A120 Corridor Study
Revised Development Scenario (March 2024)

Document no: *[Document number]*
Version: 3

Essex County Council and Uttlesford District Council
B3553RK2

Uttlesford A120 Corridor Multi-Modal Viability Study
15 May 2024

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Revised Development Scenario (March 2024)

Client name:	Essex County Council and Uttlesford District Council		
Project name:	Uttlesford A120 Corridor Multi-Modal Viability Study		
Project no:	B3553RK2	**Project manager:**	Tom Beck
Version:	3	**Prepared by:**	CH, CB
Date:	15 May 2024	**File name:**	A120 Corridor Study Final Stage March 2024
Document status:	Final		

Document history and status

Version	Date	Description	Author	Checked	Reviewed	Approved
1	14/03/2024	Revised Development Scenario (March 2024)	CH, CB	TB	TB	MW
2	09/04/2024	Revised Development Scenario (March 2024)	CB	TB	TB	MW
3	15/05/2024	Revised Development Scenario (March 2024)	CB	TB	TB	MW

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1. Introduction

1.1 Background

Uttlesford District Council (UDC) and Essex County Council (ECC) have commissioned Essex Highways to undertake a multi-modal viability study for the A120 corridor in Uttlesford, part-funded by Homes England.

Homes England is an executive non-departmental public body, sponsored by the Department for Levelling Up, Housing and Communities. They encourage the development of affordable and quality homes, and encourage the pace of house building and regeneration across the country.

In 2019 Uttlesford's Local Plan was withdrawn with a need for further detail. One element of this was the need to provide more analysis around the viability of rapid transit along the A120 corridor. This has led to this viability study being commissioned following Uttlesford's review of development locations in the district.

The aim of this study is to consider for the revised development scenario (March 2024), the most viable public transport service enhancements that would be viable with the level of development planned.

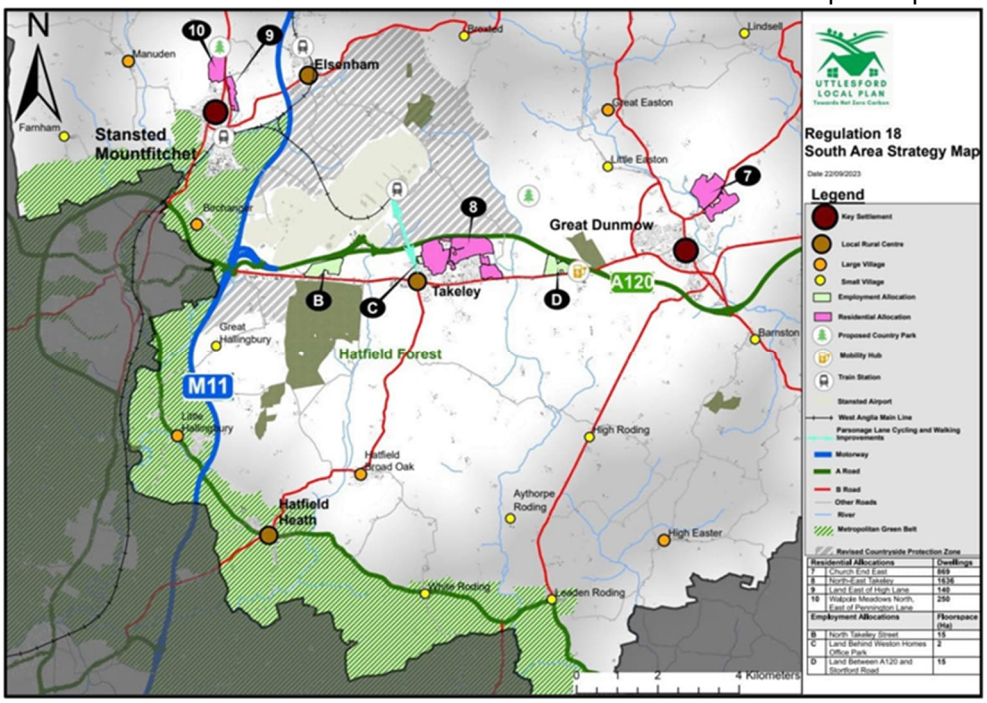


Figure 1.1: UDC South Area Strategy Map

1.2 Objectives

The overarching objective of this study is to assist in the delivery of sustainable transport across the region, as well as aiding the response to the climate emergency, reducing emissions, supporting the economy and people's health and wellbeing. This quote is taken for the Uttlesford Spatial Vision, and is a key aim for this corridor study:

'Development will be located in ways to optimise opportunities for delivery of new infrastructure and use of public and active transport.'

Additionally, Core Policy 26 in the Uttlesford Draft Local Plan states:

'The Council will support measures identified in the Essex Local Transport Plan and the area travel plans and work with Essex County Council to ensure that transport improvements contribute positively to the attractiveness and safety of our places, quality of life, and respond sensitively to our natural and historic environment.'

'All strategic developments as set out in the Area Strategies will be expected to provide direct bus access, rapid electric charging points, car and electric vehicle community sharing clubs and mobility hubs.'

- Additionally, Homes England's 5-year Strategic Plan[1] starting 2023, sets out five interconnected strategic objectives that work together to deliver their mission:Support the creation of vibrant and successful places that people can be proud of, working with local leaders and other partners to deliver housing-led, mixed-use regeneration with a brownfield first approach;
- Facilitate the creation of the homes people need, intervening where necessary, to ensure places have enough homes of the right type and tenure;
- Build a housing and regeneration sector that works for everyone, driving diversification, partnership working, and innovation;
- Promote the creation of high-quality homes in well-designed places that reflect community priorities by taking an inclusive and long-term approach; and
- Enable sustainable homes and places, maximising their positive contribution to the natural environment and minimising their environmental impact.

This document develops options based on the Revised Development Scenario (March 2024), including discussions with stakeholders to draw out the promising public transport service enhancement options for the key locations along the corridor, as well as complementary measures to support other forms of sustainable transport.

Options should consider:

- what level of service provision could be delivered to support the local plan growth and deliver mode shift to sustainable modes. To consider proposals around existing routes required to achieve this, pertaining to, but not limited to amendments to existing bus services, new buses services, active travel improvements and potential mobility hubs in key areas, and;
- ensure proposals allow for future expansion for long term service provision that could be delivered beyond the existing plan, such as future rapid transit services serving new and future developments.

1.3 Report Structure

This report summarises evidence gathering and data collation and helps inform the next stages of the Local Plan. The report is structured as follows:

- Chapter 2 summarises a review of existing studies and evidence base documents and sets out the collation of data for the study area to provide a picture of demographic and transport related issues, assessment of local and strategic drivers for change, looking specifically at constraints and opportunities to influence future travel patters (aligning with insight from LTP4 data assessment)
- Chapter 3 outlines the findings from travel demand analysis utilising the West Essex Model to understand both local and strategic Public Transport trips along the corridor for the Revised Development Scenario (March 2024).

[1] Source: Homes England strategic plan 2023 to 2028. https://www.gov.uk/government/publications/homes-england-strategic-plan-2023-to-2028

- Chapter 4 considers Public Transport Service Enhancement Options based on the level of development planned.
- Chapter 5 considers Active Travel and includes an initial assessment of possible Mobility Hub locations.

Appendix A – Model Calculations

Appendices B-E – Mobility Hubs Assessments

2. Review of Existing Studies and Evidence Base Documents

2.1 Introduction

This chapter comprises a review of relevant regional and local policy/strategies which relate with the A120 corridor. Review of existing and previous linked workstreams associated with the corridor as well as open-source datasets have been studied to draw out any insight or potential option considerations.

A number of documents that focus on the A120 corridor and are listed below have been reviewed.

- Emerging Infrastructure Delivery Plan
- Withdrawn UDC 2019 Local Plan and associated transport evidence base
- A120 LCWIP and District Cycle Plan
- Bus Back Better Uttlesford and Braintree Network Review Reporting
- Rapid Transit Operational Planning
- Northside distribution park planning application (Uttlesford planning portal)
- Stansted Airport Expansion and emerging Development Plan
- Stansted Airport Surface Access Strategy Update
- Emerging Essex LTP4
- Hertfordshire Essex Rapid Transit (HERT) proposals
- West Anglia Mainline Rail Improvement Study

The key points from the above documents and datasets are summarised in this section to better understand the regional and local context of this corridor.

2.2 Transport Modes

There is a clear dominance of car trips (50%) along the corridor currently, with a pattern of people accessing rail stations (1%), but low share of bus (0.2%) to access key working locations. (Census 2011).

TRACC analysis has been reviewed to understand public transport journey times from Stansted Airport Rail Station, shown in Figure 2.1.

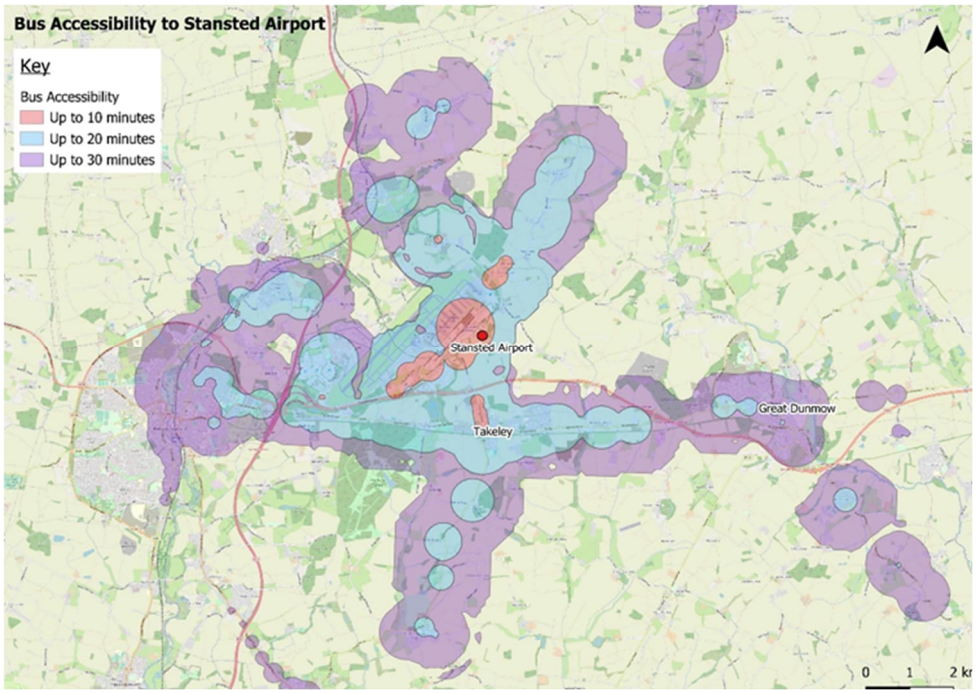


Figure 2.1: Map showing bus accessibility to Stansted Airport

2.2.1 Bus services

There are ten bus routes which operated or interact within the study area, these are shown in Figure 2.2. Majority of the bus routes serve Bishop's Stortford, Takeley and Great Dunmow and some of them have a link to the further away villages and towns such as Lindsell, Saffron Walden, Chelmsford and Braintree. Four of these routes are fully subsidised by the county council with cumulative passenger numbers of ~404 per day based upon 2022 data provided as part of the Uttlesford Bus Network Review.

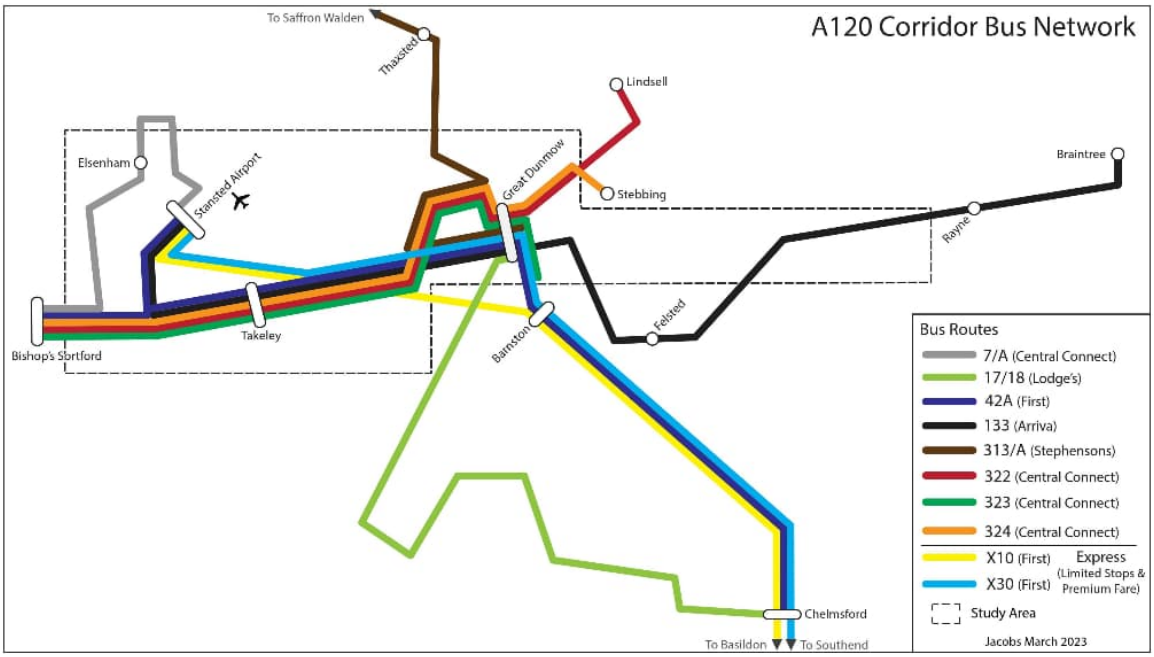


Figure 2.2: A120 Corridor Bus Network

Table 2.1: Key bus services

Bus Number	Destinations
42A	Bishops Stortford-Chelmsford
133	Stansted Airport-Braintree
324	Bishops Stortford-Stebbing
322	Bishops Stortford-Lindsell
323	Bishops Stortford-Great Dunmow
313/A	Saffron Walden-Great Dunmow
X10	Basildon-Stansted Airport
X30	Southend-Stansted Airport

Key bus services are shown in Table 2.1. Bus service provision within the study area has been reviewed, with those having the highest departures per week centred at Stansted and north of Takeley. Next most frequent is in Great Dunmow. This relates strongly with the frequency of buses, where routes through Great Dunmow, and along the B1256 and A120 are classed as Low Accessibility.

Essex County Council have Digital Demand Responsive Transport (D-DRT) areas operating in some of the most rural parts of the county. One of these covers the central and eastern part of the study area, although misses out Great Dunmow and feeds into Braintree.

The Plus Bus fare scheme which offers fares for those travelling by rail and bus, covers the west of the study areas, encompassing Great Dunmow. It is not clear from the data that we have what the use of this scheme is in this area, but there will be scope to better promote this.

From the review of documents and data, the following opportunities and constraints have been identified associated with bus services:

- Bus frequency and times do not support staff commuting to the airport – there is the opportunity for commuter buses – but bus frequencies will need to line up with shift patterns
- There is the opportunity to run smaller buses that could help with the affordability and frequency of the services.
    - Smaller services were suggested in public consultation as part of the Uttlesford Bus Network Review that could run more frequently to smaller housing developments, particularly around Dunmow where they are needed to navigate the developments
- Improvements in the evening and weekend services would boost economy and accommodate late commuters
- The Hertfordshire Essex Rapid Transport system to eventually link to up to Stansted Airport via Bishops Stortford – there are opportunities in future stages to understand what future interaction there might be with this beyond the Local Plan period.
- Ensure high quality public transport options are provided for new development to encourage mode choice.
- Extending Demand Responsive Transport to access Great Dunmow.
- Increased promotion of and possible extension of the Plus Bus scheme

2.2.2 Railway Services

Within the study area ~500 people currently travel to work by train, majority of those living closest to Stansted Airport (Census, 2011).

Railway stations around the study area are mapped in Figure 2.3. For the majority of the study area there is a need to travel some distance to access rail stations either in Braintree, Bishops Stortford, Elsenham, Stansted Mountfitchet or Stansted Airport. Of these stations Stansted Airport is the closest to the planned development areas in Takeley and Great Dunmow.

Bishop's Stortford Train Services

Service	Frequency (Monday-Friday)
Bishop's Stortford to London Liverpool Street	Up to 4 trains per hour
Bishop's Stortford to Stratford	Up to 2 trains per hour
Bishop's Stortford to Cambridge North	Up to 2 trains per hour
Bishop's Stortford to Stansted Airport	Up to 2 trains per hour

Braintree Train Services

Service	Frequency (Monday-Friday)
Braintree to London Liverpool Street	Up to 1 train per hour
Braintree to Witham	Up to 1 train per hour

Stansted Airport Train Services

Service	Frequency (Monday – Friday)
Stansted Airport to London Liverpool Street	Up to 3 trains per hour
Stansted Airport to Norwich	Up to 2 trains per hour
Stansted Airport to Birmingham New Street	21 trains per day

Stansted Mountfitchet

Service	Frequency (Monday – Friday)
Stansted Mountfitchet to London Liverpool Street	25 trains per day
Stansted Mountfitchet to Stansted Airport	38 trains per day
Stansted Mountfitchet to Cambridge North	17 trains per day
Stansted Mountfitchet to Cambridge	40 trains per day
Stansted Mountfitchet to Ely	1 train per day

Elsenham

Service	Frequency (Monday-Friday)
Elsenham to London Liverpool Street	29 trains per day
Elsenham to Cambridge North	18 trains per day
Elsenham to Cambridge	28 trains per day
Elsenham to Ely	1 train per day

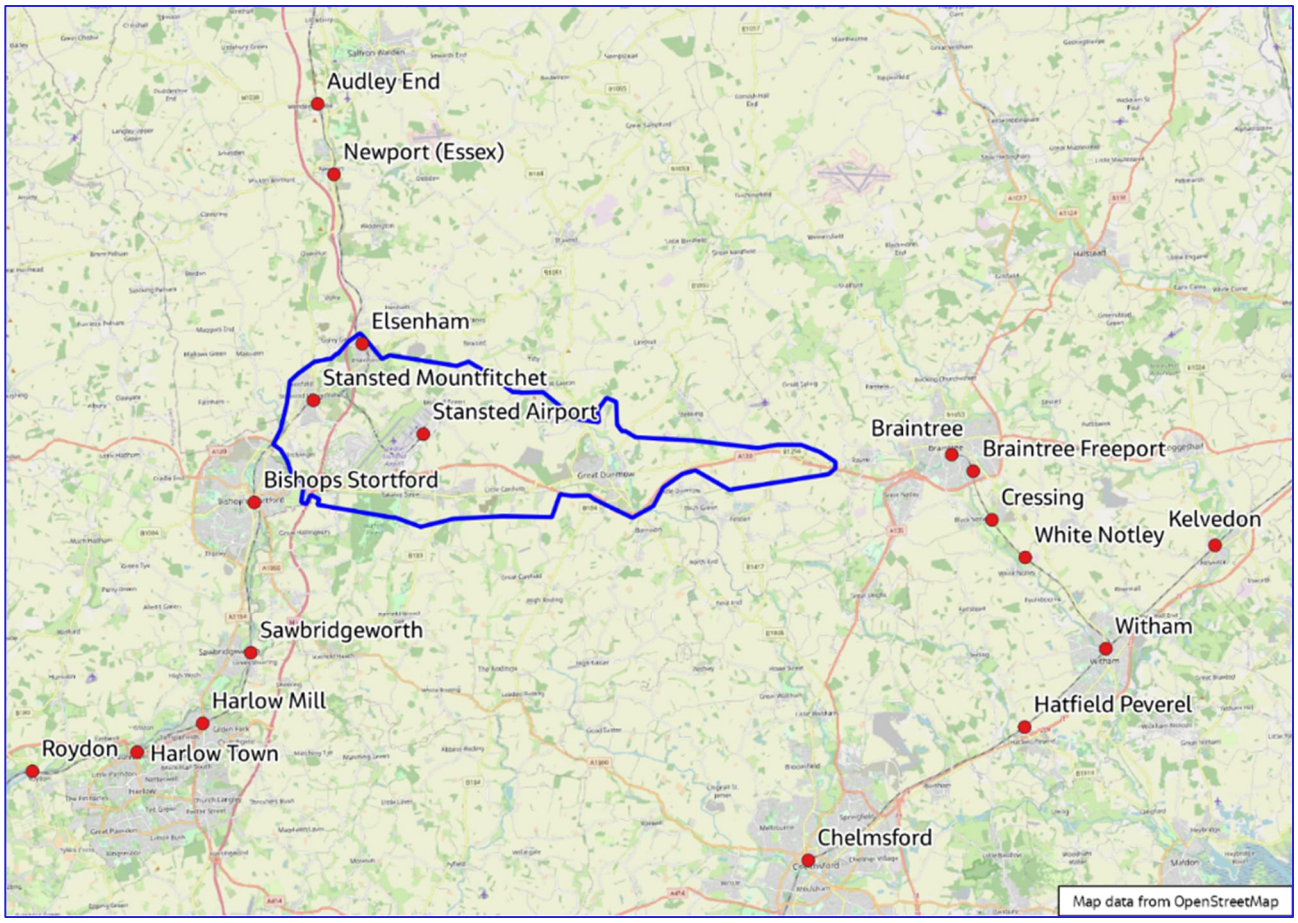


Figure 2.3: Map of Railway Stations around the Study Area

West Anglia Main Line Improvements looks at improving journey times and connectivity to Stansted Airport, with more frequent and regular trains, which benefit local residents should adequate connections to rail stations are developed.

2.2.3 Cycling and Walking

When looking at Census data, ~2% people originating in Great Dunmow cycle to work (Census 2011).

Existing national cycleway along Flitch Way connecting Stansted Airport and Gt Dunmow - & beyond to Braintree (NCR16). National Route 16, running east to west through the district and connecting Stansted and Braintree. Much of this runs along the route of the former railway line between Braintree and Bishops Stortford: the Flitch Way. There is an additional National Route 50 which runs through Takeley and is proposed to continue north up to Stansted Airport.

Figure 2.4: NCN Map showing routes 16 and 50 (OS Website)

Figure 2.5: Flitch Way

From the review of documents, the following opportunities and constraints have been identified associated with walking and cycling:

- 2011 LTP notes the intention to improve cycling networks and walking routes and encouraging their greater use.
- Opportunity to improve cycling mode share to the airport by adding potential new routes from Takeley to the Airport. Takeley being within 20 minutes cycle of the Airport.

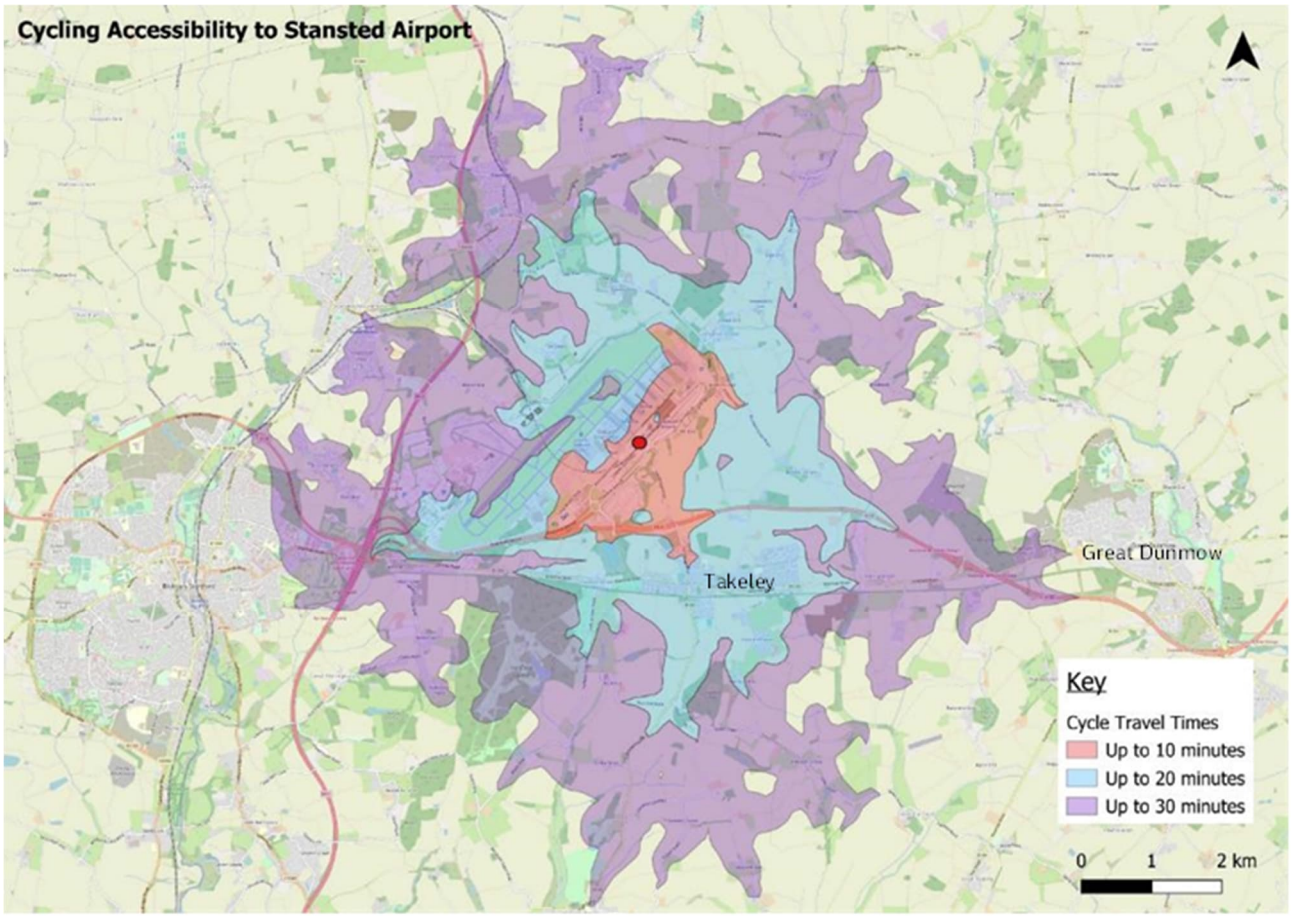


Figure 2.6: Map showing areas accessible to Stansted Airport via cycling

2.3 Stansted Airport

Stansted Airport is the largest single-site employer in the East of England. Growth in the airport is expected to create more education and employment opportunities.

2011 Local Transport Plan notes the intention to improve access to Stansted Airport by low carbon forms of transport; improving access to and from the M11 corridor & improving the attractiveness of bus services.

Enhanced connectivity to Stansted is a key factor in driving economic regeneration and productivity in some local areas in A120 corridor. The airport is committed to deliver high quality and reliable transport infrastructure with sustainable travel choices for both passengers and employees. It is targeting no more than 70% employees driving to work which means that public transport connectivity is essential in achieving this target.

There are a relatively high number of internal car trips within the Stansted airport zone. Improving cycle infrastructure in this vicinity and between it and key origins would assist mode shift of employee journey to work trips by car to bike. Notable. origins for employee journey to work at the airport include: Takeley, Canfield, Great Dunmow, Elsenham, Henham and Stansted Mountfitchet.

2.3.1 Airport Staff Access

The Airport Travelcard is the key initiative to promote public transport use and is available to employees with an airport identity card. It offers up to 80% off weekly travel costs to and from the airport on selected bus and train routes as illustrated in Figure 2.7.

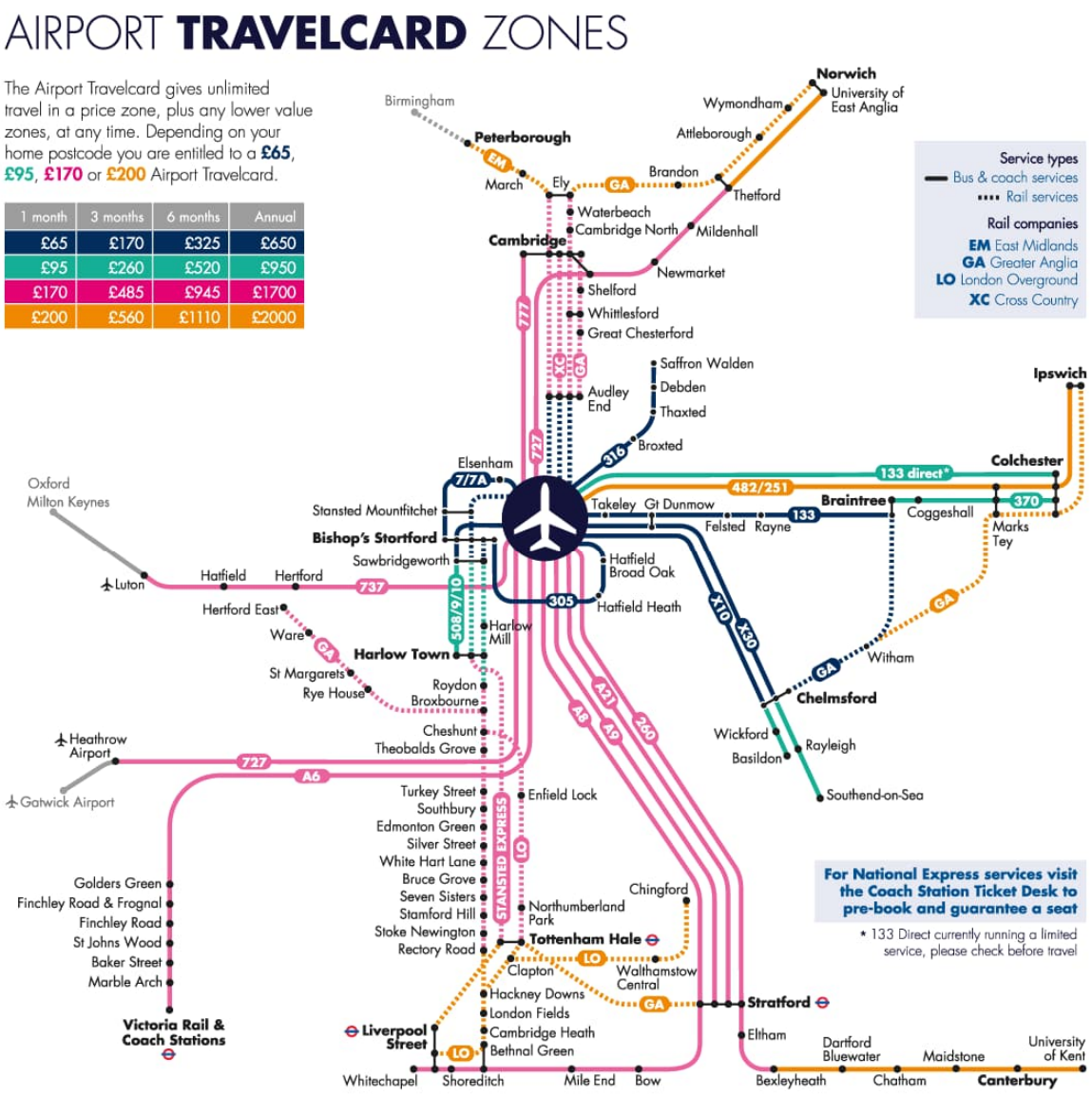


Figure 2.7: Airport Travelcard Zones

The Airport Travelcard can also be used on Night Run Shuttles, which currently operate between Tottenham and Stansted Airport in the early hours.

Airport Saver Ticket is a similar initiative to Airport Travelcard. Airport Saver Tickets can be bought as a book of 20 for £32.50 or £42.50 (depending on which service) and can be used as and when you like. They never expire. It is only valid on the following Arriva services:

- Bishops Stortford: 309, 508, 509 and 510 – cost £32.50
- Harlow: 509 and 510 – cost £42.50
- Braintree: 133 – cost £42.50

2.4 Local Settlements

The study area is predominantly residential land use, green spaces with smaller pockets of employment. There is limited retail land use which means that residents have to travel to larger towns for retail with travel times in excess of 60 minutes by public transport.

The corridor has a low population density although the highest population density is shown in Great Dunmow and Takeley. This will increase with new developments.

Takeley defined as a key village, Great Dunmow a Market Town – 2 and 1 in settlement hierarchy respectively.

Economic activity as a proportion of total population above the age of 16 concentrated to the west of Great Dunmow – opportunity for improving economic activity to the north and east of Great Dunmow with improved connectivity to employment.

Residential areas of Takeley and Great Dunmow show lowest levels of deprivation (deciles 8-10) although Takeley has the highest percentage of households deprived in at least one dimension of deprivation (education, employment, health, housing) – likely associated with connectivity and accessibility.

2.5 Environmental Considerations

When reviewing air quality within the study area, there are high levels of Carbon Dioxide and Nitrogen Oxides along the whole A120 corridor, with the highest levels closest to Stansted Airport.

There are two Sites of Special Scientific Interest along the corridor study area – Hatfield Forest to the south west of Takeley and High Wood, Dunmow to the west of Great Dunmow along the A120.

3. Revised Development Scenario (March 2024)

3.1 Revised Development Scenario (March 2024)

3.1.1 Housing Growth

Figure 3.1 depicts the areas for housing growth in the A120 corridor area as set out in the Revised Development Scenario. This includes known committed sites and the Highwood Quarry Site which is now proceeding following an Appeal.

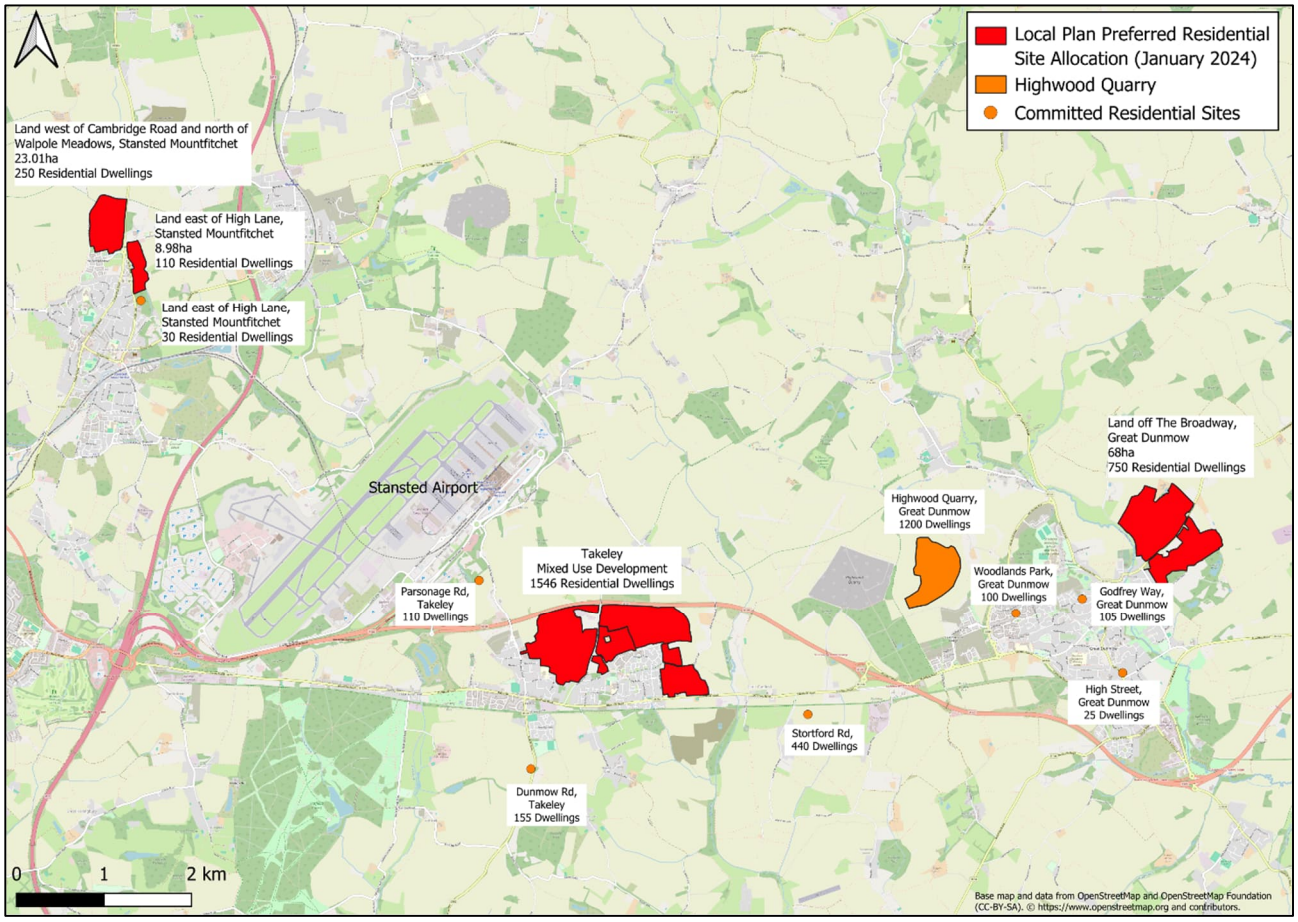


Figure 3.1: Housing Development (Revised Development Scenario)

3.1.2 Employment Growth

Figure 3.2 shows the areas for employment growth A120 corridor area as set out in the Revised Development Scenario (March 2024).

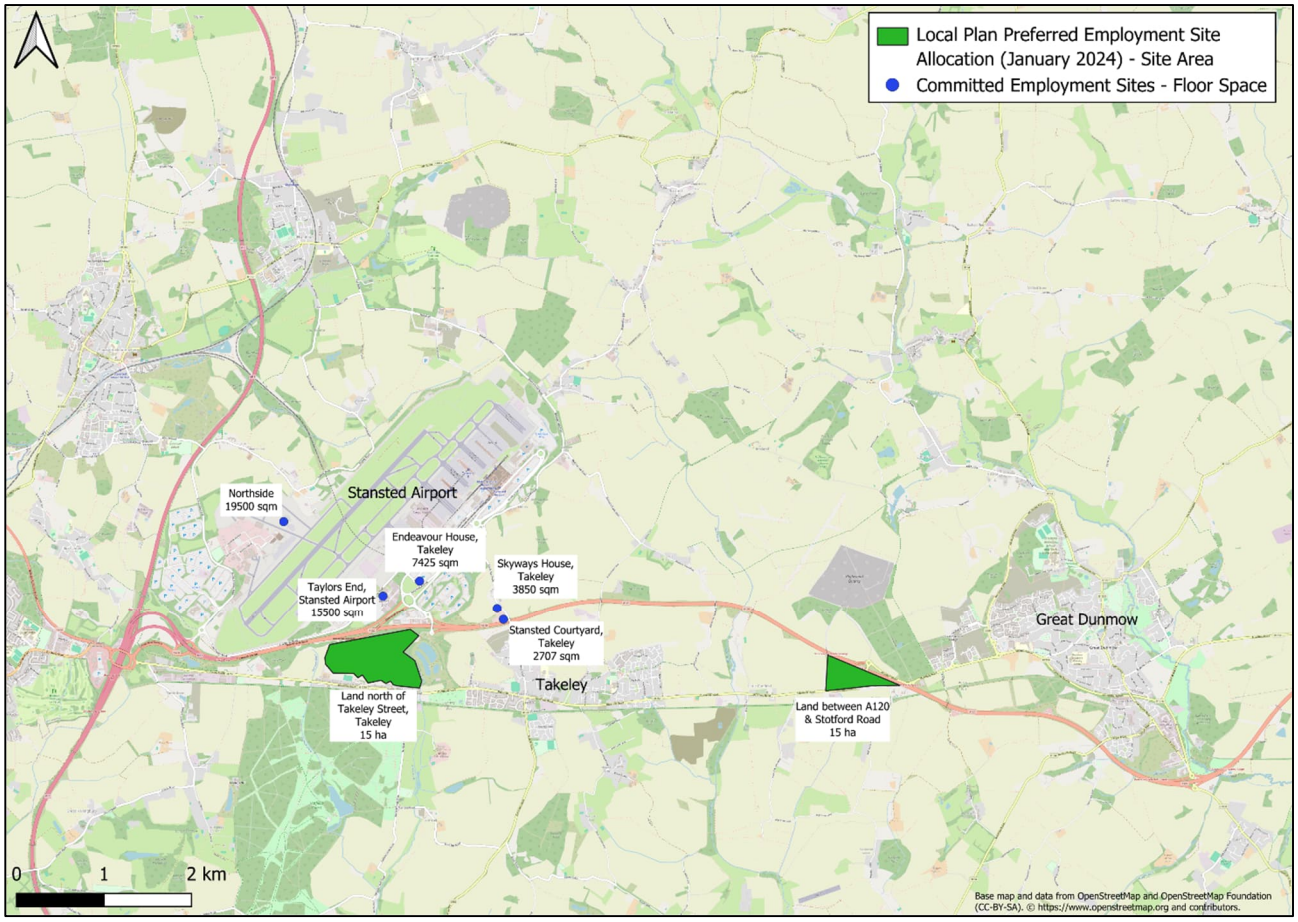


Figure 3.2: Employment Development (Revised Development Scenario)

3.2 Public Transport Flows

3.2.1 Future Year Public Transport Flows (AM Peak)

Figure 3.3 represents the average flow in the AM peak for an average hour from the EMME, West Essex Model. It assumes the current situation with no new development traffic. A tabular version of this figure can be found in Appendix A.

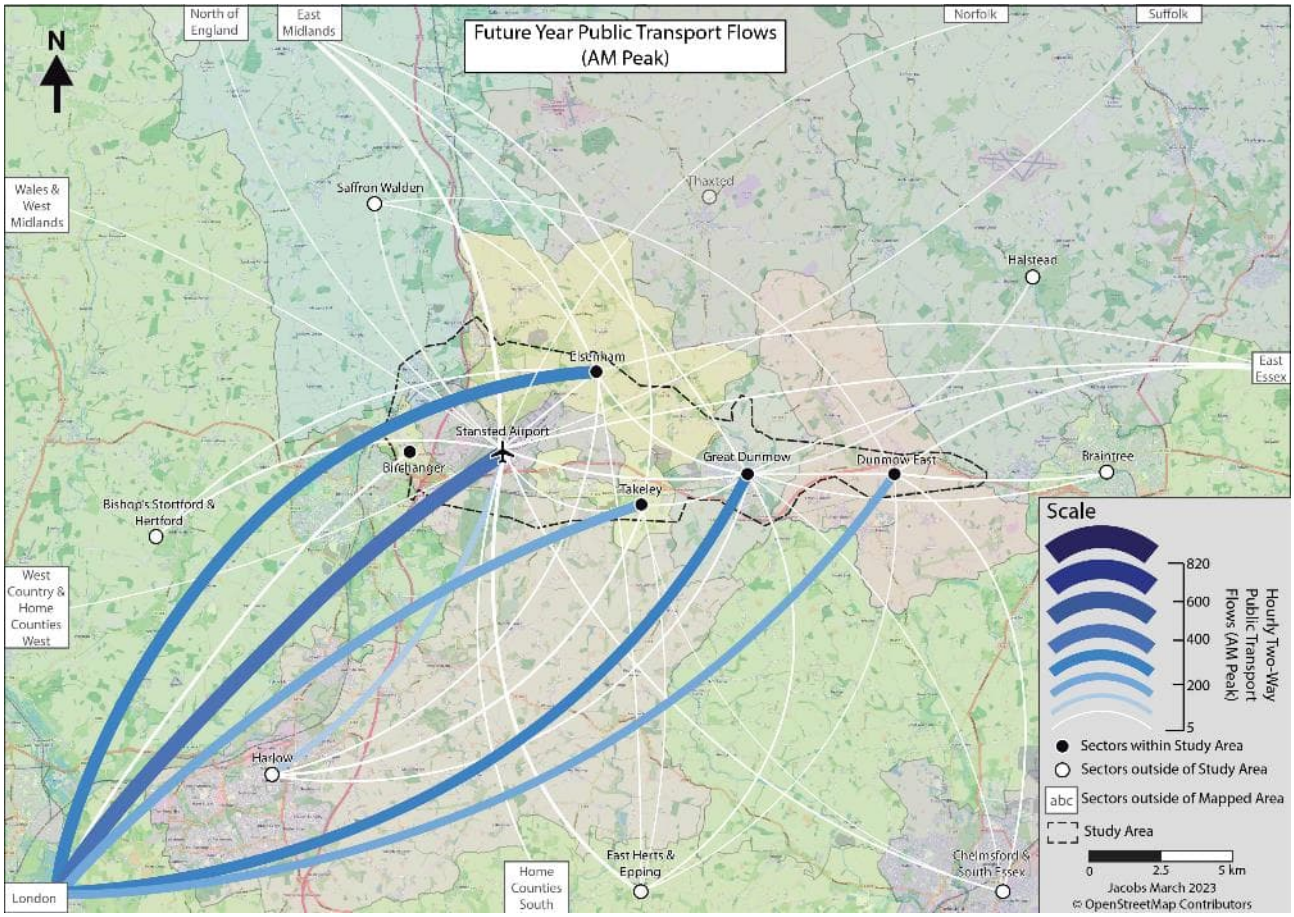


Figure 3.3: Future Year Public Transport Flows (AM Peak)

3.2.2 Future Year + Revised Development Scenario PT Flows (AM Peak) – Low PT MS

Figure 3.4 depicts the average flow in the AM peak for an average hour from the EMME, West Essex Model. It represents a low public transport mode share, for developments which is derived from Jacobs' previous work on development in Essex. A tabular version of this can be found in Appendix A.

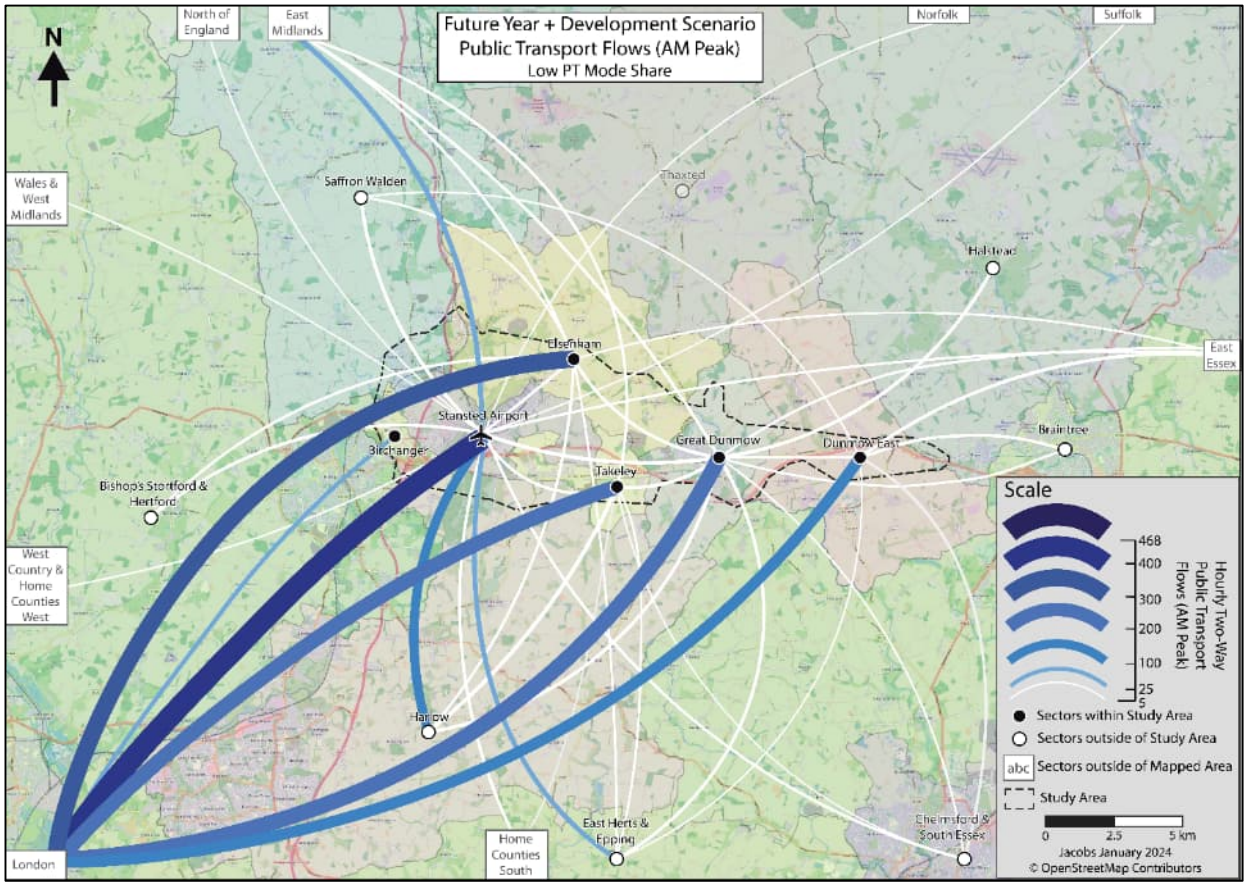


Figure 3.4: Future Year + Development Scenario PT Flows (AM Peak) – Low PT MS

3.2.3 Future Year + Revised Development Scenario PT Flows (AM Peak) – High PT MS

Figure 3.5 represents the average flow in the AM peak for an average hour from the EMME, West Essex Model. In High PT MS, it represents a third of new development car trips transferring to Public Transport, assuming high quality public transport in operation. This has been used to represent the maximum mode share expected for high quality public transport. A tabular version of this can be found in Appendix A.

The calculations in the next section, considering financially sustainable Public Transport improvements, are based on an average of Low and High PT MS results

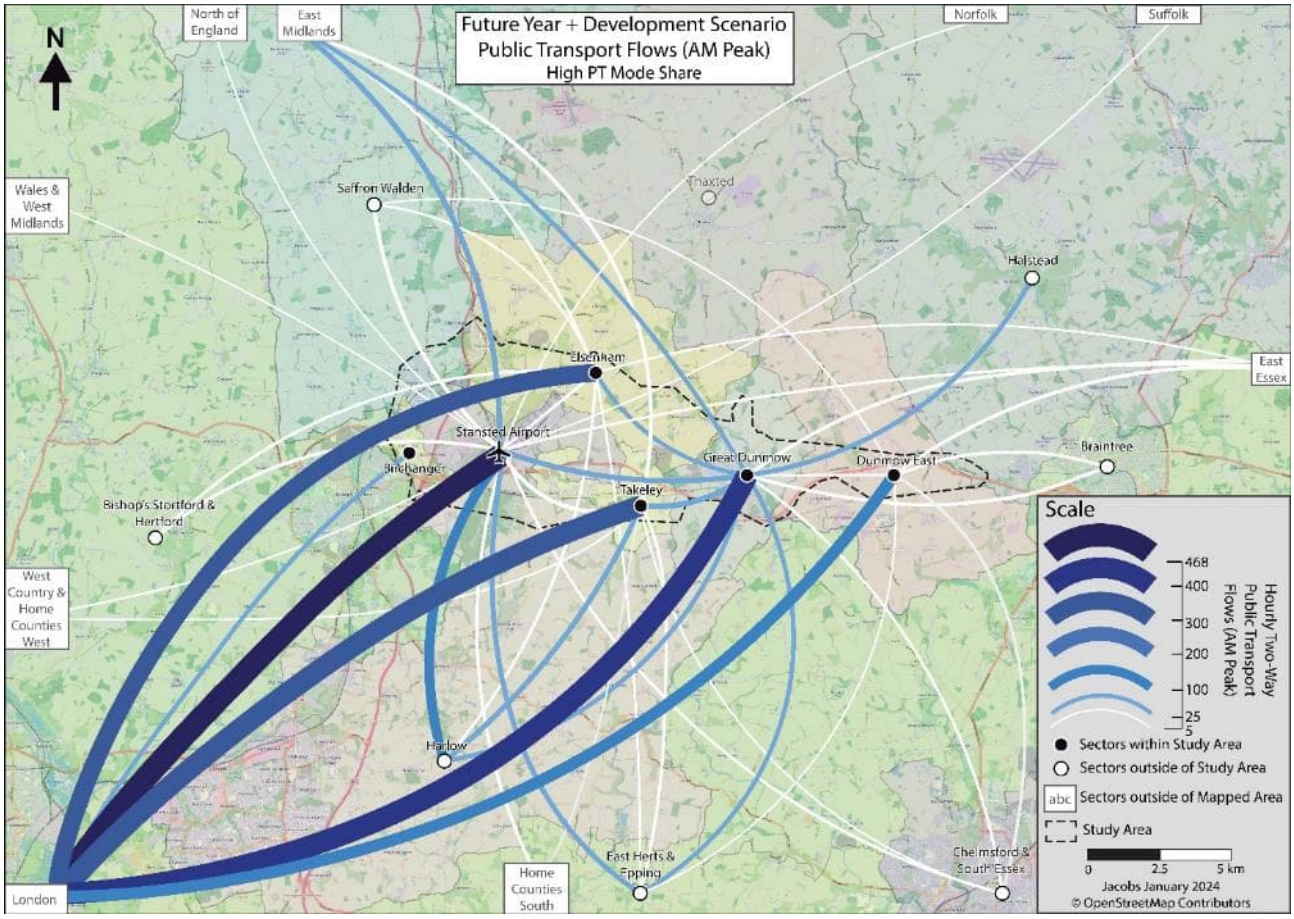


Figure 3.5: Future Year + Development Scenario PT Flows (AM Peak) – High PT MS

3.3 Summary

Those public transport trips shown from Takeley, Great Dunmow to London will likely have to interchange at Stansted to access railway stations via public transport or having travelled by car to park or kiss & drop. Developing attractive public transport options will be key to encourage as much travel to Stansted Airport Rail Station by sustainable modes.

The next section considers financially sustainable Public Transport improvement options to to encourage as much travel by public transport.

4. Public Transport Service Enhancement Options

4.1 Public Transport Service Enhancement Options

This chapter considers financially sustainable public transport service enhancement options for the level of development planned in the Revised Development Scenario.

Modelling work undertaken by Tetra Tech (September 2023), and set out in the Draft Uttlesford Local Plan 2021 – 2041[2], highlights that planned development is likely to lead to additional pressure on the highway network, especially through Takeley and Great Dunmow.

This work highlighted the importance of a mitigation package which provides realistic alternatives to the car to benefit both new residents and the existing communities.

The most common reason given by non-bus users is a belief there was 'no direct route'[3]. Among those who said they could, at least in theory, use public transport to travel to work, the most common reason for not doing so was the belief it would 'take too long'. The public transport service enhancement options devised below are targeted at providing convenient public transport links for new development on the corridor. However, it should be noted the service frequencies to be discussed are not "turn up and go" (i.e every 12 minutes or less) as the scale of development in the Revised Development Scenario would not likely provide sufficient patronage for such a service frequency.

4.2 Existing Bus Services

Following the review of existing bus routes undertaken in Section 2. Figure 4.1: presents the existing bus services that operate around the planned developments in Takeley and Great Dunmow.

As can be seen, one service (324 Central Connect) operates through the Residential Preferred Site Allocation (Land off The Broadway) north-east of Great Dunmow, however this runs only every 2 hours between 08:00-18:00 Monday to Friday. On the other hand, multiple bus services (133/508 Arriva, 305/323/324 Central Connect, X20/X30 First), pass the Takeley Preferred Site Allocations representing over 8 hourly services Monday to Friday.

The next section proposes bus services to improve access to these development sites.

[2] Source: Draft Uttlesford Local Plan 2021 – 2041 (Regulation 18) - Draft Version for LPLG September 2023

[3] Study conducted by the Scottish Government in 2010. https://www.gov.scot/publications/understanding-people-use-buses/pages/6/#:~:text=Routes%20were%20sometimes%20discussed%20in,seen%20as%20more%20time%2Defficient.

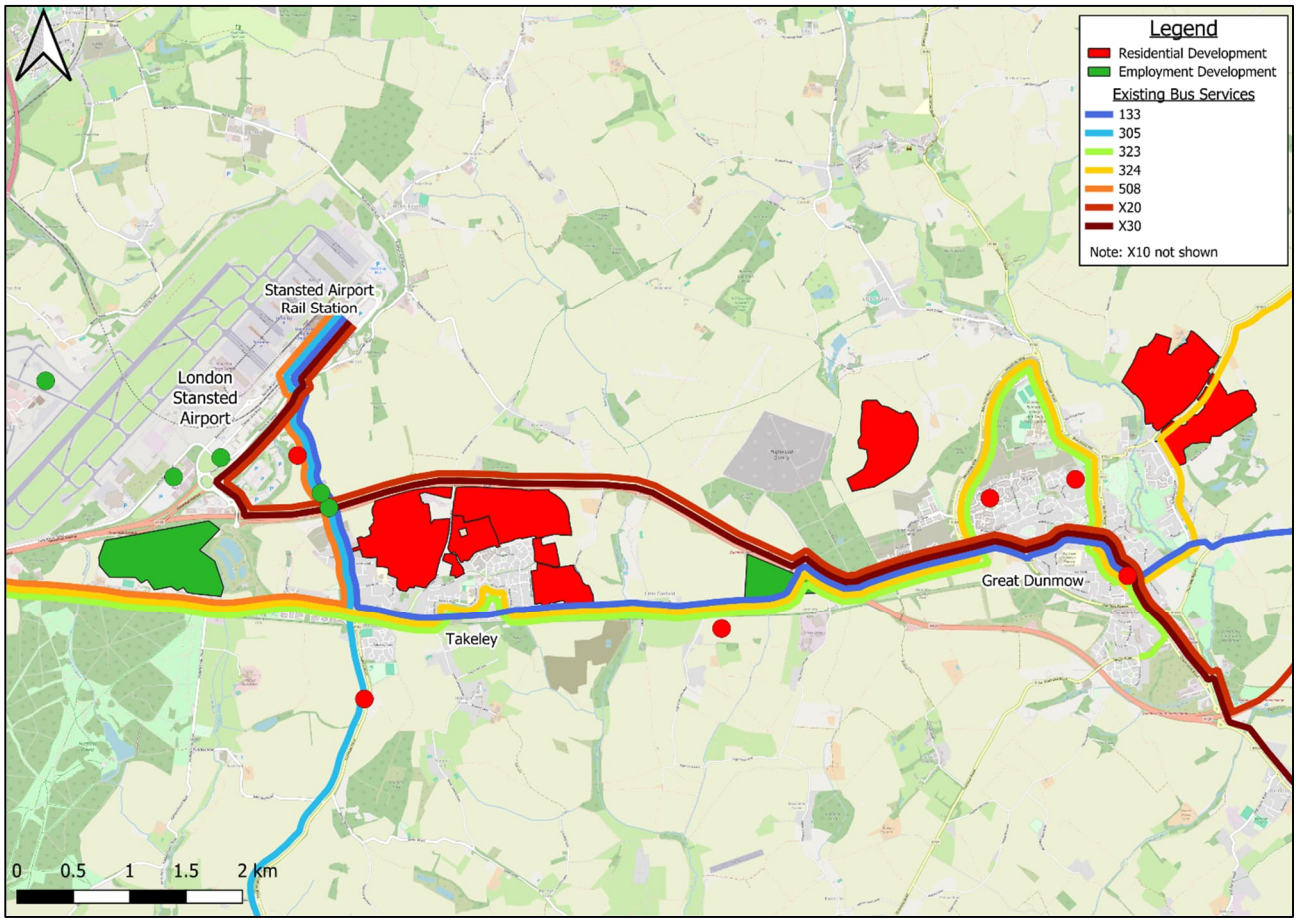


Figure 4.1: Takeley and Great Dunmow planned developments and existing Bus Services

4.3 London Stansted Airport Bus and Coach Station

The bus and coach station at London Stansted Airport is positioned opposite the main terminal entrance, approximately a 2-minute walk from the airport terminal. Figure 4.2 provides a diagram of the station layout. As can be seen there are 39 bays, available for designated use by buses, express buses and coaches, as well as 22 layover bays. There is a one-way entry and exit from the station onto Terminal Road South.

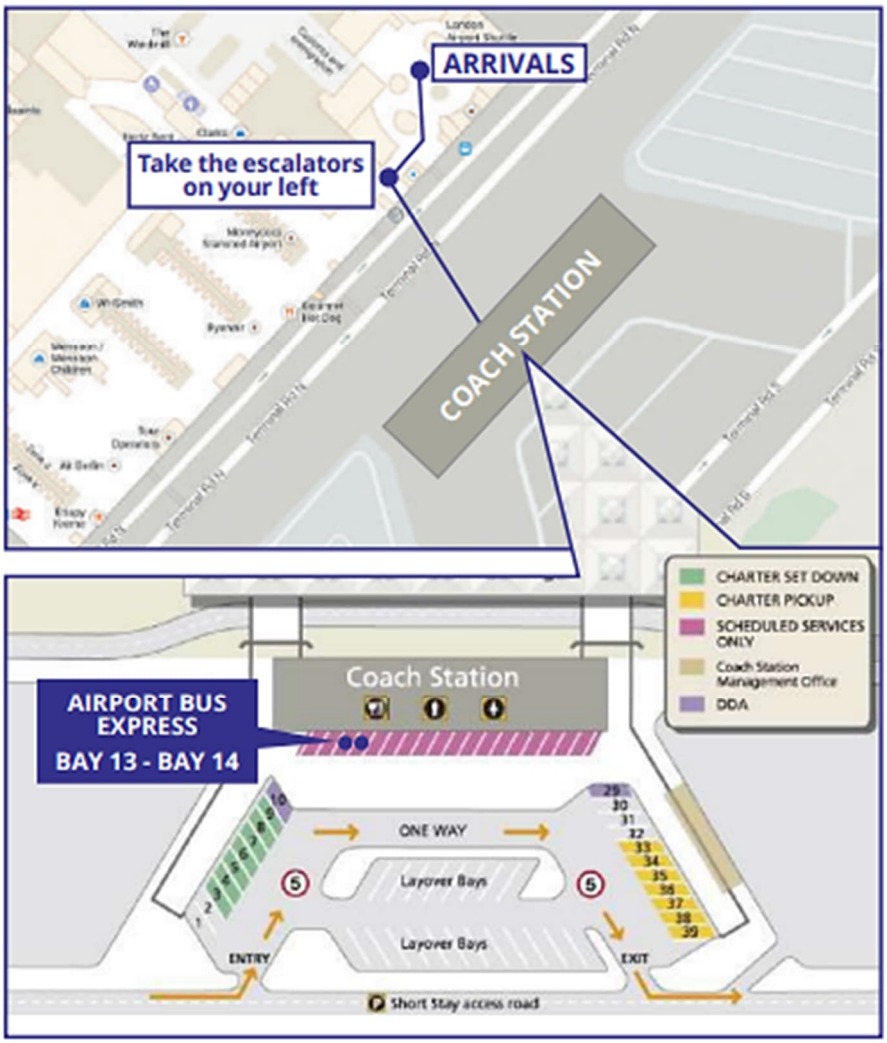


Figure 4.2: London Stansted Airport Coach Station layout[4]

At current, bays 3 – 9 are designated drop-off bays, bays 33 – 39 are designated pick-up bays, and bays 10 and 29 are wheelchair lift accessible.

There are over 200 daily services alone that operate into London. There are approximately 10 daily services to key destinations such as; Birmingham, Cambridge, Colchester, Coventry, Gatwick, Heathrow, Ipswich, Luton, Norwich and Oxford. Other destinations have daily services, but the frequency varies.

Table 4.1 sets out the bus services that serve the airport Coach Station. There are 11 different frequent services providing routes across Essex, typically using bays 13, 14, 15 and 17. This table does not account for coaches, however National Express are the coach operators, with 14 different coach services.

Table 4.1: Typical weekday bus services that serve London Stansted Airport

Service Number	Operator	Origin – Destination	Timetable	Designated Bay
7	Stephensons of Essex	Stansted Airport - Bishops Stortford	Every 2 hours	13
7A	Stephensons of Essex	Stansted Airport - Bishops Stortford	Every 2 hours	13
133	Arriva Herts and Essex	Stansted Airport - Braintree	Hourly	14
305	Central Connect	Stansted Airport - Takeley - Hatfield Heath - Bishop's Stortford	Hourly	13

[4] Source: https://airportbusexpress.co.uk/Images/Linee/Orari/159.pdf

Service Number	Operator	Origin – Destination	Timetable	Designated Bay
316	Central Connect	Stansted Airport - Takeley - Thaxted - Debden - Saffron Walden	Hourly	13
508	Arriva Herts and Essex	Stansted Airport - Harlow	Every 30 minutes	15
509	Arriva Herts and Essex	Stansted Airport - Harlow	Every 30 minutes	15
510	Arriva Herts and Essex	Stansted Airport - Harlow	Every 30 minutes + hourly night services	15
X10	First Essex	Stansted Airport - Wickford, Chelmsford - Chelmsford - Wickford, Chelmsford - Basildon	Hourly	17
X20	First Essex	Stansted Airport - Great Dunmow - Braintree	Hourly	14
X30	First Essex	Stansted Airport - Southend Airport, Rayleigh, Broomfield Hospital - Chelmsford Bus Station - Southend Airport, Rayleigh, Broomfield Hospital - Southend Travel Centre	Hourly	17

As described, this could amount to up to 14 bus services an hour into the bus station on a typical weekday. If a designated bay is already occupied, there is sufficient space available to accommodate buses arriving at a similar time. With this in mind, it is expected that the capacity of existing provisions at Stansted Airport Bus and Coach Station is sufficient in the event that there is an increase in bus services, at the scale discussed in the next section.

4.4 Proposed Bus Services

4.4.1 Indicative Routes

Three new bus service options and three rerouted bus route options have been proposed across Takeley and Great Dunmow, as shown in Figure 4.3 to Figure 4.8, and look to serve the developments outlined above.

These new services will allow connection with existing services which will also improve the viability of these services. Chapter 5 considers potential locations for Mobility Hubs to further benefit both new and existing services.

In Takeley, three bus services are proposed to be rerouted, shown in Figure 4.3 and Figure 4.4

Bus services 323 and 324, previously routing through the centre of Takeley, would be rerouted along Parsonage Road and through the Residential Site Allocations north of Takeley centre. In this scenario, the 133 service would be rerouted through the centre of Takeley, resuming the stops served by the 323 and 324 services. This reroute adds approximately 2km onto the roundtrip of the 323 and 324 bus services. Approximately 1km would be added to the roundtrip of the 133 service.

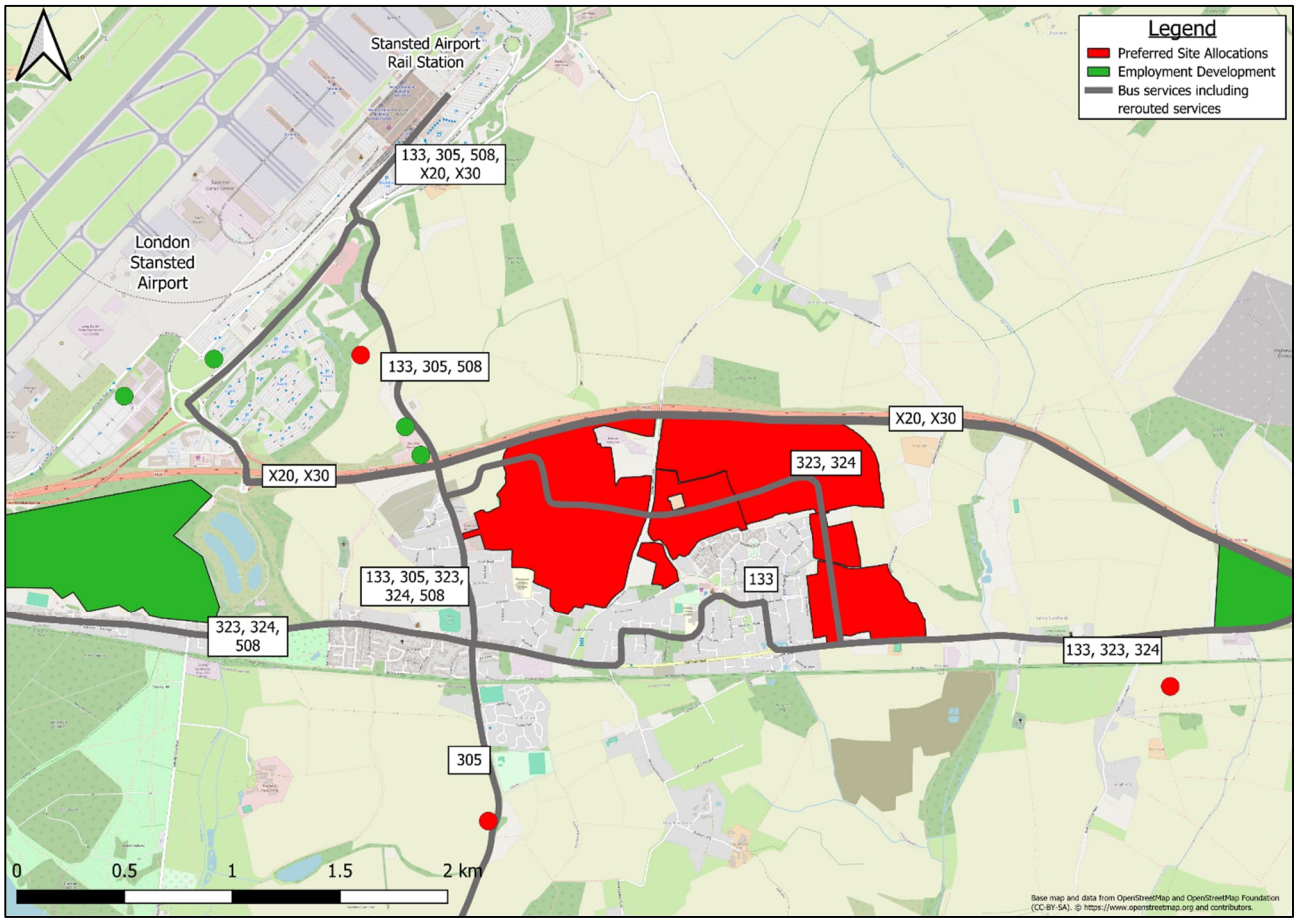


Figure 4.3: Takeley planned developments and Proposed Bus Service 323/324 rerouting through development

Alternatively proposed (Figure 4.4), is to reroute the 133 service through the Residential Site Allocations north of Takeley. In this scenario, the 323 and 324 services would continue their original route through the centre of Takeley. This reroute adds approximately 1.5km onto the roundtrip of the 133 bus service.

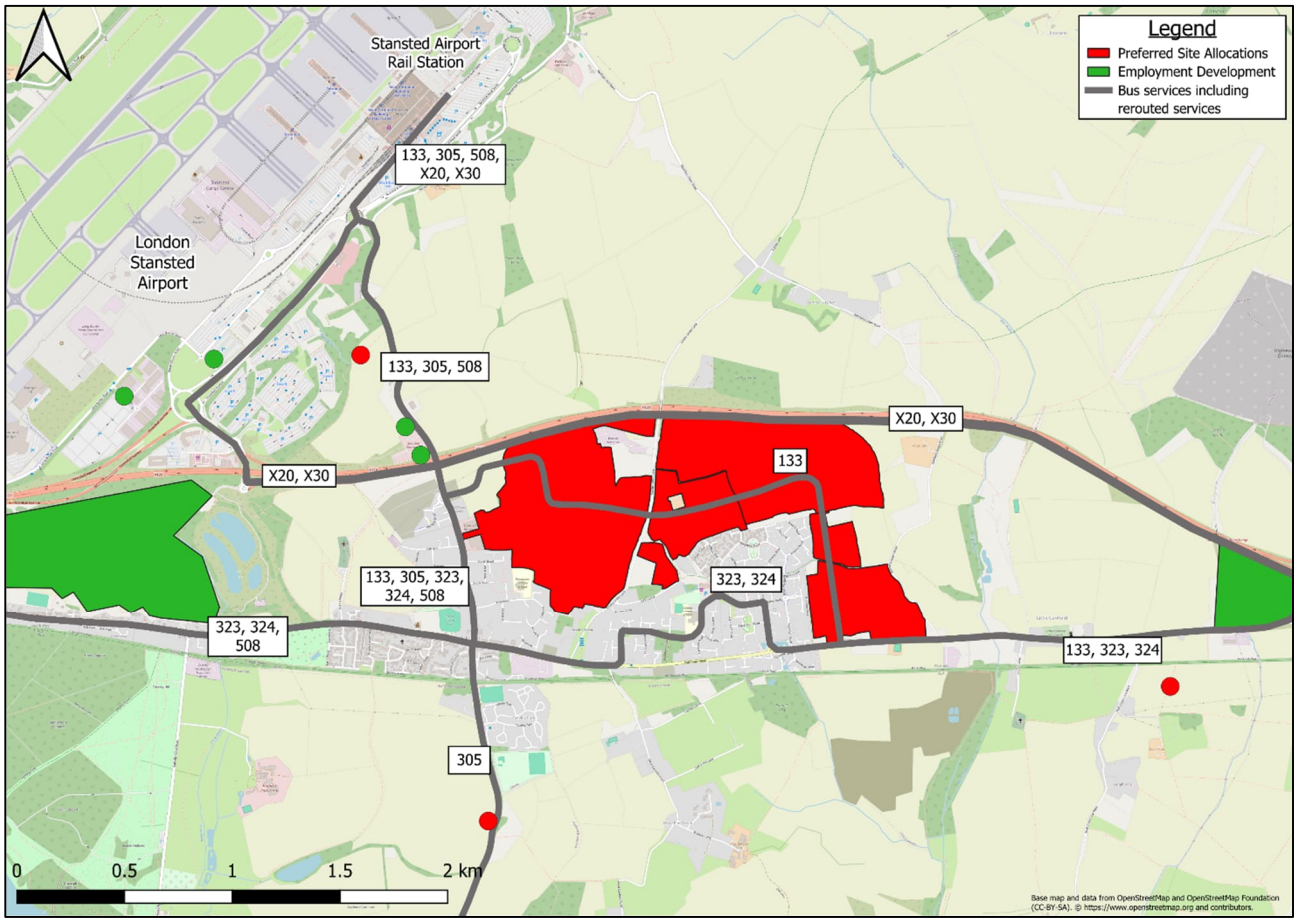


Figure 4.4: Takeley planned developments and Proposed Bus Service 133 rerouting through development

This proposed rerouting is beneficial as it provides a direct link into the development from Stansted Airport, however this would mean that the existing service would no longer be able to serve the route between Takeley to Braintree.

Figure 4.5 shows the indicative alignment for service 1a (blue) routing from the Stansted Airport Rail Station, down Parsonage Road to the Residential Site Allocation in Takeley, terminating at the southeast end of the Residential Site Allocation. An alternative route for service 1a is also shown, where the bus would operate from Stansted Airport Rail Station, down Parsonage Road, onto Dunmow Road, via Takeley Crossroads, and then into Canfield before returning through the Residential Site Allocation and back on to Parsonage Road to return to Stansted Airport Rail Station. It is proposed that these services would operate extended hours to benefit those working at the Airport (including workers already living in Takeley).

The final alignment of the route will be determined as the site allocation is confirmed, as well as a review of any improvement works possible at the Takeley crossroads.

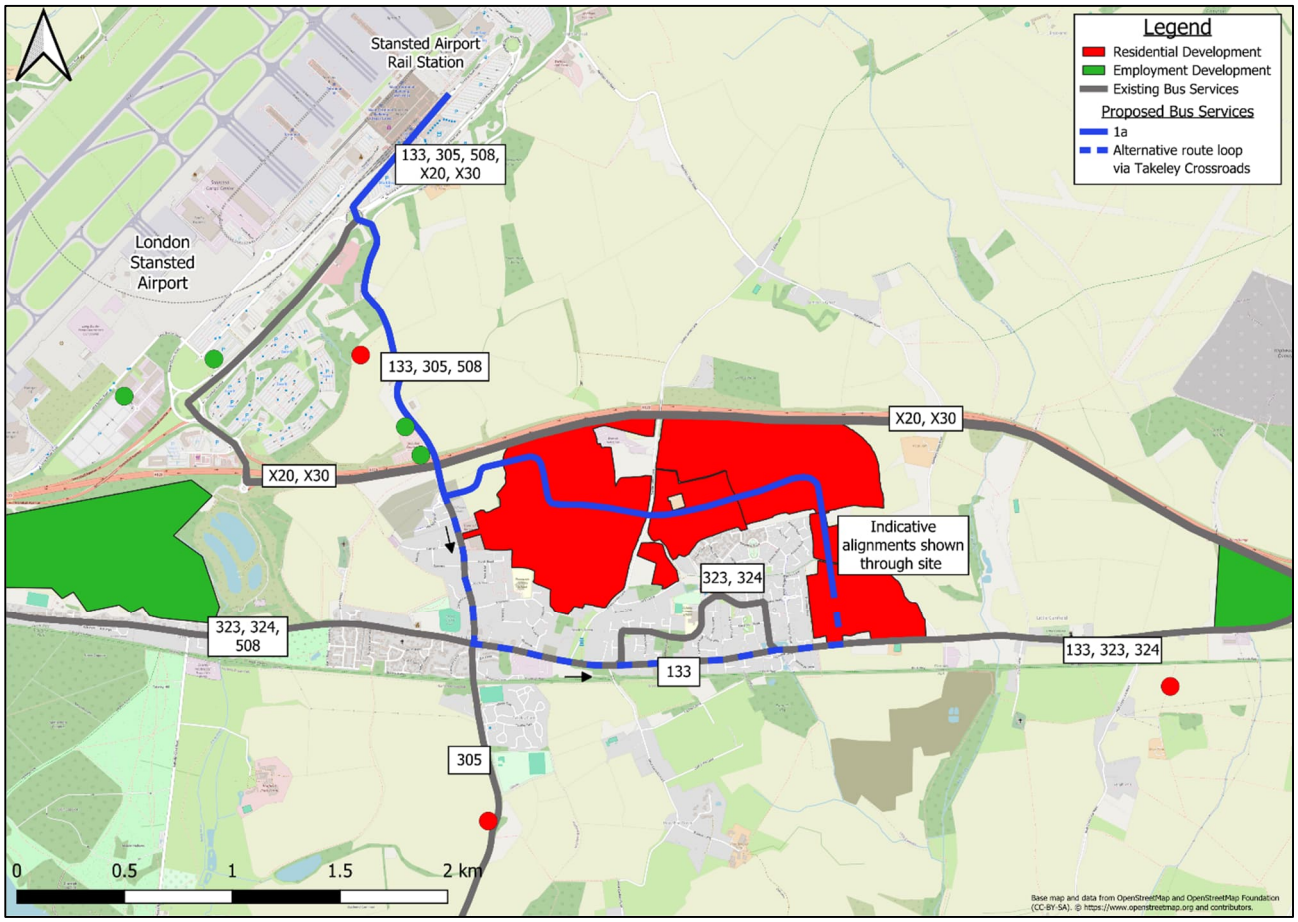


Figure 4.5: Takeley planned developments and Proposed Bus Service 1a

In Great Dunmow (Figure 4.6), it is proposed to reroute the 324 service through the Residential Site Allocation Land of The Broadway. This reroute adds approximately 0.5km onto the roundtrip of the 324 bus service.

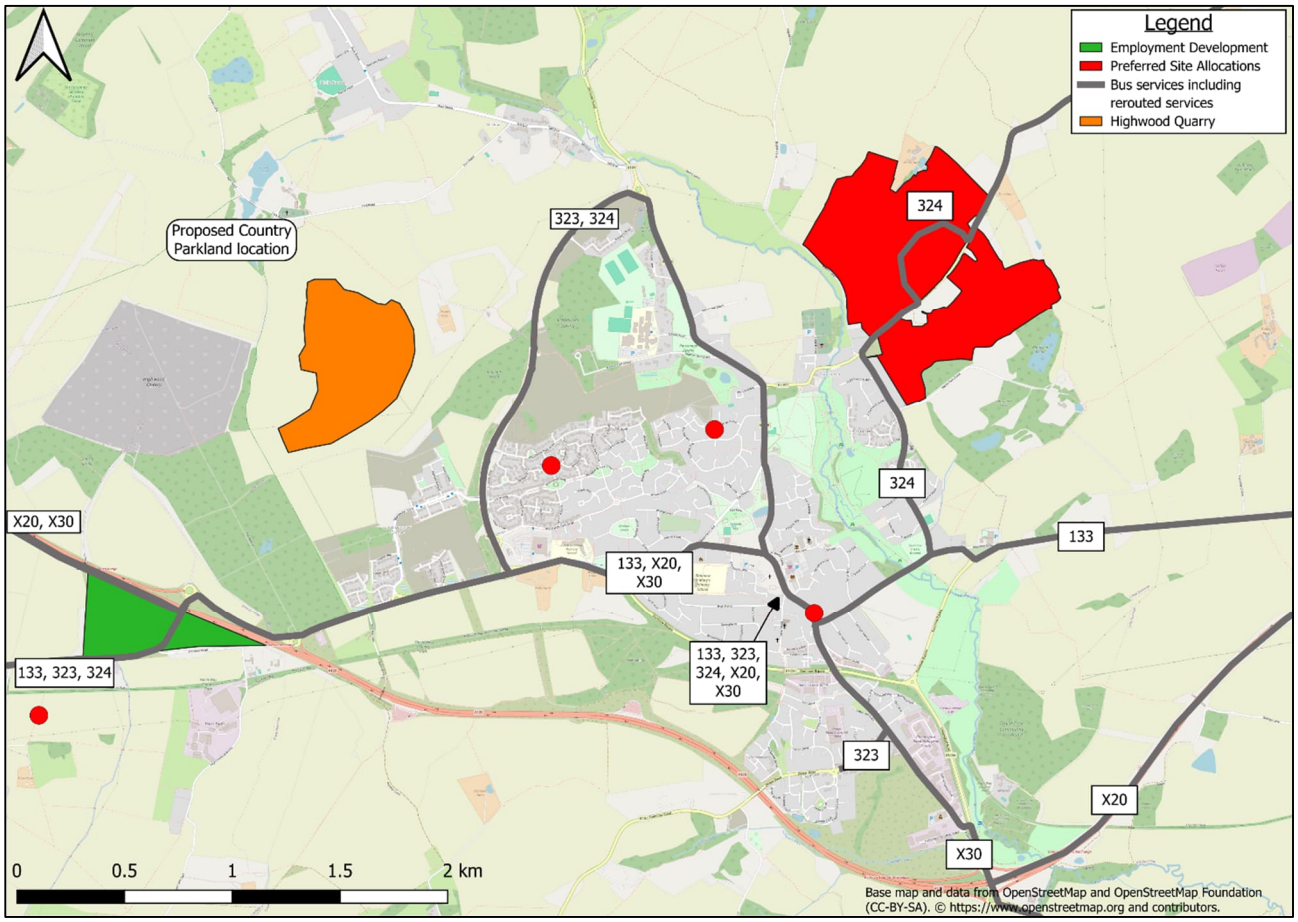


Figure 4.6: Great Dunmow planned developments and Proposed Bus Service 324 rerouting through development

Otherwise proposed in Great Dunmow, as shown in Figure 4.7, Service 2a (solid yellow line) routes from a loop in the Land of The Broadway development, south along St Edmunds Lane, and then west towards Great Dunmow High Street along Braintree Road. An alternative route (dashed yellow line) is proposed on the prerequisite that structural improvements are made to the Bridge on Church End; this would route from the proposed development, along the B1057, then south on the B1008 to reach Great Dunmow High Street.

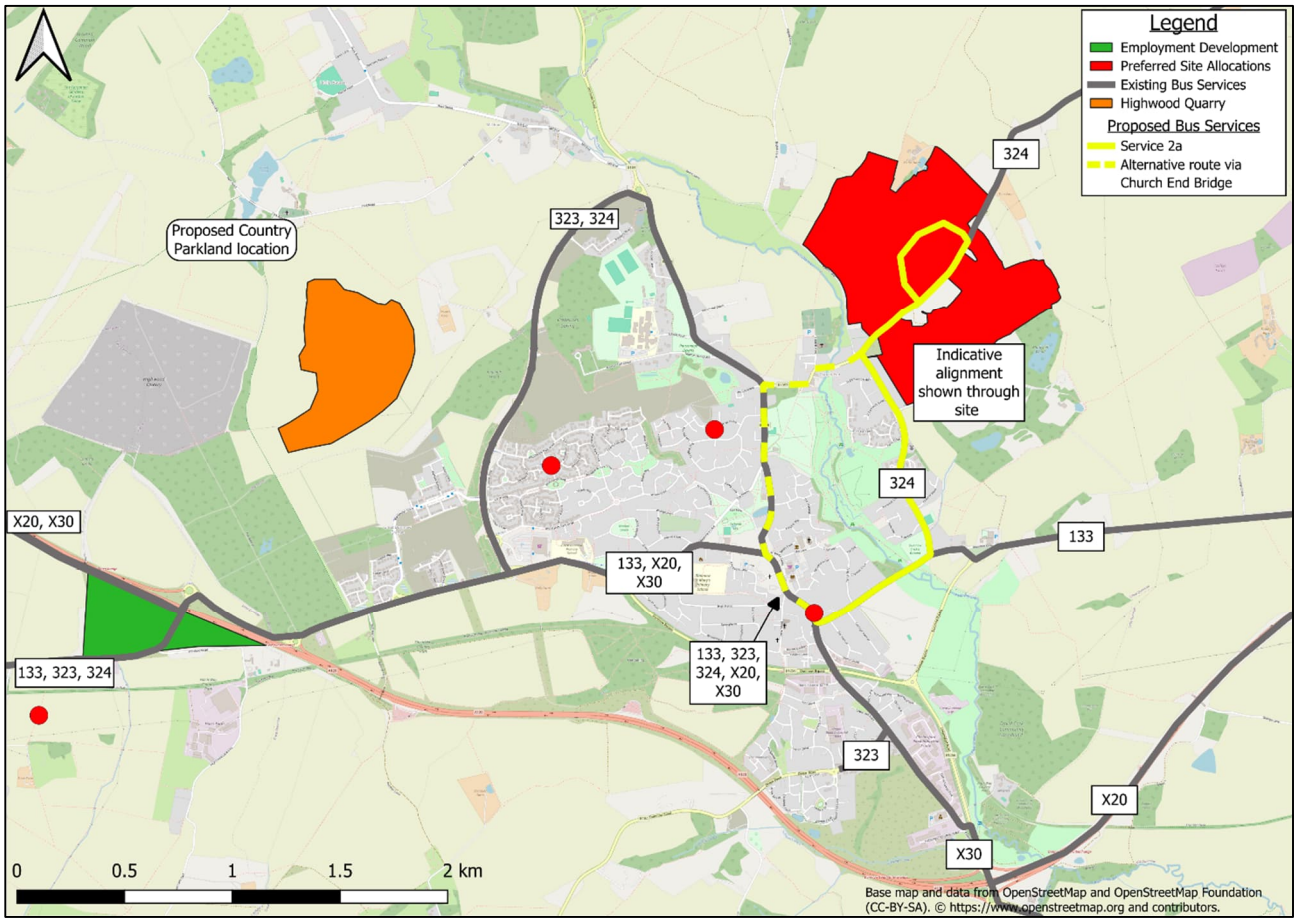


Figure 4.7: Great Dunmow planned developments and Proposed Bus Service 2a

Alternatively, service 2b (blue) shown in Figure 4.8, is a proposed cross-town route between the Land of The Broadway development, through Great Dunmow town centre, and the Highwood Quarry development. As with Proposed Service 2a, an alternative route (dashed yellow line) is proposed along the B1057, then south on the B1008 to reach Great Dunmow High Street, however structural improvements are required on the Bridge along Church End.

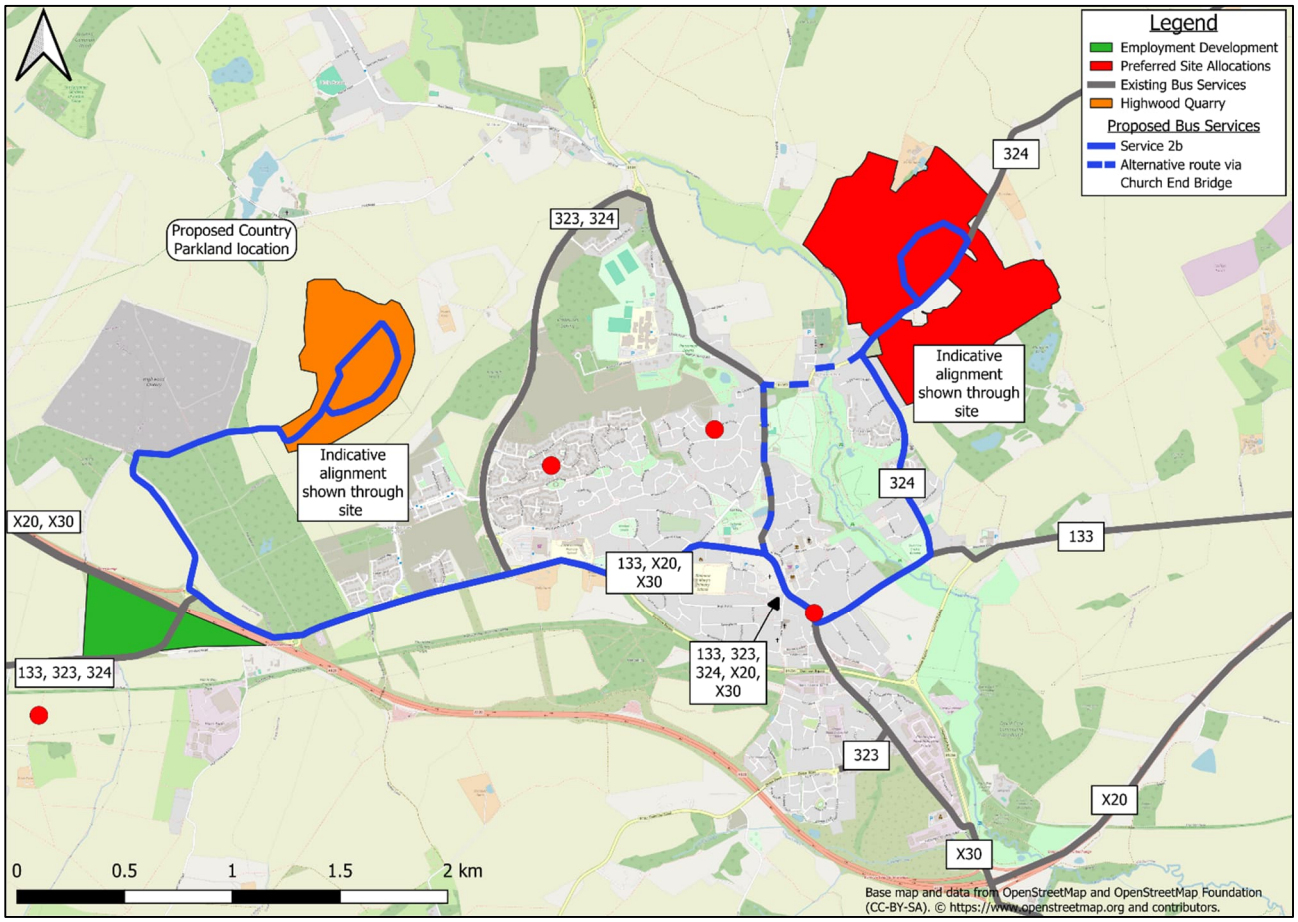


Figure 4.8: Great Dunmow planned developments and Proposed Bus Service 2b

These routes could be changed as more information is made available regarding forecast traffic movements and planned locations for new amenities.

4.4.2 Indicative Operational Cost

Calculations have been undertaken to determine the number of buses and indicative annual operating cost of the two proposed services.

By calculating the estimated distance of the proposed bus routes, and applying an estimated speed (20kph), the total round-trip journey time can be determined. To the total round-trip journey time, different headways are applied to each route, along with an allowance for layover time (1.1x journey time).

The number of buses required to operate the service is then calculated by dividing the total journey time by the headway.

The outcomes to these calculations for each proposed service, with different headways for comparison, are set out in Table 4.2, Table 4.3 and Table 4.4.

Table 4.2 presents the calculations for the proposed Takeley service (Service 1a), using an estimated annual operating cost for an extended hours bus service of £200,000 per vehicle. The proposed service has a round-trip distance of 9km, estimated to take 30 minutes total including layover time. For a 30-minute headway, 1 vehicle would be required, whilst 2 vehicles would be required for a headway of 15 minutes. Subsequently, the annual operating cost is estimated to be either £200,000 or £400,000, for the two headway scenarios.

Table 4.2: Calculation of number of vehicles and indicative operating cost for proposed 1a service in Takeley

Parameters	30 Minute Headway	15 Minute Headway
Distance (km)	9	
Speed (kph)	20	
Time (min)	27	
Time (min) inc layover	30	
Number of Buses	1	2
Annual Operating Cost per Bus (£) extended hours	£200,000	
Annual Operating Cost (£)	£200,000	£400,000

In regard to the rerouting of bus services 323 and 324 in Takeley, of which would add 2km to the existing bus, would equal around an extra 3 minutes onto the trip in one direction. This is not considered significant to warrant an increase in vehicles.

Table 4.3 presents the calculations for the proposed Great Dunmow 2a services. The proposed 2a service has a round-trip distance of 6km, estimated to take 20 minutes total including layover time. For a 20-minute or 30-minute headway, 1 vehicle would be required, whilst 2 vehicles would be required for a headway of 10 minutes. The indicative operating costs for the two headway scenarios are £180,000 and £360,000, respectively. These calculations are based on a slightly lower operating cost per vehicle (£180,000) as the service would not be expected to operate extended hours.

Table 4.3: Calculation of number of vehicles and indicative operating cost for the proposed 2a service in Great Dunmow

Parameters	Service 2a	
	20 or 30 Minute Headway	10 Minute Headway
Distance (km)	6	
Speed (kph)	20	
Time (min)	18	
Time (min) inc layover	20	
Number of Buses	1	2
Annual Operating Cost per Bus (£)	£180,000	
Annual Operating Cost (£)	£180,000	£360,000

Table 4.4 presents the calculations for proposed Great Dunmow 2b services. The proposed 2b service has a round-trip distance of 18.5km, estimated to take 60 minutes total including layover time. For a 30-minute headway, 2 vehicles would be required, whilst 4 vehicles would be required for a headway of 15 minutes. The indicative operating costs for the two headway scenarios are £360,000 and £720,000, respectively. These calculations are based on a slightly lower operating cost per vehicle (£180,000) as the service would not be expected to operate extended hours.

Table 4.4: Calculation of number of vehicles and indicative operating cost for proposed 2b service (incorporating Highwood Quarry) in Great Dunmow

Parameters	Service 2b (incorporating Highwood Quarry)	
	30 Minute Headway	15 Minute Headway
Distance (km)	18.5	
Speed (kph)	20	
Time (min)	55	
Time (min) inc layover	60	
Number of Buses	2	4
Annual Operating Cost per Bus (£)	£180,000	
Annual Operating Cost (£)	£360,000	£720,000

4.4.3 Indicative Revenue (Full Build Out)

Using key modelled Public Transport flows for the Future Year + Revised Development Scenarios for High and Low PT share (from Section 3), an indicative Revenue has been calculated for Full Build Out by multiplying the AM peak figures by a factor of 2.75, the interpeak figures by a factor of 4, and the PM peak multiplied by a factor of 2.75. The sum of these figures are then multiplied by a factor of 250 to provide an overall revenue figure for the whole year, with an assumed single fare of £2.

For London trips, it has been assumed that 1/3 of Public Transport London trips from the model will use public transport to interchange with rail services from Stansted Airport Rail Station.

Table 4.5: Indicative Revenue Future Year + Revised Development Scenarios

Low PT Share	High PT Share	Average
£1.1m	£2.0m	£1.6m

4.5 Summary

Table 4.6 shows the approximate number of existing households in Takeley and Great Dunmow, along with the expected dwellings to be built as a part of the proposed developments in the Revised Development Scenario (March 2024). These can be used to indicate how much revenue is expected to be generated as of a result of implementing the proposed bus services that can be attributed to new development.

Table 4.6: Takeley and Great Dunmow committed, planned and existing housing

	Committed and Planned Development (dwellings)	Existing Households (approx.)
Takeley	2,205	2,100
Great Dunmow	2,184	4,500
Total	**4,389**	**6,600**

The total indicative revenue from the average of the mode share scenarios is £1.6 million. It is reasonable to attribute around 40% of this figure to new developments in the area (comparing new households to existing households). Therefore there should be sufficient revenue at Full Build Out of around £0.6m to cover a 30-minute headway service in Takeley (Service 1), and a 30-minute headway service in Great Dunmow (Service 2b, incorporating Highwood Quarry). Alternatively this revenue would be sufficient to explore reorganising

existing services, subject to discussion with current bus operators. All calculations will be reviewed by the ECC PT Team once Development Site proposals come forward.

These proposed services would assist in meeting the objectives set forward by Homes England and the Uttlesford Spatial Vision, listed in Section 1.2.

To support both proposed services there is the opportunity for these routes to interchange with other routes in the area, as well as the support of sustainable movement in and out of the towns. This is discussed further in the next section on Active Travel and Mobility Hubs.

5. Active Travel and Mobility Hubs

The findings set out in this section are intended to contribute to a wider discussion on integration of Sustainable Modes. This will draw on work being undertaken separately on the LCWIP and Development Masterplans.

5.1 Walk and Cycle Options

The review of existing studies and evidence has highlighted existing cycle provision on the corridor including the east/west Flitch Way cycle route that would remain a key corridor for linking Takeley and Great Dunmow.

The most direct link between Takeley and Stansted Airport is Parsonage Road over the A120. There is currently a footpath alongside this road which could be widened to provide provision for both pedestrians and cyclists. This work would also require improved lighting and potentially a reduced speed limit on Parsonage Road. Crossing facilities and new cycle and footpaths would also be required between Parsonage Road and Stansted Airport Rail Station and Terminal Building as no pedestrian and cycle facilities are currently provided at this location.

5.2 Principles and Guidance

The remainder of this section considers illustrative examples of possible Mobility Hub locations, including one site identified in the UDC South Area Strategy. Providing such Mobility Hubs will improve access to Public Transport and Active Modes and improve interchange between existing and proposed Public Transport services.

The concept for mobility hubs can vary considerably. The following definition has been developed in ECC Mobility Hubs Guidance for use across Essex:

"Safe and connected places that facilitate convenient access to public, shared and active travel modes"

In addition, hubs can provide:

1. Logistics elements for first/last mile delivery goods

2. Green public space

3. Community facilities

4. Additional public realm elements could be considered to further improve hub/halt attractiveness, but these would be dependent upon the location itself, funding opportunities and aspirations and would not be expected to be delivered as part of the hubs/halts as entities.

Essex has adopted a number of design principles for mobility hubs, developed in line with Rapid Transit Design Principles and High-Quality Public Transport criteria:

- **Integrated**: Providing connectivity with other transport options with sustainable travel modes given prominence. Tying into surrounding infrastructure with ease of access onto local pedestrian and cycle routes. Consideration given to modal separation if deemed appropriate (conflict of interest / safety) and thinking of Hubs/Halts forming part of a network.

- **Accessible**: Optimising access to ensure ease of use and convenience. If we expect passengers to interchange, need to consider design and accessibility between modes to make journey seamless in terms of physical accessibility.

- **Inclusive**: Taking into account user diversity, providing safety and security, comfort and shelter.

- **Visual and experiential consistency**: Positively contribute to the passenger experience to give an immediate sense of what is provided, how to use it and to know that their experience will be the same

level as elsewhere . To embed a visual identity that is consistent with the TravelEssex brand which is easily recognised and use of consistent design materials.

- **Operational soundness**: Facilitating vehicular movements to support frequency of services.
- **Financially realistic**: Ensuring that management and maintenance is affordable and matched to income streams for the long term

Figure 5.1: Images of example mobility hubs

5.3 Mobility Hubs along the A120 corridor

It is considered that mobility hubs could be developed to support sustainable movement along the A120 corridor, particularly within Takeley connecting to Stansted Airport, and Great Dunmow future developments accessing the town centre.

Mobility hubs rarely work in on their own, and therefore using the airport as a ready-made hub node with a couple of locations within Takeley with additional hubs could unlock sustainable travel to and from the railway station, as well as within Takeley itself.

Additional consideration should be taken to the active travel routes between each hub-node to ensure that these align with the hub principles of being safe, inclusive and attractive. This is essential to maximising hub usage as an interchange point for active and public transport travel.

The same principle could be adopted in Great Dunmow with the town centre acting as a main node, as well as new Hub at the South Area Strategy Location, with residential areas benefiting from their own 'Community' hubs where appropriate.

Four sites have been identified as being suitable locations for new mobility hubs. These include:

- South Area Strategy Location 'Standard' Hub
- Great Dunmow Allocation 'Community' Hub
- Takeley Allocation 'Community' Hub
- Takeley Allocation 'Community' Hub (alternative location, by Parsonage Road)

All four sites have been reviewed in the Essex Mobility Hub Toolkit with each assessment included in Appendices B-E.

5.4 Mobility Hub Assessment

The Essex Mobility Hub Toolkit serves to define the correct and most suitable typology for a particular location which could act as a mobility hub. The different typologies include:

- Halt
- Community Hub
- Basic Hub
- Standard Hub
- Premium Hub

Each typology is classified by the inclusion of different components. For example, a Halt is the most basic hub type and requires the minimum needed for a mobility hub such as a sheltered waiting area and a bus stop flagpole and timetable. Whereas a Premium Hub requires a lot more components such as at least two types of shared mobility (bike share, E-scooters) and Wi-Fi access.

The Component Inclusion and Component Quality tables from each site can be found in Appendix B-E.

5.4.1 South Area Strategy Location 'Standard' Hub

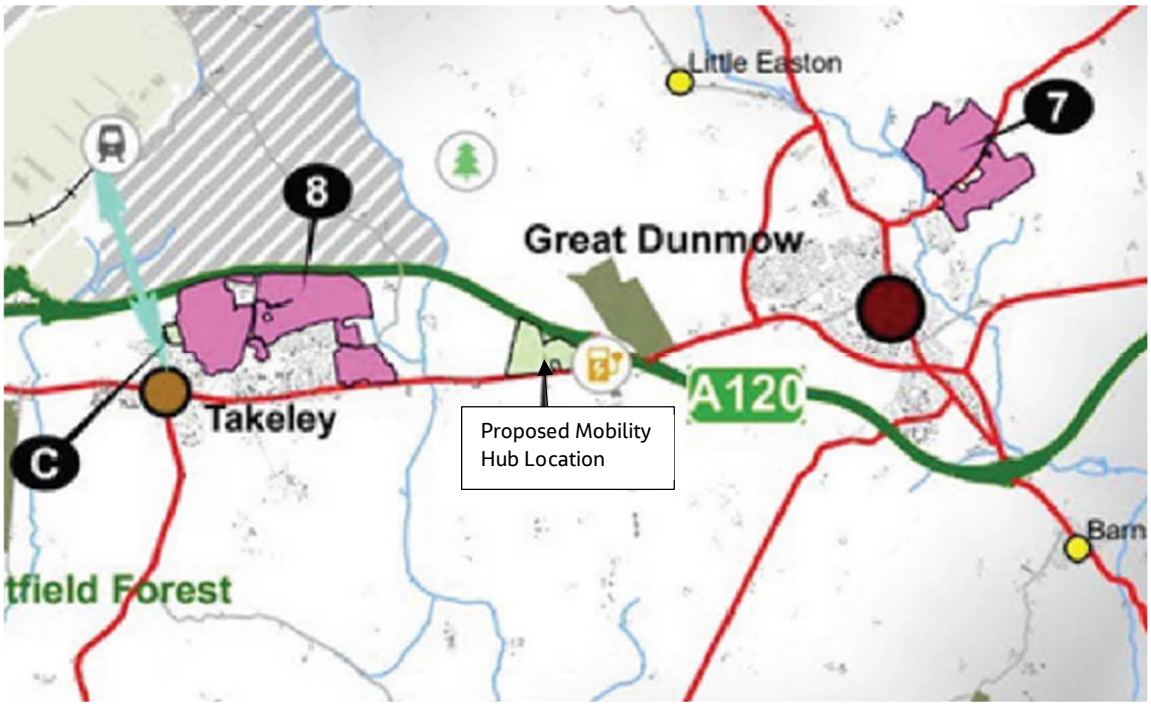


Figure 5.2: Mobility Hub Site Identified in UDC South Area Strategy.

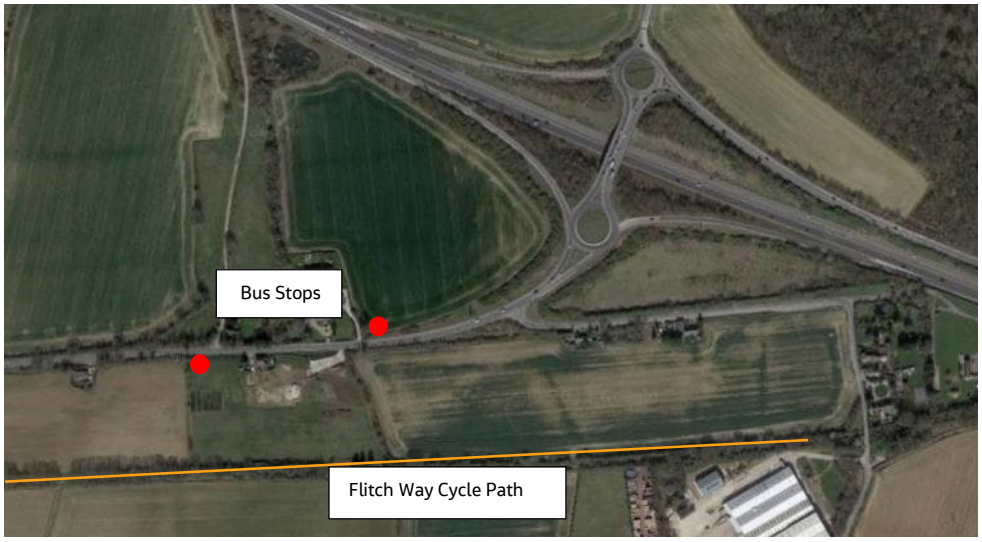


Figure 5.3: Aerial view of proposed site location

There is the opportunity to provide a mobility hub at a new proposed development site in the UDC South Area Strategy. The site is situated west of Great Dunmow and lies upon the B1256, south of the junction with the A120.

The Current Situation

The site has good opportunity for a mobility hub with the Flitch Way cycle path being located along the south side of the site (see Figure 5.3). There are also two bus stops within close proximity to the site which travel to Great Dunmow, Braintree, Stebbing, Stansted Airport and Bishops Stortford.

Mobility Hub Potential

Due to the location and size of the site, this mobility hub has the potential to become a Standard Hub. To be classified as a Standard Hub, this mobility hub would have to include Community Transport, 2 forms of shared mobility (car clubs, bike share), cycle parking and a sheltered waiting area. Components to consider also include EV charging for buses and private vehicles, a local information board and local services/amenities.

5.4.2 Great Dunmow Allocation 'Community' Hub

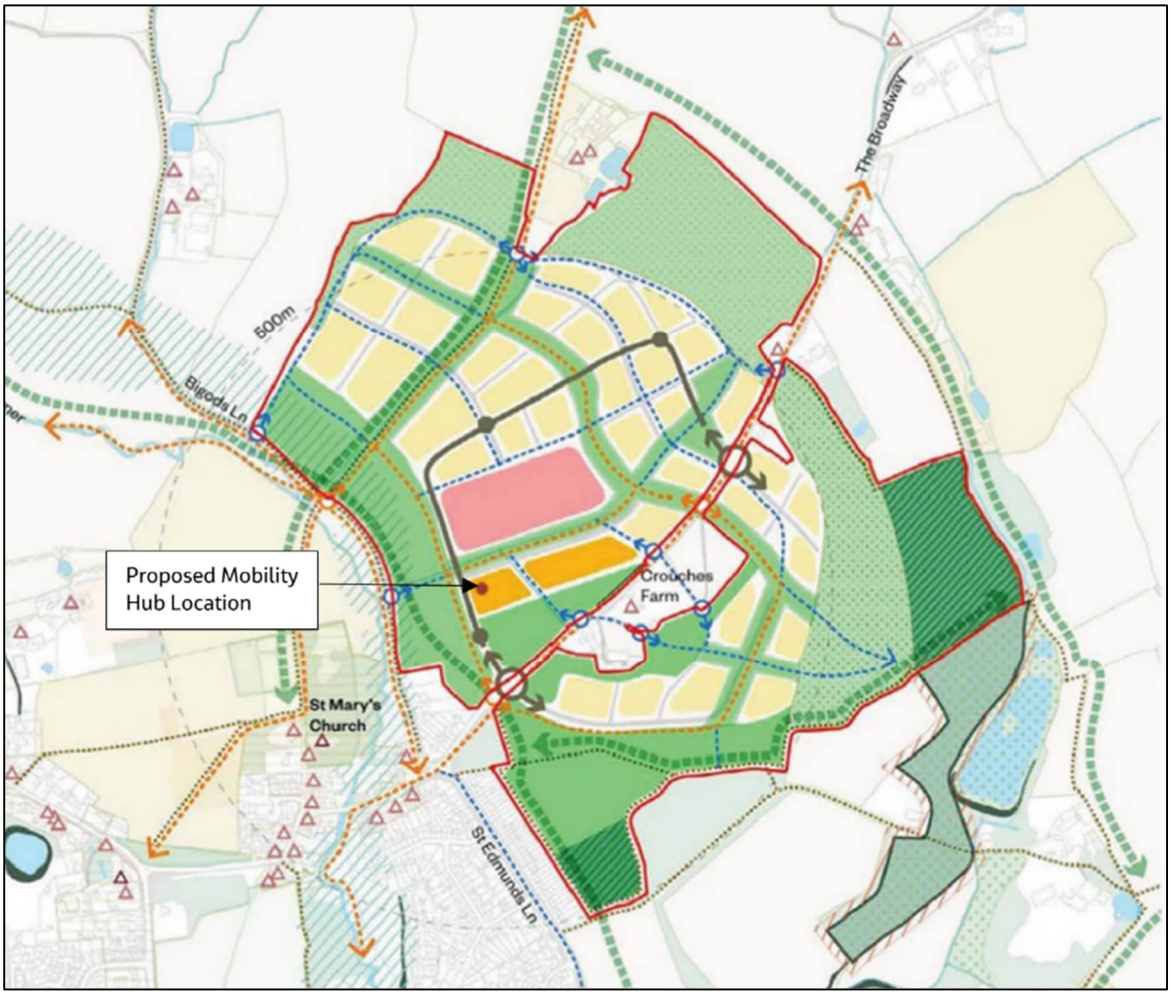


Figure 5.4: Proposed Great Dunmow Mobility Hub Location

Figure 5.5: Aerial view of site location

The proposed mobility hub location for Great Dunmow is situated northeast of the town near the village of Church End. The land is situated north of the B1057.

The Current Situation

As shown in Figure 5.5, the nearest current bus stop to the site lies within the village of Church End on St Edwards Street. The bus stop serves buses that travel from Bishops Stortford, Lindsell and Stebbing. The proposal for this site in the South Uttlesford Area Strategy would provide enough housing and amenity to support the need for a new mobility hub location.

Mobility Hub Potential

Due to the sites location, this mobility hub would be considered to have the potential to become a Community Hub. To be classified as a Community Hub, this mobility hub would have to include Community Transport, 1 form of shared mobility (car clubs, bike share), and a local information board. A Community Hub requires less components than a Standard Hub, however components to consider include EV charging for private vehicles and CCTV.

5.4.3 Takeley Allocation 'Community' Hub

Figure 5.6: Proposed location of mobility hub site in Takeley

The proposed allocation within Figure 5.6 seeks to deliver around 1,636 dwellings, within integrated neighbourhoods, enhancing the vitality of Takeley and the wider area. Key considerations for planning for this site include:

- a new primary school, adjacent to a new local centre and on a public transport corridor
- a new Secondary school along the north-eastern boundary of the site, adjacent to new local centre and on a public transport corridor
- a new local centre in the eastern parcel positioned to maximise its catchment , providing for a range of uses including for health care
- an active travel and public transport spine should be provided connecting the new neighbourhoods and new local centre

<u>The Current Situation</u>

The nearest bus stops to the proposed site are all situated in the village of Takeley. These bus stops serve buses that travel from Stansted Airport, Harlow, Bishops Stortford, Braintree, Chelmsford and Stebbing. The proposal for this site in the South Uttlesford Area Strategy would provide enough housing and amenity to support the need for a mobility hub. There is currently EV charging infrastructure for private vehicles available at the Priors Green local centre.

<u>Mobility Hub Potential</u>

Due to the sites location, this mobility hub would be considered to have the potential to become a Community Hub. To be classified as a Community Hub, this mobility hub would have to include Community

Transport, 1 form of shared mobility (car clubs, bike share), and a local information board. Other components to consider include EV charging for private vehicles and CCTV.

5.4.4 Takeley Allocation 'Community' Hub (Alternative Location)

Figure 5.7: Proposed location of an alternative mobility hub site in Takeley

As detailed above, the proposed allocation within Figure 5.7 seeks to deliver around 1,636 dwellings and will require new integrated transport links to support the new neighbourhoods created in this development.

The Current Situation

This alternative mobility hub location will be situated closer to Parsonage Road which is a key transport route into the village of Takeley from the A120. Unfortunately, the Mobility Hub cannot be situated any closer to Parsonage Road, however there may be potential for existing bus services to make a diversion and call at the new Mobility Hub, in addition to the proposed services considered in the previous section. Therefore, this mobility hub could link easily with existing key bus routes. There are currently 5 bus stops along Parsonage Road. These bus stops serve buses that travel from Stansted Airport, Harlow, Bishops Stortford, and Braintree. The proposal for this site in the South Uttlesford Area Strategy would provide enough housing and amenity to support the need for a mobility hub. There is currently EV charging infrastructure for private vehicles available at the Priors Green local centre.

Mobility Hub Potential

this mobility hub would be considered to have the potential to become a Community Hub. To be classified as a Community Hub, this mobility hub would have to include Community Transport, 1 form of shared mobility (car clubs, bike share), and a local information board. Other components to consider include EV charging for private vehicles and CCTV.

5.5 Summary

All proposed mobility hubs locations would attract both new residents and existing residents to sustainable modes. The hubs will help remove reliance on the private car and breaking down barriers to use of shared travel modes and active travel.

Standard and Community Hubs have the potential to form the centre of the community through offering extended services tailored to the specific community. A strong focus would be required on what the community requires in terms of active and sustainable travel, alongside what amenities are already in the location which could be supported in order to boost Hub use.

Appendix A. Model Calculations

A.1 Introduction

This chapter summarises the methodology and findings of model demand outputs and calculations that have been undertaken during this study.

A.2 Methodology

A.2.1 Demand Calculations and Analysis

Analysis of demand along the A120 corridor has been done using Reference Case scenarios extant in the West Essex EMME model. Standard demand matrices have been constructed for public transport modes for these future years.

Proposed development household and employment square metreage, together with assumptions on trip rates and existing trip distributions within the model have informed the additional trip numbers and zone-pairings. Calculations have been undertaken using the sector system described below.

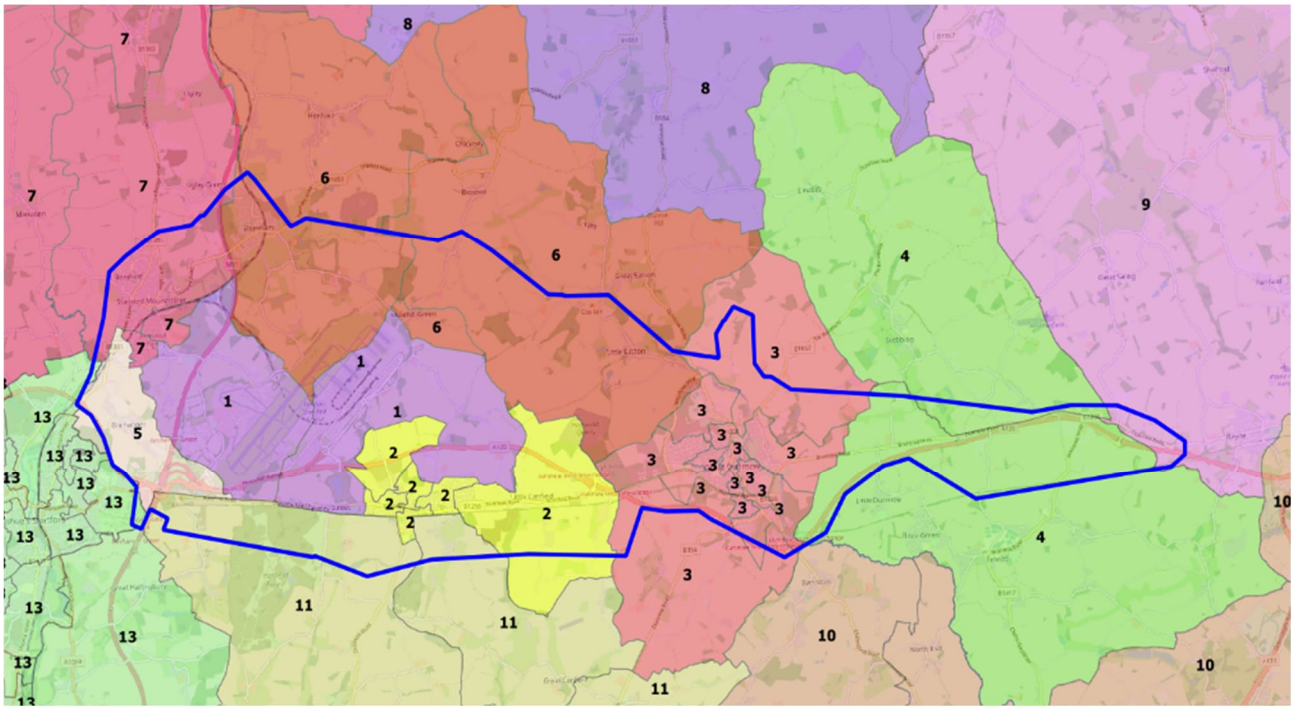
A.2.2 Input Data

The inputs to the demand analysis are listed below:

1. Bus demand matrices for each of the three time periods (AM peak, inter-peak and PM peak) for the base year.
2. Rail demand matrices for each of the three time periods, for the base and future years.
3. Sector definition, as defined and mapped in the subsection below.
4. Development household numbers, divided between the model zones.
5. Employment land area in square metres, divided between the model zones.
6. Trip rates per household per hour, as gained from TRICS data, used in the analysis of developments elsewhere in Essex.

A.2.3 Sectors

The West Essex model contains nearly 600 zones, and these are collapsed into 25 sectors for ease of calculation and analysis. Six of these sectors contain parts of the Study Area. The figure below shows the sector system in the vicinity of the Study Area (bordered in blue in the figure):



Model Sectors

The sector system has been devised to cleanly encompass the larger built-up areas in this part of the Essex, with sufficient disaggregation in the Study Area to capture the various east-west movements along the corridor. The rest of the county and neighbouring London contains larger zones, with the wider country divided into broader regions.

The table below shows the number of households, and the square metreage of employment in each of the four sectors of the Study Area containing proposed developments.

Dwellings and Employment Area by Sector

Sector	Housing	Emp. (Sq/m)
1	0	43,445
2	2,205	6,557
3	2184	107,500
Total	5,189	157,502

A.2.4 Future Year Demand

Construction of the initial future year demand figures, to which the development-derived figures would be added, relied on summing together the available future year matrices initially segregated by mode. Since there were only base bus figures, these were used for both base and future matrices, thus:

Future Year PT matrices (without developments) = Base Year Bus matrices + Future Year Rail matrices

These demand matrices contain all of the assumed future year trips, by public transport, between each of the zones in the West Essex model. The number of trips emanating and destined for all of those zones in which proposed developments lie can be output. The impact of additional developments and jobs can therefore be found by applying factors to a sub-set of these zones.

A.2.5 Revised Development Scenarios Trip Rates

In order to find the number of trips that should be added to the standard future year demand matrices, the number of households and the area of employment have to be converted into trips.

Trips generated by the development in the peaks for workers working outside of development areas, and for predominantly leisure and other trips in the inter-peak, are generated using TRICS values as used in the Tendring-Colchester Borders Garden City (TCBGC) project. All rates are stated in trips per dwelling (household) per hour. The trip rates used are the non-development trips of that project, since the car-ownership policy related to that development may differ from that assumed on the A120 corridor.

Revised Development Scenarios Trip rates for households within developments

Initial trip-rates used for arrivals and departures from the TCBGC are shown below – these are combined and amended to make the trip rates assumed for the A120 corridor:

Initial departure trip rates taken from TCBGC

Departures	Non Dev	Dev
AM-Car	0.275	0.208
AM-Bus	0.017	0.013
AM-Rail	0.005	0.004
IP-Car	0.151	0.114
IP-Bus	0.006	0.005
IP-Rail	0.001	0.001
PM-Car	0.159	0.12
PM-Bus	0.003	0.002
PM-Rail	0.001	0.001

Initial arrival trip rates from TCBGC

Arrivals	Non Dev	Dev
AM-Car	0.117	0.088
AM-Bus	0.002	0.002
AM-Rail	0	0
IP-Car	0.155	0.117
IP-Bus	0.008	0.006
IP-Rail	0.001	0.001
PM-Car	0.293	0.221
PM-Bus	0.015	0.011
PM-Rail	0.005	0.004

Two scenarios have been considered:

1. Lower = Non-development TCBGC values are assumed, without further amendment.
2. Upper = Non-development TCBGC values are adjusted so that one-third of the car trip rate is assumed to shift to using bus. Given the high initial car trip-rate and the very low initial bus trip-rate, this marks a transformational shift in bus mode share, albeit applied to low initial figures.

Public transport trip rates are simply the sum of the bus and rail trip rates. The trip rates per dwelling per hour by time period and direction for the Lower and Upper scenarios are shown below:

PT Trip Rates

Public Transport	Lower	Upper
AM Origins	0.022	0.114
AM Destinations	0.002	0.041
IP Origins	0.007	0.057

IP Destinations	0.009	0.061
PM Origins	0.004	0.057
PM Destinations	0.020	0.118

The "contra-peak" trip rates are set to zero, since the rates above are meant to apply specifically to those living in the developments. Therefore in-commuting in the morning peak and out-commuting in the evening peak is a function rather of the areas provided for employment.

The effect of transferring part of the car trip rate to the bus trip rate is very significant, with some segments increasing ten-fold. This is a function of the very high proportion of trips assumed to be made by car in this region. The possibility remains that even the Upper scenario is conservative, given that transformational changes to public transport infrastructure between developments could affect a still starker mode shift, lessening the dominance of cars.

The full origin-destination tables are as follows.

PT Future Year: AM average hour

			Destination																														
			Other	Stansted Airport	Takeley	Great Dunmow	Little Dunmow and Stebbing	Birchanger	Elsenham and Great Easton	Saffron Walden and Newport	Thaxted and Hempstead	Halstead and Great Yeldham	Braintree and Great Waltham	Harlow and Hatfield Heath	East Essex	Hertford and Royston	Beds and East Bucks	East Herts and Epping	South Essex	London	Home Counties South	West Country and Home Counties	Wales and West Midlands	Suffolk	Norfolk and The Wash	East Midlands and Lincs	North of England	Scotland	Study Area	Total
Origin	Other		0	5	1	0	0	0	0	2	1	0	0	4	2	11	2	45	10	654	2	2	2	0	0	4	2	0		750
	Stansted Airport		0	**6**	**3**	**2**	**0**	**0**	**2**	3	0	0	0	11	2	5	1	10	3	156	4	2	1	1	2	12	2	0	**14**	229
	Takeley		0	**8**	**1**	**6**	**0**	**0**	**1**	0	0	0	0	10	1	1	1	4	2	124	1	1	1	0	1	6	0	0	**16**	170
	Great Dunmow		0	**16**	**7**	**15**	**0**	**0**	**9**	0	0	2	1	8	2	1	0	6	3	186	0	1	0	0	0	10	0	0	**47**	269
	Little Dunmow and Stebbing		0	**0**	**0**	**5**	**9**	**0**	**0**	5	2	1	11	0	9	0	1	2	11	136	0	1	0	0	0	2	1	0	**15**	196
	Birchanger		0	**1**	**0**	**0**	**0**	**0**	**0**	1	1	0	0	2	0	1	0	0	0	22	0	0	0	0	0	1	0	0	**2**	32
	Elsenham and Great Easton		0	**12**	**0**	**4**	**0**	**0**	**5**	3	0	0	0	11	2	7	0	4	1	189	2	1	0	0	0	5	1	0	**21**	249
	Saffron Walden and Newport		0	16	1	2	2	1	7	189	10	1	1	21	1	27	2	5	3	322	1	1	1	1	0	30	1	0		645
	Thaxted and Hempstead		0	1	0	0	1	0	0	31	9	1	0	1	0	0	0	1	3	94	1	0	0	1	0	4	0	0		149
	Halstead and Great Yeldham		0	1	0	15	2	0	1	6	2	116	88	2	40	0	0	9	35	165	1	0	0	0	0	1	0	0		485
	Braintree and Great Waltham		0	2	1	8	5	0	2	3	2	59	502	4	135	1	1	63	307	926	10	1	0	2	1	4	1	0		2,040
	Harlow and Hatfield Heath		0	90	11	8	0	2	3	18	2	0	2	803	3	36	5	92	23	707	3	1	1	0	1	12	2	0		1,825
	East Essex		0	10	3	8	10	0	6	2	2	20	169	8	3,210	2	8	131	630	1,795	30	11	4	21	21	6	6	0		6,113
	Hertford and Royston		1	11	1	1	0	2	6	16	1	0	0	49	1	13	73	36	2	2,896	8	10	3	1	1	72	8	0		3,214
	Beds and East Bucks		0	2	0	0	0	0	1	3	0	0	1	5	4	46	283	21	6	4,164	32	19	6	4	3	137	27	0		4,767
	East Herts and Epping		2	21	4	9	4	1	6	3	1	3	25	257	38	52	22	1,492	318	6,821	26	15	6	3	2	11	8	0		9,149
	South Essex		0	10	3	4	3	0	2	4	3	9	1,006	26	2,220	5	13	492	8,348	9,770	57	19	8	6	4	7	10	0		19,132
	London		29	291	81	35	15	4	114	62	27	17	119	177	3,110	401	1,015	1,479	1,301	26,741	775	204	89	92	103	680	659	28		34,849
	Home Counties South		0	11	3	0	0	0	3	1	1	1	4	4	17	8	27	27	47	1,934	2	10	12	5	5	34	42	1		2,199
	West Country and Home Counties West		0	5	2	0	0	0	2	1	0	0	1	2	6	4	12	9	11	299	10	0	0	2	3	15	11	0		396
	Wales and West Midlands		0	5	1	0	0	0	1	0	0	0	1	1	3	2	4	3	6	87	10	0	0	1	1	4	0	0		132
	Suffolk		0	5	1	0	0	0	1	1	1	0	3	2	41	3	7	4	15	416	10	4	1	6	2	183	4	0		712
	Norfolk and The Wash		0	4	1	0	0	0	1	1	1	0	1	1	40	1	6	3	6	292	7	4	2	2	0	66	6	0		444
	East Midlands and Lincs		0	25	6	4	1	1	8	9	3	0	1	10	4	26	122	10	6	2,074	38	17	5	21	13	99	10	1		2,513
	North of England		0	5	1	0	0	0	2	1	0	0	1	2	4	5	19	8	9	832	43	12	0	3	5	10	0	0		964
	Scotland		0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	31	1	0	0	0	0	0	0	0		34
	Study Area only			**42**	**13**	**33**	**10**	**1**	**17**																				**116**	
	Total		34	560	133	128	54	13	185	367	70	232	1,039	1,420	4,094	659	1,625	3,957	11,106	61,836	1,075	335	143	173	170	1,414	802	32		91,657

Future Year + Development Scenario (Low PT Mode Share): AM average hour

		Destination																											
		Other	Stansted Airport	Takeley	Great Dunmow	Little Dunmow and Stebbing	Birchanger	Elsenham and Great Easton	Saffron Walden and Newport	Thaxted and Hempstead	Halstead and Great Yeldham	Braintree and Great Waltham	Harlow and Hatfield Heath	East Essex	Hertford and Royston	Beds and East Bucks	East Herts and Epping	South Essex	London	Home Counties South	West Country and Home Counties ...	Wales and West Midlands	Suffolk	Norfolk and The Wash	East Midlands and Lincs	North of England	Scotland	Study Area	Total
Origin	Other	0	6	1	0	0	0	0	2	1	0	0	4	2	11	2	45	10	654	2	2	2	0	0	4	2	0		751
	Stansted Airport	0	8	4	3	0	0	2	3	0	0	0	11	2	5	1	10	3	156	4	2	1	1	2	12	2	0	17	232
	Takeley	0	12	2	10	0	0	1	0	0	0	0	14	1	1	1	6	3	171	2	2	1	1	1	9	1	0	25	239
	Great Dunmow	0	25	11	28	1	0	14	1	0	5	4	12	4	1	0	11	6	297	1	1	0	0	0	13	1	0	79	437
	Little Dunmow and Stebbing	0	0	0	7	11	0	0	5	2	1	12	0	10	0	1	2	13	159	0	1	0	0	0	2	1	0	18	229
	Birchanger	0	2	0	0	0	0	0	1	1	0	0	2	0	1	0	0	0	22	0	0	0	0	0	1	0	0	3	33
	Elsenham and Great Easton	0	12	0	5	0	0	5	3	0	0	0	11	2	7	0	4	1	189	2	1	0	0	0	5	1	0	22	250
	Saffron Walden and Newport	0	23	1	2	2	1	7	189	10	1	1	21	1	27	2	5	3	322	1	1	1	1	0	30	1	0		653
	Thaxted and Hempstead	0	1	0	0	1	0	0	31	9	1	0	1	0	0	0	1	3	94	1	0	0	1	0	4	0	0		149
	Halstead and Great Yeldham	0	1	0	18	2	0	1	6	2	116	88	2	40	0	0	9	35	165	1	0	0	0	0	1	0	0		488
	Braintree and Great Waltham	0	2	1	9	5	0	2	3	2	59	502	4	135	1	1	63	307	926	10	1	0	2	1	4	1	0		2,041
	Harlow and Hatfield Heath	0	103	11	8	0	2	3	18	2	0	2	803	3	36	5	92	23	707	3	1	1	0	1	12	2	0		1,839
	East Essex	0	11	3	9	10	0	6	2	2	20	169	8	3,210	2	8	131	630	1,795	30	11	4	21	21	6	6	0		6,115
	Hertford and Royston	1	12	1	2	0	2	6	16	1	0	0	49	1	13	73	36	2	2,896	8	10	3	1	1	72	8	0		3,216
	Beds and East Bucks	0	2	0	0	0	0	1	3	0	0	1	5	4	46	283	21	6	4,164	32	19	6	4	3	137	27	0		4,767
	East Herts and Epping	2	23	4	11	4	1	6	3	1	3	25	257	38	52	22	1,492	318	6,821	26	15	6	3	2	11	8	0		9,153
	South Essex	0	11	3	4	3	0	2	4	3	9	106	26	220	5	13	492	8,348	9,770	57	19	8	6	4	7	10	0		19,133
	London	29	300	84	40	15	4	114	62	27	17	119	177	310	401	1,015	1,479	1,301	26,741	775	204	89	92	103	680	659	28		34,866
	Home Counties South	0	11	3	0	0	0	3	1	1	1	4	4	17	8	27	27	47	1,934	2	10	12	5	5	34	42	1		2,199
	West Country and Home Counties West	0	5	2	0	0	0	2	1	0	0	1	2	6	4	12	9	11	299	10	0	0	2	3	15	11	0		396
	Wales and West Midlands	0	5	1	0	0	0	1	0	0	0	1	1	3	2	4	3	6	87	10	0	0	1	1	4	0	0		133
	Suffolk	0	5	1	0	0	0	1	1	1	0	3	2	41	3	7	4	15	416	10	4	1	6	2	183	4	0		712
	Norfolk and The Wash	0	4	1	0	0	0	1	1	1	0	1	1	40	1	6	3	6	292	7	4	2	2	0	66	6	0		444
	East Midlands and Lincs	0	26	6	4	1	1	8	9	3	0	1	10	4	26	122	10	6	2,074	38	17	5	21	13	99	10	1		2,515
	North of England	0	5	2	0	0	0	2	1	0	0	1	2	4	5	19	8	9	832	43	12	0	3	5	10	0	0		964
	Scotland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	31	1	0	0	0	0	0	0	0		34
	Study Area only		59	18	52	12	1	22																				164	
	Total	34	614	142	161	56	13	190	368	70	235	1,043	1,428	4,098	660	1,626	3,965	11,111	62,017	1,077	336	143	174	171	1,420	803	32		91,987

Future Year + Development Scenario (High PT Mode Share): AM average hour

		Destination																												
		Other	Stansted Airport	Takeley	Great Dunmow	Little Dunmow and Stebbing	Birchanger	Elsenham and Great Easton	Saffron Walden and Newport	Thaxted and Hempstead	Halstead and Great Yeldham	Braintree and Great Waltham	Harlow and Hatfield Heath	East Essex	Hertford and Royston	Beds and East Bucks	East Herts and Epping	South Essex	London	Home Counties South	West Country and Home Counties ...	Wales and West Midlands	Suffolk	Norfolk and The Wash	East Midlands and Lincs	North of England	Scotland	Study Area	Total
Origin	Other	0	9	1	0	0	0	0	2	1	0	0	4	2	11	2	45	10	654	2	2	2	0	0	4	2	0		754
	Stansted Airport	0	16	4	4	0	0	2	3	0	0	0	11	2	5	1	10	3	156	4	2	1	1	2	12	2	0	27	242
	Takeley	0	37	5	34	0	1	2	1	0	0	0	30	2	3	2	15	7	369	5	4	2	2	3	19	2	0	78	544
	Great Dunmow	0	78	31	111	2	0	35	1	0	17	13	28	10	2	1	32	16	759	3	4	1	1	1	27	4	1	257	1,179
	Little Dunmow and Stebbing	0	0	0	11	19	0	0	7	3	2	19	0	17	0	1	4	22	254	1	1	0	0	0	3	2	0	30	367
	Birchanger	0	5	0	0	0	0	0	1	1	0	0	2	0	1	0	0	0	22	0	0	0	0	0	1	0	0	6	36
	Elsenham and Great Easton	0	14	0	7	0	0	5	3	0	0	0	11	2	7	0	4	1	189	2	1	0	0	0	5	1	0	26	254
	Saffron Walden and Newport	0	51	1	4	2	1	7	189	10	1	1	21	1	27	2	5	3	322	1	1	1	1	0	30	1	0		683
	Thaxted and Hempstead	0	1	0	0	1	0	0	31	9	1	0	1	0	0	0	1	3	94	1	0	0	1	0	4	0	0		149
	Halstead and Great Yeldham	0	1	1	32	2	0	1	6	2	116	88	2	40	0	0	9	35	165	1	0	0	0	0	1	0	0		503
	Braintree and Great Waltham	0	4	1	12	5	0	2	3	2	59	502	4	135	1	1	63	307	926	10	1	0	2	1	4	1	0		2,046
	Harlow and Hatfield Heath	0	156	13	11	0	2	3	18	2	0	2	803	3	36	5	92	23	707	3	1	1	0	1	12	2	0		1,897
	East Essex	0	13	3	15	10	0	6	2	2	20	169	8	3,210	2	8	131	630	1,795	30	11	4	21	21	6	6	0		6,123
	Hertford and Royston	1	17	1	3	0	2	6	16	1	0	0	49	1	13	73	36	2	2,896	8	10	3	1	1	72	8	0		3,222
	Beds and East Bucks	0	3	0	1	0	0	1	3	0	0	1	5	4	46	283	21	6	4,164	32	19	6	4	3	137	27	0		4,769
	East Herts and Epping	2	30	4	18	4	1	6	3	1	3	25	57	38	52	22	1,492	318	6,821	26	15	6	3	2	11	18	0		9,169
	South Essex	0	16	3	4	3	0	2	4	3	9	106	26	220	5	13	492	8,348	9,770	57	19	8	6	4	7	10	0		19,139
	London	29	337	96	61	15	4	114	62	27	17	119	177	3,100	401	1,015	1,479	1,301	26,741	775	204	89	92	103	680	659	28		34,936
	Home Counties South	0	12	3	1	0	0	3	1	1	1	4	4	17	8	27	27	47	1,934	2	10	12	5	5	34	42	1		2,201
	West Country and Home Counties West	0	5	2	0	0	0	2	1	0	0	1	2	6	4	12	9	11	299	10	0	0	2	3	15	11	0		396
	Wales and West Midlands	0	5	1	1	0	0	1	0	0	0	1	1	3	2	4	3	6	87	10	0	0	1	1	4	0	0		133
	Suffolk	0	6	1	0	0	0	1	1	1	0	3	2	41	3	7	4	15	416	10	4	1	6	2	183	4	0		713
	Norfolk and The Wash	0	5	1	0	0	0	1	1	1	0	1	1	40	1	6	3	6	292	7	4	2	2	0	66	6	0		445
	East Midlands and Lincs	0	30	7	7	1	1	8	9	3	0	1	10	4	26	122	10	6	2,074	38	17	5	21	13	99	10	1		2,522
	North of England	0	6	2	0	0	0	2	1	0	0	1	2	4	5	19	8	9	832	43	12	0	3	5	10	0	0		965
	Scotland	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	31	1	0	0	0	0	0	0	0		34
	Study Area only		151	41	167	20	1	44																				425	
	Total	34	858	184	339	64	13	212	371	71	247	1,060	1,461	4,112	663	1,628	3,996	11,133	62,772	1,082	340	145	176	173	1,445	808	33		93,422

Appendix B. UDC South Area Strategy Mobility Hub Assessment – Standard Hub

		INPUT				Standard Hub
Current Infrastructure						
Categories	Components	Exists or not	Additional comments		RTS	Not Required
Mobility Components	RTS	No			Bus	Meets Requirement
	Bus	Yes			Rail	Not Required
	Rail	No			D-DRT	Not Required
	D-DRT	No	desirable at community hub		Community Transport	Does Not Meet Requirement
	Community Transport	No			Taxis	Meets Recommendation
	Taxis	Yes	essential at basic & community hub	Mobility Components	Car clubs	Requires 2 Shared Mobility Features
	Car clubs	No			Bike share	Requires 2 Shared Mobility Features
	Bike share	No			Cargo bike share	Requires 2 Shared Mobility Features
	Cargo bike share	No	essential at community hub		E-scooters	Requires 2 Shared Mobility Features
	E-scooters	No			Shopmobility	Requires 2 Shared Mobility Features
	Shopmobility	No			Pedestrian access	Meets Requirement
	Pedestrian access	Yes	required at all hubs		Cycle access	Meets Requirement
	Cycle access	Yes	required at all hubs		EV bus charging/battery swap	Consider
Place Components	EV bus charging/battery swap	No			EV charging private vehicle	Not Required
	EV charging private vehicle	No			EV charging - car clubs (and parking space)	Consider
	EV charging - car clubs (and parking space)	No			D-DRT charging	Not Required
	D-DRT charging	No			Cycle parking	Does Not Meet Requirement
	Cycle parking	No			Docking staations	Consider
	Docking staations	No			Sheltered waiting area	Does Not Meet Requirement
	Sheltered waiting area	No			Bus stop flag pole and timetable case	Does Not Meet Requirement
	Bus stop flag pole and timetable case	No			Seating	Does Not Meet Requirement
	Seating	No		Place Components	Real time information screen	Does Not Meet Requirement
	Real time information screen	No	required at all hubs		Wifi	Does Not Meet Requirement
	Wifi	No	required at all hubs		Phone charging	Does Not Meet Requirement
	Phone charging	No			Seating (benches)	Consider
	Seating (benches)	No			Toilets	Consider
	Toilets	No			Recycling bins	Consider
	Recycling bins	No			Water fountain	Consider
	Water fountain	No			Lighting	Does Not Meet Requirement
	Lighting	No			CCTV	Does Not Meet Requirement
	CCTV	No			Local information board	Consider
	Local information board	No			Digital Pillar	Consider
	Digital Pillar	No	required at all hubs		Virtual Help Point	Consider
	Virtual Help Point	No			Personal storage lockers	Consider
Demand Components	Personal storage lockers	No			Cycle repair tools & pump	Consider
	Cycle repair tools & pump	No			Bike seat & trailer hire	Consider
	Bike seat & trailer hire	No			Package lockers	Consider
	Package lockers	No			Refreshments/ café / vending machine	Consider
	Refreshments/ café / vending machine	No		Demand Components	Other local services / amenities (e.g. Post Office, Banking, Dry Cleaners)	Consider
	Other local services / amenities (e.g. Post Office, Banking, Dry Cleaners)	No			Parking (Limited to P&R, P&C or essential disabled parking provision)	Consider
	Parking (Limited to P&R, P&C or essential disabled parking provision)	No			Parking (Limited to P&R, P&C or essential disabled parking provision)	Consider
	Parking (Limited to P&R, P&C or essential disabled parking provision)	No				

Appendix C. Great Dunmow Mobility Hub Assessment – Community Hub

		INPUT	
Current Infrastructure			
Categories	Components	Exists or not	Additional comments
Mobility Components	RTS	No	
	Bus	Yes	
	Rail	No	
	D-DRT	No	desirable at community hub
	Community Transport	No	
	Taxis	Yes	essential at basic & community hub
	Car clubs	No	
	Bike share	No	
	Cargo bike share	No	essential at community hub
	E-scooters	No	
	Shopmobility	No	
	Pedestrian access	No	required at all hubs
	Cycle access	Yes	required at all hubs
Place Components	EV bus charging/battery swap	No	
	EV charging private vehicle	No	
	EV charging - car clubs (and parking space)	No	
	D-DRT charging	No	
	Cycle parking	No	
	Docking staations	No	
	Sheltered waiting area	Yes	
	Bus stop flag pole and timetable case	Yes	
	Seating	Yes	
	Real time information screen	No	required at all hubs
	Wifi	No	required at all hubs
	Phone charging	No	
	Seating (benches)	Yes	
	Toilets	No	
	Recycling bins	No	
	Water fountain	No	
	Lighting	Yes	
	CCTV	No	
	Local information board	No	
	Digital Pillar	No	required at all hubs
	Virtual Help Point	No	
Demand Components	Personal storage lockers	No	
	Cycle repair tools & pump	No	
	Bike seat & trailer hire	No	
	Package lockers	No	
	Refreshments/ café / vending machine	No	
	Other local services / amenities (e.g. Post Office, Banking, Dry Cleaners)	No	
	Parking (Limited to P&R, P&C or essential disabled parking provision)	No	
	Parking (Limited to P&R, P&C or essential disabled parking provision)	No	

Mobility Components	RTS	Not Required
	Bus	Above Typology Specification
	Rail	Not Required
	D-DRT	Consider
	Community Transport	Does Not Meet Requirement
	Taxis	Meets Recommendation
	Car clubs	Requires 1 Shared Mobility Features
	Bike share	Requires 1 Shared Mobility Features
	Cargo bike share	Requires 1 Shared Mobility Features
	E-scooters	Requires 1 Shared Mobility Features
	Shopmobility	Requires 1 Shared Mobility Features
	Pedestrian access	Does Not Meet Requirement
	Cycle access	Meets Recommendation
Place Components	EV bus charging/battery swap	Not Required
	EV charging private vehicle	Does Not Meet Requirement
	EV charging - car clubs (and parking space)	Consider
	D-DRT charging	Consider
	Cycle parking	Consider
	Docking staations	Consider
	Sheltered waiting area	Meets Requirement
	Bus stop flag pole and timetable case	Meets Requirement
	Seating	Meets Requirement
	Real time information screen	Consider
	Wifi	Not Required
	Phone charging	Not Required
	Seating (benches)	Meets Requirement
	Toilets	Consider
	Recycling bins	Consider
	Water fountain	Consider
	Lighting	Meets Requirement
	CCTV	Does Not Meet Requirement
	Local information board	Does Not Meet Requirement
	Digital Pillar	Consider
	Virtual Help Point	Consider
Demand Components	Personal storage lockers	Consider
	Cycle repair tools & pump	Consider
	Bike seat & trailer hire	Consider
	Package lockers	Consider
	Refreshments/ café / vending machine	Not Required
	Other local services / amenities (e.g. Post Office, Banking, Dry Cleaners)	Consider
	Parking (Limited to P&R, P&C or essential disabled parking provision)	Not Required
	Parking (Limited to P&R, P&C or essential disabled parking provision)	Not Required

Appendix D. Takeley Allocation Mobility Hub Assessment – Community Hub

		INPUT				Community Hub
Current Infrastructure						
Categories	Components	Exists or not	Additional comments		RTS	Not Required
Mobility Components	RTS	No			Bus	Above Typology Specification
	Bus	Yes			Rail	Not Required
	Rail	No			D-DRT	Consider
	D-DRT	No	desirable at community hub		Community Transport	Does Not Meet Requirement
	Community Transport	No			Taxis	Meets Recommendation
	Taxis	Yes	essential at basic & community hub	Mobility Components	Car clubs	Requires 1 Shared Mobility Features
	Car clubs	No			Bike share	Requires 1 Shared Mobility Features
	Bike share	No			Cargo bike share	Requires 1 Shared Mobility Features
	Cargo bike share	No	essential at community hub		E-scooters	Requires 1 Shared Mobility Features
	E-scooters	No			Shopmobility	Requires 1 Shared Mobility Features
	Shopmobility	No			Pedestrian access	Does Not Meet Requirement
	Pedestrian access	No	required at all hubs		Cycle access	Consider
	Cycle access	No	required at all hubs	Place Components	EV bus charging/battery swap	Not Required
Place Components	EV bus charging/battery swap	No			EV charging private vehicle	Meets Requirement
	EV charging private vehicle	Yes			EV charging - car clubs (and parking space)	Consider
	EV charging - car clubs (and parking space)	No			D-DRT charging	Consider
	D-DRT charging	No			Cycle parking	Consider
	Cycle parking	No			Docking staations	Consider
	Docking staations	No			Sheltered waiting area	Does Not Meet Requirement
	Sheltered waiting area	No			Bus stop flag pole and timetable case	Does Not Meet Requirement
	Bus stop flag pole and timetable case	No			Seating	Does Not Meet Requirement
	Seating	No			Real time information screen	Consider
	Real time information screen	No	required at all hubs		Wifi	Not Required
	Wifi	No	required at all hubs		Phone charging	Not Required
	Phone charging	No			Seating (benches)	Does Not Meet Requirement
	Seating (benches)	No			Toilets	Consider
	Toilets	No			Recycling bins	Consider
	Recycling bins	No			Water fountain	Consider
	Water fountain	No			Lighting	Does Not Meet Requirement
	Lighting	No			CCTV	Does Not Meet Requirement
	CCTV	No			Local information board	Does Not Meet Requirement
	Local information board	No			Digital Pillar	Consider
	Digital Pillar	No	required at all hubs		Virtual Help Point	Consider
	Virtual Help Point	No		Demand Components	Personal storage lockers	Consider
Demand Components	Personal storage lockers	No			Cycle repair tools & pump	Consider
	Cycle repair tools & pump	No			Bike seat & trailer hire	Consider
	Bike seat & trailer hire	No			Package lockers	Consider
	Package lockers	No			Refreshments/ café / vending machine	Not Required
	Refreshments/ café / vending machine	No			Other local services / amenities (e.g. Post Office, Banking, Dry Cleaners)	Meets Recommendation
	Other local services / amenities (e.g. Post Office, Banking, Dry Cleaners)	Yes			Parking (Limited to P&R, P&C or essential disabled parking provision)	Not Required
	Parking (Limited to P&R, P&C or essential disabled parking provision)	No			Parking (Limited to P&R, P&C or essential disabled parking provision)	Not Required
	Parking (Limited to P&R, P&C or essential disabled parking provision)	No				

Appendix E. Takeley Allocation (Alternative) Mobility Hub Assessment – Community Hub

		INPUT	
Current Infrastructure			
Categories	Components	Exists or not	Additional comments
Mobility Components	RTS	No	
	Bus	Yes	
	Rail	No	
	D-DRT	No	desirable at community hub
	Community Transport	No	
	Taxis	Yes	essential at basic & community hub
	Car clubs	No	
	Bike share	No	
	Cargo bike share	No	essential at community hub
	E-scooters	No	
	Shopmobility	No	
	Pedestrian access	No	required at all hubs
	Cycle access	No	required at all hubs
Place Components	EV bus charging/battery swap	No	
	EV charging private vehicle	Yes	
	EV charging - car clubs (and parking space)	No	
	D-DRT charging	No	
	Cycle parking	No	
	Docking staations	No	
	Sheltered waiting area	No	
	Bus stop flag pole and timetable case	No	
	Seating	No	
	Real time information screen	No	required at all hubs
	Wifi	No	required at all hubs
	Phone charging	No	
	Seating (benches)	No	
	Toilets	No	
	Recycling bins	No	
	Water fountain	No	
	Lighting	No	
	CCTV	No	
	Local information board	No	
	Digital Pillar	No	required at all hubs
	Virtual Help Point	No	
Demand Components	Personal storage lockers	No	
	Cycle repair tools & pump	No	
	Bike seat & trailer hire	No	
	Package lockers	No	
	Refreshments/ café / vending machine	No	
	Other local services / amenities (e.g. Post Office, Banking, Dry Cleaners)	Yes	
	Parking (Limited to P&R, P&C or essential disabled parking provision)	No	
	Parking (Limited to P&R, P&C or essential disabled parking provision)	No	

Mobility Components	RTS	Not Required
	Bus	Above Typology Specification
	Rail	Not Required
	D-DRT	Consider
	Community Transport	Does Not Meet Requirement
	Taxis	Meets Recommendation
	Car clubs	Requires 1 Shared Mobility Features
	Bike share	Requires 1 Shared Mobility Features
	Cargo bike share	Requires 1 Shared Mobility Features
	E-scooters	Requires 1 Shared Mobility Features
	Shopmobility	Requires 1 Shared Mobility Features
	Pedestrian access	Does Not Meet Requirement
	Cycle access	Consider
Place Components	EV bus charging/battery swap	Not Required
	EV charging private vehicle	Meets Requirement
	EV charging - car clubs (and parking space)	Consider
	D-DRT charging	Consider
	Cycle parking	Consider
	Docking staations	Consider
	Sheltered waiting area	Does Not Meet Requirement
	Bus stop flag pole and timetable case	Does Not Meet Requirement
	Seating	Does Not Meet Requirement
	Real time information screen	Consider
	Wifi	Not Required
	Phone charging	Not Required
	Seating (benches)	Does Not Meet Requirement
	Toilets	Consider
	Recycling bins	Consider
	Water fountain	Consider
	Lighting	Does Not Meet Requirement
	CCTV	Does Not Meet Requirement
	Local information board	Does Not Meet Requirement
	Digital Pillar	Consider
	Virtual Help Point	Consider
Demand Components	Personal storage lockers	Consider
	Cycle repair tools & pump	Consider
	Bike seat & trailer hire	Consider
	Package lockers	Consider
	Refreshments/ café / vending machine	Not Required
	Other local services / amenities (e.g. Post Office, Banking, Dry Cleaners)	Meets Recommendation
	Parking (Limited to P&R, P&C or essential disabled parking provision)	Not Required
	Parking (Limited to P&R, P&C or essential disabled parking provision)	Not Required