingdon and the surrounding area. Those that have been identified as of most relevance to this study are as follows⁶⁷:

- Strategic Expansion Location at Alconbury Weald consisting of:
 - Former Alconbury Airfield and Grange Farm (SEL 1.1) 5,000 homes and at least 290,000m² of employment floorspace;
 - RAF Alconbury (SEL 1.2) 1,680 homes;
- Ermine Street (HU 1) 1,440 homes; and
- St Ives West (SI 1) 400 homes.

These four sites represent 42% of the total allocated new housing outlined in the Local Plan, which would result in significant growth in the area.

The location of these sites is shown in Figure 5-1.

Figure 5-1 - Huntingdonshire Local Plan Allocated Development Sites of most relevance to this study



⁶⁷ This is not an exhaustive list of Huntingdonshire Local Plan allocated sites, but includes those that are likely to have the most significant impact on the A141 corridor.



At this stage, connections from these developments to the local transport network are not defined. However, the following assumptions were applied for the purposes of CSRM2 modelling for the Stage 1 Report⁶⁸:

- RAF Alconbury connections via A1307 and Ermine Street;
- Alconbury Airfield and Grange Farm a new roundabout on the existing A141;
- Ermine Street a new roundabout on the B1044 Ermine Street; and
- St Ives West junctions on the A1123/ Garner Drive and A1123/ High Leys.

The Stage 1 Report states that the new A141 bypass scheme is not required to deliver the Local Plan Growth identified above.

5.2. Impact of Local Plan Growth on the A141

Section 2.5 of the Stage 1 Report summarises the future forecast year (2036) road network conditions including the Local Plan Growth and the completed A14 Cambridge to Huntingdon Improvements.

The 2036 projections are based on CSRM2 outputs which predict an increase in vehicles on the A141 of 33% during the AM peak hour and 29% in the PM peak hour. This would result in increase in demand at key junctions including the A141 Spittals Way / Kings Ripton Road and the A141 / A1123 Houghton Road / B1514 Main Street.

Table 5-1 identifies the predicted 2036 junction performance with Local Plan Growth. This is compared to the 2015 base model junction performance as presented in Table 3-6.

Table 5-1 - RFC at Junctions on the A141 North of Huntingdon (2036)⁶⁹

		AM Peak		PM Peak	
Map Ref.	Junction	2036	Change from Base 2015	2036	Change from 2015
А	Spittals Interchange	57%	-16	65%	-24
В	A141 / Ermine Street / Stukeley Road	92%	+39	95%	+37
С	A141 / Washingley Road / Latham Road*	97%	-8	57%	-22
D	A141 / Huntingdon Road / Abbots Ripton Road	66%	+10	71%	-3
Е	A141 / Kings Ripton Road	90%	+11	91%	+7
F	A141 / B1514 / A1123	87%	+6	93%	-3
G	A141 / B1090 Sawtry Way	63%	+23	66%	+21

^{*}Figures for the A141 / Washingley Road / Latham Road junction are being reviewed and a further update may be subsequently provided

Table 5-1 shows that the impact of the Local Plan growth, coupled with the A14 improvement scheme, are predicted to have varying impacts on the operation of junctions along the A141 to the north of Huntingdon.

The performance of five out of seven junctions is predicted to worsen between 2015 and 2036 in the AM peak hour. Four junctions are predicted to operate approaching capacity. Spittals Interchange and the A141 / Washingley Road / Latham Road are predicted to improve in terms of spare capacity in the future year scenario.

During the PM peak hour the performance of four out of seven junctions is predicted to worsen between 2015 and 2036. Three junctions are predicted to operate approaching capacity. Spittals Interchange and the A141 / Washingley Road / Latham Road are predicted to improve significantly in terms of spare capacity in the future year scenario.

 ⁶⁸ Skanska (2020) A141 and St Ives Transport Study Option Assessment Report. – Section 5.3.17 onwards
 ⁶⁹ Skanska (2020) A141 and St Ives Transport Study Option Assessment Report. Para 2.5.14 – Page 39.



Improvements in performance at Spittals Interchange are likely to be as a result of the A14 Cambridge to Huntingdon Improvement Scheme, for which further detail is provided in Section 5.5.1.

Improvements in the performance of the operation of other junctions is likely to be as a result of the A14 improvement scheme and other local highway improvements associated with the Local Plan growth.

Table 5-2 provides information on the assessment of journey time between Spittals Interchange and the B1090 Sawtry Way Roundabout taken from CSRM, in terms of change between 2015 and 2036.

Table 5-2 - A141 journey time changes between 2015 and 2036 (mm:ss)⁷⁰

	AM Peak (08:00-09:00)	PM Peak (17:00-18:00
Eastbound	+39% (+04:36)	+27% (+06:26)
Westbound	+15% (+02:02)	+43% (+04:20)

Stage 1 Report - Table 2.7

Table 5-2 shows that between 2015 and 2036 journey times between Spittals Interchange and the B1090 Sawtry Way Roundabout are anticipated to increase in both directions in both the AM and the PM Peak Hour as a result of Local Plan growth, taking account of the A14 improvement scheme and other local highway improvements.

The results presented in this section show the importance of ensuring that transport infrastructure is provided in advance of planned growth, to ensure that growth can continue sustainably and to avoid any adverse impacts on the local transport network. Failure to do this would exacerbate the adverse impacts on the transport network in terms of journey time increases and junction capacity constraints. This is therefore something that will be considered when identifying options as part of the next phase of the study.

5.3. Higher Growth Aspirations

The devolution settlement between Central Government and the CPCA is based on the commitment for the CPCA to double the size of the economy over the next 25 years. The CPIER, published in September 2018, recognised that in order to achieve this, the area would need to go beyond where it has before, and beyond the levels of growth currently envisaged in the Local Plans.

The CPIER recommended that housing requirements across the Combined Authority should be reviewed "based on the potential for higher growth in employment than currently forecast by the EEFM⁷¹"⁷². The report stresses the importance of assessing the impact of the Cambridge – Milton Keynes – Oxford Arc and using this to set new housing targets for the region.

Based on this, the CPCA has an ambition to deliver higher growth than is currently set out in the Huntingdonshire Local Plan. Two scenarios, High Growth and High Growth Plus, were tested in the Stage 1 Report as follows:

- High Growth:
 - 4,500 dwellings at Wyton Airfield (north east of Huntingdon); and
 - 2,200 dwellings at Gifford's Park (to the east of St Ives).
- High Growth Plus:
 - 4,500 dwellings at Wyton Airfield (north east of Huntingdon);
 - 2,200 dwellings at Gifford's Park (to the east of St Ives); and
 - An additional 4,500 dwellings to the north of Huntingdon.

At this stage, connections from these potential sites are not defined, however the following assumptions were applied for the purposes of CSRM2 modelling for the Stage 1 Report⁷³:

 Wyton Airfield – access directly onto the A141 via two new roundabouts located to the north of the A141/B1090 Sawtry Way roundabout;

⁷⁰ Skanska (2020) A141 and St Ives Transport Study Option Assessment Report. Table 2.7 – Page 42.

⁷¹ EEFM – East of England Forecasting Model

⁷² CPIER Key recommendation #5 (Page 12)

⁷³ Skanska (2020) A141 and St Ives Transport Study Option Assessment Report. – Section 4.6.6 onwards



- Gifford's Park access onto the A1123 via a new roundabout approximately 400m to the east of the A1123/B1040/A1096 in St Ives; and
- Land North of Huntingdon access provided directly onto the A141 via two new roundabouts:
 - Between A141/Kings Ripon Road and the A141/B154/A1123 roundabout; and
 - Between the A141/B154/A1123 roundabout and A141/B1090 Sawtry Way roundabout.

5.4. Other Planned/New Developments

5.4.1. Live Planning Applications

There are currently a number of live planning applications⁷⁴ in progress in the area of the A141 as follows:

- Land North West of Ermine Business Park, Ermine Street Great Stukeley (20/00847/OUT) outline planning application for the phased development of up to 648 dwellings with associated public open space, services, and other ancillary infrastructure status: in progress;
- Alconbury Weald Ermine Street Little Stukeley (19/01341/OUT) outline planning permission for a mixeduse phased development to include – residential development of up to 1,500 dwellings, local centre including retail and community facilities, primary school, open space, play areas, recreation facilities, landscaping, associated demolition, ground works and infrastructure - status: in progress;
- Plot 2 St John's Park Washingley Road, Huntingdon (20/01671/FUL) New fire station and training facility
 – status: in progress; and
- Land at St John's Spittals Way Huntingdon (20/00826/FUL) erection of a building to be used for B1c (industrial), B2 (general industrial) and/or B8 (storage or distribution) uses and associated works including accesses, parking and landscaping.

The site layouts within these, and subsequent, applications will be taken into account during option development.

5.4.2. Approved Developments

An application (18/01439/FUL) for a crematorium and cemetery was approved on 8th February 2019 on Land opposite Mayfield Heath Farm, Sapley Road, Kings Ripton. The site is currently under construction. The location of the site is shown in Figure 5-2.

⁷⁴ As of 18th November 2020





Figure 5-2 - Crematorium and Cemetery (18/01439/FUL) Site Location

5.5. Recent and Planned Transport Schemes

This section includes a summary of recently completed or planned schemes relevant to the A141 study. All of these schemes will be included within the study as they progress.

5.5.1. A14 Improvements

Following the completion of the A14 Cambridge to Huntingdon improvements in May 2020, works on the old A14 (A1307) are planned to be completed in 2022 and include improvements and new links to and from Huntingdon as follows and shown in Figure 5-3:

- Pathfinder Link Road, to tie the Huntingdon Ring Road to the A1307 in the area to the west of the Mill Common underpass;
- Mill Common Link Road to join Edison Bell Way junction to the new Pathfinder Link Road;
- Views Common Link Road to connect Hinchingbrooke Park Road to the A1307, via a roundabout, to the north of the police and fire headquarters; and
- A new public transport hub at Huntingdon Railway Station, removal of the A14 viaduct and provision of a new access from Mill Common Link Road to the train station car park.



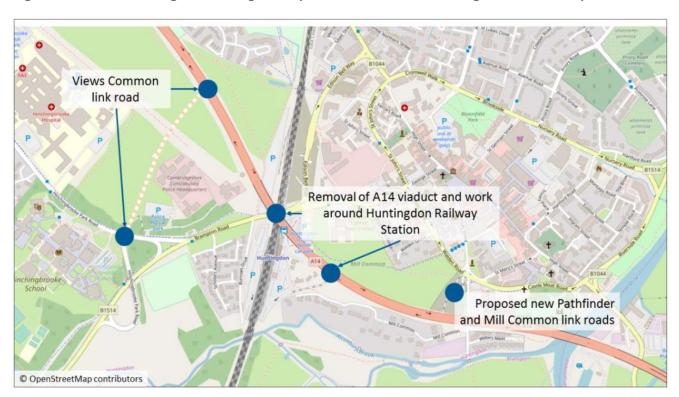


Figure 5-3 - A14 Cambridge to Huntingdon Improvement Scheme: Huntingdon Network Improvements⁷⁵

5.5.2. St Ives Schemes

The Stage 1 Report identified three 'quick-wins' in St Ives to support the development of schemes to improve town centre access as follows:

- Town Centre Parking Review;
- Bus Service Accessibility Review; and
- Pedestrian and Cycle Wayfinding Audit.

These workstreams were completed in Spring 2020. At this stage they are not anticipated to significantly affect the A141 scheme.

The Stage 1 Report also identified the need for a 'strategic solution' to enable full development at Gifford's Farm. A parallel study is looking at this. The two studies will take account of each other to ensure that any interaction between the schemes is managed.

5.6. Summary of the future situation

Chapter 5 has set out the future situation in terms of allocated, planned and aspirational growth in Huntingdonshire as well as recent and planned changes to the local transport network. Four significant development sites allocated within the HDC Local Plan to 2036 are located along or around the A141 near Huntingdon. These make up 42% of the total allocated new housing outlined in the Local Plan and therefore its success relies on delivering these sites. The Stage 1 report identified that an A141 bypass was not required to deliver this level of growth however the existing highway network is expected to be put under increased pressure as a result. This shows the importance of ensuring that suitable transport infrastructure is provided in advance of planned growth to ensure that growth can continue sustainably and to avoid any adverse impacts on the local transport network.

Higher growth aspirations have been set out by the CPCA via the CPIER, over and above that identified within the HDC Local Plan.

The A14 Huntingdon to Cambridge Improvement scheme was completed in May 2020 and works on the old A14 (A1307) around Huntingdon are proposed to be completed in 2022. The CAM network, being developed by the CPCA, is likely to play a significant role in enabling a higher level of growth in the region by transforming

⁷⁵ Skanska (2020) A141 and St Ives Transport Study Option Assessment Report. Figure 2.3 – Page 34.



connectivity. Locally to the A141, CAM would connect to Alconbury Weald and support the development of new up to 6,000 new homes and 8,000 new jobs.



6. Policy Context

This report has been informed by several local and regional policy documents (as outlined in Chapter 1). Relevant local policies have been referenced throughout this report; therefore, this Chapter sets out the remaining policy context for the A141 scheme and picks up on areas of the policy documents not specifically referenced in the Chapters above. Although not a policy document in itself, this chapter also sets out the work undertaken by Skanska to inform the Stage 1 Report.

6.1. National Planning Policy Framework (February 2019)

The National Planning Policy Framework (NPPF)⁷⁶ sets out planning policies for England and how they should be applied. At the heart of the framework is a 'presumption in favour of sustainable development'⁷⁷ which includes the need for development plans to seek to meet the development needs of their area and to be flexible to rapid change.

Chapter 2 'Achieving Sustainable Development' identified three overarching objectives for the planning system to achieve:

- the economic objective to build a strong, responsive and competitive economy;
- the social objective to support strong, vibrant and healthy communities; and
- the environmental objective to contribute to protecting and enhancing our natural, built and historic environment.

Whilst these are all independent of one another they need to be mutually supportive in order for development to be sustainable. These three policy objectives are echoed throughout the CPCA and Huntingdonshire Regional and Local planning policy documents, as demonstrated in the Sections below, and therefore also need to be at the centre of any future A141 proposals.

Chapter 9 'promoting sustainable transport' states that transport proposals should be identified from the earliest possible stage so that opportunities originating from existing or proposed infrastructure are realised and therefore capitalised on. Furthermore, early identification allows the full environmental impact of infrastructure to be identified, assessed and taken into account in emerging proposals.

6.2. Huntingdonshire Local Plan to 2036 (Adopted May 2019)

The Huntingdonshire Local Plan provides a framework for sustainable development up to 2036 and identifies strategic development sites to help meet housing and employment targets. The development sites relevant to this study have been identified previously in this report. Several allocated sites in the Local Plan (SEL 1.1 and HU 1) have a requirement to safeguard land for an A141 bypass.

The Local Plan supporting documents, including the Strategic Transport Study (May 2017) and Infrastructure Delivery Plan (June 2017) identify transport and infrastructure measures to facilitate and enable the growth outlined in the Local Plan.

The Strategic Transport Study⁷⁸ consists of three reports as follows:

- Baseline Report (May 2017);
- Development Scenario Comparative Assessment (May 2017); and
- Addendum Development Scenario 6 prepared by Cambridgeshire County Council (November 2017).

The Baseline Report identified that the most significant highway delays on the road network in Huntingdonshire are on the A14 eastbound, the A141 around Huntingdon and the A1123 to St Ives.

The Development Scenario Comparative Assessment summarises the modelling and analysis undertaken to assess the highway implications of a variety of development scenarios in Huntingdonshire, to recommend a

⁷⁶ Ministry of Housing, Communities and Local Government (2019) National Planning Policy Framework https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/810197/NPP Feb 2019 revised.pdf (Accessed 18/11/2020)

Ministry of Housing, Communities and Local Government (2019) National Planning Policy Framework – page

⁷⁸ undertaken by Mott Macdonald on behalf of Cambridgeshire Council and Huntingdonshire District Council.



preferred growth scenario for the Local Plan. The growth scenarios tested as part of the Strategic Transport Study are:

- Core Scenario 13,166 new dwellings as defined in Appendix A of the Development Scenario Comparative Assessment; and
- Development Scenarios 1-4 13,166 new dwellings as in the Core Scenario plus varying combinations of additional development including at Wyton Airfield, Alconbury Weald, RAF Alconbury and Ermine Street among others.

A full list of sites within each development scenario can be found in Section 2.2.1 of the Development Scenario Comparative Assessment⁷⁹.

Model testing in CSRM2 found that all development scenarios would require the introduction of some mitigation to support the proposed increased development levels (scenarios 1-4). For the A141, this included localised capacity enhancements in the form of local junction improvements. In addition to localised improvements, other mitigation measures were considered and tested which were considered to have the potential to alleviate specific impacts of the development scenarios. This additional mitigation included further A141 improvements, although no detailed improvement schemes were identified at this stage, for the purposes of modelling the following was assumed:

- Provision of dual carriageway capacity in a corridor between the A141/B1090 roundabout ad the A141/B1123/B1514 roundabout;
- Increased capacity at the A141/A1123/B1514 roundabout; and
- Dual carriageway capacity in the corridor from the A141/A1123/B1514 roundabout to the A141/Kings Ripton Road signalised junction, together with provision of an outer A141 route from broadly the A141/Kings Ripton Road signalised junction, on an alignment which would need to be developed and assessed in detail, towards the A141/Spittals Interchange roundabout⁸⁰.

Assessment of the development scenarios with the mitigation packages, including localised junction improvements and the further A141 improvements, showed that the "only mitigation packages which restore the network to core scenario levels of performance in both peak hours are those which involve significant infrastructure measures such as a Third River Crossing or complete upgrades to the A141"81. The assessment concluded that none of the development scenarios were deliverable in terms of the level of infrastructure spend required to mitigate their impact.

Therefore a 5th development scenario was developed with the client team, including RAF Alconbury and Ermine Street sites, which consisted of a low level of development but still meets the required housing targets. Assessment of this scenario showed that some mitigation was still required but only consisting of local junction improvements. Therefore, development scenario 5 was recommended as the preferred growth scenario in transport terms.

An Addendum to the Transport Study was provided by Cambridgeshire County Council in November 2017. This presented development scenario 6 which was based upon development scenario 5 but with an intensification of development at Alconbury Weald, bringing the total number of dwellings at that site to 6,500. It concluded that the increase in dwellings at Alconbury Weald does not lead to the triggering of significant new highway infrastructure, therefore the level of mitigation required was likely to be in line with the level of development proposed⁸² in the original report.

6.3. The Cambridgeshire and Peterborough Local Transport Plan

The Local Transport Plan sets out policies and interventions to help enable growth to occur in a sustainable way. The Local Transport Plan objectives are grouped under three themes: Economy, Society and Environment, as shown in Figure 6-1. These objectives include a commitment to reduce emissions to 'net zero' by 2050, to minimise the impact of transport and travel on climate change, and to deliver a network that protects and enhances our natural, historic and built environments. This means ensuring that all transport initiatives and schemes improve, rather than damage, the natural environment based on guidance from DEFRA which includes biodiversity and environmental net gain principles.

⁷⁹ Mott Macdonald (2017) Development Scenario Comparative Assessment – Section 2.2.1

⁸⁰ Mott Macdonald (2017) Development Scenario Comparative Assessment - Section 3.3.1

⁸¹ Mott Macdonald (2017) Development Scenario Comparative Assessment - Page 91

⁸² Cambridgeshire County Council (2017) Addendum Development Scenario 6 - page 3



Specifically related to the A141 study, the Local Transport Plan identifies that "additional highway capacity and improved accessibility is primarily required at major development sites such as Alconbury Weald, in order to support the delivery of much needed homes and jobs. We will invest in improved access to these sites particularly around the heavily congested A141 Huntingdon Northern Bypass Corridor, helping to create faster, more reliable journeys by car"⁸³.

In order to realise the economic potential of the region, the Combined Authority has identified a series of priority transport schemes for Huntingdonshire, as shown in Figure 6-2. This includes 'Improvements at Alconbury', including:

- "Capacity and junction enhancements to the A141 around Huntingdon;
- Safeguarding of an alignment for the possible future re-routing of the A141 Huntingdon Northern Bypass (See SEL 1.1 and HU 1 in the Local Plan); and
- Multimodal accessibility to and from Alconbury Weald, with high quality bus infrastructure linking this new development to Huntingdon and the potential for a future CAM route to serve the site"84. (page 113)

⁸³ CPCA (2020) Adopted Local Transport Plan (Section 3.106 page 109)

⁸⁴ CPCA (2020) Adopted Local Transport Plan (Section 3.116 page 113)



Figure 6-1 - Local Transport Plan Objectives⁸⁵

Economy



Housing

Support new housing and development to accommodate a growing population and workforce, and address housing affordability issues



Business & Tourism

Ensure all of our region's businesses and tourist attractions are connected sustainably to our main transport hubs, ports and airports



Employment

Connect all new and existing communities sustainably so all residents can easily access a good job within 30 minutes by public transport, spreading the region's prosperity



Resilience

Build a transport network that is resilient and adaptive to human and environmental disruption, improving journey time reliability

Society



Safety

Embed a safe systems approach into all planning and transport operations to achieve Vision Zero - zero fatalities or serious injuries



Health & Wellbeing

Provide 'healthy streets' and highquality public realm that puts people first and promotes active lifestyles



Accessibility

Promote social inclusion through the provision of a sustainable transport network that is affordable and accessible for all



Air Quality

Ensure transport initiatives improve air quality across the region to exceed good practice standards

Environment



Environment

Deliver a transport network that protects and enhances our natural, historic and built environments



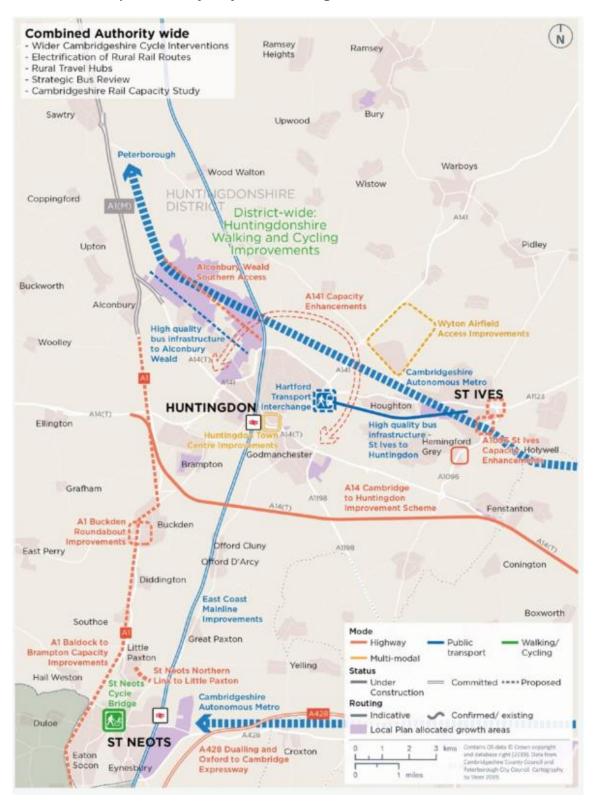
Climate Change

Reduce emissions to 'net zero' by 2050 to minimise the impact of transport and travel on climate change

⁸⁵ CPCA (2020) Adopted Local Transport Plan (Table I; page 11)



Figure 6-2 - Local Transport Plan Key Projects in Huntingdonshire86



⁸⁶ CPCA Adopted Local Transport Plan (Figure 3.3; page 111)



6.4. Cambridgeshire and Peterborough Independent Commission on Climate

The Cambridgeshire and Peterborough Independent Commission on Climate was formed by the CPCA to "provide authorities recommendations on the options available to Cambridgeshire and Peterborough to decarbonise the economy, mitigate and adapt to the impacts of climate change"87. The Independent Commissions published their first report on initial recommendations in March 2021, based on the four themes of transport, buildings, energy and peat.

The report identifies that greenhouse gas emissions in the CPCA area are approximately 25% higher per person than the national average⁸⁸ and that the region is particularly susceptible to the risks associated with climate change including water shortages and flooding. For this reason, the report stresses that action is needed now and that the CPCA have a significant role to play give their powers related to planning and transport.

Focussing on the transport element, findings suggest that emissions from transport in the CPCA area make up 44% of all CO₂ emissions, compared to the UK average of 37%⁸⁹, which reflects the relatively high level of car ownership in the region. The report makes four key recommendations related to transport in the form of targets:

- 1) "A complete phase-out of the use of cars running on fossil fuels by 2050 within the CPCA area;
- 2) All buses and taxis operated within the CPCA area, and Council owned and contracted vehicles, should be zero emissions by 2030;
- 3) Reduction in car miles driven by 15% to 2030 relative to baseline:
 - a. Major new developments (>1000 homes) should be connected to neighbouring towns and transport hubs through shared, public transport and/or safe cycling routes;
 - b. 100% of homes and businesses to have access to superfast broadband by 2023;
 - c. CPCA to undertake a trial of electric on-demand buses to increase accessibility and connectivity
 - d. Development and implementation of the Strategic Bus Review to prioritise affordability and reliability of services;
 - e. CPCA to work with major employers, employment hubs and Liftshare to encourage carsharing, public transport, walking and cycling for commuting and Councils to take a lead in respect of their own employees;
 - f. CPCA, with relevant authorities, to explore options to improve cycling infrastructure both within urban areas, and to encourage the use of e-bikes for longer trips to and from market towns and cities:
 - g. Alternatives to road investment to be prioritised for appraisal and investment from active travel and public transport options, to opportunities for light rail and bus rapid transit or options to enhance rail connections;
- 4) Diesel vans and trucks to be excluded from urban centres by 2030 and local zero emissions options pursued"90.

A full report will be published by the Independent commission later in 2021 which will provide details on the timing and prioritisation of measures, and to look in more detail at other sources of emissions including waste and water.

⁸⁷ Independent Commission on Climate | Cambridgeshire & Peterborough Combined Authority (cambridgeshirepeterborough-ca.gov.uk) (accessed 15/04/2021)

⁸⁸ Cambridgeshire and Peterborough Independent Commission on Climate (March, 2021) *Initial Recommendations Report* (page 8)

⁸⁹ Cambridgeshire and Peterborough Independent Commission on Climate (March, 2021) *Initial Recommendations Report* (page 54)

⁹⁰ Cambridgeshire and Peterborough Independent Commission on Climate (March, 2021) *Initial Recommendations Report* (page 12/13)



6.5. CPCA Strategic Spatial Framework (Non-Statutory) Phase 1

The CPCA Strategic Spatial Framework aims to support delivery of growth across Cambridgeshire to 2036, outlined in the Local Plans, and beyond to 2050. The key principle that the CPCA will employ to support local planning authorities to meet their targets, specifically relevant to the A141 study, is to "ensure that investment in strategic infrastructure demonstrably supports economic growth, including for the most deprived communities within the area"91. Strategic Spatial Objective 7 states that "The Combined Authority will develop and maintain a long-term investment programme of infrastructure projects, including projects it seeks national support to deliver. It will work with the highway authorities and national agencies to ensure timely and effective interventions to deliver strategic transport solutions"92.

Phase 2 of the Strategic Spatial Framework will engage with key stakeholders and partners to develop a development strategy through to 2050.

6.6. CPCA Cambridgeshire and Peterborough Local Industrial Strategy (July 2019)

The CPCA Local Industrial Strategy presents an evidence base to support industry across the Combined Authority Area to achieve its goals of an "*inclusive*, *prosperous*, *and productive economy*" and an enhanced position "as a global leader in knowledge and innovation, further developing its key sectors including life sciences, information and communication technologies, creative and digital industries, clean tech, high-value engineering and agri-business" The Local Industrial Strategy is closely aligned with the Devolution Deal and its ambition to double economic output over the next 25 years. It is framed as a response to CPIER and recognised that to achieve desired levels of growth, current patterns of growth must change.

The strategy is linked to three other strategies across the Oxford – Cambridge Arc (the Arc) with priorities sitting across all four strategies but also CPCA specific objectives. Of specific relevance this study is the aim to "Improve the long-term capacity for growth in Greater Cambridge by supporting the foundations of productivity"⁹⁵. Critically, and of relevance to the A141 study, this relates to reducing the risk of stalling growth by investing in housing, supporting supply chain development and delivering transformational transport and infrastructure. A survey of businesses undertaken for the Local Industrial Strategy highlighted poor infrastructure as key risk to enabling growth. In order to alleviate this risk, the Local Industrial Strategy states that its Partners will:

- "progress key infrastructure priorities, for example, establishing in-principle viability of a Cambridgeshire Autonomous Metro (CAM), which could support sustainable growth in and beyond Cambridge City;
- Complete the Cambridgeshire and Peterborough Strategic Bus Review, on the basis of which a Bus Task Force is being established to examine opportunities for an improved future service; and
- Work with government to develop a shared evidence base for the current and future energy needs of the Arc, including through the identification of opportunities to test new energy policies or approaches within the Arc."

Huntingdonshire is identified as a key part of the region for the acceleration in the growth of the advanced manufacturing sector and the life sciences sector. There is a need for this area to be increasingly connected to the existing life sciences hub in Cambridge as well as wider connections across the Arc.

6.7. CPCA Skills Strategy Framework Final

Similar to the Local Industrial Strategy, the Skills Strategy responded to the CPCA Devolution Deal and the subsequent findings of the CPIER. It was produced through engagement with 60 businesses across the region.

⁹¹ Cambridgeshire and Peterborough Strategic Spatial Framework (page 19)

⁹² Cambridgeshire and Peterborough Strategic Spatial Framework (page 28)

⁹³ Cambridge and Peterborough Combined Authority (2019) *Cambridgeshire and Peterborough Local Industrial Strategy* (page 4)

⁹⁴ Cambridge and Peterborough Combined Authority (2019) *Cambridgeshire and Peterborough Local Industrial Strategy* (page 4/5)

⁹⁵ Cambridge and Peterborough Combined Authority (2019) *Cambridgeshire and Peterborough Local Industrial Strategy* (page 8)

⁹⁶ Cambridge and Peterborough Combined Authority (2019) *Cambridgeshire and Peterborough Local Industrial Strategy* (page 11)



The overall vision of the Skills Strategy is "an inclusive world-class local skills eco-system that matches the needs of our employers, learners and communities" The Skills Strategy has helped inform the Local Transport Plan as shown in Figure 1.1 of the Local Transport Plan.

6.8. Huntingdonshire Market Towns Programme: Huntingdon A Prospectus for Growth

The Huntingdon Masterplan, produced by Metro Dynamics, was commissioned by HDC and funded by CPCA to contribute to the bold growth ambitions of the region by enabling towns to grow their economies. In line with the NPPF, the masterplan identifies a number of interventions that should be "accountable for imposing minimal long-term impact to the environment and development should be embedded in climate change resilience with emphasis on future-proofing our communities" ⁹⁸.

The masterplan recognises the need for development to expand beyond the A141 and to alleviate the "traffic burden concurrent with expansion" in relation to the A141 Study and the Huntingdon Third River Crossing Study.

The masterplan identifies an Action Plan to deliver the prospectus for growth. Of relevance to this study are:

- The removal of the Huntingdon Ring Road to consist of an initial feasibility study followed by gradual phasing out of traffic on the ring road, replacing road space with active travel links, and ultimately full removal of the ring road; and
- Improved access and connectivity to Alconbury Weald including cycling and walking links, an express guided bus service and a new railway station.

6.9. Doubling Nature: A vision for the natural future of Cambridgeshire and Peterborough in 2050

Natural Cambridgeshire are a local nature partnership for Cambridgeshire and Peterborough consisting of a variety of organisations including district councils, the Wildlife Trust, National Trust and the RSPB. Their vision is that "by doubling the are of rich wildlife habitats and natural green space, Cambridgeshire and Peterborough will become a world-class environment where nature and people thrive, and businesses prosper" 100. The vision aligns with the growth aspirations identified by the CPCA through the CPIER and stresses the importance of putting nature at the heart of the aspirations.

One of the key objectives of the vision relevant to the A141 study is that development should contribute to strategic scale nature gains both on and off-site, in order to double the rich wildlife habitats and green space from 8.5% to 17%, and that all new developments achieve net gains for nature.

6.10. Net Zero Cambridgeshire – CUSPE¹⁰¹ Policy Challenge (October 2019)

The Net Zero Cambridgeshire Policy Challenge provides a baseline for which Peterborough and Cambridgeshire can measure their performance against the 2050 target for net zero UK Greenhouse Gas emissions. For this region the target means reducing current emissions from 6.1 million tonnes of CO² equivalent to zero¹⁰². Transport has a significant role to play in achieving net zero as it currently accounts for 39% of all emissions in Cambridgeshire and this level has remained constant for the last decade. The policy challenge identifies that in order to meet net zero there is a requirement for 100% of cars, LGVs, motorcycles and buses, and 91% of HGVs to be electric by 2050¹⁰³. However, this alone will not solve the issue, with mode shift towards sustainable modes needed on top.

⁹⁷ CPCA (2019) Skills Strategy (page 2)

⁹⁸ Metro Dynamics - Huntingdon: A Prospectus for Growth (page 3)

⁹⁹ Metro Dynamics - Huntingdon: A Prospectus for Growth (page 29)

¹⁰⁰ Natural Cambridgeshire – Doubling Nature: A vision for the natural future of Cambridgeshire and Peterborough 2020 (page 3)

¹⁰¹ Cambridge University Science Policy Exchange

¹⁰² CUPSE (October 2019) Net Zero Cambridgshire (page 2)

¹⁰³ CUPSE (October 2019) Net Zero Cambridgshire (page 2)



6.11. A141 and St Ives Transport Study Stage 1: Existing Conditions and Data Collection Report

The A141 and St Ives Transport Study Existing Conditions Report (Draft April 2019) documents the structure and performance of the existing A141 network using a variety of data sources, with the purpose of building a foundation of knowledge from which to design future schemes. The report covered the same study area as this report, and some of the analysis used within the Stage 1 Report has been reproduced here.

The report found that of the seven junctions in the study area, Spittals Interchange was historically the busiest and most likely to see traffic incidents. This was due to its previous interchange function between the A14 and A141, including for journeys to the A1(M), noting that its function has changed as a result of the A14 Improvement Scheme which has now been implemented. The A141 was found to be used by vehicles with varied destinations, including tidal commuter flows along its length and a mix of long distance and local journeys. The A141 was noted as having additional delays of up to 5 minutes eastbound in the PM compared to AM times due to these tidal commuter flows.

There were several ecologically sensitive areas noted within the study area, including significant water features such as Hartford Lake. The A141 was also singled out as one of the main contributors to noise pollution in Huntingdon.

6.12. A141 and St Ives Transport Study – Option Assessment Report (July 2020)

The A141 and St Ives Transport Study Option Assessment Report documents the methodology and outcomes of the identification and assessment of options to provide improvements to the A141 to the north and west of Huntingdon. Options for a Huntingdon Third River Crossing were also considered as an alternative but not taken forward.

Option identification and subsequent sifting identified a shortlist of five options for the A141 as follows:

- 1. Local improvements (2 lane entry/exits on existing A141 junctions);
- 2. Signalisation of existing A141 junctions;
- 3. Online dualling of the existing A141;
- 4. Offline single carriageway bypass; and
- 5. Offline dual carriageway bypass.

The shortlisted options were assessed using the CSRM model in a 2036 forecast year, including full build out of Huntingdonshire Local Plan growth and the A14 Cambridge to Huntingdon Improvement Scheme, including the new link roads in Huntingdon. Results showed that Options 4 and 5 performed significantly better than Options 1, 2 and 3. However, Option 5 was not considered to provide significant benefit over Option 4. Future year traffic forecasts did not exceed the capacity of a single carriageway road and the only performance difference between Options 4 and 5 were considered to be as a result of national speed limit differences between a single and dual carriageway. Therefore Option 4, an offline single carriageway with a connection at the eastern end at the A141/B1090 roundabout and a connection at the western end on Spittals Way, was taken forward for further refinement and further assessment.

Further refinement considered connecting junctions at each end of the bypass, whether junctions should be atgrade or grade-separated and the impact of the option on re-routing and the wider highway network. This analysis showed that:

- Option 4 should connect at the western end with the A141/A1307, Spittals Interchange via a roundabout which also provides access to Spittals Way;
- Option 4 should connect at the eastern end with the A141 via an upgraded roundabout at the A141/B1090, with the B1090 accessed via a new roundabout to the west of the A141;
- Option 4 should have at-grade rather than grade-separated junctions; and
- Wider network impacts identified the need for mitigation at the A1123/B1090 Sawtry Way.

Further assessment considered the level of additional growth, above that identified in the Local Plan, that Option 4 could support. This consisted of the high growth and high growth plus scenarios outlined in Section 5.3. The assessment concluded that Option 4, coupled with local improvements, could accommodate a total of 6,750 dwellings beyond those identified in the Local Plan, consisting of 4,500 dwellings at Wyton Airfield and 2,250 dwellings on Land to the North of Huntingdon (50% of the total number of dwellings that could be



accommodated on this site). The remaining dwellings at Land North of Huntingdon could not be accommodated and any development at Gifford's Park would require a 'strategic solution' focused on St Ives.

The OAR concluded by recommending that Option 4, the offline single carriageway bypass, be taken forward to SOBC stage and be further assessed in terms of design and feasibility.



7. Summary and Case for Change

7.1. Summary

This report has presented the existing conditions for the A141 area and commented on the future conditions following significant planned growth. It sets out the strategic context and existing evidence base for the scheme.

The A141 plays both a strategic and local role. At a strategic level the A141 connects the A14, A1, Huntingdon, the towns and villages of Old Hurst, Warboys, Chatteris and March, with the A47 and hence with King's Lynn and the North Norfolk region.

At a local level the A141 is a distributor road that follows the northern perimeter of Huntingdon from west to east. It not only connects Huntingdon and local villages to the Strategic Road Network (A14 / A1), but also connects the west of Huntingdon (including traffic from Hinchingbrooke and Brampton) with the east of Huntingdon (including traffic from Kings Ripton, RAF Wyton, the wider fenland area to the north east and St Ives to the south east via the A1123). Despite its status as an important orbital route around the town, the A141 has limited provision for public transport along its length, limited pedestrian crossing facilities and very limited cycle provision. As a result the A141 is unlikely to be an attractive route for journeys on foot or by cycle.

The A141 is also the main access to a large number of employment, industrial and distribution locations alongside it, such as Ermine Business Park and Stukeley Meadows. The A141 connects all these businesses to their employees, customers, suppliers and visitors, both locally and nationally.

7.2. Case for Change

Local policy documents identify the section of the A141 around Huntingdon as having some of the longest delays and highest levels of congestion¹⁰⁴ in the district, and this congestion is forecast to increase in the future. These delays to travellers and goods make it harder for people to get around, increase costs to businesses, and reduce the area's attractiveness to investment.

Significant development is proposed around Huntingdonshire up to 2036, particularly at Alconbury Weald with accesses directly onto the A141, increasing the demand for transport in the area. In addition to this, the region has ambitious economic growth plans, centred around doubling the size of the Cambridgeshire and Peterborough economy over 25 years¹⁰⁵.

The A141 corridor clearly has a significant role to play in delivering growth in both housing and the economy. Improving transport connections and capacity will support growth in the region and provide greater opportunity to capitalise on the city's successful technology economy.

Earlier technical studies feeding into the Huntingdonshire Local Plan established that the Local Plan developments do not require this A141 scheme to be in place, but that a corridor should be safeguarded in case network conditions or further growth (beyond the Local Plan developments) required it.

Recent work, as set out in this report, has now identified that this scheme will indeed be needed in order to unlock that further growth beyond that identified within the Local Plan. Section 5.2 of this report shows that Local Plan growth can be accommodated on the local transport network through local junction improvements coupled with the A14 Cambridge to Huntingdon scheme. However, as we have seen, there are ambitions for growth beyond this and there is the possibility of further major development sites becoming available, including RAF Wyton and potentially other sites around Huntingdon. The Stage 1 report shows that in order to accommodate this further growth, a strategic option in the form of an A141 bypass, would be required.

¹⁰⁴ Huntingdonshire Local Plan – See Section 6.2.

¹⁰⁵ CPIER – See Section 2.1



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